



Full wwPDB EM Validation Report ⓘ

Mar 25, 2026 – 10:58 AM UTC

PDB ID : 5KPS / pdb_00005kps
EMDB ID : EMD-8279
Title : Structure of RelA bound to ribosome in absence of A/R tRNA (Structure I)
Authors : Loveland, A.B.; Bah, E.; Madireddy, R.; Zhang, Y.; Brilot, A.F.; Grigorieff, N.; Korostelev, A.A.
Deposited on : 2016-07-05
Resolution : 3.90 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:

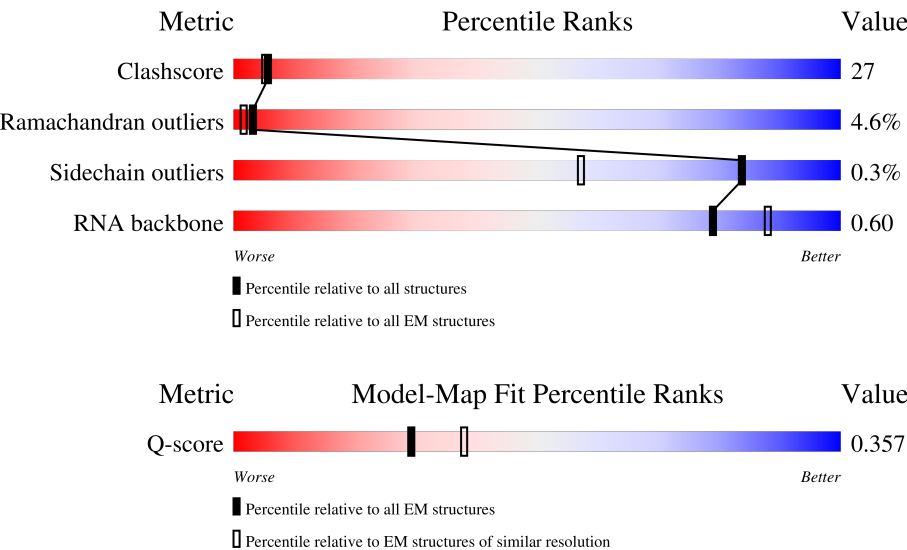
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & 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 3.90 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.



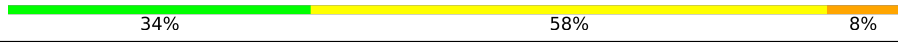
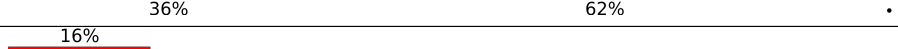
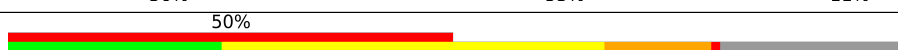
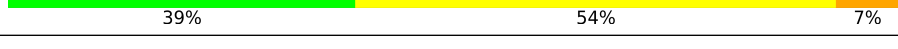
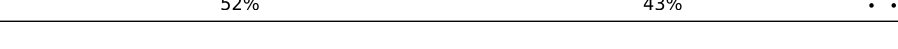
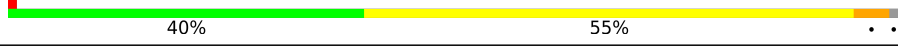
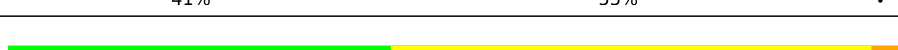
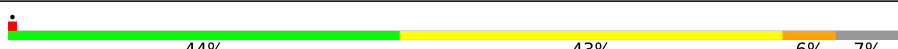
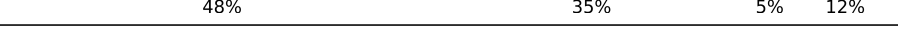
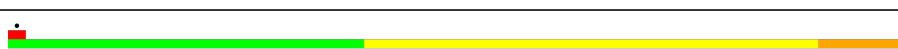
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	8855 (3.40 - 4.40)

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	750	
2	B	273	
3	C	209	

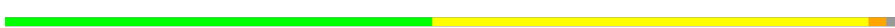
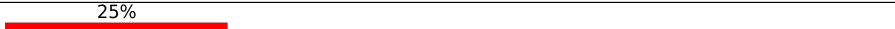
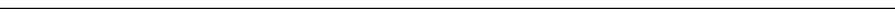
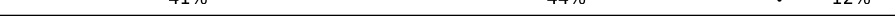
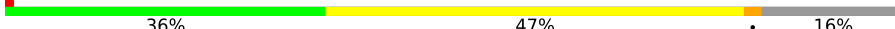
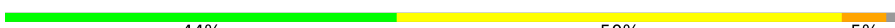
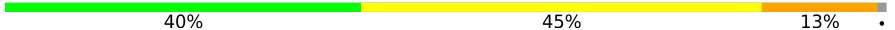
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Mol	Chain	Length	Quality of chain
4	D	201	
5	E	179	
6	F	177	
7	G	149	
8	H	165	
9	I	142	
10	J	142	
11	K	123	
12	L	144	
13	M	136	
14	N	127	
15	O	117	
16	P	115	
17	Q	118	
18	R	103	
19	S	110	
20	T	100	
21	U	104	
22	V	94	
23	W	85	
24	X	78	
25	Y	63	
26	Z	59	
27	1	70	
28	2	57	

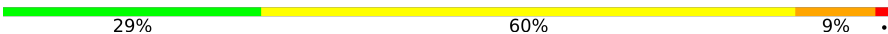
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Mol	Chain	Length	Quality of chain
29	3	55	
30	4	46	
31	5	65	
32	6	38	
33	7	241	
34	8	233	
35	9	206	
36	10	167	
37	11	135	
38	12	179	
39	13	130	
40	14	130	
41	15	103	
42	16	129	
43	17	124	
44	18	118	
45	19	101	
46	20	89	
47	21	82	
48	22	84	
49	23	75	
50	24	92	
51	25	87	
52	26	71	
53	27	1539	

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Mol	Chain	Length	Quality of chain
54	28	2903	 26% 63% 10%
55	29	120	 29% 60% 9% •
56	30	18	 11% 44% 44% 11%
57	31	77	 45% 55%
58	32	77	 26% 55% 19% •

2 Entry composition

There are 58 unique types of molecules in this entry. The entry contains 149128 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called GTP pyrophosphokinase.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	143	Total	C	N	O	S	0	0
			1103	685	209	204	5		

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-5	MET	-	expression tag	UNP P0AG20
A	-4	HIS	-	expression tag	UNP P0AG20
A	-3	HIS	-	expression tag	UNP P0AG20
A	-2	HIS	-	expression tag	UNP P0AG20
A	-1	HIS	-	expression tag	UNP P0AG20
A	0	HIS	-	expression tag	UNP P0AG20
A	1	HIS	-	expression tag	UNP P0AG20

- Molecule 2 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		

- Molecule 3 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		

- Molecule 4 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		

- Molecule 5 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 6 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 7 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 8 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	131	Total	C	N	O	S	0	0
			988	625	175	183	5		

- Molecule 9 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	141	Total	C	N	O	S	0	0
			1032	651	179	196	6		

- Molecule 10 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

- Molecule 11 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	122	Total	C	N	O	S	0	0
			938	587	180	165	6		

- Molecule 12 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		

- Molecule 13 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		

- Molecule 14 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	120	Total	C	N	O	S	0	0
			960	593	196	166	5		

- Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	O	116	Total	C	N	O	0	0
			892	552	178	162		

- Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	114	Total	C	N	O	S	0	0
			917	574	179	163	1		

- Molecule 17 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	Q	117	Total	C	N	O	0	0
			947	604	192	151		

- Molecule 18 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	103	Total	C	N	O	S	0	0
			816	516	153	145	2		

- Molecule 19 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

- Molecule 20 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	93	Total	C	N	O	S	0	0
			738	466	139	131	2		

- Molecule 21 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	102	Total	C	N	O		0	0
			779	492	146	141			

- Molecule 22 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

- Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	75	Total	C	N	O	S	0	0
			575	356	116	102	1		

- Molecule 24 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 25 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	63	Total	C	N	O	S	0	0
			509	313	99	95	2		

- Molecule 26 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 27 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	1	66	Total	C	N	O	S	0	0
			522	323	99	94	6		

- Molecule 28 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	2	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 29 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	3	50	Total	C	N	O	0	0
			409	263	75	71		

- Molecule 30 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	4	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 31 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	5	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 32 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	6	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 33 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	7	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

- Molecule 34 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	8	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 35 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	9	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 36 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	10	157	Total	C	N	O	S	0	0
			1156	719	218	213	6		

- Molecule 37 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	11	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 38 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	12	151	Total	C	N	O	S	0	0
			1181	735	227	215	4		

- Molecule 39 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	13	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 40 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	14	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 41 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	15	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 42 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	16	116	Total	C	N	O	S	0	0
			869	535	173	158	3		

- Molecule 43 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	17	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 44 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	18	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

- Molecule 45 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	19	100	Total	C	N	O	S	0	0
			805	499	164	139	3		

- Molecule 46 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	20	88	Total	C	N	O	S	0	0
			714	439	144	130	1		

- Molecule 47 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	21	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 48 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	22	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 49 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	23	65	Total	C	N	O	S	0	0
			535	339	100	95	1		

- Molecule 50 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	24	79	Total	C	N	O	S	0	0
			637	408	120	107	2		

- Molecule 51 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	25	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 52 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	26	65	Total	C	N	O	S	0	0
			544	335	117	91	1		

- Molecule 53 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	27	1539	Total	C	N	O	P	0	0
			33016	14725	6052	10700	1539		

- Molecule 54 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	28	2903	Total	C	N	O	P	0	0
			62322	27801	11468	20150	2903		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
28	747	C	U	conflict	GB 802133627
28	1847	G	A	conflict	GB 802133627

- Molecule 55 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	29	120	Total	C	N	O	P	0	0
			2572	1145	471	836	120		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
29	120	A	-	conflict	GB 1028475309

- Molecule 56 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	30	18	Total	C	N	O	P	0	0
			388	175	76	120	17		

- Molecule 57 is a RNA chain called P site tRNA^{fmet}.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	31	77	Total	C	N	O	P	0	0
			1644	732	297	538	77		

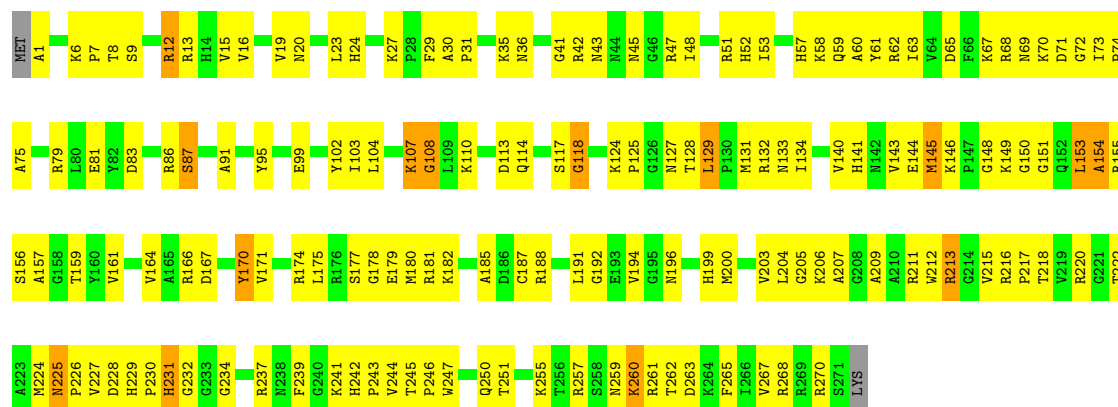
- Molecule 58 is a RNA chain called E-site tRNA^{fMet}.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	32	77	Total	C	N	O	P	0	0
			1643	732	297	537	77		



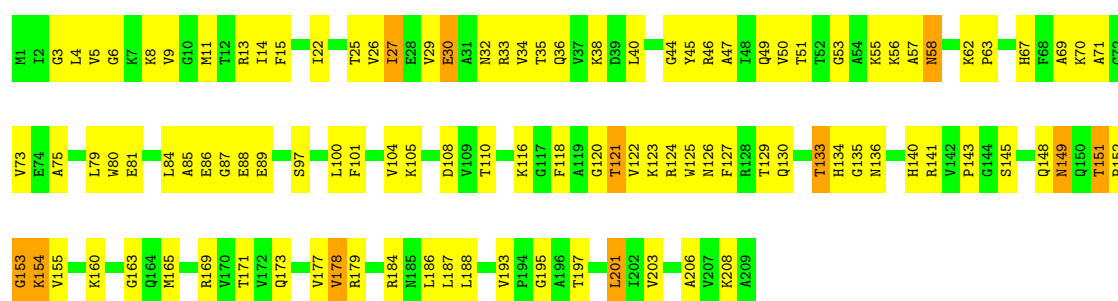
• Molecule 2: 50S ribosomal protein L2

Chain B: 41% 53% 5%



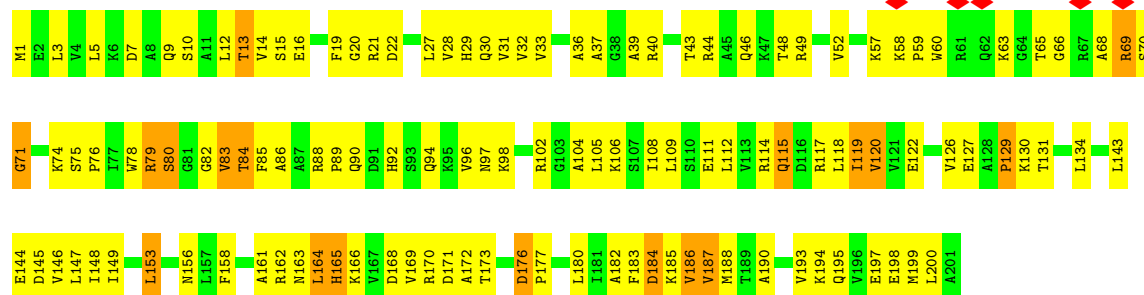
• Molecule 3: 50S ribosomal protein L3

Chain C: 49% 45% 5%



• Molecule 4: 50S ribosomal protein L4

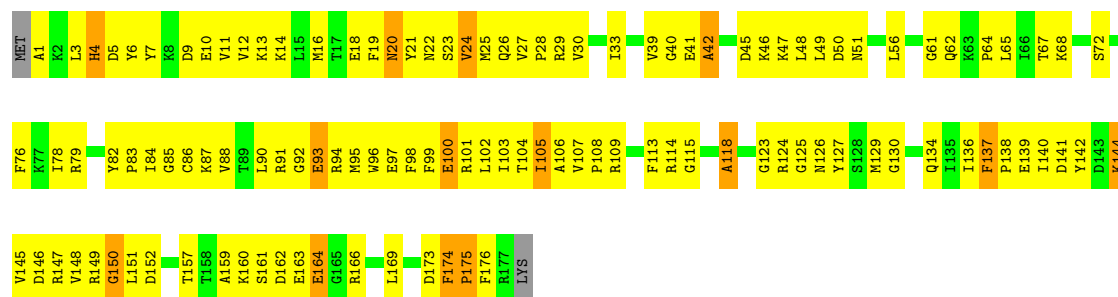
Chain D: 39% 52% 9%



• Molecule 5: 50S ribosomal protein L5

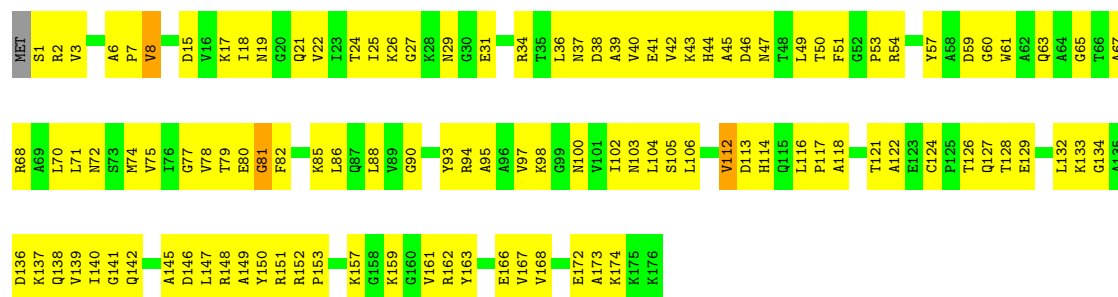
Chain E: 34% 58% 8%





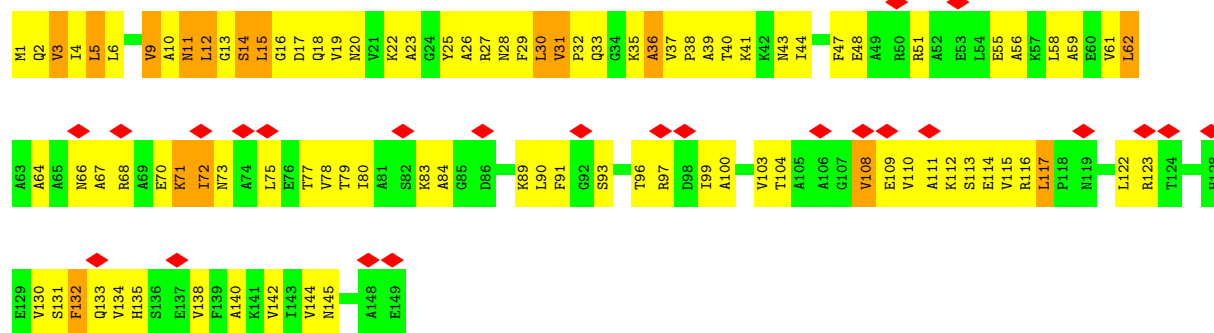
• Molecule 6: 50S ribosomal protein L6

Chain F: 36% 62% ..



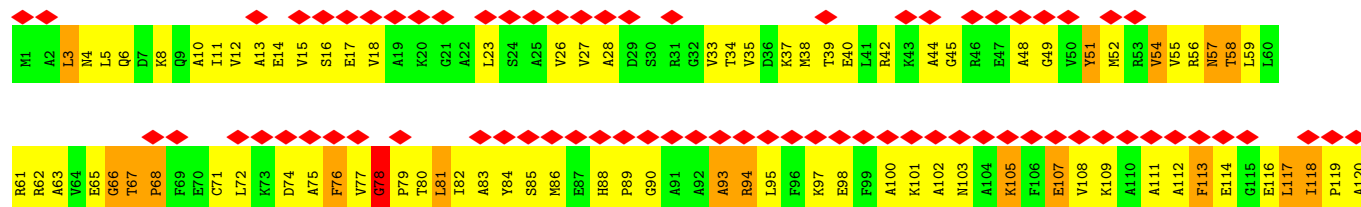
• Molecule 7: 50S ribosomal protein L9

Chain G: 16% 36% 53% 11%

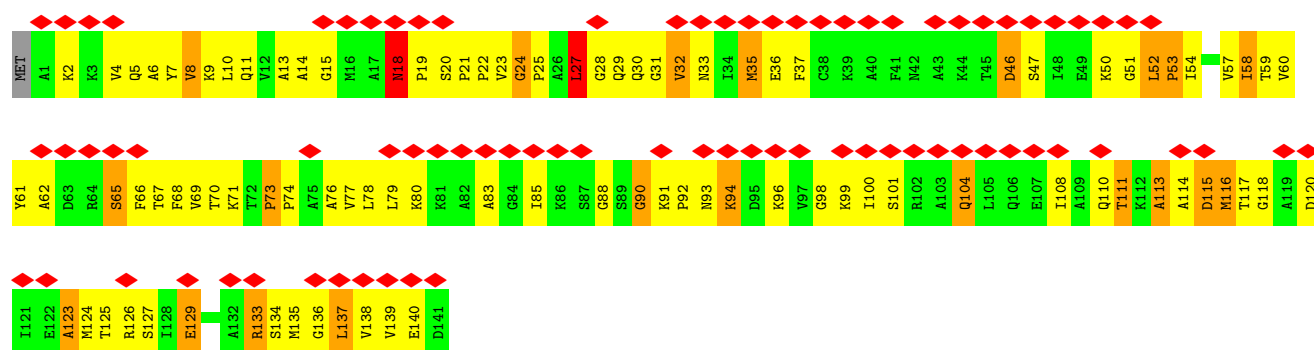


• Molecule 8: 50S ribosomal protein L10

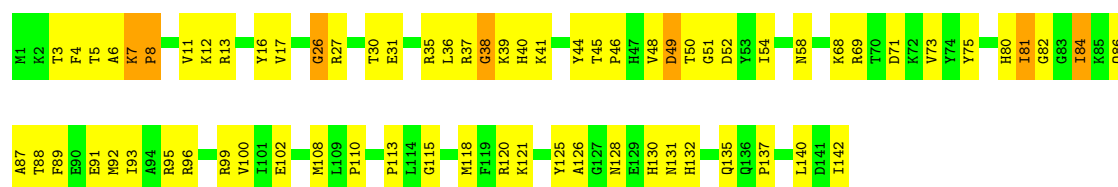
Chain H: 24% 50% 43% 12% 21%



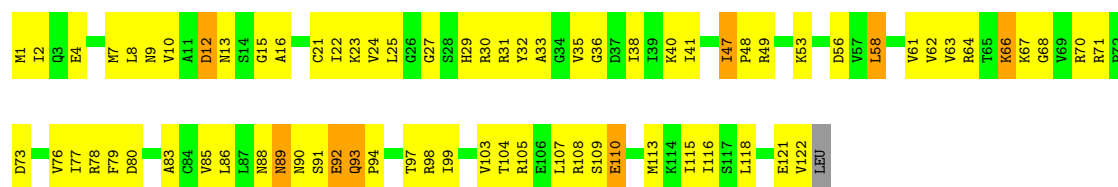
- Molecule 9: 50S ribosomal protein L11



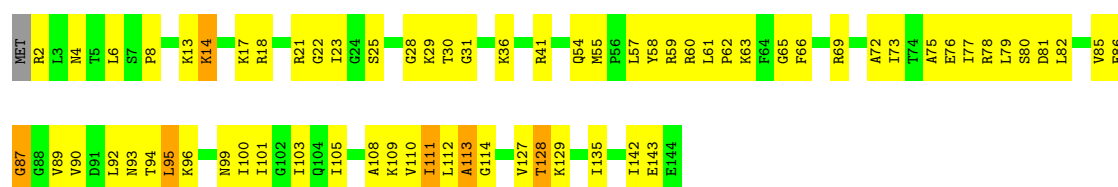
- Molecule 10: 50S ribosomal protein L13



- Molecule 11: 50S ribosomal protein L14



- Molecule 12: 50S ribosomal protein L15



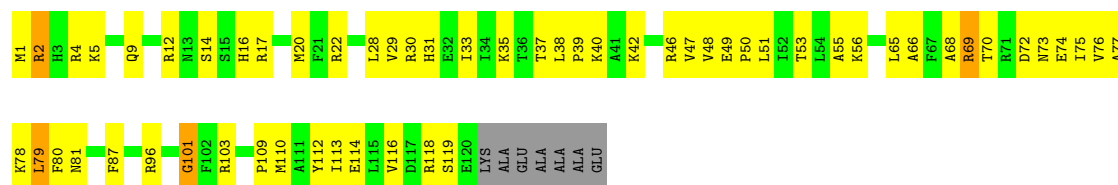
- Molecule 13: 50S ribosomal protein L16

Chain M:  57% 40%



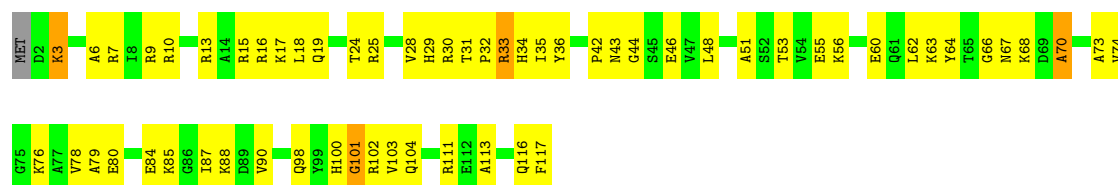
• Molecule 14: 50S ribosomal protein L17

Chain N:  49% 43% 6%



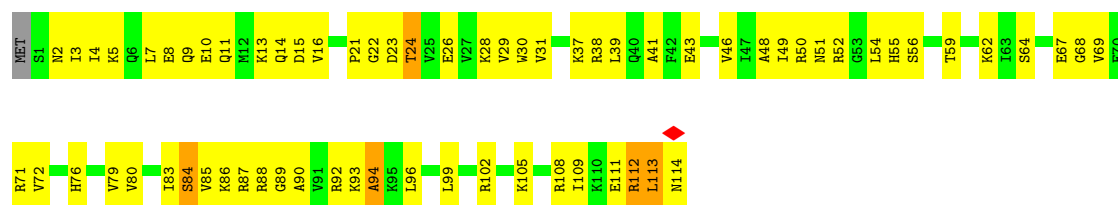
• Molecule 15: 50S ribosomal protein L18

Chain O:  48% 48%



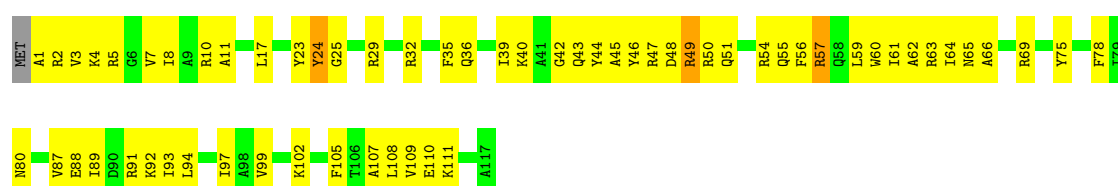
• Molecule 16: 50S ribosomal protein L19

Chain P:  40% 55%

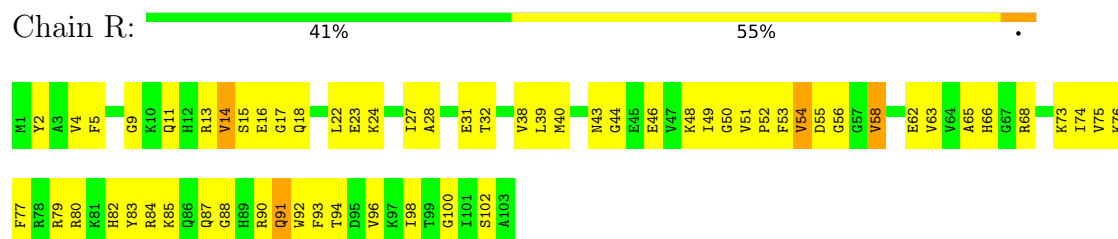


• Molecule 17: 50S ribosomal protein L20

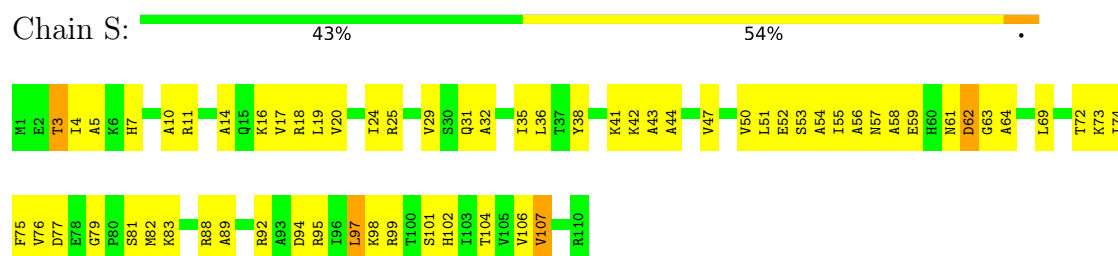
Chain Q:  47% 49%



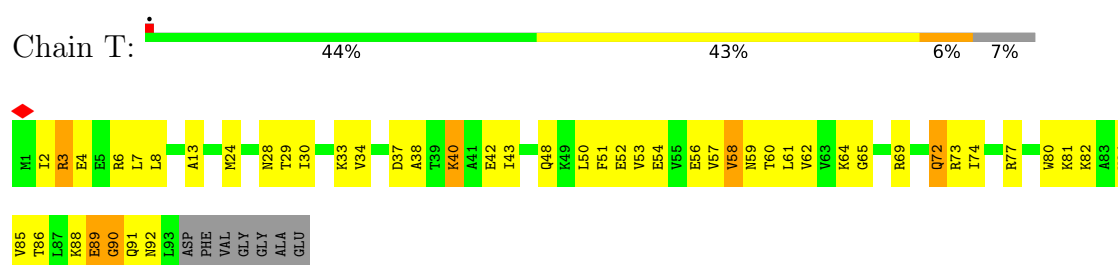
- Molecule 18: 50S ribosomal protein L21



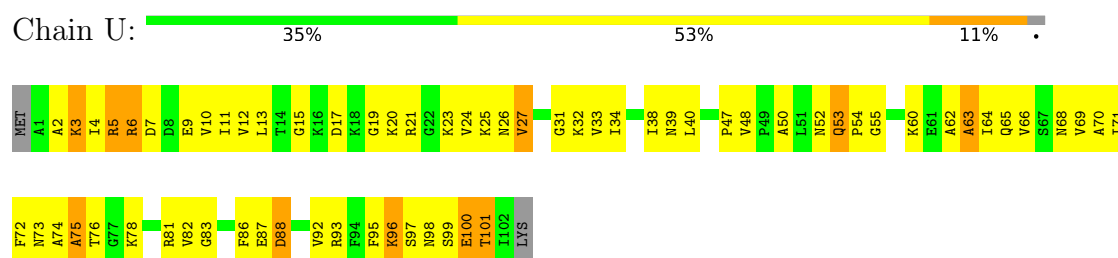
- Molecule 19: 50S ribosomal protein L22



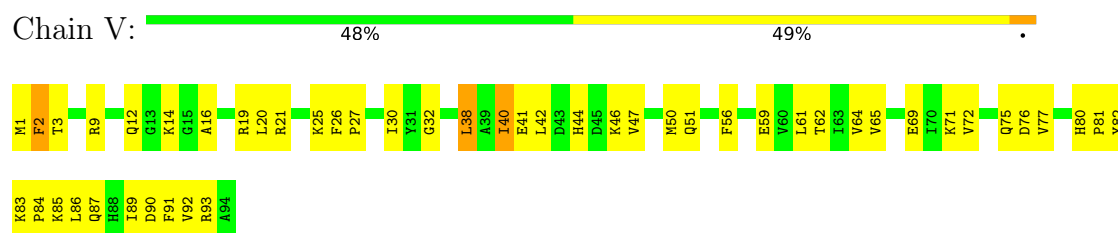
- Molecule 20: 50S ribosomal protein L23



- Molecule 21: 50S ribosomal protein L24

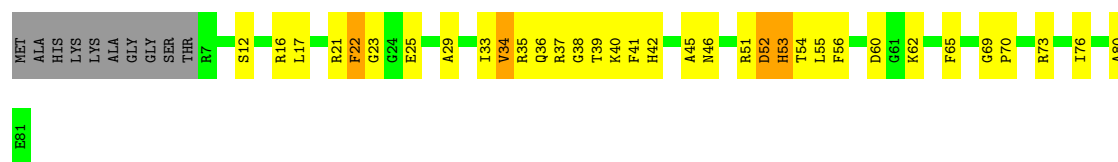


- Molecule 22: 50S ribosomal protein L25

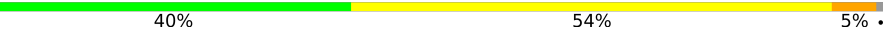


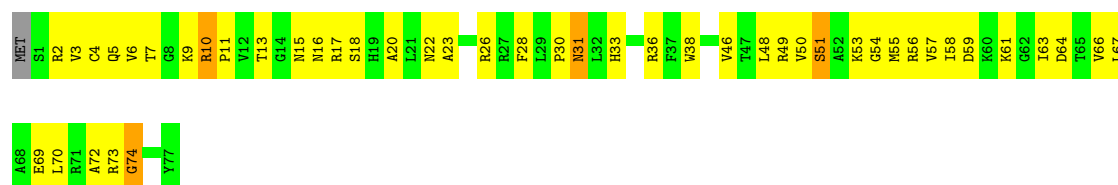
- Molecule 23: 50S ribosomal protein L27

Chain W: 



- Molecule 24: 50S ribosomal protein L28

Chain X: 



- Molecule 25: 50S ribosomal protein L29

Chain Y: 



- Molecule 26: 50S ribosomal protein L30

Chain Z: 



- Molecule 27: 50S ribosomal protein L31

Chain 1: 



- Molecule 28: 50S ribosomal protein L32

Chain 2: 



- Molecule 29: 50S ribosomal protein L33

Chain 3:  51% 36% 9%



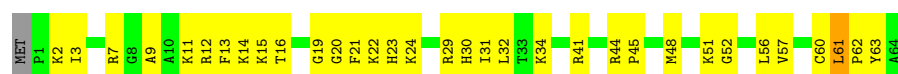
- Molecule 30: 50S ribosomal protein L34

Chain 4:  50% 41% 7%



- Molecule 31: 50S ribosomal protein L35

Chain 5:  48% 49%



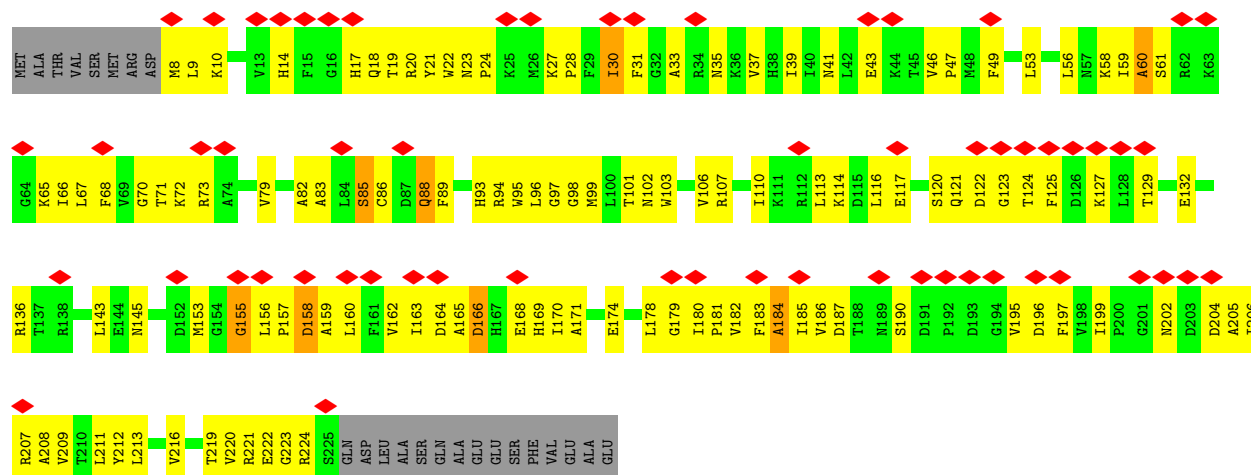
- Molecule 32: 50S ribosomal protein L36

Chain 6:  37% 55% 8%



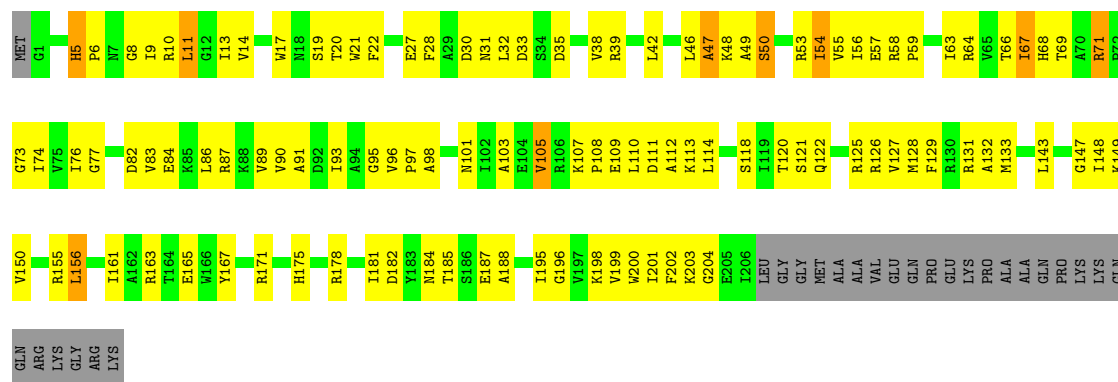
- Molecule 33: 30S ribosomal protein S2

Chain 7:  25% 39% 48% 10%



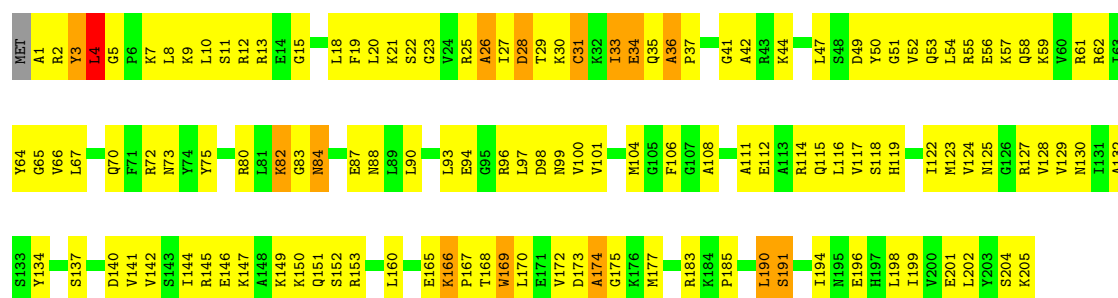
- Molecule 34: 30S ribosomal protein S3

Chain 8:  41% 44% 12%



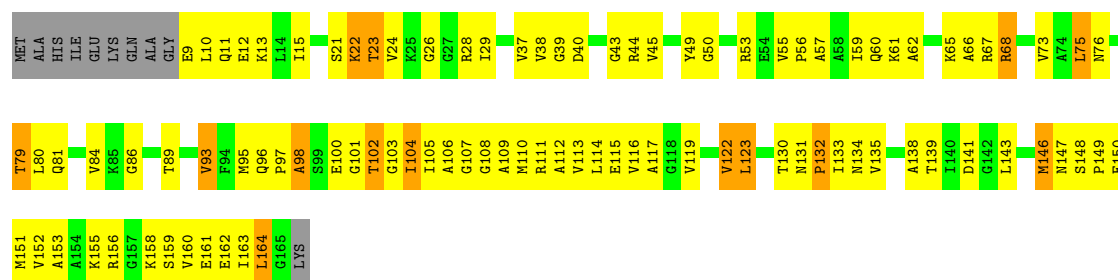
• Molecule 35: 30S ribosomal protein S4

Chain 9: 37% 55% 7%



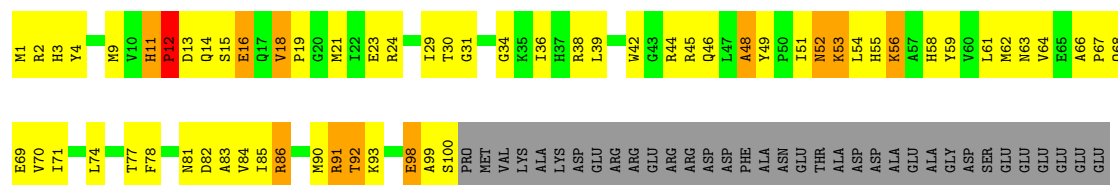
• Molecule 36: 30S ribosomal protein S5

Chain 10: 37% 49% 8% 6%

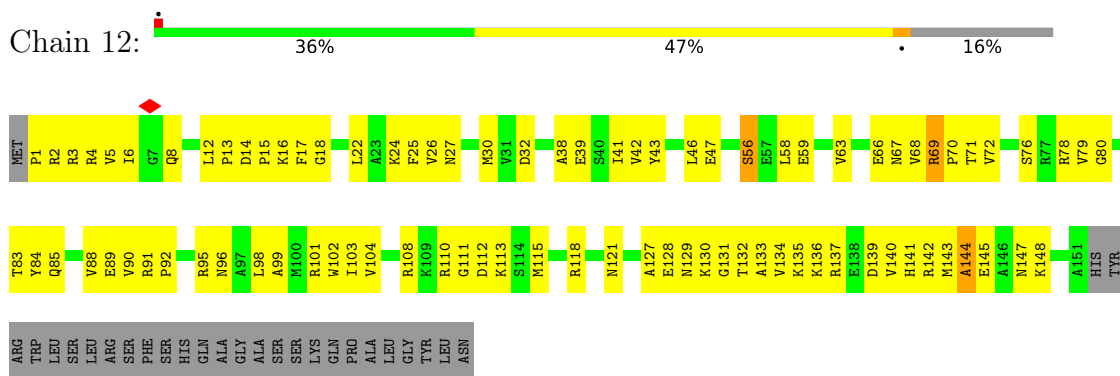


• Molecule 37: 30S ribosomal protein S6

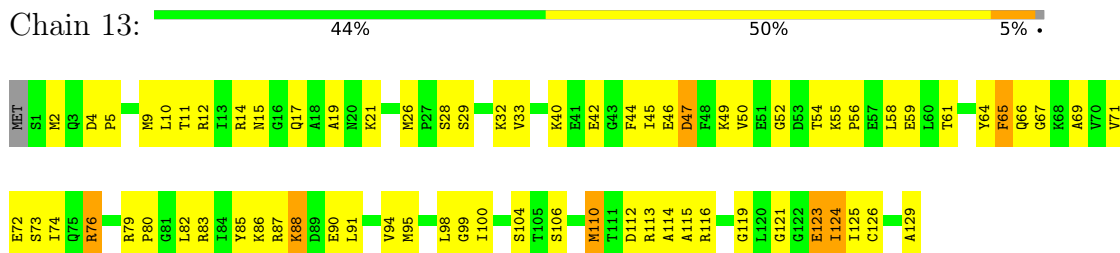
Chain 11: 27% 38% 8% 26%



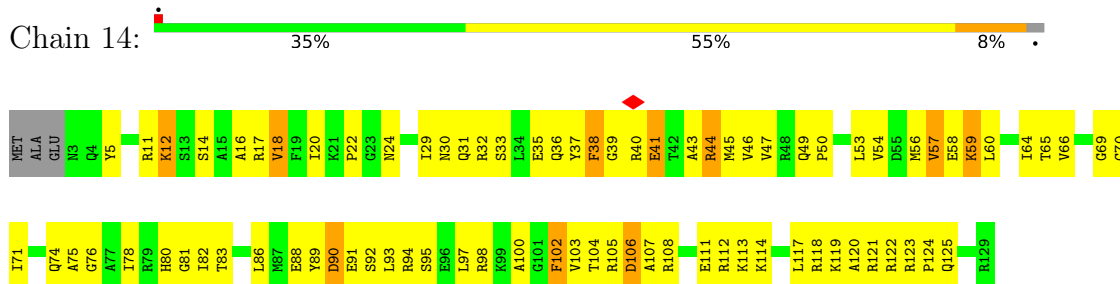
• Molecule 38: 30S ribosomal protein S7



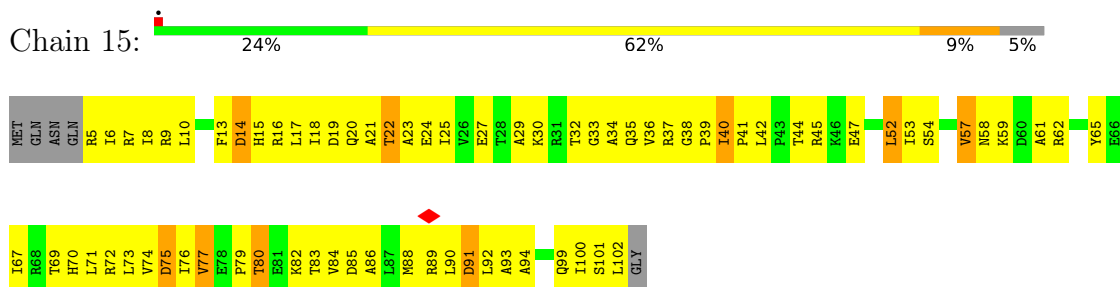
- Molecule 39: 30S ribosomal protein S8



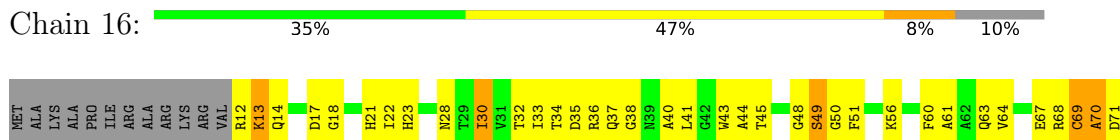
- Molecule 40: 30S ribosomal protein S9

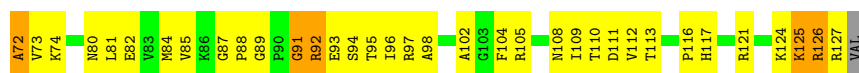


- Molecule 41: 30S ribosomal protein S10



- Molecule 42: 30S ribosomal protein S11

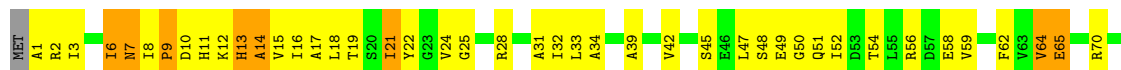




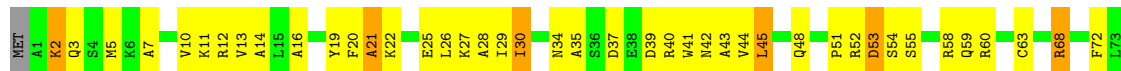
• Molecule 43: 30S ribosomal protein S12



• Molecule 44: 30S ribosomal protein S13



• Molecule 45: 30S ribosomal protein S14

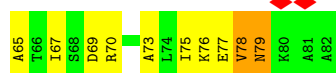
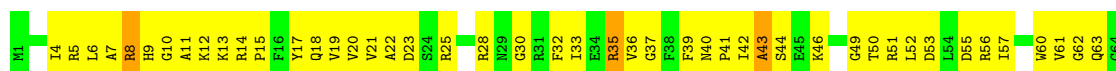


• Molecule 46: 30S ribosomal protein S15



• Molecule 47: 30S ribosomal protein S16





• Molecule 48: 30S ribosomal protein S17

Chain 22: 35% 55% 6% 5%



• Molecule 49: 30S ribosomal protein S18

Chain 23: 29% 49% 8% 13%



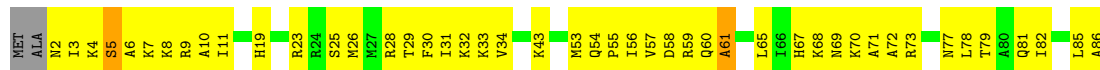
• Molecule 50: 30S ribosomal protein S19

Chain 24: 27% 54% 14%



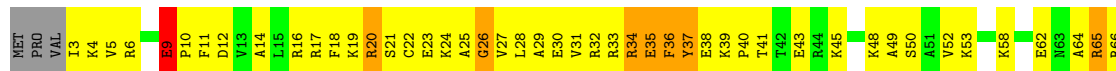
• Molecule 51: 30S ribosomal protein S20

Chain 25: 45% 51% ..



• Molecule 52: 30S ribosomal protein S21

Chain 26: 24% 56% 10% 8%

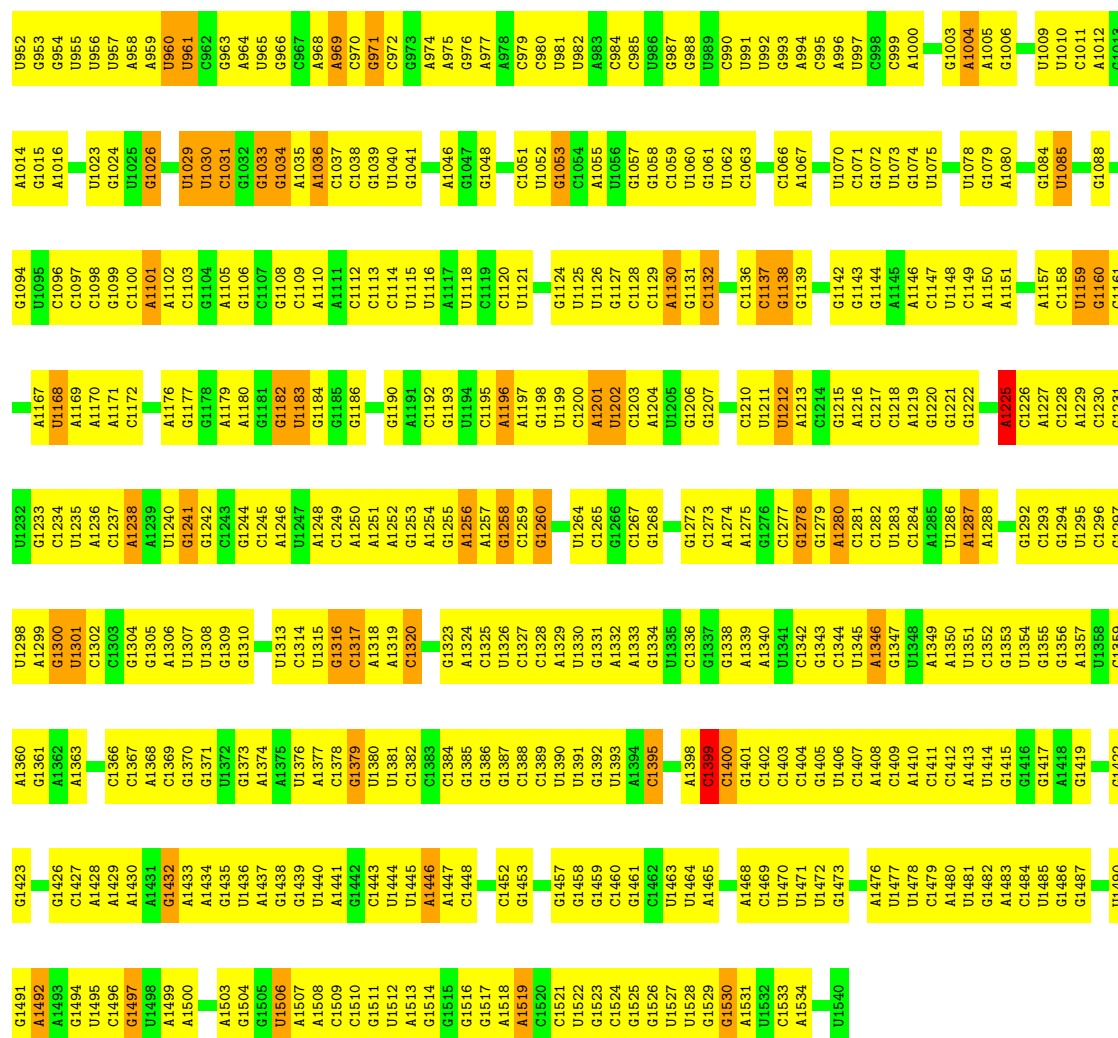


T67
ARG
LEU
TYR

● Molecule 53: 16S ribosomal RNA

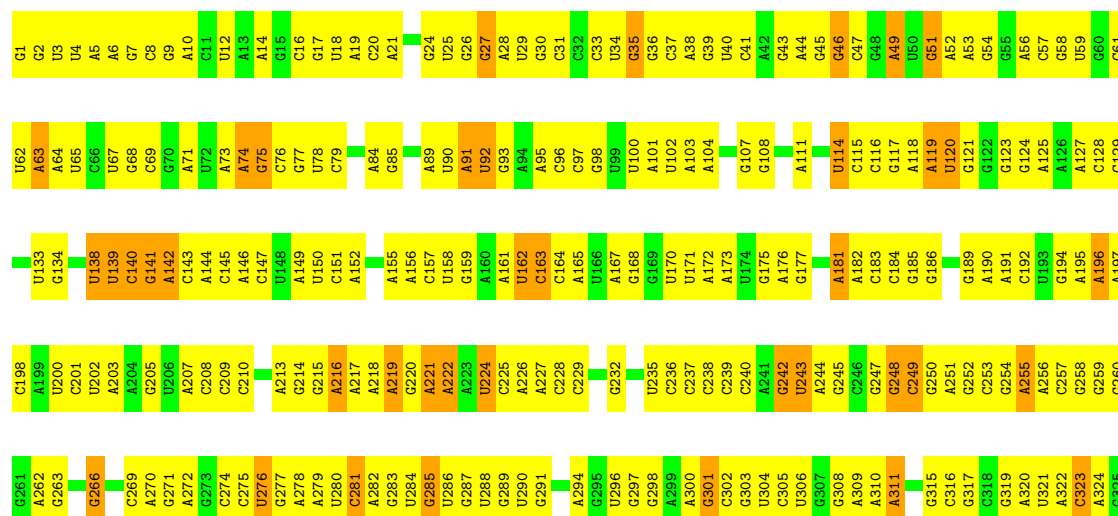
Chain 27:  27% 65% 8%

A2	A3	U4	U5	G6	A7	A8	G9	A10	U13	A16	U17	C18	A19	G86	G21	G22	G23	U24	C25	A26	G27	A28	U29	U30	G31	A32	A33	C34	G35	C36	G39	C40	C41	C42	G45	G46	C47	C48	U49	A50	A51	C52	A53	C54	A55	U56	G57	C58	A59	A60	G61	U62	C63	A66			
C67	G68	G69	U70	A71	G75	G76	G79	A80	A81	G82	C83	U84	U85	C86	C87	U88	U89	C90	C95	U96	G97	G100	A101	G102	U103	G104	G105	C106	G107	G108	A109	C110	G111	G112	G113	U114	G115	A116	A119	A120	U121	C122	A123	A131	C132	U133	G134	C135	C136								
U137	G138	A139	U140	G141	G142	A143	G144	G147	G148	A149	A150	A151	A152	A155	C156	U157	G158	G159	A160	A161	A162	C163	G164	G165	U166	A167	G168	A171	A172	U173	A174	C175	G176	G177	C178	A179	U180	A181	A182	C183	G184	U185	C186	U187	G188	A189	A190	G191	A192	C193	C194	A195	U196	A197	G198		
G201	G202	G203	G204	A205	C206	G207	U208	U209	C210	G211	G212	G213	G214	U215	U216	C217	U218	U219	G220	C221	C222	A223	U224	C225	G226	G227	A228	U229	C234	C235	A236	G237	G240	U244	U245	A246	G247	A250	G251	U252	A253	C254	G255	U256	U257	A258	A259	A260	G261	U262	C263	U268					
C269	A270	C271	C272	G276	G277	G278	A279	C280	G281	C285	C286	U287	A288	G289	U290	U291	G292	C293	U294	C295	U296	G297	A298	G299	A300	G301	U304	C305	A306	C307	G308	A309	G310	C311	C312	A313	C314	A315	C316	U317	G318	G319	A320	A321	C322	U323	G324	A325	U326	A327	A328	A329	G330	G331	C332	U333	
C334	C335	A336	G337	A338	C339	U340	C345	C346	C352	A353	G354	C355	A356	G357	U358	G359	G360	G361	C362	A363	U367	U368	G369	C370	A371	C372	A373	A374	U375	G376	G377	C381	A382	A383	G384	U387	U389	G391	C392	A393	G394	U398	G399	C400	A401	G402	A403	C404	U405	A406	U407	A408					
U409	G410	A411	A412	G413	A414	A415	C418	A419	U420	U421	A422	G423	G424	A425	U426	U427	G428	U429	A430	U434	A435	C436	U437	U439	A448	A449	C453	G454	U455	A456	G457	U458	A459	A460	A461	A462	U463	U464	A465	A466	U467	A468	U471	U472	U473	G474	C475	A476	C477	U478	U479	G544					
A482	C483	G484	U485	U486	C487	A488	C489	U490	A491	G494	A495	A496	U497	A498	A499	G500	C501	A502	C503	C504	C507	U508	A509	A510	C511	U512	C513	C514	A515	U516	U517	C518	C519	A520	C521	C522	A523	C524	C525	A526	G527	C528	G529	U530	A531	A532	A533	U534	G537	U538	A539	G540	C541	U542	U543	G544	
C545	A546	A547	C548	C549	C550	U551	U552	A553	A554	C555	A560	U561	A562	A563	A564	U565	U566	G570	U571	A572	A573	A574	G575	C576	U577	C578	A579	C580	G581	G585	C586	G587	U588	U589	U590	U591	G592	U593	U594	G597	U598	U599	U600	G601	A602	U603	G604	U605	A606	G607	A608	A609	C613				
C614	G615	U616	U617	C618	U619	A620	A621	C622	C623	C624	U625	U626	G627	A628	A630	C631	U632	G633	C634	A635	C637	U638	U641	A642	C643	U644	C651	U652	U653	G654	A655	G656	U657	C658	U659	U662	A663	G664	A665	G666	U667	G668	G669	U670	G671	U672	A673	U674	G675	A676	U677	U678	C679				
U684	G685	U686	A687	G688	C689	G690	G691	U692	G693	A694	A695	A696	U701	A702	G703	A704	U707	C708	U709	G714	A715	A716	U717	A718	C719	U720	G721	G722	U723	G724	G725	C726	U727	A728	A729	G730	U731	C732	G733	G734	C735	C736	U737	U738	G739	U740	G741	G742	A743	C744	G745	A746	U747	G748	A749	U750	U751
G752	A753	G754	G755	C756	U757	C758	G759	G760	G761	U762	G763	G764	G765	A766	A767	A768	G769	C770	G771	U772	G773	G774	G775	A776	A777	G778	C779	U780	A781	G782	C783	U784	G785	G786	U787	A788	U789	U793	A794	C797	U798	G799	U800	U801	A802	G803	U804	C805	U806	A807	G808	C809	G810	C811	U812	U813	A814
A815	A816	C817	G818	A819	U820	G821	U822	C823	G824	A825	C826	U827	G833	U834	U835	U836	U837	G838	C839	C840	C841	U842	U843	U844	A845	U846	G847	C848	C856	C857	G858	C859	A860	G861	C862	U863	A864	C865	C866	G867	C868	G869	U870	U871	A872	G873	G874	U875	C876	G877	A878	C879	C880	G881	C882	U883	U884
G885	G886	G887	A892	C893	G894	G895	C896	C897	G898	C899	A900	A901	G902	G903	U904	U905	A906	A907	A908	A909	C910	U911	C912	A915	U916	G917	A918	A919	U920	U921	G922	A923	C924	G925	G926	G927	G928	G929	C932	G933	C934	A935	C936	A937	A938	G939	C940	G941	G945	A946	G947	C948	A949	U950	G951		



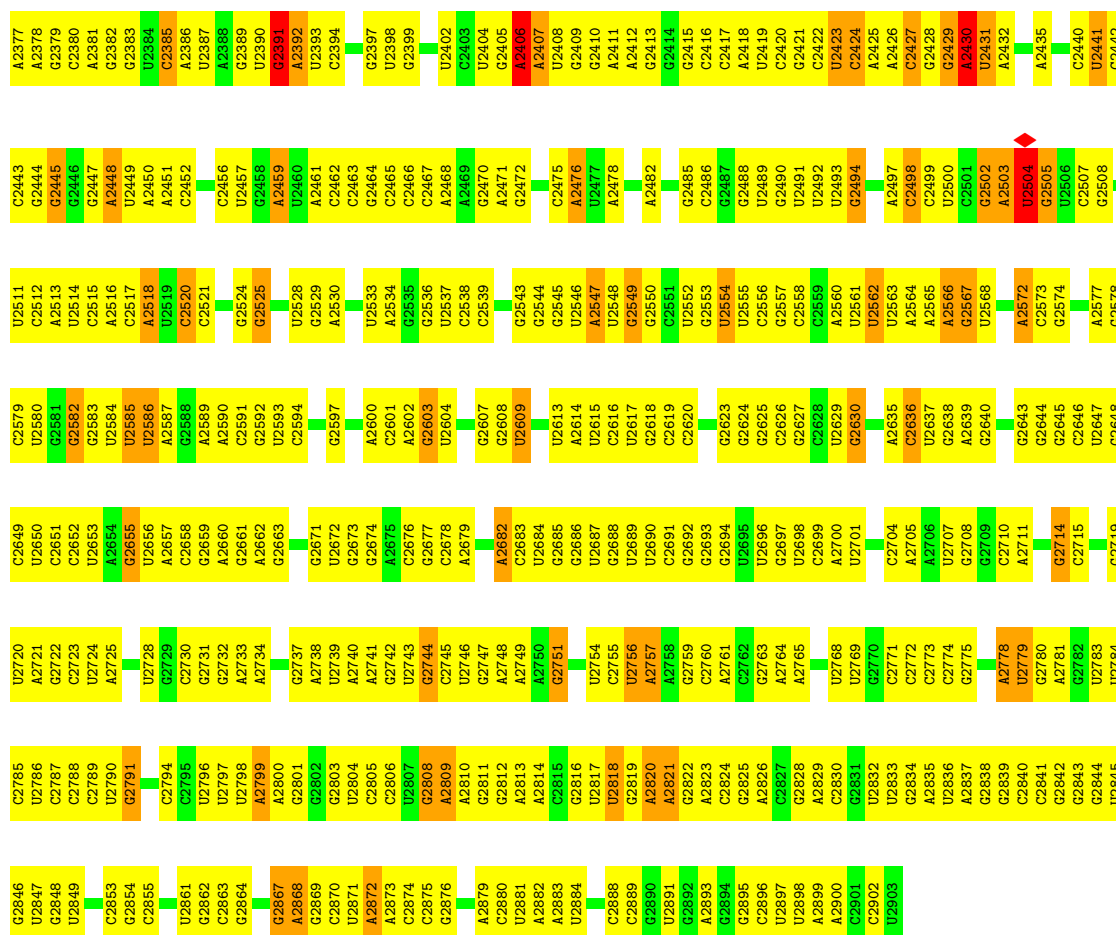
● Molecule 54: 23S ribosomal RNA

Chain 28: 26% 63% 10%



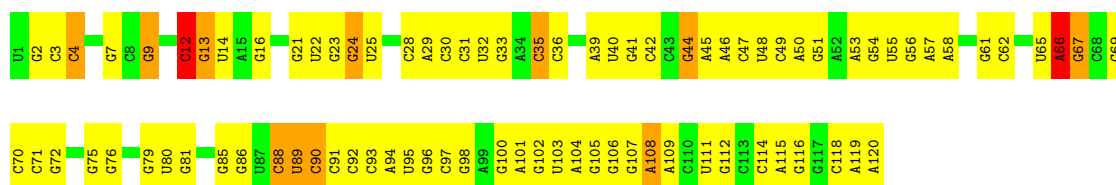


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A2317	G2246		C2043	G1972	G1906	C1832	G1767	G1702	G1631	U1563	U1486	A1419	C1345
G2318	A2247	A2183	C2044	C1973	C1907	C1833		G1703	G1632	C1564	U1487	A1420	
G2319	G2248	A2184	C2045	C1974	C1908		G1770	C1704	G1633	C1565		G1421	C1351
U2320	U2249	U2185	G2046	U1982	G1910	C1837	G1771	U1709	A1635	G1567	A1490	G1424	U1352
G2250	G2250	G2112	G2047	G1983	U1911	C1839	A1772	G1710	A1636	G1568	G1491	G1425	A1353
A2322	U2187	U2113	G2048		U1912	G1840	G1773	A1711	U1637	A1569	G1492	G1426	A1354
G2323	U2188	G2114	C2049	G1989	A1913	U1841	C1774	U1712	A1638	A1570		A1427	G1356
G2324	U2189	G2115	C2050	U1990	G1914	G1842	U1776	U1713	A1640	A1571	C1499	G1428	C1357
G2325	A2190		A2051	U1991	U1915	C1843	G1777	A1713	G1640	G1572	G1500	G1429	G1358
C2326	C2191	A2052	A2052	G1992	A1916	C1844	U1778	U1714	A1641	G1573	A1504	G1430	A1359
A2327	G2261	U2192	C2055	U1993	U1917		U1779	G1715	G1642	C1574	A1505	A1431	G1360
A2328	G2193	G2120	G2056	C1994	A1918		U1780	U1716	G1643		A1506	A1432	G1361
U2329	G2057	G2121	G2057	U1995	A1919	G1847	A1784	A1717	C1644	U1577	U1507	G1432	G1362
G2330	C2058	U2122	U2058	C1996		A1948		G1718	G1645	U1578	A1508	A1433	C1363
G2331	A2059	G2126	A2059	U1997	U1922	U1851	A1785	U1719	U1646	U1579	A1509	A1434	G1364
C2332	G2060	A2127	G2061	A1998	G1923	U1852	G1786	G1720	U1647	A1580	A1515	G1436	A1365
U2334	G2061	G2128	G2062	C1999	C1974	A1853	A1787	G1721	U1648	G1581	G1516	G1437	A1366
A2335	A2062	C2129	C2063	C2000	C1925	A1854	C1788	A1722	G1649		G1517	U1438	A1367
A2336	C2200	G2130	C2064	C2001	U1926	U1855	G1789		U1650	U1584	G1520	A1440	G1368
	U2203	U2131	C2065	G2002	A1927	U1856	A1791	C1726	G1651	C1585	U1521	G1441	G1370
A2337	A2205	G2133	C2066	A2003	C1928	G1857	A1791	C1728	A1652			U1442	G1371
G2340	C2066	G2134	G2067	G2004	G1929	A1858		U1729	G1653	U1588	G1524	U1443	U1372
G2341	A2067	A2135	U2068	A2005	G1930		A1794	C1730	A1654	A1590	A1525	G1444	A1373
C2342	G2069	G2136	G2069	C2006	U1931	U1864	C1795	G1731	A1655	A1591	A1526	G1445	
U2343	A2070	U2137	A2070	U2007	G1932	U1865	U1796	G1732	U1656	C1592	G1527	G1446	C1376
G2344	C2071	U2137	A2071	C2008	G1933	A1866	G1797	G1733	U1657	A1592	A1528	G1447	G1377
A2345	A2072	G2141	C2072	A2009	U1934	G1867	U1798		G1658	A1593	G1448	U1378	A1378
G2346	U2211	G2142	C2073	G2010	G1935		G1799	G1736	G1660	C1595	G1529	G1449	U1379
C2347	A2112	A2143	C2074	U2011	A1936	A1871	A1800	U1737	G1661	U1596	G1450		
U2348	U2213	C2143	U2074	C2012	U1937	A1872	A1801	G1738	U1662	A1597	C1451		A1383
G2349	G2211	G2144	A2075	A2013	A1938	G1873	A1802	G1739	G1663	A1598	A1532	G1452	A1384
A2350	G2216	C2145	C2078	A2014	U1939	C1874	A1803	A1745	U1670	A1599	C1533	A1453	A1385
G2351	G2217	G2146	U2079	A2015	U1940	G1875	A1804	A1746	A1664	C1605	G1540	G1461	C1386
A2352	G2218	A2147	A2080	U2016	U1943	A1876	A1805	U1747	A1665	C1606	A1534	G1462	C1387
G2353	U2219	G2148	U2081	U2017		A1877	A1806	C1748	G1675	C1607	C1541	C1463	U1397
U2354	U2220	U2149	U2082	G2018	U1946	C1878	G1807	A1749	A1677	A1609	U1542	G1464	C1398
G2355	G2221	C2150	A2082	A2019	U1947	C1879	A1808	G1750	A1678		A1544		U1401
U2356	C2222	U2151		A2020	C1947	U1880	A1809	C1751	A1679	A1601	U1545	A1469	G1403
G2357	G2223	G2152	U2086	G2021	G1948	C1881	A1810	C1752	A1678	C1612	A1548	A1470	C1404
A2358	G2224	C2153	G2087	U2022		U1882	G1811	G1753	A1679	G1613	A1549	U1471	U1405
G2359	A2225	G2156	C2088	C2023	U1951	U1883		C1748	G1681	A1614	C1550		U1406
C2360	C2226	G2157	C2089	G2024	A1952	G1884	A1814	A1749	C1682	U1615	A1551	G1475	
G2361	A2227	C2157	A2090	C2025	A1953	A1885	A1815	G1750	U1683	A1616		U1476	G1410
U2362	G2228	G2158	C2091	U2026	G1954		G1816	C1751	G1684	C1617	G1555	A1477	U1411
A2363	U2229	G2159	U2092	G2027	U1955	A1889	G1817	C1752	C1685	A1618		G1478	U1412
G2364	G2230	C2160	G2093	U2028	U1956	A1890	A1818	G1753	G1686	G1619	C1556	G1479	A1413
G2365	A2094	C2161	A2094	G2029	C1957	G1891	A1819	A1754	G1687		C1557		
A2366	U2095	G2162	A2095	A2030	C1958	C1892	U1820	A1755	U1688	A1626	U1558	G1482	G1414
G2367	C2096	C2165	C2096	A2031	G1959		A1821	G1756	G1682	G1627	U1559	U1483	U1415
G2368	A2097	C2166	A2097	U2034		G1896	C1822	A1757	U1683	U1628		G1483	G1416
A2369	U2098	U2167	G2238	G2035	C1962	G1897	G1823	U1758	G1694	C1617		U1484	C1417
G2370		G2168		C2036	U1963	U1898	G1824	A1759	C1685		G1555		
U2371	A2101	G2169	A2101	A2037	G1964	A1899	G1825	C1760	C1686		C1556		
G2372	G2230	A2170	G2102	A2037		A1900	G1826	C1761	G1687		C1557		
C2373	A2241	C2103	C2103	G2038	C1967	A1901	U1827	A1762	U1688		U1558		
G2374	G2242	C2104	C2104	U2039	G1968	C1902	G1828	G1763	A1689		U1559		
A2375	U2243	U2172	G2040	G2040	U1969	G1903	A1829	C1764	A1690		C1561		
G2376	G2315	A2173	U2106	U2041	A1970	G1904	C1830	U1765					



• Molecule 55: 5S ribosomal RNA

Chain 29: 29% 60% 9%



• Molecule 56: mRNA

Chain 30: 11% 44% 44% 11%



• Molecule 57: P site tRNA^{fmet}

Chain 31: 45% 55%



● Molecule 58: E-site tRNAfMet



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	76158	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	1.6	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	30488	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.465	Depositor
Minimum map value	-0.124	Depositor
Average map value	-0.006	Depositor
Map value standard deviation	0.041	Depositor
Recommended contour level	0.08	Depositor
Map size (Å)	393.6, 393.6, 393.6	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.82, 0.82, 0.82	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	0.88	1/1115 (0.1%)	1.33	18/1510 (1.2%)
2	B	0.46	0/2121	1.17	21/2852 (0.7%)
3	C	0.44	0/1586	1.12	14/2134 (0.7%)
4	D	0.51	0/1571	1.20	18/2113 (0.9%)
5	E	0.43	0/1434	1.12	16/1926 (0.8%)
6	F	0.46	0/1343	1.06	9/1816 (0.5%)
7	G	0.58	0/1122	1.21	15/1515 (1.0%)
8	H	0.73	0/1001	1.32	18/1350 (1.3%)
9	I	0.82	0/1046	1.51	32/1410 (2.3%)
10	J	0.46	0/1152	1.07	4/1551 (0.3%)
11	K	0.41	0/947	1.06	6/1268 (0.5%)
12	L	0.41	0/1054	1.09	5/1403 (0.4%)
13	M	0.44	0/1093	1.02	4/1460 (0.3%)
14	N	0.38	0/973	0.98	4/1301 (0.3%)
15	O	0.40	0/902	0.96	3/1209 (0.2%)
16	P	0.39	0/929	1.02	4/1242 (0.3%)
17	Q	0.42	0/960	1.00	5/1278 (0.4%)
18	R	0.42	0/829	1.08	6/1107 (0.5%)
19	S	0.40	0/864	0.96	3/1156 (0.3%)
20	T	0.40	0/744	1.01	5/994 (0.5%)
21	U	0.39	0/787	1.09	5/1051 (0.5%)
22	V	0.42	0/766	0.99	2/1025 (0.2%)
23	W	0.39	0/582	1.09	6/769 (0.8%)
24	X	0.41	0/635	0.96	2/848 (0.2%)
25	Y	0.47	0/510	1.09	5/677 (0.7%)
26	Z	0.40	0/453	0.95	0/605
27	1	0.59	0/531	1.26	5/709 (0.7%)
28	2	0.39	0/450	0.98	2/599 (0.3%)
29	3	0.47	0/416	1.00	5/554 (0.9%)
30	4	0.45	0/380	1.17	5/498 (1.0%)
31	5	0.41	0/513	0.94	3/676 (0.4%)
32	6	0.68	0/303	1.27	4/397 (1.0%)
33	7	0.53	0/1735	1.04	7/2338 (0.3%)
34	8	0.47	0/1651	1.03	9/2225 (0.4%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	9	0.41	0/1665	1.08	10/2227 (0.4%)
36	10	0.42	0/1169	1.08	7/1573 (0.4%)
37	11	0.47	0/835	1.09	9/1128 (0.8%)
38	12	0.39	0/1195	1.02	6/1602 (0.4%)
39	13	0.41	0/989	1.11	11/1326 (0.8%)
40	14	0.40	0/1034	1.03	5/1375 (0.4%)
41	15	0.47	0/796	1.04	8/1077 (0.7%)
42	16	0.44	0/885	1.26	12/1195 (1.0%)
43	17	0.46	0/969	1.12	10/1300 (0.8%)
44	18	0.48	0/892	1.10	7/1193 (0.6%)
45	19	0.42	0/817	1.01	7/1088 (0.6%)
46	20	0.40	0/722	1.02	7/964 (0.7%)
47	21	0.41	0/659	0.99	4/884 (0.5%)
48	22	0.39	0/657	1.01	4/881 (0.5%)
49	23	0.47	0/544	1.11	3/731 (0.4%)
50	24	0.60	0/652	1.13	5/877 (0.6%)
51	25	0.40	0/671	1.02	4/888 (0.5%)
52	26	0.48	0/550	1.06	4/728 (0.5%)
53	27	0.45	0/36967	0.55	7/57666 (0.0%)
54	28	0.46	0/69801	0.55	18/108894 (0.0%)
55	29	0.44	0/2876	0.54	1/4483 (0.0%)
56	30	0.55	0/436	0.62	1/679 (0.1%)
57	31	0.46	0/1836	0.49	0/2859
58	32	0.57	0/1835	0.56	0/2857
All	All	0.46	1/161950 (0.0%)	0.74	420/242041 (0.2%)

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
53	27	0	6
54	28	0	9
55	29	0	1
All	All	0	16

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	684	THR	C-O	8.87	1.34	1.24

All (420) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	10	101	GLY	N-CA-C	-13.65	99.65	114.67
1	A	678	GLY	N-CA-C	11.64	127.41	113.79
1	A	681	ARG	N-CA-C	-11.64	98.67	111.36
4	D	120	VAL	N-CA-C	10.91	124.76	107.73
33	7	85	SER	N-CA-C	-10.85	99.24	111.82
43	17	115	LYS	N-CA-C	-10.56	94.89	110.52
9	I	113	ALA	N-CA-C	-10.43	99.87	111.14
10	J	84	ILE	N-CA-C	10.37	117.30	106.21
35	9	84	ASN	N-CA-C	10.13	124.37	108.67
18	R	50	GLY	N-CA-C	-10.05	99.90	113.37
50	24	30	LEU	N-CA-C	9.82	124.22	108.41
43	17	22	ALA	N-CA-C	-9.68	101.49	113.20
6	F	173	ALA	N-CA-C	-9.65	97.91	111.81
49	23	66	LEU	N-CA-C	-9.62	99.88	112.68
7	G	30	LEU	N-CA-C	9.49	122.50	111.11
14	N	119	SER	N-CA-C	-9.38	101.09	112.54
4	D	119	ILE	N-CA-C	9.33	123.22	106.61
33	7	10	LYS	N-CA-C	-9.31	101.19	112.54
8	H	67	THR	CA-C-N	9.28	131.44	119.84
8	H	67	THR	C-N-CA	9.28	131.44	119.84
30	4	44	VAL	N-CA-C	-9.21	97.69	109.58
45	19	21	ALA	N-CA-C	-9.14	100.86	113.56
47	21	78	VAL	N-CA-C	-9.08	100.72	113.07
8	H	127	ALA	N-CA-C	8.81	120.65	111.14
16	P	14	GLN	N-CA-C	8.65	122.82	111.75
7	G	31	VAL	CA-C-N	-8.58	110.90	119.56
7	G	31	VAL	C-N-CA	-8.58	110.90	119.56
2	B	129	LEU	N-CA-C	8.52	115.65	108.07
5	E	105	ILE	N-CA-C	8.51	119.27	112.12
35	9	165	GLU	N-CA-C	-8.41	103.00	113.18
42	16	91	GLY	N-CA-C	8.34	122.74	112.73
3	C	151	THR	CA-C-N	-8.30	111.37	121.00
3	C	151	THR	C-N-CA	-8.30	111.37	121.00
37	11	16	GLU	N-CA-C	-8.30	102.16	111.71
9	I	32	VAL	N-CA-C	8.28	120.26	109.58
12	L	113	ALA	N-CA-C	-8.22	103.26	113.28
10	J	7	LYS	CA-C-N	8.20	130.09	119.84
10	J	7	LYS	C-N-CA	8.20	130.09	119.84
27	1	43	PHE	N-CA-C	-8.11	100.53	111.96
11	K	47	ILE	CA-C-N	8.05	129.91	119.84
11	K	47	ILE	C-N-CA	8.05	129.91	119.84
39	13	50	VAL	N-CA-C	-8.05	104.72	112.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
42	16	69	CYS	N-CA-C	-8.00	103.73	113.97
10	J	38	GLY	N-CA-C	-7.99	104.20	115.30
34	8	105	VAL	N-CA-C	-7.94	98.59	109.55
48	22	51	GLU	N-CA-C	-7.88	104.62	112.97
44	18	64	VAL	N-CA-C	7.84	118.09	108.53
32	6	5	ALA	N-CA-C	-7.83	103.72	113.28
18	R	44	GLY	N-CA-C	-7.83	104.63	113.79
27	1	51	VAL	N-CA-C	7.78	118.56	110.62
8	H	117	LEU	N-CA-C	7.77	120.75	107.93
9	I	111	THR	N-CA-C	-7.73	102.45	111.03
35	9	26	ALA	N-CA-C	-7.72	102.87	111.82
18	R	91	GLN	N-CA-C	7.71	120.25	109.15
52	26	20	ARG	N-CA-C	-7.68	103.37	112.89
2	B	145	MET	N-CA-C	-7.67	104.07	113.50
8	H	78	GLY	CA-C-N	7.66	127.67	119.78
8	H	78	GLY	C-N-CA	7.66	127.67	119.78
4	D	115	GLN	N-CA-C	-7.65	103.97	113.38
3	C	195	GLY	N-CA-C	7.63	120.84	112.29
50	24	50	VAL	N-CA-C	7.61	118.76	108.11
48	22	77	VAL	N-CA-C	7.59	114.33	106.21
46	20	11	VAL	N-CA-C	-7.58	102.95	110.30
34	8	5	HIS	CA-C-N	7.57	129.31	119.84
34	8	5	HIS	C-N-CA	7.57	129.31	119.84
13	M	91	TYR	N-CA-C	7.56	117.18	108.49
9	I	133	ARG	N-CA-C	-7.53	103.01	111.14
43	17	9	LYS	CA-C-N	7.53	127.57	119.89
43	17	9	LYS	C-N-CA	7.53	127.57	119.89
25	Y	15	ASN	N-CA-C	-7.51	103.04	111.07
3	C	27	ILE	N-CA-C	7.50	118.28	106.88
27	1	37	CYS	N-CA-C	-7.50	99.39	110.48
5	E	4	HIS	N-CA-C	-7.48	103.06	111.14
17	Q	50	ARG	N-CA-C	-7.44	103.04	112.93
44	18	13	HIS	N-CA-C	-7.44	98.66	109.59
42	16	89	GLY	CA-C-N	7.38	126.89	118.85
42	16	89	GLY	C-N-CA	7.38	126.89	118.85
22	V	38	LEU	N-CA-C	7.27	120.75	108.02
5	E	146	ASP	N-CA-C	-7.20	103.66	113.30
2	B	167	ASP	N-CA-C	7.18	121.45	108.17
18	R	14	VAL	N-CA-C	7.13	118.04	108.27
8	H	67	THR	N-CA-C	7.12	121.86	112.17
4	D	79	ARG	N-CA-C	-7.11	99.76	110.28
18	R	65	ALA	N-CA-C	7.11	117.98	108.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	27	LYS	CA-C-N	7.08	127.12	119.89
2	B	27	LYS	C-N-CA	7.08	127.12	119.89
4	D	119	ILE	CA-C-N	-7.06	113.54	122.43
4	D	119	ILE	C-N-CA	-7.06	113.54	122.43
21	U	86	PHE	N-CA-C	7.03	121.83	107.69
32	6	19	ARG	N-CA-C	7.03	120.85	110.30
9	I	52	LEU	CA-C-N	7.03	128.62	119.84
9	I	52	LEU	C-N-CA	7.03	128.62	119.84
9	I	90	GLY	N-CA-C	-7.01	106.13	115.32
4	D	13	THR	N-CA-C	7.01	120.29	108.23
44	18	21	ILE	N-CA-C	7.00	118.38	108.93
7	G	36	ALA	N-CA-C	6.98	119.35	108.96
21	U	53	GLN	CA-C-N	6.97	127.12	119.87
21	U	53	GLN	C-N-CA	6.97	127.12	119.87
46	20	14	PHE	N-CA-C	6.94	118.84	111.28
38	12	6	ILE	N-CA-C	6.93	118.05	110.21
51	25	65	LEU	N-CA-C	-6.91	103.75	111.28
5	E	150	GLY	N-CA-C	-6.90	102.05	113.02
54	28	1130	U	C2'-C3'-O3'	6.90	119.85	109.50
14	N	69	ARG	N-CA-C	-6.88	100.27	110.46
2	B	225	ASN	CA-C-N	6.88	128.44	119.84
2	B	225	ASN	C-N-CA	6.88	128.44	119.84
5	E	118	ALA	N-CA-C	-6.86	104.91	113.28
33	7	204	ASP	N-CA-C	6.86	119.77	111.40
37	11	18	VAL	N-CA-C	6.86	123.70	108.88
8	H	44	ALA	N-CA-C	-6.86	103.87	111.82
5	E	5	ASP	N-CA-C	-6.85	103.74	111.07
11	K	61	VAL	N-CA-C	6.84	117.74	108.17
1	A	687	LEU	CA-C-N	-6.82	111.04	120.38
1	A	687	LEU	C-N-CA	-6.82	111.04	120.38
6	F	81	GLY	N-CA-C	-6.82	100.36	112.22
32	6	4	ARG	N-CA-C	6.79	119.72	110.55
42	16	32	THR	N-CA-C	6.79	121.33	107.69
33	7	158	ASP	N-CA-C	-6.77	104.03	112.90
36	10	164	LEU	N-CA-C	-6.76	104.29	112.54
4	D	176	ASP	CA-C-N	6.75	128.27	119.84
4	D	176	ASP	C-N-CA	6.75	128.27	119.84
38	12	8	GLN	N-CA-C	6.74	119.51	110.35
4	D	171	ASP	N-CA-C	-6.71	100.55	110.48
36	10	123	LEU	N-CA-C	-6.68	101.53	110.55
45	19	92	ILE	CA-C-N	6.67	128.18	119.84
45	19	92	ILE	C-N-CA	6.67	128.18	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	20	43	ALA	N-CA-C	-6.67	104.04	111.71
5	E	123	GLY	N-CA-C	-6.64	106.78	114.69
6	F	112	VAL	CB-CA-C	-6.64	104.21	112.45
32	6	18	LYS	N-CA-C	6.64	124.95	110.80
4	D	187	VAL	N-CA-C	6.63	118.35	108.54
29	3	9	LYS	N-CA-C	6.63	119.54	108.73
9	I	33	ASN	N-CA-C	6.63	124.91	110.80
8	H	94	ARG	CA-C-O	6.61	127.08	119.35
34	8	67	ILE	N-CA-C	6.58	118.29	107.24
38	12	88	VAL	N-CA-C	6.57	118.04	108.58
9	I	129	GLU	N-CA-C	-6.56	104.21	111.82
12	L	41	ARG	N-CA-C	6.56	119.99	110.28
48	22	62	GLU	N-CA-C	-6.56	100.77	110.48
16	P	24	THR	N-CA-C	-6.56	100.12	109.96
9	I	115	ASP	N-CA-C	6.54	121.48	107.67
12	L	95	LEU	N-CA-C	-6.53	104.08	111.07
3	C	75	ALA	N-CA-C	6.52	119.06	108.63
21	U	96	LYS	N-CA-C	-6.51	100.79	110.23
2	B	242	HIS	N-CA-C	6.50	117.08	109.60
39	13	45	ILE	N-CA-C	6.49	117.47	108.12
9	I	27	LEU	N-CA-C	-6.49	105.10	114.12
1	A	605	LEU	N-CA-C	6.46	119.59	109.96
2	B	134	ILE	N-CA-C	6.46	115.03	109.02
17	Q	49	ARG	N-CA-C	-6.45	105.39	113.20
23	W	34	VAL	N-CA-C	6.45	117.39	107.78
51	25	69	ASN	N-CA-C	-6.44	103.38	111.11
37	11	48	ALA	N-CA-C	-6.42	103.80	111.69
6	F	112	VAL	N-CA-C	6.42	116.65	106.32
43	17	114	SER	N-CA-C	-6.41	104.39	111.82
2	B	12	ARG	N-CA-C	-6.39	106.45	114.56
5	E	100	GLU	N-CA-C	-6.38	104.02	110.97
9	I	8	VAL	N-CA-C	6.38	118.35	109.55
27	1	36	VAL	N-CA-C	6.34	117.89	107.24
20	T	58	VAL	N-CA-C	6.33	117.35	107.28
25	Y	25	GLN	N-CA-C	6.31	118.69	111.11
48	22	60	ILE	N-CA-C	6.30	117.78	108.45
9	I	94	LYS	N-CA-C	-6.30	106.13	113.88
14	N	79	LEU	N-CA-C	-6.30	101.16	110.48
2	B	131	MET	N-CA-C	6.29	118.94	111.71
6	F	8	VAL	N-CA-C	6.28	116.54	108.12
42	16	50	GLY	N-CA-C	-6.25	103.76	111.45
42	16	125	LYS	N-CA-C	6.25	124.12	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	182	ALA	N-CA-C	6.25	117.76	111.07
36	10	146	MET	N-CA-C	-6.25	101.69	110.50
35	9	122	ILE	N-CA-C	6.24	116.86	107.75
51	25	61	ALA	N-CA-C	-6.23	104.57	111.36
2	B	213	ARG	N-CA-C	-6.22	105.45	113.16
33	7	184	ALA	N-CA-C	6.21	118.51	108.32
9	I	120	ASP	N-CA-C	6.20	118.71	109.59
25	Y	14	LEU	N-CA-C	-6.20	104.61	111.36
39	13	67	GLY	N-CA-C	-6.19	105.08	113.37
41	15	80	THR	N-CA-C	6.18	118.87	108.23
54	28	2504	U	N1-C1'-C2'	6.17	123.26	114.00
29	3	29	LYS	CA-C-N	6.15	125.63	119.24
29	3	29	LYS	C-N-CA	6.15	125.63	119.24
1	A	625	ILE	N-CA-C	6.14	116.55	107.15
5	E	137	PHE	CA-C-N	6.14	127.52	119.84
5	E	137	PHE	C-N-CA	6.14	127.52	119.84
9	I	104	GLN	N-CA-C	-6.14	104.27	110.97
36	10	84	VAL	N-CA-C	6.14	116.46	108.35
42	16	38	GLY	N-CA-C	6.14	123.50	115.40
54	28	1020	A	C2'-C3'-O3'	6.14	118.70	109.50
2	B	60	ALA	N-CA-C	6.10	118.68	108.73
1	A	682	ASP	N-CA-C	-6.09	103.80	111.11
7	G	71	LYS	N-CA-C	6.09	118.71	111.71
34	8	204	GLY	N-CA-C	6.09	120.21	110.90
8	H	65	GLU	N-CA-C	-6.08	105.12	112.54
4	D	66	GLY	N-CA-C	-6.06	107.38	115.32
24	X	51	SER	N-CA-C	-6.04	101.53	110.48
49	23	70	THR	N-CA-C	-6.02	101.57	110.48
39	13	126	CYS	N-CA-C	6.01	117.54	108.46
33	7	30	ILE	N-CA-C	6.01	118.86	108.95
9	I	51	GLY	N-CA-C	6.00	123.35	115.36
23	W	22	PHE	N-CA-C	6.00	118.46	110.53
11	K	92	GLU	CB-CA-C	-5.98	109.69	116.63
18	R	56	GLY	N-CA-C	-5.98	105.39	115.62
3	C	121	THR	N-CA-C	5.98	118.58	111.71
36	10	79	THR	N-CA-C	5.96	115.89	108.19
8	H	12	VAL	N-CA-C	-5.96	104.54	110.62
20	T	54	GLU	N-CA-C	5.96	118.17	108.63
42	16	49	SER	N-CA-C	-5.96	105.77	113.16
45	19	45	LEU	N-CA-C	-5.95	104.37	111.69
54	28	2287	A	N9-C1'-C2'	5.94	120.90	112.00
30	4	4	THR	N-CA-C	5.93	118.51	111.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	28	1329	U	N1-C1'-C2'	5.93	120.90	112.00
2	B	118	GLY	N-CA-C	-5.92	106.33	111.95
11	K	12	ASP	N-CA-C	5.91	119.84	109.80
1	A	687	LEU	N-CA-C	-5.90	103.82	111.02
3	C	163	GLY	N-CA-C	5.90	119.62	110.88
19	S	107	VAL	N-CA-C	5.90	115.23	106.85
40	14	44	ARG	N-CA-C	-5.90	104.97	111.82
30	4	24	THR	N-CA-C	5.90	118.15	109.24
44	18	54	THR	N-CA-C	-5.90	104.85	111.28
19	S	42	LYS	N-CA-C	-5.89	104.94	111.71
1	A	678	GLY	CA-C-O	5.88	124.68	119.56
1	A	688	ALA	N-CA-C	5.86	118.43	111.33
53	27	1225	A	N9-C1'-C2'	5.86	120.79	112.00
43	17	97	VAL	N-CA-C	5.86	112.48	106.21
37	11	11	HIS	CA-C-N	5.84	127.14	119.84
37	11	11	HIS	C-N-CA	5.84	127.14	119.84
40	14	59	LYS	N-CA-C	5.84	118.40	111.33
5	E	61	GLY	N-CA-C	-5.84	107.26	115.32
45	19	30	ILE	N-CA-C	5.83	117.27	110.62
50	24	77	ARG	N-CA-C	5.82	118.92	107.98
7	G	18	GLN	N-CA-C	-5.81	99.78	109.24
42	16	72	ALA	N-CA-C	-5.81	106.14	113.23
33	7	60	ALA	N-CA-C	-5.81	105.08	111.82
25	Y	60	LYS	N-CA-C	-5.80	105.09	111.82
17	Q	24	TYR	N-CA-C	5.79	118.66	110.50
54	28	1378	A	C2'-C3'-O3'	5.78	118.17	109.50
51	25	5	SER	N-CA-C	-5.77	106.08	113.01
15	O	33	ARG	N-CA-C	-5.76	100.79	109.95
16	P	15	ASP	N-CA-C	5.76	118.55	107.44
17	Q	109	VAL	N-CA-C	-5.74	104.91	110.42
46	20	4	THR	N-CA-C	-5.72	104.24	111.11
4	D	153	LEU	N-CA-C	5.72	118.00	109.59
41	15	40	ILE	N-CA-C	-5.70	101.38	107.77
6	F	6	ALA	CA-C-N	5.69	125.69	119.89
6	F	6	ALA	C-N-CA	5.69	125.69	119.89
5	E	164	GLU	N-CA-C	-5.68	105.09	111.28
12	L	14	LYS	N-CA-C	5.66	118.36	107.44
4	D	119	ILE	CB-CA-C	-5.65	104.82	111.09
9	I	123	ALA	N-CA-C	-5.64	105.21	111.36
2	B	153	LEU	N-CA-C	5.62	118.00	110.35
20	T	40	LYS	N-CA-C	-5.62	105.16	111.28
7	G	56	ALA	N-CA-C	-5.61	105.25	111.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	I	58	ILE	CA-C-N	5.61	131.60	123.13
9	I	58	ILE	C-N-CA	5.61	131.60	123.13
35	9	44	LYS	N-CA-C	5.60	116.72	109.72
54	28	2391	G	C2'-C3'-O3'	5.60	122.10	113.70
1	A	628	GLY	N-CA-C	-5.60	104.90	112.57
12	L	28	GLY	N-CA-C	-5.60	105.38	112.54
9	I	68	PHE	N-CA-C	-5.60	101.36	110.20
16	P	84	SER	N-CA-C	5.59	117.85	108.23
41	15	52	LEU	N-CA-C	-5.59	102.62	110.50
52	26	58	LYS	N-CA-C	-5.58	104.21	111.02
41	15	21	ALA	N-CA-C	-5.58	105.35	111.82
53	27	818	G	N9-C1'-C2'	5.58	120.37	112.00
54	28	2430	A	N9-C1'-C2'	5.58	120.36	112.00
21	U	5	ARG	N-CA-C	5.57	118.28	108.75
34	8	50	SER	N-CA-C	-5.57	104.22	111.74
54	28	372	G	N9-C1'-C2'	5.57	120.36	112.00
11	K	66	LYS	N-CA-C	-5.57	105.36	111.82
54	28	1107	G	C3'-C2'-O2'	5.57	119.05	110.70
1	A	631	ILE	N-CA-C	5.57	117.91	109.12
55	29	66	A	C2'-C3'-O3'	-5.57	105.35	113.70
6	F	113	ASP	N-CA-C	5.56	118.43	107.98
22	V	40	ILE	N-CA-C	5.55	116.57	107.24
35	9	50	TYR	N-CA-C	-5.55	105.23	111.28
53	27	80	A	N9-C1'-C2'	5.55	120.33	112.00
53	27	1256	A	N9-C1'-C2'	5.55	120.32	112.00
41	15	14	ASP	N-CA-C	5.55	118.22	109.96
49	23	25	ILE	N-CA-C	5.55	116.28	110.62
9	I	65	SER	N-CA-C	-5.54	96.11	107.70
13	M	22	GLN	N-CA-C	-5.54	106.57	113.55
2	B	215	VAL	N-CA-C	5.53	116.27	108.36
50	24	57	VAL	CA-C-N	5.53	125.44	119.85
50	24	57	VAL	C-N-CA	5.53	125.44	119.85
35	9	127	ARG	N-CA-C	5.53	117.41	108.34
41	15	40	ILE	CA-C-N	5.52	126.74	119.84
41	15	40	ILE	C-N-CA	5.52	126.74	119.84
47	21	62	GLY	N-CA-C	-5.50	108.11	115.32
3	C	35	THR	N-CA-C	5.49	117.27	111.28
34	8	54	ILE	N-CA-C	5.49	114.72	106.42
43	17	65	TYR	N-CA-C	5.49	117.69	108.96
9	I	73	PRO	CA-C-N	5.49	126.70	119.84
9	I	73	PRO	C-N-CA	5.49	126.70	119.84
25	Y	40	SER	N-CA-C	5.49	118.03	111.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	12	69	ARG	CA-C-N	5.48	125.39	119.85
38	12	69	ARG	C-N-CA	5.48	125.39	119.85
54	28	1171	G	N9-C1'-C2'	5.48	120.22	112.00
39	13	110	MET	N-CA-C	5.48	115.77	108.38
53	27	1300	G	N9-C1'-C2'	5.46	120.19	112.00
4	D	186	VAL	N-CA-C	5.46	115.11	106.32
39	13	54	THR	N-CA-C	-5.46	107.27	114.04
53	27	1399	C	C2'-C3'-O3'	5.45	117.68	109.50
42	16	97	ARG	N-CA-C	-5.45	105.24	111.07
30	4	37	LYS	N-CA-C	-5.45	106.59	113.18
4	D	12	LEU	N-CA-C	5.43	117.58	108.23
9	I	46	ASP	N-CA-C	-5.43	105.52	111.82
9	I	116	MET	N-CA-C	5.43	122.37	110.80
27	1	52	ALA	N-CA-C	5.43	122.36	110.80
3	C	201	LEU	N-CA-C	5.43	117.92	107.44
37	11	53	LYS	N-CA-C	-5.42	99.97	108.00
4	D	164	LEU	N-CA-C	5.42	119.60	113.15
43	17	86	VAL	N-CA-C	-5.42	108.56	113.71
5	E	42	ALA	N-CA-C	-5.38	105.57	111.82
1	A	673	ALA	N-CA-C	5.38	118.35	109.85
1	A	685	THR	N-CA-C	-5.38	104.66	111.11
17	Q	57	ARG	N-CA-C	-5.38	105.11	110.97
23	W	52	ASP	N-CA-C	-5.37	106.70	113.20
9	I	30	GLN	N-CA-C	-5.36	106.74	113.28
3	C	55	LYS	N-CA-C	-5.35	102.56	110.48
28	2	25	THR	N-CA-C	5.35	119.10	112.47
37	11	30	THR	N-CA-C	-5.35	105.56	111.71
44	18	50	GLY	N-CA-C	-5.34	108.47	114.40
38	12	80	GLY	N-CA-C	-5.33	107.89	115.30
53	27	1301	U	N1-C1'-C2'	5.33	120.00	112.00
40	14	18	VAL	N-CA-C	5.32	116.25	108.53
1	A	692	VAL	N-CA-C	5.32	116.55	109.37
7	G	48	GLU	N-CA-C	5.32	117.08	111.28
39	13	91	LEU	CA-C-N	5.32	125.22	119.85
39	13	91	LEU	C-N-CA	5.32	125.22	119.85
23	W	53	HIS	N-CA-C	-5.31	106.75	113.23
9	I	137	LEU	N-CA-C	5.30	118.03	109.40
29	3	39	ASP	CA-C-N	5.30	125.11	119.28
29	3	39	ASP	C-N-CA	5.30	125.11	119.28
7	G	62	LEU	N-CA-C	-5.28	105.61	111.36
5	E	107	VAL	CB-CA-C	-5.28	108.69	113.70
8	H	93	ALA	N-CA-C	5.27	117.48	110.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	I	58	ILE	O-C-N	5.27	128.66	122.81
54	28	2406	A	C2'-C3'-O3'	-5.27	105.80	113.70
52	26	35	GLU	N-CA-C	-5.26	105.60	112.23
7	G	72	ILE	N-CA-C	5.25	120.27	109.34
8	H	66	GLY	CA-C-N	5.25	125.66	119.83
8	H	66	GLY	C-N-CA	5.25	125.66	119.83
15	O	70	ALA	N-CA-C	-5.25	105.45	111.07
1	A	674	ASN	N-CA-C	5.24	117.25	108.23
30	4	21	ARG	N-CA-C	-5.24	105.21	111.03
9	I	18	ASN	CA-C-N	-5.24	114.24	120.11
9	I	18	ASN	C-N-CA	-5.24	114.24	120.11
46	20	51	SER	N-CA-C	-5.24	105.74	111.82
2	B	170	TYR	N-CA-C	5.24	117.94	109.40
39	13	124	ILE	N-CA-C	5.23	115.74	108.84
54	28	1180	U	N1-C1'-C2'	5.23	119.84	112.00
8	H	35	VAL	N-CA-C	-5.23	105.40	110.42
36	10	75	LEU	N-CA-C	5.22	117.26	109.59
39	13	123	GLU	N-CA-C	5.22	116.67	109.15
2	B	35	LYS	N-CA-C	5.22	117.44	110.35
37	11	52	ASN	N-CA-C	-5.22	104.04	111.24
31	5	61	LEU	CA-C-N	5.21	126.36	119.84
31	5	61	LEU	C-N-CA	5.21	126.36	119.84
9	I	47	SER	N-CA-C	-5.20	105.67	112.23
28	2	27	LEU	N-CA-C	-5.20	102.58	110.28
1	A	621	ILE	N-CA-C	5.20	116.15	108.45
46	20	52	ARG	N-CA-C	-5.20	104.87	111.11
44	18	110	GLY	CA-C-N	5.20	125.14	119.78
44	18	110	GLY	C-N-CA	5.20	125.14	119.78
3	C	36	GLN	N-CA-C	5.20	117.83	108.48
9	I	4	VAL	N-CA-C	5.20	115.39	108.11
43	17	43	LYS	N-CA-C	5.19	120.63	113.77
24	X	10	ARG	N-CA-C	5.18	114.27	108.25
45	19	68	ARG	CA-C-N	5.18	124.98	119.28
45	19	68	ARG	C-N-CA	5.18	124.98	119.28
1	A	676	ARG	N-CA-C	5.17	121.82	110.80
31	5	13	PHE	N-CA-C	5.17	116.84	109.14
7	G	12	LEU	N-CA-C	5.17	117.58	111.33
2	B	245	THR	N-CA-C	-5.16	102.64	110.39
34	8	71	ARG	CA-C-N	5.15	124.95	119.28
34	8	71	ARG	C-N-CA	5.15	124.95	119.28
2	B	9	SER	N-CA-C	5.15	114.75	108.11
37	11	31	GLY	N-CA-C	-5.15	108.69	114.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	H	71	CYS	N-CA-C	-5.14	104.89	110.91
13	M	28	PHE	N-CA-C	5.14	118.84	111.02
19	S	97	LEU	N-CA-C	5.14	116.70	107.80
42	16	70	ALA	N-CA-C	-5.14	105.68	111.28
47	21	43	ALA	N-CA-C	-5.13	105.80	111.71
3	C	30	GLU	N-CA-C	-5.13	103.26	110.50
15	O	48	LEU	N-CA-C	-5.13	107.08	113.55
54	28	2333	A	C2'-C3'-O3'	-5.13	106.00	113.70
47	21	35	ARG	N-CA-C	-5.13	103.27	110.50
3	C	69	ALA	N-CA-C	-5.12	105.78	111.36
46	20	49	HIS	N-CA-C	5.12	117.60	111.71
7	G	117	LEU	CA-C-N	5.12	126.23	119.84
7	G	117	LEU	C-N-CA	5.12	126.23	119.84
8	H	105	LYS	N-CA-C	5.11	118.39	107.70
20	T	56	GLU	N-CA-C	-5.11	104.68	112.04
43	17	120	ARG	N-CA-C	5.10	116.83	109.48
8	H	121	SER	N-CA-C	5.10	116.62	107.80
54	28	1609	A	N9-C1'-C2'	5.10	119.65	112.00
5	E	144	LYS	N-CA-C	5.10	119.13	113.01
54	28	1320	C	N1-C1'-C2'	5.09	119.64	112.00
41	15	22	THR	N-CA-C	-5.08	105.65	111.14
7	G	5	LEU	N-CA-C	5.07	118.22	110.20
5	E	24	VAL	N-CA-C	5.06	116.39	110.62
13	M	26	VAL	N-CA-C	-5.06	102.98	109.30
39	13	76	ARG	N-CA-C	-5.06	102.80	110.28
20	T	43	ILE	N-CA-C	-5.05	105.57	110.42
6	F	129	GLU	N-CA-C	5.04	116.39	107.61
52	26	9	GLU	N-CA-C	5.04	120.95	109.81
54	28	1320	C	C4'-C3'-O3'	-5.04	105.44	113.00
2	B	87	SER	N-CA-C	-5.04	105.98	111.82
14	N	68	ALA	N-CA-C	-5.03	105.93	111.71
3	C	120	GLY	N-CA-C	-5.03	104.95	112.89
35	9	3	TYR	N-CA-C	5.02	117.41	111.33
35	9	44	LYS	CA-C-N	5.02	125.46	120.14
35	9	44	LYS	C-N-CA	5.02	125.46	120.14
54	28	1331	G	N9-C1'-C2'	5.02	119.53	112.00
7	G	132	PHE	N-CA-C	-5.01	99.25	108.02
23	W	69	GLY	CA-C-N	5.01	124.61	119.05
23	W	69	GLY	C-N-CA	5.01	124.61	119.05
40	14	95	SER	N-CA-C	-5.01	105.90	111.36
40	14	41	GLU	N-CA-C	5.00	117.16	109.95
56	30	12	A	N9-C1'-C2'	5.00	119.51	112.00

