



## wwPDB EM Map/Model Validation Report ⓘ

Sep 20, 2016 – 06:32 PM EDT

PDB ID : 5KPS  
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 wwPDB EM Map/Model Validation Report for a publicly released PDB/EMDB entry.  
For rigid body fitted models, validation errors reported here could stem from errors in the original structure(s) used in the fitting.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at  
<http://wwpdb.org/validation/2016/EMValidationReportHelp>

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MolProbity : 4.02b-467  
Mogul : unknown  
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : rb-20027939

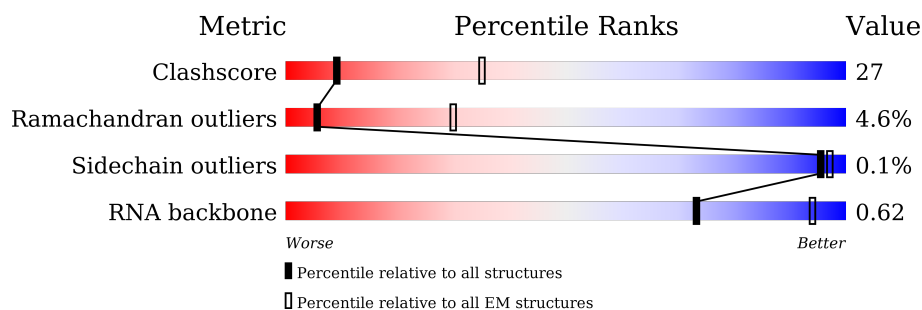
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.90 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.










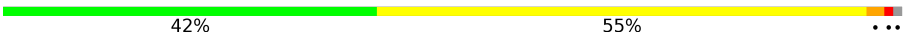

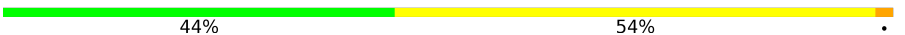
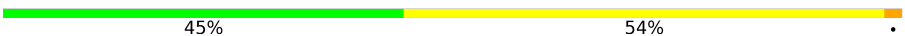
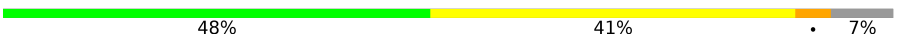