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
53	27	1316	G	Sidechain
53	27	80	A	Sidechain
53	27	82	G	Sidechain
53	27	820	U	Sidechain
53	27	898	G	Sidechain
53	27	938	A	Sidechain
54	28	1171	G	Sidechain
54	28	1328	A	Sidechain
54	28	1937	A	Sidechain
54	28	196	A	Sidechain
54	28	2308	G	Sidechain
54	28	2504	U	Sidechain
54	28	27	G	Sidechain
54	28	512	G	Sidechain
54	28	683	U	Sidechain
55	29	12	C	Sidechain

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	1103	0	1130	106	0
2	B	2082	0	2157	143	0
3	C	1565	0	1616	97	0
4	D	1552	0	1619	127	0
5	E	1410	0	1447	130	0
6	F	1323	0	1374	96	0
7	G	1111	0	1148	88	0
8	H	988	0	1025	130	0
9	I	1032	0	1088	133	0
10	J	1129	0	1162	74	0
11	K	938	0	1012	72	0
12	L	1045	0	1117	76	0
13	M	1074	0	1157	48	0
14	N	960	0	1000	54	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	O	892	0	923	59	0
16	P	917	0	965	81	0
17	Q	947	0	1022	72	0
18	R	816	0	839	61	0
19	S	857	0	922	54	0
20	T	738	0	807	40	0
21	U	779	0	834	64	0
22	V	753	0	780	41	0
23	W	575	0	592	33	0
24	X	625	0	655	45	0
25	Y	509	0	543	39	0
26	Z	449	0	491	26	0
27	1	522	0	521	50	0
28	2	444	0	461	40	0
29	3	409	0	440	15	0
30	4	377	0	418	29	0
31	5	504	0	574	28	0
32	6	302	0	343	25	0
33	7	1704	0	1732	107	0
34	8	1624	0	1699	103	0
35	9	1643	0	1710	129	0
36	10	1156	0	1199	97	0
37	11	817	0	808	74	0
38	12	1181	0	1240	86	0
39	13	979	0	1034	70	0
40	14	1022	0	1070	103	0
41	15	786	0	828	83	0
42	16	869	0	878	70	0
43	17	955	0	1019	104	0
44	18	883	0	944	78	0
45	19	805	0	847	59	0
46	20	714	0	737	48	0
47	21	649	0	666	59	0
48	22	648	0	691	58	0
49	23	535	0	552	45	0
50	24	637	0	665	76	0
51	25	665	0	714	46	0
52	26	544	0	579	58	0
53	27	33016	0	16617	1319	0
54	28	62322	0	31345	2456	0
55	29	2572	0	1302	114	0
56	30	388	0	196	10	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	31	1644	0	836	32	0
58	32	1643	0	836	66	0
All	All	149128	0	100926	6808	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 27.

All (6808) 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)
9:I:7:TYR:HA	9:I:58:ILE:O	1.26	1.26
22:V:75:GLN:HB3	22:V:90:ASP:O	1.47	1.13
9:I:90:GLY:HA2	54:28:1064:C:H1'	1.26	1.13
9:I:133:ARG:NH1	54:28:1079:C:H4'	1.63	1.12
53:27:1259:C:H3'	53:27:1260:G:H5''	1.31	1.11
1:A:679:LEU:O	1:A:682:ASP:HB2	1.47	1.10
54:28:821:A:H5''	54:28:822:G:H5''	1.26	1.09
9:I:94:LYS:HD3	54:28:1076:C:H4'	1.31	1.09
54:28:1300:G:H4'	54:28:1301:A:H5''	1.22	1.09
36:10:107:GLY:HA3	53:27:9:G:H5'	1.36	1.08
46:20:71:ARG:HH22	53:27:754:C:H5'	0.95	1.07
54:28:45:G:H5''	54:28:46:G:H5'	1.11	1.07
9:I:35:MET:HG3	9:I:36:GLU:H	1.20	1.07
1:A:673:ALA:O	1:A:708:ALA:HB3	1.55	1.06
46:20:71:ARG:NH2	53:27:754:C:H5'	1.69	1.06
9:I:93:ASN:HB2	54:28:1077:A:H4'	1.30	1.06
52:26:48:LYS:HG2	53:27:723:U:H5'	1.37	1.05
52:26:65:ARG:HH11	53:27:1088:G:H4'	1.23	1.04
8:H:80:THR:H	54:28:1108:U:H5'	1.18	1.02
3:C:123:LYS:HE2	14:N:1:MET:HE1	1.41	1.01
36:10:161:GLU:O	36:10:164:LEU:HG	1.59	1.01
54:28:704:G:H2'	54:28:726:G:H22	1.26	1.00
10:J:81:ILE:HG23	10:J:82:GLY:H	1.23	1.00
16:P:38:ARG:NH1	53:27:345:C:H5'	1.78	0.98
54:28:2170:A:H2'	54:28:2171:A:H4'	1.43	0.98
11:K:30:ARG:HE	54:28:2674:G:H4'	1.25	0.98
58:32:7:G:H3'	58:32:8:U:H5'	1.46	0.98
46:20:71:ARG:HH22	53:27:754:C:C5'	1.77	0.98
36:10:148:SER:HB3	36:10:151:MET:HG2	1.44	0.97
54:28:1702:G:H2'	54:28:1703:G:H5''	1.43	0.97
9:I:133:ARG:HH11	54:28:1079:C:H4'	1.21	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:80:THR:HA	54:28:1107:G:O2'	1.65	0.96
54:28:655:A:H4'	54:28:656:G:H5'	1.47	0.96
54:28:704:G:H2'	54:28:726:G:N2	1.80	0.96
27:1:11:GLU:HA	27:1:25:ARG:HA	1.47	0.96
54:28:1082:U:H3'	54:28:1083:U:H5''	1.47	0.96
49:23:17:VAL:HG22	49:23:18:GLN:H	1.30	0.96
35:9:33:ILE:HG12	35:9:34:GLU:H	1.24	0.96
52:26:65:ARG:NH1	53:27:1088:G:H4'	1.81	0.96
16:P:88:ARG:HB3	16:P:112:ARG:HD3	1.45	0.95
54:28:2277:G:H2'	54:28:2278:A:H5''	1.48	0.95
9:I:7:TYR:CA	9:I:58:ILE:O	2.15	0.95
33:7:31:PHE:HB2	33:7:39:ILE:HB	1.47	0.95
3:C:148:GLN:O	54:28:2052:A:H4'	1.66	0.95
54:28:742:A:H2'	54:28:743:A:H8	1.31	0.94
37:11:48:ALA:HB1	49:23:68:PRO:HG3	1.50	0.94
38:12:91:ARG:HH22	53:27:1378:C:H4'	1.32	0.94
48:22:26:ARG:HH22	53:27:237:G:H4'	1.27	0.94
30:4:42:LEU:HD23	30:4:43:THR:HG23	1.50	0.94
10:J:27:ARG:HH22	54:28:1142:A:H4'	1.33	0.94
9:I:23:VAL:HG13	9:I:24:GLY:H	1.33	0.93
53:27:835:U:H2'	53:27:836:G:H5''	1.51	0.92
53:27:373:A:H2'	53:27:374:A:H8	1.34	0.92
5:E:140:ILE:HG22	5:E:142:TYR:H	1.34	0.92
53:27:664:G:N2	53:27:741:G:H1	1.68	0.92
40:14:98:ARG:HG2	40:14:103:VAL:HG21	1.51	0.92
49:23:40:PRO:HB2	49:23:42:ARG:HG2	1.52	0.92
2:B:47:ARG:HH21	54:28:774:G:H5''	1.35	0.91
12:L:95:LEU:HD22	12:L:100:ILE:HD11	1.52	0.91
54:28:121:G:H4'	54:28:149:A:H5'	1.48	0.91
4:D:117:ARG:HH12	12:L:2:ARG:HG2	1.34	0.91
8:H:59:LEU:HD21	54:28:1047:G:H2'	1.51	0.91
54:28:2391:G:H2'	54:28:2424:C:H41	1.36	0.91
54:28:2685:G:H2'	54:28:2686:G:H8	1.36	0.91
20:T:2:ILE:HD11	54:28:144:A:H5''	1.53	0.91
38:12:12:LEU:HD12	38:12:13:PRO:HD2	1.54	0.90
42:16:116:PRO:HB3	53:27:676:A:H1'	1.51	0.90
53:27:112:G:H21	53:27:354:G:H5'	1.33	0.90
50:24:39:ILE:HB	50:24:66:VAL:O	1.72	0.90
53:27:1052:U:H2'	53:27:1200:C:H41	1.37	0.90
43:17:85:ARG:HA	43:17:93:ARG:HA	1.52	0.89
54:28:807:U:H2'	54:28:808:G:H8	1.37	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:673:A:H2'	53:27:674:G:C8	2.07	0.89
28:2:8:THR:CG2	54:28:2020:A:H5'	2.03	0.89
41:15:65:TYR:HB3	45:19:95:LEU:HD11	1.53	0.89
54:28:2092:U:H4'	54:28:2093:G:H5''	1.52	0.89
54:28:2170:A:H2'	54:28:2171:A:C4'	2.02	0.89
35:9:144:ILE:HD13	35:9:177:MET:HB3	1.53	0.89
9:I:94:LYS:CD	54:28:1076:C:H4'	2.03	0.88
15:O:62:LEU:HD11	15:O:70:ALA:HA	1.55	0.88
9:I:19:PRO:O	9:I:23:VAL:HG12	1.73	0.88
53:27:1131:G:H3'	53:27:1132:C:H5''	1.52	0.88
53:27:235:C:H2'	53:27:236:A:H8	1.39	0.88
23:W:12:SER:HG	54:28:2262:U:H5	0.92	0.88
17:Q:111:LYS:HB2	18:R:48:LYS:HE3	1.54	0.88
9:I:71:LYS:HE2	54:28:1059:G:OP1	1.73	0.88
39:13:42:GLU:HG2	39:13:100:ILE:HD13	1.54	0.88
53:27:405:U:H3'	53:27:406:G:H5'	1.54	0.87
54:28:955:U:H5	54:28:962:G:H1	1.20	0.87
54:28:279:A:N6	54:28:361:G:H1'	1.89	0.87
29:3:9:LYS:O	29:3:51:ALA:HB3	1.75	0.87
2:B:16:VAL:HB	2:B:203:VAL:HG22	1.56	0.87
55:29:3:C:H2'	55:29:4:C:H5''	1.57	0.87
54:28:528:A:C2	54:28:2042:A:H2'	2.10	0.87
54:28:1056:G:H4'	54:28:1086:A:H8	1.39	0.87
37:11:38:ARG:O	37:11:62:MET:O	1.92	0.86
54:28:2591:C:H2'	54:28:2592:G:C8	2.09	0.86
45:19:13:VAL:HG22	45:19:59:GLN:HE22	1.39	0.86
53:27:224:U:H2'	53:27:225:C:C6	2.11	0.86
40:14:123:ARG:HB3	53:27:1343:G:H4'	1.58	0.86
40:14:17:ARG:HH21	53:27:1147:C:H1'	1.41	0.86
54:28:859:G:H1'	54:28:860:U:H5	1.40	0.86
45:19:19:TYR:O	45:19:22:LYS:HB3	1.75	0.85
4:D:129:PRO:HG3	4:D:156:ASN:HA	1.55	0.85
54:28:577:G:H2'	54:28:578:G:C8	2.11	0.85
9:I:27:LEU:HB2	9:I:32:VAL:HB	1.58	0.85
54:28:2629:U:O2'	54:28:2630:G:H5''	1.76	0.85
38:12:110:ARG:HH22	38:12:121:ASN:HB3	1.42	0.85
21:U:47:PRO:HD3	21:U:55:GLY:HA2	1.59	0.85
54:28:2548:U:H2'	54:28:2549:G:H5''	1.58	0.85
54:28:2183:A:H2'	54:28:2184:A:C8	2.12	0.85
13:M:45:GLN:HE21	54:28:2485:G:H5''	1.39	0.84
33:7:163:ILE:HD11	33:7:209:VAL:HB	1.57	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:7:53:LEU:HB3	33:7:219:THR:HG21	1.59	0.84
53:27:1029:U:H2'	53:27:1031:C:H1'	1.59	0.84
35:9:123:MET:HA	35:9:128:VAL:HA	1.58	0.84
53:27:1306:A:N6	53:27:1331:G:H1'	1.92	0.84
9:I:123:ALA:HB1	54:28:1081:U:H5''	1.59	0.84
28:2:49:ARG:HG2	54:28:2884:U:H6	1.42	0.84
45:19:60:ARG:HG2	53:27:981:U:H4'	1.60	0.84
5:E:33:ILE:HG13	5:E:95:MET:HE3	1.59	0.84
53:27:539:A:H2'	53:27:540:G:C8	2.13	0.84
53:27:701:U:H5''	53:27:703:G:H1'	1.56	0.84
34:8:156:LEU:HD12	34:8:156:LEU:O	1.76	0.84
54:28:2538:C:H2'	54:28:2539:C:H6	1.42	0.84
20:T:88:LYS:O	20:T:90:GLY:N	2.11	0.84
8:H:58:THR:HG22	54:28:1107:G:H5''	1.60	0.84
53:27:1347:G:N2	53:27:1373:G:H2'	1.92	0.84
40:14:108:ARG:HG3	53:27:1347:G:O5'	1.78	0.83
33:7:99:MET:HA	33:7:106:VAL:HG21	1.60	0.83
53:27:960:U:H4'	53:27:961:U:O5'	1.78	0.83
42:16:117:HIS:ND1	53:27:675:A:H1'	1.92	0.83
54:28:45:G:H5''	54:28:46:G:C5'	2.03	0.83
40:14:83:THR:HG21	40:14:102:PHE:HB3	1.60	0.83
44:18:6:ILE:HG13	44:18:7:ASN:H	1.43	0.83
18:R:63:VAL:HA	18:R:96:VAL:HG12	1.60	0.83
21:U:10:VAL:HG12	21:U:71:ILE:HA	1.59	0.83
53:27:1130:A:H61	53:27:1144:G:H1'	1.43	0.83
54:28:742:A:H2'	54:28:743:A:C8	2.14	0.83
4:D:69:ARG:HD3	54:28:674:G:O4'	1.79	0.83
6:F:17:LYS:HB2	6:F:24:THR:HB	1.59	0.83
8:H:94:ARG:HB2	8:H:97:LYS:HE2	1.60	0.83
54:28:807:U:H2'	54:28:808:G:C8	2.14	0.83
55:29:119:A:C2	55:29:120:A:H1'	2.13	0.83
38:12:145:GLU:HA	38:12:148:LYS:HB2	1.59	0.83
53:27:695:A:H2'	53:27:696:A:C8	2.13	0.82
54:28:2561:U:H2'	54:28:2562:U:H5''	1.59	0.82
5:E:104:THR:HG21	27:1:22:MET:HE1	1.59	0.82
41:15:40:ILE:HD11	53:27:1124:G:H4'	1.62	0.82
35:9:12:ARG:HD2	35:9:36:ALA:HB3	1.61	0.82
53:27:714:G:H2'	53:27:715:A:C8	2.14	0.82
8:H:37:LYS:HA	8:H:40:GLU:HB3	1.59	0.82
10:J:68:LYS:HD3	54:28:1022:G:N7	1.94	0.82
54:28:2243:U:H2'	54:28:2244:U:H6	1.44	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:15:PHE:H	16:P:11:GLN:HE22	1.23	0.82
5:E:161:SER:HB3	5:E:164:GLU:HG3	1.60	0.82
53:27:235:C:H2'	53:27:236:A:C8	2.14	0.82
9:I:93:ASN:HB2	54:28:1077:A:C4'	2.10	0.82
54:28:1179:G:H3'	54:28:1180:U:H4'	1.59	0.82
54:28:2327:A:H2'	54:28:2328:A:C8	2.15	0.82
1:A:621:ILE:HG22	1:A:635:ARG:HA	1.60	0.81
9:I:23:VAL:HG13	9:I:24:GLY:N	1.95	0.81
33:7:58:LYS:O	33:7:61:SER:HB2	1.80	0.81
22:V:75:GLN:HB2	22:V:92:VAL:HG23	1.62	0.81
48:22:16:MET:HG3	48:22:19:SER:HB2	1.60	0.81
14:N:33:ILE:HD12	14:N:118:ARG:HH22	1.44	0.81
17:Q:3:VAL:HG22	54:28:1199:U:H1'	1.62	0.81
39:13:52:GLY:HA3	39:13:56:PRO:HA	1.63	0.81
53:27:462:G:H5'	53:27:463:U:OP2	1.80	0.81
1:A:640:GLN:OE1	54:28:894:U:H4'	1.79	0.81
54:28:1105:U:H2'	54:28:1106:G:H8	1.46	0.81
54:28:1469:A:H2'	54:28:1470:A:C8	2.16	0.81
7:G:79:THR:HA	7:G:145:ASN:HB3	1.62	0.81
54:28:2070:A:H2'	54:28:2071:A:C8	2.16	0.81
18:R:14:VAL:HG21	18:R:98:ILE:HG13	1.61	0.81
18:R:49:ILE:HB	18:R:51:VAL:O	1.79	0.81
54:28:45:G:C5'	54:28:46:G:H5'	2.04	0.81
54:28:1825:U:H2'	54:28:1826:G:C8	2.16	0.81
54:28:2267:A:H5''	54:28:2268:A:H5'	1.62	0.81
8:H:80:THR:N	54:28:1108:U:H5'	1.96	0.81
32:6:32:LYS:HE3	54:28:2478:A:H5'	1.60	0.81
36:10:75:LEU:HD12	36:10:75:LEU:O	1.82	0.80
40:14:91:GLU:HA	40:14:94:ARG:HB2	1.62	0.80
53:27:1137:C:H5'	53:27:1138:G:H5'	1.61	0.80
9:I:23:VAL:CG1	9:I:24:GLY:H	1.95	0.80
54:28:1702:G:C2'	54:28:1703:G:H5''	2.11	0.80
9:I:2:LYS:HE3	9:I:62:ALA:HB2	1.63	0.80
54:28:1796:U:H2'	54:28:1797:G:H8	1.45	0.80
54:28:2075:U:H1'	54:28:2597:G:H21	1.43	0.80
53:27:1513:A:H2'	53:27:1514:G:H8	1.46	0.80
54:28:242:G:H22	54:28:254:G:H2'	1.45	0.80
58:32:46:A:H3'	58:32:47:U:H5''	1.62	0.80
54:28:1906:G:H2'	54:28:1907:G:H5''	1.61	0.80
4:D:5:LEU:O	4:D:9:GLN:HA	1.82	0.80
38:12:2:ARG:HB3	53:27:933:G:OP2	1.82	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:11:46:GLN:HA	37:11:56:LYS:HG2	1.64	0.80
44:18:15:VAL:HG23	44:18:16:ILE:HD12	1.62	0.80
54:28:581:C:H2'	54:28:582:A:H8	1.46	0.80
54:28:1796:U:H2'	54:28:1797:G:C8	2.17	0.80
7:G:1:MET:HG3	7:G:2:GLN:H	1.47	0.80
54:28:1434:A:H2'	54:28:1435:G:H8	1.45	0.80
8:H:59:LEU:CD2	54:28:1047:G:H2'	2.11	0.79
50:24:30:LEU:HB2	50:24:48:ILE:HG22	1.65	0.79
54:28:740:C:H5''	54:28:1784:A:OP1	1.82	0.79
43:17:99:GLY:HA3	43:17:117:GLY:HA3	1.64	0.79
58:32:41:C:H2'	58:32:42:G:C8	2.16	0.79
36:10:147:ASN:HD21	39:13:95:MET:HE1	1.45	0.79
50:24:35:ARG:HE	50:24:71:GLY:HA2	1.46	0.79
53:27:955:U:H1'	53:27:1227:A:H61	1.48	0.79
38:12:68:VAL:HG23	38:12:99:ALA:HB1	1.65	0.79
54:28:2591:C:H2'	54:28:2592:G:H8	1.44	0.79
54:28:2693:G:H2'	54:28:2694:G:H8	1.47	0.79
1:A:672:VAL:HB	1:A:737:ASP:HB3	1.63	0.79
4:D:69:ARG:HB2	54:28:674:G:H4'	1.64	0.79
54:28:1251:C:O2'	54:28:1252:G:H3'	1.82	0.79
5:E:114:ARG:NH2	27:1:47:LYS:HA	1.97	0.79
11:K:98:ARG:NH2	53:27:340:U:OP2	2.16	0.79
53:27:1512:U:H2'	53:27:1513:A:C8	2.18	0.79
58:32:7:G:H3'	58:32:8:U:C5'	2.11	0.79
41:15:57:VAL:HG22	41:15:58:ASN:H	1.45	0.79
54:28:593:U:H2'	54:28:594:U:C6	2.18	0.79
54:28:1825:U:H2'	54:28:1826:G:H8	1.48	0.79
7:G:40:THR:HB	7:G:43:ASN:HD22	1.48	0.79
20:T:88:LYS:C	20:T:90:GLY:N	2.38	0.79
53:27:797:C:H2'	53:27:798:U:H6	1.47	0.79
10:J:93:ILE:HD13	10:J:100:VAL:HG21	1.62	0.78
25:Y:2:LYS:HE2	54:28:102:U:H1'	1.64	0.78
34:8:147:GLY:HA3	34:8:202:PHE:HB3	1.64	0.78
52:26:67:THR:HA	53:27:1167:A:N7	1.98	0.78
54:28:1010:A:N3	54:28:1153:C:H1'	1.98	0.78
54:28:2391:G:H2'	54:28:2424:C:N4	1.99	0.78
54:28:2514:U:H2'	54:28:2515:C:C6	2.18	0.78
55:29:115:A:H2'	55:29:116:G:C8	2.18	0.78
8:H:4:ASN:HD21	54:28:1046:A:H2'	1.47	0.78
11:K:121:GLU:HG2	11:K:122:VAL:HG23	1.66	0.78
44:18:88:LEU:HG	44:18:91:ARG:HH21	1.48	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:6:ARG:HG3	21:U:7:ASP:H	1.49	0.78
40:14:108:ARG:HG2	53:27:1347:G:C8	2.18	0.78
53:27:1513:A:H2'	53:27:1514:G:C8	2.19	0.78
40:14:32:ARG:HD2	40:14:37:TYR:HD1	1.48	0.78
53:27:1391:U:H2'	53:27:1392:G:C8	2.18	0.78
54:28:594:U:H2'	54:28:595:C:C6	2.18	0.78
54:28:1096:A:H3'	54:28:1097:U:H5''	1.65	0.78
32:6:36:ARG:HG2	32:6:37:GLN:H	1.49	0.78
54:28:2443:C:H2'	54:28:2444:G:C8	2.18	0.78
8:H:88:HIS:HB3	8:H:89:PRO:HD3	1.65	0.78
40:14:22:PRO:HA	40:14:60:LEU:HG	1.66	0.78
41:15:8:ILE:HB	41:15:74:VAL:HB	1.66	0.78
54:28:720:U:H2'	54:28:721:A:C8	2.18	0.78
1:A:698:ALA:HB3	1:A:711:ASP:O	1.84	0.78
24:X:26:ARG:NH1	24:X:28:PHE:HE1	1.81	0.78
53:27:1218:C:H2'	53:27:1219:A:C8	2.19	0.78
53:27:1323:G:H2'	53:27:1324:A:C8	2.18	0.78
39:13:65:PHE:CD2	39:13:66:GLN:HG3	2.19	0.78
1:A:611:ARG:HB2	54:28:883:G:O3'	1.84	0.77
7:G:1:MET:HG3	7:G:2:GLN:N	1.99	0.77
8:H:80:THR:H	54:28:1108:U:C5'	1.96	0.77
34:8:31:ASN:HD21	34:8:58:ARG:HD2	1.46	0.77
42:16:63:GLN:HG3	42:16:98:ALA:HB2	1.65	0.77
53:27:352:C:H4'	53:27:354:G:OP1	1.83	0.77
35:9:49:ASP:O	35:9:52:VAL:HG22	1.83	0.77
51:25:4:LYS:HZ1	53:27:61:G:P	2.06	0.77
53:27:715:A:H2'	53:27:716:A:H8	1.48	0.77
54:28:1047:G:N2	54:28:1110:G:H2'	1.99	0.77
19:S:57:ASN:OD1	54:28:495:G:H1'	1.85	0.77
23:W:17:LEU:HD21	23:W:37:ARG:NH2	2.00	0.77
53:27:31:G:H21	53:27:47:C:H5''	1.48	0.77
54:28:1664:A:H61	54:28:1996:C:H42	1.29	0.77
54:28:2026:U:H2'	54:28:2027:G:H8	1.49	0.77
55:29:65:U:H3'	55:29:108:A:H61	1.49	0.77
53:27:1352:C:H2'	53:27:1353:G:C8	2.20	0.77
54:28:275:C:H2'	54:28:276:U:H4'	1.66	0.77
54:28:581:C:H2'	54:28:582:A:C8	2.19	0.77
4:D:131:THR:HG23	54:28:321:U:H5''	1.66	0.77
54:28:2508:G:H1	54:28:2580:U:H5	1.32	0.77
55:29:114:C:H2'	55:29:115:A:H8	1.50	0.77
3:C:105:LYS:O	3:C:177:VAL:HG12	1.83	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:32:23:C:H2'	58:32:24:U:C6	2.20	0.77
1:A:700:ARG:O	1:A:709:THR:HG22	1.85	0.77
53:27:555:U:H2'	53:27:556:C:C6	2.19	0.77
53:27:880:C:H2'	53:27:881:G:H8	1.50	0.77
54:28:1857:G:H1'	54:28:1885:A:N6	2.00	0.77
54:28:2026:U:H2'	54:28:2027:G:C8	2.20	0.77
53:27:763:G:H2'	53:27:764:C:H6	1.49	0.77
54:28:138:U:H5'	54:28:139:U:OP2	1.84	0.77
6:F:163:TYR:HB2	6:F:166:GLU:HB2	1.67	0.76
35:9:147:LYS:HD2	53:27:491:G:OP1	1.85	0.76
41:15:35:GLN:HG2	41:15:77:VAL:HG23	1.66	0.76
54:28:277:G:H1'	54:28:361:G:H1	1.49	0.76
54:28:1394:U:H4'	54:28:1603:A:H4'	1.66	0.76
54:28:2685:G:H2'	54:28:2686:G:C8	2.20	0.76
9:I:35:MET:HG3	9:I:36:GLU:N	1.99	0.76
15:O:55:GLU:HG2	55:29:116:G:H5'	1.68	0.76
37:11:4:TYR:O	37:11:63:ASN:HA	1.86	0.76
41:15:40:ILE:HB	41:15:73:LEU:HB2	1.65	0.76
48:22:26:ARG:NH2	53:27:237:G:H4'	2.01	0.76
54:28:18:U:H2'	54:28:19:A:C8	2.21	0.76
54:28:242:G:N2	54:28:254:G:H2'	2.01	0.76
54:28:2443:C:H2'	54:28:2444:G:H8	1.50	0.76
54:28:2462:C:H1'	54:28:2491:U:O4	1.85	0.76
5:E:113:PHE:HZ	5:E:175:PRO:HB3	1.50	0.76
38:12:72:VAL:HG12	38:12:89:GLU:HA	1.66	0.76
54:28:419:U:H2'	54:28:420:C:C6	2.20	0.76
4:D:173:THR:HA	4:D:199:MET:HE1	1.65	0.76
54:28:181:A:H2'	54:28:182:A:C8	2.20	0.76
52:26:67:THR:HA	53:27:1167:A:C5	2.19	0.76
54:28:100:U:H4'	54:28:101:A:O4'	1.86	0.76
54:28:2502:G:H5'	54:28:2503:A:C5'	2.16	0.76
12:L:135:ILE:HB	12:L:142:ILE:HD11	1.66	0.76
30:4:34:ARG:HE	30:4:39:ARG:HD2	1.51	0.76
28:2:51:ARG:HG3	28:2:53:VAL:HG13	1.67	0.76
36:10:23:THR:HA	36:10:28:ARG:HA	1.67	0.76
42:16:23:HIS:HB3	42:16:30:ILE:HG23	1.67	0.76
54:28:548:G:H2'	54:28:549:G:O4'	1.85	0.76
54:28:2277:G:C2'	54:28:2278:A:H5''	2.16	0.76
53:27:715:A:H2'	53:27:716:A:C8	2.20	0.76
54:28:2564:A:C2	54:28:2647:U:H4'	2.21	0.76
4:D:60:TRP:CD1	4:D:65:THR:HG1	2.05	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:108:MET:HE2	54:28:1138:G:N3	2.00	0.75
21:U:12:VAL:HA	21:U:69:VAL:HG12	1.65	0.75
54:28:549:G:H2'	54:28:550:C:C6	2.21	0.75
54:28:1056:G:H4'	54:28:1086:A:C8	2.21	0.75
54:28:1176:U:H2'	54:28:1177:G:C8	2.21	0.75
43:17:71:HIS:HA	43:17:98:ARG:HH12	1.51	0.75
1:A:684:THR:HA	1:A:687:LEU:HG	1.68	0.75
4:D:149:ILE:HG21	4:D:188:MET:HG2	1.68	0.75
17:Q:2:ARG:HD2	54:28:1248:G:C2	2.20	0.75
33:7:208:ALA:O	33:7:211:LEU:HG	1.87	0.75
53:27:70:U:H4'	53:27:71:A:H8	1.51	0.75
54:28:1434:A:H2'	54:28:1435:G:C8	2.22	0.75
10:J:27:ARG:NH2	54:28:1142:A:H4'	2.01	0.75
34:8:109:GLU:HB2	34:8:143:LEU:HD22	1.66	0.75
48:22:64:ARG:HD2	53:27:264:C:H4'	1.68	0.75
53:27:1432:G:H1'	53:27:1468:A:H62	1.51	0.75
54:28:947:A:H2'	54:28:948:C:C6	2.20	0.75
54:28:1258:U:H2'	54:28:1259:G:C8	2.22	0.75
17:Q:2:ARG:HB2	54:28:1248:G:C5	2.22	0.75
33:7:185:ILE:HA	33:7:199:ILE:HB	1.68	0.75
54:28:860:U:H2'	54:28:861:A:H8	1.49	0.75
4:D:75:SER:HB3	4:D:78:TRP:HD1	1.52	0.75
11:K:30:ARG:NE	54:28:2674:G:H4'	2.02	0.75
27:1:37:CYS:HB2	27:1:39:LYS:HG2	1.67	0.75
54:28:1300:G:C4'	54:28:1301:A:H5''	2.09	0.75
9:I:78:LEU:HD13	9:I:108:ILE:HG23	1.67	0.75
9:I:111:THR:O	9:I:114:ALA:HB3	1.86	0.75
17:Q:57:ARG:HH12	54:28:1154:G:P	2.10	0.75
42:16:126:ARG:O	52:26:34:ARG:NH2	2.18	0.74
44:18:12:LYS:HD3	44:18:16:ILE:HG22	1.66	0.74
55:29:3:C:C2'	55:29:4:C:H5''	2.17	0.74
16:P:84:SER:HB2	16:P:86:LYS:NZ	2.02	0.74
24:X:58:ILE:HG12	24:X:66:VAL:HG21	1.69	0.74
54:28:2170:A:C2'	54:28:2171:A:H4'	2.17	0.74
8:H:23:LEU:HD22	8:H:126:LEU:HD21	1.69	0.74
54:28:162:U:O2'	54:28:163:C:H5'	1.86	0.74
54:28:955:U:H5	54:28:962:G:N1	1.84	0.74
54:28:1053:C:H6	54:28:1053:C:H5'	1.49	0.74
41:15:15:HIS:HB3	41:15:70:HIS:CE1	2.22	0.74
53:27:399:G:H2'	53:27:400:C:C6	2.23	0.74
53:27:501:C:H2'	53:27:502:A:C8	2.23	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:697:VAL:HG22	1:A:712:MET:HE1	1.69	0.74
47:21:10:GLY:HA2	53:27:624:C:H4'	1.70	0.74
54:28:910:A:H2'	54:28:911:A:C8	2.21	0.74
54:28:2143:C:H2'	54:28:2144:G:O4'	1.87	0.74
8:H:58:THR:CG2	54:28:1107:G:H5''	2.17	0.74
17:Q:91:ARG:HH22	54:28:998:C:P	2.11	0.74
24:X:16:ASN:HD22	54:28:2081:U:H5''	1.52	0.74
35:9:59:LYS:HE3	35:9:194:ILE:HG22	1.69	0.74
53:27:1507:A:H2'	53:27:1508:A:C8	2.22	0.74
4:D:68:ALA:HA	54:28:1255:U:C5	2.22	0.74
45:19:45:LEU:O	45:19:48:GLN:OE1	2.04	0.74
49:23:41:SER:HB3	49:23:51:GLN:HE21	1.53	0.74
54:28:1068:G:H21	54:28:1096:A:H5'	1.52	0.74
54:28:1300:G:H4'	54:28:1301:A:C5'	2.11	0.74
42:16:23:HIS:HB3	42:16:30:ILE:CG2	2.18	0.74
53:27:1507:A:H2'	53:27:1508:A:H8	1.51	0.74
54:28:657:U:H2'	54:28:658:U:C6	2.23	0.74
54:28:1179:G:C4	54:28:1180:U:H1'	2.23	0.74
54:28:1773:A:H2'	54:28:1774:C:O4'	1.88	0.74
54:28:2065:C:H2'	54:28:2066:C:C6	2.23	0.74
55:29:65:U:H3'	55:29:108:A:N6	2.01	0.74
1:A:694:VAL:HA	1:A:714:ILE:HG22	1.69	0.74
18:R:76:LYS:HB2	18:R:85:LYS:HB3	1.68	0.74
19:S:83:LYS:HD3	19:S:95:ARG:NH1	2.03	0.74
42:16:34:THR:HG22	42:16:40:ALA:HA	1.69	0.74
53:27:1138:G:H3'	53:27:1138:G:N3	2.03	0.73
53:27:1524:C:H2'	53:27:1525:G:C8	2.23	0.73
58:32:14:A:H3'	58:32:15:G:H8	1.53	0.73
15:O:62:LEU:HD11	15:O:70:ALA:CB	2.18	0.73
53:27:763:G:H2'	53:27:764:C:C6	2.22	0.73
53:27:817:C:H4'	53:27:818:G:H5''	1.71	0.73
53:27:1526:G:H2'	53:27:1527:U:C6	2.24	0.73
54:28:851:C:H2'	54:28:852:U:C6	2.22	0.73
54:28:2699:C:H2'	54:28:2700:A:H8	1.53	0.73
55:29:66:A:H5''	55:29:67:G:OP1	1.88	0.73
2:B:144:GLU:HB2	2:B:187:CYS:HB3	1.70	0.73
16:P:59:THR:HG22	16:P:72:VAL:HG12	1.70	0.73
53:27:422:C:H4'	53:27:423:G:H5''	1.71	0.73
53:27:1356:G:H2'	53:27:1357:A:C8	2.24	0.73
53:27:1391:U:H2'	53:27:1392:G:H8	1.53	0.73
54:28:1594:U:H2'	54:28:1595:C:C6	2.24	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:32:67:C:H2'	58:32:68:C:C6	2.24	0.73
5:E:24:VAL:O	5:E:27:VAL:HG12	1.88	0.73
45:19:45:LEU:HG	50:24:12:LEU:HD12	1.69	0.73
53:27:1432:G:H1'	53:27:1468:A:N6	2.03	0.73
54:28:1843:C:H2'	54:28:1844:C:C6	2.23	0.73
54:28:2423:U:O2'	54:28:2425:A:H2'	1.88	0.73
54:28:2537:U:H2'	54:28:2538:C:C6	2.24	0.73
54:28:2638:G:HO2'	54:28:2639:A:H8	1.34	0.73
53:27:337:G:H2'	53:27:338:A:C8	2.23	0.73
53:27:1062:U:H2'	53:27:1063:C:C6	2.23	0.73
9:I:101:SER:HA	9:I:140:GLU:O	1.89	0.73
54:28:287:G:H2'	54:28:288:U:C6	2.24	0.73
58:32:1:C:H4'	58:32:73:A:N1	2.04	0.73
53:27:188:C:H2'	53:27:189:A:O4'	1.87	0.73
53:27:894:G:H2'	53:27:895:G:H8	1.54	0.73
10:J:58:ASN:HA	10:J:126:ALA:O	1.89	0.73
54:28:1179:G:H3'	54:28:1180:U:C4'	2.19	0.73
9:I:90:GLY:HA2	54:28:1064:C:C1'	2.15	0.72
53:27:501:C:H2'	53:27:502:A:H8	1.53	0.72
45:19:85:GLU:HG3	45:19:89:ARG:HH12	1.54	0.72
54:28:2130:U:H2'	54:28:2131:U:H5''	1.70	0.72
54:28:2406:A:H5'	54:28:2407:A:OP1	1.87	0.72
20:T:88:LYS:C	20:T:90:GLY:H	1.97	0.72
54:28:565:C:H2'	54:28:566:U:C6	2.24	0.72
54:28:1636:U:H2'	54:28:1637:A:C8	2.24	0.72
3:C:15:PHE:H	16:P:11:GLN:NE2	1.87	0.72
4:D:5:LEU:HD13	4:D:10:SER:O	1.89	0.72
8:H:101:LYS:HE3	8:H:105:LYS:HD2	1.71	0.72
9:I:92:PRO:HD2	54:28:1076:C:H1'	1.70	0.72
23:W:39:THR:H	54:28:2331:G:H4'	1.54	0.72
34:8:175:HIS:ND1	53:27:1108:G:H5'	2.03	0.72
42:16:80:ASN:HD22	42:16:105:ARG:HB3	1.54	0.72
53:27:1491:G:H2'	53:27:1492:A:H5''	1.70	0.72
54:28:1536:C:H4'	54:28:1537:G:N2	2.04	0.72
54:28:2470:G:H2'	54:28:2471:A:H8	1.55	0.72
16:P:26:GLU:HA	16:P:43:GLU:HA	1.70	0.72
40:14:70:GLY:HA3	53:27:1371:G:O3'	1.89	0.72
50:24:5:LYS:HG3	50:24:6:LYS:HG2	1.72	0.72
54:28:630:G:N2	54:28:632:A:H3'	2.04	0.72
8:H:55:VAL:HA	54:28:1084:A:H5'	1.69	0.72
53:27:1131:G:C3'	53:27:1132:C:H5''	2.18	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1402:C:H2'	53:27:1403:C:O4'	1.88	0.72
8:H:42:ARG:HD2	9:I:117:THR:HA	1.72	0.72
8:H:75:ALA:O	8:H:77:VAL:N	2.23	0.72
33:7:153:MET:HE1	33:7:157:PRO:HG3	1.72	0.72
53:27:1148:U:H2'	53:27:1149:C:O4'	1.90	0.72
1:A:612:CYS:SG	1:A:634:HIS:NE2	2.63	0.72
17:Q:48:ASP:HA	17:Q:51:GLN:HB2	1.71	0.72
8:H:80:THR:O	54:28:1107:G:H4'	1.90	0.72
53:27:835:U:C2'	53:27:836:G:H5''	2.20	0.72
54:28:848:C:H2'	54:28:849:A:C8	2.24	0.72
54:28:2493:U:H3'	54:28:2494:G:H5''	1.70	0.72
55:29:88:C:H5''	55:29:89:U:OP1	1.90	0.72
6:F:79:THR:HG22	6:F:80:GLU:HG3	1.72	0.71
9:I:113:ALA:O	9:I:114:ALA:C	2.32	0.71
15:O:62:LEU:HD11	15:O:70:ALA:CA	2.20	0.71
17:Q:55:GLN:NE2	54:28:559:G:H1'	2.05	0.71
53:27:950:U:H2'	53:27:951:G:H8	1.54	0.71
53:27:1305:G:H22	53:27:1331:G:H2'	1.54	0.71
54:28:144:A:H2'	54:28:145:C:C6	2.25	0.71
54:28:679:C:H2'	54:28:680:C:C6	2.25	0.71
54:28:2086:U:H2'	54:28:2087:G:C8	2.25	0.71
4:D:75:SER:HB3	4:D:78:TRP:CD1	2.25	0.71
10:J:27:ARG:HD2	54:28:1012:U:N3	2.05	0.71
53:27:1429:A:H2'	53:27:1430:A:H8	1.55	0.71
54:28:1181:U:H2'	54:28:1182:G:C8	2.25	0.71
32:6:18:LYS:HG2	32:6:18:LYS:O	1.87	0.71
41:15:80:THR:HB	41:15:83:THR:OG1	1.90	0.71
43:17:28:GLN:NE2	53:27:33:A:O2'	2.23	0.71
54:28:2092:U:C4'	54:28:2093:G:H5''	2.20	0.71
1:A:626:THR:HG23	1:A:632:SER:HB2	1.71	0.71
54:28:1175:A:H5'	54:28:1176:U:O4'	1.90	0.71
54:28:1857:G:H2'	54:28:1884:G:H22	1.54	0.71
9:I:79:LEU:O	9:I:83:ALA:HB3	1.90	0.71
31:5:15:LYS:HE2	31:5:19:GLY:HA2	1.72	0.71
35:9:97:LEU:HB2	35:9:134:TYR:HB3	1.71	0.71
53:27:475:C:H2'	53:27:476:U:C6	2.25	0.71
53:27:1014:A:H2'	53:27:1015:G:O4'	1.91	0.71
54:28:2074:U:H2'	54:28:2075:U:C6	2.26	0.71
54:28:2648:G:H2'	54:28:2649:C:C6	2.25	0.71
1:A:700:ARG:HB2	1:A:709:THR:HG23	1.71	0.71
22:V:2:PHE:HD1	22:V:50:MET:HE3	1.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:40:LYS:HG3	17:Q:44:TYR:HE2	1.55	0.71
53:27:56:U:H2'	53:27:57:G:C8	2.26	0.71
53:27:151:A:H2'	53:27:152:A:O4'	1.91	0.71
36:10:106:ALA:HB1	36:10:110:MET:HG2	1.70	0.71
53:27:1109:C:H2'	53:27:1110:A:O4'	1.91	0.71
54:28:825:A:H2'	54:28:826:U:C6	2.26	0.71
54:28:2389:G:H5''	54:28:2390:U:O4'	1.89	0.71
55:29:48:U:H2'	55:29:49:C:C6	2.26	0.71
55:29:75:G:H2'	55:29:76:G:C8	2.26	0.71
5:E:7:TYR:HA	5:E:11:VAL:CG2	2.21	0.71
6:F:174:LYS:HE3	54:28:2529:G:H4'	1.73	0.71
23:W:12:SER:OG	54:28:2262:U:H5	1.71	0.71
54:28:2070:A:H2'	54:28:2071:A:H8	1.55	0.71
54:28:2297:A:N1	54:28:2321:U:C5	2.59	0.71
1:A:598:VAL:O	1:A:598:VAL:HG12	1.90	0.71
8:H:97:LYS:HB3	8:H:125:ARG:HB2	1.71	0.71
15:O:66:GLY:O	15:O:102:ARG:HD3	1.91	0.71
37:11:68:GLN:O	37:11:71:ILE:HG22	1.91	0.71
48:22:69:THR:HG22	48:22:70:LYS:H	1.55	0.71
53:27:86:G:H4'	53:27:87:C:C6	2.26	0.71
53:27:1342:C:H2'	53:27:1343:G:C8	2.25	0.71
54:28:942:G:H2'	54:28:943:A:O4'	1.90	0.71
54:28:1179:G:C3'	54:28:1180:U:H4'	2.21	0.71
4:D:153:LEU:HD11	4:D:158:PHE:HB2	1.71	0.70
11:K:110:GLU:O	11:K:113:MET:HG2	1.91	0.70
43:17:11:ARG:HG3	53:27:562:U:H1'	1.73	0.70
53:27:182:A:H2'	53:27:183:C:H5''	1.72	0.70
53:27:382:A:H2'	53:27:383:A:C8	2.26	0.70
54:28:279:A:H61	54:28:361:G:H1'	1.55	0.70
54:28:1178:C:H2'	54:28:1179:G:C8	2.25	0.70
2:B:209:ALA:HA	2:B:212:TRP:CE2	2.26	0.70
4:D:148:ILE:HD13	4:D:187:VAL:CG1	2.21	0.70
22:V:72:VAL:HG12	22:V:93:ARG:HA	1.73	0.70
53:27:1464:U:H2'	53:27:1465:A:C8	2.27	0.70
54:28:974:G:H8	54:28:990:A:H62	1.34	0.70
54:28:2796:U:H2'	54:28:2798:U:OP2	1.91	0.70
1:A:619:ASP:O	1:A:620:GLU:HB2	1.92	0.70
3:C:151:THR:HB	3:C:152:PRO:HD3	1.71	0.70
6:F:41:GLU:HG3	6:F:54:ARG:HH21	1.56	0.70
53:27:70:U:H4'	53:27:71:A:C8	2.26	0.70
54:28:191:A:H2'	54:28:192:C:H6	1.54	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:57:ASN:HB2	8:H:62:ARG:HD2	1.73	0.70
52:26:16:ARG:HB2	52:26:19:LYS:HD3	1.72	0.70
53:27:1259:C:C3'	53:27:1260:G:H5''	2.18	0.70
3:C:56:LYS:NZ	54:28:2830:C:H5''	2.06	0.70
41:15:6:ILE:HB	41:15:76:ILE:HB	1.73	0.70
44:18:100:ARG:HH22	53:27:950:U:H3'	1.55	0.70
53:27:634:C:H2'	53:27:635:A:H8	1.56	0.70
1:A:640:GLN:HA	1:A:643:GLU:OE1	1.92	0.70
22:V:9:ARG:HG2	22:V:41:GLU:HB2	1.73	0.70
33:7:124:THR:HG22	33:7:127:LYS:HD2	1.72	0.70
53:27:1435:G:H2'	53:27:1436:U:C6	2.27	0.70
54:28:1019:U:H3	54:28:1142:A:H62	1.37	0.70
54:28:1258:U:H2'	54:28:1259:G:H8	1.56	0.70
54:28:1386:C:H2'	54:28:1387:A:C8	2.27	0.70
54:28:1659:G:H2'	54:28:1660:G:H5''	1.73	0.70
54:28:1900:A:H1'	54:28:1970:A:H2'	1.73	0.70
54:28:2134:A:H62	54:28:2157:G:H4'	1.56	0.70
54:28:2638:G:H1'	54:28:2778:A:H61	1.57	0.70
30:4:11:LYS:CE	54:28:686:U:H5''	2.22	0.70
40:14:40:ARG:HH22	53:27:1292:G:H4'	1.55	0.70
42:16:63:GLN:HB2	42:16:94:SER:OG	1.91	0.70
44:18:28:ARG:HH21	44:18:62:PHE:HB2	1.56	0.70
54:28:1659:G:C3'	54:28:1660:G:H5''	2.22	0.70
54:28:2503:A:H1'	54:28:2505:G:OP2	1.90	0.70
54:28:2617:U:H2'	54:28:2618:G:O4'	1.89	0.70
3:C:34:VAL:HA	3:C:50:VAL:HG12	1.74	0.70
53:27:413:G:H1'	53:27:428:G:N2	2.07	0.70
53:27:1259:C:H3'	53:27:1260:G:C5'	2.16	0.70
54:28:1295:C:H2'	54:28:1296:G:C8	2.27	0.70
8:H:80:THR:C	54:28:1107:G:H4'	2.16	0.70
9:I:11:GLN:H	54:28:1061:U:H5	1.36	0.70
53:27:736:C:H2'	53:27:737:C:C6	2.27	0.70
54:28:310:A:C2'	54:28:311:A:H5''	2.21	0.70
54:28:2427:C:H5''	54:28:2429:G:H5'	1.72	0.70
54:28:2832:U:H1'	54:28:2834:G:C2	2.26	0.70
55:29:106:G:H2'	55:29:107:G:O4'	1.91	0.70
15:O:17:LYS:NZ	54:28:2380:C:H5'	2.07	0.70
43:17:73:LEU:HD21	43:17:79:ILE:HG21	1.74	0.70
50:24:35:ARG:HH11	53:27:1221:G:H5''	1.57	0.70
53:27:735:C:H2'	53:27:736:C:H6	1.57	0.70
54:28:2073:C:H2'	54:28:2074:U:H6	1.54	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2233:U:H2'	54:28:2234:G:C8	2.27	0.70
7:G:9:VAL:HG11	7:G:12:LEU:HG	1.72	0.69
15:O:29:HIS:HB3	15:O:36:TYR:HB2	1.74	0.69
37:11:15:SER:HB2	37:11:58:HIS:HB3	1.74	0.69
37:11:67:PRO:HG2	37:11:70:VAL:HG23	1.74	0.69
53:27:1023:U:H2'	53:27:1024:G:C8	2.27	0.69
54:28:690:G:H2'	54:28:691:C:C6	2.26	0.69
54:28:1826:G:H2'	54:28:1827:U:C6	2.26	0.69
54:28:1872:A:H2'	54:28:1873:G:O4'	1.92	0.69
7:G:116:ARG:HG3	7:G:133:GLN:HG3	1.72	0.69
31:5:7:ARG:NH2	54:28:245:G:N7	2.40	0.69
53:27:994:A:N7	53:27:1216:A:H4'	2.07	0.69
54:28:49:A:H5'	54:28:51:G:O4'	1.93	0.69
9:I:20:SER:HB3	9:I:21:PRO:HD3	1.72	0.69
46:20:38:LEU:HD23	46:20:55:LEU:HD13	1.73	0.69
47:21:40:ASN:HB3	47:21:43:ALA:HB2	1.73	0.69
53:27:225:C:C3'	53:27:226:G:H5''	2.22	0.69
54:28:277:G:H1'	54:28:361:G:N1	2.07	0.69
54:28:1320:C:O2'	54:28:1321:A:H5''	1.93	0.69
58:32:72:A:H2'	58:32:73:A:O4'	1.93	0.69
9:I:91:LYS:HB3	9:I:94:LYS:HB2	1.74	0.69
11:K:68:GLY:HA3	11:K:78:ARG:HG2	1.73	0.69
16:P:38:ARG:HH21	16:P:38:ARG:HG3	1.57	0.69
23:W:38:GLY:HA2	54:28:2330:G:H21	1.57	0.69
40:14:54:VAL:HG23	40:14:56:MET:HG2	1.74	0.69
41:15:45:ARG:HB3	41:15:69:THR:HB	1.74	0.69
43:17:113:ARG:HB2	43:17:118:VAL:HB	1.74	0.69
44:18:2:ARG:HA	44:18:7:ASN:O	1.93	0.69
50:24:79:TYR:CZ	53:27:1226:C:H4'	2.27	0.69
54:28:2848:G:O2'	54:28:2849:U:H5'	1.92	0.69
15:O:51:ALA:HB3	15:O:78:VAL:HG22	1.73	0.69
34:8:87:ARG:HG3	34:8:98:ALA:O	1.92	0.69
53:27:448:A:H3'	53:27:449:G:C8	2.27	0.69
53:27:1071:C:H2'	53:27:1072:G:H8	1.57	0.69
54:28:1283:G:H1'	54:28:1329:U:O2	1.92	0.69
6:F:41:GLU:HB2	6:F:54:ARG:HE	1.57	0.69
19:S:20:VAL:HG11	19:S:44:ALA:HA	1.73	0.69
53:27:533:A:O2'	53:27:534:U:H5''	1.92	0.69
47:21:5:ARG:HB2	53:27:376:G:H5''	1.75	0.69
54:28:172:A:H2'	54:28:173:A:H8	1.57	0.69
54:28:2583:G:H2'	54:28:2584:U:O4'	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:114:GLU:HA	7:G:116:ARG:HH12	1.58	0.69
30:4:24:THR:HG23	30:4:27:GLY:H	1.58	0.69
39:13:5:PRO:HB2	39:13:32:LYS:NZ	2.08	0.69
40:14:16:ALA:HA	40:14:66:VAL:HA	1.75	0.69
44:18:10:ASP:C	44:18:12:LYS:H	2.00	0.69
54:28:184:C:H2'	54:28:185:G:H8	1.57	0.69
54:28:1068:G:N2	54:28:1096:A:H5'	2.08	0.69
54:28:1881:C:H2'	54:28:1882:U:O4'	1.93	0.69
10:J:81:ILE:HG23	10:J:82:GLY:N	2.04	0.69
17:Q:57:ARG:HA	17:Q:60:TRP:CE3	2.27	0.69
33:7:66:ILE:HD12	33:7:159:ALA:HB3	1.74	0.69
53:27:1409:C:H2'	53:27:1410:A:C8	2.28	0.69
54:28:582:A:H2'	54:28:583:G:C8	2.27	0.69
54:28:721:A:H2'	54:28:722:A:C8	2.27	0.69
6:F:2:ARG:HD2	54:28:2751:G:O4'	1.92	0.69
9:I:36:GLU:HB3	9:I:66:PHE:HE2	1.58	0.69
9:I:127:SER:HA	54:28:1080:A:H1'	1.75	0.69
18:R:58:VAL:H	18:R:102:SER:HB2	1.58	0.69
39:13:5:PRO:HB2	39:13:32:LYS:HZ1	1.57	0.69
40:14:35:GLU:HA	40:14:39:GLY:HA3	1.74	0.69
53:27:517:G:O2'	53:27:530:G:H4'	1.93	0.69
54:28:821:A:H5''	54:28:822:G:C5'	2.13	0.69
54:28:2861:U:H2'	54:28:2862:G:H8	1.58	0.69
11:K:49:ARG:NH2	53:27:1423:G:H5'	2.08	0.68
38:12:129:ASN:HA	38:12:134:VAL:HG11	1.76	0.68
50:24:35:ARG:NH1	53:27:1221:G:H5''	2.07	0.68
53:27:312:C:H2'	53:27:313:A:H8	1.57	0.68
53:27:634:C:H2'	53:27:635:A:C8	2.27	0.68
53:27:769:G:H4'	53:27:1513:A:H4'	1.73	0.68
53:27:955:U:C1'	53:27:1227:A:H61	2.05	0.68
54:28:967:U:H2'	54:28:968:C:C6	2.28	0.68
54:28:1198:U:H2'	54:28:1199:U:C6	2.28	0.68
54:28:2075:U:H1'	54:28:2597:G:N2	2.08	0.68
54:28:2292:U:H2'	54:28:2293:G:C8	2.28	0.68
54:28:2372:U:H2'	54:28:2373:G:H8	1.58	0.68
35:9:36:ALA:H	35:9:37:PRO:HD3	1.58	0.68
53:27:1512:U:H2'	53:27:1513:A:H8	1.56	0.68
54:28:2646:C:H2'	54:28:2647:U:O4'	1.93	0.68
8:H:61:ARG:HG3	54:28:1046:A:H4'	1.75	0.68
54:28:1132:U:H2'	54:28:1133:A:C8	2.29	0.68
9:I:7:TYR:CD1	9:I:59:THR:HA	2.28	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:10:134:ASN:HD21	53:27:1078:U:H1'	1.57	0.68
43:17:49:ARG:NH2	53:27:522:C:H41	1.91	0.68
53:27:210:C:H3'	53:27:211:G:H5'	1.75	0.68
53:27:265:G:H2'	53:27:267:C:H5	1.57	0.68
53:27:1011:C:H2'	53:27:1012:A:C8	2.29	0.68
54:28:191:A:H2'	54:28:192:C:C6	2.28	0.68
54:28:799:G:H5''	54:28:800:A:H2'	1.75	0.68
54:28:969:G:H2'	54:28:970:U:C6	2.28	0.68
54:28:1295:C:H2'	54:28:1296:G:H8	1.57	0.68
54:28:2037:A:H2'	54:28:2038:G:C8	2.28	0.68
54:28:2786:U:H2'	54:28:2787:C:H6	1.58	0.68
5:E:169:LEU:HB3	5:E:174:PHE:HD2	1.58	0.68
8:H:37:LYS:HE2	54:28:1086:A:N6	2.09	0.68
11:K:49:ARG:HH12	53:27:1422:G:H4'	1.56	0.68
12:L:109:LYS:HE2	54:28:636:G:N7	2.08	0.68
15:O:101:GLY:HA3	55:29:49:C:OP1	1.93	0.68
44:18:25:GLY:H	53:27:1329:A:H5''	1.58	0.68
46:20:63:ARG:HD2	46:20:87:ARG:HH22	1.59	0.68
53:27:918:A:H2'	53:27:919:A:C8	2.28	0.68
54:28:7:G:H2'	54:28:8:C:C6	2.28	0.68
54:28:215:G:H4'	54:28:216:A:H4'	1.73	0.68
54:28:1057:A:N7	54:28:1086:A:H2'	2.08	0.68
54:28:1316:U:H2'	54:28:1317:G:H8	1.58	0.68
54:28:1765:U:H2'	54:28:1766:G:H8	1.59	0.68
54:28:2087:G:H2'	54:28:2088:A:C8	2.29	0.68
58:32:21:A:H62	58:32:47:U:H4'	1.58	0.68
35:9:94:GLU:HA	35:9:99:ASN:HD22	1.58	0.68
43:17:109:ARG:HB2	43:17:118:VAL:HG21	1.74	0.68
50:24:54:ARG:HB3	53:27:958:A:C2	2.29	0.68
53:27:539:A:H2'	53:27:540:G:H8	1.58	0.68
54:28:1190:G:H2'	54:28:1191:G:H8	1.59	0.68
54:28:1508:A:H2'	54:28:1509:A:O4'	1.94	0.68
54:28:1636:U:H2'	54:28:1637:A:H8	1.57	0.68
47:21:15:PRO:HG2	47:21:41:PRO:HG3	1.74	0.68
53:27:54:C:H2'	53:27:352:C:H41	1.59	0.68
53:27:328:C:H4'	53:27:329:A:H5'	1.76	0.68
53:27:613:C:H2'	53:27:614:C:C6	2.29	0.68
54:28:813:U:H2'	54:28:814:C:C6	2.29	0.68
54:28:2233:U:H2'	54:28:2234:G:H8	1.57	0.68
14:N:29:VAL:HG12	14:N:78:LYS:HD2	1.74	0.68
44:18:7:ASN:HD22	44:18:21:ILE:HD11	1.59	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:404:G:H2'	53:27:405:U:C6	2.28	0.68
54:28:1906:G:C2'	54:28:1907:G:H5''	2.24	0.68
3:C:25:THR:HG21	3:C:193:VAL:HG22	1.74	0.68
7:G:111:ALA:HB3	7:G:114:GLU:HG2	1.74	0.68
8:H:61:ARG:HB3	54:28:1047:G:C8	2.29	0.68
13:M:20:LEU:HD23	22:V:81:PRO:HG2	1.76	0.68
18:R:74:ILE:HB	18:R:87:GLN:HB3	1.76	0.68
21:U:87:GLU:HG3	21:U:92:VAL:HG21	1.76	0.68
22:V:20:LEU:HD21	22:V:41:GLU:HG2	1.75	0.68
24:X:36:ARG:NH2	54:28:2199:A:OP1	2.26	0.68
47:21:11:ALA:HB3	47:21:14:ARG:HB2	1.74	0.68
51:25:2:ASN:OD1	51:25:3:ILE:N	2.27	0.68
54:28:580:U:H2'	54:28:581:C:C6	2.28	0.68
54:28:2114:A:C6	54:28:2115:G:H1'	2.29	0.68
1:A:674:ASN:HD21	1:A:736:ILE:HG21	1.59	0.68
19:S:29:VAL:HG23	19:S:69:LEU:O	1.93	0.68
40:14:94:ARG:HA	40:14:97:LEU:HB2	1.75	0.68
41:15:22:THR:HG21	41:15:39:PRO:HB3	1.76	0.68
50:24:69:LYS:HE3	53:27:1319:A:H5''	1.74	0.68
53:27:27:G:H2'	53:27:28:A:C8	2.29	0.68
54:28:584:C:H2'	54:28:585:G:H8	1.59	0.68
54:28:687:C:H2'	54:28:688:U:O4'	1.94	0.68
54:28:1789:A:H2'	54:28:1790:C:O4'	1.93	0.68
54:28:2567:G:H2'	54:28:2568:U:C6	2.28	0.68
54:28:2693:G:H2'	54:28:2694:G:C8	2.29	0.68
25:Y:38:GLN:O	54:28:95:A:H4'	1.93	0.67
34:8:128:MET:HE3	34:8:131:ARG:HG3	1.76	0.67
37:11:78:PHE:HD1	37:11:84:VAL:HG11	1.58	0.67
54:28:808:G:H2'	54:28:809:G:C8	2.29	0.67
54:28:826:U:H5''	54:28:2429:G:P	2.34	0.67
54:28:974:G:H1'	54:28:975:A:C8	2.29	0.67
54:28:1678:A:H2'	54:28:1679:A:H8	1.58	0.67
54:28:1857:G:N2	54:28:1884:G:H2'	2.08	0.67
54:28:2060:A:H1'	54:28:2502:G:O2'	1.93	0.67
54:28:2345:G:N3	54:28:2381:A:H2'	2.09	0.67
58:32:10:G:H2'	58:32:11:A:C8	2.29	0.67
8:H:59:LEU:HD23	8:H:62:ARG:HB2	1.75	0.67
30:4:11:LYS:HE2	54:28:686:U:H5''	1.76	0.67
53:27:1144:G:H21	53:27:1146:A:H62	1.39	0.67
54:28:420:C:H2'	54:28:421:C:C6	2.29	0.67
54:28:634:C:H2'	54:28:635:C:C6	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1807:G:H2'	54:28:1808:A:H5'	1.75	0.67
54:28:2593:U:H2'	54:28:2594:C:C6	2.29	0.67
55:29:3:C:C3'	55:29:4:C:H5''	2.24	0.67
2:B:180:MET:HB2	2:B:268:ARG:H	1.59	0.67
5:E:25:MET:HB3	55:29:57:A:C2	2.28	0.67
12:L:23:ILE:H	12:L:23:ILE:HD12	1.59	0.67
16:P:112:ARG:O	16:P:113:LEU:HG	1.93	0.67
21:U:3:LYS:HE2	54:28:337:C:OP1	1.95	0.67
21:U:6:ARG:N	54:28:85:G:OP1	2.28	0.67
53:27:373:A:H2'	53:27:374:A:C8	2.24	0.67
54:28:1746:A:H2'	54:28:1747:U:C6	2.30	0.67
54:28:2120:G:H2'	54:28:2121:G:C8	2.29	0.67
58:32:1:C:H2'	58:32:2:G:C8	2.30	0.67
6:F:102:ILE:HD12	6:F:114:HIS:HD2	1.60	0.67
28:2:8:THR:HG21	54:28:2020:A:H5'	1.76	0.67
32:6:18:LYS:HE2	32:6:21:GLY:HA2	1.77	0.67
35:9:119:HIS:HD1	53:27:437:U:HO2'	1.40	0.67
36:10:132:PRO:O	36:10:135:VAL:HG22	1.94	0.67
53:27:1530:G:H2'	53:27:1531:A:C8	2.28	0.67
54:28:2421:G:H2'	58:32:76:A:N6	2.10	0.67
55:29:29:A:H2'	55:29:30:C:O4'	1.93	0.67
7:G:12:LEU:HD12	7:G:13:GLY:N	2.10	0.67
23:W:36:GLN:NE2	23:W:39:THR:HA	2.08	0.67
25:Y:39:GLN:HB2	25:Y:41:HIS:CE1	2.29	0.67
32:6:8:LYS:H	32:6:35:GLN:HE22	1.42	0.67
34:8:89:VAL:O	34:8:93:ILE:HG13	1.95	0.67
36:10:156:ARG:HD2	39:13:44:PHE:CZ	2.28	0.67
41:15:9:ARG:O	41:15:99:GLN:HB2	1.95	0.67
53:27:950:U:H2'	53:27:951:G:C8	2.28	0.67
53:27:1213:A:C2	53:27:1215:G:H1'	2.29	0.67
58:32:2:G:N2	58:32:72:A:H1'	2.10	0.67
58:32:69:C:H3'	58:32:70:G:H8	1.60	0.67
41:15:29:ALA:HA	41:15:32:THR:HG22	1.76	0.67
53:27:948:C:H2'	53:27:949:A:H8	1.60	0.67
54:28:1213:A:N6	54:28:1236:G:H1'	2.08	0.67
4:D:119:ILE:O	4:D:187:VAL:HG23	1.95	0.67
35:9:33:ILE:HG12	35:9:34:GLU:N	2.05	0.67
38:12:78:ARG:HH11	53:27:1382:C:H4'	1.59	0.67
42:16:30:ILE:HD13	42:16:45:THR:HG22	1.77	0.67
6:F:51:PHE:HZ	6:F:71:LEU:HD22	1.60	0.67
10:J:36:LEU:O	10:J:51:GLY:HA3	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:17:98:ARG:HB2	43:17:116:TYR:HA	1.77	0.67
53:27:24:U:H2'	53:27:25:C:C6	2.29	0.67
53:27:147:G:H2'	53:27:148:G:C8	2.29	0.67
53:27:448:A:H3'	53:27:449:G:H8	1.59	0.67
54:28:832:U:H2'	54:28:833:A:C8	2.29	0.67
4:D:163:ASN:ND2	54:28:320:A:N3	2.42	0.67
9:I:113:ALA:HA	9:I:124:MET:SD	2.35	0.67
10:J:35:ARG:HA	10:J:40:HIS:HD2	1.60	0.67
40:14:11:ARG:NH1	40:14:106:ASP:OD2	2.27	0.67
40:14:59:LYS:C	40:14:60:LEU:HD12	2.20	0.67
53:27:112:G:N2	53:27:354:G:H5'	2.09	0.67
53:27:579:A:H5'	53:27:728:A:H1'	1.76	0.67
54:28:2267:A:H5''	54:28:2268:A:C5'	2.24	0.67
1:A:612:CYS:HB3	54:28:883:G:O2'	1.95	0.67
8:H:34:THR:CG2	54:28:1056:G:H5'	2.25	0.67
9:I:23:VAL:HG23	9:I:27:LEU:HD21	1.77	0.67
44:18:6:ILE:HG13	44:18:7:ASN:N	2.10	0.67
53:27:17:U:H2'	53:27:18:C:C6	2.30	0.67
53:27:313:A:H2'	53:27:314:C:C6	2.30	0.67
54:28:296:U:H2'	54:28:297:G:C8	2.29	0.67
54:28:639:U:H2'	54:28:640:C:C6	2.29	0.67
54:28:1082:U:C3'	54:28:1083:U:H5''	2.25	0.67
54:28:1469:A:H2'	54:28:1470:A:H8	1.60	0.67
54:28:1935:G:H1'	54:28:1964:G:N2	2.09	0.67
54:28:2041:U:H2'	54:28:2042:A:C8	2.30	0.67
3:C:122:VAL:O	3:C:126:ASN:HA	1.95	0.66
9:I:7:TYR:HE1	9:I:59:THR:HG23	1.60	0.66
35:9:10:LEU:HD13	35:9:62:ARG:HD2	1.77	0.66
53:27:413:G:H1'	53:27:428:G:H21	1.59	0.66
54:28:64:A:H2'	54:28:65:U:C6	2.29	0.66
54:28:1028:A:H2'	54:28:1029:A:C8	2.30	0.66
4:D:149:ILE:CG2	4:D:188:MET:HG2	2.25	0.66
6:F:112:VAL:O	6:F:112:VAL:HG12	1.95	0.66
27:1:46:GLY:O	27:1:49:ARG:HG2	1.96	0.66
28:2:46:GLY:HA3	28:2:54:ILE:CG2	2.25	0.66
53:27:56:U:H2'	53:27:57:G:H8	1.59	0.66
53:27:1169:A:H2'	53:27:1170:A:C8	2.31	0.66
54:28:282:A:H2'	54:28:283:G:H8	1.58	0.66
7:G:103:VAL:HG12	7:G:108:VAL:HB	1.77	0.66
8:H:81:LEU:HA	54:28:1107:G:C4'	2.26	0.66
54:28:1021:A:C8	54:28:1023:U:H1'	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1196:C:H2'	54:28:1197:G:C8	2.30	0.66
54:28:2548:U:C2'	54:28:2549:G:H5''	2.26	0.66
2:B:206:LYS:HB2	54:28:729:G:C5	2.30	0.66
17:Q:40:LYS:HG3	17:Q:44:TYR:CE2	2.31	0.66
52:26:38:GLU:OE1	53:27:1526:G:H3'	1.95	0.66
53:27:1005:A:H4'	53:27:1037:C:H1'	1.77	0.66
54:28:2699:C:H2'	54:28:2700:A:C8	2.29	0.66
54:28:2873:A:O2'	54:28:2874:C:H5'	1.95	0.66
22:V:62:THR:HG22	22:V:71:LYS:HG2	1.78	0.66
35:9:150:LYS:HB3	35:9:177:MET:HE1	1.76	0.66
53:27:21:G:H2'	53:27:22:G:C8	2.30	0.66
53:27:320:A:H2'	53:27:321:A:C8	2.30	0.66
53:27:1170:A:H2'	53:27:1171:A:O4'	1.96	0.66
54:28:78:U:H2'	54:28:79:C:C6	2.31	0.66
54:28:1721:G:H2'	54:28:1738:G:H22	1.59	0.66
54:28:2041:U:H2'	54:28:2042:A:H8	1.61	0.66
54:28:2144:G:H1'	54:28:2148:G:N2	2.11	0.66
54:28:2146:C:H4'	54:28:2147:A:N7	2.11	0.66
55:29:114:C:H2'	55:29:115:A:C8	2.30	0.66
2:B:36:ASN:HB2	2:B:61:TYR:HB2	1.77	0.66
3:C:56:LYS:HZ1	54:28:2830:C:H5''	1.61	0.66
3:C:179:ARG:HB3	3:C:188:LEU:HD12	1.78	0.66
6:F:97:VAL:HG23	6:F:124:CYS:SG	2.35	0.66
9:I:134:SER:HB2	54:28:1062:G:H1'	1.77	0.66
14:N:22:ARG:HG3	14:N:70:THR:HA	1.76	0.66
35:9:8:LEU:HD12	35:9:11:SER:HB2	1.77	0.66
53:27:1496:C:H2'	53:27:1497:G:O4'	1.94	0.66
54:28:1310:G:H3'	54:28:1311:G:C8	2.31	0.66
54:28:1722:A:N6	54:28:1738:G:H1'	2.10	0.66
54:28:2786:U:H2'	54:28:2787:C:C6	2.30	0.66
58:32:66:C:H2'	58:32:67:C:C6	2.30	0.66
12:L:78:ARG:NH2	12:L:80:SER:OG	2.29	0.66
22:V:19:ARG:NH2	55:29:95:U:OP2	2.29	0.66
27:1:43:PHE:HB2	27:1:47:LYS:HE3	1.76	0.66
37:11:38:ARG:HB3	37:11:63:ASN:HB2	1.78	0.66
46:20:48:ASP:OD2	46:20:51:SER:HB2	1.96	0.66
52:26:19:LYS:HD2	52:26:19:LYS:N	2.11	0.66
53:27:490:C:H2'	53:27:491:G:C8	2.30	0.66
53:27:923:A:H2'	53:27:924:C:C6	2.31	0.66
53:27:1399:C:H1'	53:27:1400:C:OP2	1.94	0.66
53:27:1437:A:H2'	53:27:1438:G:H8	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2493:U:C3'	54:28:2494:G:H5''	2.26	0.66
53:27:231:U:H2'	53:27:232:G:H8	1.60	0.66
54:28:1297:C:H2'	54:28:1298:C:C6	2.31	0.66
54:28:2287:A:O2'	54:28:2288:A:H2'	1.95	0.66
55:29:28:C:H2'	55:29:29:A:C8	2.31	0.66
8:H:56:ARG:CB	54:28:1106:G:H4'	2.26	0.66
10:J:31:GLU:HG2	10:J:142:ILE:HG12	1.78	0.66
33:7:67:LEU:HD23	33:7:89:PHE:HB2	1.78	0.66
34:8:57:GLU:HB2	34:8:64:ARG:HG2	1.78	0.66
53:27:502:A:H2'	53:27:503:C:C6	2.31	0.66
54:28:184:C:H2'	54:28:185:G:C8	2.30	0.66
54:28:584:C:H2'	54:28:585:G:C8	2.31	0.66
54:28:1107:G:H2'	54:28:1108:U:C6	2.31	0.66
5:E:134:GLN:N	5:E:134:GLN:OE1	2.29	0.66
11:K:21:CYS:HA	11:K:41:ILE:HG22	1.77	0.66
16:P:105:LYS:O	16:P:108:ARG:HG2	1.95	0.66
19:S:82:MET:HB2	19:S:98:LYS:HB2	1.77	0.66
43:17:87:LYS:HD3	53:27:525:C:OP1	1.96	0.66
48:22:30:HIS:HD2	48:22:33:TYR:H	1.44	0.66
54:28:732:C:H2'	54:28:733:G:O4'	1.96	0.66
54:28:1678:A:H2'	54:28:1679:A:C8	2.31	0.66
55:29:66:A:N1	55:29:107:G:H2'	2.11	0.66
58:32:72:A:H3'	58:32:73:A:H5''	1.78	0.66
7:G:12:LEU:HD13	7:G:19:VAL:HG21	1.77	0.65
7:G:73:ASN:HB2	7:G:108:VAL:HG23	1.77	0.65
42:16:116:PRO:HB3	53:27:676:A:C1'	2.25	0.65
53:27:797:C:H2'	53:27:798:U:C6	2.31	0.65
53:27:1417:G:H2'	53:27:1482:G:N2	2.11	0.65
54:28:1432:G:H2'	54:28:1433:A:C8	2.31	0.65
54:28:2467:C:H2'	54:28:2468:A:O4'	1.97	0.65
58:32:46:A:H3'	58:32:47:U:C5'	2.26	0.65
2:B:164:VAL:HG23	2:B:174:ARG:HB2	1.78	0.65
53:27:593:U:H2'	53:27:594:U:H6	1.61	0.65
54:28:464:U:H2'	54:28:465:G:O4'	1.96	0.65
54:28:665:U:H2'	54:28:666:A:H8	1.60	0.65
54:28:834:G:H2'	54:28:835:C:C6	2.31	0.65
54:28:927:A:H2'	54:28:928:A:C8	2.30	0.65
54:28:1736:U:H2'	54:28:1737:G:O4'	1.96	0.65
4:D:117:ARG:NH2	4:D:183:PHE:O	2.29	0.65
8:H:33:VAL:HG12	54:28:1055:G:H5''	1.78	0.65
15:O:3:LYS:HE3	55:29:46:A:H5''	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:1:42:PRO:O	27:1:46:GLY:HA3	1.97	0.65
38:12:70:PRO:HG3	38:12:98:LEU:HD23	1.77	0.65
43:17:23:LEU:HG	43:17:24:GLU:HG3	1.77	0.65
53:27:31:G:N2	53:27:47:C:H5''	2.10	0.65
53:27:999:C:H2'	53:27:1000:A:C8	2.32	0.65
54:28:146:A:H2'	54:28:147:C:C6	2.32	0.65
54:28:488:G:N2	54:28:491:G:H5''	2.12	0.65
55:29:56:G:H4'	55:29:57:A:H8	1.61	0.65
17:Q:65:ASN:HA	17:Q:75:TYR:HB2	1.79	0.65
28:2:3:GLN:HA	54:28:2615:U:C2	2.31	0.65
39:13:46:GLU:O	39:13:61:THR:HB	1.96	0.65
41:15:30:LYS:HA	41:15:34:ALA:HA	1.77	0.65
44:18:86:ARG:HH21	53:27:1309:G:P	2.19	0.65
47:21:5:ARG:HH12	47:21:28:ARG:HA	1.60	0.65
48:22:26:ARG:HH22	53:27:237:G:C4'	2.07	0.65
54:28:558:U:H2'	54:28:559:G:H8	1.60	0.65
54:28:2292:U:H2'	54:28:2293:G:H8	1.61	0.65
19:S:52:GLU:HA	19:S:55:ILE:HD12	1.78	0.65
23:W:25:GLU:OE1	54:28:923:G:H4'	1.95	0.65
25:Y:23:ARG:O	25:Y:24:GLU:C	2.39	0.65
50:24:52:ASN:HD21	50:24:55:GLN:HB2	1.61	0.65
51:25:9:ARG:HG2	53:27:108:G:N1	2.10	0.65
54:28:934:U:H2'	54:28:935:C:C6	2.32	0.65
54:28:1331:G:O2'	54:28:1332:G:H5''	1.97	0.65
1:A:639:GLU:O	1:A:642:ALA:HB3	1.97	0.65
2:B:206:LYS:HD2	54:28:729:G:C8	2.31	0.65
43:17:78:VAL:N	43:17:102:ASP:OD2	2.30	0.65
49:23:37:LYS:HG3	53:27:719:C:H1'	1.78	0.65
53:27:1414:U:H2'	53:27:1415:G:H8	1.62	0.65
54:28:1447:C:H2'	54:28:1448:G:H8	1.62	0.65
54:28:2372:U:H2'	54:28:2373:G:C8	2.30	0.65
54:28:2514:U:H2'	54:28:2515:C:H6	1.61	0.65
17:Q:36:GLN:NE2	54:28:564:C:H1'	2.12	0.65
22:V:21:ARG:HE	22:V:87:GLN:HA	1.61	0.65
40:14:17:ARG:HB2	40:14:65:THR:OG1	1.97	0.65
50:24:39:ILE:HD13	50:24:65:MET:HG2	1.79	0.65
54:28:146:A:H2'	54:28:147:C:H6	1.62	0.65
56:30:13:A:H2'	56:30:14:A:H5'	1.79	0.65
10:J:27:ARG:HD2	54:28:1012:U:H3	1.62	0.65
27:1:62:LYS:O	27:1:65:ASN:ND2	2.30	0.65
29:3:7:LYS:HA	29:3:23:THR:HA	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:19:7:ALA:O	45:19:10:VAL:HG12	1.97	0.65
53:27:542:G:H2'	53:27:543:U:C6	2.32	0.65
54:28:141:G:H3'	54:28:142:A:O4'	1.96	0.65
54:28:635:C:H2'	54:28:636:G:C8	2.32	0.65
54:28:2273:A:H2'	54:28:2274:A:C8	2.31	0.65
10:J:16:TYR:CD1	10:J:140:LEU:HB2	2.31	0.65
12:L:86:GLU:O	12:L:87:GLY:C	2.38	0.65
40:14:112:ARG:HE	45:19:100:TRP:NE1	1.95	0.65
43:17:49:ARG:HH12	53:27:523:A:N6	1.94	0.65
45:19:16:ALA:HA	45:19:54:SER:O	1.96	0.65
51:25:2:ASN:HB3	53:27:332:G:OP2	1.96	0.65
53:27:323:U:H2'	53:27:324:G:O4'	1.96	0.65
53:27:952:U:H2'	53:27:953:G:H8	1.62	0.65
54:28:5:A:H2'	54:28:6:A:C8	2.32	0.65
54:28:466:A:N3	54:28:683:U:H1'	2.12	0.65
54:28:1096:A:C3'	54:28:1097:U:H5''	2.26	0.65
21:U:31:GLY:O	21:U:66:VAL:HG23	1.96	0.65
21:U:47:PRO:CD	21:U:55:GLY:HA2	2.26	0.65
30:4:3:ARG:HG2	54:28:1613:G:H4'	1.79	0.65
53:27:229:U:H2'	53:27:230:G:C8	2.31	0.65
53:27:1486:G:H2'	53:27:1487:G:C8	2.32	0.65
54:28:851:C:H2'	54:28:852:U:H6	1.61	0.65
54:28:1936:A:H2	54:28:1943:U:H3	1.42	0.65
54:28:2286:G:H5''	54:28:2287:A:OP1	1.97	0.65
54:28:2698:U:H2'	54:28:2699:C:C6	2.31	0.65
2:B:48:ILE:HD11	2:B:51:ARG:HA	1.78	0.64
5:E:42:ALA:HB2	5:E:49:LEU:HB2	1.79	0.64
6:F:51:PHE:CZ	6:F:71:LEU:HD22	2.32	0.64
9:I:110:GLN:O	9:I:113:ALA:HB3	1.96	0.64
15:O:35:ILE:HG22	15:O:53:THR:HG23	1.79	0.64
33:7:22:TRP:CZ3	33:7:24:PRO:HA	2.32	0.64
39:13:83:ARG:NH2	53:27:644:U:H4'	2.12	0.64
50:24:5:LYS:HD2	50:24:6:LYS:HZ3	1.61	0.64
53:27:1030:U:H2'	53:27:1031:C:H5'	1.78	0.64
54:28:644:A:H2'	54:28:645:C:C4'	2.27	0.64
54:28:814:C:H1'	54:28:1225:G:H21	1.61	0.64
54:28:1821:A:H2'	54:28:1822:C:H6	1.62	0.64
54:28:2704:C:H2'	54:28:2705:A:O4'	1.96	0.64
4:D:186:VAL:O	4:D:186:VAL:HG12	1.95	0.64
16:P:92:ARG:HD3	54:28:1753:G:H5''	1.78	0.64
30:4:31:LEU:HG	30:4:42:LEU:HD21	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:23:17:VAL:HG13	49:23:18:GLN:HG2	1.79	0.64
53:27:530:G:H2'	53:27:530:G:N3	2.11	0.64
54:28:1081:U:H2'	54:28:1082:U:C6	2.31	0.64
54:28:1821:A:H2'	54:28:1822:C:C6	2.32	0.64
54:28:2331:G:H2'	54:28:2332:C:C6	2.31	0.64
56:30:8:A:H2'	56:30:9:G:C8	2.33	0.64
2:B:74:PRO:HB3	2:B:114:GLN:HE21	1.62	0.64
4:D:162:ARG:NH1	54:28:321:U:O3'	2.30	0.64
7:G:100:ALA:HB2	7:G:115:VAL:HG21	1.79	0.64
8:H:94:ARG:CB	8:H:97:LYS:HE2	2.27	0.64
53:27:1052:U:H2'	53:27:1200:C:N4	2.12	0.64
54:28:1669:A:H5''	54:28:2550:G:OP1	1.98	0.64
2:B:42:ARG:NH1	54:28:690:G:H21	1.96	0.64
2:B:51:ARG:HG3	2:B:52:HIS:HD1	1.61	0.64
13:M:69:PRO:HA	13:M:94:ALA:HB2	1.79	0.64
22:V:42:LEU:HD13	22:V:47:VAL:HG21	1.80	0.64
53:27:687:A:H2'	53:27:701:U:O4	1.97	0.64
53:27:865:A:H2'	53:27:866:C:C6	2.33	0.64
54:28:138:U:H3'	54:28:139:U:C5'	2.27	0.64
54:28:172:A:H2'	54:28:173:A:C8	2.32	0.64
54:28:1826:G:H2'	54:28:1827:U:H6	1.62	0.64
8:H:82:ILE:HG22	8:H:83:ALA:H	1.62	0.64
46:20:50:HIS:ND1	53:27:667:G:H4'	2.11	0.64
51:25:4:LYS:NZ	53:27:61:G:P	2.69	0.64
53:27:381:C:H2'	53:27:382:A:O4'	1.96	0.64
53:27:1029:U:H1'	53:27:1033:G:H22	1.60	0.64
54:28:591:U:H2'	54:28:592:A:C8	2.33	0.64
2:B:145:MET:SD	2:B:153:LEU:HD11	2.37	0.64
11:K:70:ARG:NH1	54:28:2684:U:O4'	2.31	0.64
16:P:38:ARG:HG3	16:P:38:ARG:NH2	2.11	0.64
35:9:36:ALA:N	35:9:37:PRO:HD3	2.12	0.64
45:19:80:ARG:O	45:19:83:VAL:HG12	1.97	0.64
52:26:29:ALA:HA	52:26:32:ARG:HD3	1.79	0.64
53:27:225:C:H3'	53:27:226:G:H5''	1.78	0.64
53:27:744:C:H2'	53:27:745:G:C8	2.33	0.64
54:28:5:A:H2'	54:28:6:A:H8	1.62	0.64
54:28:1080:A:O2'	54:28:1081:U:H5'	1.97	0.64
57:31:16:C:O2'	57:31:17:C:H5'	1.97	0.64
2:B:7:PRO:HB3	2:B:13:ARG:HG3	1.80	0.64
6:F:157:LYS:HB2	6:F:159:LYS:HG3	1.80	0.64
7:G:41:LYS:HD2	7:G:44:ILE:HD12	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:110:PRO:O	10:J:115:GLY:HA3	1.97	0.64
15:O:30:ARG:HH11	15:O:102:ARG:HH11	1.45	0.64
33:7:68:PHE:HE1	33:7:216:VAL:HG11	1.62	0.64
33:7:103:TRP:CH2	33:7:107:ARG:HD3	2.33	0.64
36:10:98:ALA:HB2	36:10:123:LEU:HG	1.79	0.64
38:12:102:TRP:CH2	38:12:140:VAL:HG21	2.33	0.64
53:27:692:U:H2'	53:27:694:A:OP2	1.98	0.64
54:28:2524:G:H2'	54:28:2525:G:H5''	1.79	0.64
2:B:52:HIS:HA	2:B:216:ARG:HB2	1.80	0.64
21:U:6:ARG:O	21:U:24:VAL:HB	1.97	0.64
53:27:593:U:H2'	53:27:594:U:C6	2.33	0.64
54:28:2196:C:O2'	54:28:2197:U:H5'	1.97	0.64
21:U:73:ASN:HA	21:U:95:PHE:CE1	2.31	0.64
36:10:38:VAL:HG22	36:10:66:ALA:HB1	1.80	0.64
41:15:76:ILE:HG21	41:15:83:THR:HG21	1.80	0.64
53:27:88:U:H2'	53:27:89:U:C6	2.32	0.64
54:28:181:A:H2'	54:28:182:A:H8	1.60	0.64
54:28:1199:U:H2'	54:28:1200:C:C6	2.32	0.64
54:28:1683:U:H2'	54:28:1684:G:C8	2.33	0.64
54:28:2600:A:H2'	54:28:2601:C:C6	2.33	0.64
58:32:70:G:H2'	58:32:71:C:O4'	1.98	0.64
14:N:47:VAL:O	14:N:50:PRO:HD2	1.98	0.64
19:S:10:ALA:HB3	19:S:101:SER:O	1.98	0.64
42:16:22:ILE:HG22	42:16:22:ILE:O	1.97	0.64
53:27:285:C:H2'	53:27:286:C:H6	1.63	0.64
53:27:337:G:H2'	53:27:338:A:H8	1.60	0.64
53:27:620:C:H2'	53:27:621:A:O4'	1.97	0.64
54:28:2861:U:H2'	54:28:2862:G:C8	2.32	0.64
57:31:25:C:H2'	57:31:26:G:O4'	1.97	0.64
1:A:640:GLN:NE2	54:28:883:G:H21	1.95	0.63
17:Q:1:ALA:N	54:28:1248:G:OP1	2.31	0.63
20:T:90:GLY:O	20:T:92:ASN:ND2	2.31	0.63
34:8:6:PRO:HB3	34:8:10:ARG:HH22	1.63	0.63
35:9:137:SER:HB3	35:9:140:ASP:OD2	1.98	0.63
47:21:23:ASP:OD2	47:21:25:ARG:HB2	1.99	0.63
53:27:742:G:H2'	53:27:743:A:H8	1.61	0.63
54:28:616:A:H2'	54:28:617:G:O4'	1.97	0.63
54:28:1190:G:H2'	54:28:1191:G:C8	2.33	0.63
54:28:2228:G:H2'	54:28:2229:U:C6	2.33	0.63
58:32:46:A:C3'	58:32:47:U:H5''	2.28	0.63
7:G:1:MET:O	7:G:20:ASN:HA	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:5:PHE:O	18:R:11:GLN:HA	1.99	0.63
21:U:97:SER:C	21:U:99:SER:H	2.06	0.63
54:28:1777:U:O2'	54:28:1778:U:H5'	1.98	0.63
54:28:2291:U:H2'	54:28:2292:U:C6	2.33	0.63
54:28:2898:U:H2'	54:28:2899:A:C8	2.33	0.63
2:B:224:MET:O	2:B:232:GLY:HA3	1.99	0.63
4:D:83:VAL:O	4:D:85:PHE:N	2.31	0.63
5:E:142:TYR:O	5:E:145:VAL:HG22	1.99	0.63
18:R:68:ARG:HB2	18:R:90:ARG:HH21	1.63	0.63
35:9:169:TRP:CD1	35:9:185:PRO:HG3	2.33	0.63
47:21:22:ALA:HA	47:21:33:ILE:HD12	1.78	0.63
53:27:946:A:H2'	53:27:947:G:C8	2.33	0.63
53:27:1201:A:H4'	53:27:1203:C:OP2	1.98	0.63
54:28:718:A:H2'	54:28:719:C:H5'	1.80	0.63
54:28:1127:A:C2'	54:28:1128:G:H5''	2.28	0.63
54:28:2419:U:H2'	54:28:2420:C:C6	2.33	0.63
8:H:81:LEU:HA	54:28:1107:G:H4'	1.79	0.63
17:Q:36:GLN:HE21	54:28:1252:G:H1	1.47	0.63
28:2:8:THR:HG22	54:28:2020:A:H5'	1.81	0.63
34:8:39:ARG:HG3	34:8:54:ILE:HD11	1.79	0.63
34:8:110:LEU:HG	34:8:143:LEU:HD23	1.80	0.63
35:9:106:PHE:CD1	35:9:144:ILE:HD11	2.33	0.63
53:27:49:U:O2'	53:27:50:A:H2'	1.98	0.63
53:27:1023:U:H2'	53:27:1024:G:H8	1.63	0.63
4:D:69:ARG:HE	54:28:674:G:H1'	1.62	0.63
7:G:6:LEU:HD11	7:G:37:VAL:HG23	1.78	0.63
37:11:3:HIS:HB2	37:11:92:THR:HA	1.78	0.63
40:14:11:ARG:HH22	40:14:108:ARG:HH21	1.46	0.63
46:20:23:SER:HB3	46:20:26:VAL:HG23	1.80	0.63
51:25:34:VAL:HG11	51:25:78:LEU:HD21	1.80	0.63
53:27:162:A:H2'	53:27:163:C:O4'	1.99	0.63
53:27:1333:A:H2'	53:27:1334:G:O4'	1.99	0.63
54:28:282:A:H2'	54:28:283:G:C8	2.33	0.63
7:G:16:GLY:HA2	7:G:47:PHE:CZ	2.34	0.63
7:G:29:PHE:HB2	54:28:2198:A:N3	2.14	0.63
8:H:75:ALA:C	8:H:77:VAL:N	2.57	0.63
11:K:23:LYS:HZ3	54:28:2562:U:H1'	1.63	0.63
12:L:76:GLU:OE1	54:28:636:G:N1	2.28	0.63
21:U:87:GLU:O	21:U:88:ASP:HB3	1.97	0.63
28:2:54:ILE:HG23	28:2:56:LYS:H	1.64	0.63
41:15:91:ASP:CG	41:15:92:LEU:H	2.04	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:721:G:H4'	53:27:722:G:O4'	1.98	0.63
54:28:1149:G:H2'	54:28:1150:C:C6	2.32	0.63
54:28:1484:U:H2'	54:28:1485:U:C6	2.34	0.63
54:28:1534:U:H2'	54:28:1536:C:O4'	1.98	0.63
54:28:1908:C:H2'	54:28:1909:C:H6	1.62	0.63
54:28:2339:C:H2'	54:28:2340:A:C8	2.33	0.63
5:E:118:ALA:O	5:E:166:ARG:NH2	2.30	0.63
19:S:3:THR:HG21	19:S:58:ALA:HB2	1.80	0.63
43:17:50:LYS:HD2	43:17:50:LYS:N	2.13	0.63
44:18:100:ARG:NH2	53:27:950:U:H3'	2.12	0.63
47:21:46:LYS:HD2	53:27:617:G:H4'	1.80	0.63
53:27:312:C:H2'	53:27:313:A:C8	2.33	0.63
53:27:517:G:H2'	53:27:531:U:C5	2.34	0.63
53:27:1429:A:H2'	53:27:1430:A:C8	2.33	0.63
54:28:1410:G:H2'	54:28:1411:U:C6	2.34	0.63
54:28:1923:U:H2'	54:28:1924:C:C6	2.33	0.63
55:29:3:C:H3'	55:29:4:C:H5''	1.81	0.63
55:29:111:U:H2'	55:29:112:G:H8	1.64	0.63
15:O:80:GLU:O	15:O:84:GLU:HG3	1.99	0.63
18:R:14:VAL:CG2	18:R:98:ILE:HG13	2.28	0.63
21:U:9:GLU:HA	21:U:23:LYS:HA	1.81	0.63
33:7:53:LEU:HD23	33:7:56:LEU:HD12	1.81	0.63
43:17:28:GLN:HG3	43:17:80:LEU:HD21	1.80	0.63
52:26:50:SER:HA	52:26:53:LYS:HD2	1.80	0.63
53:27:184:G:H2'	53:27:185:U:C6	2.34	0.63
54:28:376:G:H2'	54:28:377:G:H8	1.64	0.63
54:28:1486:U:H2'	54:28:1487:U:C6	2.33	0.63
54:28:1801:A:H5''	54:28:2203:U:H2'	1.81	0.63
54:28:2193:G:H2'	54:28:2194:U:C6	2.33	0.63
54:28:2266:A:H4'	54:28:2267:A:N3	2.14	0.63
54:28:2561:U:C2'	54:28:2562:U:H5''	2.27	0.63
58:32:38:A:H2'	58:32:39:C:O4'	1.99	0.63
17:Q:80:ASN:CG	54:28:1151:A:H4'	2.23	0.63
53:27:113:G:H2'	53:27:114:U:C6	2.33	0.63
53:27:402:G:H4'	53:27:620:C:O2	1.99	0.63
53:27:531:U:H4'	53:27:532:A:H5''	1.80	0.63
53:27:744:C:H2'	53:27:745:G:H8	1.64	0.63
54:28:161:A:H3'	54:28:162:U:H5''	1.80	0.63
54:28:170:U:H2'	54:28:171:U:C6	2.34	0.63
54:28:176:A:O2'	54:28:177:G:H5'	1.99	0.63
54:28:420:C:H2'	54:28:421:C:H6	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1444:G:H2'	54:28:1445:G:H8	1.63	0.63
54:28:1563:U:H2'	54:28:1564:C:C6	2.34	0.63
54:28:1675:C:H2'	54:28:1676:A:O4'	1.97	0.63
54:28:1721:G:H2'	54:28:1738:G:N2	2.14	0.63
54:28:2243:U:H2'	54:28:2244:U:C6	2.30	0.63
1:A:683:ILE:HD13	1:A:686:ILE:HD12	1.79	0.62
2:B:161:VAL:HG13	2:B:174:ARG:O	1.99	0.62
35:9:144:ILE:CD1	35:9:177:MET:HB3	2.27	0.62
39:13:49:LYS:HB2	39:13:59:GLU:HB3	1.81	0.62
53:27:562:U:H5	53:27:884:U:HO2'	1.47	0.62
53:27:580:C:H2'	53:27:581:G:O4'	1.99	0.62
53:27:672:U:H2'	53:27:673:A:C8	2.34	0.62
54:28:296:U:H2'	54:28:297:G:H8	1.64	0.62
4:D:44:ARG:HH22	54:28:1248:G:P	2.22	0.62
26:Z:40:THR:OG1	26:Z:41:PRO:HD2	1.99	0.62
33:7:9:LEU:HG	33:7:14:HIS:HE1	1.64	0.62
37:11:29:ILE:HG21	37:11:64:VAL:HG21	1.81	0.62
43:17:98:ARG:HH21	43:17:106:VAL:HA	1.64	0.62
54:28:288:U:H2'	54:28:289:G:C8	2.34	0.62
54:28:1810:A:H2'	54:28:1811:G:O4'	1.98	0.62
54:28:2075:U:H2'	54:28:2238:G:H22	1.64	0.62
54:28:2190:G:H2'	54:28:2191:A:C8	2.35	0.62
11:K:49:ARG:NH2	53:27:1422:G:O2'	2.31	0.62
12:L:110:VAL:HG21	12:L:127:VAL:HG22	1.81	0.62
53:27:1071:C:H2'	53:27:1072:G:C8	2.34	0.62
54:28:277:G:H3'	54:28:277:G:N3	2.15	0.62
54:28:1188:U:H2'	54:28:1189:A:H8	1.63	0.62
54:28:2025:C:H2'	54:28:2026:U:C6	2.34	0.62
19:S:77:ASP:OD1	19:S:102:HIS:HB2	1.98	0.62
33:7:65:LYS:O	33:7:66:ILE:HD13	1.99	0.62
36:10:156:ARG:C	36:10:158:LYS:H	2.08	0.62
43:17:71:HIS:HA	43:17:98:ARG:NH1	2.14	0.62
53:27:730:G:H2'	53:27:731:G:H5'	1.82	0.62
53:27:1524:C:H2'	53:27:1525:G:H8	1.63	0.62
54:28:946:C:H2'	54:28:947:A:H8	1.65	0.62
54:28:1370:C:H2'	54:28:1371:G:O4'	1.98	0.62
54:28:2508:G:N1	54:28:2580:U:H5	1.97	0.62
54:28:2853:C:H2'	54:28:2854:G:H8	1.63	0.62
7:G:23:ALA:HB1	7:G:27:ARG:HH21	1.64	0.62
8:H:8:LYS:HB2	54:28:1046:A:N1	2.14	0.62
8:H:61:ARG:HB2	54:28:1047:G:N7	2.13	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:33:ILE:HG22	23:W:34:VAL:HG23	1.82	0.62
27:1:16:CYS:SG	27:1:18:CYS:HB2	2.38	0.62
33:7:20:ARG:HG3	33:7:21:TYR:H	1.64	0.62
53:27:1413:A:H2	53:27:1487:G:H22	1.47	0.62
54:28:1278:C:H2'	54:28:1279:G:H8	1.64	0.62
54:28:2071:A:H2'	54:28:2072:C:C6	2.34	0.62
2:B:200:MET:HE3	53:27:773:G:H4'	1.80	0.62
9:I:93:ASN:CB	54:28:1077:A:H4'	2.17	0.62
16:P:23:ASP:HA	16:P:89:GLY:H	1.65	0.62
30:4:4:THR:O	54:28:687:C:H5''	2.00	0.62
32:6:1:MET:HE2	32:6:36:ARG:HB2	1.82	0.62
35:9:28:ASP:O	35:9:30:LYS:N	2.28	0.62
42:16:111:ASP:OD1	42:16:113:THR:HG23	1.99	0.62
43:17:25:ALA:HB1	53:27:554:A:H5'	1.79	0.62
43:17:68:GLY:O	53:27:521:G:H5'	2.00	0.62
53:27:516:U:H5	53:27:533:A:H62	1.43	0.62
53:27:1506:U:O2'	53:27:1507:A:H5'	1.99	0.62
54:28:1168:G:H2'	54:28:1169:A:C8	2.35	0.62
54:28:1809:A:H2'	54:28:1810:A:C8	2.34	0.62
4:D:148:ILE:HB	4:D:169:VAL:HG22	1.82	0.62
5:E:87:LYS:HD2	54:28:2313:C:H5''	1.82	0.62
10:J:113:PRO:HD3	54:28:529:A:OP2	1.99	0.62
11:K:63:VAL:HG22	11:K:83:ALA:O	2.00	0.62
17:Q:87:VAL:HA	18:R:49:ILE:HD11	1.82	0.62
28:2:46:GLY:HA3	28:2:54:ILE:HB	1.80	0.62
36:10:93:VAL:HG22	36:10:110:MET:HE1	1.82	0.62
36:10:104:ILE:HG23	36:10:104:ILE:O	1.99	0.62
45:19:39:ASP:HA	45:19:42:ASN:HD22	1.65	0.62
53:27:236:A:H2'	53:27:237:G:C8	2.35	0.62
53:27:418:C:H2'	53:27:419:C:C6	2.35	0.62
54:28:878:A:H3'	54:28:879:G:H8	1.65	0.62
54:28:2114:A:N6	54:28:2119:A:H61	1.97	0.62
54:28:2547:A:H2'	54:28:2548:U:C6	2.35	0.62
1:A:673:ALA:HA	1:A:734:ASP:O	2.00	0.62
11:K:24:VAL:HG13	11:K:33:ALA:HB2	1.81	0.62
15:O:56:LYS:O	15:O:60:GLU:HG3	1.99	0.62
16:P:84:SER:HB2	16:P:86:LYS:HZ1	1.63	0.62
28:2:38:LEU:HB2	28:2:41:HIS:HB2	1.81	0.62
43:17:41:PRO:HG3	43:17:49:ARG:HG2	1.80	0.62
53:27:784:A:H2'	53:27:785:G:C8	2.34	0.62
53:27:894:G:H2'	53:27:895:G:C8	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1388:C:H2'	53:27:1389:C:H6	1.63	0.62
54:28:1386:C:H2'	54:28:1387:A:H8	1.64	0.62
54:28:1659:G:C2'	54:28:1660:G:H5''	2.29	0.62
54:28:1808:A:H3'	54:28:1809:A:H8	1.65	0.62
4:D:126:VAL:O	4:D:156:ASN:ND2	2.32	0.62
10:J:30:THR:HG21	54:28:1005:C:O2'	1.99	0.62
20:T:59:ASN:HB2	20:T:84:TYR:HB2	1.80	0.62
32:6:36:ARG:HG2	32:6:37:GLN:N	2.13	0.62
36:10:153:ALA:O	36:10:158:LYS:HA	1.99	0.62
38:12:131:GLY:O	38:12:134:VAL:HG22	1.99	0.62
54:28:214:G:H2'	54:28:215:G:C8	2.35	0.62
54:28:1744:A:H3'	54:28:1745:A:H8	1.62	0.62
54:28:1946:U:H2'	54:28:1947:C:C6	2.35	0.62
6:F:27:GLY:HA3	6:F:78:VAL:HB	1.82	0.62
8:H:57:ASN:CG	8:H:63:ALA:HB2	2.24	0.62
15:O:24:THR:HG22	15:O:42:PRO:HD3	1.82	0.62
30:4:4:THR:CG2	54:28:789:A:H5'	2.30	0.62
35:9:4:LEU:HD12	35:9:4:LEU:O	2.00	0.62
35:9:37:PRO:HD2	35:9:41:GLY:CA	2.30	0.62
35:9:196:GLU:HA	35:9:199:ILE:HD13	1.82	0.62
53:27:1004:A:H2'	53:27:1005:A:O4'	1.99	0.62
53:27:1211:U:H4'	53:27:1213:A:H1'	1.82	0.62
53:27:1388:C:H2'	53:27:1389:C:C6	2.35	0.62
54:28:394:C:H2'	54:28:395:U:O4'	1.99	0.62
54:28:2637:U:H2'	54:28:2638:G:O4'	1.99	0.62
33:7:162:VAL:HG12	33:7:164:ASP:H	1.64	0.61
34:8:155:ARG:O	34:8:156:LEU:C	2.43	0.61
37:11:9:MET:HG3	37:11:85:ILE:HG23	1.82	0.61
50:24:49:ALA:HA	50:24:58:PRO:HA	1.81	0.61
53:27:149:A:H1'	53:27:1446:A:C2	2.35	0.61
53:27:1491:G:C2'	53:27:1492:A:H5''	2.29	0.61
54:28:310:A:H2'	54:28:311:A:H5''	1.80	0.61
54:28:596:U:H2'	54:28:597:G:H8	1.65	0.61
54:28:634:C:H2'	54:28:635:C:H6	1.63	0.61
54:28:2146:C:H4'	54:28:2147:A:C5	2.35	0.61
58:32:19:G:P	58:32:60:U:H3	2.22	0.61
4:D:78:TRP:CE3	54:28:1257:C:H4'	2.35	0.61
22:V:46:LYS:O	22:V:50:MET:HG2	2.00	0.61
53:27:285:C:H2'	53:27:286:C:C6	2.35	0.61
53:27:335:C:H2'	53:27:336:A:H8	1.65	0.61
54:28:119:A:H4'	54:28:120:U:H5'	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:127:A:H5''	54:28:128:C:O4'	1.99	0.61
54:28:554:U:H2'	54:28:555:G:O4'	2.00	0.61
54:28:1023:U:H4'	54:28:1123:C:OP1	2.00	0.61
54:28:1999:C:H5''	54:28:2723:C:O2'	2.00	0.61
54:28:2853:C:H2'	54:28:2854:G:C8	2.34	0.61
3:C:8:LYS:HB2	3:C:201:LEU:HD11	1.81	0.61
6:F:41:GLU:HB2	6:F:54:ARG:HB2	1.81	0.61
9:I:96:LYS:HA	9:I:136:GLY:O	2.00	0.61
23:W:51:ARG:NH1	54:28:2364:C:OP1	2.33	0.61
42:16:82:GLU:HG3	42:16:108:ASN:OD1	1.99	0.61
48:22:61:ARG:HG3	48:22:75:VAL:HG22	1.81	0.61
49:23:38:ILE:HG13	49:23:62:ARG:NH2	2.15	0.61
53:27:513:C:H2'	53:27:514:C:C6	2.34	0.61
53:27:1427:C:H2'	53:27:1428:A:C8	2.34	0.61
54:28:814:C:H1'	54:28:1225:G:N2	2.15	0.61
54:28:998:C:H2'	54:28:999:U:O4'	2.01	0.61
54:28:2111:U:H1'	54:28:2118:U:H4'	1.82	0.61
1:A:598:VAL:HG23	1:A:658:GLY:CA	2.30	0.61
2:B:83:ASP:OD2	2:B:86:ARG:NH1	2.33	0.61
34:8:68:HIS:HA	34:8:103:ALA:O	2.00	0.61
43:17:49:ARG:HH22	53:27:522:C:H41	1.48	0.61
45:19:53:ASP:HA	45:19:58:ARG:HD3	1.81	0.61
46:20:88:ARG:NH2	54:28:716:A:OP1	2.33	0.61
50:24:39:ILE:HG23	50:24:43:MET:HE2	1.81	0.61
53:27:517:G:H2'	53:27:531:U:H5	1.64	0.61
54:28:215:G:C4'	54:28:216:A:H4'	2.31	0.61
54:28:225:C:H2'	54:28:226:A:O4'	2.01	0.61
54:28:876:C:H2'	54:28:877:A:O4'	2.00	0.61
54:28:1441:G:H2'	54:28:1442:U:C6	2.35	0.61
54:28:1565:C:O2'	54:28:1566:A:H8	1.82	0.61
3:C:152:PRO:O	3:C:154:LYS:N	2.33	0.61
12:L:65:GLY:HA2	54:28:2415:G:O3'	2.00	0.61
14:N:77:ALA:O	14:N:81:ASN:HB2	1.99	0.61
38:12:113:LYS:HB3	53:27:1297:G:H21	1.65	0.61
49:23:37:LYS:HG2	53:27:719:C:O2'	2.01	0.61
53:27:672:U:H2'	53:27:673:A:H8	1.66	0.61
53:27:1530:G:H2'	53:27:1531:A:H8	1.64	0.61
54:28:635:C:H2'	54:28:636:G:H8	1.64	0.61
54:28:1570:A:H2'	54:28:1571:A:C8	2.36	0.61
55:29:75:G:H2'	55:29:76:G:H8	1.65	0.61
31:5:34:LYS:HD2	54:28:2391:G:OP2	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:14:113:LYS:HG3	40:14:119:LYS:HA	1.82	0.61
44:18:7:ASN:OD1	44:18:9:PRO:HD2	2.00	0.61
53:27:946:A:H2'	53:27:947:G:H8	1.64	0.61
53:27:1171:A:H2'	53:27:1172:C:C6	2.35	0.61
53:27:1219:A:H2'	53:27:1220:G:C8	2.35	0.61
53:27:1251:A:H2'	53:27:1252:A:C8	2.36	0.61
54:28:277:G:H4'	54:28:278:A:N7	2.15	0.61
54:28:346:A:C2	54:28:347:A:H1'	2.36	0.61
13:M:40:ARG:HD2	54:28:958:U:C4	2.35	0.61
36:10:61:LYS:NZ	53:27:1073:U:OP2	2.33	0.61
47:21:6:LEU:HD22	47:21:17:TYR:HB3	1.82	0.61
52:26:36:PHE:HB3	52:26:40:PRO:HD3	1.81	0.61
53:27:909:A:H2'	53:27:910:C:O4'	2.00	0.61
53:27:1256:A:H1'	53:27:1258:G:C8	2.36	0.61
53:27:1306:A:H62	53:27:1331:G:H1'	1.63	0.61
54:28:538:A:H2'	54:28:539:G:O4'	2.00	0.61
54:28:1363:C:H2'	54:28:1364:G:H8	1.64	0.61
54:28:1785:A:OP2	54:28:1982:U:H5'	2.01	0.61
33:7:98:GLY:O	33:7:102:ASN:HB3	2.01	0.61
42:16:126:ARG:NH2	53:27:692:U:H5''	2.16	0.61
51:25:4:LYS:O	51:25:7:LYS:HG2	2.01	0.61
53:27:476:U:H2'	53:27:477:C:C6	2.36	0.61
53:27:1347:G:H22	53:27:1373:G:H2'	1.62	0.61
54:28:310:A:O2'	54:28:311:A:H5''	2.00	0.61
54:28:720:U:H2'	54:28:721:A:H8	1.62	0.61
54:28:991:C:H5'	54:28:1185:G:H2'	1.83	0.61
54:28:2241:A:H2'	54:28:2242:G:C8	2.35	0.61
5:E:94:ARG:HE	27:1:1:MET:HE1	1.65	0.61
5:E:169:LEU:HD22	5:E:174:PHE:HE2	1.65	0.61
16:P:51:ASN:O	16:P:52:ARG:NH1	2.32	0.61
31:5:14:LYS:HD3	31:5:22:LYS:HE2	1.82	0.61
53:27:512:U:H2'	53:27:513:C:C6	2.36	0.61
53:27:981:U:H2'	53:27:982:U:C5	2.36	0.61
53:27:1014:A:C2	53:27:1219:A:H1'	2.35	0.61
53:27:1248:A:H2'	53:27:1249:C:C6	2.35	0.61
54:28:236:C:H2'	54:28:237:C:C6	2.35	0.61
54:28:783:A:H2'	54:28:784:G:H5'	1.82	0.61
54:28:871:U:H2'	54:28:872:U:C6	2.36	0.61
54:28:2121:G:H2'	54:28:2122:U:O4'	2.01	0.61
5:E:16:MET:HE1	5:E:21:TYR:O	2.01	0.61
7:G:78:VAL:HG21	7:G:103:VAL:HG22	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:64:ARG:NE	16:P:67:GLU:OE2	2.34	0.61
12:L:82:LEU:HD11	12:L:90:VAL:HG21	1.82	0.61
51:25:9:ARG:NH2	53:27:107:G:N7	2.49	0.61
53:27:1283:U:H2'	53:27:1284:C:C6	2.35	0.61
53:27:1342:C:H2'	53:27:1343:G:H8	1.64	0.61
55:29:13:G:H21	55:29:16:G:H1'	1.65	0.61
2:B:164:VAL:CG2	2:B:174:ARG:HB2	2.30	0.60
22:V:44:HIS:NE2	22:V:85:LYS:HB2	2.16	0.60
23:W:56:PHE:CZ	54:28:2365:G:H4'	2.36	0.60
53:27:604:G:H2'	53:27:605:U:O4'	2.00	0.60
54:28:665:U:H2'	54:28:666:A:C8	2.35	0.60
54:28:690:G:H2'	54:28:691:C:H6	1.66	0.60
54:28:1851:U:H2'	54:28:1852:U:O4'	2.01	0.60
54:28:2066:C:H2'	54:28:2067:G:C8	2.36	0.60
54:28:2249:U:H3'	54:28:2250:G:H5'	1.83	0.60
8:H:100:ALA:HA	8:H:113:PHE:CD2	2.36	0.60
20:T:48:GLN:O	20:T:52:GLU:HA	2.01	0.60
24:X:18:SER:HB3	24:X:22:ASN:HB2	1.84	0.60
24:X:61:LYS:HE3	54:28:372:G:OP2	2.01	0.60
37:11:85:ILE:HG23	37:11:85:ILE:O	2.02	0.60
40:14:119:LYS:HE3	53:27:1350:A:OP2	2.01	0.60
41:15:40:ILE:CD1	53:27:1124:G:H4'	2.30	0.60
44:18:24:VAL:HA	53:27:1329:A:H5'	1.83	0.60
51:25:53:MET:O	51:25:56:ILE:HG22	2.01	0.60
53:27:747:A:H2'	53:27:748:G:O4'	2.01	0.60
54:28:758:C:O2	54:28:758:C:H2'	2.00	0.60
54:28:891:G:H2'	54:28:892:A:H8	1.64	0.60
54:28:1506:U:H2'	54:28:1507:C:C6	2.36	0.60
54:28:1993:U:H2'	54:28:1994:C:H6	1.65	0.60
58:32:31:G:H2'	58:32:32:C:H5'	1.82	0.60
5:E:68:LYS:NZ	55:29:41:G:H1	1.99	0.60
8:H:54:VAL:O	8:H:54:VAL:HG13	2.01	0.60
9:I:36:GLU:HB3	9:I:66:PHE:CE2	2.36	0.60
40:14:32:ARG:HA	40:14:36:GLN:HE21	1.66	0.60
50:24:10:ILE:HG21	50:24:40:PHE:CE2	2.36	0.60
53:27:707:U:H2'	53:27:708:C:C6	2.36	0.60
54:28:419:U:H2'	54:28:420:C:H6	1.66	0.60
54:28:2217:G:O2'	54:28:2218:G:H5'	2.02	0.60
54:28:2393:U:H2'	54:28:2394:C:C6	2.37	0.60
54:28:2555:U:H2'	54:28:2556:C:H5'	1.83	0.60
54:28:2619:C:H2'	54:28:2620:C:C6	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:79:LEU:O	14:N:80:PHE:HB2	2.00	0.60
20:T:57:VAL:HG12	20:T:86:THR:OG1	2.02	0.60
43:17:2:THR:HG22	43:17:5:GLN:H	1.67	0.60
53:27:560:A:H4'	53:27:561:U:H5'	1.83	0.60
54:28:1138:G:H2'	54:28:1139:G:O4'	2.01	0.60
54:28:1597:A:H5''	54:28:1598:A:H5'	1.84	0.60
58:32:1:C:H1'	58:32:72:A:N1	2.16	0.60
3:C:46:ARG:HG2	3:C:84:LEU:HD12	1.84	0.60
4:D:164:LEU:O	4:D:166:LYS:N	2.34	0.60
31:5:57:VAL:HA	31:5:60:CYS:SG	2.42	0.60
52:26:3:ILE:HD11	52:26:22:CYS:SG	2.41	0.60
53:27:131:A:H2'	53:27:132:C:H6	1.66	0.60
53:27:678:U:H2'	53:27:679:C:C6	2.36	0.60
53:27:1033:G:C2'	53:27:1034:G:H5'	2.31	0.60
54:28:167:A:C2	54:28:168:G:H1'	2.36	0.60
54:28:672:C:O2'	54:28:673:C:H5'	2.01	0.60
54:28:1440:U:H2'	54:28:1441:G:C8	2.36	0.60
54:28:1447:C:H2'	54:28:1448:G:C8	2.36	0.60
54:28:1684:G:H2'	54:28:1685:C:C6	2.36	0.60
54:28:1778:U:H2'	54:28:1784:A:N6	2.17	0.60
54:28:1902:C:H2'	54:28:1903:G:O4'	2.01	0.60
54:28:2262:U:H2'	54:28:2263:C:H6	1.67	0.60
56:30:17:U:H2'	56:30:18:G:C8	2.37	0.60
58:32:43:A:H2'	58:32:44:A:C8	2.36	0.60
1:A:634:HIS:HE1	1:A:638:CYS:SG	2.25	0.60
4:D:57:LYS:HE3	4:D:59:PRO:HA	1.83	0.60
6:F:90:GLY:HA3	6:F:93:TYR:CD2	2.36	0.60
6:F:153:PRO:HG3	6:F:161:VAL:O	2.02	0.60
11:K:108:ARG:HG3	11:K:113:MET:HE1	1.83	0.60
16:P:83:ILE:O	16:P:83:ILE:HG22	2.00	0.60
33:7:20:ARG:HG3	33:7:21:TYR:N	2.16	0.60
33:7:101:THR:HG23	53:27:1074:G:O2'	2.02	0.60
38:12:38:ALA:HA	38:12:41:ILE:HD12	1.82	0.60
41:15:8:ILE:HG12	41:15:100:ILE:HG22	1.82	0.60
47:21:19:VAL:HG12	47:21:37:GLY:C	2.27	0.60
50:24:52:ASN:ND2	50:24:55:GLN:HB2	2.17	0.60
53:27:598:U:H2'	53:27:599:C:C6	2.37	0.60
53:27:1144:G:N2	53:27:1146:A:H62	1.99	0.60
54:28:161:A:N7	54:28:162:U:H5	1.99	0.60
54:28:741:U:H2'	54:28:742:A:C8	2.36	0.60
58:32:34:C:H3'	58:32:35:A:H5''	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:42:ARG:HG2	2:B:48:ILE:HA	1.83	0.60
8:H:37:LYS:HE2	54:28:1086:A:H62	1.66	0.60
14:N:53:THR:OG1	54:28:2840:C:H5''	2.02	0.60
29:3:20:TYR:OH	54:28:2348:U:H5'	2.02	0.60
33:7:101:THR:HG22	33:7:174:GLU:CD	2.26	0.60
37:11:29:ILE:HG22	37:11:34:GLY:CA	2.32	0.60
49:23:13:THR:HG21	49:23:20:ILE:HD11	1.83	0.60
52:26:37:TYR:O	52:26:40:PRO:HD2	2.01	0.60
53:27:542:G:H2'	53:27:543:U:H6	1.64	0.60
54:28:20:C:H2'	54:28:21:A:H8	1.67	0.60
54:28:1702:G:H2'	54:28:1703:G:C5'	2.27	0.60
54:28:2732:G:O2'	54:28:2733:A:H5'	2.01	0.60
5:E:130:GLY:HA3	54:28:2305:U:H5''	1.83	0.60
8:H:11:ILE:HD12	8:H:66:GLY:HA3	1.84	0.60
33:7:94:ARG:HE	53:27:1100:C:P	2.25	0.60
33:7:181:PRO:HA	33:7:196:ASP:OD2	2.02	0.60
35:9:117:VAL:HG12	35:9:130:ASN:O	2.01	0.60
40:14:56:MET:HG3	40:14:57:VAL:N	2.15	0.60
43:17:2:THR:HG21	43:17:5:GLN:HG3	1.84	0.60
43:17:4:ASN:ND2	53:27:880:C:OP1	2.35	0.60
45:19:72:PHE:CZ	45:19:77:GLY:HA2	2.36	0.60
50:24:77:ARG:HD2	53:27:1225:A:H1'	1.84	0.60
54:28:660:C:H2'	54:28:661:A:C8	2.36	0.60
54:28:884:U:O2	54:28:892:A:H2	1.85	0.60
54:28:1020:A:H1'	54:28:1021:A:OP2	2.01	0.60
54:28:1444:G:H2'	54:28:1445:G:C8	2.37	0.60
9:I:100:ILE:O	9:I:140:GLU:O	2.20	0.60
39:13:106:SER:HA	53:27:642:A:N7	2.17	0.60
50:24:10:ILE:HG12	50:24:40:PHE:HE2	1.67	0.60
53:27:171:A:H2'	53:27:172:A:C8	2.36	0.60
53:27:270:A:H2'	53:27:271:C:C6	2.37	0.60
53:27:701:U:C5'	53:27:703:G:H1'	2.29	0.60
53:27:1105:A:H2'	53:27:1106:G:H8	1.66	0.60
53:27:1314:C:H2'	53:27:1315:U:C6	2.37	0.60
54:28:535:G:H2'	54:28:536:G:O4'	2.02	0.60
54:28:872:U:H2'	54:28:873:C:C6	2.36	0.60
54:28:1161:C:H2'	54:28:1162:G:H8	1.67	0.60
1:A:640:GLN:HE21	54:28:883:G:H21	1.49	0.60
2:B:132:ARG:HH11	7:G:123:ARG:HH21	1.50	0.60
4:D:60:TRP:CZ2	4:D:70:SER:HA	2.37	0.60
5:E:130:GLY:HA2	5:E:152:ASP:HA	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:28:ASN:OD1	54:28:2199:A:H4'	2.01	0.60
15:O:100:HIS:HD2	55:29:48:U:H4'	1.67	0.60
16:P:52:ARG:NH1	54:28:2845:U:O3'	2.35	0.60
24:X:26:ARG:NH1	24:X:28:PHE:CE1	2.67	0.60
26:Z:9:THR:HG22	26:Z:53:MET:C	2.27	0.60
53:27:1301:U:O2	53:27:1301:U:H2'	2.02	0.60
54:28:445:C:O2'	54:28:446:G:H5'	2.02	0.60
54:28:2107:G:C2	54:28:2108:A:H1'	2.37	0.60
54:28:2259:U:H2'	54:28:2260:C:H6	1.67	0.60
1:A:616:ILE:HG12	1:A:740:ARG:HH12	1.66	0.59
23:W:16:ARG:HD3	54:28:2271:G:H5'	1.84	0.59
34:8:73:GLY:O	34:8:76:ILE:HG13	2.00	0.59
40:14:98:ARG:HG2	40:14:103:VAL:CG2	2.29	0.59
41:15:53:ILE:HG22	41:15:61:ALA:O	2.02	0.59
53:27:254:G:O2'	53:27:255:G:H5'	2.02	0.59
53:27:825:A:H2'	53:27:826:C:C6	2.37	0.59
53:27:1409:C:H2'	53:27:1410:A:H8	1.65	0.59
53:27:1436:U:H2'	53:27:1437:A:C8	2.36	0.59
54:28:692:C:H2'	54:28:693:A:C8	2.37	0.59
54:28:1843:C:H2'	54:28:1844:C:H6	1.67	0.59
54:28:2538:C:H2'	54:28:2539:C:C6	2.29	0.59
55:29:118:C:H2'	55:29:119:A:H8	1.67	0.59
3:C:25:THR:HG21	3:C:193:VAL:CG2	2.33	0.59
3:C:33:ARG:HD3	3:C:73:VAL:HB	1.84	0.59
4:D:5:LEU:CD2	4:D:122:GLU:HB3	2.33	0.59
4:D:84:THR:HG21	54:28:586:A:H5'	1.84	0.59
7:G:25:TYR:CD1	54:28:2094:A:H5'	2.37	0.59
15:O:29:HIS:CD2	55:29:7:G:H5''	2.38	0.59
39:13:88:LYS:HG3	53:27:600:A:H5''	1.83	0.59
48:22:20:ILE:HG23	48:22:45:VAL:HB	1.84	0.59
52:26:40:PRO:HA	52:26:43:GLU:HG2	1.84	0.59
53:27:666:G:H5'	53:27:726:C:H1'	1.83	0.59
53:27:922:G:H2'	53:27:923:A:C8	2.37	0.59
53:27:1331:G:HO2'	53:27:1332:A:H8	1.50	0.59
53:27:1366:C:H2'	53:27:1367:C:C6	2.37	0.59
53:27:1369:C:H2'	53:27:1370:G:C8	2.37	0.59
54:28:26:G:H1'	54:28:515:A:H61	1.67	0.59
54:28:236:C:H2'	54:28:237:C:H6	1.67	0.59
54:28:319:G:H2'	54:28:320:A:O4'	2.02	0.59
54:28:1856:U:H2'	54:28:1857:G:O4'	2.02	0.59
54:28:2582:G:O2'	54:28:2583:G:H5'	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:112:LEU:HA	4:D:115:GLN:HB2	1.84	0.59
18:R:80:ARG:NH1	54:28:571:U:H2'	2.17	0.59
31:5:30:HIS:HE2	54:28:2422:C:H41	1.50	0.59
40:14:37:TYR:O	40:14:38:PHE:HB3	2.02	0.59
42:16:109:ILE:HG22	52:26:16:ARG:NH1	2.17	0.59
54:28:46:G:H2'	54:28:47:C:H6	1.67	0.59
54:28:221:A:H2'	54:28:266:G:N7	2.17	0.59
54:28:310:A:O2'	54:28:311:A:H2'	2.02	0.59
54:28:1196:C:H2'	54:28:1197:G:H8	1.67	0.59
54:28:2047:C:H2'	54:28:2048:G:H8	1.66	0.59
54:28:2682:A:O2'	54:28:2683:C:H5'	2.02	0.59
54:28:2789:C:H2'	54:28:2893:A:N7	2.18	0.59
42:16:87:GLY:H	42:16:113:THR:HG22	1.67	0.59
43:17:49:ARG:HH12	53:27:523:A:H61	1.48	0.59
53:27:20:U:H2'	53:27:21:G:O4'	2.01	0.59
53:27:62:U:H2'	53:27:63:C:C6	2.37	0.59
54:28:859:G:H1'	54:28:860:U:C5	2.31	0.59
54:28:1060:U:H1'	54:28:1062:G:H5'	1.83	0.59
54:28:1316:U:H2'	54:28:1317:G:C8	2.37	0.59
54:28:1405:U:H2'	54:28:1406:U:C6	2.37	0.59
54:28:2007:U:H2'	54:28:2008:C:C6	2.37	0.59
54:28:2692:G:O2'	54:28:2693:G:H5'	2.01	0.59
4:D:76:PRO:HA	4:D:82:GLY:HA3	1.82	0.59
8:H:45:GLY:O	8:H:49:GLY:HA2	2.02	0.59
8:H:114:GLU:HA	8:H:123:ILE:HA	1.84	0.59
40:14:43:ALA:O	40:14:46:VAL:HG22	2.02	0.59
53:27:33:A:H2'	53:27:34:C:C6	2.36	0.59
53:27:339:C:H2'	53:27:340:U:C6	2.38	0.59
54:28:680:C:H2'	54:28:681:G:C8	2.37	0.59
54:28:856:G:H2'	54:28:857:G:C8	2.37	0.59
54:28:1076:C:H2'	54:28:1077:A:O4'	2.01	0.59
54:28:2075:U:H2'	54:28:2238:G:N2	2.18	0.59
54:28:2475:C:H2'	54:28:2476:A:H5'	1.83	0.59
54:28:2638:G:H1'	54:28:2778:A:N6	2.16	0.59
54:28:2788:C:H2'	54:28:2789:C:C6	2.38	0.59
4:D:162:ARG:NH1	54:28:340:A:O2'	2.35	0.59
7:G:22:LYS:HD2	54:28:2094:A:P	2.42	0.59
16:P:64:SER:N	16:P:67:GLU:O	2.35	0.59
19:S:62:ASP:O	19:S:64:ALA:N	2.36	0.59
35:9:191:SER:OG	35:9:194:ILE:HG12	2.02	0.59
42:16:87:GLY:O	42:16:92:ARG:NH2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:19:48:GLN:OE1	45:19:48:GLN:N	2.30	0.59
47:21:70:ARG:CG	53:27:375:U:OP1	2.50	0.59
51:25:61:ALA:HB1	51:25:68:LYS:HB2	1.83	0.59
53:27:406:G:H2'	53:27:407:U:C6	2.36	0.59
54:28:150:U:H2'	54:28:151:C:C6	2.36	0.59
54:28:277:G:H1'	54:28:361:G:C6	2.37	0.59
54:28:315:G:H2'	54:28:316:C:C6	2.38	0.59
54:28:950:G:H2'	54:28:951:C:C6	2.38	0.59
54:28:1056:G:H1'	54:28:1103:A:N6	2.18	0.59
54:28:1181:U:H2'	54:28:1182:G:H8	1.65	0.59
54:28:1683:U:H2'	54:28:1684:G:H8	1.67	0.59
12:L:111:ILE:HD11	54:28:636:G:C6	2.37	0.59
15:O:31:THR:HB	15:O:33:ARG:O	2.02	0.59
20:T:62:VAL:HG22	20:T:81:LYS:HB2	1.83	0.59
34:8:57:GLU:OE1	34:8:64:ARG:HD2	2.02	0.59
37:11:44:ARG:HA	37:11:58:HIS:HA	1.82	0.59
53:27:1142:G:H3'	53:27:1143:G:H8	1.67	0.59
53:27:1225:A:H5'	53:27:1226:C:OP2	2.03	0.59
53:27:1352:C:H2'	53:27:1353:G:H8	1.67	0.59
54:28:1111:A:H2'	54:28:1111:A:N3	2.18	0.59
54:28:1564:C:H2'	54:28:1565:C:C6	2.38	0.59
54:28:1827:U:H2'	54:28:1828:G:O4'	2.02	0.59
54:28:2464:G:H2'	54:28:2465:C:H6	1.68	0.59
54:28:2655:G:O2'	54:28:2656:U:C5	2.55	0.59
55:29:44:G:H1'	55:29:47:C:H42	1.67	0.59
9:I:54:ILE:HA	9:I:74:PRO:HD3	1.83	0.59
11:K:92:GLU:O	11:K:93:GLN:O	2.20	0.59
24:X:2:ARG:NH1	54:28:1364:G:H5''	2.18	0.59
37:11:38:ARG:NH2	37:11:98:GLU:OE1	2.35	0.59
45:19:48:GLN:HE21	50:24:9:PHE:HE1	1.50	0.59
53:27:309:A:H2'	53:27:310:G:H8	1.67	0.59
53:27:1202:U:H2'	53:27:1203:C:O4'	2.03	0.59
54:28:1201:U:H2'	54:28:1202:G:H8	1.67	0.59
16:P:113:LEU:HD12	16:P:113:LEU:O	2.03	0.59
23:W:40:LYS:HE3	54:28:2330:G:O2'	2.03	0.59
31:5:61:LEU:HD12	31:5:61:LEU:O	2.02	0.59
37:11:29:ILE:HG22	37:11:34:GLY:HA3	1.83	0.59
53:27:824:G:H2'	53:27:825:A:H8	1.67	0.59
53:27:1005:A:H2'	53:27:1006:G:O4'	2.02	0.59
53:27:1142:G:C2	53:27:1143:G:H1'	2.38	0.59
54:28:1089:A:H2	54:28:1090:A:H62	1.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1326:U:H2'	54:28:1327:A:H8	1.67	0.59
54:28:1702:G:C3'	54:28:1703:G:H5''	2.33	0.59
54:28:1900:A:O4'	54:28:1970:A:H5''	2.03	0.59
54:28:1972:G:H2'	54:28:1973:G:H8	1.68	0.59
2:B:15:VAL:HA	2:B:204:LEU:O	2.02	0.59
8:H:54:VAL:N	54:28:1084:A:OP1	2.35	0.59
16:P:26:GLU:HB3	16:P:84:SER:OG	2.02	0.59
38:12:113:LYS:HB3	53:27:1297:G:N2	2.17	0.59
43:17:8:ARG:NH2	53:27:759:A:H1'	2.18	0.59
53:27:514:C:H2'	53:27:515:G:H8	1.68	0.59
53:27:1035:A:H2'	53:27:1036:A:C8	2.38	0.59
54:28:1956:U:H2'	54:28:1957:C:H5'	1.83	0.59
54:28:2415:G:H2'	54:28:2416:C:C6	2.38	0.59
12:L:79:LEU:HD12	12:L:114:GLY:H	1.68	0.58
28:2:28:SER:OG	28:2:39:ARG:HD3	2.03	0.58
34:8:56:ILE:HG23	34:8:63:ILE:HD11	1.85	0.58
41:15:8:ILE:HD13	41:15:25:ILE:HD11	1.85	0.58
43:17:109:ARG:HH21	43:17:112:ALA:HB3	1.67	0.58
50:24:76:THR:HG21	53:27:1221:G:O3'	2.02	0.58
53:27:16:A:O2'	53:27:17:U:H5'	2.02	0.58
53:27:22:G:H5'	53:27:561:U:O2	2.03	0.58
53:27:952:U:H2'	53:27:953:G:C8	2.37	0.58
53:27:1316:G:N2	53:27:1318:A:H3'	2.18	0.58
54:28:669:G:H2'	54:28:669:G:N3	2.18	0.58
6:F:152:ARG:NH1	54:28:2743:U:O2'	2.36	0.58
8:H:56:ARG:HB3	54:28:1106:G:H4'	1.85	0.58
8:H:94:ARG:O	8:H:97:LYS:HG2	2.03	0.58
10:J:130:HIS:ND1	10:J:130:HIS:O	2.35	0.58
12:L:96:LYS:HD2	12:L:103:ILE:HA	1.85	0.58
14:N:37:THR:HG22	14:N:110:MET:HE1	1.85	0.58
17:Q:44:TYR:HD1	17:Q:47:ARG:HH11	1.51	0.58
23:W:17:LEU:HD21	23:W:37:ARG:HH21	1.66	0.58
35:9:125:ASN:HA	35:9:141:VAL:HG23	1.83	0.58
35:9:172:VAL:HG22	35:9:174:ALA:H	1.69	0.58
38:12:78:ARG:HB3	38:12:83:THR:HG22	1.85	0.58
54:28:449:A:H2'	54:28:450:G:O4'	2.02	0.58
54:28:613:A:H4'	54:28:614:A:C8	2.38	0.58
54:28:1183:U:H2'	54:28:1184:U:C6	2.38	0.58
54:28:1758:U:C5	54:28:2696:U:H5'	2.38	0.58
54:28:2512:C:H2'	54:28:2513:A:O4'	2.03	0.58
3:C:184:ARG:HG3	3:C:186:LEU:HG	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:70:LEU:O	6:F:74:MET:HG3	2.03	0.58
7:G:104:THR:HA	7:G:108:VAL:O	2.03	0.58
28:2:49:ARG:HG2	54:28:2884:U:C6	2.31	0.58
35:9:7:LYS:HE2	35:9:21:LYS:HB2	1.85	0.58
40:14:56:MET:O	40:14:59:LYS:HG2	2.03	0.58
42:16:28:ASN:HD21	42:16:56:LYS:HD2	1.68	0.58
43:17:2:THR:CG2	43:17:5:GLN:HG3	2.33	0.58
45:19:25:GLU:HA	45:19:28:ALA:HB3	1.85	0.58
50:24:13:HIS:NE2	53:27:1014:A:H4'	2.18	0.58
53:27:82:G:H2'	53:27:83:C:O4'	2.04	0.58
53:27:225:C:H2'	53:27:226:G:H5''	1.84	0.58
53:27:570:G:H1'	53:27:820:U:C4	2.38	0.58
53:27:783:C:H2'	53:27:784:A:H8	1.68	0.58
53:27:1037:C:H2'	53:27:1038:C:C6	2.39	0.58
53:27:1096:C:H2'	53:27:1097:C:C6	2.38	0.58
53:27:1236:A:H2'	53:27:1237:C:C6	2.39	0.58
53:27:1526:G:H2'	53:27:1527:U:H6	1.65	0.58
54:28:140:C:H3'	54:28:140:C:OP2	2.02	0.58
54:28:189:G:H2'	54:28:205:G:N2	2.18	0.58
54:28:1765:U:H2'	54:28:1766:G:C8	2.39	0.58
54:28:2231:U:H2'	54:28:2232:C:C6	2.39	0.58
54:28:2590:A:H2'	54:28:2591:C:H6	1.68	0.58
5:E:76:PHE:HE1	54:28:2308:G:C6	2.21	0.58
9:I:135:MET:HA	54:28:1063:G:H1'	1.85	0.58
21:U:15:GLY:HA2	54:28:309:A:H4'	1.84	0.58
33:7:94:ARG:HG3	53:27:1100:C:OP2	2.03	0.58
35:9:82:LYS:O	35:9:83:GLY:C	2.44	0.58
36:10:96:GLN:HB3	36:10:123:LEU:HB2	1.84	0.58
41:15:53:ILE:HG13	45:19:84:ARG:NE	2.19	0.58
54:28:779:U:H2'	54:28:780:G:C8	2.39	0.58
54:28:947:A:H2'	54:28:948:C:H6	1.67	0.58
54:28:1638:C:H5''	54:28:2710:C:O2'	2.02	0.58
54:28:2790:U:H5''	54:28:2791:G:OP1	2.02	0.58
1:A:624:PHE:HA	1:A:652:ILE:HG12	1.85	0.58
41:15:59:LYS:HE2	41:15:62:ARG:HH21	1.67	0.58
43:17:120:ARG:NH1	53:27:500:G:H5'	2.19	0.58
53:27:185:U:H2'	53:27:186:C:C6	2.39	0.58
53:27:325:A:H2'	53:27:326:G:O4'	2.03	0.58
53:27:608:A:H2'	53:27:609:A:O4'	2.04	0.58
53:27:755:G:H2'	53:27:756:C:H6	1.69	0.58
54:28:1775:U:C2'	54:28:1776:G:H5'	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2339:C:H2'	54:28:2340:A:H8	1.69	0.58
2:B:124:LYS:HB2	2:B:127:ASN:ND2	2.18	0.58
2:B:175:LEU:HD11	2:B:181:ARG:HH12	1.68	0.58
3:C:121:THR:HB	3:C:127:PHE:CD2	2.38	0.58
4:D:58:LYS:NZ	4:D:70:SER:HB2	2.17	0.58
12:L:18:ARG:HH22	54:28:1249:U:H2'	1.68	0.58
17:Q:5:ARG:NH1	54:28:585:G:N7	2.52	0.58
40:14:5:TYR:HB2	40:14:20:ILE:HG23	1.84	0.58
40:14:56:MET:HG3	40:14:57:VAL:H	1.68	0.58
53:27:131:A:H2'	53:27:132:C:C6	2.39	0.58
53:27:1070:U:H2'	53:27:1071:C:C6	2.39	0.58
53:27:1404:C:H2'	53:27:1405:G:C8	2.37	0.58
54:28:889:C:H2'	54:28:890:C:O4'	2.04	0.58
54:28:962:G:O2'	54:28:963:U:H5'	2.03	0.58
54:28:1590:A:H2'	54:28:1591:A:C8	2.38	0.58
54:28:1664:A:H61	54:28:1996:C:N4	1.99	0.58
54:28:2648:G:H2'	54:28:2649:C:H6	1.69	0.58
54:28:2650:U:H2'	54:28:2651:C:C6	2.38	0.58
8:H:4:ASN:ND2	54:28:1046:A:H2'	2.17	0.58
16:P:96:LEU:HB3	16:P:99:LEU:HD13	1.85	0.58
23:W:42:HIS:CD2	23:W:73:ARG:HD3	2.38	0.58
25:Y:16:THR:HG22	25:Y:20:ASN:HD21	1.68	0.58
35:9:101:VAL:HG13	35:9:106:PHE:HB2	1.85	0.58
38:12:56:SER:N	38:12:59:GLU:OE2	2.34	0.58
47:21:18:GLN:HE21	47:21:35:ARG:HE	1.50	0.58
54:28:53:A:H2'	54:28:54:G:O4'	2.03	0.58
54:28:288:U:H2'	54:28:289:G:H8	1.67	0.58
54:28:1656:C:H2'	54:28:1657:U:C6	2.37	0.58
54:28:1709:U:H2'	54:28:1710:G:C8	2.39	0.58
54:28:2643:G:H2'	54:28:2644:G:H8	1.69	0.58
54:28:2819:G:H2'	54:28:2821:A:N7	2.19	0.58
2:B:144:GLU:HG2	2:B:151:GLY:N	2.18	0.58
5:E:72:SER:HA	5:E:79:ARG:HA	1.85	0.58
9:I:18:ASN:H	9:I:19:PRO:HD2	1.69	0.58
9:I:57:VAL:HB	9:I:69:VAL:HB	1.86	0.58
36:10:80:LEU:HB3	36:10:97:PRO:HA	1.86	0.58
44:18:21:ILE:O	44:18:24:VAL:HG12	2.04	0.58
44:18:76:ILE:HG22	44:18:80:MET:HE2	1.85	0.58
53:27:390:U:H2'	53:27:391:G:C8	2.39	0.58
53:27:1254:A:H2'	53:27:1255:G:C8	2.38	0.58
54:28:443:A:H1'	54:28:1201:U:O4'	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1000:A:H2'	54:28:1001:A:C8	2.39	0.58
55:29:3:C:H2'	55:29:4:C:C5'	2.33	0.58
4:D:5:LEU:HD23	4:D:122:GLU:HB3	1.86	0.58
11:K:2:ILE:HD12	11:K:8:LEU:HD11	1.86	0.58
12:L:77:ILE:CD1	12:L:108:ALA:HB1	2.34	0.58
35:9:67:LEU:HD11	53:27:547:A:OP2	2.03	0.58
47:21:76:LYS:O	47:21:79:ASN:ND2	2.36	0.58
53:27:332:G:O2'	53:27:333:U:H5'	2.03	0.58
53:27:483:C:H2'	53:27:484:G:C8	2.39	0.58
54:28:289:G:H2'	54:28:290:U:O4'	2.04	0.58
54:28:356:G:H2'	54:28:357:C:C6	2.39	0.58
54:28:588:U:O4	54:28:670:A:H1'	2.03	0.58
54:28:849:A:H2'	54:28:850:U:C6	2.38	0.58
54:28:1590:A:H2'	54:28:1591:A:H8	1.67	0.58
54:28:1930:G:H2'	54:28:1968:G:H1	1.69	0.58
54:28:2115:G:H21	54:28:2119:A:N6	2.02	0.58
11:K:23:LYS:NZ	54:28:2562:U:H1'	2.19	0.58
24:X:36:ARG:N	54:28:2200:C:OP1	2.35	0.58
53:27:123:U:H5''	53:27:311:C:O2'	2.04	0.58
54:28:248:G:N3	54:28:2431:U:H4'	2.18	0.58
54:28:783:A:H2'	54:28:784:G:C5'	2.33	0.58
54:28:833:A:H2'	54:28:834:G:C8	2.39	0.58
54:28:999:U:O2'	54:28:1000:A:H5'	2.04	0.58
9:I:80:LYS:HA	9:I:85:ILE:HG13	1.86	0.57
11:K:22:ILE:HG13	11:K:40:LYS:O	2.03	0.57
12:L:78:ARG:HD3	54:28:626:A:C2	2.39	0.57
43:17:86:VAL:HG21	43:17:89:LEU:HB2	1.86	0.57
48:22:5:ARG:NH2	53:27:127:G:O3'	2.37	0.57
53:27:827:U:H2'	53:27:870:U:O4	2.03	0.57
53:27:1029:U:C2'	53:27:1031:C:H1'	2.33	0.57
53:27:1260:G:OP1	53:27:1284:C:H4'	2.04	0.57
54:28:167:A:H2'	54:28:168:G:O4'	2.04	0.57
54:28:308:G:H2'	54:28:309:A:C8	2.38	0.57
54:28:807:U:H1'	54:28:2445:G:OP1	2.04	0.57
54:28:909:A:H2'	54:28:912:C:C5	2.38	0.57
54:28:969:G:H2'	54:28:970:U:H6	1.67	0.57
54:28:1352:U:O2'	54:28:1353:A:H5'	2.03	0.57
54:28:1857:G:H2'	54:28:1884:G:N2	2.18	0.57
54:28:2333:A:O4'	54:28:2335:A:H1'	2.04	0.57
54:28:2603:G:H2'	54:28:2604:U:O4'	2.04	0.57
54:28:2677:G:H2'	54:28:2678:C:C6	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:679:LEU:O	1:A:682:ASP:CB	2.38	0.57
1:A:679:LEU:N	1:A:679:LEU:HD12	2.20	0.57
6:F:51:PHE:CE2	6:F:68:ARG:HA	2.39	0.57
8:H:38:MET:HG3	9:I:117:THR:HG22	1.86	0.57
9:I:92:PRO:O	54:28:1076:C:O2'	2.14	0.57
22:V:26:PHE:CZ	22:V:42:LEU:HD11	2.39	0.57
24:X:22:ASN:OD1	54:28:2079:U:O2'	2.22	0.57
33:7:101:THR:HG22	33:7:174:GLU:OE2	2.04	0.57
36:10:149:PRO:HB2	36:10:163:ILE:HD13	1.86	0.57
39:13:106:SER:HA	53:27:642:A:C8	2.39	0.57
41:15:5:ARG:HG2	41:15:79:PRO:HD3	1.86	0.57
47:21:18:GLN:NE2	47:21:35:ARG:HE	2.02	0.57
47:21:60:TRP:HB3	47:21:65:ALA:HB2	1.85	0.57
52:26:37:TYR:C	52:26:40:PRO:HD2	2.29	0.57
54:28:703:U:H2'	54:28:704:G:O4'	2.04	0.57
54:28:1179:G:C5	54:28:1180:U:H1'	2.39	0.57
54:28:1367:A:H2'	54:28:1368:G:H5'	1.85	0.57
54:28:1484:U:H2'	54:28:1485:U:H6	1.68	0.57
54:28:1515:A:H2'	54:28:1516:G:O4'	2.04	0.57
5:E:65:LEU:HD22	55:29:42:C:C5	2.39	0.57
6:F:82:PHE:CE2	6:F:137:LYS:HB2	2.40	0.57
6:F:122:ALA:HA	6:F:132:LEU:HA	1.86	0.57
12:L:86:GLU:C	12:L:87:GLY:O	2.45	0.57
15:O:62:LEU:HD21	15:O:64:TYR:O	2.04	0.57
23:W:29:ALA:N	23:W:60:ASP:OD1	2.34	0.57
25:Y:39:GLN:NE2	25:Y:42:LEU:HD11	2.20	0.57
41:15:15:HIS:O	41:15:18:ILE:HG22	2.03	0.57
53:27:1229:A:H2'	53:27:1230:C:C6	2.39	0.57
54:28:565:C:H2'	54:28:566:U:H6	1.66	0.57
54:28:783:A:H8	54:28:784:G:H4'	1.70	0.57
54:28:1730:C:H1'	54:28:1731:G:C5	2.39	0.57
54:28:1906:G:C3'	54:28:1907:G:H5''	2.34	0.57
54:28:2165:C:N4	54:28:2170:A:H62	2.03	0.57
54:28:2264:C:H2'	54:28:2265:U:O4'	2.03	0.57
54:28:2545:G:H2'	54:28:2546:U:O4'	2.03	0.57
55:29:92:C:O2'	55:29:93:C:H5'	2.04	0.57
33:7:153:MET:HG2	33:7:155:GLY:H	1.68	0.57
33:7:209:VAL:O	33:7:213:LEU:HD13	2.03	0.57
40:14:114:LYS:HB2	40:14:117:LEU:HD12	1.87	0.57
42:16:33:ILE:O	42:16:41:LEU:HB2	2.04	0.57
46:20:87:ARG:HD3	46:20:88:ARG:H	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:810:C:H2'	53:27:811:C:O4'	2.04	0.57
53:27:1131:G:H2'	53:27:1132:C:C4'	2.34	0.57
53:27:1354:U:H2'	53:27:1355:G:H8	1.69	0.57
53:27:1499:A:H2'	53:27:1500:A:H8	1.67	0.57
53:27:1516:G:H2'	53:27:1518:A:OP2	2.03	0.57
54:28:596:U:H2'	54:28:597:G:C8	2.39	0.57
54:28:1788:C:H2'	54:28:1789:A:C8	2.38	0.57
54:28:2031:A:C6	54:28:2498:C:H1'	2.40	0.57
54:28:2524:G:C3'	54:28:2525:G:H5''	2.33	0.57
57:31:62:C:H2'	57:31:63:G:H8	1.70	0.57
1:A:716:ILE:HD11	1:A:721:VAL:HB	1.85	0.57
2:B:220:ARG:HD2	54:28:1827:U:OP2	2.04	0.57
6:F:19:ASN:HB3	6:F:22:VAL:HB	1.87	0.57
6:F:100:ASN:O	6:F:116:LEU:HB2	2.05	0.57
7:G:83:LYS:C	7:G:91:PHE:HB2	2.29	0.57
9:I:19:PRO:HG2	9:I:22:PRO:HG2	1.87	0.57
16:P:52:ARG:HH12	54:28:2846:G:P	2.27	0.57
36:10:160:VAL:O	36:10:163:ILE:HG13	2.05	0.57
39:13:29:SER:HB3	39:13:32:LYS:HG3	1.86	0.57
43:17:111:GLN:HB3	53:27:538:G:OP2	2.04	0.57
53:27:46:G:OP1	53:27:307:C:H4'	2.05	0.57
53:27:524:G:H2'	53:27:525:C:C6	2.39	0.57
53:27:917:G:H2'	53:27:918:A:C8	2.39	0.57
53:27:1464:U:H2'	53:27:1465:A:H8	1.67	0.57
54:28:680:C:H2'	54:28:681:G:H8	1.68	0.57
54:28:825:A:H2'	54:28:826:U:H6	1.70	0.57
54:28:864:G:H2'	54:28:865:C:C6	2.39	0.57
54:28:1141:U:H4'	54:28:1142:A:O4'	2.04	0.57
54:28:1260:A:H2'	54:28:1261:C:C6	2.40	0.57
54:28:1282:U:H2'	54:28:1283:G:O4'	2.03	0.57
54:28:2007:U:H2'	54:28:2008:C:H6	1.69	0.57
54:28:2172:U:OP2	54:28:2173:A:H5'	2.04	0.57
54:28:2472:G:H2'	54:28:2529:G:N2	2.20	0.57
54:28:2783:U:H2'	54:28:2784:U:C6	2.39	0.57
2:B:228:ASP:CG	54:28:780:G:H1	2.13	0.57
5:E:90:LEU:HD12	5:E:90:LEU:O	2.05	0.57
10:J:16:TYR:HD1	10:J:140:LEU:HB2	1.69	0.57
13:M:45:GLN:NE2	54:28:2485:G:H5''	2.17	0.57
18:R:4:VAL:HB	18:R:40:MET:HG2	1.84	0.57
20:T:88:LYS:O	20:T:89:GLU:C	2.46	0.57
29:3:10:LEU:HD23	29:3:50:GLU:HA	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:4:13:ASN:O	30:4:17:GLY:HA3	2.04	0.57
39:13:11:THR:HG22	39:13:15:ASN:HD21	1.69	0.57
41:15:88:MET:O	41:15:89:ARG:HG2	2.04	0.57
53:27:460:A:H2'	53:27:461:A:C8	2.39	0.57
53:27:621:A:H2'	53:27:622:A:C8	2.39	0.57
53:27:1527:U:H2'	53:27:1528:U:C6	2.40	0.57
54:28:1507:C:H2'	54:28:1508:A:O4'	2.05	0.57
54:28:1908:C:H2'	54:28:1909:C:C6	2.38	0.57
54:28:2760:C:O2'	54:28:2761:A:H5'	2.05	0.57
55:29:56:G:H4'	55:29:57:A:C8	2.39	0.57
55:29:104:A:H2'	55:29:105:G:O4'	2.03	0.57
58:32:36:U:H2'	58:32:37:A:H5'	1.85	0.57
58:32:55:U:H2'	58:32:57:A:OP2	2.04	0.57
4:D:68:ALA:HA	54:28:1255:U:C4	2.40	0.57
6:F:7:PRO:HB3	6:F:50:THR:HA	1.87	0.57
8:H:81:LEU:HD13	54:28:1106:G:N3	2.20	0.57
9:I:113:ALA:O	9:I:115:ASP:N	2.37	0.57
21:U:2:ALA:O	21:U:5:ARG:NH1	2.38	0.57
24:X:4:CYS:HB2	24:X:51:SER:HB3	1.86	0.57
53:27:398:U:H2'	53:27:399:G:C8	2.39	0.57
53:27:769:G:O2'	53:27:770:C:H5'	2.04	0.57
53:27:1130:A:N6	53:27:1144:G:H1'	2.18	0.57
54:28:1127:A:H2'	54:28:1128:G:H5''	1.86	0.57
54:28:1331:G:C2'	54:28:1332:G:H5''	2.35	0.57
54:28:2036:C:H2'	54:28:2037:A:C8	2.40	0.57
54:28:2171:A:C2'	54:28:2172:U:H5'	2.35	0.57
55:29:118:C:H2'	55:29:119:A:C8	2.40	0.57
2:B:206:LYS:HD2	54:28:729:G:N9	2.20	0.57
8:H:77:VAL:HB	8:H:84:TYR:HE1	1.70	0.57
10:J:7:LYS:O	10:J:11:VAL:HG23	2.04	0.57
13:M:125:PRO:HG2	13:M:126:ILE:H	1.70	0.57
21:U:96:LYS:O	21:U:97:SER:HB3	2.04	0.57
32:6:2:LYS:HB2	32:6:35:GLN:HB3	1.85	0.57
48:22:30:HIS:CD2	48:22:32:ILE:H	2.23	0.57
49:23:13:THR:CG2	49:23:20:ILE:HD11	2.35	0.57
53:27:71:A:C2	53:27:100:G:H1'	2.40	0.57
53:27:461:A:H2'	53:27:462:G:O4'	2.04	0.57
53:27:708:C:H2'	53:27:709:U:H6	1.70	0.57
53:27:751:U:H2'	53:27:752:G:O4'	2.05	0.57
53:27:1079:G:H2'	53:27:1080:A:C8	2.40	0.57
53:27:1137:C:H5'	53:27:1138:G:C5'	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1195:C:H5''	53:27:1196:A:OP2	2.05	0.57
53:27:1477:U:H2'	53:27:1478:U:C6	2.40	0.57
53:27:1508:A:H2'	53:27:1509:C:C6	2.40	0.57
54:28:612:G:H1'	54:28:616:A:H61	1.69	0.57
54:28:704:G:H1'	54:28:727:A:H61	1.70	0.57
54:28:1822:C:O2'	54:28:1823:G:H5'	2.05	0.57
54:28:2087:G:H2'	54:28:2088:A:H8	1.66	0.57
54:28:2623:G:H2'	54:28:2624:G:H8	1.69	0.57
55:29:41:G:H2'	55:29:41:G:N3	2.19	0.57
1:A:680:LEU:O	1:A:683:ILE:HB	2.05	0.57
4:D:68:ALA:O	4:D:69:ARG:C	2.47	0.57
8:H:51:TYR:CE2	8:H:95:LEU:HD11	2.39	0.57
17:Q:24:TYR:HE2	54:28:2020:A:H4'	1.69	0.57
20:T:28:ASN:HD21	20:T:91:GLN:HA	1.70	0.57
30:4:46:LYS:HE3	54:28:127:A:OP2	2.05	0.57
38:12:78:ARG:NH1	53:27:1382:C:H4'	2.20	0.57
41:15:86:ALA:O	41:15:90:LEU:HB2	2.05	0.57
53:27:86:G:H5''	53:27:87:C:OP1	2.05	0.57
54:28:582:A:H2'	54:28:583:G:H8	1.67	0.57
54:28:909:A:H2'	54:28:912:C:H5	1.70	0.57
54:28:941:A:H2'	54:28:942:G:C8	2.39	0.57
54:28:1287:A:H3'	54:28:1288:G:H21	1.69	0.57
54:28:1548:A:H2'	54:28:1549:A:H8	1.70	0.57
54:28:1827:U:O2'	54:28:1828:G:H5'	2.05	0.57
7:G:110:VAL:HG21	7:G:134:VAL:HG12	1.87	0.57
8:H:34:THR:HG21	54:28:1056:G:H5'	1.85	0.57
11:K:25:LEU:HD12	11:K:38:ILE:HG22	1.86	0.57
12:L:86:GLU:O	12:L:87:GLY:O	2.23	0.57
13:M:4:PRO:HG2	13:M:70:ASP:HA	1.86	0.57
16:P:29:VAL:HG13	16:P:79:VAL:HG22	1.87	0.57
20:T:80:TRP:CZ3	20:T:82:LYS:HB3	2.40	0.57
40:14:97:LEU:HB3	40:14:103:VAL:HG13	1.87	0.57
42:16:117:HIS:CE1	53:27:675:A:H1'	2.40	0.57
53:27:110:C:H2'	53:27:111:G:O4'	2.05	0.57
53:27:762:U:H2'	53:27:763:G:C8	2.40	0.57
53:27:1387:G:H2'	53:27:1388:C:C6	2.40	0.57
54:28:1328:A:H2'	54:28:1330:C:C5	2.39	0.57
54:28:1798:U:H2'	54:28:1819:A:N6	2.20	0.57
54:28:2328:A:H2'	54:28:2329:U:C6	2.40	0.57
55:29:66:A:H61	55:29:107:G:H3'	1.69	0.57
2:B:155:ARG:NH2	54:28:1818:U:H5	2.02	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:39:ALA:O	6:F:54:ARG:HB3	2.05	0.56
6:F:65:GLY:O	6:F:68:ARG:HB3	2.05	0.56
10:J:92:MET:HG3	10:J:100:VAL:HG22	1.86	0.56
23:W:55:LEU:HD12	23:W:76:ILE:HD12	1.86	0.56
25:Y:12:GLU:O	25:Y:15:ASN:HB3	2.06	0.56
33:7:117:GLU:O	33:7:121:GLN:HB2	2.05	0.56
36:10:100:GLU:C	36:10:102:THR:N	2.58	0.56
45:19:80:ARG:HA	45:19:83:VAL:HG12	1.88	0.56
53:27:916:U:H2'	53:27:917:G:H8	1.70	0.56
54:28:16:C:H2'	54:28:17:G:H8	1.70	0.56
54:28:138:U:H3'	54:28:139:U:H5'	1.87	0.56
54:28:176:A:C2'	54:28:177:G:H5'	2.34	0.56
54:28:607:U:O4	54:28:620:G:H5'	2.06	0.56
54:28:968:C:H2'	54:28:969:G:H8	1.68	0.56
54:28:1266:G:H22	54:28:2012:G:H2'	1.70	0.56
54:28:2073:C:H2'	54:28:2074:U:C6	2.39	0.56
54:28:2357:G:N2	54:28:2359:C:H3'	2.21	0.56
54:28:2567:G:H2'	54:28:2568:U:H6	1.70	0.56
54:28:2635:A:H2'	54:28:2636:C:O4'	2.05	0.56
58:32:38:A:H2'	58:32:39:C:C6	2.40	0.56
2:B:59:GLN:HA	54:28:1568:G:H5'	1.86	0.56
2:B:79:ARG:NH1	2:B:81:GLU:OE2	2.37	0.56
3:C:49:GLN:NE2	3:C:79:LEU:HD13	2.20	0.56
3:C:63:PRO:HG3	54:28:2787:C:H1'	1.86	0.56
13:M:1:MET:N	13:M:47:GLU:HG3	2.20	0.56
14:N:30:ARG:HG3	14:N:75:ILE:HD11	1.87	0.56
20:T:51:PHE:O	20:T:53:VAL:HG13	2.04	0.56
21:U:11:ILE:HD11	21:U:19:GLY:HA2	1.87	0.56
40:14:5:TYR:CD1	40:14:88:GLU:HB3	2.40	0.56
53:27:767:A:H2'	53:27:768:A:O4'	2.04	0.56
53:27:1460:C:H2'	53:27:1461:G:C8	2.40	0.56
54:28:163:C:H2'	54:28:164:C:O4'	2.05	0.56
54:28:2097:A:H2'	54:28:2098:U:O4'	2.05	0.56
54:28:2475:C:C2'	54:28:2476:A:H5'	2.35	0.56
2:B:154:ALA:HB1	2:B:159:THR:HG22	1.88	0.56
4:D:83:VAL:O	4:D:83:VAL:HG12	2.05	0.56
5:E:68:LYS:HZ3	55:29:41:G:H1	1.52	0.56
7:G:90:LEU:HB2	7:G:123:ARG:O	2.06	0.56
8:H:75:ALA:O	8:H:76:PHE:C	2.47	0.56
9:I:23:VAL:CG2	9:I:27:LEU:HD21	2.35	0.56
9:I:113:ALA:C	9:I:115:ASP:N	2.63	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:116:MET:HE3	54:28:1059:G:H1'	1.86	0.56
12:L:21:ARG:NH2	54:28:811:U:C4	2.73	0.56
16:P:112:ARG:NH2	16:P:114:ASN:HD22	2.04	0.56
24:X:15:ASN:HD22	54:28:381:G:H5''	1.70	0.56
30:4:4:THR:HG21	54:28:789:A:H5'	1.86	0.56
34:8:46:LEU:O	34:8:49:ALA:HB3	2.06	0.56
34:8:105:VAL:HG21	34:8:111:ASP:OD2	2.06	0.56
35:9:25:ARG:HH22	53:27:411:A:P	2.28	0.56
38:12:113:LYS:HZ1	53:27:1297:G:H1'	1.70	0.56
39:13:73:SER:HB3	39:13:129:ALA:HB3	1.87	0.56
40:14:14:SER:HB2	40:14:69:GLY:HA3	1.85	0.56
41:15:42:LEU:HD11	41:15:73:LEU:HG	1.87	0.56
44:18:15:VAL:HG13	44:18:33:LEU:HD22	1.87	0.56
45:19:26:LEU:O	45:19:30:ILE:N	2.38	0.56
53:27:175:C:H2'	53:27:176:C:C6	2.40	0.56
53:27:664:G:H22	53:27:741:G:H1	0.83	0.56
53:27:928:G:H2'	53:27:929:G:H8	1.70	0.56
53:27:1410:A:H2'	53:27:1411:C:H6	1.70	0.56
54:28:189:G:H2'	54:28:205:G:H22	1.71	0.56
54:28:441:U:H2'	54:28:442:G:C8	2.40	0.56
54:28:503:A:H4'	54:28:504:A:H5'	1.87	0.56
54:28:521:U:H2'	54:28:522:A:H8	1.70	0.56
54:28:820:A:H2'	54:28:821:A:C8	2.40	0.56
54:28:971:G:H2'	54:28:972:A:O4'	2.06	0.56
54:28:1059:G:H3'	54:28:1060:U:H2'	1.87	0.56
54:28:1229:C:H2'	54:28:1230:A:H8	1.69	0.56
54:28:1297:C:H2'	54:28:1298:C:H6	1.70	0.56
54:28:1561:C:H2'	54:28:1562:U:C6	2.41	0.56
54:28:2190:G:H2'	54:28:2191:A:H8	1.70	0.56
54:28:2345:G:H5'	54:28:2347:C:O4'	2.05	0.56
55:29:48:U:H2'	55:29:49:C:H6	1.69	0.56
57:31:10:G:N2	57:31:26:G:H1'	2.20	0.56
2:B:171:VAL:HG23	2:B:185:ALA:HA	1.88	0.56
4:D:1:MET:HE2	4:D:16:GLU:HA	1.87	0.56
34:8:77:GLY:HA3	34:8:82:ASP:OD2	2.05	0.56
38:12:16:LYS:NZ	38:12:47:GLU:OE2	2.38	0.56
41:15:57:VAL:HG13	41:15:58:ASN:N	2.19	0.56
45:19:20:PHE:O	45:19:21:ALA:HB3	2.05	0.56
49:23:17:VAL:HG22	49:23:18:GLN:N	2.12	0.56
53:27:1033:G:H2'	53:27:1034:G:H5'	1.86	0.56
53:27:1120:C:H2'	53:27:1121:U:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:253:C:H2'	54:28:254:G:O4'	2.05	0.56
54:28:438:G:H2'	54:28:439:A:C8	2.40	0.56
54:28:704:G:H1'	54:28:727:A:N6	2.20	0.56
54:28:1730:C:H1'	54:28:1731:G:C6	2.40	0.56
54:28:1761:C:H2'	54:28:1762:A:O4'	2.04	0.56
54:28:2322:A:H2'	54:28:2323:G:O4'	2.06	0.56
54:28:2677:G:H2'	54:28:2678:C:H6	1.70	0.56
54:28:2805:C:H2'	54:28:2806:C:H6	1.70	0.56
1:A:615:PRO:HB3	1:A:635:ARG:HB2	1.88	0.56
3:C:46:ARG:NH2	3:C:89:GLU:OE1	2.39	0.56
4:D:78:TRP:CD2	54:28:1257:C:H4'	2.40	0.56
6:F:94:ARG:HB2	6:F:105:SER:HB2	1.87	0.56
10:J:95:ARG:HG3	10:J:96:ARG:HG2	1.88	0.56
14:N:33:ILE:HB	14:N:118:ARG:NH2	2.20	0.56
15:O:62:LEU:CD1	15:O:70:ALA:HA	2.31	0.56
18:R:49:ILE:HD13	18:R:52:PRO:N	2.20	0.56
39:13:14:ARG:NH2	39:13:74:ILE:HG23	2.20	0.56
43:17:65:TYR:HB2	43:17:92:VAL:HG11	1.88	0.56
44:18:14:ALA:HB3	44:18:33:LEU:HD21	1.87	0.56
44:18:39:ALA:O	44:18:42:VAL:HG22	2.05	0.56
44:18:95:PRO:HA	44:18:108:ARG:HG3	1.88	0.56
48:22:5:ARG:HH12	53:27:128:G:H5'	1.70	0.56
53:27:291:U:O2'	53:27:292:G:H5'	2.05	0.56
53:27:947:G:H2'	53:27:948:C:C6	2.40	0.56
54:28:630:G:H22	54:28:632:A:H3'	1.70	0.56
54:28:2162:G:H5'	54:28:2162:G:H8	1.71	0.56
54:28:2447:G:C4	54:28:2500:U:C5	2.93	0.56
55:29:28:C:H2'	55:29:29:A:H8	1.70	0.56
1:A:598:VAL:O	1:A:599:VAL:C	2.47	0.56
1:A:674:ASN:HD21	1:A:736:ILE:CG2	2.18	0.56
6:F:21:GLN:HE21	6:F:38:ASP:HA	1.70	0.56
10:J:113:PRO:HD2	54:28:558:U:P	2.46	0.56
12:L:63:LYS:HE2	54:28:2394:C:H5''	1.87	0.56
34:8:96:VAL:HB	34:8:97:PRO:HD2	1.88	0.56
37:11:9:MET:CG	37:11:85:ILE:O	2.54	0.56
41:15:42:LEU:O	53:27:1151:A:H5'	2.05	0.56
54:28:20:C:H2'	54:28:21:A:C8	2.40	0.56
54:28:724:U:H2'	54:28:725:G:O4'	2.06	0.56
54:28:759:G:H2'	54:28:760:G:C8	2.41	0.56
54:28:1658:C:H2'	54:28:1659:G:C8	2.41	0.56
54:28:2065:C:H2'	54:28:2066:C:H6	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2282:G:H4'	54:28:2389:G:O2'	2.05	0.56
54:28:2848:G:H2'	54:28:2867:G:H21	1.71	0.56
24:X:5:GLN:O	24:X:73:ARG:NH2	2.39	0.56
38:12:113:LYS:NZ	53:27:1297:G:H1'	2.21	0.56
39:13:28:SER:HB2	39:13:58:LEU:N	2.21	0.56
43:17:45:ASN:HA	53:27:529:G:O6	2.06	0.56
43:17:98:ARG:HD2	43:17:103:CYS:SG	2.46	0.56
45:19:68:ARG:HH22	53:27:974:A:P	2.29	0.56
46:20:25:GLU:HG2	46:20:80:LEU:HD22	1.88	0.56
50:24:32:THR:HG22	50:24:49:ALA:O	2.06	0.56
53:27:178:C:H2'	53:27:179:A:H8	1.70	0.56
53:27:219:U:H2'	53:27:220:G:H8	1.71	0.56
53:27:678:U:H2'	53:27:679:C:H6	1.69	0.56
53:27:965:U:H1'	53:27:969:A:N3	2.21	0.56
53:27:1097:C:H2'	53:27:1098:C:H6	1.70	0.56
54:28:207:A:H2'	54:28:208:C:O4'	2.05	0.56
54:28:527:C:C4	54:28:2779:U:H2'	2.41	0.56
54:28:691:C:H2'	54:28:692:C:H6	1.70	0.56
54:28:1657:U:H2'	54:28:1658:C:H6	1.69	0.56
57:31:69:C:H2'	57:31:70:G:H8	1.71	0.56
1:A:622:VAL:HG23	1:A:636:ALA:HA	1.87	0.56
5:E:139:GLU:CD	5:E:139:GLU:H	2.13	0.56
13:M:42:THR:OG1	13:M:45:GLN:HG3	2.06	0.56
15:O:43:ASN:HD21	15:O:46:GLU:HG2	1.70	0.56
17:Q:57:ARG:NH1	54:28:1154:G:P	2.79	0.56
34:8:19:SER:HB3	34:8:21:TRP:HE1	1.71	0.56
35:9:12:ARG:HG2	35:9:33:ILE:HA	1.88	0.56
36:10:24:VAL:HG23	36:10:26:GLY:H	1.70	0.56
53:27:358:U:H2'	53:27:359:G:H8	1.70	0.56
53:27:458:U:H2'	53:27:459:A:C8	2.40	0.56
53:27:494:G:O2'	53:27:496:A:H1'	2.06	0.56
54:28:39:G:H2'	54:28:40:U:C6	2.41	0.56
54:28:133:U:H2'	54:28:134:G:C8	2.41	0.56
54:28:1239:G:H2'	54:28:1240:U:O4'	2.05	0.56
54:28:1754:A:H2'	54:28:1755:A:O4'	2.06	0.56
54:28:2128:G:H1	54:28:2160:C:N4	2.03	0.56
54:28:2556:C:H2'	54:28:2557:G:O4'	2.06	0.56
5:E:92:GLY:O	5:E:95:MET:HG2	2.06	0.56
7:G:55:GLU:O	7:G:58:LEU:HB2	2.05	0.56
7:G:97:ARG:HG2	7:G:112:LYS:HD2	1.88	0.56
37:11:45:ARG:HD3	37:11:59:TYR:HD2	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:18:97:ARG:HG2	53:27:1308:U:OP2	2.06	0.56
53:27:817:C:C4'	53:27:818:G:H5''	2.35	0.56
54:28:528:A:H2	54:28:2042:A:H2'	1.67	0.56
54:28:780:G:H2'	54:28:782:A:N7	2.21	0.56
54:28:834:G:H2'	54:28:835:C:H6	1.71	0.56
54:28:1842:G:H2'	54:28:1843:C:C6	2.41	0.56
54:28:2516:A:H2'	54:28:2517:C:C6	2.40	0.56
54:28:2756:U:H1'	54:28:2757:A:H5''	1.87	0.56
3:C:5:VAL:H	3:C:32:ASN:HD21	1.54	0.56
19:S:97:LEU:HD12	19:S:97:LEU:O	2.06	0.56
22:V:86:LEU:HD13	22:V:89:ILE:HD11	1.87	0.56
33:7:96:LEU:HB2	33:7:99:MET:HE2	1.86	0.56
37:11:61:LEU:HD21	37:11:63:ASN:ND2	2.21	0.56
38:12:66:GLU:HA	38:12:69:ARG:HE	1.71	0.56
47:21:75:ILE:HA	47:21:78:VAL:HG12	1.88	0.56
53:27:742:G:H2'	53:27:743:A:C8	2.41	0.56
53:27:1057:G:H2'	53:27:1058:G:O4'	2.06	0.56
54:28:218:A:H3'	54:28:219:A:H8	1.70	0.56
54:28:588:U:H2'	54:28:589:U:C6	2.41	0.56
54:28:839:U:H2'	54:28:840:C:C6	2.41	0.56
54:28:900:A:H2'	54:28:901:C:O4'	2.06	0.56
54:28:2064:C:H2'	54:28:2065:C:C6	2.41	0.56
2:B:110:LYS:N	2:B:113:ASP:OD2	2.36	0.55
3:C:49:GLN:HE21	3:C:79:LEU:HB3	1.71	0.55
9:I:133:ARG:HH11	54:28:1079:C:C4'	2.07	0.55
28:2:18:HIS:CD2	54:28:2046:G:H1'	2.41	0.55
30:4:34:ARG:NE	30:4:39:ARG:HD2	2.21	0.55
32:6:8:LYS:H	32:6:35:GLN:NE2	2.04	0.55
34:8:38:VAL:O	34:8:42:LEU:HD13	2.06	0.55
37:11:11:HIS:HD2	37:11:12:PRO:HD2	1.71	0.55
38:12:128:GLU:OE2	38:12:130:LYS:HE2	2.06	0.55
40:14:80:HIS:CE1	40:14:105:ARG:HA	2.41	0.55
44:18:62:PHE:O	44:18:64:VAL:HG13	2.07	0.55
46:20:49:HIS:O	46:20:52:ARG:HB3	2.06	0.55
53:27:708:C:H2'	53:27:709:U:C6	2.41	0.55
53:27:1003:G:N2	53:27:1037:C:O2	2.39	0.55
54:28:564:C:H2'	54:28:565:C:C6	2.41	0.55
54:28:660:C:H2'	54:28:661:A:H8	1.68	0.55
54:28:1396:U:H5''	54:28:1397:U:OP2	2.06	0.55
57:31:62:C:H2'	57:31:63:G:C8	2.40	0.55
1:A:676:ARG:O	1:A:678:GLY:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:153:LEU:HD11	2:B:181:ARG:HH21	1.70	0.55
2:B:174:ARG:HH11	2:B:180:MET:HE1	1.71	0.55
6:F:53:PRO:HG3	6:F:61:TRP:CE2	2.40	0.55
9:I:93:ASN:HB2	54:28:1077:A:C5'	2.36	0.55
10:J:12:LYS:O	10:J:41:LYS:NZ	2.40	0.55
11:K:97:THR:O	11:K:118:LEU:HD13	2.06	0.55
12:L:65:GLY:C	54:28:2415:G:H4'	2.30	0.55
12:L:75:ALA:O	12:L:108:ALA:HA	2.06	0.55
16:P:13:LYS:HZ1	16:P:80:VAL:HG23	1.70	0.55
35:9:196:GLU:OE1	35:9:196:GLU:N	2.39	0.55
39:13:82:LEU:HD23	39:13:82:LEU:O	2.06	0.55
49:23:17:VAL:CG2	49:23:18:GLN:H	2.11	0.55
53:27:662:U:H2'	53:27:663:A:C8	2.41	0.55
53:27:1040:U:H2'	53:27:1041:G:C8	2.42	0.55
53:27:1298:U:H4'	53:27:1299:A:O4'	2.07	0.55
53:27:1510:C:H2'	53:27:1511:G:C8	2.40	0.55
54:28:224:U:O4	54:28:420:C:H5'	2.06	0.55
54:28:437:U:H2'	54:28:438:G:C8	2.42	0.55
54:28:1112:G:H2'	54:28:1113:U:C6	2.41	0.55
54:28:1287:A:H3'	54:28:1288:G:N2	2.21	0.55
8:H:123:ILE:HG23	8:H:123:ILE:O	2.07	0.55
16:P:38:ARG:NH1	53:27:345:C:C5'	2.62	0.55
17:Q:54:ARG:NH2	54:28:1155:A:O3'	2.39	0.55
19:S:73:LYS:HB2	19:S:106:VAL:HB	1.87	0.55
21:U:73:ASN:O	21:U:74:ALA:HB3	2.05	0.55
26:Z:30:ARG:HD2	54:28:1158:C:H5''	1.87	0.55
28:2:35:GLU:OE1	28:2:43:THR:HB	2.07	0.55
38:12:68:VAL:HG21	38:12:103:ILE:HD11	1.88	0.55
39:13:2:MET:HE2	53:27:588:G:H4'	1.87	0.55
41:15:86:ALA:HA	41:15:90:LEU:HD12	1.89	0.55
53:27:1060:U:H2'	53:27:1061:G:H8	1.72	0.55
54:28:226:A:H2'	54:28:227:A:O4'	2.05	0.55
54:28:414:C:H2'	54:28:415:A:C8	2.40	0.55
54:28:1102:C:H2'	54:28:1103:A:C8	2.41	0.55
54:28:1775:U:H2'	54:28:1776:G:H5'	1.86	0.55
54:28:2285:C:O2'	54:28:2287:A:H1'	2.06	0.55
4:D:97:ASN:HA	54:28:607:U:OP1	2.06	0.55
5:E:92:GLY:O	5:E:93:GLU:C	2.49	0.55
10:J:40:HIS:NE2	10:J:52:ASP:OD2	2.37	0.55
12:L:54:GLN:HE21	54:28:2428:G:N2	2.03	0.55
13:M:29:GLY:CA	13:M:106:ASP:HB2	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:42:LEU:O	25:Y:43:LEU:C	2.49	0.55
36:10:13:LYS:HE2	36:10:115:GLU:OE2	2.06	0.55
37:11:86:ARG:NH2	53:27:673:A:O3'	2.39	0.55
39:13:86:LYS:HD2	39:13:90:GLU:HB3	1.88	0.55
41:15:5:ARG:N	41:15:77:VAL:HA	2.22	0.55
43:17:86:VAL:HG23	43:17:89:LEU:H	1.70	0.55
47:21:70:ARG:HG3	53:27:375:U:OP1	2.05	0.55
53:27:113:G:H1'	53:27:354:G:H5''	1.88	0.55
53:27:554:A:H2'	53:27:555:U:C6	2.41	0.55
53:27:626:G:H2'	53:27:627:G:C8	2.42	0.55
53:27:1349:A:H2'	53:27:1350:A:O4'	2.05	0.55
54:28:622:G:H2'	54:28:623:C:C6	2.41	0.55
54:28:1990:C:H2'	54:28:1991:U:C6	2.41	0.55
54:28:2863:C:H2'	54:28:2864:G:H8	1.72	0.55
2:B:166:ARG:O	2:B:166:ARG:HG2	2.07	0.55
3:C:62:LYS:HB2	3:C:63:PRO:HD3	1.89	0.55
6:F:8:VAL:HB	6:F:49:LEU:HB2	1.89	0.55
35:9:94:GLU:HA	35:9:99:ASN:ND2	2.20	0.55
42:16:71:ASP:O	42:16:72:ALA:HB3	2.06	0.55
51:25:23:ARG:NH2	51:25:60:GLN:HE22	2.05	0.55
51:25:29:THR:HG21	53:27:1457:G:H5''	1.89	0.55
53:27:160:A:H2'	53:27:161:A:O4'	2.07	0.55
53:27:210:C:H5'	53:27:211:G:N3	2.21	0.55
53:27:225:C:C2'	53:27:226:G:H5''	2.36	0.55
53:27:687:A:N3	53:27:688:G:H1'	2.22	0.55
53:27:865:A:H2'	53:27:866:C:H6	1.71	0.55
53:27:868:C:H2'	53:27:869:G:O4'	2.07	0.55
54:28:7:G:H2'	54:28:8:C:H6	1.71	0.55
54:28:103:A:H2'	54:28:104:A:O4'	2.07	0.55
54:28:301:G:H1'	54:28:302:C:C6	2.42	0.55
54:28:521:U:H2'	54:28:522:A:C8	2.42	0.55
54:28:1802:A:H2'	54:28:1803:A:C8	2.42	0.55
54:28:2266:A:H4'	54:28:2267:A:C2	2.41	0.55
3:C:186:LEU:HD21	16:P:3:ILE:HG21	1.88	0.55
5:E:62:GLN:HE21	5:E:88:VAL:HG13	1.72	0.55
13:M:14:LYS:NZ	54:28:958:U:H5'	2.22	0.55
25:Y:9:LYS:HZ2	25:Y:11:VAL:HG23	1.71	0.55
43:17:109:ARG:O	43:17:113:ARG:HB3	2.06	0.55
50:24:9:PHE:O	50:24:38:THR:HG23	2.06	0.55
53:27:503:C:H2'	53:27:504:C:H6	1.71	0.55
54:28:24:G:H2'	54:28:25:U:O4'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:488:G:H1'	54:28:492:A:N6	2.21	0.55
54:28:714:U:H5'	54:28:715:A:OP2	2.06	0.55
54:28:1188:U:O2'	54:28:1189:A:H5'	2.06	0.55
54:28:1662:U:H2'	54:28:1663:G:C8	2.42	0.55
54:28:2112:G:H2'	54:28:2112:G:N3	2.21	0.55
54:28:2557:G:H2'	54:28:2558:C:C6	2.42	0.55
1:A:612:CYS:SG	54:28:884:U:H4'	2.47	0.55
5:E:4:HIS:O	5:E:7:TYR:HB3	2.06	0.55
6:F:85:LYS:C	6:F:86:LEU:HD12	2.32	0.55
7:G:3:VAL:HA	7:G:38:PRO:HA	1.89	0.55
16:P:89:GLY:HA2	16:P:109:ILE:HD13	1.88	0.55
25:Y:20:ASN:O	25:Y:24:GLU:HB2	2.06	0.55
33:7:183:PHE:HE1	33:7:197:PHE:HD2	1.55	0.55
38:12:133:ALA:O	38:12:136:LYS:HB3	2.07	0.55
50:24:25:GLY:O	50:24:27:LYS:HG3	2.06	0.55
53:27:552:U:H2'	53:27:553:A:H8	1.71	0.55
53:27:762:U:H2'	53:27:763:G:H8	1.71	0.55
53:27:1128:C:H2'	53:27:1129:C:O4'	2.06	0.55
53:27:1395:C:H6	53:27:1395:C:H5'	1.72	0.55
53:27:1463:U:H2'	53:27:1464:U:C6	2.42	0.55
54:28:580:U:H2'	54:28:581:C:H6	1.72	0.55
54:28:1412:U:H2'	54:28:1413:A:H8	1.72	0.55
54:28:2030:A:C2	54:28:2499:C:H5''	2.42	0.55
54:28:2376:A:H2'	54:28:2377:A:O4'	2.06	0.55
54:28:2655:G:O2'	54:28:2656:U:H5	1.89	0.55
54:28:2710:C:H2'	54:28:2711:A:C8	2.41	0.55
2:B:43:ASN:HD21	54:28:1806:C:H1'	1.72	0.55
9:I:134:SER:O	54:28:1062:G:N2	2.36	0.55
18:R:5:PHE:HB3	18:R:38:VAL:HA	1.89	0.55
19:S:16:LYS:O	19:S:19:LEU:HB3	2.07	0.55
24:X:7:THR:OG1	24:X:9:LYS:HG3	2.07	0.55
27:1:37:CYS:N	27:1:40:CYS:SG	2.67	0.55
38:12:12:LEU:CD1	38:12:13:PRO:HD2	2.33	0.55
43:17:8:ARG:HH21	53:27:759:A:H1'	1.72	0.55
46:20:50:HIS:CE1	53:27:667:G:H4'	2.41	0.55
54:28:217:A:H2'	54:28:218:A:O4'	2.07	0.55
54:28:813:U:H2'	54:28:814:C:H6	1.71	0.55
54:28:1363:C:H2'	54:28:1364:G:C8	2.41	0.55
54:28:1425:G:H2'	54:28:1426:G:C8	2.41	0.55
54:28:1657:U:H2'	54:28:1658:C:C6	2.41	0.55
54:28:2114:A:C2	54:28:2167:U:H1'	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2590:A:H2'	54:28:2591:C:C6	2.41	0.55
54:28:2848:G:H2'	54:28:2867:G:N2	2.22	0.55
2:B:222:THR:HG22	2:B:239:PHE:CD1	2.42	0.55
3:C:11:MET:O	54:28:2682:A:H5'	2.06	0.55
4:D:43:THR:O	54:28:38:A:H1'	2.07	0.55
10:J:102:GLU:OE2	54:28:2780:G:C6	2.59	0.55
10:J:135:GLN:NE2	54:28:6:A:N3	2.55	0.55
11:K:29:HIS:ND1	11:K:29:HIS:O	2.40	0.55
24:X:55:MET:HE1	54:28:2091:C:O3'	2.06	0.55
35:9:61:ARG:NH2	35:9:66:VAL:O	2.40	0.55
40:14:11:ARG:HG2	40:14:12:LYS:HG2	1.88	0.55
40:14:121:ARG:HH12	53:27:1346:A:P	2.30	0.55
53:27:467:U:H2'	53:27:468:A:H5'	1.89	0.55
53:27:490:C:H2'	53:27:491:G:H8	1.71	0.55
53:27:628:G:H2'	53:27:629:A:C8	2.41	0.55
53:27:728:A:H2'	53:27:729:A:C8	2.41	0.55
53:27:959:A:N3	53:27:985:C:H1'	2.21	0.55
53:27:1244:G:H2'	53:27:1245:C:C6	2.42	0.55
53:27:1345:U:H5''	53:27:1346:A:OP1	2.07	0.55
53:27:1401:G:C2	53:27:1402:C:H1'	2.42	0.55
54:28:1186:G:H2'	54:28:1187:G:O4'	2.07	0.55
54:28:1427:A:H4'	54:28:1428:C:O4'	2.07	0.55
54:28:2259:U:H2'	54:28:2260:C:C6	2.42	0.55
54:28:2462:C:H2'	54:28:2463:C:C6	2.41	0.55
2:B:30:ALA:HB3	2:B:31:PRO:HD3	1.88	0.55
2:B:179:GLU:OE1	54:28:1799:G:C8	2.60	0.55
3:C:4:LEU:HD13	3:C:101:PHE:CE2	2.41	0.55
4:D:27:LEU:O	4:D:30:GLN:HB3	2.07	0.55
5:E:101:ARG:HH22	27:1:9:TYR:HE1	1.54	0.55
9:I:23:VAL:CG1	9:I:24:GLY:N	2.59	0.55
14:N:49:GLU:OE1	54:28:2839:G:H4'	2.06	0.55
35:9:30:LYS:N	35:9:30:LYS:HD2	2.22	0.55
35:9:56:GLU:HG2	35:9:198:LEU:HB2	1.89	0.55
37:11:91:ARG:HG3	53:27:737:C:OP1	2.06	0.55
44:18:76:ILE:HA	44:18:79:LEU:HD12	1.89	0.55
46:20:35:ILE:HD13	46:20:59:VAL:HG22	1.87	0.55
48:22:5:ARG:HE	53:27:636:U:H5'	1.72	0.55
50:24:72:GLU:HG2	53:27:1320:C:H4'	1.87	0.55
53:27:409:U:H2'	53:27:410:G:C8	2.41	0.55
53:27:613:C:H2'	53:27:614:C:H6	1.72	0.55
53:27:1233:G:H2'	53:27:1234:C:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:414:C:H2'	54:28:415:A:H8	1.72	0.55
54:28:1084:A:H2	54:28:1105:U:O2	1.90	0.55
54:28:2673:G:H2'	54:28:2674:G:H8	1.72	0.55
54:28:2771:C:H2'	54:28:2772:C:C6	2.42	0.55
54:28:2808:G:H5'	54:28:2809:A:OP1	2.07	0.55
54:28:2812:G:H2'	54:28:2813:A:C8	2.41	0.55
54:28:2868:A:H3'	54:28:2869:G:H8	1.72	0.55
3:C:154:LYS:NZ	54:28:2025:C:H5'	2.22	0.54
10:J:40:HIS:CE1	10:J:41:LYS:HG3	2.43	0.54
35:9:70:GLN:HA	35:9:73:ASN:HD22	1.72	0.54
38:12:112:ASP:OD2	38:12:118:ARG:HA	2.08	0.54
39:13:94:VAL:HB	39:13:99:GLY:O	2.07	0.54
53:27:398:U:H2'	53:27:399:G:H8	1.72	0.54
53:27:1213:A:N1	53:27:1215:G:H1'	2.22	0.54
54:28:52:A:O2'	54:28:53:A:H5'	2.06	0.54
54:28:290:U:H2'	54:28:291:G:H8	1.72	0.54
54:28:1357:C:H2'	54:28:1358:G:O4'	2.07	0.54
54:28:1936:A:H2	54:28:1943:U:N3	2.05	0.54
54:28:2147:A:H62	54:28:2148:G:H21	1.54	0.54
1:A:670:ARG:HE	1:A:741:LEU:HD12	1.71	0.54
5:E:114:ARG:HH21	27:1:47:LYS:HA	1.71	0.54
16:P:13:LYS:NZ	16:P:80:VAL:HG23	2.22	0.54
26:Z:11:SER:OG	26:Z:13:ILE:HG13	2.07	0.54
27:1:27:THR:HG23	27:1:28:VAL:H	1.72	0.54
36:10:135:VAL:O	36:10:139:THR:HG23	2.07	0.54
38:12:91:ARG:NH2	53:27:1378:C:H4'	2.12	0.54
39:13:72:GLU:HB3	39:13:129:ALA:O	2.07	0.54
43:17:30:ARG:HG2	53:27:363:A:OP2	2.07	0.54
46:20:9:LYS:O	46:20:12:SER:HB2	2.07	0.54
47:21:69:ASP:OD1	47:21:70:ARG:N	2.40	0.54
52:26:37:TYR:CE2	53:27:1526:G:OP1	2.61	0.54
53:27:817:C:H4'	53:27:818:G:C5'	2.36	0.54
53:27:1343:G:H2'	53:27:1344:C:C6	2.41	0.54
54:28:19:A:H2'	54:28:20:C:C6	2.42	0.54
54:28:528:A:N1	54:28:2042:A:H2'	2.22	0.54
54:28:752:A:H62	54:28:2609:U:H3	1.54	0.54
54:28:1549:A:H2'	54:28:1550:C:C6	2.42	0.54
54:28:2564:A:H2'	54:28:2565:A:O4'	2.07	0.54
54:28:2625:G:H2'	54:28:2626:C:C6	2.42	0.54
54:28:2756:U:H4'	54:28:2757:A:OP1	2.07	0.54
2:B:48:ILE:HG23	2:B:48:ILE:O	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:115:GLN:C	4:D:117:ARG:H	2.15	0.54
22:V:75:GLN:CB	22:V:90:ASP:O	2.38	0.54
23:W:52:ASP:O	23:W:53:HIS:HB2	2.07	0.54
29:3:47:ILE:H	29:3:47:ILE:HD12	1.72	0.54
34:8:184:ASN:OD1	34:8:185:THR:N	2.37	0.54
37:11:98:GLU:OE2	37:11:100:SER:HB2	2.07	0.54
40:14:111:GLU:OE2	53:27:1186:G:H4'	2.08	0.54
44:18:22:TYR:HB3	44:18:65:GLU:OE1	2.07	0.54
46:20:76:ARG:O	46:20:79:GLN:HB3	2.06	0.54
46:20:87:ARG:HD3	46:20:88:ARG:N	2.21	0.54
53:27:1219:A:H2'	53:27:1220:G:H8	1.72	0.54
53:27:1483:A:H2'	53:27:1484:C:H5'	1.89	0.54
54:28:171:U:H2'	54:28:172:A:H8	1.72	0.54
54:28:1019:U:H2'	54:28:1020:A:C8	2.42	0.54
54:28:1999:C:O2'	54:28:2000:C:H5'	2.07	0.54
5:E:105:ILE:C	5:E:108:PRO:HD2	2.33	0.54
8:H:61:ARG:HB3	54:28:1047:G:H8	1.72	0.54
21:U:5:ARG:O	21:U:6:ARG:C	2.51	0.54
21:U:10:VAL:HA	21:U:72:PHE:H	1.72	0.54
42:16:80:ASN:ND2	42:16:105:ARG:HD3	2.22	0.54
48:22:49:ASN:OD1	48:22:50:ASN:N	2.41	0.54
52:26:67:THR:HG23	53:27:1167:A:H62	1.73	0.54
53:27:1088:G:H21	53:27:1167:A:H61	1.54	0.54
54:28:371:A:N6	54:28:401:A:H3'	2.22	0.54
54:28:692:C:H2'	54:28:693:A:H8	1.71	0.54
54:28:821:A:C5'	54:28:822:G:H5''	2.19	0.54
54:28:1458:U:H1'	54:28:1459:G:C6	2.43	0.54
54:28:1703:G:H2'	54:28:1704:C:C6	2.42	0.54
54:28:2585:U:O2'	54:28:2586:U:H5'	2.07	0.54
4:D:31:VAL:HG21	4:D:104:ALA:HB2	1.88	0.54
4:D:71:GLY:HA3	54:28:674:G:H5''	1.89	0.54
6:F:146:ASP:O	6:F:149:ALA:HB3	2.08	0.54
8:H:45:GLY:HA2	8:H:49:GLY:O	2.07	0.54
13:M:86:LYS:HE3	54:28:955:U:OP1	2.08	0.54
14:N:29:VAL:HB	14:N:75:ILE:HD12	1.88	0.54
29:3:31:GLU:OE1	29:3:31:GLU:N	2.39	0.54
36:10:80:LEU:HD12	36:10:146:MET:SD	2.47	0.54
45:19:48:GLN:NE2	50:24:9:PHE:HE1	2.05	0.54
53:27:184:G:H2'	53:27:185:U:H6	1.72	0.54
53:27:184:G:H3'	53:27:184:G:OP2	2.07	0.54
53:27:202:G:H2'	53:27:203:G:H8	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:405:U:C3'	53:27:406:G:H5'	2.31	0.54
53:27:579:A:O2'	53:27:580:C:H5'	2.08	0.54
53:27:735:C:H2'	53:27:736:C:C6	2.39	0.54
54:28:540:C:H2'	54:28:541:A:H8	1.71	0.54
54:28:857:G:H2'	54:28:858:G:C1'	2.37	0.54
54:28:897:C:H3'	54:28:897:C:OP2	2.07	0.54
54:28:917:A:H5''	54:28:2268:A:H61	1.72	0.54
54:28:1565:C:O2'	54:28:1566:A:H2'	2.08	0.54
54:28:1786:A:H1'	54:28:1938:A:N6	2.23	0.54
54:28:2249:U:H3'	54:28:2250:G:C5'	2.38	0.54
55:29:93:C:H2'	55:29:94:A:C8	2.42	0.54
5:E:21:TYR:HB3	5:E:26:GLN:OE1	2.08	0.54
5:E:26:GLN:HE21	55:29:57:A:H4'	1.73	0.54
5:E:104:THR:HG21	27:1:22:MET:CE	2.36	0.54
8:H:79:PRO:HA	54:28:1108:U:OP1	2.08	0.54
9:I:21:PRO:HB2	9:I:22:PRO:HD3	1.89	0.54
14:N:46:ARG:O	14:N:50:PRO:HG2	2.07	0.54
20:T:34:VAL:HG22	20:T:81:LYS:O	2.07	0.54
20:T:73:ARG:NH1	54:28:456:C:C6	2.70	0.54
24:X:16:ASN:ND2	54:28:2081:U:H5''	2.21	0.54
25:Y:58:ASN:ND2	54:28:111:A:O2'	2.40	0.54
35:9:33:ILE:CG1	35:9:34:GLU:H	2.05	0.54
40:14:11:ARG:HD3	40:14:76:GLY:HA3	1.90	0.54
40:14:40:ARG:NH2	53:27:1292:G:H4'	2.22	0.54
41:15:35:GLN:NE2	41:15:77:VAL:O	2.41	0.54
43:17:26:CYS:SG	43:17:29:LYS:HG2	2.48	0.54
53:27:181:A:N6	53:27:194:C:H3'	2.23	0.54
53:27:335:C:H2'	53:27:336:A:C8	2.43	0.54
53:27:358:U:H2'	53:27:359:G:C8	2.42	0.54
53:27:1182:G:H5'	53:27:1183:U:OP1	2.08	0.54
54:28:19:A:H2'	54:28:20:C:H6	1.73	0.54
54:28:553:G:H2'	54:28:554:U:O4'	2.08	0.54
54:28:1526:C:H2'	54:28:1527:G:O4'	2.07	0.54
54:28:1669:A:H2'	54:28:1670:C:H5'	1.90	0.54
54:28:1748:C:H2'	54:28:1749:A:C8	2.42	0.54
54:28:2127:G:H21	54:28:2173:A:C4'	2.20	0.54
54:28:2195:U:H2'	54:28:2196:C:H6	1.72	0.54
54:28:2464:G:H2'	54:28:2465:C:C6	2.43	0.54
54:28:2805:C:H2'	54:28:2806:C:C6	2.43	0.54
56:30:13:A:N6	58:32:35:A:N6	2.55	0.54
9:I:80:LYS:HA	9:I:85:ILE:CG1	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:5:ALA:HB3	19:S:54:ALA:HB2	1.90	0.54
29:3:9:LYS:O	29:3:51:ALA:CB	2.51	0.54
38:12:148:LYS:HE3	42:16:60:PHE:CZ	2.43	0.54
53:27:785:G:H2'	53:27:786:G:H8	1.72	0.54
53:27:1198:G:H2'	53:27:1199:U:C6	2.42	0.54
53:27:1234:C:O2'	53:27:1235:U:H5'	2.08	0.54
53:27:1417:G:N2	53:27:1482:G:H2'	2.22	0.54
54:28:340:A:H2'	54:28:341:C:O4'	2.08	0.54
54:28:934:U:H2'	54:28:935:C:H6	1.70	0.54
54:28:1269:A:H2'	54:28:1270:C:C6	2.43	0.54
54:28:2229:U:H2'	54:28:2230:G:H8	1.73	0.54
54:28:2368:C:H2'	54:28:2369:A:H8	1.73	0.54
3:C:149:ASN:HD22	54:28:2572:A:H2'	1.73	0.54
3:C:173:GLN:NE2	54:28:2772:C:H5'	2.23	0.54
4:D:14:VAL:HG21	4:D:19:PHE:CD2	2.42	0.54
7:G:51:ARG:HG2	7:G:55:GLU:OE1	2.08	0.54
32:6:18:LYS:CE	32:6:21:GLY:HA2	2.37	0.54
38:12:30:MET:SD	53:27:1373:G:H4'	2.47	0.54
38:12:71:THR:O	38:12:90:VAL:HG12	2.08	0.54
38:12:101:ARG:NH1	53:27:939:G:H5'	2.23	0.54
53:27:514:C:H2'	53:27:515:G:C8	2.43	0.54
53:27:1410:A:H2'	53:27:1411:C:C6	2.43	0.54
53:27:1427:C:H2'	53:27:1428:A:H8	1.72	0.54
54:28:155:A:H2'	54:28:156:A:C8	2.43	0.54
54:28:326:G:H2'	54:28:327:G:H8	1.72	0.54
54:28:546:U:H2'	54:28:547:A:O4'	2.08	0.54
54:28:586:A:H2	54:28:809:G:N3	2.06	0.54
54:28:691:C:H2'	54:28:692:C:C6	2.43	0.54
54:28:745:G:O2'	54:28:748:G:H1'	2.07	0.54
54:28:1278:C:H2'	54:28:1279:G:C8	2.42	0.54
54:28:2286:G:C5'	54:28:2287:A:O4'	2.56	0.54
54:28:2368:C:H2'	54:28:2369:A:C8	2.43	0.54
58:32:32:C:H2'	58:32:33:U:O4'	2.08	0.54
1:A:679:LEU:HB3	1:A:734:ASP:OD2	2.07	0.54
2:B:87:SER:C	2:B:157:ALA:HB2	2.33	0.54
3:C:27:ILE:HG22	3:C:29:VAL:HG23	1.89	0.54
5:E:41:GLU:HB2	5:E:48:LEU:HD23	1.90	0.54
6:F:15:ASP:HB2	6:F:26:LYS:HB3	1.88	0.54
8:H:57:ASN:C	8:H:59:LEU:H	2.16	0.54
8:H:117:LEU:HG	8:H:120:ALA:HA	1.90	0.54
16:P:23:ASP:OD1	16:P:89:GLY:N	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:51:GLN:OE1	22:V:86:LEU:HD21	2.08	0.54
25:Y:49:ASP:O	25:Y:53:VAL:HG23	2.08	0.54
46:20:44:GLU:HG3	46:20:45:HIS:CD2	2.43	0.54
51:25:77:ASN:O	51:25:81:GLN:HG2	2.08	0.54
53:27:52:C:H2'	53:27:53:A:H8	1.72	0.54
53:27:232:G:H1'	53:27:262:A:N1	2.22	0.54
53:27:314:C:O2'	53:27:315:A:H5'	2.08	0.54
53:27:834:U:H2'	53:27:835:U:C6	2.42	0.54
53:27:1426:G:H2'	53:27:1427:C:C6	2.42	0.54
54:28:654:A:H3'	54:28:654:A:N3	2.22	0.54
54:28:2398:U:H2'	54:28:2399:G:H8	1.71	0.54
54:28:2404:U:H2'	54:28:2405:G:O4'	2.08	0.54
54:28:2691:C:H2'	54:28:2692:G:H8	1.73	0.54
1:A:679:LEU:N	1:A:679:LEU:CD1	2.70	0.54
2:B:65:ASP:OD2	2:B:68:ARG:HD2	2.07	0.54
2:B:104:LEU:HD13	2:B:155:ARG:HB2	1.90	0.54
3:C:130:GLN:HE22	54:28:2578:G:H21	1.56	0.54
5:E:28:PRO:HB3	5:E:159:ALA:HB2	1.90	0.54
7:G:16:GLY:HA2	7:G:47:PHE:CE2	2.43	0.54
9:I:92:PRO:HA	9:I:136:GLY:HA3	1.89	0.54
11:K:113:MET:O	11:K:116:ILE:HG13	2.08	0.54
13:M:29:GLY:HA2	13:M:106:ASP:HB2	1.89	0.54
18:R:73:LYS:O	18:R:75:VAL:HG23	2.07	0.54
33:7:106:VAL:O	33:7:110:ILE:HG13	2.08	0.54
35:9:146:GLU:HA	35:9:149:LYS:HB2	1.90	0.54
36:10:96:GLN:OE1	36:10:97:PRO:HD2	2.08	0.54
37:11:15:SER:HB2	37:11:58:HIS:CB	2.38	0.54
37:11:81:ASN:OD1	37:11:82:ASP:N	2.41	0.54
38:12:68:VAL:C	38:12:137:ARG:HD3	2.33	0.54
40:14:123:ARG:HB3	53:27:1343:G:C4'	2.36	0.54
53:27:212:G:H2'	53:27:213:G:O4'	2.07	0.54
54:28:492:A:H2'	54:28:493:G:O4'	2.07	0.54
54:28:1229:C:H2'	54:28:1230:A:C8	2.43	0.54
54:28:1290:C:H2'	54:28:1291:C:C6	2.42	0.54
54:28:1318:U:H2'	54:28:1319:C:C6	2.43	0.54
54:28:1775:U:H2'	54:28:1776:G:O4'	2.08	0.54
54:28:2038:G:H2'	54:28:2039:U:O4'	2.08	0.54
54:28:2134:A:C2	54:28:2158:A:H4'	2.43	0.54
54:28:2333:A:H5''	54:28:2334:U:OP1	2.08	0.54
54:28:2739:U:O2'	54:28:2740:A:H5'	2.08	0.54
54:28:2810:A:H2'	54:28:2811:G:O4'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:227:VAL:HG11	54:28:784:G:C2	2.43	0.53
2:B:231:HIS:HA	2:B:241:LYS:HE2	1.90	0.53
3:C:13:ARG:HH11	16:P:55:HIS:HA	1.73	0.53
8:H:39:THR:HA	8:H:42:ARG:HB3	1.89	0.53
8:H:61:ARG:CB	54:28:1047:G:C8	2.90	0.53
9:I:19:PRO:HB2	9:I:22:PRO:HD2	1.90	0.53
12:L:17:LYS:HD3	54:28:663:G:H5''	1.90	0.53
19:S:18:ARG:NH1	54:28:518:G:OP1	2.41	0.53
19:S:57:ASN:OD1	19:S:61:ASN:ND2	2.41	0.53
27:1:35:ASP:OD1	27:1:36:VAL:N	2.41	0.53
34:8:121:SER:HB3	34:8:125:ARG:HH12	1.72	0.53
54:28:737:C:H2'	54:28:738:G:O4'	2.08	0.53
54:28:1139:G:O2'	54:28:1140:C:H5'	2.08	0.53
3:C:110:THR:HG21	3:C:169:ARG:HE	1.73	0.53
3:C:129:THR:HG22	3:C:130:GLN:O	2.08	0.53
4:D:145:ASP:O	4:D:184:ASP:HB2	2.08	0.53
9:I:74:PRO:HB2	9:I:77:VAL:HG23	1.90	0.53
17:Q:57:ARG:NH1	54:28:1154:G:OP2	2.29	0.53
21:U:52:ASN:OD1	21:U:53:GLN:N	2.40	0.53
36:10:49:TYR:O	36:10:62:ALA:HB2	2.07	0.53
41:15:36:VAL:HG22	41:15:38:GLY:H	1.72	0.53
51:25:77:ASN:OD1	51:25:78:LEU:N	2.42	0.53
53:27:459:A:H2'	53:27:460:A:C8	2.43	0.53
53:27:576:C:H3'	53:27:576:C:OP2	2.08	0.53
53:27:968:A:C8	53:27:1062:U:H4'	2.43	0.53
53:27:1478:U:H2'	53:27:1479:C:C6	2.43	0.53
54:28:2014:A:H2'	54:28:2015:A:C8	2.43	0.53
54:28:2047:C:O2'	54:28:2048:G:H5'	2.08	0.53
54:28:2106:U:H2'	54:28:2107:G:C8	2.43	0.53
54:28:2415:G:H2'	54:28:2416:C:H6	1.74	0.53
54:28:2485:G:O2'	54:28:2486:C:H5'	2.08	0.53
54:28:2691:C:H2'	54:28:2692:G:C8	2.42	0.53
54:28:2714:G:O2'	54:28:2715:C:H5'	2.08	0.53
54:28:2834:G:O2'	54:28:2835:A:H5'	2.08	0.53
6:F:121:THR:OG1	6:F:133:LYS:HB2	2.08	0.53
8:H:59:LEU:HG	8:H:61:ARG:H	1.73	0.53
9:I:118:GLY:HA3	54:28:1082:U:H5'	1.90	0.53
21:U:97:SER:O	21:U:99:SER:N	2.38	0.53
33:7:209:VAL:HA	33:7:212:TYR:HD2	1.72	0.53
53:27:422:C:H5''	53:27:423:G:O5'	2.08	0.53
53:27:878:A:H2'	53:27:879:C:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:271:G:H1'	54:28:272:A:C8	2.43	0.53
54:28:388:G:N7	54:28:390:U:H2'	2.23	0.53
54:28:816:C:H2'	54:28:817:C:H6	1.72	0.53
54:28:845:A:H5'	54:28:846:U:OP2	2.08	0.53
54:28:1541:C:H2'	54:28:1542:U:C6	2.43	0.53
54:28:1659:G:H3'	54:28:1660:G:H5''	1.88	0.53
54:28:1748:C:H2'	54:28:1749:A:H8	1.73	0.53
54:28:2199:A:H2'	54:28:2200:C:O4'	2.08	0.53
54:28:2323:G:H2'	54:28:2324:U:O4'	2.08	0.53
1:A:602:VAL:HG21	50:24:31:ARG:HD3	1.90	0.53
14:N:30:ARG:HG3	14:N:75:ILE:CD1	2.38	0.53
17:Q:61:ILE:HG12	17:Q:91:ARG:HD3	1.90	0.53
20:T:64:LYS:NZ	54:28:1602:U:OP2	2.41	0.53
24:X:11:PRO:HA	24:X:28:PHE:O	2.08	0.53
28:2:27:LEU:HD23	28:2:36:LYS:HB3	1.90	0.53
36:10:148:SER:OG	36:10:150:GLU:OE1	2.26	0.53
37:11:48:ALA:HB1	49:23:68:PRO:CG	2.30	0.53
38:12:3:ARG:HD2	53:27:932:C:OP1	2.09	0.53
41:15:57:VAL:HG22	41:15:58:ASN:N	2.21	0.53
42:16:124:LYS:O	52:26:34:ARG:NE	2.41	0.53
49:23:31:TYR:O	49:23:39:VAL:HB	2.09	0.53
52:26:45:LYS:HE3	53:27:723:U:O4'	2.07	0.53
53:27:321:A:O2'	53:27:322:C:H5'	2.08	0.53
53:27:472:U:H2'	53:27:473:U:C6	2.43	0.53
53:27:965:U:H1'	53:27:969:A:C2	2.42	0.53
53:27:1351:U:H2'	53:27:1352:C:C6	2.43	0.53
54:28:796:C:H2'	54:28:797:G:H8	1.72	0.53
54:28:814:C:H2'	54:28:815:C:H6	1.72	0.53
54:28:1094:U:H1'	54:28:1097:U:H5	1.73	0.53
54:28:1354:A:H2'	54:28:1355:G:O4'	2.09	0.53
54:28:1878:G:H2'	54:28:1879:C:O4'	2.09	0.53
54:28:2345:G:H5'	54:28:2347:C:H5'	1.89	0.53
54:28:2898:U:H2'	54:28:2899:A:H8	1.72	0.53
1:A:692:VAL:HG21	1:A:715:GLU:O	2.08	0.53
2:B:206:LYS:HB2	54:28:729:G:C6	2.44	0.53
5:E:90:LEU:HD13	5:E:95:MET:HA	1.91	0.53
6:F:29:ASN:HD22	6:F:78:VAL:C	2.15	0.53
6:F:132:LEU:C	6:F:132:LEU:HD12	2.34	0.53
7:G:31:VAL:HG12	24:X:38:TRP:HD1	1.74	0.53
7:G:58:LEU:O	7:G:61:VAL:HG22	2.08	0.53
11:K:36:GLY:HA2	11:K:62:VAL:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:88:GLY:O	54:28:1224:U:H4'	2.09	0.53
19:S:25:ARG:HH22	54:28:519:U:H5''	1.73	0.53
21:U:21:ARG:HD3	21:U:72:PHE:CD1	2.44	0.53
25:Y:39:GLN:HB2	25:Y:41:HIS:HE1	1.71	0.53
35:9:167:PRO:HB3	35:9:169:TRP:CH2	2.43	0.53
36:10:104:ILE:HD11	36:10:119:VAL:HG23	1.91	0.53
41:15:52:LEU:HD21	41:15:59:LYS:HD2	1.88	0.53
53:27:287:U:H2'	53:27:288:A:H8	1.73	0.53
53:27:465:A:H2'	53:27:466:A:C8	2.43	0.53
53:27:599:C:H2'	53:27:600:A:H8	1.73	0.53
53:27:1030:U:H3'	53:27:1031:C:O4'	2.09	0.53
53:27:1176:A:H2'	53:27:1177:G:C8	2.43	0.53
54:28:558:U:H2'	54:28:559:G:C8	2.43	0.53
54:28:816:C:H2'	54:28:817:C:C6	2.44	0.53
54:28:1328:A:H2'	54:28:1330:C:C4	2.43	0.53
54:28:1606:C:H4'	54:28:1608:A:C2	2.43	0.53
54:28:1746:A:H2'	54:28:1747:U:H6	1.70	0.53
54:28:2126:A:H5'	54:28:2127:G:O5'	2.08	0.53
56:30:13:A:C2'	56:30:14:A:H5'	2.37	0.53
14:N:12:ARG:HD3	14:N:16:HIS:CE1	2.43	0.53
16:P:88:ARG:N	16:P:111:GLU:OE2	2.41	0.53
17:Q:2:ARG:HD2	54:28:1248:G:N1	2.23	0.53
33:7:206:ILE:HG13	33:7:207:ARG:N	2.24	0.53
54:28:808:G:H2'	54:28:809:G:H8	1.71	0.53
54:28:1130:U:O2'	54:28:1131:G:OP1	2.26	0.53
54:28:1289:C:H2'	54:28:1290:C:H6	1.73	0.53
54:28:1550:C:H2'	54:28:1551:A:H8	1.72	0.53
54:28:1916:A:H2'	54:28:1917:U:O4'	2.09	0.53
54:28:2457:U:C5	54:28:2494:G:N1	2.75	0.53
54:28:2520:C:O2'	54:28:2521:C:H5'	2.09	0.53
54:28:2524:G:C2'	54:28:2525:G:H5''	2.37	0.53
54:28:2644:G:H3'	54:28:2645:G:N2	2.23	0.53
1:A:640:GLN:NE2	54:28:883:G:N2	2.57	0.53
1:A:668:VAL:HG22	1:A:713:THR:HG22	1.91	0.53
2:B:132:ARG:O	2:B:166:ARG:NH1	2.42	0.53
11:K:66:LYS:HA	11:K:79:PHE:O	2.09	0.53
13:M:66:ARG:NH1	13:M:104:GLU:OE2	2.41	0.53
33:7:68:PHE:HE2	33:7:88:GLN:HB2	1.73	0.53
35:9:37:PRO:HD2	35:9:41:GLY:HA3	1.90	0.53
36:10:45:VAL:HG11	36:10:113:VAL:HG23	1.91	0.53
42:16:110:THR:HG22	52:26:4:LYS:HA	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:21:50:THR:HG22	47:21:50:THR:O	2.09	0.53
53:27:102:G:H2'	53:27:103:U:H6	1.74	0.53
53:27:1305:G:HO2'	53:27:1306:A:H8	1.53	0.53
54:28:499:U:H2'	54:28:500:G:O4'	2.08	0.53
54:28:556:A:H3'	54:28:557:C:C6	2.43	0.53
54:28:574:A:H4'	54:28:575:A:H5'	1.91	0.53
54:28:689:A:H2'	54:28:690:G:C8	2.44	0.53
54:28:1289:C:H2'	54:28:1290:C:C6	2.44	0.53
54:28:1866:A:H2'	54:28:1867:G:O4'	2.08	0.53
54:28:2088:A:H2'	54:28:2089:C:C6	2.43	0.53
54:28:2093:G:N7	54:28:2225:A:H2'	2.24	0.53
54:28:2676:C:H2'	54:28:2677:G:H8	1.72	0.53
54:28:2888:C:H2'	54:28:2889:C:H6	1.74	0.53
2:B:87:SER:HB2	2:B:199:HIS:CD2	2.44	0.53
6:F:114:HIS:CD2	6:F:147:LEU:HD21	2.44	0.53
8:H:61:ARG:NE	54:28:1045:C:O2'	2.42	0.53
11:K:48:PRO:CG	53:27:1422:G:H5'	2.39	0.53
14:N:66:ALA:O	14:N:69:ARG:O	2.27	0.53
42:16:81:LEU:O	42:16:81:LEU:HD12	2.09	0.53
43:17:78:VAL:HG12	43:17:101:LEU:HD23	1.90	0.53
44:18:13:HIS:NE2	53:27:1296:C:H5'	2.24	0.53
53:27:59:A:H5''	53:27:387:U:H5''	1.91	0.53
53:27:208:U:O2'	53:27:211:G:N2	2.42	0.53
53:27:460:A:H2'	53:27:461:A:H8	1.73	0.53
53:27:628:G:H2'	53:27:629:A:H8	1.72	0.53
53:27:984:C:H2'	53:27:985:C:H6	1.74	0.53
53:27:1229:A:H2'	53:27:1230:C:H6	1.73	0.53
53:27:1386:G:H2'	53:27:1387:G:H8	1.72	0.53
54:28:43:G:H2'	54:28:44:A:C8	2.44	0.53
54:28:57:C:H2'	54:28:58:G:O4'	2.07	0.53
54:28:1266:G:N2	54:28:2012:G:H2'	2.23	0.53
54:28:2257:U:O2'	54:28:2258:C:H5'	2.07	0.53
54:28:2391:G:O2'	54:28:2392:A:H8	1.91	0.53
54:28:2871:U:H5'	54:28:2872:A:OP1	2.09	0.53
56:30:7:G:H2'	56:30:8:A:C8	2.44	0.53
2:B:170:TYR:HB3	2:B:182:LYS:HB3	1.90	0.53
2:B:174:ARG:HH11	2:B:180:MET:CE	2.22	0.53
11:K:105:ARG:HE	16:P:31:VAL:HG21	1.73	0.53
14:N:29:VAL:HG11	14:N:75:ILE:HG23	1.91	0.53
14:N:47:VAL:C	14:N:50:PRO:HD2	2.33	0.53
23:W:35:ARG:NH1	54:28:2355:G:O2'	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:11:PRO:HG3	24:X:30:PRO:HD2	1.90	0.53
36:10:10:LEU:O	36:10:11:GLN:C	2.52	0.53
36:10:108:GLY:H	53:27:9:G:H4'	1.74	0.53
40:14:93:LEU:O	40:14:97:LEU:HD13	2.09	0.53
50:24:10:ILE:HG12	50:24:40:PHE:CE2	2.44	0.53
53:27:215:C:H2'	53:27:216:U:O4'	2.09	0.53
53:27:222:C:H2'	53:27:223:A:H8	1.74	0.53
53:27:1009:U:H2'	53:27:1010:U:H6	1.74	0.53
53:27:1011:C:H2'	53:27:1012:A:H8	1.74	0.53
54:28:395:U:H2'	54:28:396:G:C8	2.44	0.53
54:28:833:A:H2'	54:28:834:G:H8	1.72	0.53
54:28:863:A:H2'	54:28:864:G:H8	1.73	0.53
54:28:1515:A:H3'	54:28:1516:G:H8	1.74	0.53
54:28:1642:G:H2'	54:28:1643:G:C8	2.44	0.53
54:28:2104:C:H2'	54:28:2105:U:C6	2.44	0.53
54:28:2470:G:H2'	54:28:2471:A:C8	2.41	0.53
56:30:17:U:H2'	56:30:18:G:H8	1.73	0.53
2:B:52:HIS:CD2	2:B:218:THR:HA	2.44	0.53
8:H:17:GLU:HA	8:H:88:HIS:HB2	1.91	0.53
14:N:29:VAL:CG1	14:N:78:LYS:HD2	2.38	0.53
16:P:30:TRP:CG	16:P:37:LYS:HZ1	2.27	0.53
27:1:45:THR:O	27:1:48:GLN:HB3	2.09	0.53
34:8:55:VAL:HB	34:8:66:THR:HB	1.90	0.53
41:15:37:ARG:HD3	53:27:1124:G:OP1	2.09	0.53
45:19:20:PHE:C	45:19:22:LYS:H	2.14	0.53
45:19:52:ARG:CZ	53:27:1317:C:N3	2.72	0.53
53:27:132:C:H2'	53:27:133:U:C6	2.44	0.53
53:27:216:U:H2'	53:27:217:C:C6	2.44	0.53
53:27:513:C:H2'	53:27:514:C:H6	1.72	0.53
53:27:731:G:O2'	53:27:732:C:H5'	2.09	0.53
53:27:1287:A:H2'	53:27:1288:A:C8	2.43	0.53
54:28:115:C:O2'	54:28:116:C:H5'	2.09	0.53
54:28:409:G:H2'	54:28:410:G:C8	2.44	0.53
54:28:460:A:H2'	54:28:461:C:O4'	2.09	0.53
54:28:1344:U:H3'	54:28:1345:C:H5'	1.91	0.53
54:28:1972:G:H2'	54:28:1973:G:C8	2.44	0.53
54:28:2643:G:H2'	54:28:2644:G:C8	2.44	0.53
55:29:89:U:H5'	55:29:90:C:C6	2.43	0.53
18:R:4:VAL:HG22	18:R:13:ARG:HA	1.90	0.52
19:S:53:SER:O	19:S:57:ASN:HB2	2.09	0.52
36:10:105:ILE:HD11	36:10:123:LEU:HA	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:11:29:ILE:O	37:11:34:GLY:N	2.42	0.52
40:14:5:TYR:HB2	40:14:20:ILE:CG2	2.39	0.52
40:14:123:ARG:HB3	53:27:1343:G:O3'	2.09	0.52
41:15:14:ASP:OD2	41:15:17:LEU:N	2.42	0.52
42:16:44:ALA:HB3	42:16:69:CYS:HB2	1.90	0.52
45:19:20:PHE:C	45:19:22:LYS:N	2.61	0.52
47:21:39:PHE:HD1	47:21:50:THR:HG23	1.73	0.52
53:27:52:C:H2'	53:27:53:A:C8	2.44	0.52
53:27:309:A:H2'	53:27:310:G:C8	2.45	0.52
53:27:552:U:H2'	53:27:553:A:C8	2.44	0.52
53:27:695:A:H2'	53:27:696:A:H8	1.68	0.52
53:27:759:A:H2'	53:27:760:G:O4'	2.08	0.52
53:27:990:C:H2'	53:27:991:U:O4'	2.09	0.52
54:28:171:U:H2'	54:28:172:A:C8	2.45	0.52
54:28:337:C:H2'	54:28:338:G:O4'	2.09	0.52
54:28:796:C:H2'	54:28:797:G:C8	2.44	0.52
54:28:1435:G:O2'	54:28:1436:G:H5'	2.08	0.52
54:28:1478:G:H2'	54:28:1479:G:H8	1.73	0.52
54:28:1853:A:H2'	54:28:1854:A:C8	2.44	0.52
55:29:2:G:H2'	55:29:3:C:C6	2.44	0.52
2:B:222:THR:HG22	2:B:239:PHE:HD1	1.74	0.52
5:E:126:ASN:OD1	5:E:157:THR:N	2.32	0.52
10:J:102:GLU:OE2	54:28:2780:G:N1	2.41	0.52
14:N:31:HIS:CD2	54:28:1279:G:H4'	2.45	0.52
39:13:11:THR:HG22	39:13:15:ASN:ND2	2.23	0.52
43:17:25:ALA:CB	53:27:554:A:H5'	2.39	0.52
44:18:10:ASP:C	44:18:12:LYS:N	2.67	0.52
53:27:24:U:H2'	53:27:25:C:H6	1.74	0.52
53:27:371:A:H2'	53:27:372:C:O4'	2.09	0.52
53:27:512:U:H2'	53:27:513:C:H6	1.73	0.52
53:27:801:U:H2'	53:27:802:A:C8	2.44	0.52
53:27:1029:U:H1'	53:27:1033:G:N2	2.22	0.52
53:27:1324:A:H2'	53:27:1325:C:C6	2.43	0.52
53:27:1453:G:H3'	53:27:1453:G:N3	2.24	0.52
54:28:583:G:H2'	54:28:584:C:C6	2.44	0.52
54:28:1201:U:H2'	54:28:1202:G:C8	2.44	0.52
54:28:1341:G:C2	54:28:1398:C:H4'	2.44	0.52
54:28:2837:A:H2'	54:28:2838:G:H8	1.74	0.52
2:B:246:PRO:HD2	2:B:247:TRP:CZ3	2.43	0.52
4:D:161:ALA:HA	4:D:164:LEU:HD13	1.90	0.52
5:E:91:ARG:HA	5:E:95:MET:HB3	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:99:PHE:O	5:E:102:LEU:HB3	2.09	0.52
6:F:34:ARG:HD3	6:F:74:MET:SD	2.50	0.52
13:M:53:MET:HE3	13:M:63:ILE:HG21	1.92	0.52
17:Q:75:TYR:O	17:Q:78:PHE:HB3	2.09	0.52
17:Q:93:ILE:O	17:Q:97:ILE:HG13	2.10	0.52
18:R:85:LYS:HE2	54:28:815:C:P	2.50	0.52
24:X:3:VAL:HG22	24:X:10:ARG:HB3	1.92	0.52
34:8:35:ASP:O	34:8:38:VAL:HG22	2.10	0.52
35:9:2:ARG:HD2	35:9:114:ARG:HH21	1.74	0.52
38:12:14:ASP:HB3	38:12:17:PHE:O	2.09	0.52
40:14:41:GLU:OE1	40:14:41:GLU:N	2.42	0.52
41:15:52:LEU:HD23	41:15:62:ARG:HG2	1.89	0.52
44:18:6:ILE:O	44:18:8:ILE:CD1	2.57	0.52
50:24:51:HIS:HB2	50:24:56:HIS:NE2	2.24	0.52
53:27:1105:A:H2'	53:27:1106:G:C8	2.45	0.52
54:28:1:G:H2'	54:28:2:G:C8	2.44	0.52
54:28:297:G:H2'	54:28:298:G:O4'	2.09	0.52
54:28:609:A:H2'	54:28:610:C:O4'	2.09	0.52
54:28:1387:A:H2'	54:28:1388:G:C8	2.45	0.52
54:28:1415:U:H1'	54:28:1588:G:N2	2.24	0.52
54:28:1925:C:O2'	54:28:1926:U:H5'	2.10	0.52
54:28:2297:A:N6	54:28:2319:G:H1'	2.25	0.52
54:28:2623:G:H2'	54:28:2624:G:C8	2.43	0.52
55:29:85:G:H2'	55:29:86:G:H8	1.74	0.52
1:A:607:HIS:HB3	1:A:631:ILE:HB	1.91	0.52
4:D:44:ARG:NH1	54:28:1248:G:OP1	2.42	0.52
5:E:48:LEU:HD21	5:E:147:ARG:HH12	1.74	0.52
6:F:26:LYS:HB2	6:F:31:GLU:HG3	1.92	0.52
11:K:10:VAL:HG21	11:K:16:ALA:HB3	1.90	0.52
19:S:11:ARG:NH2	54:28:1321:A:H4'	2.25	0.52
34:8:196:GLY:H	53:27:1057:G:H4'	1.73	0.52
35:9:8:LEU:HD21	35:9:31:CYS:SG	2.50	0.52
35:9:53:GLN:HB3	35:9:202:LEU:HD12	1.91	0.52
39:13:124:ILE:HG13	39:13:124:ILE:O	2.09	0.52
45:19:30:ILE:HG21	45:19:43:ALA:HB2	1.90	0.52
48:22:11:VAL:CG2	48:22:20:ILE:HD11	2.38	0.52
48:22:42:LYS:NZ	53:27:278:G:OP2	2.42	0.52
49:23:28:LEU:HD23	49:23:58:ILE:HD13	1.91	0.52
53:27:189:A:H2'	53:27:190:A:O4'	2.09	0.52
53:27:1125:U:H2'	53:27:1126:U:H2'	1.91	0.52
53:27:1251:A:O2'	53:27:1370:G:H5'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:96:C:H2'	54:28:97:C:H6	1.75	0.52
54:28:438:G:H2'	54:28:439:A:H8	1.72	0.52
54:28:1662:U:H2'	54:28:1663:G:H8	1.75	0.52
54:28:1778:U:H2'	54:28:1784:A:H62	1.74	0.52
54:28:1794:A:H2'	54:28:1795:C:H6	1.74	0.52
54:28:2848:G:O2'	54:28:2868:A:N6	2.43	0.52
2:B:207:ALA:HB2	54:28:1790:C:O2'	2.09	0.52
4:D:85:PHE:CD1	54:28:588:U:H1'	2.45	0.52
5:E:141:ASP:O	5:E:142:TYR:HB3	2.08	0.52
8:H:11:ILE:O	8:H:14:GLU:HB3	2.10	0.52
10:J:35:ARG:HB3	10:J:54:ILE:HD11	1.92	0.52
11:K:66:LYS:HD3	54:28:1666:G:OP1	2.09	0.52
13:M:19:GLY:C	13:M:20:LEU:HD12	2.35	0.52
16:P:2:ASN:HD21	54:28:2876:G:H4'	1.74	0.52
43:17:35:ARG:HG2	43:17:37:TYR:CD2	2.44	0.52
48:22:5:ARG:NH2	53:27:127:G:H4'	2.24	0.52
53:27:429:U:H4'	53:27:430:A:O5'	2.08	0.52
54:28:532:A:H2'	54:28:532:A:N3	2.24	0.52
54:28:556:A:H3'	54:28:557:C:H6	1.74	0.52
54:28:569:U:C4	54:28:570:G:C6	2.97	0.52
54:28:706:A:H2'	54:28:707:G:O4'	2.09	0.52
54:28:777:G:H2'	54:28:778:G:H8	1.74	0.52
54:28:1177:G:H2'	54:28:1178:C:C1'	2.40	0.52
54:28:1858:A:H1'	54:28:1885:A:C2	2.44	0.52
54:28:2626:C:H2'	54:28:2627:G:C8	2.45	0.52
54:28:2650:U:H2'	54:28:2651:C:H6	1.74	0.52
58:32:9:G:O2'	58:32:45:G:H2'	2.09	0.52
3:C:108:ASP:OD2	3:C:206:ALA:HA	2.10	0.52
11:K:22:ILE:HD12	11:K:23:LYS:HB2	1.90	0.52
13:M:75:GLU:HA	54:28:957:C:OP2	2.10	0.52
14:N:53:THR:HA	14:N:56:LYS:HG2	1.92	0.52
20:T:50:LEU:N	20:T:50:LEU:HD12	2.24	0.52
28:2:46:GLY:HA3	28:2:54:ILE:CB	2.39	0.52
35:9:57:LYS:NZ	35:9:58:GLN:OE1	2.40	0.52
48:22:39:ARG:HD3	53:27:280:C:O2	2.09	0.52
49:23:11:ARG:O	49:23:12:PHE:HB2	2.09	0.52
53:27:880:C:H2'	53:27:881:G:C8	2.39	0.52
54:28:640:C:H2'	54:28:641:U:C6	2.45	0.52
54:28:723:C:H2'	54:28:724:U:O4'	2.10	0.52
54:28:728:G:O2'	54:28:730:A:H8	1.93	0.52
54:28:2037:A:H2'	54:28:2038:G:H8	1.72	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2747:G:H1	54:28:2754:U:H2'	1.75	0.52
4:D:149:ILE:HD11	4:D:172:ALA:HA	1.92	0.52
5:E:127:TYR:HE2	5:E:129:MET:HE2	1.75	0.52
6:F:29:ASN:HB2	6:F:78:VAL:HA	1.92	0.52
12:L:77:ILE:HD12	12:L:108:ALA:HB1	1.91	0.52
17:Q:36:GLN:NE2	54:28:1252:G:H1	2.08	0.52
17:Q:80:ASN:ND2	54:28:1151:A:H4'	2.24	0.52
20:T:69:ARG:NH1	20:T:72:GLN:O	2.43	0.52
27:1:50:ASP:OD1	44:18:70:ARG:NE	2.31	0.52
30:4:11:LYS:HE3	54:28:686:U:H5''	1.90	0.52
34:8:133:MET:HE3	34:8:167:TYR:CE2	2.45	0.52
35:9:149:LYS:HE2	35:9:177:MET:HE3	1.92	0.52
36:10:131:ASN:HD21	53:27:18:C:P	2.32	0.52
48:22:56:ASP:HB3	48:22:81:ALA:N	2.24	0.52
53:27:300:A:H2'	53:27:301:G:O4'	2.09	0.52
53:27:376:G:H2'	53:27:377:G:H8	1.74	0.52
53:27:737:C:H2'	53:27:738:C:H6	1.74	0.52
53:27:1313:U:H2'	53:27:1314:C:C6	2.44	0.52
53:27:1521:C:H2'	53:27:1522:U:C6	2.44	0.52
54:28:262:A:H2'	54:28:263:G:O4'	2.09	0.52
54:28:279:A:H1'	54:28:362:A:O2'	2.10	0.52
54:28:668:A:H2'	54:28:670:A:H62	1.74	0.52
54:28:696:G:H2'	54:28:697:G:H8	1.74	0.52
54:28:1013:C:O2'	54:28:1014:A:H5'	2.10	0.52
54:28:2813:A:H2'	54:28:2814:A:C8	2.44	0.52
55:29:39:A:H2'	55:29:40:U:C5	2.45	0.52
4:D:46:GLN:HB3	4:D:83:VAL:HG11	1.92	0.52
8:H:11:ILE:CD1	8:H:66:GLY:HA3	2.39	0.52
8:H:34:THR:HG23	54:28:1056:G:H5'	1.92	0.52
9:I:111:THR:O	9:I:114:ALA:CB	2.56	0.52
11:K:90:ASN:OD1	11:K:91:SER:N	2.43	0.52
12:L:78:ARG:NH2	54:28:626:A:C2	2.77	0.52
15:O:66:GLY:HA2	15:O:102:ARG:HH21	1.75	0.52
17:Q:111:LYS:CB	18:R:48:LYS:HE3	2.32	0.52
21:U:81:ARG:NH2	21:U:96:LYS:HG3	2.25	0.52
22:V:20:LEU:HD23	22:V:27:PRO:HD3	1.92	0.52
24:X:48:LEU:HB3	24:X:50:VAL:HG13	1.91	0.52
33:7:165:ALA:HB2	33:7:186:VAL:HG12	1.91	0.52
35:9:3:TYR:O	35:9:4:LEU:C	2.53	0.52
37:11:11:HIS:CD2	37:11:12:PRO:HD2	2.44	0.52
39:13:104:SER:OG	39:13:125:ILE:HD11	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:17:98:ARG:HA	43:17:103:CYS:SG	2.49	0.52
46:20:27:GLN:NE2	53:27:657:U:O4'	2.40	0.52
47:21:4:ILE:HG12	47:21:21:VAL:HG22	1.91	0.52
51:25:70:LYS:HE2	53:27:261:U:OP2	2.10	0.52
53:27:458:U:H2'	53:27:459:A:H8	1.74	0.52
53:27:741:G:H2'	53:27:742:G:O4'	2.10	0.52
53:27:1412:C:H2'	53:27:1413:A:C8	2.45	0.52
54:28:259:G:O2'	54:28:260:G:H5'	2.10	0.52
54:28:996:A:H2'	54:28:997:G:H8	1.74	0.52
54:28:1005:C:H2'	54:28:1006:C:H6	1.75	0.52
54:28:1023:U:O2'	54:28:1122:G:H5'	2.09	0.52
54:28:1387:A:H2'	54:28:1388:G:H8	1.74	0.52
54:28:1930:G:N2	54:28:1968:G:H2'	2.23	0.52
54:28:2258:C:O2'	54:28:2426:A:H4'	2.10	0.52
54:28:2784:U:H2'	54:28:2785:C:H6	1.75	0.52
2:B:144:GLU:HA	2:B:151:GLY:HA2	1.92	0.52
3:C:125:TRP:CG	3:C:160:LYS:HB3	2.45	0.52
7:G:29:PHE:HB2	54:28:2198:A:C2	2.45	0.52
33:7:221:ARG:O	33:7:224:ARG:NE	2.43	0.52
34:8:76:ILE:HD12	34:8:77:GLY:O	2.09	0.52
36:10:114:LEU:O	36:10:117:ALA:HB3	2.09	0.52
36:10:148:SER:O	36:10:151:MET:HB2	2.10	0.52
38:12:41:ILE:HD11	53:27:1240:U:O4'	2.10	0.52
40:14:98:ARG:NH2	53:27:1180:A:OP2	2.39	0.52
49:23:15:GLU:OE1	49:23:15:GLU:N	2.43	0.52
50:24:72:GLU:CG	53:27:1320:C:H4'	2.40	0.52
53:27:128:G:O2'	53:27:129:A:H5'	2.10	0.52
53:27:501:C:H1'	53:27:549:C:H1'	1.90	0.52
54:28:1246:A:H2'	54:28:1247:A:O4'	2.10	0.52
54:28:1637:A:H5'	54:28:1760:C:O2'	2.10	0.52
54:28:2497:A:H8	54:28:2497:A:OP2	1.92	0.52
54:28:2573:C:H5''	54:28:2574:G:H5''	1.91	0.52
10:J:113:PRO:HD2	54:28:558:U:OP1	2.10	0.52
16:P:29:VAL:C	16:P:39:LEU:HD12	2.35	0.52
16:P:105:LYS:HG2	53:27:1432:G:O5'	2.10	0.52
18:R:49:ILE:HD12	18:R:49:ILE:O	2.09	0.52
19:S:51:LEU:O	19:S:55:ILE:HG13	2.10	0.52
39:13:85:TYR:CD1	53:27:598:U:H4'	2.45	0.52
50:24:62:THR:HG22	50:24:63:ASP:N	2.25	0.52
52:26:16:ARG:HE	52:26:19:LYS:HG2	1.75	0.52
53:27:1252:A:H2'	53:27:1253:G:O4'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1328:C:H2'	53:27:1329:A:O4'	2.10	0.52
54:28:244:A:H2'	54:28:245:G:O4'	2.10	0.52
54:28:250:G:C2	54:28:251:A:C4	2.98	0.52
54:28:968:C:H2'	54:28:969:G:C8	2.45	0.52
54:28:1260:A:H2'	54:28:1261:C:H6	1.74	0.52
54:28:1336:A:H2'	54:28:1337:G:C8	2.45	0.52
54:28:1594:U:H2'	54:28:1595:C:H6	1.75	0.52
54:28:1838:C:H4'	54:28:1839:G:H8	1.75	0.52
54:28:2345:G:H21	54:28:2381:A:H3'	1.75	0.52
1:A:684:THR:O	1:A:685:THR:C	2.53	0.51
6:F:8:VAL:HG11	6:F:75:VAL:HG21	1.93	0.51
6:F:88:LEU:HD22	6:F:95:ALA:HB2	1.92	0.51
6:F:97:VAL:HG21	6:F:122:ALA:O	2.10	0.51
8:H:37:LYS:HD3	54:28:1085:A:N6	2.25	0.51
21:U:71:ILE:O	21:U:71:ILE:HG13	2.10	0.51
24:X:31:ASN:OD1	24:X:33:HIS:NE2	2.42	0.51
32:6:4:ARG:O	32:6:37:GLN:HB3	2.09	0.51
33:7:56:LEU:HD23	33:7:59:ILE:HD11	1.92	0.51
33:7:170:ILE:HG13	33:7:171:ALA:N	2.24	0.51
38:12:139:ASP:HA	38:12:142:ARG:HH11	1.74	0.51
44:18:6:ILE:O	44:18:8:ILE:HD12	2.10	0.51
53:27:414:A:H2'	53:27:415:A:O4'	2.10	0.51
53:27:955:U:H2'	53:27:956:U:C6	2.44	0.51
53:27:1053:G:N7	53:27:1199:U:H3'	2.25	0.51
53:27:1113:C:H2'	53:27:1114:C:H6	1.74	0.51
53:27:1436:U:H2'	53:27:1437:A:H8	1.75	0.51
53:27:1472:U:H2'	53:27:1473:G:C8	2.45	0.51
54:28:401:A:H2'	54:28:402:A:C8	2.45	0.51
54:28:1882:U:O2'	54:28:1883:U:H5'	2.10	0.51
54:28:2006:C:H5'	54:28:2049:G:OP1	2.11	0.51
54:28:2131:U:C2	54:28:2158:A:H2'	2.45	0.51
54:28:2475:C:H42	54:28:2529:G:H22	1.58	0.51
54:28:2607:G:H2'	54:28:2608:G:O4'	2.10	0.51
1:A:722:LEU:O	1:A:725:VAL:HB	2.10	0.51
5:E:124:ARG:HG3	54:28:2315:G:O2'	2.10	0.51
5:E:144:LYS:N	5:E:144:LYS:HD2	2.25	0.51
9:I:46:ASP:HA	9:I:50:LYS:HE2	1.91	0.51
10:J:44:TYR:OH	10:J:46:PRO:HA	2.10	0.51
11:K:15:GLY:O	11:K:47:ILE:HG12	2.11	0.51
12:L:4:ASN:O	54:28:1243:C:H1'	2.10	0.51
15:O:64:TYR:CE2	15:O:66:GLY:HA3	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:6:ARG:HG3	21:U:7:ASP:N	2.23	0.51
27:1:9:TYR:CE1	27:1:26:SER:HA	2.46	0.51
32:6:2:LYS:HG3	32:6:4:ARG:HH12	1.74	0.51
34:8:148:ILE:HD12	34:8:200:TRP:O	2.10	0.51
41:15:39:PRO:HA	41:15:73:LEU:O	2.11	0.51
53:27:784:A:H2'	53:27:785:G:H8	1.74	0.51
53:27:813:U:H2'	53:27:814:A:H5''	1.90	0.51
53:27:994:A:C8	53:27:1216:A:H4'	2.46	0.51
54:28:277:G:H1'	54:28:361:G:O6	2.10	0.51
54:28:1744:A:H3'	54:28:1745:A:C8	2.43	0.51
54:28:1857:G:H1'	54:28:1885:A:H62	1.74	0.51
54:28:2812:G:H2'	54:28:2813:A:H8	1.74	0.51
57:31:23:C:H2'	57:31:24:U:C6	2.46	0.51
6:F:95:ALA:HB3	6:F:127:GLN:O	2.10	0.51
9:I:98:GLY:HA3	9:I:137:LEU:HD22	1.93	0.51
15:O:30:ARG:HA	15:O:35:ILE:HG13	1.90	0.51
17:Q:23:TYR:CD1	54:28:533:G:H5'	2.45	0.51
27:1:16:CYS:SG	27:1:20:ASN:N	2.83	0.51
43:17:42:LYS:HG3	43:17:88:ASP:O	2.10	0.51
50:24:5:LYS:HD2	50:24:6:LYS:NZ	2.23	0.51
51:25:67:HIS:ND1	51:25:67:HIS:O	2.43	0.51
53:27:516:U:H5	53:27:533:A:N6	2.08	0.51
53:27:1097:C:H2'	53:27:1098:C:C6	2.46	0.51
54:28:195:A:H2'	54:28:198:C:N4	2.24	0.51
54:28:600:G:H2'	54:28:601:C:C6	2.45	0.51
54:28:1168:G:H2'	54:28:1169:A:H8	1.75	0.51
54:28:1178:C:H2'	54:28:1179:G:N7	2.25	0.51
54:28:1660:G:H2'	54:28:1661:G:H8	1.75	0.51
54:28:1931:U:H2'	54:28:1932:A:H8	1.74	0.51
54:28:2011:U:H2'	54:28:2012:G:O4'	2.09	0.51
54:28:2398:U:H2'	54:28:2399:G:C8	2.45	0.51
54:28:2472:G:H2'	54:28:2475:C:H42	1.74	0.51
54:28:2488:G:O2'	54:28:2489:U:H5'	2.11	0.51
54:28:2888:C:H2'	54:28:2889:C:C6	2.45	0.51
2:B:149:LYS:HD3	54:28:2204:G:H4'	1.91	0.51
8:H:27:VAL:HG13	8:H:83:ALA:HB3	1.93	0.51
16:P:5:LYS:NZ	16:P:9:GLN:OE1	2.44	0.51
17:Q:56:PHE:CZ	54:28:536:G:H4'	2.45	0.51
27:1:58:ASP:OD1	27:1:59:ARG:N	2.41	0.51
37:11:2:ARG:HG3	37:11:68:GLN:NE2	2.26	0.51
38:12:3:ARG:HB2	53:27:932:C:OP1	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:17:81:ILE:CG2	43:17:94:TYR:HB3	2.39	0.51
44:18:3:ILE:HD11	44:18:21:ILE:HD11	1.92	0.51
53:27:1484:C:H2'	53:27:1485:U:C6	2.46	0.51
54:28:9:G:H2'	54:28:2629:U:O4	2.10	0.51
54:28:121:G:C4'	54:28:149:A:H5'	2.31	0.51
54:28:721:A:H2'	54:28:722:A:H8	1.70	0.51
54:28:910:A:C6	54:28:911:A:C6	2.99	0.51
54:28:1722:A:H62	54:28:1738:G:H1'	1.75	0.51
54:28:2565:A:C2'	54:28:2566:A:H5'	2.41	0.51
1:A:675:ASP:O	1:A:676:ARG:HB3	2.10	0.51
1:A:682:ASP:O	1:A:683:ILE:C	2.53	0.51
5:E:42:ALA:HB1	5:E:46:LYS:HD3	1.92	0.51
11:K:31:ARG:HH12	54:28:2676:C:P	2.34	0.51
12:L:78:ARG:O	12:L:81:ASP:OD1	2.29	0.51
18:R:27:ILE:O	18:R:66:HIS:NE2	2.40	0.51
35:9:147:LYS:CD	53:27:491:G:OP1	2.55	0.51
36:10:100:GLU:C	36:10:102:THR:H	2.16	0.51
37:11:74:LEU:O	37:11:77:THR:OG1	2.25	0.51
39:13:85:TYR:CG	53:27:598:U:H4'	2.45	0.51
39:13:87:ARG:HB3	39:13:90:GLU:HG2	1.92	0.51
42:16:51:PHE:CE2	42:16:64:VAL:HG11	2.46	0.51
45:19:2:LYS:NZ	53:27:1048:G:H4'	2.25	0.51
53:27:112:G:H21	53:27:354:G:C5'	2.14	0.51
53:27:622:A:H2'	53:27:623:C:H5'	1.92	0.51
53:27:765:G:H3'	53:27:812:G:H22	1.75	0.51
53:27:1390:U:H2'	53:27:1391:U:C6	2.46	0.51
53:27:1444:U:H2'	53:27:1445:U:C6	2.45	0.51
54:28:729:G:H4'	54:28:763:G:H5'	1.92	0.51
54:28:863:A:H2'	54:28:864:G:C8	2.45	0.51
54:28:1257:C:H2'	54:28:1258:U:C6	2.46	0.51
54:28:2141:G:N2	54:28:2151:U:H1'	2.25	0.51
54:28:2450:A:OP1	54:28:2497:A:H2'	2.10	0.51
1:A:650:GLU:HG2	1:A:651:ARG:HG3	1.93	0.51
1:A:684:THR:O	1:A:687:LEU:HB2	2.11	0.51
7:G:70:GLU:HB2	7:G:138:VAL:HG11	1.93	0.51
8:H:75:ALA:O	8:H:77:VAL:C	2.53	0.51
20:T:8:LEU:O	25:Y:29:ARG:NH1	2.43	0.51
20:T:50:LEU:HD23	25:Y:26:PHE:CD2	2.46	0.51
22:V:9:ARG:NH2	22:V:12:GLN:HA	2.26	0.51
30:4:12:ARG:NE	30:4:44:VAL:HG21	2.26	0.51
34:8:187:GLU:OE1	34:8:187:GLU:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:9:111:ALA:HB1	53:27:407:U:H5''	1.93	0.51
48:22:40:THR:HG22	48:22:41:THR:N	2.26	0.51
53:27:112:G:O2'	53:27:113:G:H5'	2.10	0.51
53:27:755:G:H2'	53:27:756:C:C6	2.46	0.51
54:28:355:U:H2'	54:28:356:G:C8	2.45	0.51
54:28:479:A:H4'	54:28:480:A:OP1	2.11	0.51
54:28:546:U:H2'	54:28:547:A:C4'	2.39	0.51
54:28:697:G:H2'	54:28:698:C:C6	2.45	0.51
54:28:741:U:H2'	54:28:742:A:H8	1.73	0.51
54:28:1032:A:H2	54:28:1122:G:H22	1.58	0.51
54:28:1656:C:H2'	54:28:1657:U:H6	1.74	0.51
54:28:2231:U:H2'	54:28:2232:C:H6	1.75	0.51
54:28:2417:C:H2'	54:28:2418:A:H8	1.76	0.51
5:E:72:SER:OG	5:E:79:ARG:HG2	2.10	0.51
5:E:105:ILE:HG13	5:E:106:ALA:N	2.24	0.51
9:I:29:GLN:OE1	54:28:1096:A:N6	2.43	0.51
12:L:54:GLN:NE2	54:28:2428:G:C2	2.79	0.51
14:N:38:LEU:HB3	14:N:39:PRO:HD3	1.92	0.51
14:N:74:GLU:O	14:N:77:ALA:HB3	2.10	0.51
34:8:6:PRO:HB3	34:8:10:ARG:NH2	2.26	0.51
34:8:32:LEU:O	34:8:35:ASP:HB3	2.10	0.51
36:10:160:VAL:HA	36:10:163:ILE:HG13	1.93	0.51
42:16:95:THR:HG23	42:16:96:ILE:N	2.26	0.51
42:16:124:LYS:HD3	53:27:780:A:H5''	1.93	0.51
43:17:20:VAL:HG21	53:27:553:A:H5''	1.93	0.51
49:23:11:ARG:NH2	53:27:845:A:O2'	2.44	0.51
53:27:105:G:H2'	53:27:106:C:C6	2.45	0.51
53:27:571:U:H4'	53:27:819:A:C6	2.46	0.51
53:27:928:G:H2'	53:27:929:G:C8	2.46	0.51
53:27:987:G:H2'	53:27:988:G:H8	1.75	0.51
53:27:1004:A:C6	53:27:1026:G:H1'	2.46	0.51
53:27:1210:C:H2'	53:27:1211:U:O4'	2.10	0.51
53:27:1241:G:H2'	53:27:1242:G:H8	1.74	0.51
53:27:1338:G:H21	57:31:41:C:H1'	1.75	0.51
53:27:1346:A:N1	53:27:1374:A:H5''	2.25	0.51
54:28:551:G:H2'	54:28:552:U:H6	1.76	0.51
54:28:656:G:H2'	54:28:657:U:O4'	2.11	0.51
54:28:759:G:H2'	54:28:760:G:H8	1.75	0.51
54:28:1548:A:H2'	54:28:1549:A:C8	2.46	0.51
54:28:1839:G:H1'	54:28:1927:A:C8	2.46	0.51
54:28:2502:G:H5'	54:28:2503:A:H5''	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2578:G:H2'	54:28:2579:C:H6	1.76	0.51
54:28:2821:A:H2'	54:28:2822:G:C8	2.45	0.51
55:29:111:U:H2'	55:29:112:G:C8	2.45	0.51
1:A:703:THR:HG23	1:A:704:LYS:N	2.26	0.51
2:B:156:SER:OG	54:28:1821:A:H5'	2.10	0.51
4:D:1:MET:O	4:D:13:THR:HA	2.11	0.51
9:I:135:MET:HB3	54:28:1063:G:C4'	2.41	0.51
11:K:110:GLU:N	11:K:113:MET:HE3	2.26	0.51
15:O:51:ALA:HB3	15:O:78:VAL:CG2	2.40	0.51
26:Z:23:LEU:HD11	26:Z:53:MET:SD	2.50	0.51
34:8:47:ALA:O	34:8:49:ALA:N	2.44	0.51
35:9:106:PHE:CE1	35:9:144:ILE:HD11	2.46	0.51
40:14:35:GLU:H	40:14:35:GLU:CD	2.18	0.51
47:21:51:ARG:O	47:21:52:LEU:HD12	2.10	0.51
52:26:33:ARG:HG3	52:26:34:ARG:HG2	1.91	0.51
53:27:1309:G:H2'	53:27:1310:G:C8	2.46	0.51
54:28:340:A:C2'	54:28:341:C:H5'	2.41	0.51
54:28:655:A:H4'	54:28:656:G:C5'	2.31	0.51
54:28:839:U:H2'	54:28:840:C:H6	1.76	0.51
54:28:1891:G:H2'	54:28:1892:C:C6	2.46	0.51
54:28:2106:U:H2'	54:28:2107:G:H8	1.74	0.51
54:28:2657:A:H2'	54:28:2658:C:H5'	1.92	0.51
54:28:2817:U:H3'	54:28:2818:U:H5'	1.93	0.51
57:31:1:C:N4	57:31:72:A:H61	2.07	0.51
58:32:14:A:H3'	58:32:15:G:C8	2.40	0.51
1:A:702:ASP:CG	1:A:703:THR:H	2.19	0.51
2:B:81:GLU:HG3	2:B:102:TYR:HE1	1.75	0.51
4:D:194:LYS:O	4:D:197:GLU:HB3	2.11	0.51
6:F:138:GLN:HE22	54:28:2759:G:N2	2.08	0.51
9:I:116:MET:HG2	9:I:117:THR:N	2.25	0.51
16:P:8:GLU:HA	16:P:54:LEU:HD22	1.93	0.51
17:Q:32:ARG:HB2	54:28:581:C:OP1	2.11	0.51
17:Q:107:ALA:O	17:Q:110:GLU:HB2	2.10	0.51
18:R:9:GLY:O	54:28:996:A:H1'	2.11	0.51
21:U:47:PRO:HB3	21:U:55:GLY:N	2.26	0.51
34:8:201:ILE:O	34:8:203:LYS:HG3	2.11	0.51
35:9:12:ARG:HH22	53:27:428:G:H3'	1.76	0.51
36:10:147:ASN:ND2	39:13:95:MET:HE1	2.22	0.51
37:11:3:HIS:N	37:11:92:THR:HG22	2.25	0.51
42:16:56:LYS:HE2	53:27:691:G:O6	2.11	0.51
43:17:2:THR:HG21	53:27:880:C:OP2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:23:11:ARG:NH1	49:23:14:ALA:HB3	2.24	0.51
53:27:25:C:H5'	53:27:524:G:H1'	1.92	0.51
53:27:27:G:H2'	53:27:28:A:H8	1.75	0.51
53:27:102:G:H2'	53:27:103:U:C6	2.45	0.51
53:27:253:A:H2'	53:27:254:G:H8	1.76	0.51
53:27:999:C:H2'	53:27:1000:A:H8	1.76	0.51
54:28:29:U:H2'	54:28:30:G:C8	2.46	0.51
54:28:847:U:O2	54:28:847:U:H2'	2.10	0.51
54:28:972:A:H3'	54:28:973:A:H2'	1.92	0.51
54:28:1255:U:N3	54:28:2060:A:H8	2.09	0.51
54:28:2361:G:H2'	54:28:2362:C:H6	1.76	0.51
54:28:2658:C:H2'	54:28:2659:G:O4'	2.11	0.51
54:28:2841:C:H2'	54:28:2842:G:H8	1.76	0.51
58:32:72:A:C3'	58:32:73:A:H5''	2.41	0.51
3:C:130:GLN:NE2	54:28:2578:G:H21	2.08	0.51
4:D:49:ARG:NH2	54:28:673:C:OP1	2.40	0.51
5:E:12:VAL:O	5:E:13:LYS:C	2.54	0.51
12:L:111:ILE:H	12:L:128:THR:HG23	1.76	0.51
28:2:47:TYR:HA	28:2:51:ARG:O	2.10	0.51
33:7:120:SER:O	33:7:125:PHE:HB3	2.11	0.51
35:9:23:GLY:H	35:9:160:LEU:HD21	1.76	0.51
35:9:58:GLN:O	35:9:59:LYS:C	2.54	0.51
37:11:2:ARG:HE	37:11:92:THR:CG2	2.24	0.51
41:15:73:LEU:CD1	53:27:1125:U:H1'	2.41	0.51
49:23:15:GLU:OE2	53:27:845:A:H4'	2.10	0.51
49:23:32:ILE:HD12	49:23:36:GLY:HA2	1.92	0.51
53:27:370:C:H2'	53:27:371:A:C8	2.46	0.51
53:27:449:G:H2'	53:27:450:G:C8	2.46	0.51
53:27:456:A:H2'	53:27:457:G:C8	2.46	0.51
53:27:519:C:H2'	53:27:520:A:O4'	2.10	0.51
54:28:804:A:H2'	54:28:806:C:C4	2.46	0.51
54:28:1110:G:HO2'	54:28:1111:A:H8	1.57	0.51
54:28:1270:C:H5''	54:28:1271:G:O5'	2.11	0.51
54:28:1524:G:H2'	54:28:1525:A:H8	1.76	0.51
54:28:2391:G:O2'	54:28:2392:A:O5'	2.23	0.51
54:28:2544:G:H2'	54:28:2545:G:H8	1.75	0.51
55:29:93:C:H2'	55:29:94:A:H8	1.75	0.51
1:A:598:VAL:O	1:A:598:VAL:CG1	2.58	0.50
1:A:598:VAL:CG2	1:A:658:GLY:HA2	2.41	0.50
5:E:103:ILE:HG13	5:E:104:THR:N	2.26	0.50
6:F:90:GLY:HA3	6:F:93:TYR:CE2	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:7:TYR:CE1	9:I:59:THR:HG23	2.43	0.50
11:K:10:VAL:HG21	11:K:16:ALA:CB	2.42	0.50
11:K:79:PHE:HD1	16:P:69:VAL:HG22	1.76	0.50
31:5:41:ARG:HD3	54:28:2349:G:OP2	2.11	0.50
34:8:84:GLU:HA	34:8:87:ARG:NH1	2.26	0.50
36:10:40:ASP:CG	36:10:44:ARG:HB2	2.36	0.50
37:11:98:GLU:HG3	37:11:99:ALA:N	2.26	0.50
39:13:9:MET:HG3	39:13:26:MET:HE1	1.93	0.50
40:14:118:ARG:CZ	53:27:1233:G:H5'	2.41	0.50
45:19:52:ARG:NE	53:27:1317:C:N3	2.59	0.50
53:27:165:G:H2'	53:27:166:U:C6	2.46	0.50
53:27:202:G:H2'	53:27:203:G:C8	2.46	0.50
53:27:451:A:H4'	53:27:452:A:O4'	2.11	0.50
53:27:781:A:H4'	53:27:1522:U:O2'	2.11	0.50
53:27:1460:C:H2'	53:27:1461:G:H8	1.77	0.50
54:28:145:C:H2'	54:28:146:A:C8	2.46	0.50
54:28:753:A:O2'	54:28:754:U:H5'	2.11	0.50
54:28:780:G:H21	54:28:783:A:H62	1.59	0.50
54:28:877:A:O2'	54:28:900:A:N6	2.44	0.50
54:28:1289:C:H1'	54:28:1330:C:H5'	1.92	0.50
54:28:1330:C:O2'	54:28:1331:G:H5'	2.11	0.50
54:28:1599:U:H2'	54:28:1600:C:C6	2.46	0.50
54:28:2019:A:H2	54:28:2035:G:H22	1.60	0.50
54:28:2329:U:H2'	54:28:2330:G:C8	2.46	0.50
54:28:2457:U:H5	54:28:2494:G:N1	2.09	0.50
54:28:2518:A:H2'	54:28:2518:A:N3	2.26	0.50
56:30:13:A:H61	58:32:35:A:N6	2.09	0.50
5:E:134:GLN:HB3	5:E:149:ARG:O	2.12	0.50
8:H:3:LEU:HD12	8:H:5:LEU:H	1.76	0.50
9:I:126:ARG:HB3	54:28:1080:A:H4'	1.93	0.50
21:U:6:ARG:NH2	21:U:25:LYS:O	2.45	0.50
26:Z:29:ARG:CD	54:28:1183:U:H5''	2.41	0.50
34:8:71:ARG:HE	34:8:74:ILE:HD11	1.76	0.50
36:10:153:ALA:HB2	36:10:163:ILE:HG12	1.93	0.50
38:12:76:SER:HB2	38:12:85:GLN:OE1	2.12	0.50
40:14:44:ARG:O	40:14:47:VAL:HG22	2.11	0.50
41:15:32:THR:HG21	41:15:83:THR:HA	1.93	0.50
48:22:59:GLU:C	48:22:60:ILE:HG13	2.36	0.50
51:25:30:PHE:O	51:25:33:LYS:HB2	2.11	0.50
52:26:28:LEU:C	52:26:30:GLU:H	2.18	0.50
53:27:189:A:O2'	53:27:190:A:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:197:A:N3	53:27:198:G:H1'	2.25	0.50
53:27:516:U:O4	53:27:533:A:N7	2.44	0.50
53:27:859:G:H2'	53:27:860:A:C8	2.46	0.50
53:27:1009:U:H2'	53:27:1010:U:C6	2.46	0.50
54:28:56:A:H2'	54:28:57:C:O4'	2.10	0.50
54:28:89:A:H2'	54:28:90:U:C6	2.46	0.50
54:28:622:G:H2'	54:28:623:C:H6	1.75	0.50
54:28:679:C:H2'	54:28:680:C:H6	1.71	0.50
54:28:963:U:H2'	54:28:964:C:H6	1.75	0.50
54:28:1144:A:H2'	54:28:1145:C:C6	2.46	0.50
54:28:1486:U:H2'	54:28:1487:U:H6	1.76	0.50
54:28:1912:A:N7	54:28:1917:U:O4	2.44	0.50
57:31:68:C:H2'	57:31:69:C:C6	2.46	0.50
1:A:700:ARG:NH2	54:28:897:C:O4'	2.44	0.50
2:B:200:MET:HB2	54:28:1820:U:C2	2.46	0.50
7:G:4:ILE:HD12	7:G:17:ASP:O	2.10	0.50
8:H:67:THR:HB	8:H:68:PRO:HD3	1.93	0.50
10:J:6:ALA:HB1	10:J:11:VAL:HG22	1.93	0.50
11:K:7:MET:C	11:K:8:LEU:HD12	2.36	0.50
15:O:17:LYS:HZ2	54:28:2380:C:H5'	1.76	0.50
20:T:40:LYS:HG3	54:28:1599:U:OP1	2.11	0.50
24:X:15:ASN:ND2	54:28:381:G:H5''	2.26	0.50
28:2:12:ARG:HH11	28:2:16:ARG:NH1	2.09	0.50
30:4:11:LYS:HE2	54:28:686:U:OP1	2.11	0.50
37:11:46:GLN:CA	37:11:56:LYS:HG2	2.38	0.50
38:12:1:PRO:HB2	53:27:1379:G:N7	2.25	0.50
43:17:113:ARG:NH2	53:27:501:C:OP1	2.44	0.50
50:24:65:MET:HE2	50:24:73:PHE:CE1	2.46	0.50
53:27:182:A:C2'	53:27:183:C:H5''	2.39	0.50
53:27:1115:U:H2'	53:27:1116:U:C6	2.46	0.50
53:27:1476:A:H2'	53:27:1477:U:O4'	2.11	0.50
54:28:371:A:H61	54:28:401:A:H3'	1.76	0.50
54:28:754:U:H2'	54:28:755:U:C6	2.47	0.50
54:28:959:A:H2'	54:28:960:A:C8	2.47	0.50
54:28:1047:G:H21	54:28:1110:G:H2'	1.76	0.50
54:28:1056:G:H1'	54:28:1103:A:H61	1.75	0.50
54:28:1464:G:H2'	54:28:1465:G:C8	2.46	0.50
54:28:1536:C:H4'	54:28:1537:G:C2	2.45	0.50
54:28:1709:U:H2'	54:28:1710:G:H8	1.73	0.50
54:28:2070:A:H2'	54:28:2071:A:O4'	2.11	0.50
57:31:63:G:H2'	57:31:64:G:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:32:40:C:H2'	58:32:41:C:C6	2.46	0.50
1:A:668:VAL:O	1:A:740:ARG:HG3	2.11	0.50
2:B:205:GLY:O	54:28:1791:A:O4'	2.28	0.50
3:C:45:TYR:HE1	3:C:47:ALA:HB3	1.76	0.50
3:C:85:ALA:O	3:C:86:GLU:HB3	2.11	0.50
4:D:106:LYS:HG3	4:D:200:LEU:HD23	1.92	0.50
6:F:136:ASP:OD2	6:F:138:GLN:HB3	2.12	0.50
13:M:35:ALA:HB2	13:M:102:LEU:HD11	1.92	0.50
19:S:41:LYS:HB2	19:S:44:ALA:HB2	1.93	0.50
20:T:89:GLU:O	20:T:91:GLN:N	2.36	0.50
27:1:47:LYS:O	27:1:50:ASP:HB3	2.12	0.50
33:7:183:PHE:CE1	33:7:197:PHE:HD2	2.28	0.50
35:9:169:TRP:NE1	35:9:185:PRO:HG3	2.26	0.50
37:11:49:TYR:CE2	49:23:65:SER:HA	2.47	0.50
40:14:30:ASN:C	40:14:32:ARG:H	2.20	0.50
40:14:78:ILE:O	40:14:82:ILE:HG13	2.12	0.50
42:16:49:SER:HA	42:16:68:ARG:NH1	2.26	0.50
48:22:60:ILE:HG22	48:22:72:TRP:HE3	1.76	0.50
53:27:88:U:H2'	53:27:89:U:H6	1.73	0.50
53:27:236:A:H2'	53:27:237:G:H8	1.76	0.50
53:27:857:C:H2'	53:27:858:G:O4'	2.12	0.50
53:27:1504:G:OP1	53:27:1507:A:H4'	2.11	0.50
53:27:1518:A:H2'	53:27:1519:A:O4'	2.12	0.50
54:28:365:U:H2'	54:28:366:C:C6	2.47	0.50
54:28:787:C:H3'	54:28:791:C:H41	1.75	0.50
54:28:1173:U:H5'	54:28:1174:U:OP2	2.11	0.50
54:28:1437:C:H2'	54:28:1438:U:C6	2.47	0.50
54:28:1441:G:H4'	54:28:1628:G:H5'	1.92	0.50
54:28:1771:C:H2'	54:28:1772:A:C8	2.46	0.50
1:A:638:CYS:O	1:A:641:LEU:HB3	2.12	0.50
4:D:49:ARG:O	4:D:74:LYS:HE2	2.10	0.50
7:G:114:GLU:HA	7:G:116:ARG:NH1	2.26	0.50
9:I:92:PRO:HG2	54:28:1063:G:N3	2.27	0.50
19:S:59:GLU:HA	19:S:64:ALA:HA	1.93	0.50
36:10:110:MET:O	36:10:113:VAL:HG12	2.11	0.50
38:12:111:GLY:HA2	38:12:118:ARG:HD3	1.93	0.50
38:12:113:LYS:HZ2	53:27:1298:U:H5	1.58	0.50
53:27:357:G:O2'	53:27:358:U:H5'	2.10	0.50
53:27:484:G:H4'	53:27:485:U:H5''	1.93	0.50
53:27:663:A:H5'	53:27:836:G:OP1	2.12	0.50
53:27:813:U:C2'	53:27:814:A:H5''	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1305:G:N2	53:27:1331:G:H2'	2.24	0.50
54:28:443:A:N3	54:28:1201:U:H1'	2.26	0.50
54:28:1565:C:HO2'	54:28:1566:A:H8	1.56	0.50
54:28:1935:G:H3'	54:28:1962:C:H42	1.75	0.50
54:28:2216:G:H2'	54:28:2217:G:H8	1.77	0.50
54:28:2461:A:H2'	54:28:2462:C:C6	2.46	0.50
54:28:2841:C:H2'	54:28:2842:G:C8	2.46	0.50
54:28:2875:C:O2'	54:28:2876:G:H5'	2.11	0.50
8:H:61:ARG:CB	54:28:1047:G:N7	2.74	0.50
33:7:66:ILE:N	33:7:88:GLN:OE1	2.39	0.50
35:9:205:LYS:HB3	53:27:8:A:C5	2.46	0.50
43:17:51:VAL:HG22	43:17:52:CYS:N	2.25	0.50
44:18:6:ILE:O	44:18:7:ASN:C	2.53	0.50
48:22:12:VAL:HB	48:22:21:VAL:HG13	1.94	0.50
49:23:14:ALA:HA	49:23:50:TYR:CE2	2.46	0.50
50:24:54:ARG:NH1	53:27:958:A:C5	2.80	0.50
53:27:813:U:H2'	53:27:814:A:C5'	2.42	0.50
53:27:836:G:H2'	53:27:837:U:O4'	2.12	0.50
53:27:860:A:H2'	53:27:861:G:O4'	2.11	0.50
53:27:896:C:H2'	53:27:897:C:C6	2.46	0.50
54:28:886:A:H1'	54:28:891:G:N2	2.27	0.50
54:28:1001:A:H2'	54:28:1002:G:O4'	2.12	0.50
54:28:1561:C:H2'	54:28:1562:U:H6	1.77	0.50
54:28:2307:G:H8	54:28:2307:G:OP1	1.94	0.50
54:28:2317:A:H2'	54:28:2318:G:O4'	2.11	0.50
54:28:2651:C:O2'	54:28:2652:C:H5'	2.12	0.50
54:28:2723:C:H2'	54:28:2724:U:O4'	2.12	0.50
54:28:2881:U:H2'	54:28:2882:A:C8	2.46	0.50
55:29:49:C:H2'	55:29:50:A:C8	2.46	0.50
55:29:85:G:H2'	55:29:86:G:C8	2.47	0.50
1:A:699:SER:HA	1:A:710:ILE:HA	1.92	0.50
3:C:3:GLY:C	3:C:4:LEU:HD12	2.36	0.50
3:C:118:PHE:HB2	54:28:2823:A:OP1	2.11	0.50
5:E:67:THR:OG1	5:E:85:GLY:O	2.29	0.50
6:F:81:GLY:HA3	6:F:134:GLY:O	2.11	0.50
10:J:35:ARG:HD3	10:J:40:HIS:CD2	2.47	0.50
13:M:66:ARG:NH2	54:28:906:U:O2'	2.38	0.50
16:P:46:VAL:HA	16:P:59:THR:O	2.12	0.50
33:7:41:ASN:HD21	33:7:43:GLU:HB2	1.77	0.50
33:7:58:LYS:O	33:7:61:SER:CB	2.57	0.50
37:11:9:MET:HB3	37:11:59:TYR:CE1	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:15:67:ILE:HG23	45:19:95:LEU:HD13	1.94	0.50
43:17:106:VAL:HG23	43:17:116:TYR:HB3	1.92	0.50
53:27:181:A:H61	53:27:194:C:H3'	1.76	0.50
53:27:427:U:H4'	53:27:541:G:H5''	1.93	0.50
53:27:590:U:H2'	53:27:591:U:C6	2.47	0.50
53:27:1221:G:H2'	53:27:1222:G:C8	2.47	0.50
54:28:565:C:H4'	54:28:1253:A:C6	2.47	0.50
54:28:1290:C:H2'	54:28:1291:C:H6	1.77	0.50
54:28:2010:G:H2'	54:28:2011:U:H6	1.76	0.50
54:28:2016:U:H2'	54:28:2017:U:C6	2.47	0.50
54:28:2291:U:H5''	54:28:2380:C:O2'	2.11	0.50
1:A:621:ILE:HB	1:A:633:VAL:HG13	1.94	0.50
2:B:71:ASP:OD1	2:B:118:GLY:HA2	2.11	0.50
4:D:88:ARG:HD3	4:D:89:PRO:HD2	1.93	0.50
5:E:10:GLU:CD	5:E:10:GLU:H	2.20	0.50
5:E:114:ARG:HH22	27:1:47:LYS:HA	1.72	0.50
7:G:68:ARG:HA	7:G:71:LYS:HD2	1.92	0.50
9:I:23:VAL:O	9:I:24:GLY:C	2.54	0.50
10:J:36:LEU:HD22	10:J:121:LYS:HB2	1.93	0.50
20:T:13:ALA:HB3	20:T:33:LYS:HD3	1.93	0.50
28:2:40:HIS:HA	28:2:48:TYR:OH	2.11	0.50
31:5:14:LYS:HB3	31:5:22:LYS:HE2	1.94	0.50
35:9:58:GLN:HE21	35:9:62:ARG:NH2	2.09	0.50
51:25:70:LYS:HA	51:25:73:ARG:NH1	2.27	0.50
52:26:23:GLU:HB3	52:26:27:VAL:HG22	1.93	0.50
52:26:39:LYS:HB3	52:26:40:PRO:HD3	1.92	0.50
53:27:79:G:N3	53:27:80:A:H1'	2.27	0.50
53:27:401:C:O2'	53:27:402:G:H5'	2.12	0.50
53:27:507:C:H2'	53:27:508:U:H5	1.77	0.50
53:27:878:A:H2'	53:27:879:C:H6	1.77	0.50
53:27:948:C:H2'	53:27:949:A:C8	2.43	0.50
54:28:114:U:H2'	54:28:115:C:C6	2.46	0.50
54:28:128:C:H2'	54:28:129:C:H6	1.77	0.50
54:28:1433:A:H2'	54:28:1434:A:O4'	2.12	0.50
54:28:1593:A:H2'	54:28:1594:U:C6	2.47	0.50
54:28:1775:U:H2'	54:28:1776:G:C5'	2.41	0.50
54:28:2047:C:H2'	54:28:2048:G:C8	2.45	0.50
54:28:2228:G:H2'	54:28:2229:U:H6	1.75	0.50
54:28:2743:U:H2'	54:28:2744:G:O4'	2.11	0.50
9:I:135:MET:HG3	9:I:137:LEU:HG	1.94	0.50
15:O:30:ARG:HH11	15:O:102:ARG:NH1	2.09	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:17:GLY:H	18:R:98:ILE:HB	1.75	0.50
18:R:27:ILE:CG2	18:R:31:GLU:HB3	2.42	0.50
36:10:155:LYS:HG2	39:13:65:PHE:HB2	1.94	0.50
50:24:2:ARG:HA	53:27:1313:U:O4	2.11	0.50
51:25:23:ARG:HH21	51:25:60:GLN:HE22	1.59	0.50
53:27:250:A:H4'	53:27:251:G:O5'	2.12	0.50
53:27:306:A:O2'	53:27:307:C:H5'	2.11	0.50
53:27:507:C:H2'	53:27:508:U:C5	2.46	0.50
53:27:1296:C:H4'	53:27:1302:C:H41	1.77	0.50
53:27:1408:A:H2	53:27:1492:A:H62	1.59	0.50
54:28:894:U:O2'	54:28:895:U:H5'	2.11	0.50
54:28:1664:A:N6	54:28:1996:C:H42	2.05	0.50
54:28:2197:U:O3'	54:28:2198:A:H8	1.94	0.50
54:28:2246:G:H2'	54:28:2247:A:H8	1.77	0.50
54:28:2771:C:H2'	54:28:2772:C:H6	1.76	0.50
5:E:64:PRO:HA	5:E:88:VAL:HG22	1.94	0.49
5:E:134:GLN:OE1	5:E:149:ARG:O	2.29	0.49
5:E:137:PHE:HB2	5:E:140:ILE:HD13	1.94	0.49
9:I:27:LEU:O	9:I:31:GLY:N	2.45	0.49
9:I:135:MET:HE2	9:I:137:LEU:HD21	1.94	0.49
10:J:17:VAL:HG23	10:J:137:PRO:HB2	1.94	0.49
12:L:96:LYS:CD	12:L:103:ILE:HA	2.42	0.49
15:O:3:LYS:CE	55:29:46:A:H5''	2.42	0.49
16:P:16:VAL:HG13	16:P:83:ILE:HD12	1.94	0.49
19:S:83:LYS:HD3	19:S:95:ARG:HH11	1.73	0.49
22:V:16:ALA:HA	22:V:19:ARG:NH1	2.27	0.49
34:8:35:ASP:OD1	34:8:56:ILE:HG13	2.12	0.49
35:9:23:GLY:O	35:9:26:ALA:HB2	2.12	0.49
38:12:112:ASP:HB2	38:12:118:ARG:HG3	1.93	0.49
41:15:20:GLN:O	41:15:24:GLU:HG3	2.12	0.49
44:18:97:ARG:HG2	53:27:1308:U:P	2.52	0.49
53:27:252:U:C2	53:27:253:A:N7	2.80	0.49
53:27:403:C:H2'	53:27:404:G:H8	1.77	0.49
53:27:537:G:H2'	53:27:538:G:H8	1.77	0.49
53:27:1211:U:H4'	53:27:1213:A:C1'	2.41	0.49
54:28:493:G:H2'	54:28:494:G:O4'	2.12	0.49
54:28:753:A:H2'	54:28:754:U:H6	1.77	0.49
54:28:984:A:H5''	54:28:985:C:OP2	2.12	0.49
54:28:1259:G:H2'	54:28:1260:A:H8	1.77	0.49
54:28:1475:G:O2'	54:28:1476:U:C6	2.61	0.49
54:28:1676:A:H2'	54:28:1677:A:C8	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2340:A:H2'	54:28:2341:G:C8	2.47	0.49
54:28:2450:A:O2'	54:28:2451:A:H5'	2.11	0.49
54:28:2784:U:H2'	54:28:2785:C:C6	2.46	0.49
54:28:2881:U:H2'	54:28:2882:A:H8	1.75	0.49
54:28:2896:C:H2'	54:28:2897:U:H6	1.77	0.49
57:31:37:A:H2'	57:31:38:A:C8	2.47	0.49
3:C:101:PHE:HZ	3:C:203:VAL:O	1.95	0.49
6:F:3:VAL:HG12	6:F:68:ARG:HG2	1.94	0.49
7:G:27:ARG:NH1	24:X:55:MET:HE3	2.28	0.49
7:G:75:LEU:HB3	7:G:77:THR:HG22	1.93	0.49
7:G:132:PHE:HB3	7:G:134:VAL:HG13	1.94	0.49
13:M:77:PRO:O	13:M:78:LEU:C	2.55	0.49
31:5:3:ILE:O	31:5:63:TYR:CE2	2.65	0.49
33:7:182:VAL:O	33:7:195:VAL:HG13	2.11	0.49
35:9:169:TRP:HA	35:9:183:ARG:CZ	2.41	0.49
38:12:128:GLU:OE1	38:12:128:GLU:N	2.45	0.49
40:14:33:SER:HB3	40:14:36:GLN:HG2	1.93	0.49
41:15:54:SER:OG	41:15:58:ASN:HB2	2.13	0.49
53:27:34:C:H2'	53:27:35:G:H8	1.75	0.49
53:27:47:C:H4'	53:27:48:C:C5'	2.42	0.49
53:27:276:G:H2'	53:27:277:C:C6	2.48	0.49
53:27:370:C:H2'	53:27:371:A:H8	1.77	0.49
53:27:908:A:H2'	53:27:909:A:C8	2.47	0.49
53:27:940:C:H2'	53:27:941:G:C8	2.47	0.49
53:27:1137:C:C5'	53:27:1138:G:H5'	2.37	0.49
53:27:1248:A:H2'	53:27:1249:C:H6	1.77	0.49
53:27:1324:A:H2'	53:27:1325:C:H6	1.76	0.49
54:28:114:U:H2'	54:28:115:C:H6	1.77	0.49
54:28:367:G:H3'	54:28:368:A:C8	2.47	0.49
54:28:657:U:H2'	54:28:658:U:H6	1.76	0.49
54:28:1126:A:H8	54:28:1126:A:OP1	1.95	0.49
54:28:1442:U:H2'	54:28:1443:U:H6	1.77	0.49
54:28:1752:C:H2'	54:28:1753:G:C8	2.47	0.49
54:28:2283:C:H2'	54:28:2284:A:O4'	2.12	0.49
55:29:49:C:H2'	55:29:50:A:H8	1.77	0.49
56:30:17:U:O2'	56:30:18:G:H5'	2.12	0.49
1:A:700:ARG:O	1:A:709:THR:CG2	2.59	0.49
2:B:67:LYS:HE2	2:B:69:ASN:HB3	1.95	0.49
3:C:197:THR:HB	54:28:2820:A:C6	2.47	0.49
5:E:84:ILE:HG21	54:28:2312:U:H5'	1.92	0.49
21:U:4:ILE:H	21:U:4:ILE:HD12	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:40:LEU:HA	21:U:60:LYS:O	2.12	0.49
33:7:164:ASP:OD2	33:7:166:ASP:HB3	2.12	0.49
39:13:28:SER:HB3	39:13:56:PRO:HB2	1.93	0.49
40:14:11:ARG:HH12	40:14:108:ARG:HH21	1.59	0.49
43:17:13:ARG:HA	53:27:562:U:O2'	2.12	0.49
44:18:101:THR:HG22	53:27:1226:C:H2'	1.94	0.49
52:26:49:ALA:O	52:26:53:LYS:HG3	2.11	0.49
53:27:67:C:H2'	53:27:68:G:C8	2.46	0.49
53:27:293:G:N2	53:27:305:G:H1'	2.27	0.49
53:27:525:C:H2'	53:27:526:C:O4'	2.12	0.49
53:27:1345:U:O2	53:27:1376:U:O2	2.30	0.49
54:28:597:G:H2'	54:28:598:U:O4'	2.12	0.49
54:28:962:G:H2'	54:28:963:U:O4'	2.12	0.49
54:28:1550:C:H2'	54:28:1551:A:C8	2.47	0.49
54:28:1611:C:H6	54:28:1611:C:H5'	1.78	0.49
54:28:2055:C:H5'	54:28:2056:G:O5'	2.12	0.49
57:31:68:C:H2'	57:31:69:C:H6	1.77	0.49
58:32:36:U:C2'	58:32:37:A:H5'	2.42	0.49
1:A:678:GLY:O	1:A:681:ARG:HB3	2.13	0.49
2:B:91:ALA:HB3	2:B:103:ILE:HD11	1.94	0.49
3:C:38:LYS:HG3	3:C:81:GLU:OE2	2.12	0.49
6:F:93:TYR:CD1	6:F:106:LEU:HA	2.48	0.49
7:G:25:TYR:HD1	54:28:2093:G:O2'	1.95	0.49
7:G:130:VAL:CG2	7:G:144:VAL:HG21	2.42	0.49
10:J:81:ILE:CG2	10:J:82:GLY:H	2.04	0.49
11:K:105:ARG:O	11:K:108:ARG:HB3	2.13	0.49
18:R:51:VAL:O	18:R:52:PRO:C	2.53	0.49
32:6:24:ARG:HG2	32:6:36:ARG:HG3	1.95	0.49
32:6:30:GLU:HG3	32:6:32:LYS:HB2	1.93	0.49
33:7:101:THR:CG2	53:27:1074:G:O2'	2.60	0.49
37:11:66:ALA:HB1	37:11:67:PRO:HD2	1.94	0.49
40:14:14:SER:OG	40:14:74:GLN:HA	2.12	0.49
44:18:95:PRO:CA	44:18:108:ARG:HG3	2.42	0.49
53:27:825:A:H2'	53:27:826:C:H6	1.77	0.49
54:28:1:G:H2'	54:28:2:G:H8	1.77	0.49
54:28:2340:A:H2'	54:28:2341:G:H8	1.76	0.49
54:28:2529:G:OP2	54:28:2530:A:H5''	2.12	0.49
55:29:39:A:H2'	55:29:40:U:C6	2.48	0.49
4:D:130:LYS:NZ	54:28:320:A:OP1	2.44	0.49
6:F:116:LEU:HD11	6:F:122:ALA:HB2	1.95	0.49
16:P:28:LYS:HA	16:P:41:ALA:HA	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:30:TRP:CZ3	16:P:39:LEU:HB2	2.47	0.49
18:R:49:ILE:HG22	18:R:54:VAL:HA	1.94	0.49
18:R:77:PHE:CD1	18:R:84:ARG:HB3	2.47	0.49
21:U:87:GLU:CD	21:U:101:THR:HG21	2.37	0.49
29:3:34:GLU:OE2	29:3:49:LYS:HA	2.12	0.49
34:8:63:ILE:O	34:8:98:ALA:HA	2.12	0.49
36:10:79:THR:OG1	36:10:80:LEU:N	2.37	0.49
36:10:113:VAL:HG13	36:10:114:LEU:HD12	1.95	0.49
42:16:43:TRP:HA	42:16:69:CYS:SG	2.52	0.49
44:18:13:HIS:HD2	53:27:1302:C:N4	2.10	0.49
52:26:36:PHE:HB3	52:26:40:PRO:CD	2.43	0.49
53:27:116:A:OP2	53:27:116:A:H3'	2.12	0.49
53:27:129:A:H1'	53:27:130:A:N7	2.28	0.49
53:27:313:A:H2'	53:27:314:C:H6	1.76	0.49
53:27:355:C:H2'	53:27:356:A:O4'	2.12	0.49
53:27:607:A:H2'	53:27:608:A:C8	2.47	0.49
53:27:686:U:H2'	53:27:687:A:C8	2.47	0.49
53:27:1074:G:H2'	53:27:1075:U:C6	2.48	0.49
53:27:1508:A:H2'	53:27:1509:C:H6	1.77	0.49
54:28:18:U:H2'	54:28:19:A:H8	1.76	0.49
54:28:689:A:H2'	54:28:690:G:H8	1.78	0.49
54:28:917:A:H5''	54:28:2268:A:N6	2.28	0.49
54:28:1823:G:H2'	54:28:1824:G:H8	1.77	0.49
54:28:2024:G:H2'	54:28:2025:C:C6	2.47	0.49
58:32:30:G:H2'	58:32:31:G:H8	1.77	0.49
4:D:63:LYS:HB3	54:28:2060:A:H5'	1.95	0.49
5:E:151:LEU:C	5:E:151:LEU:HD12	2.38	0.49
7:G:66:ASN:ND2	7:G:135:HIS:HD2	2.10	0.49
8:H:67:THR:N	8:H:68:PRO:CD	2.75	0.49
10:J:69:ARG:HA	10:J:89:PHE:CD2	2.47	0.49
12:L:76:GLU:HB2	12:L:111:ILE:HD13	1.95	0.49
17:Q:10:ARG:NH2	54:28:28:A:H1'	2.27	0.49
21:U:26:ASN:OD1	21:U:34:ILE:HB	2.13	0.49
23:W:39:THR:HG21	54:28:2336:A:H61	1.77	0.49
25:Y:9:LYS:NZ	25:Y:11:VAL:HG23	2.27	0.49
25:Y:56:LEU:O	25:Y:60:LYS:HG2	2.13	0.49
28:2:5:ASN:HB2	54:28:2022:U:O4	2.13	0.49
33:7:94:ARG:NE	53:27:1100:C:OP1	2.28	0.49
35:9:10:LEU:HD22	35:9:62:ARG:NH1	2.28	0.49
35:9:108:ALA:HB1	35:9:160:LEU:HD23	1.93	0.49
36:10:160:VAL:HA	36:10:163:ILE:CG1	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:15:67:ILE:O	41:15:67:ILE:HG13	2.12	0.49
44:18:6:ILE:CG1	44:18:7:ASN:H	2.09	0.49
48:22:6:THR:O	48:22:7:LEU:HD12	2.13	0.49
48:22:8:GLN:HG2	48:22:59:GLU:HG2	1.93	0.49
53:27:107:G:H2'	53:27:108:G:O4'	2.11	0.49
53:27:262:A:H2'	53:27:263:A:O4'	2.12	0.49
53:27:560:A:H5'	53:27:566:G:N2	2.27	0.49
53:27:872:A:C2	53:27:874:G:C5	3.01	0.49
53:27:987:G:H2'	53:27:988:G:C8	2.47	0.49
53:27:1305:G:H1'	53:27:1332:A:N6	2.28	0.49
54:28:128:C:H2'	54:28:129:C:C6	2.47	0.49
54:28:768:G:N2	54:28:1379:U:O2'	2.45	0.49
54:28:979:A:H2'	54:28:982:C:H42	1.78	0.49
54:28:1208:C:H2'	54:28:1209:U:C6	2.47	0.49
54:28:2408:U:H2'	54:28:2409:G:C8	2.46	0.49
54:28:2475:C:H42	54:28:2529:G:N2	2.11	0.49
54:28:2565:A:H2'	54:28:2566:A:H5'	1.95	0.49
55:29:91:C:O2'	55:29:92:C:H5'	2.12	0.49
55:29:100:G:H2'	55:29:101:A:O4'	2.12	0.49
58:32:60:U:H2'	58:32:61:C:C5	2.48	0.49
1:A:621:ILE:HG13	1:A:655:ALA:HB3	1.94	0.49
4:D:44:ARG:NH2	54:28:1248:G:OP1	2.45	0.49
8:H:51:TYR:CG	8:H:52:MET:N	2.81	0.49
21:U:54:PRO:O	21:U:55:GLY:C	2.54	0.49
34:8:66:THR:HA	34:8:101:ASN:O	2.12	0.49
34:8:121:SER:O	34:8:125:ARG:HG3	2.13	0.49
37:11:38:ARG:HB3	37:11:63:ASN:HD22	1.78	0.49
39:13:85:TYR:CD1	39:13:123:GLU:HB2	2.47	0.49
40:14:12:LYS:O	40:14:12:LYS:HG3	2.13	0.49
41:15:10:LEU:HD12	41:15:10:LEU:O	2.13	0.49
44:18:25:GLY:H	53:27:1329:A:C5'	2.25	0.49
44:18:28:ARG:NH2	44:18:62:PHE:HB2	2.27	0.49
51:25:5:SER:O	51:25:8:LYS:HB3	2.12	0.49
53:27:167:A:H2'	53:27:168:G:C8	2.48	0.49
53:27:476:U:H2'	53:27:477:C:H6	1.74	0.49
53:27:551:U:H2'	53:27:552:U:C6	2.46	0.49
53:27:725:G:H2'	53:27:726:C:H6	1.78	0.49
53:27:1102:A:H2'	53:27:1103:C:C6	2.48	0.49
54:28:107:G:H2'	54:28:108:G:H8	1.77	0.49
54:28:300:A:N3	54:28:319:G:H1'	2.28	0.49
54:28:595:C:H2'	54:28:596:U:H6	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1410:G:H2'	54:28:1411:U:H6	1.78	0.49
54:28:1659:G:H2'	54:28:1660:G:O4'	2.13	0.49
54:28:1760:C:H2'	54:28:1761:C:H5'	1.94	0.49
54:28:2195:U:H2'	54:28:2196:C:C6	2.47	0.49
54:28:2884:U:O2	54:28:2884:U:H3'	2.13	0.49
58:32:31:G:C2'	58:32:32:C:H5'	2.43	0.49
2:B:261:ARG:HG3	2:B:262:THR:HG23	1.94	0.49
5:E:175:PRO:O	5:E:176:PHE:HB2	2.11	0.49
6:F:98:LYS:NZ	6:F:103:ASN:HD22	2.10	0.49
7:G:97:ARG:CG	7:G:112:LYS:HD2	2.43	0.49
12:L:93:ASN:C	12:L:95:LEU:H	2.20	0.49
17:Q:65:ASN:HD21	17:Q:69:ARG:HE	1.58	0.49
18:R:24:LYS:HD3	18:R:92:TRP:HB3	1.94	0.49
21:U:5:ARG:HG2	21:U:93:ARG:NH2	2.28	0.49
26:Z:29:ARG:HD3	54:28:1183:U:O3'	2.13	0.49
26:Z:40:THR:HG22	26:Z:43:ILE:HG12	1.95	0.49
27:1:38:SER:O	27:1:43:PHE:HE2	1.96	0.49
35:9:104:MET:HE1	35:9:170:LEU:HB2	1.94	0.49
36:10:22:LYS:HB3	36:10:29:ILE:CG2	2.43	0.49
40:14:11:ARG:NH2	40:14:108:ARG:HH21	2.11	0.49
40:14:37:TYR:CD2	40:14:38:PHE:HD2	2.30	0.49
44:18:6:ILE:HD11	44:18:21:ILE:HG23	1.94	0.49
53:27:321:A:H2'	53:27:322:C:H6	1.77	0.49
53:27:635:A:H2'	53:27:636:U:C6	2.48	0.49
53:27:1221:G:H2'	53:27:1222:G:H8	1.78	0.49
53:27:1307:U:H2'	53:27:1308:U:C6	2.48	0.49
53:27:1318:A:H2'	53:27:1319:A:H5'	1.93	0.49
54:28:194:G:N2	54:28:250:G:H22	2.09	0.49
54:28:227:A:C6	54:28:2407:A:H1'	2.47	0.49
54:28:404:A:H1'	54:28:406:G:N9	2.27	0.49
54:28:599:A:H2'	54:28:600:G:C8	2.48	0.49
54:28:1164:C:H2'	54:28:1165:A:H8	1.76	0.49
54:28:1210:G:H5''	54:28:1212:G:O4'	2.13	0.49
54:28:1463:C:H2'	54:28:1464:G:H8	1.77	0.49
54:28:1924:C:H2'	54:28:1925:C:C6	2.47	0.49
54:28:2421:G:H2'	58:32:76:A:H62	1.76	0.49
54:28:2497:A:OP2	54:28:2497:A:C8	2.65	0.49
54:28:2739:U:H5''	54:28:2763:G:O6	2.12	0.49
2:B:12:ARG:HH21	54:28:728:G:H5'	1.77	0.49
2:B:148:GLY:O	54:28:2205:A:H5'	2.12	0.49
5:E:62:GLN:HB2	27:1:6:HIS:ND1	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:162:ARG:CZ	6:F:168:VAL:HG21	2.43	0.49
6:F:167:VAL:HG13	6:F:167:VAL:O	2.12	0.49
8:H:10:ALA:O	8:H:13:ALA:HB3	2.13	0.49
9:I:6:ALA:HB3	9:I:60:VAL:HG21	1.93	0.49
12:L:61:LEU:O	31:5:12:ARG:HD3	2.13	0.49
14:N:2:ARG:HA	14:N:5:LYS:HD2	1.93	0.49
14:N:103:ARG:N	14:N:110:MET:HG2	2.28	0.49
20:T:61:LEU:C	20:T:61:LEU:HD12	2.38	0.49
27:1:27:THR:HG23	27:1:28:VAL:N	2.28	0.49
33:7:60:ALA:HB3	33:7:223:GLY:HA3	1.94	0.49
34:8:128:MET:O	34:8:131:ARG:HB2	2.13	0.49
36:10:12:GLU:CB	36:10:38:VAL:HG12	2.42	0.49
37:11:29:ILE:HG23	37:11:70:VAL:HG11	1.95	0.49
39:13:14:ARG:HD2	53:27:875:U:O2'	2.12	0.49
42:16:92:ARG:CZ	52:26:24:LYS:HD2	2.43	0.49
43:17:41:PRO:HB3	43:17:88:ASP:OD1	2.12	0.49
53:27:75:G:H2'	53:27:76:G:C8	2.48	0.49
53:27:222:C:H2'	53:27:223:A:C8	2.47	0.49
53:27:1238:A:N7	53:27:1301:U:O4	2.46	0.49
53:27:1327:C:H2'	53:27:1328:C:H6	1.77	0.49
54:28:612:G:H1'	54:28:616:A:N6	2.28	0.49
54:28:753:A:H2'	54:28:754:U:C6	2.48	0.49
54:28:817:C:H2'	54:28:818:G:O4'	2.12	0.49
54:28:1028:A:N6	54:28:1125:G:H2'	2.28	0.49
54:28:1412:U:H2'	54:28:1413:A:C8	2.48	0.49
54:28:1528:A:H2'	54:28:1529:G:H5'	1.94	0.49
54:28:1710:G:H2'	54:28:1711:A:H8	1.78	0.49
54:28:2676:C:H2'	54:28:2677:G:C8	2.48	0.49
54:28:2682:A:H61	54:28:2728:U:H1'	1.77	0.49
54:28:2772:C:H2'	54:28:2773:C:H6	1.77	0.49
54:28:2896:C:H2'	54:28:2897:U:C6	2.48	0.49
2:B:70:LYS:O	2:B:117:SER:OG	2.30	0.49
2:B:255:LYS:NZ	54:28:1844:C:O3'	2.45	0.49
3:C:15:PHE:N	16:P:11:GLN:HE22	2.01	0.49
4:D:29:HIS:O	4:D:32:VAL:HG12	2.12	0.49
5:E:48:LEU:HA	5:E:51:ASN:HD22	1.77	0.49
10:J:84:ILE:HG23	10:J:84:ILE:O	2.13	0.49
32:6:13:ASN:OD1	32:6:29:ALA:HB2	2.13	0.49
33:7:168:GLU:OE1	33:7:168:GLU:N	2.46	0.49
36:10:110:MET:SD	36:10:139:THR:HG22	2.53	0.49
46:20:7:THR:HG22	46:20:30:LEU:HD11	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:21:12:LYS:O	47:21:13:LYS:HB2	2.12	0.49
47:21:51:ARG:C	47:21:52:LEU:HD12	2.38	0.49
50:24:5:LYS:HG3	50:24:6:LYS:N	2.26	0.49
53:27:79:G:H2'	53:27:80:A:O4'	2.13	0.49
53:27:537:G:H2'	53:27:538:G:C8	2.48	0.49
53:27:996:A:O2'	53:27:997:U:H5'	2.12	0.49
53:27:1230:C:O2'	53:27:1231:G:H5'	2.12	0.49
53:27:1244:G:H2'	53:27:1245:C:H6	1.78	0.49
53:27:1439:G:H2'	53:27:1440:U:O4'	2.13	0.49
54:28:301:G:C6	54:28:317:G:C6	3.00	0.49
54:28:560:C:H2'	54:28:561:G:O4'	2.13	0.49
54:28:700:G:O2'	54:28:701:G:H5'	2.13	0.49
54:28:1057:A:O2'	54:28:1058:U:H5'	2.13	0.49
54:28:1360:G:H2'	54:28:1361:G:H5'	1.95	0.49
54:28:2626:C:O2'	54:28:2627:G:H5'	2.13	0.49
54:28:2809:A:H2'	54:28:2810:A:C8	2.47	0.49
58:32:39:C:H2'	58:32:40:C:C6	2.48	0.49
2:B:244:VAL:HA	2:B:251:THR:H	1.78	0.48
3:C:110:THR:OG1	3:C:171:THR:HG23	2.12	0.48
4:D:79:ARG:O	4:D:80:SER:HB3	2.13	0.48
17:Q:25:GLY:O	17:Q:29:ARG:NH1	2.46	0.48
17:Q:43:GLN:HE21	18:R:77:PHE:HB3	1.76	0.48
21:U:39:ASN:OD1	21:U:64:ILE:HB	2.13	0.48
24:X:13:THR:HG21	54:28:189:G:P	2.53	0.48
28:2:11:LYS:HA	28:2:14:MET:HE3	1.94	0.48
33:7:202:ASN:ND2	33:7:205:ALA:HB3	2.28	0.48
34:8:22:PHE:HA	41:15:13:PHE:HE2	1.77	0.48
36:10:106:ALA:HB1	36:10:110:MET:CG	2.40	0.48
39:13:64:TYR:HD1	39:13:69:ALA:HA	1.78	0.48
42:16:111:ASP:OD1	42:16:112:VAL:N	2.46	0.48
50:24:65:MET:HG3	50:24:73:PHE:CZ	2.48	0.48
53:27:1096:C:H2'	53:27:1097:C:H6	1.76	0.48
53:27:1129:C:H5''	53:27:1130:A:OP1	2.13	0.48
54:28:287:G:H2'	54:28:288:U:H6	1.78	0.48
54:28:541:A:H2'	54:28:542:C:O4'	2.13	0.48
54:28:1794:A:H2'	54:28:1795:C:C6	2.48	0.48
54:28:2204:G:H2'	54:28:2205:A:C8	2.47	0.48
54:28:2577:A:H5''	54:28:2578:G:H5'	1.95	0.48
54:28:2743:U:H3'	54:28:2744:G:H5''	1.95	0.48
2:B:71:ASP:O	2:B:73:ILE:N	2.43	0.48
8:H:81:LEU:CA	54:28:1107:G:H4'	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:85:VAL:HG13	12:L:94:THR:HG22	1.94	0.48
16:P:22:GLY:C	16:P:89:GLY:HA3	2.38	0.48
16:P:38:ARG:HH22	53:27:345:C:P	2.36	0.48
22:V:75:GLN:CB	22:V:92:VAL:HG23	2.40	0.48
22:V:77:VAL:HG21	22:V:86:LEU:HD22	1.94	0.48
23:W:56:PHE:CE1	54:28:2365:G:H4'	2.48	0.48
27:1:39:LYS:HG3	27:1:40:CYS:N	2.27	0.48
28:2:52:LYS:HG3	28:2:52:LYS:O	2.13	0.48
33:7:113:LEU:HD22	33:7:143:LEU:O	2.13	0.48
34:8:49:ALA:O	34:8:50:SER:HB2	2.13	0.48
35:9:128:VAL:HG13	35:9:128:VAL:O	2.13	0.48
41:15:45:ARG:HG3	41:15:47:GLU:OE1	2.12	0.48
42:16:51:PHE:CZ	42:16:64:VAL:HG11	2.48	0.48
42:16:61:ALA:O	42:16:64:VAL:HG12	2.12	0.48
42:16:110:THR:HB	49:23:72:ARG:HH22	1.77	0.48
53:27:405:U:H1'	53:27:498:A:H2'	1.94	0.48
53:27:725:G:H2'	53:27:726:C:C6	2.48	0.48
53:27:1005:A:N6	53:27:1024:G:O2'	2.46	0.48
53:27:1074:G:H2'	53:27:1075:U:H6	1.77	0.48
53:27:1309:G:H2'	53:27:1310:G:H8	1.78	0.48
53:27:1490:U:H2'	53:27:1491:G:C8	2.48	0.48
53:27:1499:A:H3'	53:27:1499:A:OP2	2.13	0.48
54:28:242:G:H22	54:28:254:G:C2'	2.21	0.48
54:28:326:G:H2'	54:28:327:G:C8	2.47	0.48
54:28:551:G:H2'	54:28:552:U:C6	2.48	0.48
54:28:940:G:H2'	54:28:941:A:H5''	1.93	0.48
54:28:1045:C:H1'	54:28:1047:G:N1	2.28	0.48
54:28:1238:G:O2'	54:28:1239:G:H5'	2.13	0.48
54:28:1912:A:N6	54:28:1917:U:H5	2.10	0.48
54:28:2346:A:H3'	54:28:2347:C:C5'	2.43	0.48
54:28:2737:G:H2'	54:28:2738:A:C8	2.47	0.48
1:A:702:ASP:O	1:A:703:THR:C	2.57	0.48
1:A:703:THR:HG23	1:A:705:GLN:H	1.78	0.48
2:B:143:VAL:HG12	2:B:144:GLU:O	2.14	0.48
6:F:36:LEU:HD13	6:F:67:ALA:HB1	1.95	0.48
8:H:56:ARG:HB2	54:28:1106:G:H4'	1.96	0.48
8:H:68:PRO:HA	8:H:72:LEU:HD12	1.95	0.48
8:H:118:ILE:HB	8:H:119:PRO:HD3	1.95	0.48
9:I:7:TYR:CE1	9:I:59:THR:HA	2.47	0.48
19:S:97:LEU:HD11	19:S:99:ARG:HH11	1.78	0.48
23:W:45:ALA:O	23:W:46:ASN:HB2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:8:10:ARG:HH21	34:8:181:ILE:HB	1.79	0.48
37:11:3:HIS:H	37:11:92:THR:HG22	1.78	0.48
43:17:66:ILE:H	43:17:66:ILE:HD12	1.79	0.48
43:17:109:ARG:NH2	43:17:112:ALA:HB3	2.27	0.48
53:27:157:U:O2'	53:27:158:G:H5'	2.13	0.48
53:27:902:G:H2'	53:27:903:G:H8	1.78	0.48
53:27:1055:A:C6	53:27:1206:G:C5	3.01	0.48
54:28:194:G:H2'	54:28:195:A:O4'	2.12	0.48
54:28:340:A:H2'	54:28:341:C:H5'	1.95	0.48
54:28:823:C:H2'	54:28:824:U:C6	2.49	0.48
54:28:2040:G:H2'	54:28:2041:U:O4'	2.13	0.48
54:28:2379:G:H2'	54:28:2380:C:C6	2.48	0.48
55:29:13:G:N2	55:29:16:G:H1'	2.26	0.48
55:29:22:U:H2'	55:29:23:G:C8	2.48	0.48
57:31:11:A:O2'	57:31:12:G:H5'	2.13	0.48
57:31:66:C:H2'	57:31:67:C:C6	2.48	0.48
1:A:681:ARG:O	1:A:682:ASP:C	2.55	0.48
1:A:692:VAL:HB	1:A:715:GLU:HG2	1.95	0.48
5:E:91:ARG:NH2	55:29:45:A:O4'	2.46	0.48
9:I:100:ILE:HD11	9:I:139:VAL:HG12	1.94	0.48
12:L:62:PRO:HB2	31:5:29:ARG:HH11	1.78	0.48
12:L:69:ARG:O	12:L:72:ALA:HB3	2.13	0.48
15:O:15:ARG:NH1	55:29:9:G:OP2	2.44	0.48
19:S:88:ARG:HB2	19:S:92:ARG:O	2.13	0.48
21:U:96:LYS:C	21:U:97:SER:O	2.55	0.48
40:14:29:ILE:HA	40:14:64:ILE:O	2.13	0.48
47:21:55:ASP:OD1	47:21:56:ARG:N	2.43	0.48
51:25:79:THR:O	51:25:82:ILE:HG13	2.12	0.48
53:27:132:C:H2'	53:27:133:U:H6	1.78	0.48
53:27:471:U:H2'	53:27:472:U:C6	2.49	0.48
53:27:823:C:O2'	53:27:824:G:H5'	2.12	0.48
53:27:935:A:H2'	53:27:936:C:H6	1.78	0.48
53:27:1510:C:H2'	53:27:1511:G:H8	1.78	0.48
54:28:1185:G:H5''	54:28:1186:G:OP1	2.13	0.48
54:28:1318:U:H2'	54:28:1319:C:H6	1.78	0.48
54:28:1562:U:H2'	54:28:1563:U:C6	2.49	0.48
54:28:1815:A:H8	54:28:1815:A:OP1	1.97	0.48
54:28:2057:G:H2'	54:28:2058:A:C8	2.49	0.48
57:31:44:A:H2'	57:31:45:G:O4'	2.13	0.48
1:A:719:LEU:O	1:A:722:LEU:HB3	2.14	0.48
2:B:51:ARG:HG3	2:B:52:HIS:ND1	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:132:ARG:HB3	2:B:185:ALA:HB1	1.95	0.48
3:C:153:GLY:HA2	54:28:2052:A:O2'	2.13	0.48
6:F:136:ASP:OD2	6:F:139:VAL:HG23	2.12	0.48
9:I:54:ILE:HD13	9:I:70:THR:HB	1.94	0.48
11:K:71:ARG:HB2	11:K:73:ASP:OD1	2.13	0.48
14:N:103:ARG:HB2	14:N:110:MET:HE3	1.95	0.48
16:P:105:LYS:HD3	53:27:1433:A:OP1	2.13	0.48
21:U:47:PRO:HB3	21:U:55:GLY:CA	2.43	0.48
24:X:5:GLN:OE1	24:X:49:ARG:O	2.31	0.48
24:X:15:ASN:HD22	54:28:381:G:C5'	2.25	0.48
33:7:202:ASN:HD21	33:7:208:ALA:HB2	1.78	0.48
36:10:39:GLY:HA3	36:10:116:VAL:HB	1.96	0.48
41:15:7:ARG:NH2	53:27:1126:U:OP1	2.46	0.48
44:18:89:ARG:HB2	44:18:96:VAL:HG22	1.94	0.48
49:23:54:LEU:O	49:23:58:ILE:HG12	2.13	0.48
50:24:43:MET:HA	50:24:46:LEU:HD12	1.96	0.48
52:26:67:THR:CB	53:27:1088:G:O2'	2.62	0.48
53:27:129:A:H1'	53:27:130:A:C8	2.48	0.48
53:27:437:U:H2'	53:27:438:U:O4'	2.13	0.48
53:27:1213:A:H2'	53:27:1215:G:C8	2.48	0.48
53:27:1469:C:H2'	53:27:1470:U:O4'	2.13	0.48
53:27:1500:A:H5''	53:27:1508:A:H5''	1.95	0.48
54:28:46:G:H2'	54:28:47:C:C6	2.47	0.48
54:28:69:C:H4'	54:28:75:G:N7	2.28	0.48
54:28:220:G:H22	54:28:427:U:H2'	1.79	0.48
54:28:255:A:H2'	54:28:256:A:C8	2.49	0.48
54:28:279:A:H1'	54:28:362:A:HO2'	1.78	0.48
54:28:397:U:H2'	54:28:398:C:C6	2.48	0.48
54:28:950:G:H2'	54:28:951:C:H6	1.78	0.48
54:28:1062:G:H2'	54:28:1063:G:H8	1.78	0.48
54:28:1171:G:C4	54:28:1172:C:H1'	2.49	0.48
54:28:1720:U:H2'	54:28:1721:G:O4'	2.14	0.48
54:28:1750:G:O2'	54:28:1751:U:H5'	2.14	0.48
54:28:1779:U:C5	54:28:1784:A:N7	2.81	0.48
54:28:2408:U:H2'	54:28:2409:G:H8	1.78	0.48
54:28:2502:G:H5'	54:28:2503:A:H5'	1.93	0.48
54:28:2524:G:H2'	54:28:2525:G:O4'	2.13	0.48
2:B:43:ASN:ND2	54:28:1806:C:H1'	2.28	0.48
11:K:70:ARG:HA	11:K:76:VAL:HA	1.96	0.48
14:N:55:ALA:HA	14:N:80:PHE:CE1	2.49	0.48
23:W:21:ARG:HH22	54:28:2355:G:P	2.36	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:7:19:THR:OG1	33:7:20:ARG:N	2.44	0.48
38:12:132:THR:O	38:12:135:LYS:HB3	2.14	0.48
42:16:67:GLU:O	42:16:70:ALA:HB3	2.13	0.48
48:22:6:THR:C	48:22:7:LEU:HD12	2.38	0.48
53:27:815:A:H4'	53:27:817:C:C5	2.49	0.48
53:27:951:G:H2'	53:27:952:U:H6	1.78	0.48
54:28:471:A:H2'	54:28:472:A:O4'	2.13	0.48
54:28:598:U:H2'	54:28:599:A:H8	1.79	0.48
54:28:786:C:H2'	54:28:787:C:O4'	2.14	0.48
54:28:891:G:H2'	54:28:892:A:C8	2.48	0.48
54:28:1268:A:H2'	54:28:1269:A:H8	1.79	0.48
54:28:1441:G:H4'	54:28:1628:G:C5'	2.44	0.48
54:28:2552:U:H2'	54:28:2554:U:H5''	1.96	0.48
54:28:2687:U:H2'	54:28:2688:G:O4'	2.14	0.48
54:28:2845:U:H2'	54:28:2846:G:C8	2.49	0.48
57:31:6:G:O2'	57:31:7:G:H5'	2.13	0.48
58:32:11:A:H2'	58:32:12:G:C8	2.48	0.48
1:A:705:GLN:HE21	1:A:707:LEU:HB2	1.79	0.48
2:B:86:ARG:NH2	54:28:1817:G:OP1	2.47	0.48
4:D:15:SER:HB2	4:D:197:GLU:OE2	2.13	0.48
12:L:103:ILE:H	12:L:103:ILE:HD12	1.78	0.48
15:O:31:THR:CG2	15:O:32:PRO:HD2	2.43	0.48
16:P:50:ARG:CZ	16:P:52:ARG:HG3	2.43	0.48
34:8:5:HIS:HB3	45:19:88:MET:HE3	1.96	0.48
38:12:113:LYS:HE3	53:27:1297:G:N3	2.29	0.48
39:13:106:SER:HA	53:27:642:A:C5	2.48	0.48
46:20:32:THR:CB	46:20:84:LEU:HD21	2.44	0.48
46:20:71:ARG:NH2	53:27:754:C:OP1	2.47	0.48
48:22:17:GLU:C	48:22:19:SER:N	2.70	0.48
51:25:73:ARG:NH1	53:27:263:A:OP1	2.47	0.48
52:26:40:PRO:O	52:26:41:THR:C	2.57	0.48
53:27:79:G:C2	53:27:80:A:H1'	2.48	0.48
53:27:321:A:H2'	53:27:322:C:C6	2.48	0.48
53:27:920:U:H2'	53:27:921:U:C6	2.48	0.48
53:27:1137:C:H4'	53:27:1138:G:C2	2.49	0.48
54:28:151:C:H2'	54:28:152:A:C8	2.48	0.48
54:28:595:C:H2'	54:28:596:U:C6	2.49	0.48
54:28:718:A:C2'	54:28:719:C:H5'	2.44	0.48
54:28:1214:A:H2'	54:28:1215:G:O4'	2.14	0.48
54:28:1306:C:H5''	54:28:1606:C:N4	2.29	0.48
54:28:1351:C:H2'	54:28:1352:U:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1451:C:H4'	54:28:1452:G:N9	2.29	0.48
54:28:2189:U:O2'	54:28:2190:G:H5'	2.14	0.48
54:28:2221:G:O2'	54:28:2222:C:H5'	2.13	0.48
54:28:2405:G:H2'	54:28:2411:A:H62	1.78	0.48
54:28:2543:G:H2'	54:28:2544:G:C8	2.49	0.48
54:28:2563:U:H2'	54:28:2565:A:OP2	2.14	0.48
54:28:2834:G:C2'	54:28:2835:A:H5'	2.44	0.48
58:32:62:C:O5'	58:32:62:C:H6	1.97	0.48
2:B:181:ARG:HG3	2:B:265:PHE:C	2.38	0.48
4:D:97:ASN:N	4:D:97:ASN:OD1	2.46	0.48
6:F:138:GLN:NE2	54:28:2759:G:H21	2.12	0.48
10:J:13:ARG:HE	10:J:121:LYS:HZ1	1.62	0.48
11:K:25:LEU:HB2	11:K:38:ILE:O	2.14	0.48
12:L:54:GLN:NE2	54:28:2428:G:N2	2.62	0.48
18:R:82:HIS:O	18:R:82:HIS:ND1	2.46	0.48
23:W:22:PHE:CD2	54:28:922:C:H1'	2.49	0.48
26:Z:52:PHE:CE1	26:Z:53:MET:HE2	2.49	0.48
27:1:61:ASN:O	27:1:64:PHE:HB3	2.14	0.48
31:5:44:ARG:N	31:5:45:PRO:HD2	2.28	0.48
34:8:8:GLY:HA3	45:19:88:MET:CE	2.44	0.48
34:8:71:ARG:HE	34:8:74:ILE:CD1	2.26	0.48
34:8:86:LEU:O	34:8:90:VAL:HG23	2.13	0.48
34:8:108:PRO:HA	34:8:114:LEU:HD12	1.96	0.48
34:8:121:SER:HB3	34:8:125:ARG:NH1	2.29	0.48
36:10:10:LEU:HD12	36:10:67:ARG:NH1	2.29	0.48
37:11:3:HIS:HB2	37:11:92:THR:CA	2.44	0.48
38:12:79:VAL:HB	38:12:84:TYR:OH	2.13	0.48
41:15:22:THR:O	41:15:25:ILE:HG22	2.14	0.48
43:17:21:PRO:C	43:17:23:LEU:H	2.20	0.48
45:19:48:GLN:NE2	50:24:9:PHE:CE1	2.80	0.48
47:21:5:ARG:HH11	53:27:376:G:H4'	1.79	0.48
53:27:89:U:H2'	53:27:90:C:C6	2.49	0.48
53:27:296:U:H2'	53:27:297:G:C8	2.49	0.48
53:27:418:C:H2'	53:27:419:C:H6	1.79	0.48
53:27:477:C:H2'	53:27:478:A:C8	2.48	0.48
53:27:651:C:H2'	53:27:652:U:C6	2.49	0.48
53:27:995:C:N3	53:27:1046:A:O2'	2.42	0.48
53:27:1305:G:O2'	53:27:1306:A:H8	1.96	0.48
54:28:579:G:H2'	54:28:580:U:C6	2.48	0.48
54:28:729:G:H2'	54:28:1775:U:H1'	1.94	0.48
54:28:1195:G:O2'	54:28:1196:C:H5'	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:634:HIS:ND1	1:A:634:HIS:O	2.47	0.48
3:C:133:THR:HG22	54:28:1993:U:H4'	1.95	0.48
8:H:93:ALA:O	8:H:126:LEU:HD12	2.14	0.48
9:I:59:THR:HB	9:I:67:THR:HB	1.95	0.48
14:N:33:ILE:HD12	14:N:118:ARG:NH2	2.22	0.48
23:W:39:THR:H	54:28:2331:G:C4'	2.25	0.48
33:7:70:GLY:HA3	33:7:163:ILE:HG22	1.96	0.48
33:7:95:TRP:HH2	33:7:174:GLU:OE1	1.96	0.48
38:12:115:MET:HE1	53:27:1240:U:O4	2.13	0.48
44:18:97:ARG:HB2	44:18:99:GLN:NE2	2.29	0.48
53:27:405:U:OP1	53:27:406:G:H4'	2.14	0.48
53:27:820:U:H3'	53:27:821:G:C5'	2.44	0.48
53:27:1392:G:H2'	53:27:1393:U:C6	2.49	0.48
54:28:115:C:C2'	54:28:116:C:H5'	2.44	0.48
54:28:237:C:H2'	54:28:238:C:H6	1.78	0.48
54:28:269:C:H2'	54:28:270:A:H8	1.79	0.48
54:28:817:C:O2'	54:28:839:U:H5''	2.14	0.48
54:28:1223:G:C6	54:28:1227:G:C6	3.02	0.48
54:28:1946:U:H2'	54:28:1947:C:H6	1.77	0.48
54:28:2515:C:H2'	54:28:2516:A:C8	2.49	0.48
54:28:2662:A:H2'	54:28:2663:G:O4'	2.14	0.48
54:28:2662:A:H8	54:28:2662:A:O5'	1.97	0.48
54:28:2774:C:H2'	54:28:2775:G:O4'	2.14	0.48
11:K:77:ILE:HG12	16:P:71:ARG:HG3	1.96	0.48
12:L:90:VAL:HG13	12:L:95:LEU:HD21	1.96	0.48
15:O:28:VAL:O	15:O:28:VAL:HG13	2.14	0.48
16:P:52:ARG:H	16:P:56:SER:HB3	1.79	0.48
18:R:16:GLU:OE2	18:R:100:GLY:HA2	2.14	0.48
19:S:41:LYS:O	19:S:44:ALA:HB3	2.13	0.48
23:W:52:ASP:OD2	23:W:54:THR:OG1	2.32	0.48
33:7:95:TRP:CH2	33:7:171:ALA:HA	2.48	0.48
35:9:72:ARG:O	35:9:75:TYR:HB3	2.14	0.48
36:10:15:ILE:HD11	36:10:37:VAL:HG23	1.96	0.48
46:20:19:ASN:OD1	53:27:749:A:O2'	2.31	0.48
48:22:57:VAL:HG12	48:22:58:VAL:N	2.29	0.48
53:27:482:A:H2'	53:27:483:C:O4'	2.13	0.48
53:27:1273:C:H2'	53:27:1274:A:O4'	2.14	0.48
53:27:1326:U:H2'	53:27:1327:C:C6	2.49	0.48
54:28:284:U:H2'	54:28:285:G:C8	2.49	0.48
54:28:519:U:H2'	54:28:520:G:H8	1.78	0.48
54:28:662:G:H2'	54:28:663:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:974:G:H1'	54:28:975:A:H8	1.77	0.48
54:28:1742:U:H2'	54:28:1743:G:C8	2.49	0.48
54:28:2671:G:H2'	54:28:2672:U:C6	2.49	0.48
58:32:72:A:H2'	58:32:73:A:C4'	2.42	0.48
1:A:695:LEU:HG	1:A:714:ILE:HA	1.96	0.47
5:E:151:LEU:HD12	5:E:152:ASP:N	2.28	0.47
6:F:26:LYS:HA	6:F:31:GLU:HA	1.95	0.47
7:G:116:ARG:O	7:G:130:VAL:HG13	2.14	0.47
8:H:94:ARG:HB2	8:H:97:LYS:CE	2.38	0.47
9:I:27:LEU:HD13	9:I:32:VAL:HB	1.95	0.47
10:J:99:ARG:HA	10:J:102:GLU:OE1	2.14	0.47
15:O:67:ASN:OD1	15:O:70:ALA:HB2	2.13	0.47
17:Q:7:VAL:HG13	17:Q:8:ILE:N	2.29	0.47
18:R:24:LYS:HA	18:R:94:THR:OG1	2.13	0.47
34:8:149:LYS:HA	34:8:167:TYR:O	2.14	0.47
38:12:56:SER:HB3	38:12:59:GLU:HG2	1.95	0.47
40:14:38:PHE:HA	40:14:41:GLU:OE1	2.14	0.47
42:16:93:GLU:HG3	42:16:94:SER:N	2.29	0.47
44:18:21:ILE:HB	44:18:24:VAL:CG1	2.43	0.47
46:20:66:LEU:HD12	46:20:87:ARG:HH21	1.79	0.47
46:20:68:TYR:HD1	46:20:71:ARG:HH21	1.62	0.47
53:27:212:G:H2'	53:27:213:G:H8	1.80	0.47
53:27:267:C:H2'	53:27:268:U:C6	2.48	0.47
53:27:376:G:O2'	53:27:377:G:H5'	2.13	0.47
53:27:963:G:H2'	53:27:964:A:H8	1.79	0.47
54:28:455:C:O2	54:28:472:A:H2'	2.13	0.47
54:28:531:C:C5	54:28:2035:G:C2	3.01	0.47
54:28:1442:U:H2'	54:28:1443:U:C6	2.49	0.47
54:28:1830:C:H2'	54:28:1831:G:H8	1.79	0.47
3:C:130:GLN:HE22	54:28:2578:G:N2	2.12	0.47
5:E:26:GLN:HE21	55:29:57:A:C4'	2.27	0.47
8:H:117:LEU:HD23	8:H:117:LEU:C	2.39	0.47
10:J:87:ALA:HB3	10:J:92:MET:HE2	1.96	0.47
13:M:14:LYS:HD3	54:28:958:U:O4'	2.14	0.47
16:P:29:VAL:CG1	16:P:79:VAL:HG22	2.44	0.47
25:Y:2:LYS:HD2	54:28:78:U:OP2	2.13	0.47
28:2:13:GLY:HA3	54:28:16:C:H5''	1.96	0.47
34:8:112:ALA:HB1	34:8:199:VAL:HG13	1.96	0.47
35:9:149:LYS:O	35:9:150:LYS:HG2	2.14	0.47
36:10:130:THR:HG21	53:27:10:A:OP2	2.14	0.47
37:11:29:ILE:HD13	37:11:64:VAL:HG21	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:15:14:ASP:HB3	41:15:17:LEU:HB3	1.95	0.47
41:15:82:LYS:HA	41:15:85:ASP:OD2	2.14	0.47
44:18:8:ILE:O	44:18:8:ILE:HG22	2.13	0.47
44:18:10:ASP:O	44:18:11:HIS:HB2	2.15	0.47
46:20:41:HIS:HD1	53:27:739:C:HO2'	1.59	0.47
48:22:46:HIS:HB2	48:22:70:LYS:HE2	1.95	0.47
49:23:37:LYS:CG	53:27:719:C:H1'	2.42	0.47
50:24:28:LYS:O	50:24:30:LEU:HD12	2.13	0.47
52:26:18:PHE:O	52:26:21:SER:HB3	2.13	0.47
53:27:70:U:H5''	53:27:71:A:OP1	2.14	0.47
53:27:1381:U:H5	53:27:1382:C:C4	2.32	0.47
54:28:1670:C:H2'	54:28:1671:U:O4'	2.14	0.47
54:28:2018:G:O2'	54:28:2019:A:H5'	2.14	0.47
54:28:2173:A:H2'	54:28:2174:C:C6	2.50	0.47
54:28:2270:A:H2'	54:28:2271:G:O4'	2.14	0.47
1:A:598:VAL:HG23	1:A:658:GLY:HA2	1.97	0.47
1:A:608:HIS:NE2	1:A:626:THR:HG21	2.30	0.47
2:B:155:ARG:NH2	54:28:1818:U:C5	2.81	0.47
2:B:222:THR:HA	2:B:232:GLY:H	1.80	0.47
3:C:5:VAL:H	3:C:32:ASN:ND2	2.13	0.47
8:H:37:LYS:HE2	54:28:1085:A:N6	2.28	0.47
10:J:4:PHE:O	17:Q:63:ARG:NH2	2.48	0.47
12:L:55:MET:HE3	54:28:2392:A:C2	2.49	0.47
13:M:13:HIS:HA	54:28:955:U:OP1	2.14	0.47
14:N:17:ARG:O	14:N:20:MET:HG2	2.15	0.47
14:N:35:LYS:HD2	14:N:112:TYR:CZ	2.49	0.47
22:V:32:GLY:O	22:V:93:ARG:NH1	2.41	0.47
32:6:24:ARG:NH1	54:28:2742:G:OP2	2.45	0.47
34:8:8:GLY:HA2	34:8:11:LEU:HG	1.96	0.47
35:9:61:ARG:O	35:9:65:GLY:N	2.48	0.47
36:10:45:VAL:CG2	36:10:117:ALA:HA	2.45	0.47
39:13:79:ARG:HB2	39:13:80:PRO:HD2	1.96	0.47
43:17:7:VAL:HG22	48:22:33:TYR:HD2	1.77	0.47
45:19:53:ASP:C	45:19:55:SER:H	2.21	0.47
53:27:45:G:H5''	53:27:307:C:O2'	2.14	0.47
53:27:50:A:N6	53:27:361:G:H4'	2.28	0.47
53:27:279:A:H5''	53:27:280:C:O3'	2.14	0.47
53:27:730:G:C2'	53:27:731:G:H5'	2.44	0.47
53:27:865:A:C2	53:27:918:A:H4'	2.49	0.47
53:27:884:U:H4'	53:27:885:G:H5''	1.97	0.47
53:27:1386:G:H2'	53:27:1387:G:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:257:C:H2'	54:28:258:G:O4'	2.13	0.47
54:28:339:U:O5'	54:28:339:U:H6	1.97	0.47
54:28:819:A:OP2	54:28:1187:G:N2	2.47	0.47
54:28:1023:U:OP2	54:28:1025:G:O2'	2.32	0.47
54:28:1936:A:H3'	54:28:1937:A:H5'	1.96	0.47
54:28:1956:U:C2'	54:28:1957:C:H5'	2.44	0.47
54:28:2212:A:H4'	54:28:2213:U:C4	2.50	0.47
54:28:2548:U:C3'	54:28:2549:G:H5''	2.44	0.47
54:28:2829:A:H2'	54:28:2830:C:C6	2.49	0.47
54:28:2832:U:H1'	54:28:2834:G:N3	2.29	0.47
55:29:79:G:O2'	55:29:80:U:H5'	2.14	0.47
3:C:108:ASP:CG	3:C:206:ALA:HA	2.40	0.47
5:E:7:TYR:OH	5:E:29:ARG:HB3	2.15	0.47
6:F:21:GLN:NE2	6:F:40:VAL:O	2.42	0.47
7:G:116:ARG:HB2	7:G:131:SER:O	2.13	0.47
12:L:69:ARG:NH2	54:28:2406:A:C6	2.82	0.47
12:L:79:LEU:HD12	12:L:112:LEU:HD12	1.96	0.47
14:N:56:LYS:NZ	14:N:87:PHE:O	2.46	0.47
19:S:38:TYR:CE2	28:2:27:LEU:HD21	2.49	0.47
21:U:73:ASN:ND2	21:U:76:THR:OG1	2.46	0.47
21:U:97:SER:C	21:U:99:SER:N	2.72	0.47
25:Y:16:THR:HG22	25:Y:20:ASN:ND2	2.28	0.47
35:9:18:LEU:C	35:9:20:LEU:H	2.22	0.47
36:10:149:PRO:HG2	36:10:150:GLU:OE1	2.15	0.47
39:13:17:GLN:NE2	39:13:71:VAL:H	2.13	0.47
45:19:12:ARG:NH2	53:27:980:C:O3'	2.47	0.47
47:21:51:ARG:HH12	53:27:627:G:H5'	1.79	0.47
49:23:62:ARG:HD3	49:23:69:TYR:CD1	2.50	0.47
50:24:48:ILE:HD12	50:24:48:ILE:O	2.14	0.47
51:25:28:ARG:O	51:25:32:LYS:HG2	2.13	0.47
53:27:86:G:H4'	53:27:87:C:C5	2.49	0.47
53:27:843:U:OP1	53:27:844:G:H3'	2.15	0.47
54:28:61:C:C2'	54:28:62:U:H5'	2.44	0.47
54:28:226:A:H5''	54:28:257:C:O2'	2.13	0.47
54:28:522:A:O2'	54:28:523:C:H5'	2.15	0.47
54:28:1326:U:H2'	54:28:1327:A:C8	2.47	0.47
54:28:1779:U:H5	54:28:1784:A:N7	2.13	0.47
54:28:1801:A:H5''	54:28:2203:U:C2'	2.44	0.47
54:28:1922:G:H2'	54:28:1923:U:C6	2.49	0.47
54:28:2208:C:H2'	54:28:2209:G:C8	2.49	0.47
54:28:2329:U:H2'	54:28:2330:G:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2720:U:H2'	54:28:2721:A:C8	2.49	0.47
1:A:619:ASP:OD2	1:A:636:ALA:HB3	2.14	0.47
3:C:186:LEU:HD13	16:P:7:LEU:HD11	1.96	0.47
4:D:94:GLN:OE1	54:28:660:C:H5''	2.15	0.47
5:E:169:LEU:HD22	5:E:174:PHE:CE2	2.48	0.47
13:M:6:ARG:HG3	13:M:6:ARG:O	2.13	0.47
20:T:58:VAL:HG13	20:T:85:VAL:HG22	1.96	0.47
20:T:65:GLY:HA3	20:T:77:ARG:O	2.14	0.47
30:4:1:MET:N	54:28:1619:G:O2'	2.48	0.47
36:10:159:SER:HB3	36:10:161:GLU:HG2	1.97	0.47
39:13:95:MET:O	39:13:98:LEU:HG	2.14	0.47
41:15:22:THR:CG2	41:15:39:PRO:HB3	2.42	0.47
43:17:25:ALA:HB1	53:27:553:A:O2'	2.15	0.47
47:21:43:ALA:O	47:21:46:LYS:HE2	2.14	0.47
48:22:46:HIS:HB2	48:22:70:LYS:CE	2.45	0.47
53:27:862:C:O2'	53:27:863:U:H5'	2.15	0.47
53:27:969:A:H2'	53:27:970:C:O4'	2.14	0.47
53:27:1102:A:H2'	53:27:1103:C:H6	1.80	0.47
54:28:74:A:H4'	54:28:75:G:O5'	2.14	0.47
54:28:209:C:H2'	54:28:210:C:H6	1.79	0.47
54:28:519:U:H2'	54:28:520:G:C8	2.49	0.47
54:28:677:A:O2'	54:28:2071:A:H5'	2.14	0.47
54:28:1102:C:H2'	54:28:1103:A:H8	1.78	0.47
54:28:1998:A:H2'	54:28:1999:C:C6	2.50	0.47
54:28:2063:C:H2'	54:28:2064:C:C6	2.50	0.47
54:28:2150:C:H2'	54:28:2151:U:O4'	2.14	0.47
3:C:154:LYS:NZ	54:28:2024:G:O2'	2.48	0.47
9:I:116:MET:HB3	9:I:124:MET:SD	2.54	0.47
12:L:57:LEU:C	12:L:59:ARG:H	2.23	0.47
13:M:74:THR:HA	13:M:88:ASN:O	2.14	0.47
26:Z:4:ILE:C	26:Z:36:GLU:HG3	2.40	0.47
27:1:44:PHE:CD1	27:1:45:THR:HG23	2.49	0.47
31:5:7:ARG:NH1	54:28:243:U:OP2	2.48	0.47
36:10:95:MET:HE1	36:10:143:LEU:HG	1.96	0.47
39:13:17:GLN:NE2	39:13:69:ALA:HB1	2.30	0.47
40:14:123:ARG:HD2	40:14:124:PRO:HD2	1.95	0.47
42:16:121:ARG:HE	52:26:35:GLU:HB2	1.80	0.47
45:19:25:GLU:HB2	45:19:29:ILE:HD12	1.96	0.47
49:23:51:GLN:O	49:23:54:LEU:HB3	2.15	0.47
53:27:253:A:H2'	53:27:254:G:C8	2.49	0.47
53:27:495:A:H4'	53:27:496:A:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1345:U:H2'	53:27:1377:A:N1	2.29	0.47
53:27:1435:G:H2'	53:27:1436:U:H6	1.78	0.47
54:28:76:C:O2'	54:28:77:G:H5'	2.15	0.47
54:28:1858:A:C2	54:28:1885:A:H1'	2.49	0.47
54:28:2286:G:H5'	54:28:2287:A:C1'	2.44	0.47
57:31:16:C:H5'	57:31:59:A:N1	2.29	0.47
58:32:18:G:H1'	58:32:58:A:C2	2.49	0.47
1:A:691:LYS:HD2	1:A:691:LYS:N	2.28	0.47
2:B:52:HIS:ND1	54:28:1824:G:OP1	2.46	0.47
2:B:61:TYR:CE2	2:B:63:ILE:HA	2.50	0.47
3:C:154:LYS:HE2	54:28:1130:U:O2	2.15	0.47
4:D:29:HIS:HD2	12:L:6:LEU:O	1.98	0.47
4:D:90:GLN:HG3	4:D:92:HIS:CE1	2.50	0.47
4:D:149:ILE:HG23	4:D:149:ILE:O	2.14	0.47
5:E:113:PHE:CZ	5:E:175:PRO:HB3	2.40	0.47
5:E:125:GLY:CA	5:E:162:ASP:HA	2.44	0.47
7:G:72:ILE:HB	7:G:108:VAL:HG22	1.97	0.47
8:H:85:SER:C	8:H:86:MET:HE2	2.39	0.47
9:I:116:MET:HE1	9:I:127:SER:OG	2.14	0.47
11:K:121:GLU:OE2	16:P:62:LYS:NZ	2.46	0.47
12:L:13:LYS:HG3	54:28:1245:G:OP1	2.14	0.47
12:L:77:ILE:O	12:L:110:VAL:O	2.33	0.47
13:M:1:MET:H2	13:M:47:GLU:HG3	1.79	0.47
16:P:94:ALA:N	54:28:2848:G:OP2	2.48	0.47
19:S:79:GLY:H	19:S:101:SER:HA	1.79	0.47
23:W:36:GLN:OE1	23:W:41:PHE:N	2.47	0.47
33:7:72:LYS:HD3	33:7:164:ASP:OD2	2.15	0.47
35:9:28:ASP:HB2	35:9:31:CYS:SG	2.54	0.47
35:9:58:GLN:O	35:9:62:ARG:HG2	2.14	0.47
37:11:39:LEU:HD23	37:11:39:LEU:C	2.40	0.47
38:12:67:ASN:O	38:12:137:ARG:NE	2.48	0.47
40:14:125:GLN:HE22	53:27:1342:C:C1'	2.28	0.47
43:17:11:ARG:CG	53:27:562:U:H1'	2.42	0.47
43:17:55:ARG:NH1	43:17:61:GLU:OE1	2.48	0.47
44:18:92:ARG:O	44:18:94:LEU:HG	2.14	0.47
46:20:67:ASP:O	46:20:68:TYR:C	2.56	0.47
47:21:46:LYS:CD	53:27:617:G:H4'	2.45	0.47
47:21:46:LYS:NZ	53:27:617:G:H4'	2.28	0.47
47:21:57:ILE:O	47:21:61:VAL:HG23	2.14	0.47
48:22:61:ARG:HG3	48:22:75:VAL:CG2	2.45	0.47
50:24:10:ILE:HG21	50:24:40:PHE:HE2	1.77	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:24:54:ARG:NH1	53:27:958:A:C6	2.80	0.47
52:26:9:GLU:HB2	52:26:10:PRO:HD3	1.96	0.47
52:26:17:ARG:NE	52:26:20:ARG:HH21	2.12	0.47
52:26:45:LYS:HE3	53:27:723:U:C1'	2.45	0.47
53:27:244:U:O4	53:27:906:A:H1'	2.14	0.47
53:27:317:U:H2'	53:27:318:G:H8	1.79	0.47
53:27:484:G:H4'	53:27:485:U:C5'	2.45	0.47
53:27:696:A:H1'	53:27:786:G:O2'	2.15	0.47
53:27:782:A:H4'	53:27:1514:G:O2'	2.15	0.47
53:27:835:U:C3'	53:27:836:G:H5''	2.45	0.47
53:27:1143:G:H2'	53:27:1144:G:H8	1.80	0.47
53:27:1250:A:H2'	53:27:1251:A:C8	2.50	0.47
53:27:1353:G:H2'	53:27:1354:U:H6	1.79	0.47
54:28:250:G:H2'	54:28:251:A:C8	2.48	0.47
54:28:257:C:H3'	54:28:258:G:H8	1.80	0.47
54:28:510:C:OP1	54:28:510:C:H3'	2.14	0.47
54:28:533:G:H2'	54:28:534:U:O4'	2.15	0.47
54:28:729:G:H4'	54:28:763:G:C5'	2.45	0.47
54:28:1097:U:H2'	54:28:1098:A:O4'	2.15	0.47
54:28:1186:G:H2'	54:28:1187:G:H8	1.80	0.47
54:28:1385:A:H1'	54:28:1386:C:C6	2.50	0.47
54:28:1440:U:H2'	54:28:1441:G:H8	1.79	0.47
54:28:1544:A:H2'	54:28:1545:A:C8	2.50	0.47
54:28:1555:G:H2'	54:28:1556:C:C6	2.50	0.47
54:28:1663:G:O2'	54:28:1664:A:H5'	2.14	0.47
54:28:2024:G:H2'	54:28:2025:C:H6	1.78	0.47
54:28:2036:C:H2'	54:28:2037:A:H8	1.79	0.47
54:28:2185:U:H2'	54:28:2186:G:C8	2.50	0.47
54:28:2224:G:H4'	54:28:2226:C:C2	2.49	0.47
54:28:2314:A:H2'	54:28:2315:G:C8	2.50	0.47
54:28:2821:A:H2'	54:28:2822:G:H8	1.79	0.47
55:29:4:C:H6	55:29:4:C:H5'	1.79	0.47
55:29:106:G:C2	55:29:107:G:H1'	2.50	0.47
2:B:222:THR:O	2:B:232:GLY:HA2	2.14	0.47
2:B:246:PRO:HD2	2:B:247:TRP:CE3	2.50	0.47
5:E:49:LEU:CD2	5:E:83:PRO:HB2	2.44	0.47
5:E:124:ARG:HA	5:E:160:LYS:O	2.15	0.47
11:K:13:ASN:HB3	11:K:98:ARG:HB2	1.97	0.47
11:K:24:VAL:HG11	11:K:32:TYR:O	2.15	0.47
15:O:6:ALA:O	15:O:9:ARG:HG2	2.14	0.47
15:O:88:LYS:O	15:O:116:GLN:HB2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:42:GLY:O	17:Q:45:ALA:HB3	2.14	0.47
19:S:38:TYR:HE2	28:2:27:LEU:HD21	1.79	0.47
23:W:23:GLY:N	23:W:65:PHE:HE2	2.12	0.47
25:Y:16:THR:HA	25:Y:19:LEU:HD12	1.96	0.47
31:5:21:PHE:O	31:5:48:MET:HA	2.14	0.47
33:7:46:VAL:HB	33:7:47:PRO:HD3	1.96	0.47
35:9:66:VAL:HG12	35:9:67:LEU:O	2.15	0.47
35:9:84:ASN:HD22	35:9:87:GLU:HG3	1.80	0.47
35:9:169:TRP:CE2	35:9:185:PRO:HG3	2.49	0.47
39:13:10:LEU:HD22	39:13:74:ILE:CD1	2.44	0.47
40:14:11:ARG:HH22	40:14:108:ARG:NH2	2.10	0.47
41:15:23:ALA:O	41:15:27:GLU:HG2	2.15	0.47
42:16:18:GLY:O	42:16:81:LEU:HA	2.15	0.47
45:19:25:GLU:O	45:19:29:ILE:HB	2.14	0.47
53:27:17:U:O2'	53:27:18:C:H5'	2.15	0.47
54:28:455:C:O2	54:28:473:G:H5'	2.15	0.47
54:28:1186:G:H2'	54:28:1187:G:C8	2.50	0.47
54:28:1555:G:H2'	54:28:1556:C:H6	1.80	0.47
54:28:1670:C:O5'	54:28:1670:C:H6	1.98	0.47
54:28:1726:C:H2'	54:28:1727:C:C6	2.50	0.47
54:28:2459:A:H3'	54:28:2459:A:OP2	2.14	0.47
55:29:61:G:H2'	55:29:62:C:C6	2.49	0.47
55:29:95:U:H2'	55:29:96:G:C8	2.50	0.47
2:B:154:ALA:HA	54:28:1819:A:OP2	2.14	0.47
2:B:257:ARG:HG2	2:B:257:ARG:HH11	1.80	0.47
3:C:67:HIS:O	3:C:70:LYS:HB3	2.15	0.47
4:D:164:LEU:HD12	4:D:164:LEU:N	2.30	0.47
5:E:98:PHE:HD1	5:E:101:ARG:HH11	1.62	0.47
6:F:172:GLU:C	6:F:174:LYS:H	2.22	0.47
8:H:57:ASN:O	8:H:63:ALA:HB3	2.15	0.47
9:I:11:GLN:HG3	54:28:1061:U:C6	2.50	0.47
10:J:102:GLU:OE2	54:28:2780:G:O6	2.32	0.47
13:M:62:LYS:HE3	13:M:64:TRP:NE1	2.30	0.47
15:O:34:HIS:ND1	15:O:53:THR:OG1	2.42	0.47
16:P:51:ASN:O	54:28:2845:U:H5''	2.14	0.47
19:S:11:ARG:HH21	54:28:1321:A:H4'	1.80	0.47
21:U:13:LEU:HD11	21:U:70:ALA:HB2	1.95	0.47
27:1:60:PHE:HZ	50:24:40:PHE:CE1	2.32	0.47
33:7:116:LEU:HD11	33:7:136:ARG:HB3	1.95	0.47
34:8:47:ALA:C	34:8:49:ALA:H	2.23	0.47
35:9:123:MET:HE3	35:9:145:ARG:HA	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:10:21:SER:OG	36:10:22:LYS:N	2.48	0.47
40:14:59:LYS:O	40:14:60:LEU:HD12	2.14	0.47
41:15:41:PRO:CB	53:27:1151:A:H1'	2.44	0.47
44:18:32:ILE:HG23	44:18:58:GLU:CG	2.44	0.47
50:24:39:ILE:HB	50:24:66:VAL:HA	1.97	0.47
53:27:264:C:H2'	53:27:265:G:O4'	2.15	0.47
53:27:267:C:H2'	53:27:268:U:H6	1.80	0.47
53:27:485:U:H5'	53:27:486:U:OP2	2.15	0.47
53:27:869:G:H4'	53:27:872:A:C8	2.50	0.47
53:27:917:G:H2'	53:27:918:A:H8	1.79	0.47
53:27:1354:U:H2'	53:27:1355:G:C8	2.48	0.47
54:28:305:C:O5'	54:28:305:C:H6	1.97	0.47
54:28:956:G:N2	54:28:959:A:H3'	2.30	0.47
54:28:1319:C:O2'	54:28:1320:C:H5'	2.14	0.47
54:28:2297:A:N1	54:28:2321:U:H5	2.09	0.47
2:B:107:LYS:HG2	2:B:108:GLY:N	2.30	0.47
4:D:98:LYS:HB3	4:D:102:ARG:HH22	1.80	0.47
7:G:32:PRO:HB3	24:X:38:TRP:CG	2.50	0.47
9:I:92:PRO:O	54:28:1077:A:H5'	2.14	0.47
11:K:4:GLU:HA	11:K:21:CYS:O	2.15	0.47
13:M:4:PRO:CG	13:M:70:ASP:HA	2.44	0.47
13:M:12:MET:HA	54:28:910:A:H62	1.80	0.47
15:O:79:ALA:CB	15:O:113:ALA:HB3	2.45	0.47
18:R:22:LEU:HD12	18:R:23:GLU:O	2.15	0.47
20:T:69:ARG:HA	20:T:73:ARG:O	2.15	0.47
21:U:47:PRO:HD3	21:U:55:GLY:CA	2.38	0.47
34:8:9:ILE:HG23	34:8:10:ARG:HG3	1.97	0.47
34:8:11:LEU:HD13	34:8:17:TRP:NE1	2.30	0.47
34:8:175:HIS:HD1	53:27:1108:G:H5'	1.79	0.47
35:9:1:ALA:N	53:27:405:U:O4	2.42	0.47
39:13:65:PHE:CE2	39:13:66:GLN:HG3	2.49	0.47
43:17:81:ILE:HD13	43:17:96:THR:HA	1.97	0.47
46:20:52:ARG:O	46:20:55:LEU:HB3	2.15	0.47
53:27:31:G:H5'	53:27:306:A:C2	2.50	0.47
53:27:299:G:C6	53:27:300:A:C6	3.03	0.47
53:27:437:U:HO2'	53:27:438:U:H5'	1.80	0.47
53:27:1267:C:H2'	53:27:1268:G:O4'	2.15	0.47
53:27:1346:A:H61	53:27:1374:A:H3'	1.80	0.47
54:28:599:A:H2'	54:28:600:G:H8	1.80	0.47
54:28:928:A:H2'	54:28:929:U:O4'	2.15	0.47
54:28:1038:G:H2'	54:28:1039:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1082:U:H3'	54:28:1083:U:C5'	2.31	0.47
54:28:1159:U:O2'	54:28:1160:G:H5'	2.14	0.47
54:28:1208:C:C4	54:28:1209:U:C4	3.02	0.47
54:28:1565:C:O2'	54:28:1566:A:C8	2.64	0.47
54:28:2039:U:H2'	54:28:2040:G:C8	2.50	0.47
54:28:2393:U:O2'	54:28:2394:C:H5'	2.15	0.47
54:28:2720:U:H2'	54:28:2721:A:H8	1.79	0.47
2:B:203:VAL:O	2:B:204:LEU:C	2.57	0.46
3:C:56:LYS:HZ1	54:28:2830:C:C5'	2.27	0.46
6:F:106:LEU:O	6:F:151:ARG:NH2	2.48	0.46
8:H:38:MET:HG3	9:I:117:THR:CG2	2.45	0.46
8:H:59:LEU:HD11	54:28:1047:G:C8	2.50	0.46
12:L:92:LEU:O	12:L:96:LYS:NZ	2.47	0.46
13:M:63:ILE:HD11	13:M:105:MET:HE2	1.97	0.46
17:Q:10:ARG:HH21	54:28:28:A:C2'	2.28	0.46
17:Q:99:VAL:O	17:Q:102:LYS:NZ	2.48	0.46
22:V:64:VAL:HG22	22:V:69:GLU:HG2	1.96	0.46
33:7:114:LYS:O	33:7:117:GLU:HG2	2.15	0.46
33:7:182:VAL:HG23	33:7:196:ASP:H	1.80	0.46
36:10:98:ALA:CB	36:10:123:LEU:HG	2.45	0.46
36:10:108:GLY:O	36:10:109:ALA:HB3	2.15	0.46
39:13:10:LEU:HD22	39:13:74:ILE:HD11	1.97	0.46
41:15:5:ARG:HG2	41:15:79:PRO:CD	2.45	0.46
47:21:7:ALA:HB3	47:21:18:GLN:HB3	1.97	0.46
53:27:1301:U:O2	53:27:1301:U:C2'	2.63	0.46
54:28:14:A:H3'	54:28:14:A:OP2	2.15	0.46
54:28:18:U:O2'	54:28:554:U:H5''	2.15	0.46
54:28:67:U:H2'	54:28:68:G:H8	1.80	0.46
54:28:302:C:H2'	54:28:303:G:H8	1.80	0.46
54:28:615:U:O5'	54:28:615:U:H6	1.98	0.46
54:28:822:G:H2'	54:28:823:C:C6	2.49	0.46
54:28:1164:C:H2'	54:28:1165:A:C8	2.50	0.46
54:28:1401:G:H2'	54:28:1402:U:O4'	2.14	0.46
54:28:1790:C:H2'	54:28:1791:A:C5	2.50	0.46
54:28:2075:U:C1'	54:28:2597:G:H21	2.22	0.46
54:28:2359:C:O2'	54:28:2360:G:H5'	2.16	0.46
54:28:2533:U:H2'	54:28:2534:A:O4'	2.15	0.46
54:28:2561:U:C3'	54:28:2562:U:H5''	2.44	0.46
1:A:634:HIS:HB3	1:A:641:LEU:HD13	1.96	0.46
3:C:51:THR:HB	3:C:79:LEU:HD23	1.97	0.46
6:F:145:ALA:O	6:F:148:ARG:HG2	2.13	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:73:PRO:HA	9:I:74:PRO:HD3	1.86	0.46
11:K:70:ARG:HH12	54:28:2684:U:C4'	2.28	0.46
11:K:91:SER:O	11:K:92:GLU:HB2	2.15	0.46
12:L:57:LEU:HD13	12:L:60:ARG:NH1	2.31	0.46
12:L:96:LYS:HG3	12:L:101:ILE:HD11	1.97	0.46
15:O:31:THR:HG22	15:O:32:PRO:HD2	1.97	0.46
22:V:80:HIS:CG	22:V:81:PRO:HD2	2.50	0.46
23:W:70:PRO:HD3	55:29:12:C:N4	2.29	0.46
25:Y:55:THR:HG21	54:28:77:G:O4'	2.15	0.46
30:4:34:ARG:NH1	54:28:466:A:OP1	2.36	0.46
31:5:2:LYS:HG3	54:28:242:G:C8	2.50	0.46
31:5:3:ILE:O	31:5:63:TYR:HE2	1.97	0.46
33:7:27:LYS:O	33:7:30:ILE:HG12	2.15	0.46
37:11:39:LEU:HD23	37:11:39:LEU:O	2.15	0.46
39:13:87:ARG:HG3	53:27:600:A:OP1	2.15	0.46
42:16:121:ARG:NH2	52:26:35:GLU:HG2	2.30	0.46
44:18:89:ARG:NH2	44:18:94:LEU:HB3	2.30	0.46
50:24:39:ILE:HB	50:24:66:VAL:C	2.40	0.46
53:27:737:C:H2'	53:27:738:C:C6	2.50	0.46
53:27:1171:A:H2'	53:27:1172:C:H6	1.77	0.46
54:28:197:A:C2	54:28:198:C:H1'	2.50	0.46
54:28:966:G:C5	54:28:967:U:C4	3.03	0.46
54:28:1998:A:H2'	54:28:1999:C:H6	1.80	0.46
54:28:2207:C:H2'	54:28:2208:C:C6	2.49	0.46
54:28:2370:G:H2'	54:28:2371:G:C8	2.51	0.46
2:B:68:ARG:NH1	2:B:128:THR:OG1	2.48	0.46
4:D:96:VAL:O	4:D:96:VAL:HG23	2.16	0.46
8:H:37:LYS:CE	54:28:1086:A:N6	2.79	0.46
8:H:61:ARG:CG	54:28:1046:A:H4'	2.41	0.46
9:I:6:ALA:HB3	9:I:60:VAL:CG2	2.45	0.46
12:L:111:ILE:HA	12:L:128:THR:HG21	1.97	0.46
32:6:1:MET:CE	32:6:36:ARG:HB2	2.44	0.46
33:7:120:SER:HA	33:7:125:PHE:HA	1.97	0.46
34:8:69:THR:C	34:8:105:VAL:HG12	2.40	0.46
34:8:112:ALA:HB2	34:8:182:ASP:O	2.15	0.46
34:8:112:ALA:O	34:8:199:VAL:HG11	2.15	0.46
49:23:40:PRO:HG2	49:23:43:ILE:HG12	1.97	0.46
50:24:32:THR:CG2	50:24:50:VAL:HG22	2.44	0.46
50:24:39:ILE:HG22	50:24:40:PHE:N	2.31	0.46
53:27:113:G:H2'	53:27:114:U:H6	1.78	0.46
53:27:134:G:H2'	53:27:135:C:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:554:A:H2'	53:27:555:U:H6	1.81	0.46
53:27:1015:G:H2'	53:27:1016:A:O4'	2.16	0.46
53:27:1280:A:O2'	53:27:1281:C:H5'	2.15	0.46
54:28:269:C:H2'	54:28:270:A:C8	2.51	0.46
54:28:277:G:H4'	54:28:278:A:C8	2.50	0.46
54:28:341:C:H2'	54:28:342:A:C8	2.50	0.46
54:28:437:U:H2'	54:28:438:G:H8	1.79	0.46
54:28:574:A:O3'	54:28:2055:C:H5	1.97	0.46
54:28:783:A:C2'	54:28:784:G:H5'	2.46	0.46
54:28:818:G:N1	54:28:1188:U:OP2	2.34	0.46
54:28:963:U:H2'	54:28:964:C:C6	2.50	0.46
54:28:1037:G:O2'	54:28:1038:G:H5'	2.14	0.46
54:28:1157:G:H2'	54:28:1158:C:C6	2.50	0.46
54:28:1287:A:O2'	54:28:1288:G:H5'	2.16	0.46
54:28:1336:A:H2'	54:28:1337:G:H8	1.80	0.46
54:28:1379:U:OP1	54:28:1379:U:C6	2.67	0.46
54:28:1537:G:C4	54:28:1538:G:H1'	2.50	0.46
54:28:1759:A:C2	54:28:2697:G:H1'	2.51	0.46
54:28:2030:A:N3	54:28:2499:C:H5''	2.30	0.46
54:28:2066:C:H2'	54:28:2067:G:H8	1.81	0.46
54:28:2286:G:H5'	54:28:2287:A:O4'	2.15	0.46
54:28:2639:A:H1'	54:28:2778:A:C2	2.50	0.46
54:28:2678:C:H2'	54:28:2679:A:O4'	2.15	0.46
2:B:52:HIS:NE2	2:B:218:THR:HG23	2.30	0.46
7:G:113:SER:O	7:G:116:ARG:NH1	2.48	0.46
11:K:63:VAL:HB	11:K:103:VAL:HG12	1.97	0.46
13:M:73:ILE:HG12	13:M:93:VAL:HG22	1.98	0.46
14:N:2:ARG:HB2	14:N:5:LYS:HB2	1.98	0.46
14:N:96:ARG:HG3	54:28:2882:A:H5'	1.98	0.46
17:Q:64:ILE:HD13	17:Q:94:LEU:HD22	1.97	0.46
18:R:77:PHE:HD1	18:R:84:ARG:HB3	1.80	0.46
19:S:107:VAL:O	19:S:107:VAL:HG13	2.15	0.46
33:7:33:ALA:HB3	33:7:37:VAL:HG13	1.96	0.46
35:9:115:GLN:NE2	35:9:119:HIS:NE2	2.64	0.46
36:10:134:ASN:ND2	53:27:1078:U:H1'	2.28	0.46
47:21:8:ARG:HB3	47:21:28:ARG:HD2	1.97	0.46
47:21:14:ARG:HE	47:21:42:ILE:CD1	2.29	0.46
48:22:17:GLU:C	48:22:19:SER:H	2.23	0.46
48:22:17:GLU:O	48:22:19:SER:N	2.48	0.46
52:26:52:VAL:HG21	53:27:723:U:C5	2.51	0.46
53:27:531:U:C4'	53:27:532:A:H5''	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1443:C:H2'	53:27:1444:U:O4'	2.16	0.46
53:27:1499:A:O2'	53:27:1500:A:H5'	2.15	0.46
54:28:358:U:H2'	54:28:359:G:H8	1.80	0.46
54:28:564:C:H2'	54:28:565:C:H6	1.80	0.46
54:28:765:C:H2'	54:28:766:U:C6	2.51	0.46
54:28:1432:G:H2'	54:28:1433:A:H8	1.81	0.46
54:28:1712:U:H2'	54:28:1713:A:C8	2.50	0.46
54:28:2020:A:O2'	54:28:2021:C:H5'	2.15	0.46
54:28:2066:C:O2'	54:28:2067:G:H5'	2.16	0.46
54:28:2101:A:H2'	54:28:2102:G:H8	1.80	0.46
54:28:2246:G:H2'	54:28:2247:A:C8	2.50	0.46
54:28:2745:C:H2'	54:28:2746:U:C6	2.51	0.46
54:28:2813:A:H2'	54:28:2814:A:H8	1.79	0.46
55:29:115:A:H2'	55:29:116:G:H8	1.74	0.46
1:A:741:LEU:HD23	1:A:742:HIS:N	2.30	0.46
2:B:57:HIS:ND1	2:B:58:LYS:O	2.49	0.46
2:B:260:LYS:HA	2:B:263:ASP:OD2	2.15	0.46
4:D:143:LEU:HD22	4:D:185:LYS:HG3	1.96	0.46
6:F:29:ASN:ND2	6:F:79:THR:C	2.74	0.46
9:I:99:LYS:HA	9:I:138:VAL:HG23	1.96	0.46
15:O:68:LYS:HG3	55:29:50:A:OP1	2.15	0.46
17:Q:108:LEU:HD23	18:R:48:LYS:HD3	1.96	0.46
21:U:82:VAL:HG12	21:U:83:GLY:N	2.30	0.46
23:W:40:LYS:CE	54:28:2330:G:H4'	2.46	0.46
24:X:56:ARG:O	24:X:59:ASP:HB3	2.15	0.46
26:Z:2:LYS:HE2	26:Z:39:ASP:OD2	2.16	0.46
33:7:98:GLY:HA2	33:7:174:GLU:OE1	2.15	0.46
33:7:101:THR:OG1	53:27:1074:G:O3'	2.25	0.46
35:9:7:LYS:HB2	35:9:20:LEU:HD13	1.96	0.46
37:11:14:GLN:H	37:11:14:GLN:CD	2.23	0.46
38:12:141:HIS:O	38:12:144:ALA:HB3	2.16	0.46
40:14:56:MET:HE1	40:14:60:LEU:HB2	1.98	0.46
41:15:8:ILE:HA	41:15:99:GLN:O	2.15	0.46
43:17:41:PRO:HG3	43:17:49:ARG:CG	2.45	0.46
45:19:27:LYS:HE2	53:27:1317:C:OP2	2.15	0.46
53:27:66:A:H4'	53:27:173:U:C5	2.51	0.46
53:27:195:A:H2'	53:27:196:A:C8	2.50	0.46
53:27:552:U:O2'	53:27:553:A:H5'	2.16	0.46
53:27:1329:A:C2'	53:27:1330:U:H5'	2.45	0.46
54:28:30:G:H2'	54:28:31:C:C6	2.51	0.46
54:28:59:U:O2'	54:28:73:A:H2'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1030:C:O2'	54:28:1031:G:H5'	2.16	0.46
54:28:1068:G:H21	54:28:1096:A:C5'	2.23	0.46
54:28:1464:G:H2'	54:28:1465:G:H8	1.80	0.46
54:28:1805:A:H2'	54:28:1806:C:H6	1.79	0.46
54:28:2271:G:H2'	54:28:2272:U:C6	2.51	0.46
54:28:2465:C:O2'	54:28:2466:C:H5'	2.15	0.46
54:28:2740:A:H2'	54:28:2741:A:C8	2.51	0.46
2:B:141:HIS:ND1	2:B:192:GLY:O	2.43	0.46
4:D:147:LEU:HD12	4:D:168:ASP:O	2.16	0.46
7:G:27:ARG:NH1	24:X:55:MET:HG2	2.31	0.46
8:H:14:GLU:OE2	8:H:67:THR:HA	2.15	0.46
9:I:100:ILE:HG13	9:I:139:VAL:HA	1.97	0.46
10:J:88:THR:OG1	10:J:91:GLU:HG3	2.16	0.46
11:K:76:VAL:H	16:P:72:VAL:CG2	2.28	0.46
16:P:102:ARG:NH2	54:28:1754:A:O3'	2.49	0.46
21:U:48:VAL:O	21:U:53:GLN:HB3	2.15	0.46
33:7:35:ASN:HB3	33:7:37:VAL:HG12	1.98	0.46
34:8:13:ILE:HG22	34:8:14:VAL:HG23	1.96	0.46
34:8:129:PHE:CZ	34:8:156:LEU:HD13	2.51	0.46
35:9:151:GLN:O	35:9:153:ARG:N	2.49	0.46
35:9:190:LEU:HD12	35:9:190:LEU:O	2.15	0.46
42:16:82:GLU:OE1	42:16:82:GLU:N	2.48	0.46
43:17:29:LYS:HD3	53:27:363:A:OP1	2.15	0.46
43:17:49:ARG:NH2	43:17:88:ASP:OD2	2.47	0.46
44:18:97:ARG:HB2	44:18:99:GLN:HE22	1.80	0.46
45:19:74:ARG:HE	53:27:1359:C:H5	1.63	0.46
47:21:22:ALA:HB2	47:21:32:PHE:CB	2.46	0.46
49:23:21:ASP:O	49:23:22:TYR:HB3	2.15	0.46
50:24:10:ILE:HA	50:24:37:SER:HA	1.97	0.46
52:26:6:ARG:O	52:26:11:PHE:CD2	2.67	0.46
53:27:472:U:H2'	53:27:473:U:H6	1.81	0.46
53:27:979:C:OP2	53:27:980:C:H5	1.98	0.46
53:27:1114:C:H2'	53:27:1115:U:C6	2.51	0.46
54:28:518:G:H2'	54:28:519:U:C6	2.50	0.46
54:28:563:A:C6	54:28:564:C:C4	3.04	0.46
54:28:897:C:H3'	54:28:897:C:P	2.56	0.46
54:28:1056:G:O2'	54:28:1086:A:H1'	2.15	0.46
54:28:1297:C:OP1	54:28:2710:C:H4'	2.15	0.46
54:28:1430:G:H2'	54:28:1431:A:C8	2.51	0.46
54:28:2158:A:H5''	54:28:2159:G:OP1	2.15	0.46
54:28:2315:G:H2'	54:28:2316:G:H8	1.78	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2590:A:H61	54:28:2604:U:H3	1.62	0.46
54:28:2652:C:H2'	54:28:2653:U:O4'	2.15	0.46
2:B:146:LYS:HB2	2:B:149:LYS:HB2	1.98	0.46
2:B:206:LYS:HE2	54:28:764:A:OP1	2.15	0.46
6:F:11:SER:N	54:28:2749:A:H5''	2.31	0.46
6:F:161:VAL:HG12	6:F:162:ARG:N	2.31	0.46
8:H:23:LEU:CD2	8:H:126:LEU:HD21	2.43	0.46
8:H:100:ALA:O	8:H:101:LYS:C	2.58	0.46
13:M:127:LYS:NZ	54:28:1030:C:OP2	2.48	0.46
15:O:30:ARG:NH2	55:29:48:U:OP2	2.48	0.46
18:R:49:ILE:HD13	18:R:51:VAL:C	2.41	0.46
30:4:34:ARG:HA	30:4:34:ARG:HD2	1.75	0.46
36:10:161:GLU:C	36:10:164:LEU:HG	2.38	0.46
39:13:42:GLU:HG2	39:13:100:ILE:HG21	1.97	0.46
39:13:80:PRO:HG2	53:27:878:A:C5'	2.46	0.46
39:13:110:MET:HE2	39:13:115:ALA:N	2.31	0.46
40:14:98:ARG:HH12	53:27:1179:A:H5''	1.80	0.46
43:17:74:GLN:O	43:17:76:HIS:N	2.48	0.46
46:20:74:VAL:O	46:20:77:TYR:HB3	2.16	0.46
47:21:60:TRP:HB3	47:21:65:ALA:CB	2.46	0.46
53:27:271:C:H2'	53:27:272:C:H6	1.81	0.46
53:27:621:A:H2'	53:27:622:A:O4'	2.15	0.46
53:27:1471:U:O2'	53:27:1472:U:H5'	2.15	0.46
54:28:200:U:H2'	54:28:201:C:O4'	2.16	0.46
54:28:275:C:H2'	54:28:276:U:C4'	2.43	0.46
54:28:966:G:H2'	54:28:967:U:C6	2.51	0.46
54:28:1157:G:H2'	54:28:1158:C:H6	1.80	0.46
54:28:1754:A:H2'	54:28:1755:A:C8	2.50	0.46
54:28:1973:G:H2'	54:28:1974:C:C6	2.50	0.46
54:28:2134:A:H62	54:28:2157:G:C4'	2.28	0.46
1:A:611:ARG:HB2	54:28:884:U:P	2.55	0.46
1:A:676:ARG:HG3	1:A:677:SER:H	1.79	0.46
5:E:22:ASN:N	5:E:26:GLN:OE1	2.49	0.46
5:E:48:LEU:HD21	5:E:147:ARG:NH1	2.30	0.46
11:K:9:ASN:O	11:K:83:ALA:HA	2.16	0.46
14:N:37:THR:OG1	14:N:40:LYS:HG3	2.15	0.46
20:T:40:LYS:HE2	20:T:60:THR:HG22	1.97	0.46
20:T:91:GLN:O	20:T:91:GLN:HG2	2.15	0.46
21:U:95:PHE:O	21:U:97:SER:O	2.33	0.46
30:4:11:LYS:NZ	54:28:686:U:OP1	2.49	0.46
30:4:19:ARG:HD3	54:28:125:A:OP2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:8:113:LYS:HB2	34:8:184:ASN:ND2	2.30	0.46
34:8:133:MET:HG3	34:8:150:VAL:HG21	1.97	0.46
35:9:117:VAL:HG11	35:9:132:ALA:HA	1.97	0.46
38:12:15:PRO:HA	40:14:45:MET:SD	2.55	0.46
40:14:104:THR:HG22	40:14:106:ASP:H	1.80	0.46
44:18:25:GLY:N	53:27:1329:A:H5''	2.30	0.46
46:20:69:LEU:HD21	46:20:77:TYR:HA	1.96	0.46
47:21:14:ARG:HH22	53:27:618:C:H1'	1.81	0.46
47:21:20:VAL:HG23	47:21:35:ARG:HA	1.98	0.46
49:23:24:ASP:N	49:23:24:ASP:OD1	2.49	0.46
53:27:602:A:H2'	53:27:603:U:C6	2.51	0.46
53:27:641:U:H4'	53:27:642:A:C8	2.51	0.46
53:27:1060:U:H2'	53:27:1061:G:C8	2.50	0.46
53:27:1299:A:C2'	53:27:1301:U:H1'	2.46	0.46
54:28:191:A:O2'	54:28:192:C:H5'	2.16	0.46
54:28:699:A:H2'	54:28:700:G:O4'	2.16	0.46
54:28:1080:A:C2'	54:28:1081:U:H5'	2.46	0.46
54:28:1130:U:C2	54:28:2025:C:H5''	2.50	0.46
54:28:1524:G:H2'	54:28:1525:A:C8	2.51	0.46
54:28:1684:G:H2'	54:28:1685:C:H6	1.80	0.46
54:28:2488:G:H2'	54:28:2489:U:C6	2.51	0.46
55:29:71:C:H2'	55:29:72:G:O4'	2.15	0.46
2:B:207:ALA:HB2	54:28:1790:C:H4'	1.98	0.46
8:H:57:ASN:O	8:H:63:ALA:CB	2.64	0.46
9:I:93:ASN:H	9:I:136:GLY:HA2	1.80	0.46
18:R:15:SER:O	18:R:18:GLN:HG2	2.15	0.46
19:S:7:HIS:HB2	19:S:50:VAL:HG22	1.98	0.46
19:S:74:ILE:HG23	19:S:74:ILE:O	2.16	0.46
35:9:54:LEU:HD23	35:9:202:LEU:HD11	1.97	0.46
37:11:67:PRO:HG2	37:11:70:VAL:CG2	2.44	0.46
40:14:90:ASP:C	40:14:92:SER:H	2.23	0.46
42:16:111:ASP:HB2	52:26:16:ARG:NH2	2.30	0.46
47:21:12:LYS:C	47:21:14:ARG:H	2.22	0.46
47:21:70:ARG:HD2	47:21:70:ARG:HA	1.78	0.46
49:23:59:LYS:HD3	53:27:734:G:O2'	2.16	0.46
49:23:62:ARG:HA	49:23:67:LEU:O	2.16	0.46
53:27:212:G:H2'	53:27:213:G:C8	2.51	0.46
53:27:295:C:H2'	53:27:296:U:C6	2.51	0.46
53:27:1236:A:H4'	53:27:1304:G:H4'	1.98	0.46
54:28:118:A:OP2	54:28:119:A:H5''	2.16	0.46
54:28:149:A:O2'	54:28:150:U:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:481:G:H1'	54:28:506:G:N2	2.30	0.46
54:28:571:U:C4	54:28:2030:A:C6	3.04	0.46
54:28:828:U:H2'	54:28:829:A:C8	2.50	0.46
54:28:980:A:C6	54:28:981:A:N1	2.84	0.46
54:28:1094:U:H1'	54:28:1097:U:C5	2.49	0.46
54:28:1847:G:HO2'	54:28:1848:A:H8	1.62	0.46
54:28:2560:A:H2'	54:28:2561:U:O4'	2.15	0.46
57:31:69:C:H2'	57:31:70:G:C8	2.50	0.46
3:C:56:LYS:NZ	54:28:2830:C:OP1	2.48	0.46
3:C:85:ALA:C	3:C:87:GLY:H	2.24	0.46
5:E:3:LEU:HA	5:E:6:TYR:HB3	1.97	0.46
6:F:39:ALA:HB1	6:F:57:TYR:CG	2.51	0.46
6:F:77:GLY:HA2	6:F:81:GLY:HA2	1.98	0.46
7:G:84:ALA:HA	7:G:91:PHE:N	2.31	0.46
12:L:128:THR:OG1	12:L:129:LYS:N	2.49	0.46
15:O:79:ALA:HB3	15:O:113:ALA:CB	2.46	0.46
17:Q:87:VAL:HG12	17:Q:89:ILE:H	1.79	0.46
18:R:27:ILE:HG22	18:R:28:ALA:O	2.16	0.46
33:7:174:GLU:OE1	53:27:1101:A:N6	2.49	0.46
36:10:109:ALA:O	36:10:110:MET:C	2.58	0.46
38:12:24:LYS:HA	38:12:27:ASN:HD22	1.81	0.46
42:16:126:ARG:HH22	53:27:692:U:C3'	2.28	0.46
43:17:66:ILE:HD12	43:17:66:ILE:N	2.31	0.46
49:23:19:GLU:H	49:23:19:GLU:CD	2.23	0.46
49:23:25:ILE:O	49:23:26:ALA:C	2.58	0.46
53:27:391:G:H2'	53:27:392:C:O4'	2.16	0.46
53:27:393:A:C2	53:27:394:G:C8	3.04	0.46
53:27:423:G:H3'	53:27:423:G:N3	2.30	0.46
53:27:459:A:H2'	53:27:460:A:H8	1.81	0.46
53:27:577:G:H2'	53:27:578:C:H6	1.81	0.46
53:27:911:U:H2'	53:27:912:C:C6	2.51	0.46
53:27:971:G:OP1	53:27:971:G:H3'	2.16	0.46
53:27:1040:U:H2'	53:27:1041:G:H8	1.80	0.46
53:27:1109:C:H2'	53:27:1110:A:C8	2.50	0.46
53:27:1339:A:H2'	53:27:1340:A:O4'	2.16	0.46
54:28:190:A:C6	54:28:191:A:C6	3.04	0.46
54:28:309:A:H1'	54:28:329:G:N3	2.31	0.46
54:28:564:C:O2'	54:28:565:C:H5'	2.16	0.46
54:28:809:G:H2'	54:28:810:U:C6	2.51	0.46
54:28:927:A:H2'	54:28:928:A:H8	1.78	0.46
54:28:1006:C:O2'	54:28:1007:C:H5'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1048:A:H61	54:28:1111:A:H1'	1.81	0.46
54:28:1281:G:H2'	54:28:1282:U:C6	2.51	0.46
54:28:1952:A:C6	54:28:1953:A:N1	2.83	0.46
54:28:2109:U:H2'	54:28:2110:G:C8	2.51	0.46
54:28:2127:G:H21	54:28:2173:A:H4'	1.80	0.46
54:28:2724:U:H2'	54:28:2725:A:C8	2.50	0.46
54:28:2783:U:H2'	54:28:2784:U:H6	1.81	0.46
57:31:18:G:N2	57:31:57:A:H2'	2.31	0.46
58:32:26:G:N1	58:32:44:A:C2	2.84	0.46
2:B:207:ALA:CB	54:28:1790:C:H4'	2.46	0.45
3:C:122:VAL:HG22	3:C:127:PHE:O	2.16	0.45
5:E:4:HIS:HB2	5:E:96:TRP:CG	2.51	0.45
5:E:7:TYR:HA	5:E:11:VAL:HG23	1.98	0.45
5:E:137:PHE:HA	5:E:138:PRO:HD3	1.83	0.45
9:I:8:VAL:HG12	9:I:9:LYS:N	2.31	0.45
9:I:10:LEU:HD23	54:28:1070:A:C2	2.52	0.45
9:I:36:GLU:O	9:I:37:PHE:C	2.58	0.45
11:K:99:ILE:HD13	11:K:115:ILE:HG23	1.97	0.45
11:K:110:GLU:H	11:K:113:MET:HE3	1.81	0.45
12:L:66:PHE:CE2	54:28:2415:G:H1'	2.50	0.45
13:M:30:SER:HA	13:M:133:LYS:HB2	1.98	0.45
16:P:7:LEU:HA	16:P:10:GLU:OE2	2.16	0.45
22:V:30:ILE:HG12	22:V:91:PHE:HB2	1.96	0.45
34:8:91:ALA:O	34:8:95:GLY:N	2.49	0.45
35:9:173:ASP:O	35:9:175:GLY:N	2.49	0.45
37:11:9:MET:HG3	37:11:85:ILE:O	2.16	0.45
42:16:87:GLY:N	42:16:113:THR:HG22	2.31	0.45
50:24:18:VAL:O	50:24:22:VAL:HG23	2.16	0.45
53:27:142:G:H2'	53:27:143:A:O4'	2.16	0.45
53:27:225:C:H2'	53:27:226:G:O4'	2.15	0.45
53:27:575:G:H4'	53:27:576:C:O5'	2.16	0.45
53:27:723:U:N3	53:27:856:C:H5'	2.31	0.45
53:27:793:U:H5'	53:27:794:A:O5'	2.16	0.45
53:27:1143:G:O2'	53:27:1144:G:H5'	2.17	0.45
53:27:1308:U:H2'	53:27:1309:G:C8	2.52	0.45
54:28:338:G:N2	54:28:339:U:H1'	2.31	0.45
54:28:468:G:H2'	54:28:469:G:O4'	2.16	0.45
54:28:488:G:H1'	54:28:492:A:H61	1.80	0.45
54:28:644:A:H2'	54:28:645:C:H4'	1.98	0.45
54:28:1341:G:N2	54:28:1398:C:H4'	2.31	0.45
54:28:1556:C:O2'	54:28:1557:C:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2281:A:O2'	54:28:2282:G:H5'	2.16	0.45
54:28:2524:G:H3'	54:28:2525:G:H5''	1.97	0.45
54:28:2730:C:O2'	54:28:2731:G:H5'	2.16	0.45
54:28:2747:G:O6	54:28:2755:C:H5''	2.15	0.45
54:28:2869:G:H2'	54:28:2870:C:O4'	2.16	0.45
55:29:24:G:N7	55:29:56:G:O2'	2.45	0.45
57:31:16:C:HO2'	57:31:17:C:H5'	1.81	0.45
2:B:52:HIS:CA	2:B:216:ARG:HB2	2.45	0.45
2:B:68:ARG:O	2:B:188:ARG:NH1	2.49	0.45
2:B:71:ASP:C	2:B:73:ILE:H	2.23	0.45
2:B:196:ASN:O	2:B:196:ASN:OD1	2.34	0.45
5:E:105:ILE:HD12	5:E:138:PRO:HG2	1.97	0.45
6:F:37:ASN:HD22	6:F:63:GLN:NE2	2.13	0.45
7:G:66:ASN:HB3	7:G:135:HIS:HB2	1.98	0.45
17:Q:23:TYR:CE1	54:28:533:G:H5'	2.52	0.45
19:S:18:ARG:HH12	54:28:518:G:P	2.39	0.45
26:Z:5:LYS:HB2	26:Z:57:GLU:HG3	1.98	0.45
27:1:56:ARG:HH22	50:24:68:HIS:HE1	1.64	0.45
29:3:50:GLU:CD	29:3:51:ALA:N	2.75	0.45
33:7:107:ARG:HA	33:7:110:ILE:HD12	1.98	0.45
37:11:21:MET:O	37:11:24:ARG:HB3	2.15	0.45
38:12:127:ALA:HB3	38:12:128:GLU:OE1	2.16	0.45
40:14:29:ILE:HG23	40:14:29:ILE:O	2.16	0.45
40:14:118:ARG:O	40:14:119:LYS:HB3	2.17	0.45
43:17:87:LYS:O	43:17:87:LYS:HG2	2.16	0.45
43:17:98:ARG:CB	43:17:116:TYR:HA	2.45	0.45
43:17:113:ARG:NH2	43:17:120:ARG:HG3	2.32	0.45
48:22:14:ASP:O	48:22:16:MET:N	2.49	0.45
51:25:6:ALA:O	51:25:9:ARG:HB3	2.15	0.45
51:25:23:ARG:NH1	53:27:176:C:H5''	2.32	0.45
53:27:757:U:H2'	53:27:758:C:O4'	2.17	0.45
53:27:788:U:H2'	53:27:789:U:O4'	2.16	0.45
53:27:1167:A:C6	53:27:1169:A:N1	2.84	0.45
53:27:1225:A:H3'	53:27:1226:C:C6	2.50	0.45
53:27:1434:A:H2'	53:27:1435:G:C8	2.51	0.45
54:28:185:G:H2'	54:28:186:G:H8	1.81	0.45
54:28:213:A:H2'	54:28:214:G:C8	2.51	0.45
54:28:329:G:O4'	54:28:477:A:H1'	2.16	0.45
54:28:886:A:H2'	54:28:887:U:O4'	2.17	0.45
54:28:1255:U:O5'	54:28:1256:G:H5''	2.16	0.45
54:28:1710:G:H2'	54:28:1711:A:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1773:A:C2'	54:28:1774:C:H5'	2.47	0.45
54:28:1838:C:N4	54:28:1898:U:H2'	2.31	0.45
54:28:1951:U:H2'	54:28:1953:A:OP2	2.16	0.45
54:28:2136:G:N2	54:28:2137:U:H1'	2.31	0.45
54:28:2171:A:O2'	54:28:2172:U:H5'	2.16	0.45
54:28:2242:G:O5'	54:28:2242:G:H8	1.98	0.45
54:28:2295:C:H2'	54:28:2296:U:C6	2.52	0.45
54:28:2314:A:H2'	54:28:2315:G:H8	1.81	0.45
54:28:2472:G:H2'	54:28:2529:G:H21	1.81	0.45
55:29:35:C:H2'	55:29:36:C:O4'	2.16	0.45
57:31:36:U:O2'	57:31:37:A:H5'	2.15	0.45
3:C:88:GLU:OE1	3:C:88:GLU:N	2.48	0.45
4:D:1:MET:HB3	4:D:14:VAL:O	2.16	0.45
4:D:134:LEU:CD2	4:D:161:ALA:HB2	2.46	0.45
5:E:62:GLN:HE21	5:E:88:VAL:CG1	2.30	0.45
6:F:104:LEU:HD13	6:F:106:LEU:HD11	1.98	0.45
8:H:77:VAL:HB	8:H:84:TYR:CE1	2.49	0.45
22:V:1:MET:O	22:V:3:THR:N	2.49	0.45
25:Y:21:LEU:O	25:Y:25:GLN:HB3	2.15	0.45
26:Z:50:VAL:O	26:Z:54:VAL:HG22	2.16	0.45
29:3:46:VAL:HG12	29:3:47:ILE:N	2.31	0.45
33:7:102:ASN:HB2	53:27:1074:G:H1'	1.98	0.45
36:10:57:ALA:O	36:10:61:LYS:HB2	2.15	0.45
40:14:90:ASP:C	40:14:92:SER:N	2.75	0.45
53:27:210:C:H3'	53:27:211:G:C5'	2.44	0.45
53:27:376:G:H2'	53:27:377:G:C8	2.51	0.45
53:27:423:G:H2'	53:27:424:G:H5'	1.97	0.45
53:27:551:U:H2'	53:27:552:U:H6	1.81	0.45
53:27:589:U:O2'	53:27:590:U:H5'	2.15	0.45
53:27:871:U:H5''	53:27:872:A:OP2	2.15	0.45
53:27:880:C:O2'	53:27:881:G:H5'	2.16	0.45
53:27:1034:G:H2'	53:27:1035:A:O4'	2.16	0.45
53:27:1120:C:H2'	53:27:1121:U:H6	1.81	0.45
53:27:1331:G:O2'	53:27:1332:A:H8	1.99	0.45
53:27:1350:A:H2'	53:27:1351:U:C6	2.51	0.45
54:28:151:C:H2'	54:28:152:A:H8	1.80	0.45
54:28:364:C:H2'	54:28:365:U:C6	2.51	0.45
54:28:465:G:H21	54:28:684:G:H1'	1.81	0.45
54:28:1424:G:H2'	54:28:1425:G:O4'	2.17	0.45
54:28:1670:C:C4	54:28:1671:U:C2	3.04	0.45
54:28:1857:G:H1'	54:28:1885:A:H61	1.76	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1874:C:H2'	54:28:1875:G:O4'	2.15	0.45
54:28:2010:G:H2'	54:28:2011:U:C6	2.51	0.45
54:28:2405:G:H2'	54:28:2411:A:N6	2.32	0.45
54:28:2626:C:H2'	54:28:2627:G:H8	1.81	0.45
54:28:2837:A:H2'	54:28:2838:G:C8	2.51	0.45
4:D:111:GLU:O	4:D:115:GLN:N	2.49	0.45
31:5:32:LEU:HD13	54:28:2419:U:OP2	2.16	0.45
34:8:175:HIS:NE2	53:27:1190:G:H5''	2.31	0.45
35:9:13:ARG:HD2	35:9:55:ARG:CZ	2.47	0.45
37:11:62:MET:O	37:11:63:ASN:HB2	2.16	0.45
40:14:35:GLU:O	40:14:40:ARG:HG3	2.15	0.45
45:19:11:LYS:O	45:19:14:ALA:HB3	2.16	0.45
46:20:4:THR:HG23	53:27:659:U:H5''	1.99	0.45
48:22:59:GLU:CD	48:22:76:ARG:HE	2.24	0.45
52:26:67:THR:HB	53:27:1088:G:O2'	2.16	0.45
53:27:904:U:H2'	53:27:905:U:C6	2.51	0.45
53:27:1277:C:H2'	53:27:1278:G:H5''	1.97	0.45
53:27:1404:C:H2'	53:27:1405:G:H8	1.77	0.45
53:27:1405:G:O2'	53:27:1406:U:H5'	2.17	0.45
54:28:2:G:H2'	54:28:3:U:C6	2.50	0.45
54:28:247:G:H4'	54:28:386:G:C4	2.52	0.45
54:28:435:C:H2'	54:28:436:C:H5'	1.99	0.45
54:28:528:A:H2'	54:28:2042:A:N1	2.32	0.45
54:28:542:C:H2'	54:28:543:G:H5''	1.98	0.45
54:28:1013:C:H2'	54:28:1014:A:H8	1.82	0.45
54:28:1144:A:H2'	54:28:1145:C:H6	1.80	0.45
54:28:1417:C:H2'	54:28:1418:G:O4'	2.16	0.45
54:28:1913:A:H4'	54:28:1914:C:C5'	2.46	0.45
54:28:1993:U:H2'	54:28:1994:C:C6	2.50	0.45
54:28:2000:C:O2'	54:28:2001:C:H5'	2.17	0.45
54:28:2078:C:H2'	54:28:2079:U:O4'	2.16	0.45
54:28:2199:A:H3'	54:28:2200:C:H6	1.81	0.45
54:28:2440:C:H5''	54:28:2587:A:H4'	1.98	0.45
54:28:2643:G:C4	54:28:2644:G:C8	3.04	0.45
55:29:30:C:C2'	55:29:31:C:H5'	2.46	0.45
4:D:63:LYS:O	54:28:2060:A:OP1	2.35	0.45
5:E:14:LYS:NZ	5:E:18:GLU:OE2	2.49	0.45
5:E:19:PHE:C	5:E:20:ASN:OD1	2.60	0.45
5:E:47:LYS:O	5:E:50:ASP:HB2	2.17	0.45
5:E:87:LYS:HZ1	54:28:2314:A:P	2.38	0.45
5:E:115:GLY:HA2	5:E:175:PRO:HB3	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:97:GLN:O	13:M:98:PRO:C	2.58	0.45
14:N:28:LEU:HD23	14:N:48:VAL:HG11	1.99	0.45
15:O:7:ARG:O	15:O:10:ARG:HB3	2.17	0.45
18:R:93:PHE:CD1	18:R:93:PHE:C	2.94	0.45
27:1:16:CYS:HA	27:1:34:LEU:HB2	1.98	0.45
33:7:82:ALA:O	33:7:85:SER:OG	2.28	0.45
33:7:96:LEU:O	33:7:98:GLY:N	2.50	0.45
33:7:162:VAL:HB	33:7:184:ALA:CB	2.47	0.45
35:9:13:ARG:HD2	35:9:55:ARG:NH2	2.32	0.45
35:9:201:GLU:HA	35:9:204:SER:HB2	1.99	0.45
40:14:30:ASN:O	40:14:31:GLN:HB2	2.16	0.45
41:15:6:ILE:HA	41:15:102:LEU:HB3	1.98	0.45
44:18:15:VAL:O	44:18:19:THR:HG23	2.17	0.45
45:19:68:ARG:HD2	53:27:1202:U:O4'	2.16	0.45
46:20:63:ARG:CD	46:20:87:ARG:HH22	2.27	0.45
50:24:43:MET:HE3	50:24:61:VAL:HG21	1.98	0.45
53:27:81:A:H2	53:27:88:U:O2	1.99	0.45
53:27:654:G:H2'	53:27:655:A:O4'	2.15	0.45
53:27:922:G:N3	53:27:1398:A:H2	2.15	0.45
53:27:1167:A:C6	53:27:1169:A:C6	3.04	0.45
53:27:1353:G:H2'	53:27:1354:U:C6	2.52	0.45
54:28:445:C:H2'	54:28:446:G:O4'	2.17	0.45
54:28:522:A:H2'	54:28:523:C:H6	1.82	0.45
54:28:857:G:H1	54:28:920:A:H61	1.65	0.45
54:28:859:G:O2'	54:28:860:U:P	2.74	0.45
54:28:1301:A:O2'	54:28:1302:A:H3'	2.16	0.45
54:28:1637:A:H2'	54:28:1638:C:C6	2.51	0.45
54:28:1731:G:C6	54:28:1733:G:C5	3.05	0.45
54:28:2242:G:H2'	54:28:2243:U:O4'	2.16	0.45
54:28:2417:C:H2'	54:28:2418:A:C8	2.51	0.45
56:30:16:A:H2'	56:30:17:U:C6	2.51	0.45
1:A:598:VAL:O	1:A:600:GLU:N	2.49	0.45
1:A:624:PHE:O	1:A:632:SER:N	2.48	0.45
2:B:62:ARG:NH2	54:28:1568:G:OP2	2.48	0.45
2:B:178:GLY:O	2:B:270:ARG:HA	2.17	0.45
3:C:136:ASN:HD21	3:C:140:HIS:HA	1.81	0.45
4:D:190:ALA:O	4:D:193:VAL:HB	2.17	0.45
5:E:3:LEU:O	5:E:6:TYR:HB3	2.17	0.45
5:E:42:ALA:HA	5:E:45:ASP:O	2.16	0.45
7:G:59:ALA:HA	7:G:62:LEU:HD12	1.98	0.45
8:H:23:LEU:HB2	8:H:119:PRO:CD	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:81:LEU:HA	54:28:1107:G:O4'	2.17	0.45
11:K:49:ARG:HH21	53:27:1423:G:H5'	1.81	0.45
11:K:79:PHE:CD1	16:P:69:VAL:HG22	2.51	0.45
22:V:76:ASP:OD1	22:V:77:VAL:N	2.49	0.45
35:9:56:GLU:HG2	35:9:198:LEU:HD12	1.98	0.45
35:9:64:TYR:CE2	35:9:93:LEU:HB3	2.52	0.45
37:11:1:MET:SD	37:11:66:ALA:HA	2.56	0.45
43:17:34:THR:O	43:17:53:ARG:HB3	2.16	0.45
43:17:113:ARG:HG2	43:17:113:ARG:HH11	1.82	0.45
50:24:35:ARG:HA	50:24:70:LEU:HB2	1.98	0.45
52:26:25:ALA:O	52:26:26:GLY:C	2.60	0.45
53:27:16:A:C2'	53:27:17:U:H5'	2.47	0.45
53:27:631:C:H3'	53:27:632:U:H5'	1.97	0.45
53:27:908:A:H2'	53:27:909:A:H8	1.81	0.45
53:27:1213:A:C6	53:27:1215:G:H1'	2.52	0.45
53:27:1282:C:H2'	53:27:1283:U:C6	2.52	0.45
53:27:1369:C:H2'	53:27:1370:G:H8	1.79	0.45
54:28:1806:C:H2'	54:28:1807:G:O4'	2.16	0.45
54:28:2821:A:O2'	54:28:2822:G:H5'	2.17	0.45
54:28:2869:G:H2'	54:28:2870:C:C6	2.52	0.45
55:29:88:C:P	55:29:88:C:H3'	2.57	0.45
58:32:42:G:O2'	58:32:43:A:H5'	2.17	0.45
2:B:225:ASN:ND2	54:28:784:G:O5'	2.50	0.45
4:D:82:GLY:O	4:D:83:VAL:HB	2.16	0.45
4:D:176:ASP:HA	4:D:177:PRO:HD3	1.77	0.45
5:E:62:GLN:HB2	27:1:6:HIS:CE1	2.51	0.45
6:F:42:VAL:HG22	6:F:43:LYS:N	2.32	0.45
7:G:64:ALA:O	7:G:68:ARG:HG3	2.16	0.45
7:G:83:LYS:O	7:G:91:PHE:HB2	2.17	0.45
9:I:59:THR:HB	9:I:67:THR:O	2.16	0.45
13:M:40:ARG:HD2	54:28:958:U:O4	2.16	0.45
15:O:98:GLN:O	15:O:100:HIS:N	2.49	0.45
15:O:111:ARG:NH2	15:O:117:PHE:OXT	2.49	0.45
17:Q:10:ARG:O	17:Q:11:ALA:C	2.58	0.45
28:2:9:ARG:O	28:2:12:ARG:HB3	2.17	0.45
30:4:37:LYS:NZ	54:28:468:G:OP2	2.50	0.45
33:7:221:ARG:HG2	33:7:224:ARG:HE	1.82	0.45
40:14:119:LYS:O	40:14:122:ARG:N	2.45	0.45
44:18:109:LYS:NZ	53:27:1226:C:O2'	2.48	0.45
46:20:28:VAL:HG11	46:20:66:LEU:HD21	1.99	0.45
47:21:4:ILE:HB	47:21:67:ILE:HG22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:22:60:ILE:CG2	48:22:72:TRP:HB3	2.47	0.45
50:24:43:MET:HG3	50:24:46:LEU:HD12	1.98	0.45
53:27:262:A:H2'	53:27:263:A:C8	2.52	0.45
53:27:510:A:N3	53:27:543:U:H1'	2.32	0.45
53:27:1458:G:H2'	53:27:1459:G:H8	1.81	0.45
54:28:598:U:H2'	54:28:599:A:C8	2.52	0.45
54:28:755:U:H2'	54:28:756:A:C8	2.52	0.45
54:28:818:G:C2'	54:28:819:A:H5''	2.46	0.45
54:28:860:U:H2'	54:28:861:A:C8	2.40	0.45
54:28:918:A:H5''	55:29:97:C:O2'	2.17	0.45
54:28:948:C:H2'	54:28:949:G:H8	1.82	0.45
54:28:1213:A:H62	54:28:1236:G:H1'	1.80	0.45
54:28:1366:A:H2'	54:28:1367:A:O4'	2.16	0.45
54:28:1891:G:H2'	54:28:1892:C:H6	1.80	0.45
54:28:1923:U:H2'	54:28:1924:C:H6	1.80	0.45
54:28:1997:C:H2'	54:28:1998:A:H8	1.81	0.45
54:28:2081:U:H2'	54:28:2082:A:C8	2.52	0.45
54:28:2834:G:O6	54:28:2879:A:H2'	2.16	0.45
58:32:29:G:H2'	58:32:30:G:O4'	2.16	0.45
1:A:686:ILE:HD11	1:A:732:VAL:HG21	1.99	0.45
3:C:136:ASN:ND2	3:C:140:HIS:HA	2.32	0.45
7:G:27:ARG:HH11	24:X:55:MET:HG2	1.81	0.45
13:M:29:GLY:HA3	13:M:105:MET:O	2.16	0.45
14:N:14:SER:HA	14:N:17:ARG:NH1	2.31	0.45
16:P:21:PRO:HD3	16:P:49:ILE:HD12	1.98	0.45
21:U:39:ASN:HB2	21:U:62:ALA:O	2.16	0.45
30:4:5:PHE:CD2	30:4:7:PRO:HD3	2.52	0.45
34:8:53:ARG:HG3	34:8:68:HIS:ND1	2.31	0.45
34:8:109:GLU:HB2	34:8:143:LEU:CD2	2.42	0.45
35:9:26:ALA:O	35:9:28:ASP:N	2.50	0.45
35:9:119:HIS:CE1	53:27:437:U:HO2'	2.35	0.45
40:14:53:LEU:HD21	40:14:100:ALA:HB3	1.98	0.45
49:23:25:ILE:HG13	49:23:26:ALA:N	2.31	0.45
50:24:68:HIS:HB3	50:24:72:GLU:OE1	2.16	0.45
51:25:57:VAL:HG13	51:25:58:ASP:N	2.32	0.45
53:27:122:G:H2'	53:27:123:U:C6	2.52	0.45
53:27:1051:C:H2'	53:27:1052:U:O4'	2.17	0.45
53:27:1326:U:H2'	53:27:1327:C:H6	1.81	0.45
53:27:1478:U:H2'	53:27:1479:C:H6	1.81	0.45
54:28:226:A:H3'	54:28:227:A:H8	1.82	0.45
54:28:1152:C:O2'	54:28:1153:C:H5'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1259:G:H2'	54:28:1260:A:C8	2.52	0.45
54:28:1448:G:H2'	54:28:1449:G:H8	1.82	0.45
54:28:1905:C:H4'	54:28:1928:A:C2	2.51	0.45
54:28:2216:G:H2'	54:28:2217:G:C8	2.52	0.45
54:28:2291:U:H2'	54:28:2292:U:H6	1.81	0.45
54:28:2557:G:H2'	54:28:2558:C:H6	1.82	0.45
54:28:2600:A:H2'	54:28:2601:C:H6	1.79	0.45
54:28:2899:A:H2'	54:28:2900:A:C8	2.52	0.45
1:A:602:VAL:CG2	50:24:31:ARG:HD3	2.46	0.45
2:B:175:LEU:HD13	54:28:1799:G:C4	2.52	0.45
3:C:133:THR:HG23	3:C:134:HIS:N	2.32	0.45
4:D:36:ALA:O	4:D:39:ALA:HB3	2.16	0.45
8:H:48:ALA:HB3	8:H:51:TYR:CB	2.46	0.45
8:H:59:LEU:HB3	8:H:62:ARG:HB3	1.98	0.45
12:L:62:PRO:HG2	31:5:24:LYS:HB3	1.99	0.45
16:P:88:ARG:NH2	16:P:114:ASN:HD21	2.15	0.45
20:T:3:ARG:NH2	54:28:143:C:O4'	2.50	0.45
20:T:74:ILE:HG13	20:T:74:ILE:O	2.17	0.45
26:Z:40:THR:HG23	26:Z:43:ILE:H	1.81	0.45
36:10:156:ARG:C	36:10:158:LYS:N	2.75	0.45
37:11:12:PRO:HA	37:11:15:SER:OG	2.17	0.45
38:12:102:TRP:HH2	38:12:140:VAL:HG21	1.80	0.45
40:14:56:MET:O	40:14:58:GLU:N	2.50	0.45
40:14:74:GLN:O	40:14:78:ILE:HG13	2.17	0.45
42:16:22:ILE:HB	42:16:85:VAL:HA	1.99	0.45
46:20:32:THR:HG22	46:20:36:ASN:HD21	1.82	0.45
53:27:147:G:H2'	53:27:148:G:H8	1.80	0.45
53:27:463:U:H2'	53:27:464:U:O4'	2.17	0.45
53:27:689:C:H2'	53:27:690:G:O4'	2.16	0.45
53:27:865:A:H5'	53:27:1078:U:O4	2.16	0.45
53:27:1036:A:H5'	53:27:1037:C:OP2	2.16	0.45
54:28:319:G:H2'	54:28:320:A:C8	2.52	0.45
54:28:367:G:H3'	54:28:368:A:H8	1.82	0.45
54:28:393:C:O2'	54:28:394:C:H5'	2.16	0.45
54:28:633:A:H2'	54:28:634:C:O4'	2.17	0.45
54:28:795:C:H2'	54:28:796:C:C6	2.52	0.45
54:28:1209:U:O3'	54:28:1212:G:H5'	2.16	0.45
54:28:1686:C:H2'	54:28:1687:G:O4'	2.17	0.45
54:28:1989:G:H2'	54:28:1990:C:O4'	2.17	0.45
54:28:2350:C:H2'	54:28:2351:G:O4'	2.16	0.45
54:28:2452:C:C2	54:28:2504:U:O4	2.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2456:C:H2'	54:28:2457:U:O2	2.17	0.45
54:28:2472:G:H1'	54:28:2478:A:H61	1.81	0.45
54:28:2779:U:O4'	54:28:2781:A:C5	2.70	0.45
54:28:2863:C:H2'	54:28:2864:G:C8	2.51	0.45
54:28:2868:A:H3'	54:28:2869:G:C8	2.50	0.45
55:29:29:A:H2'	55:29:30:C:C6	2.51	0.45
58:32:30:G:H2'	58:32:31:G:C8	2.52	0.45
1:A:640:GLN:CA	1:A:643:GLU:OE1	2.64	0.45
2:B:52:HIS:C	2:B:216:ARG:HB2	2.42	0.45
5:E:169:LEU:HB3	5:E:174:PHE:CD2	2.45	0.45
7:G:90:LEU:HD23	7:G:93:SER:HA	1.97	0.45
8:H:107:GLU:O	8:H:109:LYS:N	2.50	0.45
10:J:120:ARG:NE	54:28:2780:G:OP2	2.48	0.45
11:K:22:ILE:HD11	11:K:40:LYS:CG	2.47	0.45
17:Q:36:GLN:NE2	54:28:564:C:C1'	2.79	0.45
24:X:49:ARG:HH22	54:28:1364:G:P	2.38	0.45
25:Y:31:GLN:HG3	25:Y:36:GLN:HB2	1.98	0.45
30:4:11:LYS:CE	54:28:686:U:OP1	2.65	0.45
32:6:38:GLY:O	54:28:1124:G:H1'	2.17	0.45
33:7:8:MET:N	33:7:46:VAL:HG11	2.32	0.45
34:8:20:THR:O	34:8:57:GLU:HA	2.17	0.45
34:8:39:ARG:NE	45:19:91:GLU:OE1	2.50	0.45
34:8:178:ARG:CZ	53:27:1112:C:H1'	2.46	0.45
39:13:9:MET:HG3	39:13:26:MET:SD	2.57	0.45
42:16:21:HIS:NE2	53:27:707:U:O3'	2.49	0.45
43:17:87:LYS:HE3	43:17:87:LYS:HB3	1.85	0.45
44:18:8:ILE:N	44:18:9:PRO:HD3	2.32	0.45
44:18:94:LEU:HB3	44:18:95:PRO:HD2	1.97	0.45
53:27:148:G:H1'	53:27:1447:A:H1'	1.98	0.45
53:27:265:G:H2'	53:27:267:C:C5	2.45	0.45
53:27:429:U:H1'	53:27:430:A:H5''	1.99	0.45
54:28:92:U:H2'	54:28:93:G:H5'	1.98	0.45
54:28:149:A:H2'	54:28:150:U:H6	1.82	0.45
54:28:516:C:H2'	54:28:517:C:H6	1.82	0.45
54:28:540:C:H2'	54:28:541:A:C8	2.50	0.45
54:28:1162:G:H2'	54:28:1163:G:H8	1.81	0.45
54:28:1188:U:H2'	54:28:1189:A:C8	2.46	0.45
54:28:1308:A:N6	54:28:1606:C:H1'	2.32	0.45
54:28:1604:C:H2'	54:28:1605:C:C6	2.53	0.45
54:28:1613:G:H2'	54:28:1617:C:H42	1.82	0.45
54:28:1676:A:H2'	54:28:1677:A:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1677:A:H2'	54:28:1678:A:C8	2.52	0.45
54:28:1681:G:N3	54:28:1762:A:H2'	2.32	0.45
54:28:2134:A:O2'	54:28:2159:G:N3	2.50	0.45
54:28:2298:A:H2'	54:28:2299:U:O4'	2.17	0.45
54:28:2686:G:H2'	54:28:2687:U:O4'	2.16	0.45
54:28:2825:G:H3'	54:28:2826:A:H8	1.82	0.45
54:28:2899:A:H2'	54:28:2900:A:H8	1.82	0.45
55:29:88:C:C5'	55:29:89:U:OP1	2.63	0.45
55:29:96:G:O2'	55:29:97:C:H5'	2.17	0.45
57:31:23:C:H2'	57:31:24:U:H6	1.81	0.45
3:C:14:ILE:O	3:C:22:ILE:HG12	2.17	0.44
4:D:40:ARG:HD2	4:D:92:HIS:CG	2.52	0.44
6:F:102:ILE:HD11	6:F:116:LEU:HD21	1.98	0.44
8:H:42:ARG:HG3	9:I:118:GLY:O	2.17	0.44
9:I:92:PRO:HD3	54:28:1063:G:H21	1.82	0.44
12:L:95:LEU:O	12:L:99:ASN:N	2.50	0.44
14:N:101:GLY:N	28:2:41:HIS:HD2	2.15	0.44
22:V:14:LYS:HB2	55:29:98:G:H1	1.83	0.44
25:Y:14:LEU:HD23	25:Y:14:LEU:HA	1.85	0.44
27:1:27:THR:O	27:1:29:GLY:N	2.50	0.44
31:5:11:LYS:HE3	54:28:249:C:O2	2.17	0.44
35:9:125:ASN:HA	35:9:141:VAL:CG2	2.46	0.44
36:10:156:ARG:NH2	36:10:163:ILE:HG22	2.31	0.44
39:13:104:SER:HB3	53:27:642:A:C2	2.52	0.44
43:17:69:GLU:HB2	53:27:521:G:OP1	2.17	0.44
43:17:101:LEU:HB3	43:17:102:ASP:H	1.57	0.44
44:18:14:ALA:CB	44:18:33:LEU:HD21	2.46	0.44
47:21:12:LYS:HD2	53:27:393:A:OP2	2.17	0.44
51:25:25:SER:HB3	53:27:1458:G:H5''	1.98	0.44
53:27:122:G:H2'	53:27:123:U:H6	1.82	0.44
53:27:1327:C:O2'	53:27:1328:C:H5'	2.17	0.44
54:28:141:G:H5''	54:28:142:A:N9	2.33	0.44
54:28:785:G:C6	54:28:786:C:C4	3.05	0.44
54:28:795:C:C2	54:28:796:C:C5	3.05	0.44
54:28:1608:A:C5	54:28:1611:C:C4	3.04	0.44
54:28:1613:G:C2	54:28:1619:G:C5	3.05	0.44
54:28:1912:A:N6	54:28:1917:U:C5	2.77	0.44
54:28:2075:U:H3'	54:28:2238:G:H21	1.82	0.44
54:28:2134:A:C6	54:28:2158:A:H4'	2.52	0.44
54:28:2507:C:H2'	54:28:2508:G:O4'	2.17	0.44
54:28:2743:U:C3'	54:28:2744:G:H5''	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:616:ILE:O	1:A:618:GLY:N	2.49	0.44
2:B:205:GLY:O	54:28:1791:A:C1'	2.65	0.44
3:C:4:LEU:HD23	3:C:29:VAL:HG11	1.98	0.44
4:D:88:ARG:CD	4:D:89:PRO:HD2	2.48	0.44
4:D:115:GLN:C	4:D:117:ARG:N	2.75	0.44
6:F:67:ALA:O	6:F:70:LEU:HB2	2.17	0.44
7:G:9:VAL:CG1	7:G:12:LEU:HG	2.46	0.44
7:G:103:VAL:CG1	7:G:108:VAL:HB	2.47	0.44
13:M:3:GLN:HG3	13:M:92:TRP:CD1	2.53	0.44
14:N:72:ASP:OD2	14:N:75:ILE:HG12	2.17	0.44
20:T:64:LYS:HZ3	54:28:1602:U:P	2.40	0.44
24:X:46:VAL:HG11	24:X:67:LEU:HD21	1.98	0.44
28:2:11:LYS:NZ	54:28:2616:C:H5''	2.33	0.44
30:4:30:VAL:O	30:4:34:ARG:HG2	2.17	0.44
35:9:13:ARG:NH2	53:27:542:G:O3'	2.51	0.44
35:9:80:ARG:HH21	53:27:613:C:P	2.40	0.44
38:12:14:ASP:OD1	38:12:43:TYR:OH	2.31	0.44
40:14:5:TYR:O	40:14:20:ILE:HG22	2.17	0.44
41:15:80:THR:O	41:15:83:THR:N	2.50	0.44
43:17:32:VAL:HB	43:17:55:ARG:HB3	1.99	0.44
46:20:32:THR:HG22	46:20:36:ASN:ND2	2.32	0.44
50:24:35:ARG:HH11	53:27:1221:G:C5'	2.29	0.44
53:27:390:U:H2'	53:27:391:G:H8	1.82	0.44
53:27:547:A:H4'	53:27:548:G:O5'	2.17	0.44
53:27:598:U:H2'	53:27:599:C:H6	1.82	0.44
53:27:637:C:O2'	53:27:638:U:H5'	2.16	0.44
53:27:1138:G:N3	53:27:1138:G:C3'	2.78	0.44
54:28:16:C:H2'	54:28:17:G:C8	2.50	0.44
54:28:335:C:H2'	54:28:336:C:C6	2.53	0.44
54:28:354:A:H2'	54:28:355:U:O4'	2.16	0.44
54:28:765:C:H2'	54:28:766:U:H6	1.81	0.44
54:28:831:G:O2'	54:28:832:U:H5'	2.17	0.44
54:28:1089:A:H2	54:28:1090:A:N6	2.14	0.44
54:28:1528:A:C2'	54:28:1529:G:H5'	2.47	0.44
54:28:2247:A:H2'	54:28:2248:C:H6	1.82	0.44
55:29:104:A:C2	55:29:105:G:H1'	2.52	0.44
58:32:27:U:O2'	58:32:28:C:H5'	2.17	0.44
1:A:670:ARG:HH21	1:A:741:LEU:HD11	1.83	0.44
4:D:22:ASP:HA	4:D:114:ARG:HH12	1.81	0.44
6:F:57:TYR:HB3	6:F:59:ASP:OD1	2.17	0.44
7:G:131:SER:HA	7:G:140:ALA:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:15:GLY:HA3	9:I:50:LYS:NZ	2.32	0.44
9:I:52:LEU:HB3	9:I:77:VAL:HG11	1.99	0.44
10:J:7:LYS:HA	10:J:8:PRO:HD3	1.72	0.44
10:J:99:ARG:HA	10:J:102:GLU:HB3	2.00	0.44
13:M:75:GLU:HG3	54:28:957:C:H5'	2.00	0.44
17:Q:93:ILE:HG21	18:R:4:VAL:HG11	1.99	0.44
25:Y:36:GLN:O	25:Y:38:GLN:OE1	2.36	0.44
34:8:47:ALA:C	34:8:49:ALA:N	2.74	0.44
34:8:163:ARG:NH1	34:8:165:GLU:OE2	2.51	0.44
35:9:100:VAL:O	35:9:104:MET:HG2	2.17	0.44
36:10:37:VAL:HG12	36:10:116:VAL:HG21	1.99	0.44
36:10:86:GLY:O	36:10:138:ALA:HB1	2.16	0.44
38:12:2:ARG:NH2	53:27:935:A:C2	2.85	0.44
38:12:63:VAL:HA	38:12:66:GLU:OE2	2.17	0.44
38:12:85:GLN:O	38:12:147:ASN:ND2	2.43	0.44
40:14:64:ILE:HD13	40:14:78:ILE:HG23	1.99	0.44
41:15:71:LEU:O	41:15:72:ARG:NH1	2.38	0.44
48:22:18:LYS:NZ	48:22:49:ASN:H	2.15	0.44
53:27:392:C:C2	53:27:393:A:C8	3.05	0.44
53:27:607:A:C2	53:27:608:A:C4	3.05	0.44
53:27:819:A:H4'	53:27:820:U:OP2	2.17	0.44
53:27:900:A:H2'	53:27:901:A:C8	2.53	0.44
53:27:1127:G:H5'	53:27:1280:A:O2'	2.17	0.44
53:27:1426:G:H2'	53:27:1427:C:H6	1.82	0.44
53:27:1495:U:H2'	53:27:1496:C:C6	2.52	0.44
53:27:1522:U:H2'	53:27:1523:G:C8	2.51	0.44
54:28:35:G:H1'	54:28:454:A:C4	2.52	0.44
54:28:255:A:H2'	54:28:256:A:O4'	2.17	0.44
54:28:473:G:O2'	54:28:474:G:H5'	2.17	0.44
54:28:838:C:H2'	54:28:839:U:O4'	2.17	0.44
54:28:1470:A:H2'	54:28:1471:G:O4'	2.17	0.44
54:28:1739:A:H2'	54:28:1740:G:O4'	2.16	0.44
54:28:2078:C:H2'	54:28:2079:U:C6	2.53	0.44
54:28:2152:G:H2'	54:28:2153:C:C6	2.52	0.44
54:28:2536:G:H2'	54:28:2537:U:C6	2.53	0.44
54:28:2639:A:H2'	54:28:2640:G:O4'	2.17	0.44
54:28:2697:G:H2'	54:28:2698:U:O4'	2.17	0.44
55:29:4:C:C5'	55:29:4:C:H6	2.30	0.44
55:29:30:C:H2'	55:29:31:C:H5'	1.99	0.44
55:29:44:G:H1'	55:29:47:C:N4	2.31	0.44
1:A:692:VAL:HG11	1:A:715:GLU:O	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:700:ARG:HB2	1:A:709:THR:CG2	2.45	0.44
3:C:178:VAL:HG12	3:C:179:ARG:N	2.33	0.44
4:D:28:VAL:O	4:D:29:HIS:C	2.61	0.44
6:F:15:ASP:OD2	6:F:26:LYS:HE3	2.18	0.44
7:G:59:ALA:O	7:G:62:LEU:HB2	2.16	0.44
7:G:96:THR:HG22	7:G:117:LEU:HG	2.00	0.44
10:J:45:THR:HG21	10:J:48:VAL:HG23	1.98	0.44
10:J:80:HIS:O	10:J:82:GLY:N	2.51	0.44
14:N:79:LEU:O	14:N:80:PHE:CB	2.66	0.44
15:O:31:THR:O	15:O:32:PRO:C	2.60	0.44
33:7:49:PHE:O	33:7:53:LEU:HG	2.18	0.44
42:16:12:ARG:O	42:16:14:GLN:N	2.50	0.44
44:18:1:ALA:O	44:18:8:ILE:HA	2.17	0.44
45:19:5:MET:HE1	53:27:981:U:OP1	2.18	0.44
47:21:36:VAL:HG22	47:21:53:ASP:HB3	1.98	0.44
53:27:299:G:H2'	53:27:300:A:C8	2.52	0.44
53:27:1179:A:H2'	53:27:1180:A:O4'	2.17	0.44
54:28:44:A:H2'	54:28:45:G:O4'	2.17	0.44
54:28:374:A:H2'	54:28:375:G:O4'	2.18	0.44
54:28:730:A:H2'	54:28:731:C:H6	1.82	0.44
54:28:887:U:H5'	54:28:889:C:H41	1.83	0.44
54:28:1335:C:H2'	54:28:1336:A:C8	2.53	0.44
54:28:1365:A:H3'	54:28:1366:A:H8	1.83	0.44
54:28:2361:G:H2'	54:28:2362:C:C6	2.52	0.44
54:28:2838:G:C6	54:28:2839:G:C5	3.05	0.44
4:D:105:LEU:HD21	4:D:177:PRO:HG3	1.99	0.44
6:F:46:ASP:CG	6:F:47:ASN:H	2.25	0.44
7:G:67:ALA:O	7:G:70:GLU:HB3	2.17	0.44
8:H:56:ARG:O	8:H:57:ASN:HB3	2.17	0.44
8:H:97:LYS:O	8:H:98:GLU:C	2.59	0.44
9:I:76:ALA:O	9:I:80:LYS:HG3	2.17	0.44
9:I:117:THR:CB	54:28:1081:U:O2'	2.66	0.44
9:I:135:MET:HB3	54:28:1063:G:O4'	2.17	0.44
11:K:71:ARG:HH11	11:K:77:ILE:HD12	1.83	0.44
13:M:61:GLY:HA3	13:M:108:VAL:HG13	1.99	0.44
18:R:80:ARG:N	54:28:565:C:OP2	2.50	0.44
20:T:29:THR:HG23	20:T:85:VAL:C	2.43	0.44
23:W:16:ARG:HE	54:28:2357:G:P	2.40	0.44
29:3:26:LYS:NZ	29:3:30:PRO:O	2.46	0.44
35:9:5:GLY:O	35:9:7:LYS:N	2.50	0.44
35:9:9:LYS:NZ	53:27:428:G:OP2	2.44	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:11:52:ASN:O	37:11:53:LYS:HB2	2.17	0.44
38:12:129:ASN:C	38:12:134:VAL:HG21	2.42	0.44
39:13:85:TYR:CE1	39:13:123:GLU:HB2	2.53	0.44
42:16:17:ASP:OD2	42:16:36:ARG:NH2	2.51	0.44
42:16:36:ARG:NH1	42:16:82:GLU:OE2	2.47	0.44
43:17:36:VAL:O	43:17:37:TYR:HB3	2.18	0.44
43:17:80:LEU:O	43:17:81:ILE:HD13	2.18	0.44
53:27:32:A:H2'	53:27:33:A:C8	2.53	0.44
53:27:105:G:H2'	53:27:106:C:H6	1.82	0.44
53:27:777:A:C2	53:27:778:G:H1'	2.52	0.44
53:27:865:A:H2	53:27:918:A:H4'	1.82	0.44
53:27:1035:A:H2'	53:27:1036:A:H8	1.81	0.44
53:27:1192:C:H2'	53:27:1193:G:O4'	2.18	0.44
53:27:1305:G:H1'	53:27:1332:A:H62	1.83	0.44
53:27:1329:A:O2'	53:27:1330:U:H5'	2.17	0.44
54:28:235:U:H2'	54:28:236:C:H6	1.83	0.44
54:28:418:C:H2'	54:28:419:U:O4'	2.17	0.44
54:28:1029:A:H8	54:28:1029:A:O5'	2.00	0.44
54:28:1161:C:H2'	54:28:1162:G:C8	2.51	0.44
54:28:1182:G:H2'	54:28:1183:U:O4'	2.16	0.44
54:28:1342:A:C6	54:28:1397:U:C5	3.06	0.44
54:28:1367:A:C2'	54:28:1368:G:H5'	2.48	0.44
54:28:1802:A:N6	54:28:1814:G:H2'	2.33	0.44
54:28:2248:C:C2'	54:28:2249:U:H5'	2.46	0.44
54:28:2721:A:H2'	54:28:2722:G:C8	2.53	0.44
2:B:20:ASN:CG	2:B:23:LEU:HG	2.42	0.44
2:B:42:ARG:NH2	54:28:691:C:O4'	2.51	0.44
2:B:229:HIS:CG	2:B:230:PRO:HD2	2.52	0.44
3:C:141:ARG:NH2	54:28:1656:C:OP1	2.51	0.44
6:F:138:GLN:NE2	54:28:2759:G:N2	2.66	0.44
8:H:56:ARG:O	54:28:1106:G:H5''	2.17	0.44
9:I:23:VAL:O	9:I:24:GLY:O	2.35	0.44
11:K:107:LEU:HD21	11:K:115:ILE:HG21	1.99	0.44
14:N:69:ARG:C	14:N:70:THR:HG1	2.20	0.44
17:Q:1:ALA:O	17:Q:3:VAL:HG23	2.18	0.44
18:R:14:VAL:HG21	18:R:98:ILE:CG1	2.40	0.44
21:U:73:ASN:HA	21:U:95:PHE:HE1	1.82	0.44
22:V:21:ARG:HA	22:V:25:LYS:O	2.17	0.44
22:V:56:PHE:CE1	22:V:61:LEU:HD21	2.52	0.44
26:Z:12:ALA:HB2	26:Z:23:LEU:HD12	1.99	0.44
35:9:11:SER:O	35:9:15:GLY:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:15:5:ARG:HE	41:15:79:PRO:HB3	1.81	0.44
43:17:52:CYS:SG	43:17:66:ILE:HD11	2.58	0.44
44:18:47:LEU:HD12	44:18:51:GLN:OE1	2.17	0.44
53:27:39:G:O2'	53:27:40:C:H5'	2.16	0.44
53:27:142:G:H2'	53:27:143:A:C8	2.52	0.44
53:27:399:G:H2'	53:27:400:C:H6	1.78	0.44
53:27:741:G:O2'	53:27:742:G:H5'	2.17	0.44
53:27:876:C:H2'	53:27:877:G:H8	1.82	0.44
53:27:883:C:O2'	53:27:884:U:H5'	2.17	0.44
53:27:1272:G:H2'	53:27:1273:C:O4'	2.18	0.44
53:27:1351:U:H2'	53:27:1352:C:H6	1.81	0.44
54:28:350:G:H2'	54:28:351:C:O4'	2.18	0.44
54:28:623:C:H2'	54:28:624:C:C6	2.53	0.44
54:28:955:U:H5	54:28:962:G:C6	2.35	0.44
54:28:1048:A:H2	54:28:1112:G:N3	2.15	0.44
54:28:1197:G:H2'	54:28:1198:U:C6	2.53	0.44
54:28:1948:G:C6	54:28:1959:G:C6	3.06	0.44
54:28:2661:G:O2'	54:28:2662:A:H5'	2.17	0.44
55:29:53:A:H2'	55:29:53:A:N3	2.33	0.44
57:31:27:U:H2'	57:31:28:C:C6	2.53	0.44
57:31:66:C:H2'	57:31:67:C:H6	1.82	0.44
1:A:634:HIS:ND1	1:A:641:LEU:HB2	2.33	0.44
1:A:671:VAL:HA	1:A:738:ALA:HA	1.99	0.44
3:C:116:LYS:HG3	3:C:165:MET:HE3	1.99	0.44
7:G:33:GLN:C	7:G:35:LYS:H	2.26	0.44
8:H:80:THR:CA	54:28:1107:G:O2'	2.51	0.44
10:J:3:THR:HB	54:28:995:C:O2	2.18	0.44
10:J:27:ARG:N	10:J:27:ARG:HD3	2.32	0.44
10:J:131:ASN:O	54:28:6:A:H4'	2.18	0.44
12:L:14:LYS:O	54:28:662:G:H4'	2.18	0.44
14:N:48:VAL:O	14:N:51:LEU:HB2	2.18	0.44
20:T:6:ARG:NH1	20:T:42:GLU:OE1	2.51	0.44
26:Z:9:THR:HG22	26:Z:53:MET:O	2.18	0.44
26:Z:29:ARG:NH1	54:28:930:G:H5''	2.32	0.44
29:3:39:ASP:O	29:3:43:ARG:N	2.51	0.44
35:9:82:LYS:O	35:9:88:ASN:ND2	2.40	0.44
37:11:42:TRP:HB2	37:11:59:TYR:HB2	1.99	0.44
39:13:40:LYS:HD3	39:13:47:ASP:HA	2.00	0.44
41:15:7:ARG:N	41:15:101:SER:O	2.51	0.44
41:15:53:ILE:HD11	45:19:84:ARG:NH2	2.32	0.44
53:27:333:U:H2'	53:27:334:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:519:C:O2'	53:27:520:A:H5'	2.18	0.44
53:27:772:U:H2'	53:27:773:G:C8	2.53	0.44
53:27:839:C:H2'	53:27:840:C:C6	2.52	0.44
53:27:1511:G:H2'	53:27:1512:U:O4'	2.18	0.44
54:28:156:A:O2'	54:28:157:C:H5'	2.18	0.44
54:28:335:C:H2'	54:28:336:C:H6	1.82	0.44
54:28:799:G:H5''	54:28:800:A:C2'	2.44	0.44
54:28:1111:A:H2'	54:28:1112:G:H4'	1.99	0.44
54:28:1120:G:O2'	54:28:1121:C:H5'	2.18	0.44
54:28:1123:C:H2'	54:28:1124:G:H8	1.83	0.44
54:28:1171:G:H2'	54:28:1172:C:O4'	2.17	0.44
54:28:1917:U:O2'	54:28:1918:A:H5'	2.18	0.44
54:28:2061:G:O2'	54:28:2062:A:H2'	2.17	0.44
54:28:2111:U:H1'	54:28:2118:U:C4'	2.48	0.44
54:28:2212:A:H4'	54:28:2213:U:O4	2.18	0.44
54:28:2262:U:O2'	54:28:2263:C:H5'	2.18	0.44
54:28:2286:G:H4'	54:28:2287:A:O4'	2.18	0.44
54:28:2790:U:H5'	54:28:2893:A:N7	2.31	0.44
54:28:2895:G:H2'	54:28:2896:C:C6	2.53	0.44
3:C:101:PHE:HD1	3:C:104:VAL:HG21	1.83	0.44
4:D:32:VAL:HG13	4:D:33:VAL:N	2.32	0.44
4:D:109:LEU:HD11	4:D:180:LEU:HD13	2.00	0.44
5:E:25:MET:HB3	55:29:57:A:N3	2.32	0.44
5:E:30:VAL:HG22	5:E:95:MET:HE1	1.98	0.44
5:E:39:VAL:HG13	5:E:40:GLY:N	2.33	0.44
5:E:140:ILE:HG22	5:E:142:TYR:N	2.16	0.44
7:G:99:ILE:HD12	7:G:117:LEU:HD21	2.00	0.44
7:G:104:THR:HG23	7:G:109:GLU:HB2	1.99	0.44
8:H:100:ALA:O	8:H:103:ASN:N	2.50	0.44
10:J:39:LYS:NZ	54:28:1009:A:OP1	2.50	0.44
15:O:85:LYS:HB2	15:O:87:ILE:HG12	1.99	0.44
16:P:85:VAL:HG12	16:P:86:LYS:N	2.32	0.44
18:R:2:TYR:HA	18:R:14:VAL:O	2.18	0.44
32:6:11:CYS:N	32:6:14:CYS:SG	2.87	0.44
33:7:165:ALA:O	33:7:169:HIS:HB3	2.17	0.44
33:7:206:ILE:HG13	33:7:207:ARG:H	1.82	0.44
34:8:57:GLU:HB2	34:8:64:ARG:CG	2.45	0.44
36:10:112:ALA:O	36:10:115:GLU:HG2	2.18	0.44
43:17:3:VAL:HG13	43:17:4:ASN:N	2.32	0.44
44:18:112:ARG:NH1	53:27:946:A:OP1	2.49	0.44
45:19:3:GLN:HG2	53:27:1048:G:OP1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:21:73:ALA:O	47:21:77:GLU:HG2	2.18	0.44
53:27:112:G:C2	53:27:113:G:C8	3.06	0.44
53:27:227:G:H2'	53:27:228:A:O4'	2.18	0.44
53:27:296:U:H2'	53:27:297:G:O4'	2.18	0.44
53:27:338:A:H2'	53:27:339:C:O4'	2.18	0.44
53:27:778:G:H2'	53:27:779:C:O4'	2.18	0.44
53:27:800:G:H2'	53:27:801:U:C5	2.51	0.44
53:27:886:G:H2'	53:27:887:G:O4'	2.17	0.44
53:27:916:U:H2'	53:27:917:G:C8	2.50	0.44
53:27:924:C:H2'	53:27:925:G:C8	2.52	0.44
53:27:1160:G:O2'	53:27:1161:C:H5'	2.17	0.44
53:27:1251:A:H2'	53:27:1252:A:H8	1.83	0.44
54:28:586:A:C2	54:28:1254:A:C2	3.05	0.44
54:28:620:G:H4'	54:28:621:A:O5'	2.18	0.44
54:28:671:C:H2'	54:28:672:C:C6	2.52	0.44
54:28:897:C:H2'	54:28:898:C:H6	1.83	0.44
54:28:1153:C:H2'	54:28:1154:G:O4'	2.17	0.44
54:28:1516:G:O2'	54:28:1517:G:H5'	2.18	0.44
54:28:1642:G:H2'	54:28:1643:G:H8	1.81	0.44
54:28:1685:C:H2'	54:28:1686:C:H6	1.82	0.44
54:28:1854:A:H2'	54:28:1855:U:H5'	1.98	0.44
54:28:2274:A:H8	54:28:2274:A:O5'	2.00	0.44
54:28:2786:U:O2'	54:28:2787:C:H5'	2.17	0.44
58:32:74:C:H2'	58:32:75:C:H5''	1.98	0.44
4:D:94:GLN:CD	54:28:660:C:H5''	2.42	0.44
5:E:25:MET:HG3	55:29:57:A:C6	2.53	0.44
6:F:126:THR:HG22	6:F:128:THR:H	1.83	0.44
6:F:147:LEU:HA	6:F:150:TYR:HD2	1.83	0.44
8:H:114:GLU:O	8:H:122:GLN:C	2.61	0.44
10:J:132:HIS:O	10:J:137:PRO:HD3	2.18	0.44
11:K:41:ILE:C	11:K:41:ILE:HD12	2.43	0.44
14:N:73:ASN:HA	14:N:76:VAL:HG12	2.00	0.44
18:R:39:LEU:HD12	18:R:53:PHE:H	1.82	0.44
22:V:3:THR:HA	22:V:62:THR:OG1	2.18	0.44
25:Y:43:LEU:O	25:Y:44:LYS:C	2.60	0.44
27:1:55:GLY:O	27:1:58:ASP:OD1	2.35	0.44
28:2:39:ARG:HD2	54:28:2884:U:O4	2.18	0.44
31:5:16:THR:HG21	31:5:48:MET:SD	2.57	0.44
36:10:107:GLY:CA	53:27:9:G:H5'	2.26	0.44
36:10:113:VAL:HG13	36:10:114:LEU:CD1	2.48	0.44
36:10:149:PRO:O	36:10:152:VAL:HG22	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:10:161:GLU:HA	36:10:164:LEU:CD2	2.48	0.44
37:11:36:ILE:HD11	37:11:39:LEU:HB2	1.99	0.44
38:12:85:GLN:C	38:12:147:ASN:HD21	2.25	0.44
38:12:104:VAL:O	38:12:108:ARG:HG2	2.17	0.44
39:13:113:ARG:HA	39:13:116:ARG:NH2	2.32	0.44
40:14:37:TYR:CD2	40:14:38:PHE:CD2	3.06	0.44
41:15:15:HIS:CG	41:15:16:ARG:N	2.85	0.44
41:15:92:LEU:O	41:15:93:ALA:HB3	2.18	0.44
43:17:79:ILE:HD12	43:17:96:THR:HG22	2.00	0.44
44:18:82:LEU:HD11	50:24:65:MET:HB2	1.99	0.44
45:19:85:GLU:OE2	45:19:89:ARG:NH2	2.51	0.44
50:24:2:ARG:HA	53:27:1313:U:C5	2.53	0.44
53:27:114:U:H2'	53:27:115:G:C8	2.53	0.44
53:27:193:C:H2'	53:27:194:C:C6	2.53	0.44
53:27:806:C:H2'	53:27:807:A:H8	1.83	0.44
53:27:843:U:OP2	53:27:846:G:C4	2.70	0.44
53:27:893:C:H2'	53:27:894:G:C8	2.53	0.44
53:27:1331:G:O2'	53:27:1332:A:C8	2.70	0.44
53:27:1360:A:H2'	53:27:1361:G:O4'	2.17	0.44
54:28:61:C:H2'	54:28:62:U:H5'	2.00	0.44
54:28:161:A:C5	54:28:162:U:H5	2.36	0.44
54:28:490:C:H4'	54:28:491:G:OP2	2.18	0.44
54:28:1101:U:O2'	54:28:1102:C:H5'	2.17	0.44
54:28:1353:A:H2'	54:28:1354:A:C8	2.53	0.44
54:28:1475:G:HO2'	54:28:1476:U:H6	1.57	0.44
54:28:1535:A:H5'	54:28:1536:C:C5	2.53	0.44
54:28:1645:G:H5''	54:28:1646:C:H5'	2.00	0.44
54:28:1764:C:O2'	54:28:1765:U:H5'	2.18	0.44
54:28:2004:G:H2'	54:28:2005:A:O4'	2.17	0.44
54:28:2016:U:H2'	54:28:2017:U:O4'	2.18	0.44
54:28:2168:G:H2'	54:28:2169:A:O4'	2.17	0.44
54:28:2682:A:H61	54:28:2728:U:C1'	2.30	0.44
1:A:598:VAL:HG23	1:A:658:GLY:HA3	1.98	0.43
7:G:5:LEU:HD21	7:G:12:LEU:CD1	2.48	0.43
10:J:13:ARG:NH1	10:J:49:ASP:O	2.44	0.43
11:K:63:VAL:HG11	11:K:85:VAL:HG23	2.00	0.43
11:K:80:ASP:OD2	16:P:68:GLY:HA3	2.18	0.43
14:N:2:ARG:HG2	54:28:1654:A:OP1	2.18	0.43
19:S:36:LEU:HD13	19:S:47:VAL:HG13	2.00	0.43
24:X:17:ARG:HD3	24:X:23:ALA:HA	1.99	0.43
34:8:10:ARG:O	34:8:11:LEU:O	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:12:2:ARG:HA	53:27:1380:U:C4	2.53	0.43
39:13:110:MET:HE2	39:13:114:ALA:C	2.43	0.43
41:15:19:ASP:O	41:15:22:THR:HB	2.18	0.43
42:16:71:ASP:HB3	42:16:74:LYS:HE3	2.00	0.43
45:19:20:PHE:HD2	45:19:54:SER:O	2.01	0.43
45:19:51:PRO:HG2	45:19:54:SER:HB3	2.00	0.43
46:20:23:SER:O	46:20:26:VAL:HB	2.18	0.43
47:21:22:ALA:CB	47:21:32:PHE:HA	2.48	0.43
48:22:4:ILE:CG2	48:22:61:ARG:HH12	2.31	0.43
53:27:861:G:O2'	53:27:862:C:H5'	2.18	0.43
53:27:1479:C:H2'	53:27:1480:A:H8	1.82	0.43
54:28:37:C:H4'	54:28:451:U:OP1	2.17	0.43
54:28:319:G:N2	54:28:333:G:H1'	2.33	0.43
54:28:364:C:H2'	54:28:365:U:H6	1.84	0.43
54:28:542:C:H2'	54:28:542:C:O2	2.18	0.43
54:28:593:U:H2'	54:28:594:U:H6	1.77	0.43
54:28:696:G:H2'	54:28:697:G:C8	2.52	0.43
54:28:747:C:H42	54:28:2014:A:H2	1.66	0.43
54:28:970:U:O2'	54:28:984:A:H4'	2.18	0.43
54:28:995:C:H6	54:28:995:C:H5'	1.83	0.43
54:28:1292:G:H2'	54:28:1293:C:C6	2.53	0.43
54:28:1386:C:H1'	54:28:1470:A:H1'	1.99	0.43
54:28:1416:G:H2'	54:28:1417:C:C6	2.53	0.43
54:28:1679:A:H2'	54:28:1680:U:H6	1.83	0.43
54:28:1837:C:H2'	54:28:1899:A:H61	1.83	0.43
54:28:2016:U:H2'	54:28:2017:U:H6	1.83	0.43
54:28:2044:C:O2'	54:28:2045:C:H5'	2.18	0.43
54:28:2141:G:H22	54:28:2151:U:H1'	1.82	0.43
54:28:2347:C:H2'	54:28:2348:U:C6	2.53	0.43
54:28:2352:A:H2'	54:28:2353:G:O4'	2.18	0.43
54:28:2393:U:H2'	54:28:2394:C:H6	1.83	0.43
54:28:2579:C:H2'	54:28:2580:U:O2	2.18	0.43
54:28:2839:G:H2'	54:28:2840:C:C6	2.53	0.43
58:32:19:G:OP1	58:32:60:U:N3	2.50	0.43
2:B:67:LYS:HA	2:B:150:GLY:HA2	2.00	0.43
3:C:124:ARG:HA	3:C:165:MET:SD	2.58	0.43
5:E:40:GLY:HA2	5:E:84:ILE:HD12	2.01	0.43
5:E:56:LEU:HD12	5:E:86:CYS:SG	2.58	0.43
6:F:71:LEU:O	6:F:75:VAL:HG23	2.18	0.43
9:I:92:PRO:CD	54:28:1063:G:H21	2.31	0.43
11:K:88:ASN:HB2	11:K:91:SER:HB2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:61:LEU:HD13	31:5:23:HIS:CG	2.53	0.43
17:Q:24:TYR:O	17:Q:25:GLY:C	2.61	0.43
22:V:80:HIS:HE1	22:V:82:TYR:CE2	2.37	0.43
30:4:12:ARG:HG2	30:4:44:VAL:HG21	2.00	0.43
36:10:43:GLY:O	36:10:73:VAL:N	2.51	0.43
38:12:3:ARG:O	38:12:5:VAL:N	2.49	0.43
40:14:56:MET:HE3	40:14:60:LEU:H	1.82	0.43
41:15:80:THR:O	41:15:83:THR:HB	2.18	0.43
44:18:48:SER:O	44:18:52:ILE:HG13	2.17	0.43
44:18:106:ARG:NH1	44:18:112:ARG:HA	2.32	0.43
47:21:18:GLN:HE21	47:21:35:ARG:NE	2.16	0.43
52:26:38:GLU:HB3	53:27:1526:G:OP2	2.19	0.43
53:27:138:G:H2'	53:27:139:A:C8	2.53	0.43
53:27:252:U:O2	53:27:252:U:H2'	2.18	0.43
53:27:686:U:O4	53:27:703:G:H2'	2.18	0.43
53:27:1109:C:O5'	53:27:1109:C:H6	2.01	0.43
53:27:1217:C:O2'	53:27:1218:C:H5'	2.18	0.43
53:27:1256:A:H1'	53:27:1258:G:C5	2.53	0.43
54:28:278:A:H2'	54:28:278:A:N3	2.33	0.43
54:28:790:U:H2'	54:28:791:C:H5'	2.00	0.43
54:28:1184:U:O2'	54:28:1185:G:H5'	2.17	0.43
54:28:1448:G:H2'	54:28:1449:G:C8	2.53	0.43
54:28:1573:G:H2'	54:28:1574:C:H5'	1.99	0.43
54:28:1880:U:H2'	54:28:1881:C:C6	2.53	0.43
54:28:2247:A:H2'	54:28:2248:C:C6	2.53	0.43
54:28:2341:G:H2'	54:28:2342:C:C6	2.53	0.43
54:28:2493:U:C2'	54:28:2494:G:H5''	2.48	0.43
54:28:2515:C:H2'	54:28:2516:A:H8	1.83	0.43
55:29:30:C:H2'	55:29:31:C:O4'	2.18	0.43
55:29:55:U:H2'	55:29:56:G:C8	2.53	0.43
2:B:216:ARG:NH1	54:28:691:C:OP1	2.51	0.43
3:C:13:ARG:O	3:C:14:ILE:HD13	2.19	0.43
3:C:135:GLY:O	3:C:136:ASN:C	2.60	0.43
9:I:78:LEU:HD13	9:I:108:ILE:CG2	2.42	0.43
9:I:91:LYS:HB3	9:I:94:LYS:CB	2.45	0.43
10:J:26:GLY:HA3	54:28:1140:C:H5'	1.99	0.43
10:J:37:ARG:HD3	10:J:39:LYS:HB2	1.99	0.43
10:J:38:GLY:CA	10:J:51:GLY:HA2	2.48	0.43
16:P:13:LYS:HE3	16:P:76:HIS:HA	2.00	0.43
19:S:7:HIS:HB2	19:S:50:VAL:CG2	2.48	0.43
19:S:75:PHE:CZ	19:S:104:THR:HG21	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:24:MET:SD	20:T:30:ILE:HA	2.58	0.43
23:W:37:ARG:NH1	54:28:2387:U:H4'	2.33	0.43
25:Y:2:LYS:HG3	25:Y:3:ALA:N	2.33	0.43
26:Z:23:LEU:O	26:Z:27:GLY:N	2.51	0.43
27:1:18:CYS:SG	27:1:35:ASP:O	2.75	0.43
27:1:56:ARG:HH22	50:24:68:HIS:CE1	2.37	0.43
32:6:23:ILE:HD13	54:28:1032:A:H1'	1.99	0.43
35:9:104:MET:SD	35:9:170:LEU:HD13	2.58	0.43
36:10:22:LYS:HB3	36:10:29:ILE:HG22	2.01	0.43
39:13:104:SER:HB3	53:27:642:A:H2	1.83	0.43
45:19:35:ALA:O	45:19:40:ARG:HB2	2.17	0.43
45:19:63:CYS:HB2	45:19:79:SER:HB2	2.01	0.43
45:19:82:LYS:HD3	53:27:1202:U:O2	2.18	0.43
50:24:39:ILE:CD1	50:24:65:MET:HG2	2.46	0.43
53:27:246:A:H4'	53:27:247:G:OP1	2.18	0.43
53:27:456:A:H2'	53:27:457:G:H8	1.81	0.43
53:27:571:U:O5'	53:27:571:U:H6	2.01	0.43
53:27:577:G:H2'	53:27:578:C:C6	2.52	0.43
53:27:895:G:C6	53:27:896:C:C4	3.06	0.43
53:27:984:C:O5'	53:27:984:C:H6	2.01	0.43
53:27:1327:C:H2'	53:27:1328:C:C6	2.52	0.43
53:27:1367:C:H2'	53:27:1368:A:O4'	2.19	0.43
53:27:1401:G:H2'	53:27:1402:C:O4'	2.19	0.43
53:27:1472:U:H2'	53:27:1473:G:H8	1.84	0.43
54:28:372:G:O2'	54:28:373:U:C5	2.71	0.43
54:28:948:C:H2'	54:28:949:G:C8	2.53	0.43
54:28:1127:A:O2'	54:28:1128:G:H5''	2.18	0.43
54:28:1754:A:C6	54:28:1755:A:C6	3.06	0.43
54:28:2051:A:H2'	54:28:2614:A:N6	2.33	0.43
54:28:2060:A:N6	54:28:2445:G:OP2	2.51	0.43
54:28:2071:A:C6	54:28:2072:C:N4	2.86	0.43
54:28:2199:A:H3'	54:28:2200:C:C6	2.52	0.43
54:28:2465:C:H2'	54:28:2466:C:H6	1.83	0.43
58:32:14:A:C2	58:32:15:G:H1'	2.52	0.43
1:A:684:THR:O	1:A:687:LEU:N	2.51	0.43
3:C:40:LEU:O	3:C:44:GLY:N	2.51	0.43
4:D:7:ASP:OD2	4:D:122:GLU:HG2	2.18	0.43
4:D:119:ILE:O	4:D:119:ILE:HG22	2.17	0.43
5:E:100:GLU:C	5:E:102:LEU:N	2.74	0.43
5:E:140:ILE:H	5:E:140:ILE:HD12	1.83	0.43
8:H:61:ARG:HG3	54:28:1046:A:C4'	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:82:ILE:HG22	8:H:83:ALA:N	2.31	0.43
11:K:73:ASP:OD2	16:P:79:VAL:HG11	2.18	0.43
16:P:24:THR:HB	16:P:87:ARG:H	1.83	0.43
21:U:15:GLY:HA2	54:28:309:A:O3'	2.18	0.43
29:3:16:THR:OG1	29:3:41:VAL:HG21	2.19	0.43
34:8:188:ALA:HB3	34:8:195:ILE:HB	2.00	0.43
40:14:17:ARG:NH2	53:27:1147:C:H1'	2.22	0.43
43:17:31:GLY:HA3	43:17:54:VAL:CG1	2.49	0.43
43:17:114:SER:HB2	53:27:502:A:OP1	2.18	0.43
48:22:30:HIS:CE1	48:22:31:PRO:HD2	2.53	0.43
49:23:13:THR:O	49:23:17:VAL:N	2.51	0.43
51:25:2:ASN:ND2	53:27:331:G:O2'	2.51	0.43
51:25:54:GLN:N	51:25:55:PRO:HD2	2.33	0.43
53:27:163:C:H2'	53:27:164:G:O4'	2.19	0.43
53:27:1167:A:C5	53:27:1169:A:C6	3.06	0.43
53:27:1458:G:H2'	53:27:1459:G:C8	2.53	0.43
54:28:281:C:H42	54:28:359:G:H1	1.66	0.43
54:28:954:G:C6	54:28:955:U:C4	3.07	0.43
54:28:1028:A:N3	54:28:2486:C:O2'	2.47	0.43
54:28:1149:G:H2'	54:28:1150:C:H6	1.80	0.43
54:28:1613:G:H3'	54:28:1614:A:C5'	2.49	0.43
54:28:1651:G:H2'	54:28:1652:A:O4'	2.18	0.43
54:28:2088:A:H2'	54:28:2089:C:H6	1.83	0.43
2:B:12:ARG:HH21	54:28:728:G:C5'	2.31	0.43
3:C:63:PRO:HB3	54:28:2786:U:O2	2.18	0.43
3:C:81:GLU:HB2	54:28:2636:C:O5'	2.19	0.43
5:E:104:THR:O	5:E:108:PRO:HG2	2.17	0.43
10:J:108:MET:HE2	54:28:1138:G:C2	2.54	0.43
11:K:12:ASP:HB2	11:K:98:ARG:O	2.18	0.43
18:R:91:GLN:O	18:R:92:TRP:C	2.60	0.43
19:S:29:VAL:HG21	19:S:69:LEU:HG	2.00	0.43
24:X:20:ALA:HB1	54:28:2432:A:N1	2.33	0.43
31:5:51:LYS:HG3	31:5:52:GLY:N	2.33	0.43
34:8:107:LYS:HB3	34:8:143:LEU:HD21	2.00	0.43
35:9:35:GLN:HB3	35:9:42:ALA:HA	2.00	0.43
35:9:49:ASP:OD2	36:10:111:ARG:NH2	2.52	0.43
35:9:55:ARG:HD3	35:9:55:ARG:HA	1.71	0.43
37:11:90:MET:HE1	49:23:22:TYR:CE2	2.54	0.43
38:12:43:TYR:O	38:12:47:GLU:HG2	2.18	0.43
41:15:29:ALA:O	41:15:32:THR:HG22	2.18	0.43
46:20:11:VAL:O	46:20:13:GLU:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:22:70:LYS:HZ3	53:27:255:G:P	2.41	0.43
50:24:62:THR:HG22	50:24:63:ASP:H	1.82	0.43
52:26:3:ILE:HB	52:26:19:LYS:HE3	2.00	0.43
54:28:300:A:H1'	54:28:319:G:O4'	2.18	0.43
54:28:366:C:H2'	54:28:367:G:O4'	2.18	0.43
54:28:522:A:H2'	54:28:523:C:C6	2.53	0.43
54:28:572:A:H5''	54:28:573:U:OP2	2.19	0.43
54:28:589:U:H2'	54:28:590:A:H8	1.82	0.43
54:28:784:G:OP2	54:28:2589:A:OP1	2.35	0.43
54:28:795:C:H2'	54:28:796:C:H6	1.84	0.43
54:28:1717:A:H2'	54:28:1718:G:O4'	2.18	0.43
54:28:2161:C:H2'	54:28:2162:G:H5'	2.01	0.43
54:28:2298:A:C2'	54:28:2299:U:H5'	2.49	0.43
54:28:2366:A:H2'	54:28:2367:G:O4'	2.18	0.43
54:28:2545:G:C2	54:28:2546:U:H1'	2.53	0.43
54:28:2787:C:O2'	54:28:2788:C:H5'	2.18	0.43
2:B:75:ALA:HB2	2:B:95:TYR:CD1	2.52	0.43
2:B:177:SER:HB3	54:28:1799:G:O6	2.18	0.43
2:B:206:LYS:NZ	54:28:729:G:OP2	2.52	0.43
4:D:165:HIS:CE1	54:28:1205:A:C4	3.07	0.43
6:F:25:ILE:HG22	6:F:26:LYS:N	2.32	0.43
6:F:44:HIS:CG	6:F:45:ALA:N	2.85	0.43
8:H:37:LYS:HA	8:H:40:GLU:CB	2.39	0.43
9:I:133:ARG:HD2	54:28:1079:C:H1'	2.01	0.43
14:N:4:ARG:HA	54:28:2820:A:OP1	2.18	0.43
19:S:14:ALA:O	19:S:18:ARG:HG3	2.18	0.43
19:S:24:ILE:HG13	19:S:24:ILE:O	2.18	0.43
27:1:1:MET:HA	55:29:40:U:O4	2.19	0.43
33:7:93:HIS:CD2	33:7:145:ASN:HB2	2.53	0.43
34:8:54:ILE:HG22	34:8:67:ILE:HG23	2.01	0.43
35:9:47:LEU:HD11	35:9:51:GLY:C	2.43	0.43
36:10:9:GLU:N	36:10:9:GLU:OE1	2.51	0.43
36:10:55:VAL:N	36:10:56:PRO:HD2	2.33	0.43
36:10:138:ALA:O	36:10:141:ASP:HB3	2.18	0.43
41:15:80:THR:HG22	41:15:82:LYS:HB3	2.00	0.43
42:16:109:ILE:HB	52:26:5:VAL:CG1	2.49	0.43
43:17:69:GLU:HB3	53:27:521:G:O5'	2.19	0.43
48:22:4:ILE:HG21	48:22:61:ARG:HH12	1.84	0.43
50:24:39:ILE:HG23	50:24:43:MET:CE	2.46	0.43
51:25:78:LEU:O	51:25:81:GLN:HB2	2.18	0.43
53:27:201:G:H2'	53:27:202:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:383:A:C5	53:27:384:G:H1'	2.53	0.43
53:27:437:U:O2'	53:27:438:U:H5'	2.19	0.43
53:27:781:A:OP1	53:27:1523:G:H5'	2.18	0.43
53:27:783:C:O2'	53:27:784:A:H5'	2.19	0.43
53:27:837:U:H2'	53:27:838:G:H8	1.83	0.43
53:27:919:A:O2'	53:27:920:U:H5'	2.17	0.43
53:27:1355:G:H2'	53:27:1356:G:C8	2.54	0.43
53:27:1415:G:C6	53:27:1486:G:C6	3.07	0.43
54:28:6:A:H2'	54:28:7:G:C8	2.54	0.43
54:28:116:C:O2'	54:28:117:G:H5'	2.18	0.43
54:28:149:A:H2'	54:28:150:U:C6	2.53	0.43
54:28:1105:U:H2'	54:28:1106:G:C8	2.37	0.43
54:28:1327:A:H2'	54:28:1328:A:O4'	2.18	0.43
54:28:1420:A:H5'	54:28:1421:G:OP2	2.17	0.43
54:28:1520:U:H2'	54:28:1521:G:O4'	2.19	0.43
54:28:1529:G:H2'	54:28:1530:G:C8	2.53	0.43
54:28:2036:C:H3'	54:28:2036:C:OP2	2.19	0.43
54:28:2493:U:H2'	54:28:2494:G:H5''	2.00	0.43
54:28:2746:U:O4	54:28:2755:C:H4'	2.18	0.43
3:C:5:VAL:HG21	3:C:80:TRP:CD2	2.54	0.43
4:D:44:ARG:HH12	54:28:1248:G:P	2.41	0.43
8:H:3:LEU:HB2	8:H:4:ASN:H	1.61	0.43
9:I:10:LEU:HD23	54:28:1070:A:N1	2.34	0.43
16:P:38:ARG:NH2	53:27:345:C:P	2.91	0.43
17:Q:35:PHE:CZ	17:Q:39:ILE:HD11	2.54	0.43
20:T:50:LEU:HD23	25:Y:26:PHE:CE2	2.54	0.43
30:4:30:VAL:HG22	30:4:33:ARG:HH12	1.82	0.43
31:5:56:LEU:HD23	31:5:56:LEU:C	2.43	0.43
34:8:147:GLY:HA3	34:8:171:ARG:O	2.19	0.43
36:10:40:ASP:OD1	36:10:44:ARG:HB2	2.18	0.43
38:12:66:GLU:HB3	38:12:69:ARG:HH21	1.84	0.43
38:12:129:ASN:CA	38:12:134:VAL:HG11	2.44	0.43
41:15:10:LEU:HD11	41:15:72:ARG:HB2	2.01	0.43
44:18:7:ASN:OD1	44:18:7:ASN:C	2.61	0.43
46:20:47:LYS:NZ	53:27:808:C:OP2	2.51	0.43
48:22:11:VAL:HA	48:22:22:VAL:HG22	2.00	0.43
51:25:7:LYS:O	51:25:10:ALA:HB3	2.19	0.43
53:27:18:C:H2'	53:27:19:A:O4'	2.18	0.43
53:27:424:G:O2'	53:27:425:G:H5'	2.18	0.43
53:27:483:C:H2'	53:27:484:G:N7	2.34	0.43
53:27:1149:C:O2'	53:27:1150:A:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1256:A:O2'	53:27:1257:A:H5''	2.18	0.43
53:27:1411:C:H2'	53:27:1412:C:C6	2.54	0.43
53:27:1523:G:H2'	53:27:1524:C:C6	2.53	0.43
54:28:52:A:C6	54:28:118:A:C2	3.06	0.43
54:28:78:U:H2'	54:28:79:C:H6	1.81	0.43
54:28:235:U:H2'	54:28:236:C:C6	2.54	0.43
54:28:303:G:H2'	54:28:304:U:O4'	2.18	0.43
54:28:872:U:H2'	54:28:873:C:H6	1.79	0.43
54:28:1086:A:H3'	54:28:1086:A:N3	2.34	0.43
54:28:1100:C:H2'	54:28:1101:U:O4'	2.18	0.43
54:28:1609:A:H1'	54:28:1616:A:O4'	2.18	0.43
54:28:2071:A:C4	54:28:2072:C:C5	3.07	0.43
54:28:2156:G:H2'	54:28:2157:G:H5'	2.00	0.43
54:28:2346:A:H3'	54:28:2347:C:H5'	2.01	0.43
54:28:2377:A:O2'	54:28:2378:A:H5'	2.18	0.43
1:A:674:ASN:ND2	1:A:736:ILE:HD13	2.33	0.43
3:C:9:VAL:O	3:C:26:VAL:HB	2.19	0.43
4:D:37:ALA:HB1	4:D:92:HIS:O	2.19	0.43
5:E:9:ASP:HB2	5:E:10:GLU:OE1	2.18	0.43
8:H:6:GLN:H	8:H:6:GLN:CD	2.26	0.43
13:M:79:ALA:HA	54:28:2494:G:O2'	2.18	0.43
21:U:95:PHE:HD2	21:U:100:GLU:HB2	1.83	0.43
27:1:10:GLU:N	27:1:26:SER:O	2.52	0.43
28:2:14:MET:SD	54:28:2045:C:H5''	2.59	0.43
33:7:18:GLN:NE2	33:7:187:ASP:OD2	2.48	0.43
35:9:112:GLU:O	35:9:116:LEU:HD13	2.19	0.43
36:10:160:VAL:HG13	36:10:161:GLU:N	2.34	0.43
42:16:40:ALA:O	53:27:684:U:O2'	2.28	0.43
45:19:52:ARG:HG3	45:19:58:ARG:CZ	2.48	0.43
46:20:46:LYS:HA	46:20:52:ARG:NH2	2.34	0.43
53:27:526:C:H2'	53:27:527:G:H4'	2.01	0.43
53:27:607:A:H2'	53:27:608:A:H8	1.84	0.43
53:27:1014:A:N3	53:27:1219:A:H1'	2.34	0.43
53:27:1293:C:O2'	53:27:1294:G:H5'	2.19	0.43
54:28:170:U:H2'	54:28:171:U:H6	1.79	0.43
54:28:441:U:H2'	54:28:442:G:H8	1.82	0.43
54:28:1097:U:H2'	54:28:1098:A:H5'	2.01	0.43
54:28:1268:A:H2'	54:28:1269:A:C8	2.53	0.43
54:28:1538:G:O2'	54:28:1539:U:H5'	2.19	0.43
54:28:1641:A:H2'	54:28:1642:G:O4'	2.18	0.43
54:28:2078:C:O2'	54:28:2079:U:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2146:C:H4'	54:28:2147:A:C8	2.54	0.43
2:B:140:VAL:HG12	2:B:191:LEU:HD23	2.00	0.43
3:C:6:GLY:HA3	3:C:29:VAL:HG22	2.01	0.43
4:D:105:LEU:CD2	4:D:177:PRO:HG3	2.49	0.43
5:E:147:ARG:HG3	5:E:148:VAL:N	2.33	0.43
8:H:42:ARG:HG3	9:I:118:GLY:H	1.84	0.43
11:K:66:LYS:HD3	54:28:1666:G:P	2.59	0.43
12:L:60:ARG:O	54:28:2393:U:H5'	2.18	0.43
12:L:103:ILE:HD12	54:28:622:G:OP1	2.19	0.43
15:O:66:GLY:C	15:O:102:ARG:HD3	2.43	0.43
15:O:70:ALA:O	15:O:74:VAL:HG23	2.19	0.43
15:O:73:ALA:O	15:O:76:LYS:HB3	2.18	0.43
17:Q:102:LYS:O	17:Q:105:PHE:HB3	2.19	0.43
18:R:49:ILE:HG21	18:R:53:PHE:N	2.34	0.43
25:Y:2:LYS:HG3	25:Y:3:ALA:H	1.83	0.43
27:1:11:GLU:HB2	27:1:25:ARG:HG2	2.01	0.43
27:1:66:ILE:HG23	27:1:66:ILE:O	2.19	0.43
31:5:20:GLY:HA3	31:5:48:MET:HE1	2.01	0.43
33:7:101:THR:C	53:27:1074:G:H4'	2.44	0.43
34:8:198:LYS:HE3	53:27:1058:G:OP1	2.18	0.43
36:10:76:ASN:HB2	36:10:81:GLN:CD	2.44	0.43
41:15:59:LYS:HD3	53:27:972:C:O3'	2.19	0.43
42:16:111:ASP:HB3	52:26:3:ILE:N	2.33	0.43
43:17:113:ARG:NE	43:17:120:ARG:HA	2.34	0.43
53:27:136:C:O2'	53:27:137:U:H5'	2.19	0.43
53:27:175:C:H2'	53:27:176:C:H6	1.80	0.43
53:27:298:A:H2'	53:27:299:G:O4'	2.18	0.43
53:27:434:U:H2'	53:27:435:A:C8	2.54	0.43
53:27:892:A:H2'	53:27:893:C:C6	2.54	0.43
53:27:1203:C:O2'	53:27:1204:A:H5'	2.18	0.43
53:27:1434:A:H2'	53:27:1435:G:O4'	2.19	0.43
54:28:145:C:H2'	54:28:146:A:H8	1.84	0.43
54:28:819:A:O2'	54:28:820:A:H5'	2.19	0.43
54:28:1063:G:H2'	54:28:1064:C:C6	2.54	0.43
54:28:1137:G:O2'	54:28:1138:G:H5'	2.18	0.43
54:28:1331:G:HO2'	54:28:1332:G:H5''	1.84	0.43
54:28:1798:U:H4'	54:28:1803:A:O4'	2.19	0.43
54:28:2080:A:H2'	54:28:2081:U:C6	2.54	0.43
54:28:2544:G:H2'	54:28:2545:G:C8	2.54	0.43
55:29:54:G:H2'	55:29:55:U:C6	2.54	0.43
55:29:80:U:H2'	55:29:81:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:154:LYS:HZ1	54:28:2025:C:H5'	1.83	0.43
3:C:155:VAL:O	54:28:2619:C:H5'	2.19	0.43
4:D:21:ARG:HH21	4:D:106:LYS:HE3	1.84	0.43
4:D:165:HIS:HE1	54:28:1205:A:O2'	2.02	0.43
9:I:135:MET:HB3	54:28:1063:G:H4'	2.00	0.43
15:O:43:ASN:OD1	15:O:44:GLY:N	2.51	0.43
15:O:63:LYS:NZ	55:29:51:G:H5'	2.34	0.43
19:S:56:ALA:HA	19:S:59:GLU:HG2	2.01	0.43
25:Y:10:SER:O	25:Y:14:LEU:HG	2.19	0.43
25:Y:15:ASN:O	25:Y:19:LEU:HG	2.18	0.43
25:Y:49:ASP:O	25:Y:52:ARG:HB2	2.19	0.43
33:7:59:ILE:HB	33:7:158:ASP:OD2	2.19	0.43
35:9:168:THR:O	35:9:183:ARG:NH2	2.52	0.43
36:10:159:SER:HB2	36:10:162:GLU:HG2	1.99	0.43
37:11:29:ILE:HG21	37:11:64:VAL:CG2	2.49	0.43
40:14:49:GLN:HB3	40:14:102:PHE:CE1	2.54	0.43
43:17:21:PRO:C	43:17:23:LEU:N	2.73	0.43
43:17:66:ILE:HG13	43:17:96:THR:HG21	2.00	0.43
44:18:76:ILE:O	44:18:79:LEU:HB2	2.19	0.43
49:23:32:ILE:HA	49:23:39:VAL:HG23	2.00	0.43
51:25:7:LYS:O	51:25:11:ILE:HG13	2.18	0.43
53:27:924:C:H2'	53:27:925:G:H8	1.83	0.43
53:27:1228:C:H2'	53:27:1229:A:H8	1.83	0.43
54:28:320:A:C2	54:28:323:C:H5	2.37	0.43
54:28:323:C:H2'	54:28:1205:A:N1	2.34	0.43
54:28:940:G:C3'	54:28:941:A:H5''	2.49	0.43
54:28:1047:G:H22	54:28:1110:G:H2'	1.80	0.43
54:28:1306:C:O2'	54:28:1307:A:H5'	2.19	0.43
54:28:1630:A:H2'	54:28:1631:G:O4'	2.19	0.43
54:28:1858:A:N6	54:28:1884:G:O2'	2.52	0.43
54:28:2280:G:C2	54:28:2281:A:C8	3.07	0.43
54:28:2503:A:H2'	54:28:2503:A:N3	2.34	0.43
54:28:2755:C:O5'	54:28:2755:C:H6	2.01	0.43
54:28:2812:G:H2'	54:28:2813:A:O4'	2.19	0.43
54:28:2824:C:H2'	54:28:2825:G:O4'	2.19	0.43
55:29:12:C:O2	55:29:12:C:O4'	2.37	0.43
58:32:34:C:H3'	58:32:35:A:C5'	2.48	0.43
2:B:225:ASN:HA	2:B:226:PRO:HD3	1.73	0.42
2:B:247:TRP:CG	54:28:1805:A:H5''	2.53	0.42
3:C:47:ALA:HA	3:C:84:LEU:HG	2.01	0.42
4:D:3:LEU:HD11	4:D:19:PHE:HD2	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:5:LEU:HG	4:D:120:VAL:O	2.19	0.42
5:E:79:ARG:O	5:E:82:TYR:HD2	2.02	0.42
6:F:172:GLU:C	6:F:174:LYS:N	2.77	0.42
9:I:100:ILE:O	9:I:140:GLU:HB3	2.19	0.42
18:R:68:ARG:HB2	18:R:90:ARG:NH2	2.32	0.42
21:U:71:ILE:HD13	21:U:82:VAL:HG22	2.01	0.42
23:W:25:GLU:O	23:W:62:LYS:HA	2.19	0.42
25:Y:24:GLU:O	25:Y:28:LEU:HG	2.19	0.42
27:1:26:SER:OG	27:1:27:THR:N	2.51	0.42
33:7:27:LYS:N	33:7:28:PRO:CD	2.81	0.42
33:7:33:ALA:HB2	33:7:39:ILE:HG13	2.00	0.42
33:7:220:VAL:C	33:7:222:GLU:H	2.27	0.42
36:10:10:LEU:HD23	36:10:10:LEU:HA	1.82	0.42
37:11:36:ILE:HD11	37:11:38:ARG:O	2.19	0.42
37:11:58:HIS:CD2	37:11:58:HIS:C	2.97	0.42
38:12:85:GLN:HB2	38:12:147:ASN:ND2	2.33	0.42
39:13:76:ARG:NH1	39:13:125:ILE:HG23	2.35	0.42
40:14:45:MET:HE2	40:14:49:GLN:HE21	1.84	0.42
42:16:126:ARG:O	42:16:127:ARG:HB2	2.18	0.42
43:17:28:GLN:HE21	53:27:363:A:H1'	1.83	0.42
46:20:24:THR:HG21	46:20:69:LEU:HB2	2.01	0.42
48:22:39:ARG:HA	53:27:280:C:O2	2.18	0.42
51:25:34:VAL:CG1	51:25:78:LEU:HD21	2.48	0.42
53:27:45:G:H2'	53:27:46:G:C8	2.54	0.42
53:27:123:U:OP1	53:27:312:C:H5'	2.19	0.42
53:27:585:G:H2'	53:27:586:C:O4'	2.19	0.42
53:27:802:A:H2'	53:27:803:G:O4'	2.19	0.42
53:27:1015:G:O2'	53:27:1016:A:H5'	2.19	0.42
54:28:1060:U:C1'	54:28:1062:G:H5'	2.47	0.42
54:28:1230:A:H2'	54:28:1231:U:O4'	2.19	0.42
54:28:1401:G:H2'	54:28:1402:U:C6	2.54	0.42
54:28:1639:C:C2'	54:28:1640:A:H5'	2.49	0.42
54:28:1677:A:H2'	54:28:1678:A:H8	1.83	0.42
54:28:1873:G:O2'	54:28:1874:C:H5'	2.18	0.42
54:28:1914:C:O2	54:28:1914:C:O4'	2.37	0.42
54:28:2089:C:H2'	54:28:2090:A:C8	2.54	0.42
54:28:2162:G:O4'	54:28:2173:A:H5''	2.19	0.42
54:28:2448:A:H3'	54:28:2449:U:H2'	2.00	0.42
54:28:2719:G:H5'	54:28:2847:U:OP1	2.19	0.42
55:29:30:C:H4'	55:29:58:A:H2	1.84	0.42
1:A:643:GLU:O	1:A:646:SER:HB3	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:95:TYR:HB2	2:B:99:GLU:O	2.19	0.42
4:D:148:ILE:HD13	4:D:187:VAL:HG13	1.96	0.42
5:E:92:GLY:O	5:E:95:MET:N	2.52	0.42
6:F:71:LEU:HA	6:F:74:MET:SD	2.60	0.42
8:H:88:HIS:HB3	8:H:89:PRO:CD	2.44	0.42
9:I:52:LEU:HA	9:I:53:PRO:HD3	1.71	0.42
11:K:53:LYS:N	11:K:56:ASP:OD2	2.51	0.42
12:L:57:LEU:HD13	12:L:60:ARG:HH12	1.84	0.42
17:Q:17:LEU:HD21	17:Q:29:ARG:O	2.19	0.42
17:Q:64:ILE:HG22	17:Q:75:TYR:HD1	1.84	0.42
18:R:58:VAL:O	18:R:58:VAL:HG22	2.19	0.42
21:U:65:GLN:HG3	54:28:328:U:H4'	2.00	0.42
34:8:118:SER:O	34:8:122:GLN:HG3	2.18	0.42
39:13:11:THR:HA	39:13:14:ARG:NH1	2.34	0.42
40:14:118:ARG:NH2	53:27:1233:G:H5'	2.34	0.42
41:15:17:LEU:C	41:15:17:LEU:HD23	2.44	0.42
43:17:35:ARG:HG2	43:17:37:TYR:HD2	1.84	0.42
48:22:11:VAL:HG22	48:22:22:VAL:HG22	2.01	0.42
50:24:39:ILE:CG2	50:24:66:VAL:HA	2.49	0.42
52:26:50:SER:HA	52:26:53:LYS:CD	2.47	0.42
53:27:271:C:H2'	53:27:272:C:C6	2.55	0.42
53:27:429:U:C1'	53:27:430:A:H5''	2.49	0.42
53:27:803:G:H2'	53:27:804:U:C6	2.54	0.42
53:27:915:A:H2'	53:27:916:U:H5'	2.02	0.42
53:27:1206:G:C2	53:27:1207:G:H1'	2.53	0.42
54:28:569:U:H2'	54:28:570:G:O4'	2.19	0.42
54:28:766:U:H2'	54:28:767:U:C6	2.54	0.42
54:28:892:A:H2'	54:28:893:C:O4'	2.19	0.42
54:28:929:U:H2'	54:28:930:G:C8	2.53	0.42
54:28:1376:C:H2'	54:28:1377:G:O4'	2.19	0.42
54:28:1655:A:H3'	54:28:1656:C:C6	2.55	0.42
54:28:1799:G:O6	54:28:1819:A:H2'	2.18	0.42
54:28:1919:A:H2'	54:28:1919:A:N3	2.33	0.42
54:28:2230:G:H2'	54:28:2231:U:C6	2.54	0.42
54:28:2528:U:H2'	54:28:2530:A:O5'	2.19	0.42
55:29:103:U:H2'	55:29:104:A:H8	1.83	0.42
2:B:6:LYS:O	2:B:8:THR:N	2.51	0.42
2:B:154:ALA:CB	2:B:161:VAL:HG23	2.49	0.42
4:D:48:THR:O	4:D:52:VAL:HG23	2.18	0.42
4:D:126:VAL:HG22	4:D:127:GLU:N	2.34	0.42
5:E:139:GLU:HG3	27:1:28:VAL:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:78:GLY:H	8:H:79:PRO:HD2	1.84	0.42
10:J:48:VAL:O	10:J:50:THR:N	2.52	0.42
10:J:71:ASP:O	10:J:73:VAL:HG23	2.19	0.42
15:O:67:ASN:O	15:O:70:ALA:HB3	2.19	0.42
17:Q:94:LEU:O	17:Q:97:ILE:HB	2.20	0.42
21:U:6:ARG:HB2	54:28:85:G:P	2.59	0.42
21:U:73:ASN:C	21:U:75:ALA:H	2.27	0.42
22:V:2:PHE:CD1	22:V:50:MET:HE3	2.45	0.42
23:W:16:ARG:NE	54:28:2357:G:OP1	2.42	0.42
32:6:36:ARG:HD3	54:28:2742:G:OP1	2.20	0.42
34:8:120:THR:HG23	34:8:188:ALA:HA	2.00	0.42
35:9:129:VAL:HG12	53:27:619:U:O2'	2.19	0.42
35:9:169:TRP:HA	35:9:183:ARG:NH1	2.35	0.42
37:11:38:ARG:HD3	37:11:98:GLU:H	1.84	0.42
37:11:42:TRP:HH2	37:11:100:SER:O	2.02	0.42
39:13:29:SER:O	39:13:33:VAL:HG23	2.18	0.42
47:21:5:ARG:HD2	53:27:376:G:O3'	2.20	0.42
48:22:11:VAL:HG22	48:22:20:ILE:HD11	2.00	0.42
53:27:234:C:H2'	53:27:235:C:C6	2.54	0.42
53:27:666:G:H2'	53:27:667:G:H8	1.84	0.42
53:27:676:A:H2'	53:27:677:U:C6	2.55	0.42
53:27:801:U:H2'	53:27:802:A:H8	1.83	0.42
53:27:881:G:H2'	53:27:882:C:O4'	2.19	0.42
53:27:1031:C:O5'	53:27:1031:C:H6	2.02	0.42
54:28:175:G:H2'	54:28:176:A:O4'	2.19	0.42
54:28:274:C:C2'	54:28:275:C:H5'	2.49	0.42
54:28:404:A:H1'	54:28:406:G:C4	2.54	0.42
54:28:859:G:H2'	54:28:916:G:O6	2.19	0.42
54:28:1177:G:H2'	54:28:1178:C:O4'	2.20	0.42
54:28:1665:A:H2'	54:28:1666:G:O4'	2.19	0.42
54:28:1805:A:H2'	54:28:1806:C:C6	2.54	0.42
54:28:2147:A:N6	54:28:2148:G:H21	2.17	0.42
54:28:2331:G:H2'	54:28:2332:C:H6	1.80	0.42
54:28:2660:A:H2'	54:28:2661:G:O4'	2.19	0.42
54:28:2843:G:H2'	54:28:2844:G:O4'	2.19	0.42
2:B:24:HIS:CD2	2:B:79:ARG:NH1	2.87	0.42
4:D:69:ARG:NE	54:28:674:G:H1'	2.31	0.42
5:E:16:MET:HE1	5:E:21:TYR:HB2	2.01	0.42
5:E:114:ARG:HH22	27:1:50:ASP:HB2	1.85	0.42
10:J:26:GLY:HA3	54:28:1140:C:C5'	2.49	0.42
13:M:5:LYS:HE3	13:M:5:LYS:HB2	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:29:VAL:HG12	16:P:30:TRP:O	2.19	0.42
18:R:4:VAL:O	18:R:39:LEU:N	2.51	0.42
18:R:88:GLY:H	54:28:1225:G:H5'	1.84	0.42
19:S:29:VAL:O	19:S:32:ALA:HB3	2.19	0.42
24:X:63:ILE:HG23	24:X:64:ASP:N	2.34	0.42
26:Z:40:THR:O	26:Z:44:ARG:HG2	2.18	0.42
30:4:27:GLY:O	30:4:30:VAL:HB	2.20	0.42
33:7:101:THR:O	53:27:1074:G:H4'	2.19	0.42
33:7:113:LEU:HD13	33:7:143:LEU:HB3	2.02	0.42
37:11:92:THR:OG1	37:11:93:LYS:N	2.52	0.42
38:12:69:ARG:HB3	38:12:95:ARG:HD3	2.01	0.42
40:14:32:ARG:HD2	40:14:37:TYR:CD1	2.39	0.42
42:16:21:HIS:CD2	53:27:707:U:H5''	2.54	0.42
45:19:41:TRP:O	45:19:44:VAL:HG22	2.18	0.42
47:21:7:ALA:HB1	47:21:9:HIS:CE1	2.54	0.42
47:21:19:VAL:O	47:21:19:VAL:HG13	2.20	0.42
52:26:28:LEU:HA	52:26:31:VAL:HG12	2.01	0.42
53:27:57:G:H2'	53:27:58:C:C6	2.55	0.42
53:27:100:G:H3'	53:27:101:A:H8	1.84	0.42
53:27:462:G:H2'	53:27:462:G:N3	2.34	0.42
54:28:28:A:H1'	54:28:513:A:C2	2.54	0.42
54:28:190:A:H3'	54:28:191:A:C8	2.54	0.42
54:28:228:C:H42	54:28:417:C:H1'	1.83	0.42
54:28:543:G:H2'	54:28:544:C:O4'	2.19	0.42
54:28:1062:G:H2'	54:28:1063:G:C8	2.54	0.42
54:28:1133:A:H4'	54:28:1134:A:H5''	2.01	0.42
54:28:1157:G:P	54:28:1157:G:H3'	2.59	0.42
54:28:1542:U:H2'	54:28:1543:G:O4'	2.19	0.42
54:28:2024:G:OP2	54:28:2034:U:H4'	2.19	0.42
54:28:2039:U:H2'	54:28:2040:G:H8	1.85	0.42
54:28:2134:A:C2	54:28:2135:A:H1'	2.54	0.42
54:28:2230:G:H2'	54:28:2231:U:H6	1.84	0.42
54:28:2410:G:H2'	54:28:2411:A:O4'	2.19	0.42
54:28:2524:G:H2'	54:28:2525:G:C5'	2.49	0.42
54:28:2768:U:H2'	54:28:2769:U:O4'	2.20	0.42
54:28:2854:G:H2'	54:28:2855:C:H6	1.84	0.42
1:A:624:PHE:HB3	1:A:632:SER:HB3	2.01	0.42
1:A:628:GLY:C	1:A:629:ARG:HG2	2.45	0.42
4:D:170:ARG:HH22	4:D:176:ASP:CG	2.26	0.42
4:D:195:GLN:O	4:D:198:GLU:HB3	2.20	0.42
11:K:1:MET:HB2	11:K:67:LYS:HG2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:93:ASN:C	12:L:95:LEU:N	2.78	0.42
14:N:49:GLU:HB2	14:N:50:PRO:HD3	2.02	0.42
16:P:30:TRP:CD2	16:P:39:LEU:HD13	2.54	0.42
16:P:30:TRP:CE3	16:P:37:LYS:HG2	2.53	0.42
24:X:5:GLN:HE22	24:X:49:ARG:HB3	1.85	0.42
28:2:15:ARG:HH22	54:28:1264:A:H5''	1.85	0.42
32:6:3:VAL:HG21	54:28:2539:C:H5'	2.02	0.42
33:7:129:THR:O	33:7:132:GLU:HB3	2.19	0.42
34:8:21:TRP:HB3	34:8:58:ARG:H	1.84	0.42
38:12:38:ALA:O	38:12:41:ILE:HB	2.19	0.42
39:13:12:ARG:NH2	53:27:826:C:H5'	2.34	0.42
41:15:44:THR:OG1	53:27:1151:A:H5''	2.20	0.42
42:16:91:GLY:O	42:16:92:ARG:C	2.61	0.42
46:20:45:HIS:O	46:20:46:LYS:HB2	2.20	0.42
52:26:19:LYS:N	52:26:19:LYS:CD	2.79	0.42
53:27:54:C:H2'	53:27:352:C:N4	2.31	0.42
53:27:304:U:H2'	53:27:305:G:O4'	2.20	0.42
53:27:545:C:O2'	53:27:549:C:H5''	2.19	0.42
53:27:729:A:C4	53:27:730:G:C8	3.07	0.42
53:27:767:A:H2'	53:27:768:A:C8	2.55	0.42
53:27:1131:G:C3'	53:27:1132:C:C5'	2.95	0.42
54:28:182:A:O2'	54:28:183:C:H5'	2.19	0.42
54:28:372:G:H2'	54:28:400:G:O6	2.19	0.42
54:28:570:G:C2'	54:28:571:U:H5'	2.50	0.42
54:28:775:G:C5	54:28:794:A:C8	3.08	0.42
54:28:1361:G:H2'	54:28:1362:C:C6	2.55	0.42
54:28:1839:G:C4	54:28:1840:G:C8	3.07	0.42
54:28:1839:G:C5	54:28:1840:G:N7	2.87	0.42
54:28:2027:G:H2'	54:28:2028:U:H6	1.84	0.42
58:32:11:A:H2'	58:32:12:G:H8	1.84	0.42
1:A:614:GLN:HB2	1:A:740:ARG:HD2	2.00	0.42
1:A:686:ILE:O	1:A:687:LEU:C	2.62	0.42
1:A:703:THR:HG23	1:A:704:LYS:H	1.84	0.42
3:C:30:GLU:OE1	3:C:53:GLY:HA2	2.19	0.42
3:C:56:LYS:O	3:C:58:ASN:N	2.49	0.42
4:D:69:ARG:HD3	54:28:674:G:C1'	2.50	0.42
5:E:22:ASN:HB2	5:E:26:GLN:HE22	1.83	0.42
5:E:23:SER:OG	55:29:55:U:H4'	2.19	0.42
7:G:132:PHE:H	7:G:140:ALA:HB3	1.85	0.42
10:J:4:PHE:CD2	17:Q:99:VAL:HG11	2.55	0.42
12:L:73:ILE:O	12:L:105:ILE:HA	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:77:ILE:HD11	12:L:108:ALA:HB1	2.02	0.42
12:L:92:LEU:HD23	12:L:92:LEU:HA	1.90	0.42
17:Q:94:LEU:HA	17:Q:97:ILE:HD12	2.01	0.42
26:Z:13:ILE:HD11	54:28:989:G:OP2	2.20	0.42
28:2:39:ARG:HA	54:28:2884:U:O4	2.20	0.42
33:7:160:LEU:O	33:7:160:LEU:HG	2.19	0.42
34:8:76:ILE:HA	34:8:83:VAL:HG23	2.01	0.42
37:11:92:THR:O	37:11:93:LYS:HB2	2.18	0.42
43:17:109:ARG:HD2	43:17:109:ARG:HA	1.82	0.42
44:18:31:ALA:O	44:18:34:ALA:HB3	2.19	0.42
44:18:49:GLU:C	44:18:51:GLN:N	2.76	0.42
46:20:44:GLU:O	46:20:45:HIS:HB2	2.20	0.42
53:27:545:C:O2'	53:27:546:A:H5'	2.18	0.42
53:27:957:U:H2'	53:27:959:A:OP2	2.18	0.42
53:27:1097:C:O2'	53:27:1098:C:H5'	2.20	0.42
53:27:1101:A:H4'	53:27:1102:A:O5'	2.20	0.42
53:27:1157:A:H4'	53:27:1158:C:O5'	2.19	0.42
53:27:1264:U:H2'	53:27:1265:C:C6	2.54	0.42
54:28:158:U:H2'	54:28:159:G:O4'	2.19	0.42
54:28:226:A:H2'	54:28:227:A:C8	2.54	0.42
54:28:1173:U:C3'	54:28:1174:U:H4'	2.49	0.42
54:28:1379:U:OP1	54:28:1379:U:H6	2.02	0.42
54:28:1633:G:C6	54:28:1635:A:C5	3.08	0.42
54:28:1658:C:H2'	54:28:1659:G:H8	1.84	0.42
54:28:1688:U:H2'	54:28:1698:A:N6	2.35	0.42
54:28:2008:C:H2'	54:28:2009:A:H8	1.85	0.42
54:28:2105:U:H2'	54:28:2106:U:O4'	2.20	0.42
54:28:2115:G:H21	54:28:2119:A:H62	1.66	0.42
54:28:2118:U:H1'	54:28:2145:C:N4	2.34	0.42
54:28:2508:G:C6	54:28:2580:U:H5	2.37	0.42
57:31:22:G:O2'	57:31:23:C:H5'	2.20	0.42
57:31:40:C:H2'	57:31:41:C:H6	1.84	0.42
2:B:155:ARG:HA	2:B:194:VAL:HG21	2.01	0.42
5:E:1:ALA:N	5:E:97:GLU:OE1	2.53	0.42
5:E:76:PHE:CE1	54:28:2308:G:C6	3.06	0.42
5:E:150:GLY:O	54:28:2305:U:N3	2.52	0.42
6:F:88:LEU:CD2	6:F:95:ALA:HB2	2.48	0.42
10:J:40:HIS:O	17:Q:66:ALA:HB1	2.20	0.42
15:O:10:ARG:NH1	54:28:2295:C:OP1	2.53	0.42
33:7:178:LEU:O	33:7:180:ILE:N	2.52	0.42
34:8:5:HIS:HA	34:8:6:PRO:HD3	1.69	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:8:196:GLY:HA3	53:27:1057:G:O3'	2.20	0.42
38:12:42:VAL:O	38:12:46:LEU:HD13	2.20	0.42
40:14:105:ARG:NE	53:27:1118:U:OP1	2.42	0.42
43:17:106:VAL:HG12	43:17:107:LYS:N	2.34	0.42
52:26:38:GLU:O	52:26:41:THR:HB	2.20	0.42
53:27:85:U:O5'	53:27:85:U:H6	2.02	0.42
53:27:191:G:H2'	53:27:192:A:H8	1.85	0.42
53:27:204:G:H2'	53:27:205:A:C8	2.53	0.42
53:27:287:U:H2'	53:27:288:A:C8	2.53	0.42
53:27:409:U:H2'	53:27:410:G:O4'	2.20	0.42
53:27:771:G:H2'	53:27:772:U:C6	2.54	0.42
53:27:1037:C:H2'	53:27:1038:C:C5	2.54	0.42
53:27:1066:C:H2'	53:27:1067:A:C8	2.54	0.42
54:28:64:A:H2'	54:28:65:U:H6	1.82	0.42
54:28:197:A:C4	54:28:2430:A:C6	3.08	0.42
54:28:758:C:O2	54:28:758:C:C2'	2.67	0.42
54:28:2475:C:N4	54:28:2529:G:H22	2.18	0.42
54:28:2649:C:H2'	54:28:2650:U:C6	2.55	0.42
54:28:2838:G:C4	54:28:2839:G:C8	3.08	0.42
58:32:65:C:H2'	58:32:66:C:C6	2.54	0.42
58:32:68:C:H2'	58:32:69:C:O4'	2.19	0.42
58:32:69:C:H3'	58:32:70:G:C8	2.47	0.42
2:B:43:ASN:OD1	2:B:45:ASN:HB2	2.20	0.42
4:D:106:LYS:CG	4:D:200:LEU:HD23	2.50	0.42
6:F:49:LEU:HD13	6:F:71:LEU:HD23	2.01	0.42
8:H:42:ARG:CG	9:I:118:GLY:H	2.32	0.42
14:N:114:GLU:OE1	14:N:118:ARG:NH2	2.52	0.42
18:R:83:TYR:CZ	54:28:1187:G:H5''	2.55	0.42
24:X:54:GLY:O	24:X:57:VAL:HB	2.20	0.42
35:9:124:VAL:HA	35:9:142:VAL:HA	2.00	0.42
36:10:29:ILE:HD11	36:10:53:ARG:CZ	2.49	0.42
38:12:59:GLU:O	38:12:63:VAL:HG23	2.20	0.42
39:13:112:ASP:OD1	39:13:113:ARG:N	2.51	0.42
40:14:11:ARG:NH2	53:27:1347:G:O6	2.52	0.42
41:15:13:PHE:O	41:15:70:HIS:ND1	2.53	0.42
43:17:40:THR:HA	43:17:41:PRO:HD3	1.86	0.42
44:18:7:ASN:HD21	44:18:18:LEU:HD23	1.84	0.42
44:18:77:LYS:O	44:18:78:ARG:C	2.62	0.42
50:24:35:ARG:NH2	53:27:1320:C:O2	2.53	0.42
53:27:39:G:C6	53:27:404:G:C6	3.07	0.42
53:27:130:A:O2'	53:27:264:C:H5'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:235:C:O2'	53:27:236:A:H5'	2.19	0.42
53:27:489:C:H2'	53:27:490:C:H6	1.85	0.42
53:27:530:G:N3	53:27:530:G:C2'	2.83	0.42
53:27:807:A:H2'	53:27:808:C:C6	2.55	0.42
53:27:936:C:H2'	53:27:937:A:H8	1.85	0.42
53:27:1439:G:C2	53:27:1440:U:H1'	2.55	0.42
54:28:251:A:C4	54:28:252:G:H1'	2.55	0.42
54:28:540:C:O2'	54:28:541:A:H5'	2.20	0.42
54:28:757:G:C2	54:28:758:C:H1'	2.54	0.42
54:28:897:C:O2'	54:28:898:C:H5'	2.19	0.42
54:28:1047:G:H1'	54:28:1110:G:N2	2.35	0.42
54:28:1847:G:O2'	54:28:1848:A:H8	2.03	0.42
54:28:2027:G:H2'	54:28:2028:U:C6	2.55	0.42
54:28:2286:G:H4'	54:28:2287:A:O5'	2.18	0.42
54:28:2511:U:H2'	54:28:2512:C:O4'	2.20	0.42
54:28:2700:A:H2'	54:28:2701:U:C6	2.54	0.42
54:28:2730:C:H2'	54:28:2731:G:C8	2.55	0.42
2:B:129:LEU:HD13	2:B:133:ASN:HB2	2.02	0.42
2:B:213:ARG:NH2	54:28:1566:A:H5'	2.34	0.42
4:D:163:ASN:HB2	54:28:322:A:P	2.59	0.42
6:F:26:LYS:HG3	6:F:31:GLU:HB2	2.01	0.42
6:F:68:ARG:HH12	6:F:72:ASN:HD22	1.68	0.42
9:I:35:MET:CG	9:I:36:GLU:H	2.06	0.42
13:M:34:LYS:HE3	13:M:131:VAL:HG11	2.01	0.42
18:R:32:THR:HA	18:R:62:GLU:HA	2.01	0.42
21:U:17:ASP:HB3	21:U:20:LYS:HD2	2.01	0.42
33:7:156:LEU:HA	33:7:157:PRO:HD3	1.86	0.42
36:10:103:GLY:C	36:10:105:ILE:H	2.28	0.42
36:10:122:VAL:HG23	36:10:122:VAL:O	2.20	0.42
38:12:22:LEU:O	38:12:25:PHE:HB3	2.20	0.42
38:12:95:ARG:O	38:12:96:ASN:C	2.62	0.42
39:13:12:ARG:HH12	53:27:826:C:H5''	1.85	0.42
41:15:84:VAL:HG22	41:15:84:VAL:O	2.20	0.42
51:25:23:ARG:O	51:25:26:MET:HB3	2.20	0.42
53:27:361:G:H2'	53:27:362:G:O4'	2.20	0.42
53:27:665:A:H2'	53:27:732:C:O2	2.20	0.42
54:28:4:U:H2'	54:28:5:A:C8	2.55	0.42
54:28:63:A:O2'	54:28:64:A:H5'	2.19	0.42
54:28:67:U:C2	54:28:68:G:C8	3.08	0.42
54:28:570:G:C6	54:28:2030:A:C6	3.08	0.42
54:28:573:U:O2'	54:28:574:A:H3'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:942:G:C2	54:28:943:A:H1'	2.55	0.42
54:28:952:G:C6	54:28:966:G:C6	3.08	0.42
54:28:1727:C:H2'	54:28:1728:C:C6	2.55	0.42
54:28:1823:G:H2'	54:28:1824:G:C8	2.54	0.42
55:29:14:U:OP2	55:29:71:C:H5'	2.20	0.42
2:B:41:GLY:HA3	2:B:53:ILE:HD11	2.01	0.42
2:B:73:ILE:HA	2:B:74:PRO:HD3	1.87	0.42
3:C:5:VAL:HG21	3:C:80:TRP:CE3	2.55	0.42
4:D:127:GLU:O	4:D:156:ASN:ND2	2.53	0.42
7:G:9:VAL:HG11	7:G:12:LEU:CG	2.45	0.42
8:H:18:VAL:HG22	8:H:86:MET:SD	2.60	0.42
9:I:125:THR:O	9:I:129:GLU:HG3	2.20	0.42
11:K:58:LEU:HA	11:K:89:ASN:OD1	2.20	0.42
16:P:84:SER:HB2	16:P:86:LYS:HZ2	1.82	0.42
17:Q:59:LEU:O	17:Q:62:ALA:HB3	2.20	0.42
18:R:85:LYS:HE2	54:28:815:C:OP1	2.20	0.42
22:V:76:ASP:O	22:V:90:ASP:N	2.47	0.42
33:7:23:ASN:ND2	33:7:190:SER:O	2.53	0.42
33:7:49:PHE:CD1	33:7:199:ILE:HD13	2.55	0.42
33:7:65:LYS:HD2	33:7:153:MET:HG3	2.02	0.42
33:7:206:ILE:HA	33:7:209:VAL:HG22	2.01	0.42
34:8:19:SER:HB3	34:8:21:TRP:NE1	2.34	0.42
34:8:59:PRO:HB3	41:15:94:ALA:HA	2.02	0.42
34:8:114:LEU:HD23	34:8:114:LEU:HA	1.84	0.42
37:11:52:ASN:HB3	37:11:85:ILE:HD11	2.02	0.42
38:12:140:VAL:O	38:12:143:MET:HB2	2.20	0.42
40:14:46:VAL:HG21	40:14:75:ALA:HB1	2.01	0.42
41:15:7:ARG:HG2	41:15:75:ASP:OD1	2.20	0.42
44:18:108:ARG:HD3	53:27:1307:U:O2'	2.19	0.42
46:20:28:VAL:O	46:20:29:ALA:C	2.63	0.42
50:24:59:VAL:HG23	50:24:59:VAL:O	2.20	0.42
51:25:31:ILE:HG12	51:25:53:MET:SD	2.60	0.42
52:26:36:PHE:HB3	52:26:40:PRO:CG	2.50	0.42
53:27:41:G:O2'	53:27:42:G:H5'	2.19	0.42
53:27:227:G:H2'	53:27:228:A:H8	1.83	0.42
53:27:419:C:O2'	53:27:420:U:H5'	2.20	0.42
53:27:954:G:H2'	53:27:955:U:O4'	2.19	0.42
53:27:991:U:O4	53:27:1212:U:H4'	2.19	0.42
53:27:1314:C:H2'	53:27:1315:U:H6	1.82	0.42
54:28:209:C:H2'	54:28:210:C:C6	2.55	0.42
54:28:277:G:C1'	54:28:361:G:H1	2.26	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:946:C:H2'	54:28:947:A:C8	2.51	0.42
54:28:1052:C:H2'	54:28:1053:C:H5'	2.02	0.42
54:28:1219:U:O2'	54:28:1220:G:H5'	2.20	0.42
54:28:1287:A:C2'	54:28:1288:G:H5'	2.50	0.42
54:28:1766:G:H2'	54:28:1767:G:H8	1.85	0.42
54:28:1997:C:H2'	54:28:1998:A:C8	2.55	0.42
54:28:2103:C:H2'	54:28:2104:C:C6	2.55	0.42
54:28:2799:A:H2'	54:28:2801:G:OP2	2.19	0.42
55:29:61:G:H2'	55:29:62:C:H6	1.85	0.42
3:C:9:VAL:HG12	16:P:4:ILE:HD11	2.02	0.41
3:C:155:VAL:HG21	54:28:2618:G:H21	1.85	0.41
4:D:90:GLN:HE21	4:D:92:HIS:CE1	2.37	0.41
4:D:108:ILE:HG13	4:D:109:LEU:HD12	2.02	0.41
5:E:163:GLU:OE1	5:E:166:ARG:NH1	2.52	0.41
6:F:157:LYS:HD2	54:28:2659:G:OP1	2.20	0.41
7:G:37:VAL:O	7:G:38:PRO:C	2.62	0.41
9:I:23:VAL:O	9:I:27:LEU:HG	2.20	0.41
14:N:101:GLY:H	28:2:41:HIS:HD2	1.67	0.41
15:O:16:ARG:HD3	15:O:19:GLN:NE2	2.36	0.41
15:O:68:LYS:HA	15:O:102:ARG:HG2	2.02	0.41
18:R:79:ARG:NH1	54:28:572:A:OP2	2.45	0.41
18:R:85:LYS:HE2	54:28:815:C:OP2	2.19	0.41
19:S:4:ILE:HG22	19:S:106:VAL:HG13	2.02	0.41
20:T:62:VAL:HA	20:T:81:LYS:HA	2.02	0.41
21:U:5:ARG:HB2	54:28:85:G:OP1	2.20	0.41
21:U:48:VAL:HG22	21:U:50:ALA:H	1.85	0.41
25:Y:49:ASP:HA	25:Y:52:ARG:HG2	2.02	0.41
33:7:206:ILE:O	33:7:209:VAL:HG22	2.20	0.41
34:8:5:HIS:HB3	45:19:88:MET:CE	2.50	0.41
35:9:96:ARG:O	35:9:100:VAL:HG23	2.19	0.41
37:11:55:HIS:O	37:11:56:LYS:HB2	2.18	0.41
40:14:82:ILE:O	40:14:86:LEU:HG	2.20	0.41
41:15:47:GLU:HG3	53:27:1254:A:OP1	2.20	0.41
41:15:76:ILE:HD13	41:15:83:THR:HG21	2.02	0.41
43:17:49:ARG:HG3	43:17:89:LEU:HD11	2.02	0.41
43:17:114:SER:OG	53:27:501:C:O3'	2.30	0.41
47:21:7:ALA:HB1	47:21:9:HIS:HE1	1.85	0.41
47:21:53:ASP:OD2	47:21:56:ARG:HB2	2.20	0.41
51:25:43:LYS:HE2	51:25:85:LEU:HG	2.01	0.41
53:27:309:A:C2	53:27:310:G:C5	3.07	0.41
53:27:564:C:C4	53:27:565:U:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:901:A:C5	53:27:902:G:H1'	2.55	0.41
53:27:1332:A:H2'	53:27:1333:A:C8	2.55	0.41
54:28:228:C:N4	54:28:417:C:H1'	2.35	0.41
54:28:510:C:H2'	54:28:511:U:O4'	2.20	0.41
54:28:634:C:O5'	54:28:634:C:H6	2.03	0.41
54:28:809:G:H1'	54:28:1254:A:N3	2.35	0.41
54:28:822:G:H2'	54:28:823:C:H6	1.85	0.41
54:28:867:C:H2'	54:28:868:U:H6	1.84	0.41
54:28:1173:U:H2'	54:28:1174:U:H4'	2.01	0.41
54:28:1932:A:H3'	54:28:1933:G:H8	1.85	0.41
54:28:2073:C:O2'	54:28:2074:U:H5'	2.20	0.41
54:28:2227:A:H3'	54:28:2228:G:C8	2.54	0.41
54:28:2389:G:H5''	54:28:2390:U:H5'	2.01	0.41
54:28:2553:G:H1'	54:28:2582:G:H21	1.85	0.41
1:A:673:ALA:C	1:A:708:ALA:HB3	2.34	0.41
2:B:243:PRO:C	2:B:251:THR:HG22	2.45	0.41
3:C:121:THR:HG21	3:C:143:PRO:HB3	2.01	0.41
8:H:48:ALA:HB3	8:H:51:TYR:HB3	2.02	0.41
9:I:117:THR:H	9:I:124:MET:HE2	1.85	0.41
10:J:125:TYR:OH	10:J:132:HIS:NE2	2.36	0.41
28:2:5:ASN:ND2	54:28:2020:A:H62	2.17	0.41
28:2:48:TYR:O	28:2:51:ARG:HG2	2.20	0.41
28:2:49:ARG:NH1	54:28:2883:A:OP2	2.49	0.41
32:6:30:GLU:HA	32:6:31:PRO:HD3	1.92	0.41
33:7:153:MET:CE	33:7:157:PRO:HG3	2.46	0.41
35:9:146:GLU:OE1	35:9:146:GLU:N	2.42	0.41
36:10:12:GLU:HA	36:10:38:VAL:HA	2.02	0.41
39:13:55:LYS:HE3	53:27:653:U:C1'	2.50	0.41
40:14:54:VAL:CG2	40:14:56:MET:HG2	2.45	0.41
42:16:111:ASP:HB2	52:26:16:ARG:HH22	1.85	0.41
45:19:79:SER:O	45:19:80:ARG:C	2.62	0.41
47:21:75:ILE:O	47:21:78:VAL:HG12	2.21	0.41
48:22:28:VAL:O	48:22:28:VAL:HG13	2.19	0.41
48:22:46:HIS:ND1	48:22:70:LYS:HE2	2.35	0.41
51:25:67:HIS:O	51:25:67:HIS:CG	2.73	0.41
53:27:597:G:H2'	53:27:598:U:H5'	2.01	0.41
53:27:882:C:O2'	53:27:883:C:H5'	2.20	0.41
53:27:915:A:C2'	53:27:916:U:H5'	2.50	0.41
53:27:1254:A:H2'	53:27:1255:G:H8	1.83	0.41
54:28:84:A:N7	54:28:101:A:H2	2.18	0.41
54:28:84:A:H4'	54:28:85:G:O5'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:239:C:H2'	54:28:240:C:O4'	2.21	0.41
54:28:775:G:C4	54:28:794:A:C8	3.08	0.41
54:28:803:U:H2'	54:28:804:A:O4'	2.19	0.41
54:28:1537:G:N1	54:28:1538:G:N3	2.69	0.41
54:28:1558:C:O4'	54:28:1560:G:C8	2.73	0.41
54:28:1607:C:H4'	54:28:1608:A:O5'	2.20	0.41
54:28:1721:G:H1'	54:28:1739:A:N6	2.35	0.41
54:28:2130:U:H1'	54:28:2159:G:N1	2.35	0.41
54:28:2186:G:H2'	54:28:2187:U:O4'	2.20	0.41
54:28:2373:G:O2'	54:28:2374:C:H5'	2.20	0.41
54:28:2461:A:H1'	54:28:2492:U:N3	2.35	0.41
54:28:2834:G:H2'	54:28:2879:A:H61	1.85	0.41
55:29:66:A:H4'	55:29:67:G:C8	2.55	0.41
57:31:1:C:H42	57:31:72:A:H61	1.67	0.41
2:B:1:ALA:O	2:B:19:VAL:N	2.53	0.41
3:C:97:SER:O	3:C:100:LEU:HD13	2.21	0.41
3:C:208:LYS:HZ3	54:28:2732:G:P	2.44	0.41
4:D:117:ARG:NH1	12:L:2:ARG:HG2	2.16	0.41
6:F:34:ARG:HH21	6:F:70:LEU:HD13	1.85	0.41
6:F:140:ILE:O	6:F:141:GLY:C	2.63	0.41
6:F:148:ARG:HD2	6:F:163:TYR:CE1	2.55	0.41
7:G:6:LEU:HD11	7:G:37:VAL:CG2	2.48	0.41
8:H:51:TYR:CD2	8:H:52:MET:N	2.88	0.41
8:H:102:ALA:HA	8:H:105:LYS:HB3	2.02	0.41
8:H:121:SER:OG	8:H:124:ASP:O	2.37	0.41
10:J:75:TYR:HE1	10:J:86:GLN:OE1	2.03	0.41
10:J:115:GLY:O	10:J:118:MET:HG2	2.21	0.41
13:M:31:PHE:HD1	13:M:130:PHE:CZ	2.38	0.41
15:O:10:ARG:HD3	54:28:2294:G:OP1	2.19	0.41
17:Q:61:ILE:HG23	17:Q:75:TYR:CZ	2.56	0.41
17:Q:88:GLU:OE1	17:Q:88:GLU:N	2.53	0.41
19:S:62:ASP:N	19:S:62:ASP:OD1	2.52	0.41
21:U:76:THR:OG1	21:U:78:LYS:HG2	2.21	0.41
28:2:38:LEU:O	28:2:39:ARG:C	2.64	0.41
32:6:6:SER:O	32:6:8:LYS:NZ	2.53	0.41
33:7:83:ALA:O	33:7:86:CYS:C	2.63	0.41
33:7:208:ALA:O	33:7:212:TYR:CD2	2.74	0.41
34:8:46:LEU:HB3	34:8:49:ALA:CB	2.50	0.41
35:9:19:PHE:O	35:9:20:LEU:C	2.63	0.41
35:9:108:ALA:N	35:9:112:GLU:OE1	2.54	0.41
35:9:123:MET:CE	35:9:145:ARG:HA	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:13:4:ASP:OD1	39:13:76:ARG:NH2	2.53	0.41
42:16:43:TRP:CZ3	42:16:45:THR:HG23	2.55	0.41
42:16:45:THR:OG1	42:16:48:GLY:N	2.53	0.41
43:17:34:THR:HA	43:17:75:GLU:O	2.20	0.41
43:17:88:ASP:HB2	53:27:523:A:N1	2.34	0.41
43:17:113:ARG:C	43:17:115:LYS:O	2.62	0.41
44:18:48:SER:HB2	44:18:51:GLN:HG3	2.02	0.41
53:27:17:U:H2'	53:27:18:C:H6	1.79	0.41
53:27:296:U:H2'	53:27:297:G:H8	1.86	0.41
53:27:305:G:H5''	53:27:306:A:OP1	2.20	0.41
53:27:306:A:C2'	53:27:307:C:H5'	2.50	0.41
53:27:629:A:H2'	53:27:630:A:O4'	2.21	0.41
53:27:1038:C:H2'	53:27:1039:G:H8	1.84	0.41
53:27:1167:A:N6	53:27:1169:A:N1	2.69	0.41
53:27:1278:G:O5'	53:27:1279:G:H5'	2.20	0.41
54:28:155:A:H2'	54:28:156:A:H8	1.83	0.41
54:28:286:U:O2'	54:28:287:G:H5'	2.20	0.41
54:28:589:U:H2'	54:28:590:A:C8	2.56	0.41
54:28:814:C:O2'	54:28:815:C:H5'	2.19	0.41
54:28:1268:A:H2'	54:28:1269:A:O4'	2.20	0.41
54:28:1877:A:H2'	54:28:1878:G:O4'	2.20	0.41
54:28:1999:C:H1'	54:28:2687:U:O2'	2.20	0.41
54:28:2144:G:H1'	54:28:2148:G:H22	1.85	0.41
54:28:2205:A:O2'	54:28:2206:C:H5'	2.21	0.41
54:28:2561:U:H2'	54:28:2562:U:C5'	2.40	0.41
57:31:27:U:H2'	57:31:28:C:H6	1.85	0.41
58:32:60:U:P	58:32:61:C:H41	2.43	0.41
3:C:145:SER:O	54:28:2512:C:H1'	2.19	0.41
4:D:46:GLN:HB2	4:D:86:ALA:HB1	2.03	0.41
4:D:58:LYS:HZ2	4:D:70:SER:HB2	1.83	0.41
5:E:1:ALA:HB2	5:E:93:GLU:OE1	2.20	0.41
7:G:33:GLN:HB3	7:G:35:LYS:HG2	2.03	0.41
8:H:26:VAL:HG23	8:H:111:ALA:HB3	2.03	0.41
9:I:9:LYS:HB3	9:I:57:VAL:HG22	2.02	0.41
9:I:13:ALA:O	9:I:15:GLY:N	2.54	0.41
13:M:35:ALA:O	13:M:99:GLY:N	2.51	0.41
15:O:3:LYS:NZ	55:29:46:A:H5''	2.35	0.41
17:Q:88:GLU:OE1	18:R:52:PRO:HB3	2.20	0.41
20:T:4:GLU:HA	20:T:7:LEU:HD12	2.02	0.41
22:V:65:VAL:O	22:V:65:VAL:HG13	2.20	0.41
26:Z:22:THR:HA	54:28:850:U:O2'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:35:VAL:HG21	26:Z:37:ARG:NH2	2.36	0.41
33:7:79:VAL:HA	33:7:213:LEU:CD2	2.51	0.41
35:9:115:GLN:NE2	35:9:119:HIS:CE1	2.88	0.41
35:9:119:HIS:ND1	53:27:437:U:O2'	2.37	0.41
37:11:67:PRO:HB2	37:11:69:GLU:OE1	2.19	0.41
38:12:2:ARG:CB	53:27:933:G:OP2	2.62	0.41
40:14:70:GLY:O	40:14:74:GLN:HG3	2.20	0.41
40:14:89:TYR:HB2	40:14:93:LEU:HD12	2.03	0.41
43:17:20:VAL:C	43:17:22:ALA:H	2.28	0.41
46:20:47:LYS:O	46:20:49:HIS:N	2.52	0.41
48:22:44:HIS:O	48:22:70:LYS:HA	2.19	0.41
49:23:11:ARG:HH11	49:23:14:ALA:HB3	1.85	0.41
50:24:3:SER:O	50:24:4:LEU:HB3	2.20	0.41
52:26:64:ALA:HB3	53:27:1099:G:O2'	2.19	0.41
53:27:191:G:H2'	53:27:192:A:C8	2.56	0.41
53:27:317:U:H2'	53:27:318:G:C8	2.55	0.41
53:27:454:G:H22	53:27:478:A:H2	1.67	0.41
53:27:525:C:H2'	53:27:526:C:C6	2.56	0.41
53:27:833:G:H2'	53:27:834:U:O4'	2.21	0.41
53:27:1220:G:O2'	53:27:1221:G:H5'	2.20	0.41
53:27:1283:U:H2'	53:27:1284:C:H6	1.80	0.41
54:28:415:A:H2'	54:28:416:U:C6	2.55	0.41
54:28:527:C:C5	54:28:2779:U:C6	3.08	0.41
54:28:563:A:C6	54:28:2018:G:C5	3.08	0.41
54:28:1210:G:P	54:28:1212:G:H5'	2.60	0.41
54:28:2051:A:H5'	54:28:2578:G:O4'	2.20	0.41
54:28:2114:A:N6	54:28:2115:G:N3	2.69	0.41
54:28:2212:A:H4'	54:28:2213:U:C5	2.55	0.41
54:28:2223:G:H3'	54:28:2224:G:H8	1.85	0.41
54:28:2555:U:C2'	54:28:2556:C:H5'	2.50	0.41
54:28:2707:U:H2'	54:28:2708:G:C8	2.55	0.41
55:29:53:A:C2	55:29:54:G:C8	3.08	0.41
57:31:65:C:H2'	57:31:66:C:C6	2.54	0.41
58:32:60:U:H2'	58:32:61:C:H5	1.85	0.41
1:A:670:ARG:NE	1:A:741:LEU:HD12	2.34	0.41
3:C:187:LEU:HD12	3:C:187:LEU:HA	1.81	0.41
5:E:65:LEU:HD22	55:29:42:C:C4	2.55	0.41
6:F:18:ILE:O	6:F:18:ILE:HG22	2.20	0.41
10:J:31:GLU:HG2	10:J:142:ILE:CG1	2.48	0.41
11:K:66:LYS:NZ	54:28:1665:A:OP1	2.53	0.41
11:K:86:LEU:O	11:K:94:PRO:HA	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:75:GLU:HG3	54:28:957:C:OP1	2.20	0.41
14:N:38:LEU:HD11	14:N:42:LYS:HE2	2.01	0.41
15:O:18:LEU:HD21	15:O:25:ARG:CB	2.50	0.41
15:O:66:GLY:HA2	15:O:102:ARG:NH2	2.35	0.41
16:P:48:ALA:HB3	16:P:59:THR:OG1	2.20	0.41
17:Q:56:PHE:CE2	54:28:536:G:H4'	2.55	0.41
19:S:25:ARG:HE	19:S:74:ILE:HG23	1.86	0.41
22:V:1:MET:N	22:V:59:GLU:OE2	2.53	0.41
25:Y:9:LYS:O	25:Y:13:GLU:HG2	2.20	0.41
28:2:15:ARG:HH12	54:28:1264:A:P	2.44	0.41
33:7:33:ALA:HB3	33:7:37:VAL:CG1	2.50	0.41
34:8:122:GLN:O	34:8:127:VAL:HG12	2.20	0.41
35:9:18:LEU:HB2	35:9:20:LEU:HG	2.03	0.41
36:10:132:PRO:O	36:10:135:VAL:CG2	2.67	0.41
37:11:51:ILE:O	37:11:52:ASN:C	2.64	0.41
38:12:112:ASP:HB2	38:12:118:ARG:CG	2.50	0.41
40:14:113:LYS:HG2	53:27:1368:A:OP2	2.21	0.41
43:17:20:VAL:HG23	43:17:20:VAL:O	2.20	0.41
44:18:56:ARG:O	44:18:59:VAL:HG22	2.20	0.41
47:21:19:VAL:HG12	47:21:37:GLY:O	2.20	0.41
48:22:16:MET:HE2	48:22:19:SER:CB	2.50	0.41
49:23:64:LEU:O	49:23:65:SER:HB3	2.21	0.41
50:24:36:ARG:HD2	53:27:1318:A:H1'	2.02	0.41
53:27:227:G:H2'	53:27:228:A:C8	2.55	0.41
53:27:484:G:C5	53:27:486:U:H1'	2.55	0.41
53:27:806:C:H2'	53:27:807:A:C8	2.55	0.41
53:27:847:G:O2'	53:27:848:C:H5'	2.21	0.41
53:27:950:U:H4'	53:27:971:G:C2	2.56	0.41
53:27:1146:A:H2'	53:27:1147:C:H5'	2.02	0.41
53:27:1294:G:H2'	53:27:1295:U:C6	2.56	0.41
54:28:227:A:N1	54:28:2407:A:H1'	2.36	0.41
54:28:305:C:H2'	54:28:306:U:C6	2.55	0.41
54:28:763:G:O2'	54:28:765:C:H5'	2.19	0.41
54:28:1198:U:H2'	54:28:1199:U:C5	2.55	0.41
54:28:1372:U:O2'	54:28:1373:A:H5'	2.21	0.41
54:28:1499:C:H2'	54:28:1500:G:H8	1.84	0.41
54:28:1609:A:H1'	54:28:1616:A:C1'	2.49	0.41
54:28:1795:C:H2'	54:28:1796:U:O4'	2.19	0.41
54:28:2619:C:H2'	54:28:2620:C:H6	1.85	0.41
54:28:2796:U:O2	54:28:2801:G:N1	2.54	0.41
55:29:4:C:OP1	55:29:4:C:H4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:29:54:G:H2'	55:29:55:U:H6	1.85	0.41
1:A:676:ARG:C	1:A:678:GLY:N	2.79	0.41
8:H:15:VAL:O	8:H:16:SER:C	2.62	0.41
9:I:93:ASN:HD22	9:I:96:LYS:HE2	1.85	0.41
9:I:101:SER:HB2	9:I:104:GLN:CD	2.46	0.41
10:J:58:ASN:HD21	10:J:128:ASN:HB2	1.85	0.41
24:X:18:SER:CB	24:X:22:ASN:HB2	2.48	0.41
25:Y:17:GLU:OE1	25:Y:53:VAL:HG11	2.21	0.41
26:Z:24:LEU:HD21	54:28:930:G:H1'	2.02	0.41
27:1:57:VAL:HG23	50:24:63:ASP:OD1	2.20	0.41
33:7:157:PRO:O	33:7:180:ILE:HD13	2.21	0.41
35:9:201:GLU:HG2	36:10:105:ILE:HG22	2.02	0.41
38:12:5:VAL:HG23	38:12:5:VAL:O	2.21	0.41
38:12:32:ASP:OD1	53:27:1350:A:O2'	2.37	0.41
38:12:92:PRO:O	38:12:95:ARG:HB3	2.20	0.41
38:12:142:ARG:HB3	58:32:41:C:H4'	2.02	0.41
40:14:98:ARG:CG	40:14:103:VAL:HG21	2.37	0.41
46:20:44:GLU:HG3	46:20:45:HIS:CG	2.55	0.41
48:22:30:HIS:HD2	48:22:33:TYR:N	2.16	0.41
48:22:48:GLU:O	48:22:49:ASN:C	2.63	0.41
51:25:19:HIS:CE1	51:25:23:ARG:HG3	2.56	0.41
51:25:82:ILE:O	51:25:86:ALA:N	2.52	0.41
52:26:66:ARG:C	52:26:67:THR:HG1	2.27	0.41
53:27:40:C:O2'	53:27:41:G:H5'	2.20	0.41
53:27:232:G:O2'	53:27:233:C:H5'	2.21	0.41
53:27:608:A:C2	53:27:609:A:H1'	2.55	0.41
53:27:728:A:H2'	53:27:729:A:H8	1.84	0.41
53:27:1084:G:C5	53:27:1085:U:C4	3.09	0.41
53:27:1282:C:H2'	53:27:1283:U:H6	1.85	0.41
53:27:1305:G:N2	53:27:1331:G:C2'	2.84	0.41
53:27:1366:C:H2'	53:27:1367:C:H6	1.82	0.41
54:28:30:G:H2'	54:28:31:C:H6	1.86	0.41
54:28:279:A:H2'	54:28:280:U:O4'	2.21	0.41
54:28:364:C:O2'	54:28:365:U:H5'	2.21	0.41
54:28:443:A:H5''	54:28:444:C:C5'	2.51	0.41
54:28:467:G:O2'	54:28:468:G:H5'	2.20	0.41
54:28:537:G:H1'	54:28:556:A:N6	2.36	0.41
54:28:814:C:C1'	54:28:1225:G:H21	2.31	0.41
54:28:852:U:H2'	54:28:853:C:C6	2.55	0.41
54:28:1045:C:P	54:28:1046:A:H5'	2.60	0.41
54:28:1177:G:H2'	54:28:1178:C:H1'	2.00	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1257:C:H2'	54:28:1258:U:H6	1.86	0.41
54:28:1418:G:H2'	54:28:1579:A:H62	1.86	0.41
54:28:1639:C:O2'	54:28:1640:A:H5'	2.20	0.41
54:28:1889:A:H2'	54:28:1890:A:O4'	2.21	0.41
54:28:2489:U:H2'	54:28:2490:G:O4'	2.20	0.41
54:28:2818:U:H2'	54:28:2819:G:H8	1.86	0.41
55:29:24:G:H4'	55:29:25:U:H5	1.86	0.41
57:31:63:G:H2'	57:31:64:G:C8	2.55	0.41
58:32:10:G:H2'	58:32:11:A:H8	1.82	0.41
4:D:16:GLU:O	4:D:20:GLY:N	2.54	0.41
4:D:58:LYS:HZ2	4:D:71:GLY:N	2.18	0.41
4:D:94:GLN:HB2	54:28:660:C:H5''	2.02	0.41
5:E:33:ILE:HB	5:E:90:LEU:HD12	2.01	0.41
7:G:26:ALA:HA	7:G:30:LEU:HB2	2.02	0.41
7:G:67:ALA:O	7:G:71:LYS:HG3	2.20	0.41
8:H:8:LYS:O	8:H:11:ILE:HB	2.21	0.41
9:I:61:TYR:HB3	9:I:65:SER:H	1.86	0.41
10:J:4:PHE:CG	10:J:5:THR:N	2.88	0.41
14:N:31:HIS:C	14:N:33:ILE:H	2.29	0.41
15:O:103:VAL:HG23	15:O:104:GLN:N	2.36	0.41
16:P:80:VAL:HG23	16:P:80:VAL:O	2.20	0.41
16:P:88:ARG:O	16:P:112:ARG:HG3	2.20	0.41
17:Q:46:TYR:HA	17:Q:49:ARG:NH2	2.35	0.41
18:R:46:GLU:OE2	18:R:48:LYS:N	2.53	0.41
19:S:17:VAL:HG12	19:S:76:VAL:HG21	2.03	0.41
24:X:70:LEU:O	24:X:74:GLY:N	2.54	0.41
29:3:37:LYS:HB2	29:3:48:TYR:CD2	2.55	0.41
35:9:98:ASP:OD1	35:9:99:ASN:N	2.53	0.41
36:10:108:GLY:O	36:10:110:MET:N	2.49	0.41
38:12:39:GLU:HG2	38:12:43:TYR:CE2	2.56	0.41
39:13:85:TYR:HA	39:13:123:GLU:HA	2.02	0.41
40:14:12:LYS:NZ	53:27:1373:G:O6	2.53	0.41
42:16:13:LYS:O	42:16:14:GLN:HB3	2.21	0.41
42:16:117:HIS:CD2	53:27:718:A:C5	3.09	0.41
44:18:32:ILE:HG23	44:18:58:GLU:HG3	2.03	0.41
46:20:88:ARG:HE	54:28:714:U:H5	1.68	0.41
47:21:14:ARG:HE	47:21:42:ILE:HD13	1.86	0.41
53:27:193:C:O2'	53:27:194:C:H5'	2.20	0.41
53:27:204:G:O6	53:27:215:C:H1'	2.21	0.41
53:27:775:G:H2'	53:27:776:G:O4'	2.21	0.41
53:27:858:G:O6	53:27:869:G:H3'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:947:G:H2'	53:27:948:C:H6	1.85	0.41
53:27:1483:A:C2'	53:27:1484:C:H5'	2.49	0.41
53:27:1494:G:O2'	53:27:1495:U:H5'	2.21	0.41
54:28:35:G:O2'	54:28:36:G:H5'	2.21	0.41
54:28:123:G:H2'	54:28:124:G:C8	2.54	0.41
54:28:161:A:H1'	54:28:2208:C:H1'	2.03	0.41
54:28:414:C:H1'	54:28:1864:U:H1'	2.02	0.41
54:28:465:G:C6	54:28:466:A:N6	2.89	0.41
54:28:488:G:H22	54:28:491:G:H5''	1.84	0.41
54:28:1045:C:OP1	54:28:1046:A:H5'	2.20	0.41
54:28:1147:A:H2'	54:28:1148:U:C6	2.56	0.41
54:28:1463:C:H2'	54:28:1464:G:C8	2.55	0.41
54:28:1478:G:O2'	54:28:1479:G:H5'	2.21	0.41
54:28:1747:U:H2'	54:28:1748:C:C6	2.55	0.41
54:28:1912:A:H62	54:28:1917:U:H5	1.53	0.41
54:28:1930:G:H2'	54:28:1968:G:N1	2.32	0.41
54:28:2127:G:H2'	54:28:2128:G:O4'	2.21	0.41
54:28:2803:G:H2'	54:28:2804:U:C6	2.56	0.41
58:32:8:U:O2	58:32:21:A:H2	2.03	0.41
2:B:239:PHE:O	2:B:241:LYS:HG2	2.21	0.41
3:C:71:ALA:HB3	3:C:73:VAL:HG22	2.01	0.41
4:D:146:VAL:HA	4:D:185:LYS:O	2.21	0.41
5:E:11:VAL:O	5:E:12:VAL:C	2.62	0.41
5:E:78:ILE:O	5:E:78:ILE:HG13	2.20	0.41
5:E:114:ARG:NH2	27:1:50:ASP:HB2	2.35	0.41
7:G:140:ALA:HB1	7:G:142:VAL:HG23	2.03	0.41
12:L:79:LEU:N	12:L:113:ALA:HB3	2.35	0.41
16:P:93:LYS:HE2	54:28:1754:A:OP1	2.21	0.41
17:Q:55:GLN:HE22	54:28:559:G:H1'	1.78	0.41
17:Q:60:TRP:CG	17:Q:92:LYS:HA	2.56	0.41
18:R:79:ARG:O	18:R:80:ARG:HB2	2.20	0.41
25:Y:39:GLN:HE21	25:Y:42:LEU:HD11	1.84	0.41
27:1:43:PHE:C	27:1:45:THR:H	2.29	0.41
34:8:27:GLU:HG3	34:8:28:PHE:N	2.34	0.41
34:8:39:ARG:CG	34:8:54:ILE:HD11	2.48	0.41
37:11:51:ILE:HG12	37:11:86:ARG:HH12	1.85	0.41
39:13:17:GLN:HG3	39:13:71:VAL:HB	2.02	0.41
40:14:113:LYS:HZ1	53:27:1367:C:P	2.44	0.41
42:16:84:MET:HE2	42:16:112:VAL:HG11	2.01	0.41
42:16:102:ALA:HB3	42:16:104:PHE:HD2	1.85	0.41
43:17:3:VAL:HG23	48:22:33:TYR:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:18:106:ARG:O	44:18:110:GLY:N	2.54	0.41
47:21:12:LYS:HG3	53:27:392:C:H5'	2.02	0.41
48:22:26:ARG:NH2	53:27:237:G:H5''	2.36	0.41
53:27:119:A:H4'	53:27:120:A:C8	2.56	0.41
53:27:935:A:H2'	53:27:936:C:C6	2.55	0.41
53:27:945:G:N3	53:27:945:G:H2'	2.35	0.41
54:28:40:U:H2'	54:28:41:C:C6	2.56	0.41
54:28:209:C:O2'	54:28:210:C:H5'	2.21	0.41
54:28:222:A:N6	54:28:232:G:H1'	2.36	0.41
54:28:226:A:H3'	54:28:227:A:C8	2.55	0.41
54:28:477:A:H2'	54:28:478:A:C8	2.55	0.41
54:28:622:G:O2'	54:28:623:C:H5'	2.21	0.41
54:28:667:U:H2'	54:28:668:A:O4'	2.20	0.41
54:28:890:C:H2'	54:28:891:G:O4'	2.21	0.41
54:28:1165:A:H2'	54:28:1166:G:H8	1.86	0.41
54:28:1228:G:H2'	54:28:1229:C:C6	2.56	0.41
54:28:1331:G:C2'	54:28:1332:G:C5'	2.99	0.41
54:28:1458:U:H4'	54:28:1459:G:O4'	2.21	0.41
54:28:1689:A:H2'	54:28:1690:A:C8	2.55	0.41
54:28:2198:A:O2'	54:28:2199:A:H8	2.03	0.41
54:28:2649:C:H2'	54:28:2650:U:H6	1.86	0.41
54:28:2688:G:H1'	54:28:2721:A:H61	1.85	0.41
54:28:2733:A:O2'	54:28:2734:A:H5'	2.20	0.41
54:28:2836:U:H2'	54:28:2837:A:C8	2.55	0.41
55:29:32:U:H2'	55:29:33:G:C8	2.55	0.41
55:29:69:G:H2'	55:29:70:C:O4'	2.20	0.41
2:B:175:LEU:HD13	54:28:1799:G:C5	2.56	0.41
2:B:216:ARG:NH2	54:28:781:A:OP1	2.54	0.41
2:B:224:MET:SD	2:B:229:HIS:HB2	2.61	0.41
3:C:153:GLY:O	3:C:154:LYS:HB3	2.21	0.41
5:E:109:ARG:NH2	5:E:136:ILE:O	2.54	0.41
5:E:134:GLN:NE2	5:E:149:ARG:H	2.19	0.41
7:G:22:LYS:HD2	54:28:2094:A:OP1	2.21	0.41
7:G:33:GLN:C	7:G:35:LYS:N	2.77	0.41
8:H:113:PHE:O	8:H:113:PHE:CD1	2.74	0.41
10:J:41:LYS:HE3	10:J:52:ASP:OD1	2.21	0.41
12:L:127:VAL:HG12	12:L:128:THR:N	2.35	0.41
12:L:128:THR:HA	54:28:636:G:OP2	2.20	0.41
13:M:32:GLY:O	13:M:131:VAL:HG22	2.21	0.41
14:N:33:ILE:HA	14:N:113:ILE:O	2.21	0.41
16:P:38:ARG:HH11	53:27:345:C:H5'	1.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:65:ASN:ND2	17:Q:69:ARG:HE	2.18	0.41
17:Q:69:ARG:NH1	54:28:1011:G:OP2	2.53	0.41
19:S:31:GLN:O	19:S:35:ILE:HG13	2.21	0.41
19:S:81:SER:O	19:S:82:MET:C	2.64	0.41
20:T:28:ASN:ND2	20:T:91:GLN:HA	2.35	0.41
21:U:6:ARG:HA	21:U:6:ARG:HD2	1.84	0.41
21:U:12:VAL:HB	21:U:17:ASP:O	2.20	0.41
21:U:93:ARG:O	21:U:101:THR:HA	2.20	0.41
22:V:41:GLU:C	22:V:41:GLU:CD	2.89	0.41
25:Y:41:HIS:O	25:Y:45:GLN:HG2	2.21	0.41
26:Z:8:GLN:HB3	26:Z:31:ILE:HA	2.03	0.41
26:Z:29:ARG:HD2	54:28:1183:U:H5''	2.02	0.41
27:1:59:ARG:O	27:1:62:LYS:HB2	2.20	0.41
27:1:66:ILE:O	27:1:66:ILE:HG12	2.20	0.41
31:5:9:ALA:HB1	31:5:61:LEU:HD23	2.03	0.41
31:5:16:THR:HG23	31:5:21:PHE:HA	2.03	0.41
32:6:20:ASP:HA	54:28:2757:A:OP2	2.21	0.41
33:7:82:ALA:HB3	33:7:213:LEU:HD23	2.03	0.41
35:9:28:ASP:CG	35:9:29:THR:H	2.28	0.41
35:9:28:ASP:C	35:9:30:LYS:N	2.79	0.41
35:9:56:GLU:HG3	35:9:199:ILE:HD11	2.03	0.41
37:11:12:PRO:O	37:11:16:GLU:HG2	2.21	0.41
37:11:18:VAL:HG11	37:11:58:HIS:CE1	2.56	0.41
37:11:19:PRO:O	37:11:23:GLU:HG3	2.20	0.41
37:11:81:ASN:OD1	37:11:83:ALA:N	2.52	0.41
38:12:115:MET:HE1	53:27:1240:U:C4	2.56	0.41
39:13:19:ALA:HB3	39:13:21:LYS:HG3	2.02	0.41
39:13:94:VAL:HG12	39:13:95:MET:HG3	2.02	0.41
40:14:123:ARG:CB	53:27:1343:G:O3'	2.69	0.41
41:15:41:PRO:HB2	53:27:1151:A:H1'	2.02	0.41
44:18:8:ILE:N	44:18:9:PRO:CD	2.84	0.41
44:18:10:ASP:OD1	44:18:45:SER:N	2.54	0.41
45:19:80:ARG:HA	45:19:83:VAL:CG1	2.49	0.41
45:19:95:LEU:HD12	45:19:96:LYS:H	1.86	0.41
46:20:14:PHE:HE1	46:20:83:ARG:HG2	1.85	0.41
46:20:25:GLU:O	46:20:26:VAL:C	2.64	0.41
48:22:50:ASN:C	48:22:52:CYS:H	2.29	0.41
51:25:59:ARG:NH2	53:27:178:C:OP2	2.53	0.41
51:25:68:LYS:O	51:25:72:ALA:N	2.38	0.41
53:27:35:G:H2'	53:27:36:C:C6	2.56	0.41
53:27:47:C:H4'	53:27:48:C:H5''	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:155:A:H2'	53:27:156:C:C6	2.56	0.41
53:27:220:G:O2'	53:27:221:C:H5'	2.21	0.41
53:27:331:G:OP1	53:27:332:G:H8	2.04	0.41
53:27:334:C:O2'	53:27:335:C:H5'	2.21	0.41
53:27:421:U:H5''	53:27:422:C:H5	1.85	0.41
53:27:450:G:OP1	53:27:452:A:OP1	2.39	0.41
53:27:562:U:H5	53:27:884:U:O2'	2.03	0.41
53:27:616:G:O2'	53:27:617:G:H5'	2.20	0.41
53:27:628:G:O2'	53:27:629:A:H5'	2.21	0.41
53:27:669:G:O2'	53:27:670:G:H5'	2.21	0.41
53:27:951:G:H2'	53:27:952:U:C6	2.56	0.41
53:27:1130:A:C2	53:27:1146:A:C5	3.08	0.41
54:28:120:U:H1'	54:28:149:A:C8	2.55	0.41
54:28:198:C:H6	54:28:198:C:O5'	2.04	0.41
54:28:439:A:H2'	54:28:440:C:C6	2.56	0.41
54:28:551:G:O2'	54:28:552:U:H5'	2.21	0.41
54:28:749:A:H4'	54:28:1271:G:N3	2.35	0.41
54:28:771:G:H2'	54:28:771:G:N3	2.36	0.41
54:28:799:G:H3'	54:28:800:A:H8	1.86	0.41
54:28:914:G:H5'	54:28:915:C:OP2	2.21	0.41
54:28:989:G:O5'	54:28:1157:G:H4'	2.21	0.41
54:28:1086:A:H4'	54:28:1103:A:H2	1.86	0.41
54:28:1232:G:H2'	54:28:1233:C:C6	2.56	0.41
54:28:1284:A:H2'	54:28:1285:A:O4'	2.21	0.41
54:28:1404:C:O2'	54:28:1405:U:H5'	2.21	0.41
54:28:1532:A:N3	54:28:1532:A:H2'	2.36	0.41
54:28:1770:G:C6	54:28:1983:G:C5	3.08	0.41
54:28:1804:C:H2'	54:28:1805:A:C8	2.55	0.41
54:28:1972:G:C2	54:28:1973:G:C5	3.09	0.41
54:28:2024:G:C5	54:28:2040:G:C2	3.09	0.41
54:28:2063:C:H2'	54:28:2064:C:H6	1.85	0.41
54:28:2412:A:H2'	54:28:2413:G:O4'	2.21	0.41
54:28:2441:U:O2'	54:28:2442:C:H5'	2.21	0.41
54:28:2516:A:O2'	54:28:2517:C:H5'	2.20	0.41
54:28:2684:U:C4	54:28:2685:G:N7	2.89	0.41
55:29:3:C:H3'	55:29:4:C:C5'	2.50	0.41
55:29:55:U:O2'	55:29:56:G:H5'	2.20	0.41
55:29:101:A:H2'	55:29:102:G:O4'	2.21	0.41
58:32:38:A:H2'	58:32:39:C:H6	1.84	0.41
1:A:669:VAL:HA	1:A:740:ARG:HA	2.03	0.41
4:D:88:ARG:O	4:D:89:PRO:C	2.62	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:118:LEU:O	4:D:119:ILE:HD13	2.21	0.41
4:D:130:LYS:NZ	54:28:321:U:OP1	2.53	0.41
5:E:78:ILE:HD13	54:28:2311:A:N3	2.35	0.41
6:F:71:LEU:HD12	6:F:71:LEU:N	2.36	0.41
7:G:10:ALA:O	7:G:11:ASN:HB2	2.21	0.41
7:G:97:ARG:HH21	54:28:2220:U:H4'	1.86	0.41
10:J:135:GLN:OE1	10:J:135:GLN:N	2.54	0.41
12:L:95:LEU:CD2	12:L:100:ILE:HD11	2.35	0.41
13:M:29:GLY:HA3	13:M:106:ASP:HB2	2.01	0.41
17:Q:4:LYS:NZ	54:28:30:G:OP2	2.48	0.41
21:U:27:VAL:HG23	21:U:33:VAL:HG12	2.03	0.41
22:V:38:LEU:O	22:V:40:ILE:HG12	2.20	0.41
34:8:10:ARG:O	34:8:11:LEU:C	2.63	0.41
34:8:21:TRP:CB	34:8:58:ARG:HB3	2.51	0.41
34:8:30:ASP:O	34:8:33:ASP:HB3	2.21	0.41
35:9:170:LEU:C	35:9:170:LEU:HD12	2.46	0.41
37:11:38:ARG:HB3	37:11:63:ASN:ND2	2.35	0.41
39:13:87:ARG:O	39:13:88:LYS:C	2.64	0.41
40:14:18:VAL:HG21	40:14:81:GLY:C	2.46	0.41
40:14:122:ARG:NH1	40:14:123:ARG:O	2.54	0.41
42:16:110:THR:HB	49:23:72:ARG:NH2	2.36	0.41
44:18:89:ARG:HH21	44:18:95:PRO:HG2	1.86	0.41
50:24:28:LYS:O	50:24:29:PRO:C	2.60	0.41
50:24:71:GLY:C	50:24:73:PHE:H	2.28	0.41
51:25:9:ARG:HG2	53:27:108:G:C6	2.55	0.41
53:27:205:A:H2'	53:27:206:C:O4'	2.21	0.41
53:27:357:G:H1'	53:27:368:U:O2	2.21	0.41
53:27:414:A:C4	53:27:415:A:C8	3.09	0.41
53:27:1213:A:C5	53:27:1215:G:C4	3.09	0.41
54:28:765:C:H2'	54:28:766:U:O4'	2.20	0.41
54:28:1372:U:H2'	54:28:1373:A:O4'	2.21	0.41
54:28:1577:C:H2'	54:28:1578:U:C6	2.56	0.41
54:28:2385:C:O2'	54:28:2386:A:H5'	2.21	0.41
54:28:2548:U:H2'	54:28:2549:G:C5'	2.41	0.41
54:28:2648:G:C4	54:28:2673:G:C2	3.09	0.41
54:28:2788:C:O2'	54:28:2809:A:H1'	2.20	0.41
55:29:21:G:H2'	55:29:22:U:C6	2.55	0.41
2:B:250:GLN:NE2	2:B:251:THR:O	2.51	0.40
2:B:259:ASN:O	2:B:261:ARG:N	2.54	0.40
5:E:7:TYR:HA	5:E:11:VAL:HG21	2.00	0.40
5:E:142:TYR:CE2	44:18:8:ILE:HG21	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:80:ILE:HD12	7:G:144:VAL:HG13	2.03	0.40
8:H:28:ALA:HB2	8:H:82:ILE:HG23	2.02	0.40
8:H:118:ILE:HD13	8:H:118:ILE:HA	1.95	0.40
9:I:117:THR:HB	54:28:1081:U:O2'	2.21	0.40
11:K:7:MET:O	11:K:8:LEU:HD12	2.21	0.40
12:L:79:LEU:CD1	12:L:112:LEU:HD12	2.51	0.40
14:N:33:ILE:HG23	14:N:33:ILE:O	2.21	0.40
14:N:65:LEU:HD21	54:28:2870:C:H5''	2.03	0.40
17:Q:93:ILE:HG21	18:R:4:VAL:HG21	2.02	0.40
20:T:58:VAL:HG22	20:T:85:VAL:HG13	2.02	0.40
21:U:65:GLN:HB2	21:U:68:ASN:OD1	2.21	0.40
22:V:83:LYS:HA	22:V:84:PRO:HD3	1.93	0.40
26:Z:37:ARG:NH1	54:28:929:U:H5''	2.36	0.40
28:2:23:ALA:O	28:2:25:THR:HG23	2.21	0.40
28:2:40:HIS:CD2	54:28:2816:G:H4'	2.57	0.40
30:4:7:PRO:HG3	54:28:1612:C:H5'	2.03	0.40
34:8:161:ILE:O	34:8:161:ILE:HG13	2.20	0.40
36:10:59:ILE:HG13	36:10:60:GLN:N	2.35	0.40
36:10:65:LYS:HA	36:10:68:ARG:HG2	2.02	0.40
38:12:58:LEU:C	38:12:58:LEU:HD12	2.45	0.40
39:13:121:GLY:O	53:27:599:C:H4'	2.20	0.40
41:15:91:ASP:CG	41:15:92:LEU:N	2.76	0.40
42:16:35:ASP:OD2	42:16:37:GLN:NE2	2.55	0.40
43:17:22:ALA:O	43:17:23:LEU:HB3	2.21	0.40
43:17:49:ARG:HB2	43:17:89:LEU:HD21	2.03	0.40
43:17:54:VAL:O	43:17:61:GLU:HA	2.21	0.40
44:18:14:ALA:O	44:18:17:ALA:HB3	2.20	0.40
44:18:64:VAL:O	44:18:65:GLU:C	2.63	0.40
45:19:80:ARG:CA	45:19:83:VAL:HG12	2.50	0.40
48:22:20:ILE:HG12	48:22:22:VAL:HG23	2.02	0.40
48:22:46:HIS:CG	48:22:70:LYS:HE2	2.56	0.40
50:24:25:GLY:O	50:24:26:ASP:C	2.64	0.40
50:24:77:ARG:HD2	53:27:1225:A:O2'	2.21	0.40
51:25:67:HIS:O	51:25:68:LYS:HB3	2.21	0.40
52:26:18:PHE:HA	52:26:21:SER:HB3	2.03	0.40
53:27:96:U:O2'	53:27:97:G:H5'	2.22	0.40
53:27:106:C:H2'	53:27:107:G:H8	1.86	0.40
53:27:130:A:H1'	53:27:264:C:C4'	2.52	0.40
53:27:487:A:H2'	53:27:488:C:O4'	2.22	0.40
53:27:504:C:C2	53:27:542:G:C2	3.08	0.40
53:27:541:G:O2'	53:27:542:G:H5'	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:780:A:C2	53:27:803:G:C6	3.09	0.40
53:27:824:G:H2'	53:27:825:A:C8	2.52	0.40
53:27:936:C:H2'	53:27:937:A:C8	2.55	0.40
53:27:949:A:C5	53:27:950:U:C4	3.09	0.40
53:27:969:A:C2'	53:27:970:C:H5'	2.51	0.40
53:27:1406:U:C2'	53:27:1407:C:H5'	2.51	0.40
54:28:222:A:H61	54:28:232:G:H1'	1.87	0.40
54:28:372:G:O2'	54:28:400:G:N1	2.53	0.40
54:28:478:A:N1	54:28:500:G:H4'	2.36	0.40
54:28:708:G:O2'	54:28:709:U:H5'	2.21	0.40
54:28:938:G:H2'	54:28:939:G:H8	1.86	0.40
54:28:1287:A:C2	54:28:1649:G:H4'	2.57	0.40
54:28:1491:G:H2'	54:28:1492:G:H8	1.86	0.40
54:28:1890:A:H2'	54:28:1891:G:H8	1.86	0.40
54:28:1911:U:O2	54:28:1911:U:O5'	2.39	0.40
54:28:2217:G:C2'	54:28:2218:G:H5'	2.51	0.40
54:28:2397:G:C6	54:28:2398:U:C4	3.09	0.40
54:28:2828:G:O2'	54:28:2829:A:H5'	2.20	0.40
3:C:22:ILE:O	3:C:22:ILE:HG13	2.20	0.40
5:E:19:PHE:HB3	5:E:21:TYR:CZ	2.56	0.40
5:E:174:PHE:HA	5:E:175:PRO:HD3	1.95	0.40
7:G:14:SER:O	7:G:15:LEU:HB3	2.21	0.40
7:G:31:VAL:HG12	24:X:38:TRP:CD1	2.55	0.40
8:H:112:ALA:O	8:H:113:PHE:O	2.38	0.40
9:I:116:MET:HE2	9:I:117:THR:OG1	2.21	0.40
12:L:22:GLY:O	12:L:25:SER:HB3	2.21	0.40
19:S:61:ASN:OD1	54:28:496:G:H1'	2.21	0.40
19:S:79:GLY:N	19:S:101:SER:HA	2.36	0.40
21:U:47:PRO:HB2	21:U:53:GLN:HB2	2.01	0.40
27:1:44:PHE:HD1	27:1:45:THR:HG23	1.85	0.40
31:5:2:LYS:O	31:5:3:ILE:C	2.62	0.40
35:9:3:TYR:CD1	35:9:10:LEU:HD11	2.56	0.40
35:9:8:LEU:O	35:9:11:SER:HB2	2.21	0.40
35:9:28:ASP:N	35:9:28:ASP:OD1	2.53	0.40
37:11:38:ARG:CD	37:11:98:GLU:H	2.34	0.40
39:13:88:LYS:HD3	39:13:119:GLY:O	2.21	0.40
40:14:49:GLN:N	40:14:50:PRO:HD2	2.36	0.40
41:15:41:PRO:HB3	53:27:1151:A:H1'	2.02	0.40
43:17:66:ILE:HA	43:17:96:THR:OG1	2.21	0.40
47:21:14:ARG:NH1	53:27:618:C:O2'	2.54	0.40
48:22:10:ARG:HH11	48:22:55:GLY:HA2	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:23:25:ILE:O	49:23:29:LYS:HG3	2.21	0.40
52:26:37:TYR:HE2	53:27:1526:G:OP1	2.04	0.40
53:27:708:C:O2'	53:27:709:U:H5'	2.21	0.40
53:27:958:A:H1'	53:27:985:C:O2'	2.21	0.40
53:27:1059:C:H2'	53:27:1060:U:H6	1.85	0.40
53:27:1384:C:H2'	53:27:1385:G:C8	2.56	0.40
54:28:164:C:H2'	54:28:165:A:O4'	2.21	0.40
54:28:553:G:O2'	54:28:554:U:H5'	2.20	0.40
54:28:820:A:H2'	54:28:821:A:H8	1.86	0.40
54:28:858:G:H5'	54:28:859:G:OP2	2.22	0.40
54:28:967:U:H2'	54:28:968:C:H6	1.84	0.40
54:28:1831:G:H2'	54:28:1832:C:C6	2.56	0.40
54:28:2193:G:H2'	54:28:2194:U:H6	1.81	0.40
54:28:2315:G:H2'	54:28:2316:G:C8	2.55	0.40
57:31:29:G:H2'	57:31:30:G:H8	1.86	0.40
58:32:28:C:H2'	58:32:29:G:C8	2.56	0.40
2:B:180:MET:HB2	2:B:268:ARG:N	2.31	0.40
2:B:211:ARG:HA	2:B:211:ARG:HD2	1.82	0.40
2:B:216:ARG:O	2:B:217:PRO:C	2.64	0.40
5:E:175:PRO:HB2	5:E:176:PHE:H	1.69	0.40
9:I:118:GLY:HA3	54:28:1082:U:C5'	2.51	0.40
9:I:118:GLY:CA	54:28:1082:U:C5'	3.00	0.40
9:I:124:MET:O	9:I:127:SER:HB2	2.21	0.40
12:L:143:GLU:OE1	12:L:143:GLU:N	2.55	0.40
13:M:97:GLN:OE1	13:M:97:GLN:N	2.51	0.40
18:R:15:SER:O	18:R:16:GLU:C	2.64	0.40
19:S:3:THR:HG21	19:S:58:ALA:CA	2.52	0.40
19:S:3:THR:HG21	19:S:58:ALA:CB	2.48	0.40
19:S:94:ASP:OD1	19:S:95:ARG:N	2.54	0.40
33:7:98:GLY:HA2	33:7:174:GLU:CD	2.46	0.40
34:8:39:ARG:NH2	34:8:56:ILE:HG12	2.36	0.40
35:9:118:SER:HA	35:9:130:ASN:OD1	2.22	0.40
43:17:113:ARG:HE	43:17:120:ARG:HA	1.86	0.40
47:21:8:ARG:HD3	47:21:17:TYR:CE1	2.56	0.40
47:21:60:TRP:HA	47:21:63:GLN:HB3	2.03	0.40
50:24:38:THR:HA	50:24:69:LYS:HA	2.03	0.40
51:25:57:VAL:HG22	51:25:71:ALA:HB1	2.03	0.40
53:27:487:A:H3'	53:27:488:C:C6	2.56	0.40
54:28:27:G:N2	54:28:512:G:H1'	2.36	0.40
54:28:33:C:O2	54:28:447:A:N6	2.54	0.40
54:28:90:U:H3'	54:28:91:A:H8	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:470:A:H2'	54:28:471:A:O4'	2.21	0.40
54:28:1117:C:O2'	54:28:1118:C:H5'	2.21	0.40
54:28:1167:C:O2'	54:28:1168:G:H5'	2.21	0.40
54:28:1454:C:HO2'	54:28:1455:G:H8	1.69	0.40
54:28:1685:C:H2'	54:28:1686:C:C6	2.56	0.40
54:28:1991:U:H2'	54:28:1992:G:C5'	2.52	0.40
54:28:2063:C:O2	54:28:2450:A:N1	2.55	0.40
54:28:2103:C:H2'	54:28:2104:C:H6	1.86	0.40
1:A:598:VAL:HB	1:A:656:VAL:CG2	2.51	0.40
2:B:145:MET:HE1	2:B:181:ARG:HE	1.87	0.40
4:D:29:HIS:CE1	12:L:8:PRO:HB3	2.56	0.40
5:E:174:PHE:HD1	5:E:175:PRO:HD3	1.85	0.40
6:F:34:ARG:NH2	6:F:70:LEU:HD13	2.36	0.40
6:F:141:GLY:O	6:F:142:GLN:C	2.64	0.40
7:G:112:LYS:O	7:G:115:VAL:HB	2.21	0.40
8:H:38:MET:SD	54:28:1058:U:H4'	2.62	0.40
8:H:74:ASP:OD1	8:H:116:GLU:HG2	2.21	0.40
9:I:20:SER:HA	9:I:24:GLY:HA3	2.04	0.40
9:I:25:PRO:HA	9:I:28:GLY:HA3	2.03	0.40
12:L:79:LEU:HD12	12:L:112:LEU:HA	2.03	0.40
13:M:38:ARG:NH2	13:M:98:PRO:HG2	2.37	0.40
16:P:84:SER:CB	16:P:86:LYS:NZ	2.79	0.40
16:P:90:ALA:HB2	16:P:112:ARG:HA	2.04	0.40
24:X:5:GLN:HE22	24:X:49:ARG:CB	2.34	0.40
24:X:18:SER:HB2	54:28:2080:A:C5'	2.52	0.40
24:X:53:LYS:O	24:X:56:ARG:HB2	2.21	0.40
33:7:101:THR:HG21	53:27:1075:U:H5'	2.04	0.40
34:8:11:LEU:HD13	34:8:17:TRP:HE1	1.87	0.40
34:8:122:GLN:OE1	34:8:132:ALA:HB1	2.21	0.40
35:9:124:VAL:HG12	35:9:129:VAL:HG13	2.03	0.40
36:10:37:VAL:HG11	36:10:113:VAL:HA	2.04	0.40
40:14:56:MET:HB2	40:14:59:LYS:HB2	2.02	0.40
40:14:89:TYR:O	40:14:92:SER:HB2	2.21	0.40
42:16:30:ILE:HD13	42:16:45:THR:CG2	2.49	0.40
51:25:32:LYS:HE2	53:27:1439:G:OP1	2.21	0.40
53:27:120:A:C4	53:27:122:G:C5	3.10	0.40
53:27:155:A:H2'	53:27:156:C:O4'	2.21	0.40
53:27:691:G:O2'	53:27:797:C:H4'	2.21	0.40
53:27:1113:C:H2'	53:27:1114:C:C6	2.54	0.40
53:27:1167:A:HO2'	53:27:1168:U:H5	1.67	0.40
53:27:1250:A:C2	53:27:1370:G:H1'	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:600:G:H2'	54:28:601:C:H6	1.83	0.40
54:28:924:G:H2'	54:28:925:A:C8	2.57	0.40
54:28:1293:C:H2'	54:28:1294:U:C6	2.56	0.40
54:28:1612:C:O5'	54:28:1612:C:H6	2.04	0.40
54:28:1800:C:HO2'	54:28:1818:U:H3	1.66	0.40
54:28:1993:U:O2'	54:28:1994:C:H5'	2.22	0.40
54:28:2022:U:O2'	54:28:2617:U:H5'	2.20	0.40
54:28:2185:U:H2'	54:28:2186:G:H8	1.86	0.40
54:28:2207:C:H2'	54:28:2208:C:H6	1.86	0.40
54:28:2578:G:H2'	54:28:2579:C:C6	2.55	0.40
54:28:2580:U:O2	54:28:2580:U:O4'	2.40	0.40
54:28:2785:C:O2'	54:28:2786:U:H5'	2.21	0.40
1:A:721:VAL:O	1:A:724:ARG:HG2	2.22	0.40
7:G:3:VAL:HG12	7:G:36:ALA:HB1	2.04	0.40
7:G:83:LYS:O	7:G:91:PHE:CB	2.69	0.40
8:H:118:ILE:HB	8:H:119:PRO:CD	2.51	0.40
9:I:7:TYR:OH	9:I:60:VAL:O	2.32	0.40
9:I:88:GLY:HA3	9:I:135:MET:HE3	2.03	0.40
10:J:31:GLU:HG2	10:J:142:ILE:CD1	2.52	0.40
12:L:30:THR:O	12:L:31:GLY:C	2.64	0.40
14:N:9:GLN:HE21	54:28:2002:G:H5''	1.87	0.40
19:S:20:VAL:HG21	19:S:43:ALA:HB3	2.04	0.40
21:U:32:LYS:HE3	21:U:63:ALA:HB3	2.03	0.40
22:V:25:LYS:HB3	22:V:41:GLU:OE2	2.22	0.40
24:X:69:GLU:O	24:X:72:ALA:HB3	2.21	0.40
25:Y:52:ARG:NE	54:28:76:C:O3'	2.55	0.40
29:3:50:GLU:CD	29:3:50:GLU:C	2.90	0.40
35:9:90:LEU:HD23	35:9:90:LEU:HA	1.93	0.40
35:9:166:LYS:HD2	35:9:167:PRO:HD2	2.03	0.40
36:10:156:ARG:O	36:10:158:LYS:N	2.50	0.40
38:12:26:VAL:O	38:12:30:MET:N	2.53	0.40
38:12:102:TRP:CZ3	38:12:137:ARG:HA	2.56	0.40
41:15:65:TYR:CB	45:19:95:LEU:HD11	2.38	0.40
49:23:44:THR:OG1	49:23:46:THR:HG23	2.21	0.40
49:23:71:ASP:OD1	49:23:72:ARG:N	2.55	0.40
50:24:14:LEU:O	50:24:18:VAL:HG23	2.21	0.40
51:25:25:SER:O	51:25:26:MET:C	2.65	0.40
52:26:39:LYS:N	52:26:40:PRO:CD	2.83	0.40
53:27:29:U:O2'	53:27:30:U:H5'	2.21	0.40
53:27:835:U:H2'	53:27:836:G:C5'	2.36	0.40
53:27:1159:U:C5	53:27:1182:G:H2'	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1246:A:C6	53:27:1292:G:C6	3.10	0.40
53:27:1481:U:H2'	53:27:1482:G:C8	2.57	0.40
54:28:202:U:H2'	54:28:203:A:O4'	2.22	0.40
54:28:274:C:H2'	54:28:275:C:H5'	2.04	0.40
54:28:441:U:O2'	54:28:442:G:H5'	2.21	0.40
54:28:610:C:H2'	54:28:611:C:C6	2.56	0.40
54:28:987:C:H2'	54:28:988:A:O4'	2.21	0.40
54:28:991:C:H5'	54:28:1185:G:C2'	2.51	0.40
54:28:1259:G:O2'	54:28:1260:A:H5'	2.22	0.40
54:28:1627:G:H2'	54:28:1628:G:H8	1.87	0.40
54:28:1661:G:O2'	54:28:1662:U:H5'	2.22	0.40
54:28:2129:C:H2'	54:28:2130:U:O4'	2.22	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	139/750 (18%)	106 (76%)	21 (15%)	12 (9%)	0	10
2	B	269/273 (98%)	227 (84%)	31 (12%)	11 (4%)	2	20
3	C	207/209 (99%)	183 (88%)	17 (8%)	7 (3%)	3	24
4	D	199/201 (99%)	162 (81%)	28 (14%)	9 (4%)	2	19
5	E	175/179 (98%)	140 (80%)	31 (18%)	4 (2%)	5	30
6	F	174/177 (98%)	145 (83%)	27 (16%)	2 (1%)	11	43
7	G	147/149 (99%)	115 (78%)	23 (16%)	9 (6%)	1	15
8	H	129/165 (78%)	85 (66%)	29 (22%)	15 (12%)	0	5
9	I	139/142 (98%)	112 (81%)	21 (15%)	6 (4%)	2	20
10	J	140/142 (99%)	123 (88%)	13 (9%)	4 (3%)	3	26

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	K	120/123 (98%)	102 (85%)	12 (10%)	6 (5%)	1	18
12	L	141/144 (98%)	110 (78%)	25 (18%)	6 (4%)	2	20
13	M	134/136 (98%)	115 (86%)	16 (12%)	3 (2%)	5	31
14	N	118/127 (93%)	96 (81%)	18 (15%)	4 (3%)	3	24
15	O	114/117 (97%)	100 (88%)	10 (9%)	4 (4%)	3	23
16	P	112/115 (97%)	99 (88%)	11 (10%)	2 (2%)	6	34
17	Q	115/118 (98%)	105 (91%)	10 (9%)	0	100	100
18	R	101/103 (98%)	84 (83%)	13 (13%)	4 (4%)	2	21
19	S	108/110 (98%)	95 (88%)	8 (7%)	5 (5%)	2	19
20	T	91/100 (91%)	77 (85%)	8 (9%)	6 (7%)	1	14
21	U	100/104 (96%)	83 (83%)	8 (8%)	9 (9%)	0	10
22	V	92/94 (98%)	79 (86%)	12 (13%)	1 (1%)	11	43
23	W	73/85 (86%)	66 (90%)	6 (8%)	1 (1%)	9	38
24	X	75/78 (96%)	67 (89%)	5 (7%)	3 (4%)	2	21
25	Y	61/63 (97%)	53 (87%)	5 (8%)	3 (5%)	1	18
26	Z	56/59 (95%)	52 (93%)	3 (5%)	1 (2%)	6	34
27	1	64/70 (91%)	48 (75%)	10 (16%)	6 (9%)	0	9
28	2	54/57 (95%)	46 (85%)	7 (13%)	1 (2%)	6	33
29	3	48/55 (87%)	45 (94%)	2 (4%)	1 (2%)	5	31
30	4	44/46 (96%)	40 (91%)	4 (9%)	0	100	100
31	5	62/65 (95%)	54 (87%)	6 (10%)	2 (3%)	3	25
32	6	36/38 (95%)	29 (81%)	6 (17%)	1 (3%)	4	27
33	7	216/241 (90%)	170 (79%)	36 (17%)	10 (5%)	2	19
34	8	204/233 (88%)	179 (88%)	20 (10%)	5 (2%)	4	29
35	9	203/206 (98%)	167 (82%)	22 (11%)	14 (7%)	1	13
36	10	155/167 (93%)	117 (76%)	26 (17%)	12 (8%)	1	12
37	11	98/135 (73%)	77 (79%)	13 (13%)	8 (8%)	0	11
38	12	149/179 (83%)	127 (85%)	18 (12%)	4 (3%)	4	28
39	13	127/130 (98%)	116 (91%)	8 (6%)	3 (2%)	4	29
40	14	125/130 (96%)	105 (84%)	10 (8%)	10 (8%)	1	11
41	15	96/103 (93%)	75 (78%)	16 (17%)	5 (5%)	1	17

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
42	16	114/129 (88%)	95 (83%)	13 (11%)	6 (5%)	1	17
43	17	121/124 (98%)	91 (75%)	24 (20%)	6 (5%)	1	18
44	18	112/118 (95%)	98 (88%)	8 (7%)	6 (5%)	1	17
45	19	98/101 (97%)	80 (82%)	13 (13%)	5 (5%)	1	17
46	20	86/89 (97%)	62 (72%)	14 (16%)	10 (12%)	0	5
47	21	80/82 (98%)	64 (80%)	11 (14%)	5 (6%)	1	15
48	22	78/84 (93%)	60 (77%)	13 (17%)	5 (6%)	1	15
49	23	63/75 (84%)	52 (82%)	6 (10%)	5 (8%)	1	11
50	24	77/92 (84%)	64 (83%)	11 (14%)	2 (3%)	4	28
51	25	83/87 (95%)	77 (93%)	6 (7%)	0	100	100
52	26	63/71 (89%)	39 (62%)	15 (24%)	9 (14%)	0	3
All	All	5985/6970 (86%)	4958 (83%)	749 (12%)	278 (5%)	3	19

All (278) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	599	VAL
1	A	666	SER
1	A	677	SER
1	A	702	ASP
2	B	107	LYS
2	B	154	ALA
3	C	153	GLY
4	D	71	GLY
4	D	84	THR
4	D	165	HIS
5	E	20	ASN
5	E	175	PRO
7	G	11	ASN
8	H	57	ASN
8	H	76	PHE
8	H	107	GLU
8	H	113	PHE
9	I	35	MET
10	J	81	ILE
11	K	93	GLN
12	L	36	LYS
12	L	128	THR

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Mol	Chain	Res	Type
13	M	6	ARG
15	O	3	LYS
18	R	54	VAL
19	S	62	ASP
19	S	63	GLY
20	T	89	GLU
22	V	2	PHE
25	Y	22	LEU
25	Y	23	ARG
25	Y	24	GLU
26	Z	13	ILE
27	1	28	VAL
27	1	52	ALA
32	6	29	ALA
33	7	166	ASP
33	7	179	GLY
34	8	11	LEU
34	8	156	LEU
35	9	22	SER
35	9	28	ASP
35	9	33	ILE
35	9	152	SER
35	9	169	TRP
35	9	174	ALA
36	10	102	THR
36	10	122	VAL
38	12	4	ARG
40	14	38	PHE
40	14	107	ALA
42	16	88	PRO
42	16	125	LYS
43	17	75	GLU
44	18	6	ILE
44	18	104	ASN
48	22	17	GLU
49	23	17	VAL
49	23	22	TYR
49	23	69	TYR
1	A	598	VAL
1	A	676	ARG
2	B	29	PHE
2	B	234	GLY

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Mol	Chain	Res	Type
3	C	57	ALA
3	C	58	ASN
4	D	69	ARG
4	D	83	VAL
4	D	144	GLU
6	F	60	GLY
7	G	14	SER
7	G	39	ALA
8	H	51	TYR
8	H	58	THR
8	H	81	LEU
9	I	5	GLN
9	I	14	ALA
9	I	24	GLY
11	K	35	VAL
12	L	111	ILE
14	N	2	ARG
16	P	94	ALA
18	R	55	ASP
19	S	89	ALA
20	T	72	GLN
20	T	90	GLY
21	U	3	LYS
21	U	101	THR
23	W	80	ALA
27	1	26	SER
27	1	64	PHE
28	2	2	VAL
29	3	4	ILE
31	5	62	PRO
33	7	73	ARG
33	7	97	GLY
34	8	48	LYS
35	9	4	LEU
35	9	82	LYS
35	9	191	SER
36	10	104	ILE
37	11	92	THR
38	12	18	GLY
38	12	56	SER
39	13	65	PHE
40	14	12	LYS

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Mol	Chain	Res	Type
40	14	57	VAL
40	14	71	ILE
41	15	57	VAL
44	18	7	ASN
44	18	65	GLU
45	19	53	ASP
46	20	12	SER
48	22	15	LYS
48	22	16	MET
49	23	12	PHE
50	24	7	GLY
52	26	26	GLY
52	26	62	GLU
1	A	656	VAL
1	A	658	GLY
2	B	231	HIS
2	B	237	ARG
3	C	154	LYS
4	D	184	ASP
5	E	173	ASP
7	G	89	LYS
7	G	122	LEU
8	H	118	ILE
8	H	122	GLN
9	I	53	PRO
11	K	110	GLU
12	L	29	LYS
13	M	69	PRO
13	M	125	PRO
16	P	112	ARG
18	R	43	ASN
18	R	58	VAL
19	S	3	THR
19	S	72	THR
20	T	3	ARG
20	T	38	ALA
21	U	63	ALA
21	U	75	ALA
21	U	88	ASP
21	U	100	GLU
33	7	71	THR
33	7	88	GLN

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Mol	Chain	Res	Type
34	8	47	ALA
35	9	31	CYS
36	10	23	THR
36	10	50	GLY
36	10	98	ALA
37	11	13	ASP
37	11	54	LEU
37	11	91	ARG
38	12	144	ALA
40	14	102	PHE
40	14	120	ALA
41	15	75	ASP
41	15	91	ASP
42	16	92	ARG
43	17	2	THR
43	17	35	ARG
43	17	46	SER
45	19	34	ASN
45	19	37	ASP
46	20	16	ARG
46	20	87	ARG
47	21	49	GLY
47	21	79	ASN
48	22	18	LYS
52	26	12	ASP
52	26	14	ALA
52	26	36	PHE
52	26	65	ARG
1	A	600	GLU
1	A	637	ASP
2	B	108	GLY
5	E	93	GLU
6	F	118	ALA
7	G	3	VAL
7	G	9	VAL
8	H	68	PRO
10	J	8	PRO
10	J	49	ASP
11	K	89	ASN
15	O	13	ARG
20	T	37	ASP
24	X	6	VAL

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Mol	Chain	Res	Type
33	7	17	HIS
34	8	126	ARG
35	9	34	GLU
35	9	166	LYS
36	10	93	VAL
37	11	12	PRO
37	11	56	LYS
40	14	24	ASN
40	14	106	ASP
41	15	33	GLY
43	17	77	SER
46	20	2	LEU
46	20	21	THR
46	20	45	HIS
46	20	71	ARG
46	20	85	GLY
47	21	8	ARG
47	21	44	SER
48	22	20	ILE
50	24	38	THR
52	26	9	GLU
52	26	37	TYR
2	B	260	LYS
3	C	133	THR
3	C	149	ASN
3	C	178	VAL
4	D	80	SER
4	D	129	PRO
7	G	15	LEU
8	H	90	GLY
11	K	27	GLY
12	L	58	TYR
12	L	87	GLY
14	N	109	PRO
21	U	6	ARG
21	U	98	ASN
24	X	31	ASN
24	X	74	GLY
27	1	44	PHE
31	5	31	ILE
33	7	122	ASP
36	10	22	LYS

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Mol	Chain	Res	Type
36	10	89	THR
37	11	86	ARG
39	13	47	ASP
39	13	88	LYS
40	14	90	ASP
42	16	13	LYS
42	16	126	ARG
44	18	14	ALA
52	26	34	ARG
2	B	72	GLY
7	G	108	VAL
8	H	123	ILE
9	I	18	ASN
11	K	109	SER
14	N	116	VAL
15	O	90	VAL
15	O	101	GLY
35	9	36	ALA
36	10	68	ARG
36	10	132	PRO
37	11	98	GLU
45	19	2	LYS
46	20	26	VAL
46	20	48	ASP
49	23	21	ASP
1	A	617	PRO
2	B	267	VAL
8	H	78	GLY
36	10	133	ILE
1	A	714	ILE
33	7	123	GLY
2	B	125	PRO
8	H	54	VAL
8	H	108	VAL
10	J	26	GLY
14	N	101	GLY
27	1	55	GLY
35	9	27	ILE
42	16	73	VAL
33	7	155	GLY
41	15	77	VAL
43	17	62	VAL

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Mol	Chain	Res	Type
21	U	38	ILE
44	18	9	PRO
45	19	93	PRO
47	21	30	GLY

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	121/635 (19%)	120 (99%)	1 (1%)	73	77
2	B	216/218 (99%)	216 (100%)	0	100	100
3	C	164/164 (100%)	164 (100%)	0	100	100
4	D	165/165 (100%)	165 (100%)	0	100	100
5	E	148/150 (99%)	147 (99%)	1 (1%)	76	78
6	F	137/138 (99%)	136 (99%)	1 (1%)	76	78
7	G	114/114 (100%)	114 (100%)	0	100	100
8	H	100/123 (81%)	99 (99%)	1 (1%)	68	75
9	I	109/110 (99%)	108 (99%)	1 (1%)	70	75
10	J	116/116 (100%)	116 (100%)	0	100	100
11	K	103/104 (99%)	101 (98%)	2 (2%)	50	66
12	L	102/103 (99%)	101 (99%)	1 (1%)	68	75
13	M	109/109 (100%)	109 (100%)	0	100	100
14	N	100/103 (97%)	100 (100%)	0	100	100
15	O	86/87 (99%)	86 (100%)	0	100	100
16	P	99/100 (99%)	98 (99%)	1 (1%)	68	75
17	Q	89/90 (99%)	89 (100%)	0	100	100
18	R	84/84 (100%)	84 (100%)	0	100	100
19	S	93/93 (100%)	93 (100%)	0	100	100
20	T	80/84 (95%)	80 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	U	83/85 (98%)	82 (99%)	1 (1%)	63	72
22	V	78/78 (100%)	78 (100%)	0	100	100
23	W	57/63 (90%)	57 (100%)	0	100	100
24	X	67/68 (98%)	67 (100%)	0	100	100
25	Y	55/55 (100%)	55 (100%)	0	100	100
26	Z	48/49 (98%)	48 (100%)	0	100	100
27	1	59/62 (95%)	58 (98%)	1 (2%)	53	68
28	2	47/48 (98%)	47 (100%)	0	100	100
29	3	45/49 (92%)	45 (100%)	0	100	100
30	4	38/38 (100%)	37 (97%)	1 (3%)	40	60
31	5	51/52 (98%)	51 (100%)	0	100	100
32	6	34/34 (100%)	34 (100%)	0	100	100
33	7	180/199 (90%)	180 (100%)	0	100	100
34	8	170/190 (90%)	170 (100%)	0	100	100
35	9	172/173 (99%)	170 (99%)	2 (1%)	63	72
36	10	119/126 (94%)	119 (100%)	0	100	100
37	11	87/116 (75%)	86 (99%)	1 (1%)	65	74
38	12	124/147 (84%)	124 (100%)	0	100	100
39	13	104/105 (99%)	104 (100%)	0	100	100
40	14	105/107 (98%)	105 (100%)	0	100	100
41	15	86/90 (96%)	86 (100%)	0	100	100
42	16	89/99 (90%)	88 (99%)	1 (1%)	65	74
43	17	103/104 (99%)	103 (100%)	0	100	100
44	18	92/96 (96%)	92 (100%)	0	100	100
45	19	83/84 (99%)	83 (100%)	0	100	100
46	20	76/77 (99%)	76 (100%)	0	100	100
47	21	65/65 (100%)	65 (100%)	0	100	100
48	22	74/78 (95%)	74 (100%)	0	100	100
49	23	56/65 (86%)	56 (100%)	0	100	100
50	24	70/79 (89%)	70 (100%)	0	100	100
51	25	65/66 (98%)	65 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	26	55/61 (90%)	55 (100%)	0	100	100
All	All	4972/5698 (87%)	4956 (100%)	16 (0%)	84	85

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	683	ILE
5	E	174	PHE
6	F	117	PRO
8	H	3	LEU
9	I	27	LEU
11	K	58	LEU
11	K	104	THR
12	L	89	VAL
16	P	113	LEU
21	U	27	VAL
27	1	37	CYS
30	4	44	VAL
35	9	4	LEU
35	9	190	LEU
37	11	12	PRO
42	16	30	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (116) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	647	HIS
1	A	674	ASN
1	A	705	GLN
1	A	730	ASN
2	B	24	HIS
2	B	36	ASN
2	B	44	ASN
2	B	89	ASN
2	B	114	GLN
2	B	133	ASN
2	B	152	GLN
2	B	199	HIS
3	C	32	ASN
3	C	42	ASN
3	C	49	GLN

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Mol	Chain	Res	Type
3	C	130	GLN
3	C	150	GLN
3	C	185	ASN
4	D	29	HIS
4	D	90	GLN
4	D	136	GLN
4	D	165	HIS
5	E	51	ASN
6	F	44	HIS
6	F	63	GLN
6	F	103	ASN
6	F	114	HIS
6	F	138	GLN
7	G	43	ASN
7	G	66	ASN
7	G	119	ASN
8	H	4	ASN
8	H	9	GLN
8	H	122	GLN
9	I	33	ASN
10	J	58	ASN
10	J	136	GLN
12	L	54	GLN
13	M	3	GLN
13	M	22	GLN
14	N	9	GLN
14	N	81	ASN
14	N	107	ASN
15	O	19	GLN
15	O	100	HIS
16	P	2	ASN
16	P	11	GLN
16	P	114	ASN
17	Q	36	GLN
17	Q	43	GLN
17	Q	65	ASN
18	R	89	HIS
18	R	91	GLN
19	S	40	ASN
20	T	28	ASN
21	U	68	ASN
21	U	73	ASN

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Mol	Chain	Res	Type
23	W	72	ASN
24	X	15	ASN
24	X	16	ASN
24	X	19	HIS
25	Y	20	ASN
25	Y	39	GLN
25	Y	58	ASN
26	Z	8	GLN
27	1	61	ASN
28	2	4	GLN
28	2	5	ASN
28	2	41	HIS
30	4	29	GLN
32	6	35	GLN
33	7	14	HIS
33	7	41	ASN
33	7	177	ASN
33	7	189	ASN
34	8	24	ASN
35	9	73	ASN
35	9	115	GLN
36	10	11	GLN
36	10	42	ASN
36	10	134	ASN
37	11	3	HIS
37	11	11	HIS
37	11	55	HIS
38	12	27	ASN
38	12	121	ASN
40	14	30	ASN
40	14	36	GLN
40	14	109	GLN
40	14	125	GLN
41	15	58	ASN
42	16	80	ASN
42	16	118	ASN
43	17	4	ASN
43	17	28	GLN
43	17	45	ASN
43	17	76	HIS
43	17	95	HIS
44	18	7	ASN

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Mol	Chain	Res	Type
45	19	3	GLN
45	19	42	ASN
45	19	59	GLN
46	20	27	GLN
46	20	34	GLN
46	20	36	ASN
46	20	49	HIS
47	21	9	HIS
47	21	18	GLN
47	21	26	ASN
48	22	30	HIS
49	23	18	GLN
49	23	51	GLN
49	23	53	GLN
50	24	55	GLN
50	24	68	HIS
51	25	60	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
53	27	1538/1539 (99%)	171 (11%)	7 (0%)
54	28	2902/2903 (99%)	387 (13%)	20 (0%)
55	29	119/120 (99%)	12 (10%)	3 (2%)
56	30	17/18 (94%)	3 (17%)	0
57	31	76/77 (98%)	5 (6%)	0
58	32	76/77 (98%)	17 (22%)	0
All	All	4728/4734 (99%)	595 (12%)	30 (0%)

All (595) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
53	27	4	U
53	27	6	G
53	27	9	G
53	27	13	U
53	27	22	G
53	27	32	A
53	27	39	G
53	27	48	C
53	27	51	A

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Mol	Chain	Res	Type
53	27	71	A
53	27	85	U
53	27	86	G
53	27	87	C
53	27	95	C
53	27	121	U
53	27	130	A
53	27	141	G
53	27	144	G
53	27	168	G
53	27	174	A
53	27	183	C
53	27	184	G
53	27	197	A
53	27	209	U
53	27	210	C
53	27	211	G
53	27	212	G
53	27	226	G
53	27	240	G
53	27	247	G
53	27	251	G
53	27	266	G
53	27	267	C
53	27	279	A
53	27	281	G
53	27	289	G
53	27	306	A
53	27	328	C
53	27	345	C
53	27	346	G
53	27	352	C
53	27	367	U
53	27	372	C
53	27	373	A
53	27	392	C
53	27	411	A
53	27	412	A
53	27	413	G
53	27	422	C
53	27	429	U
53	27	430	A

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Mol	Chain	Res	Type
53	27	462	G
53	27	467	U
53	27	468	A
53	27	479	U
53	27	484	G
53	27	485	U
53	27	486	U
53	27	497	G
53	27	510	A
53	27	511	C
53	27	518	C
53	27	527	G
53	27	531	U
53	27	532	A
53	27	533	A
53	27	547	A
53	27	561	U
53	27	572	A
53	27	573	A
53	27	575	G
53	27	576	C
53	27	577	G
53	27	633	G
53	27	642	A
53	27	665	A
53	27	688	G
53	27	703	G
53	27	723	U
53	27	724	G
53	27	748	G
53	27	755	G
53	27	777	A
53	27	794	A
53	27	814	A
53	27	815	A
53	27	817	C
53	27	819	A
53	27	821	G
53	27	836	G
53	27	842	U
53	27	843	U
53	27	844	G

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Mol	Chain	Res	Type
53	27	846	G
53	27	902	G
53	27	926	G
53	27	934	C
53	27	935	A
53	27	960	U
53	27	961	U
53	27	966	G
53	27	969	A
53	27	971	G
53	27	975	A
53	27	976	G
53	27	977	A
53	27	992	U
53	27	993	G
53	27	1004	A
53	27	1026	G
53	27	1029	U
53	27	1030	U
53	27	1031	C
53	27	1033	G
53	27	1034	G
53	27	1036	A
53	27	1053	G
53	27	1085	U
53	27	1094	G
53	27	1101	A
53	27	1130	A
53	27	1132	C
53	27	1136	C
53	27	1137	C
53	27	1138	G
53	27	1139	G
53	27	1159	U
53	27	1160	G
53	27	1168	U
53	27	1183	U
53	27	1184	G
53	27	1196	A
53	27	1197	A
53	27	1201	A
53	27	1202	U

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Mol	Chain	Res	Type
53	27	1212	U
53	27	1225	A
53	27	1238	A
53	27	1241	G
53	27	1258	G
53	27	1260	G
53	27	1275	A
53	27	1278	G
53	27	1280	A
53	27	1286	U
53	27	1287	A
53	27	1300	G
53	27	1317	C
53	27	1320	C
53	27	1336	C
53	27	1346	A
53	27	1363	A
53	27	1379	G
53	27	1395	C
53	27	1400	C
53	27	1419	G
53	27	1432	G
53	27	1441	A
53	27	1446	A
53	27	1448	C
53	27	1452	C
53	27	1492	A
53	27	1497	G
53	27	1503	A
53	27	1506	U
53	27	1517	G
53	27	1519	A
53	27	1529	G
53	27	1530	G
53	27	1533	C
53	27	1534	A
54	28	10	A
54	28	12	U
54	28	34	U
54	28	35	G
54	28	46	G
54	28	49	A

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Mol	Chain	Res	Type
54	28	51	G
54	28	63	A
54	28	71	A
54	28	74	A
54	28	75	G
54	28	91	A
54	28	92	U
54	28	98	G
54	28	114	U
54	28	119	A
54	28	120	U
54	28	138	U
54	28	139	U
54	28	140	C
54	28	141	G
54	28	142	A
54	28	162	U
54	28	163	C
54	28	181	A
54	28	196	A
54	28	216	A
54	28	219	A
54	28	221	A
54	28	222	A
54	28	224	U
54	28	229	C
54	28	242	G
54	28	243	U
54	28	248	G
54	28	249	C
54	28	255	A
54	28	266	G
54	28	276	U
54	28	281	C
54	28	285	G
54	28	294	A
54	28	301	G
54	28	311	A
54	28	323	C
54	28	324	A
54	28	329	G
54	28	330	A

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Mol	Chain	Res	Type
54	28	353	C
54	28	361	G
54	28	371	A
54	28	372	G
54	28	386	G
54	28	387	U
54	28	391	A
54	28	404	A
54	28	406	G
54	28	411	G
54	28	422	A
54	28	424	G
54	28	451	U
54	28	455	C
54	28	456	C
54	28	457	A
54	28	458	G
54	28	467	G
54	28	479	A
54	28	481	G
54	28	491	G
54	28	504	A
54	28	505	A
54	28	506	G
54	28	508	A
54	28	529	A
54	28	531	C
54	28	532	A
54	28	542	C
54	28	543	G
54	28	545	U
54	28	547	A
54	28	562	U
54	28	563	A
54	28	573	U
54	28	575	A
54	28	588	U
54	28	592	A
54	28	603	A
54	28	614	A
54	28	616	A
54	28	627	A

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Mol	Chain	Res	Type
54	28	637	A
54	28	646	U
54	28	654	A
54	28	656	G
54	28	668	A
54	28	669	G
54	28	686	U
54	28	687	C
54	28	695	G
54	28	711	G
54	28	714	U
54	28	730	A
54	28	747	C
54	28	752	A
54	28	764	A
54	28	776	G
54	28	782	A
54	28	784	G
54	28	785	G
54	28	800	A
54	28	805	G
54	28	812	C
54	28	819	A
54	28	822	G
54	28	827	U
54	28	828	U
54	28	830	G
54	28	845	A
54	28	846	U
54	28	847	U
54	28	858	G
54	28	859	G
54	28	860	U
54	28	878	A
54	28	896	A
54	28	897	C
54	28	910	A
54	28	915	C
54	28	932	U
54	28	941	A
54	28	946	C
54	28	953	G

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Mol	Chain	Res	Type
54	28	961	C
54	28	974	G
54	28	983	A
54	28	995	C
54	28	996	A
54	28	1012	U
54	28	1013	C
54	28	1021	A
54	28	1022	G
54	28	1026	G
54	28	1033	U
54	28	1045	C
54	28	1046	A
54	28	1053	C
54	28	1060	U
54	28	1062	G
54	28	1070	A
54	28	1071	G
54	28	1083	U
54	28	1088	A
54	28	1090	A
54	28	1097	U
54	28	1111	A
54	28	1131	G
54	28	1132	U
54	28	1135	C
54	28	1143	A
54	28	1157	G
54	28	1174	U
54	28	1177	G
54	28	1178	C
54	28	1180	U
54	28	1211	C
54	28	1212	G
54	28	1248	G
54	28	1250	G
54	28	1251	C
54	28	1253	A
54	28	1256	G
54	28	1271	G
54	28	1272	A
54	28	1294	U

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Mol	Chain	Res	Type
54	28	1301	A
54	28	1302	A
54	28	1321	A
54	28	1329	U
54	28	1330	C
54	28	1332	G
54	28	1345	C
54	28	1365	A
54	28	1378	A
54	28	1379	U
54	28	1383	A
54	28	1395	A
54	28	1416	G
54	28	1419	A
54	28	1420	A
54	28	1428	C
54	28	1461	C
54	28	1482	G
54	28	1490	A
54	28	1491	G
54	28	1504	A
54	28	1515	A
54	28	1524	G
54	28	1533	C
54	28	1535	A
54	28	1536	C
54	28	1555	G
54	28	1560	G
54	28	1569	A
54	28	1578	U
54	28	1581	G
54	28	1584	U
54	28	1585	C
54	28	1608	A
54	28	1611	C
54	28	1616	A
54	28	1627	G
54	28	1647	U
54	28	1648	U
54	28	1660	G
54	28	1674	G
54	28	1703	G

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Mol	Chain	Res	Type
54	28	1715	G
54	28	1729	U
54	28	1730	C
54	28	1731	G
54	28	1732	C
54	28	1738	G
54	28	1757	A
54	28	1758	U
54	28	1764	C
54	28	1773	A
54	28	1780	A
54	28	1791	A
54	28	1800	C
54	28	1801	A
54	28	1808	A
54	28	1816	C
54	28	1829	A
54	28	1833	C
54	28	1847	G
54	28	1858	A
54	28	1871	A
54	28	1896	G
54	28	1901	A
54	28	1906	G
54	28	1907	G
54	28	1913	A
54	28	1914	C
54	28	1929	G
54	28	1930	G
54	28	1931	U
54	28	1937	A
54	28	1938	A
54	28	1940	U
54	28	1955	U
54	28	1963	U
54	28	1967	C
54	28	1970	A
54	28	1971	U
54	28	1972	G
54	28	1982	U
54	28	1991	U
54	28	1992	G

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Mol	Chain	Res	Type
54	28	1993	U
54	28	1997	C
54	28	2022	U
54	28	2023	C
54	28	2031	A
54	28	2034	U
54	28	2036	C
54	28	2043	C
54	28	2052	A
54	28	2055	C
54	28	2056	G
54	28	2060	A
54	28	2061	G
54	28	2063	C
54	28	2069	G
54	28	2072	C
54	28	2093	G
54	28	2096	C
54	28	2110	G
54	28	2111	U
54	28	2118	U
54	28	2119	A
54	28	2127	G
54	28	2131	U
54	28	2132	U
54	28	2133	G
54	28	2145	C
54	28	2146	C
54	28	2158	A
54	28	2159	G
54	28	2161	C
54	28	2162	G
54	28	2170	A
54	28	2171	A
54	28	2172	U
54	28	2173	A
54	28	2189	U
54	28	2198	A
54	28	2204	G
54	28	2211	A
54	28	2225	A
54	28	2238	G

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Mol	Chain	Res	Type
54	28	2239	G
54	28	2250	G
54	28	2268	A
54	28	2278	A
54	28	2283	C
54	28	2287	A
54	28	2297	A
54	28	2305	U
54	28	2309	A
54	28	2325	G
54	28	2327	A
54	28	2334	U
54	28	2344	U
54	28	2350	C
54	28	2382	G
54	28	2383	G
54	28	2385	C
54	28	2392	A
54	28	2402	U
54	28	2406	A
54	28	2407	A
54	28	2423	U
54	28	2424	C
54	28	2427	C
54	28	2429	G
54	28	2430	A
54	28	2431	U
54	28	2435	A
54	28	2441	U
54	28	2445	G
54	28	2448	A
54	28	2459	A
54	28	2476	A
54	28	2482	A
54	28	2494	G
54	28	2498	C
54	28	2502	G
54	28	2503	A
54	28	2504	U
54	28	2505	G
54	28	2518	A
54	28	2520	C

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Mol	Chain	Res	Type
54	28	2525	G
54	28	2547	A
54	28	2549	G
54	28	2554	U
54	28	2562	U
54	28	2567	G
54	28	2572	A
54	28	2582	G
54	28	2585	U
54	28	2586	U
54	28	2602	A
54	28	2603	G
54	28	2609	U
54	28	2613	U
54	28	2630	G
54	28	2636	C
54	28	2655	G
54	28	2682	A
54	28	2689	U
54	28	2690	U
54	28	2714	G
54	28	2744	G
54	28	2748	A
54	28	2751	G
54	28	2757	A
54	28	2764	A
54	28	2765	A
54	28	2778	A
54	28	2779	U
54	28	2791	G
54	28	2794	C
54	28	2797	U
54	28	2799	A
54	28	2800	A
54	28	2809	A
54	28	2818	U
54	28	2820	A
54	28	2821	A
54	28	2833	U
54	28	2867	G
54	28	2868	A
54	28	2872	A

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Mol	Chain	Res	Type
54	28	2880	C
54	28	2891	U
54	28	2902	C
55	29	4	C
55	29	9	G
55	29	12	C
55	29	13	G
55	29	24	G
55	29	35	C
55	29	44	G
55	29	67	G
55	29	89	U
55	29	90	C
55	29	108	A
55	29	109	A
56	30	8	A
56	30	12	A
56	30	19	U
57	31	9	G
57	31	19	G
57	31	47	U
57	31	48	C
57	31	76	A
58	32	2	G
58	32	8	U
58	32	9	G
58	32	14	A
58	32	19	G
58	32	21	A
58	32	22	G
58	32	25	C
58	32	30	G
58	32	34	C
58	32	35	A
58	32	46	A
58	32	61	C
58	32	69	C
58	32	70	G
58	32	71	C
58	32	73	A

All (30) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
53	27	85	U
53	27	246	A
53	27	280	C
53	27	429	U
53	27	960	U
53	27	1182	G
53	27	1399	C
54	28	242	G
54	28	421	C
54	28	490	C
54	28	858	G
54	28	859	G
54	28	1020	A
54	28	1130	U
54	28	1378	A
54	28	1490	A
54	28	1626	A
54	28	1730	C
54	28	1857	G
54	28	1930	G
54	28	2286	G
54	28	2296	U
54	28	2326	C
54	28	2391	G
54	28	2566	A
54	28	2756	U
54	28	2808	G
55	29	44	G
55	29	66	A
55	29	88	C

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](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

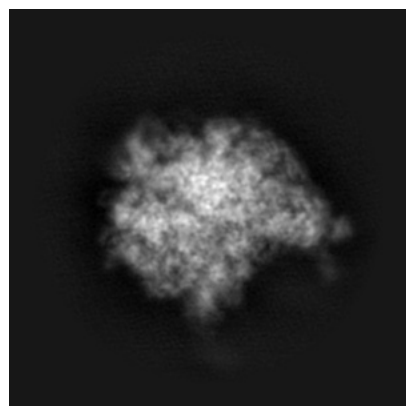
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-8279. These allow visual inspection of the internal detail of the map and identification of artifacts.

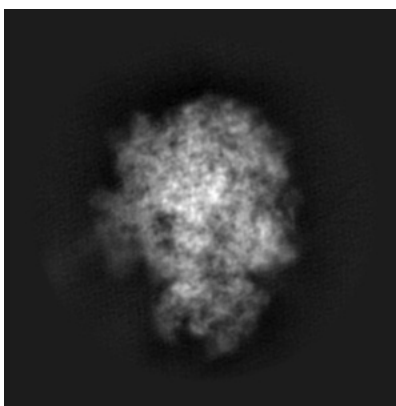
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

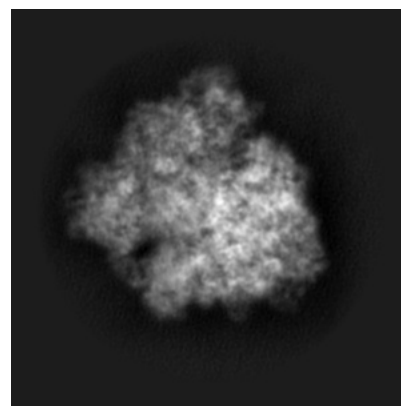
6.1.1 Primary map



X

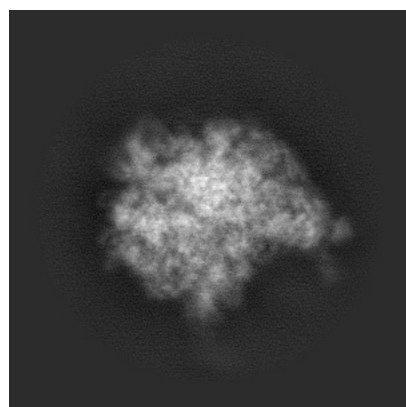


Y

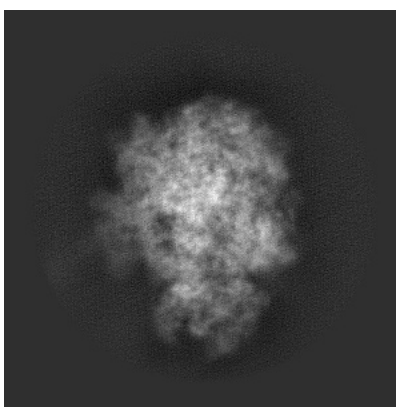


Z

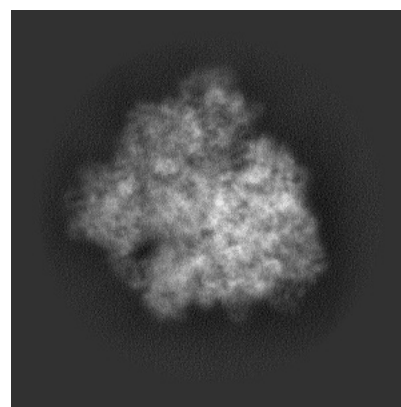
6.1.2 Raw map



X



Y

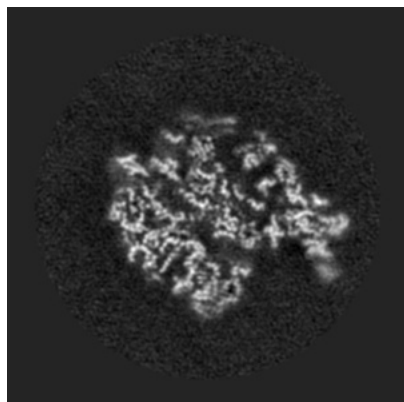


Z

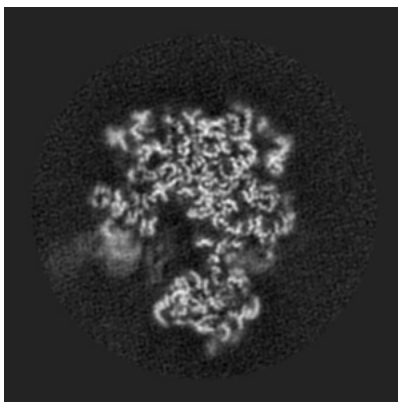
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

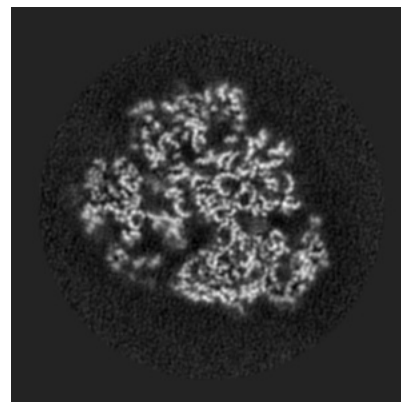
6.2.1 Primary map



X Index: 240

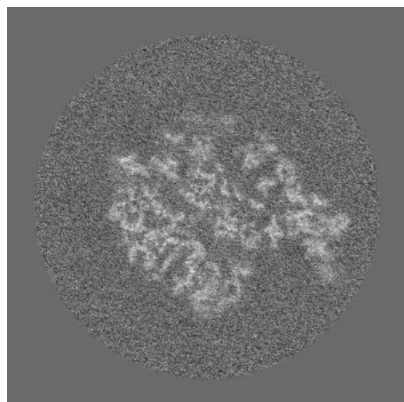


Y Index: 240

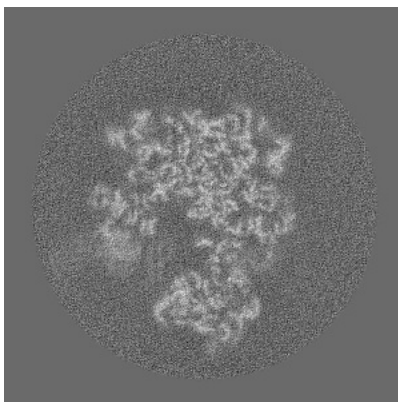


Z Index: 240

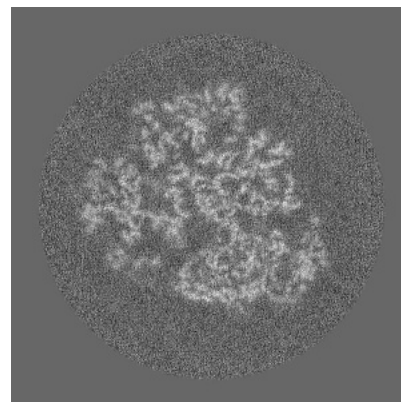
6.2.2 Raw map



X Index: 240



Y Index: 240

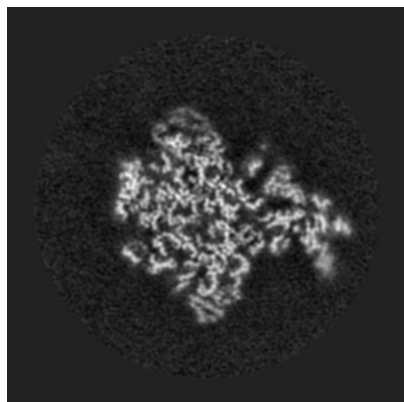


Z Index: 240

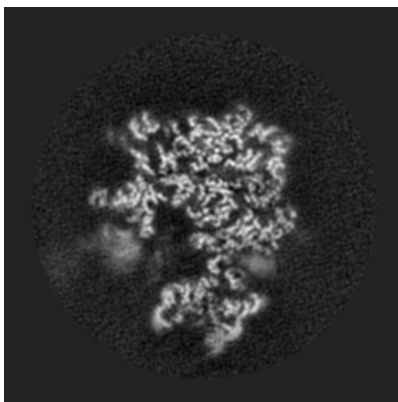
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

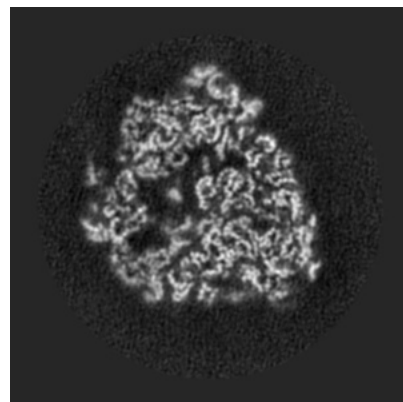
6.3.1 Primary map



X Index: 249

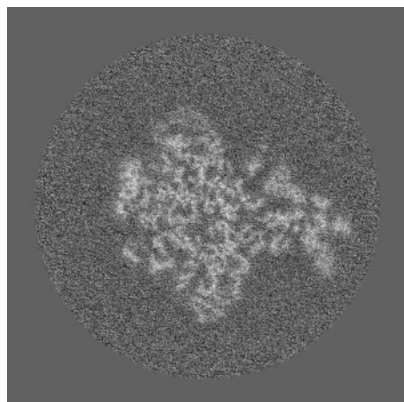


Y Index: 247

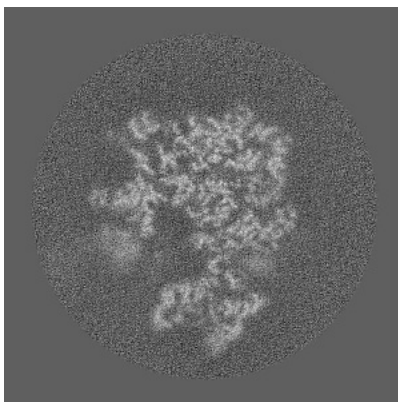


Z Index: 225

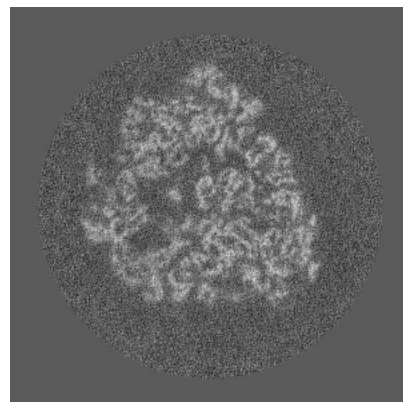
6.3.2 Raw map



X Index: 249



Y Index: 247

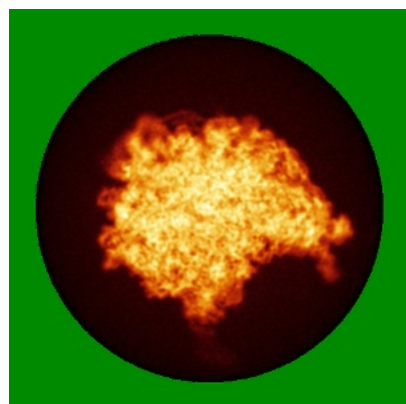


Z Index: 225

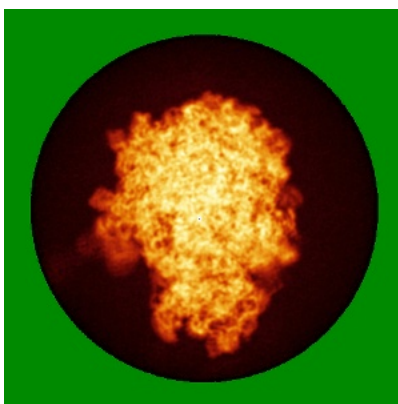
The images above show the largest variance slices of the map in three orthogonal directions.

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

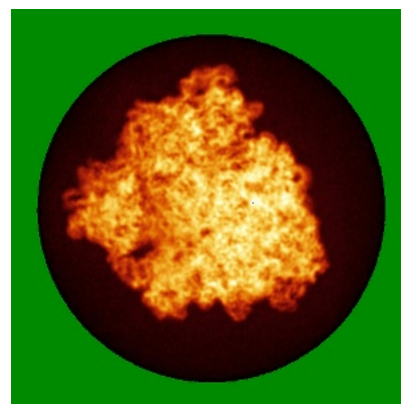
6.4.1 Primary map



X

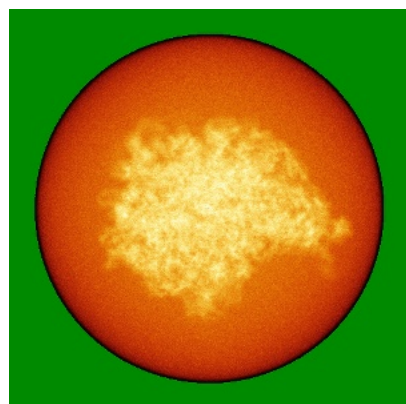


Y

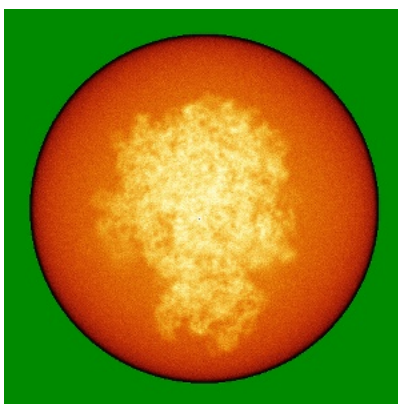


Z

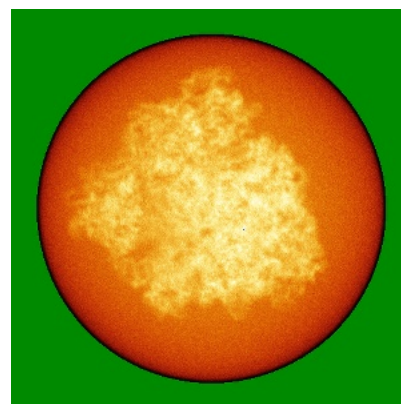
6.4.2 Raw map



X



Y



Z

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

6.5 Orthogonal surface views [i](#)

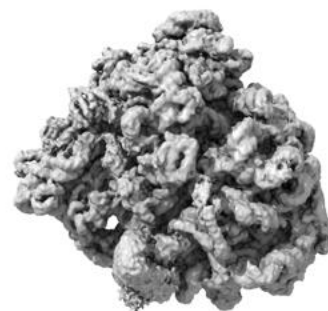
6.5.1 Primary map



X



Y



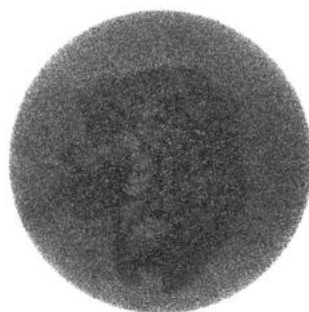
Z

The images above show the 3D surface view of the map at the recommended contour level 0.08. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X



Y



Z

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

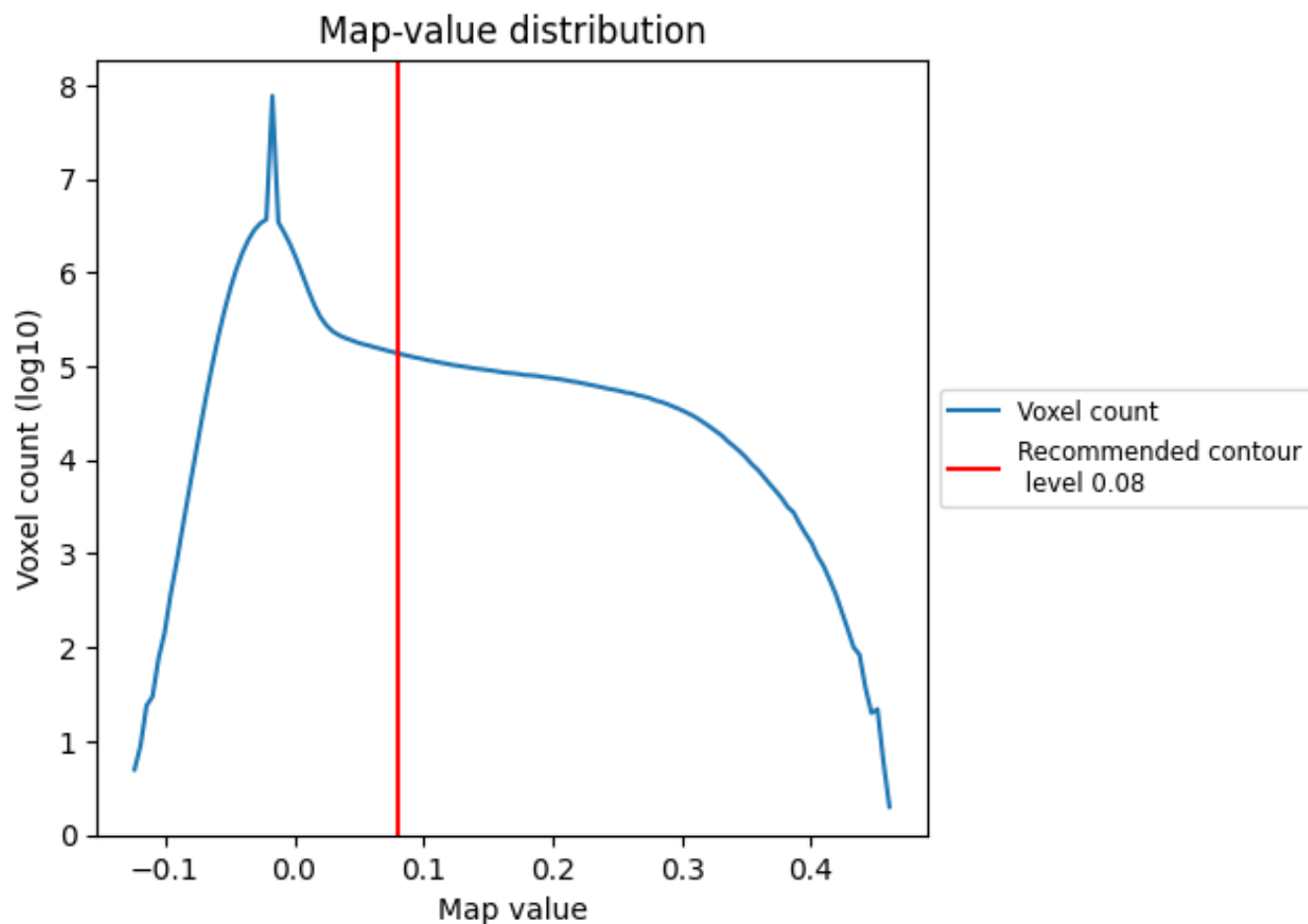
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

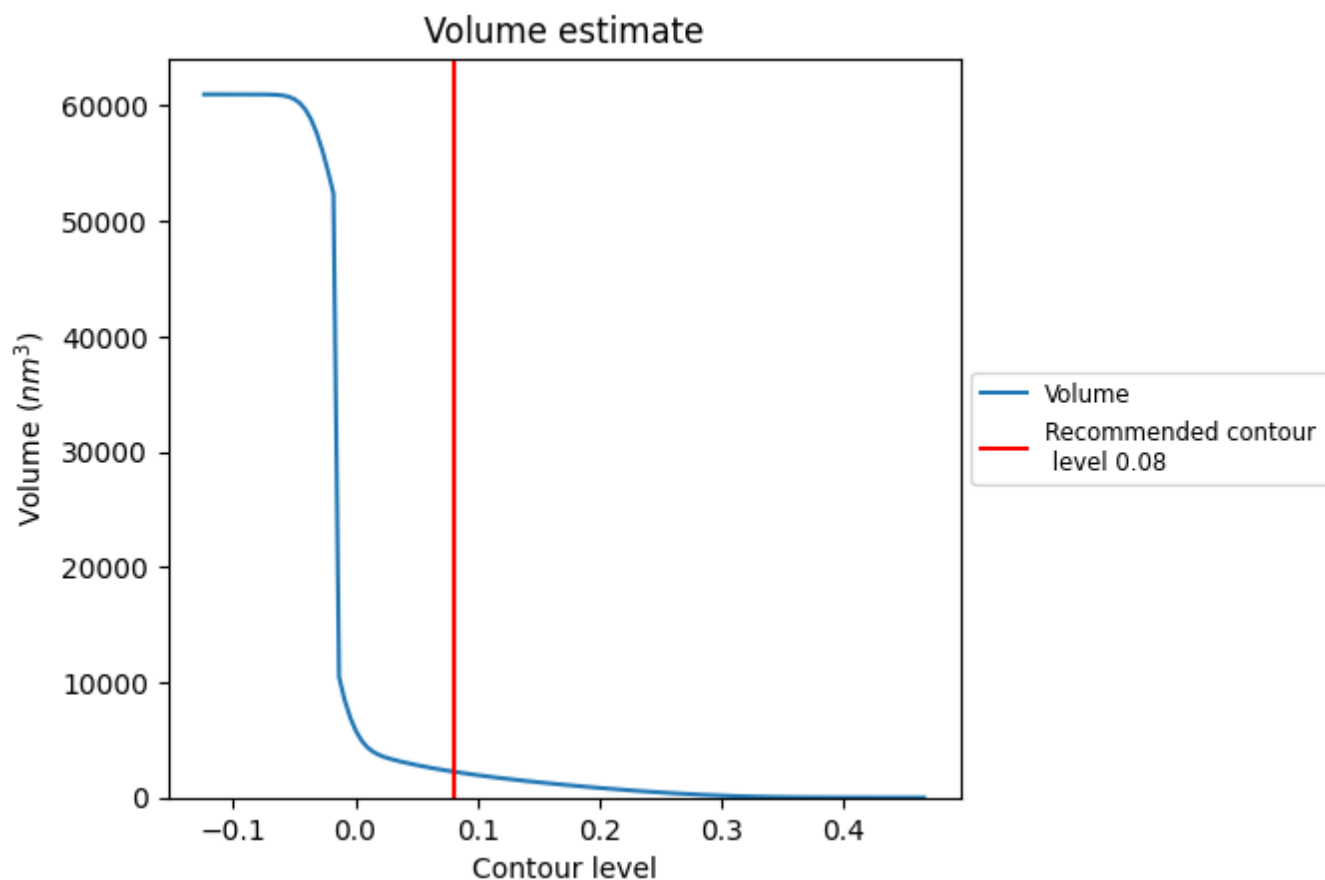
This section contains the results of statistical analysis of the map.

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.

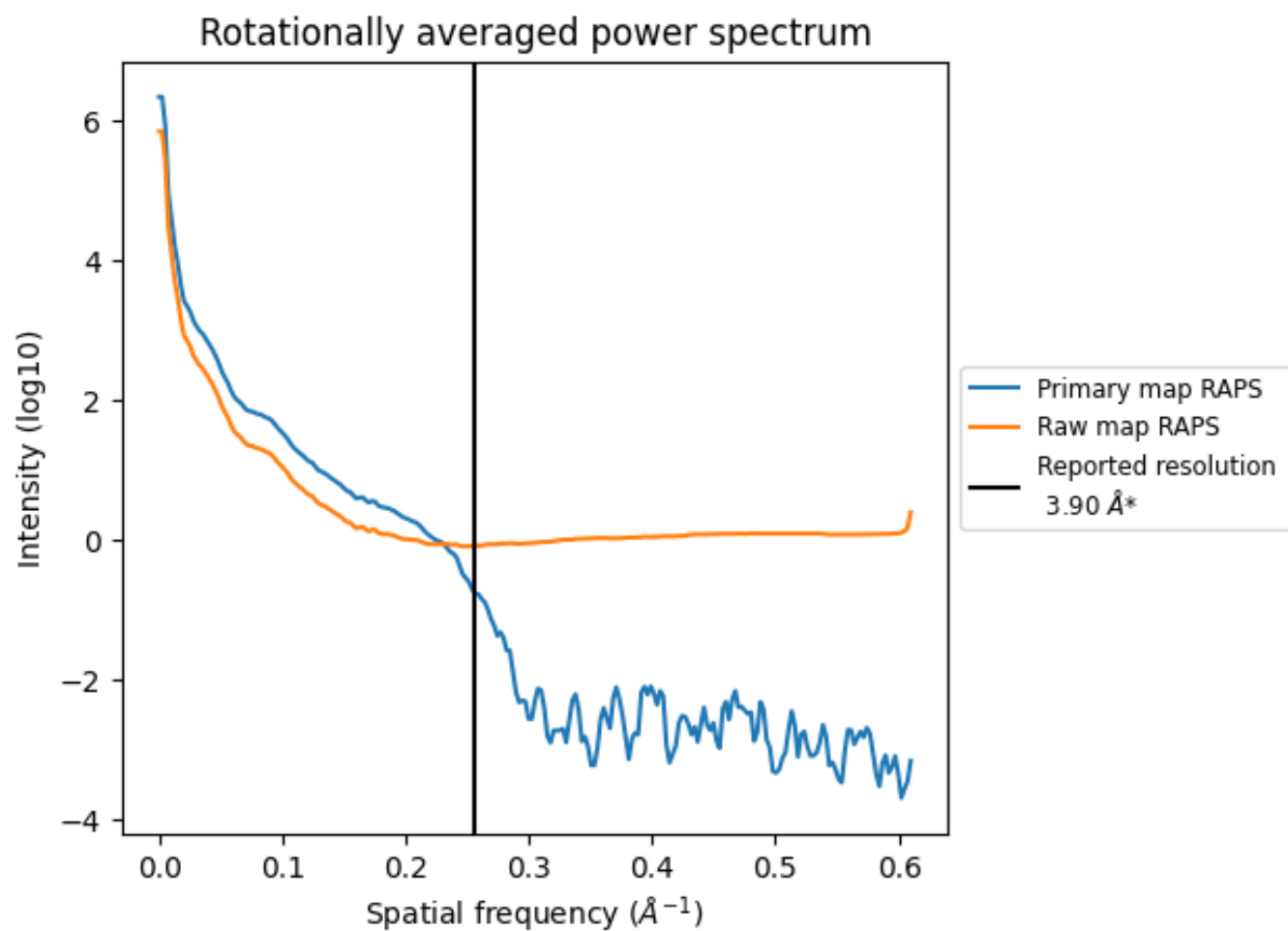
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2253 nm³; this corresponds to an approximate mass of 2035 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

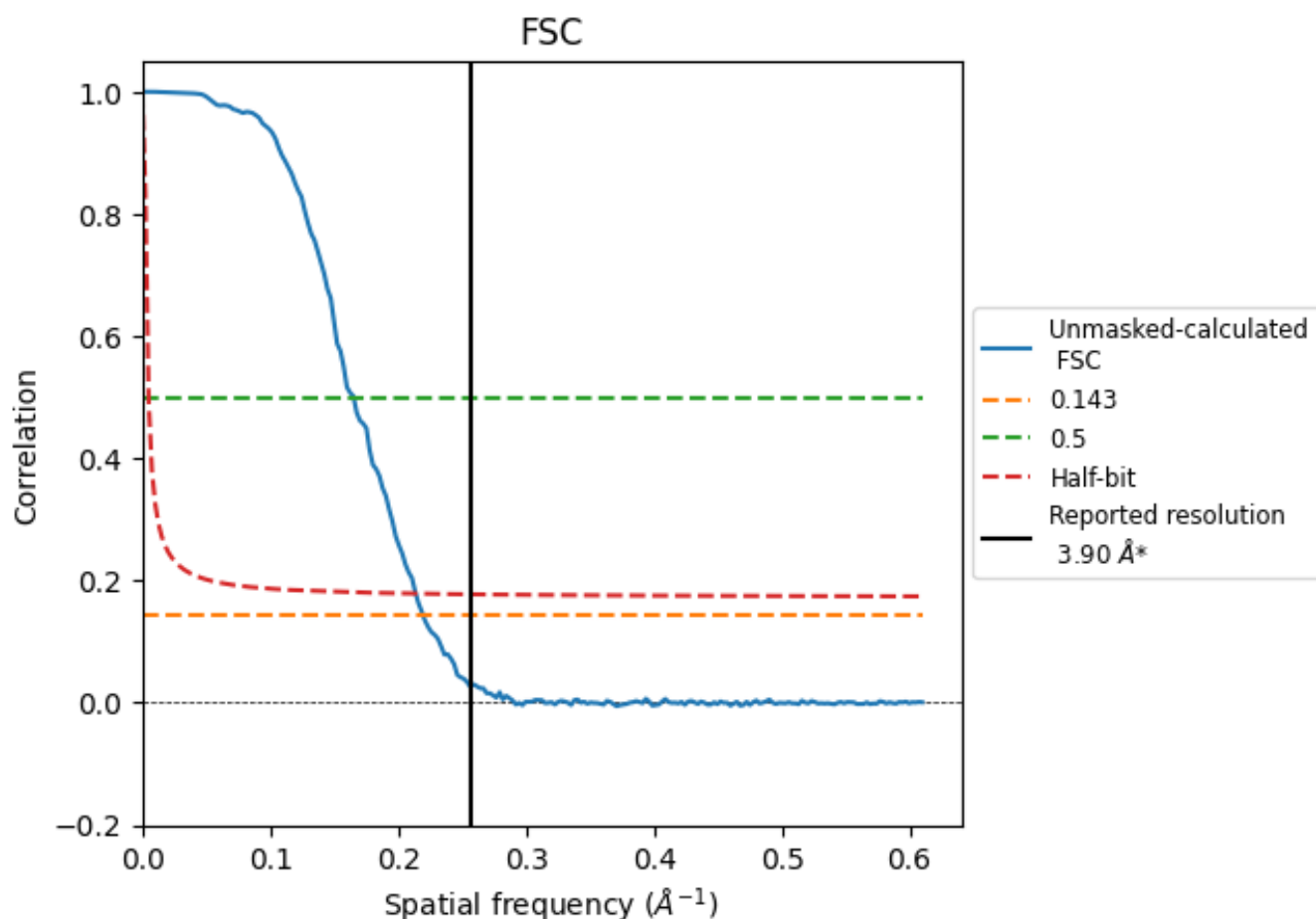


*Reported resolution corresponds to spatial frequency of 0.256 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.256 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

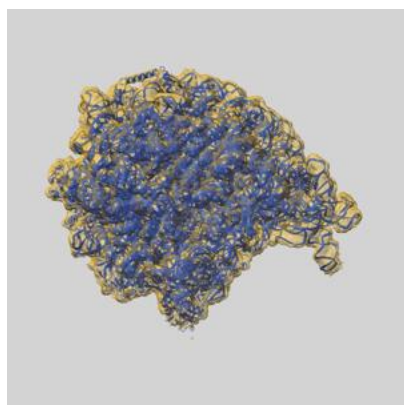
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.90	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.55	6.05	4.68

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.55 differs from the reported value 3.9 by more than 10 %

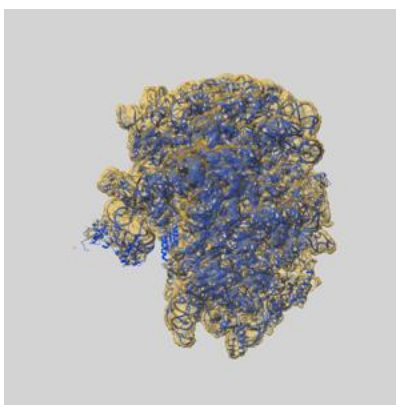
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-8279 and PDB model 5KPS. Per-residue inclusion information can be found in [section 3](#) on [page 15](#).

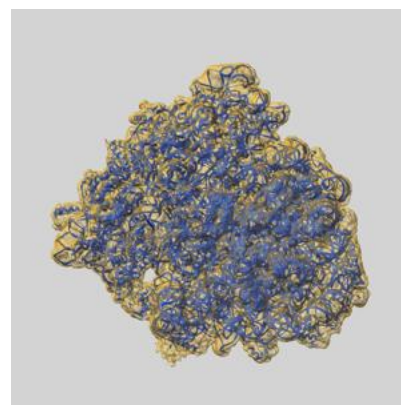
9.1 Map-model overlay [i](#)



X



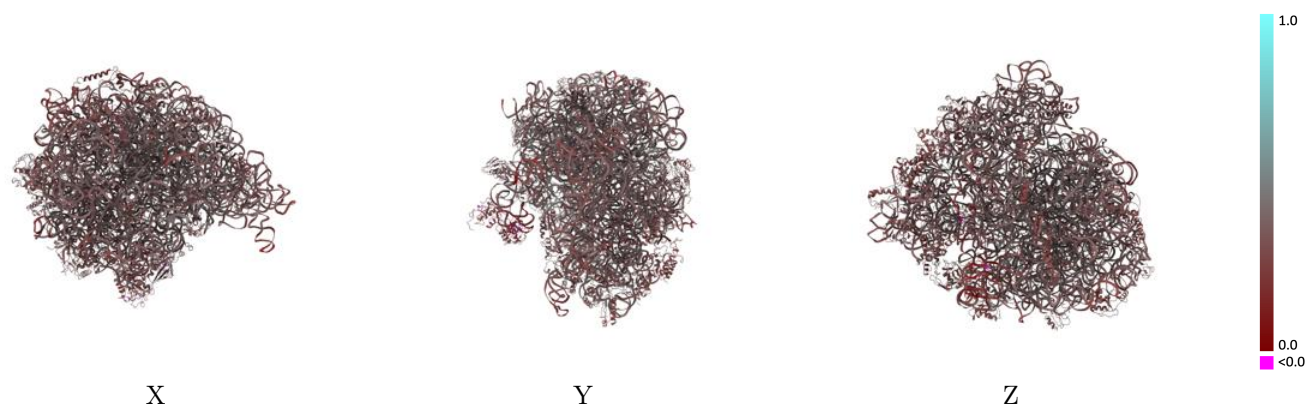
Y



Z

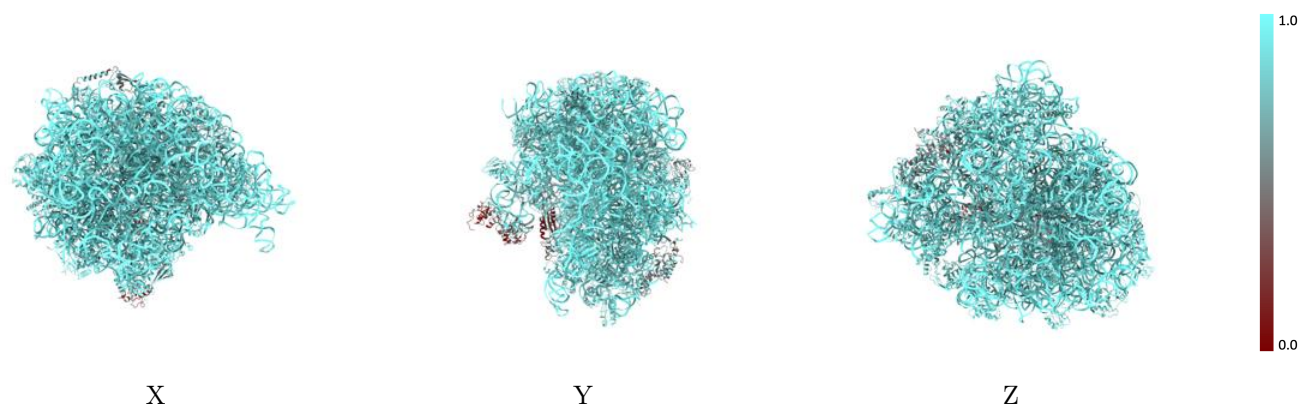
The images above show the 3D surface view of the map at the recommended contour level 0.08 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



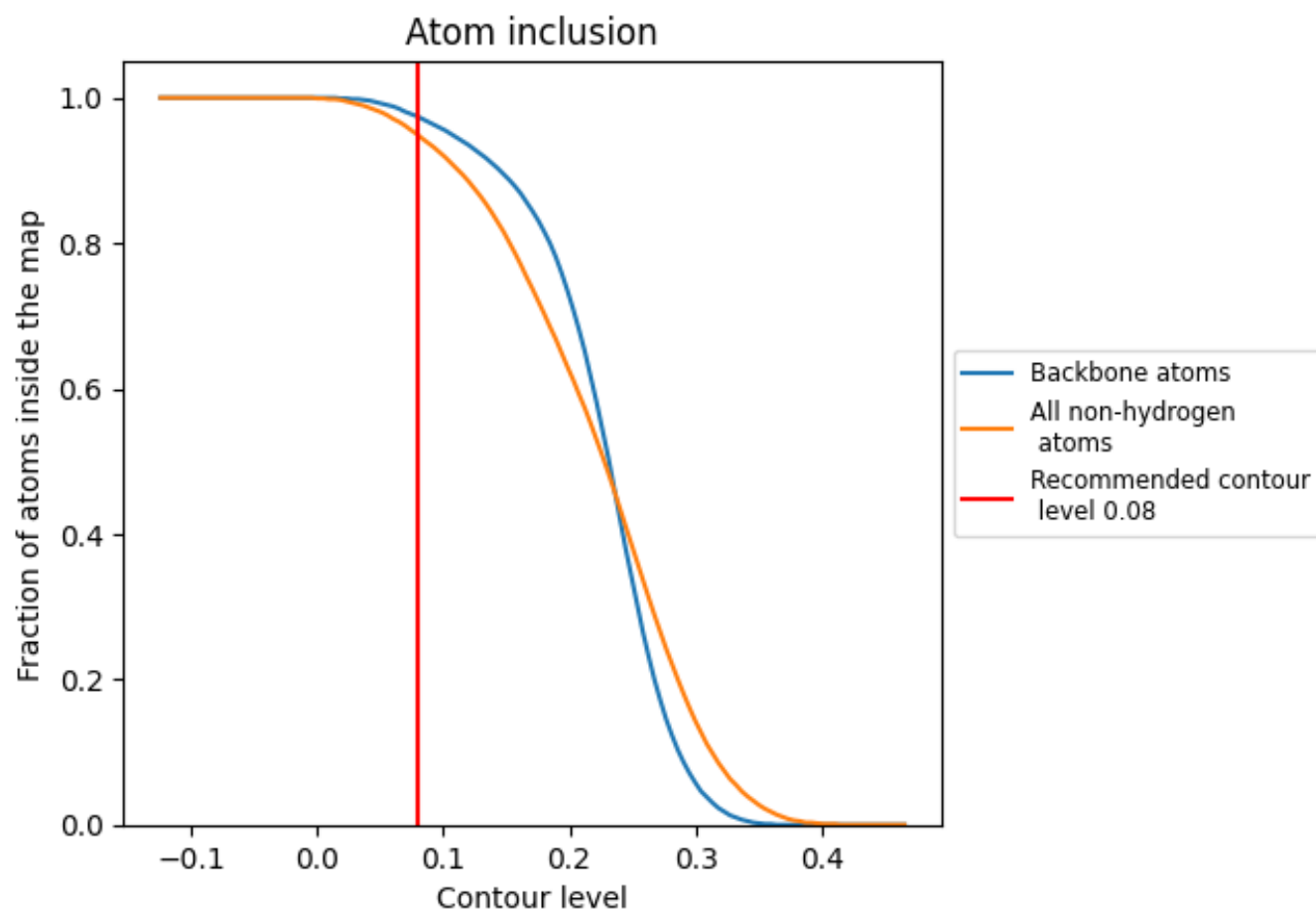
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.08).

9.4 Atom inclusion [i](#)



At the recommended contour level, 97% of all backbone atoms, 95% 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 (0.08) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9490	 0.3570
1	 0.9200	 0.3200
10	 0.9010	 0.3680
11	 0.9200	 0.3430
12	 0.8990	 0.3220
13	 0.9060	 0.3600
14	 0.9260	 0.3390
15	 0.8370	 0.3340
16	 0.9290	 0.3590
17	 0.8690	 0.3670
18	 0.9200	 0.3290
19	 0.8990	 0.3330
2	 0.9210	 0.3770
20	 0.9290	 0.3340
21	 0.9310	 0.3600
22	 0.9210	 0.3640
23	 0.9510	 0.3520
24	 0.9110	 0.3380
25	 0.9170	 0.3250
26	 0.8120	 0.2830
27	 0.9960	 0.3650
28	 0.9950	 0.3670
29	 0.9990	 0.3590
3	 0.8900	 0.3700
30	 0.8810	 0.2920
31	 0.9850	 0.3510
32	 0.9410	 0.2110
4	 0.9270	 0.3570
5	 0.9180	 0.3880
6	 0.9280	 0.3710
7	 0.5330	 0.3050
8	 0.8520	 0.3600
9	 0.8910	 0.3310
A	 0.2630	 0.2840
B	 0.9170	 0.3940



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Chain	Atom inclusion	Q-score
C	 0.9230	 0.3900
D	 0.8760	 0.3400
E	 0.9200	 0.3370
F	 0.9340	 0.3620
G	 0.6670	 0.2960
H	 0.3170	 0.2070
I	 0.4130	 0.1980
J	 0.9080	 0.3640
K	 0.8890	 0.3910
L	 0.9230	 0.3730
M	 0.8910	 0.3850
N	 0.9250	 0.3650
O	 0.9430	 0.3470
P	 0.9130	 0.3900
Q	 0.9330	 0.3400
R	 0.9220	 0.3770
S	 0.8680	 0.3690
T	 0.9070	 0.3700
U	 0.9170	 0.3600
V	 0.9250	 0.3560
W	 0.9190	 0.3920
X	 0.9150	 0.3690
Y	 0.9010	 0.2940
Z	 0.8970	 0.3590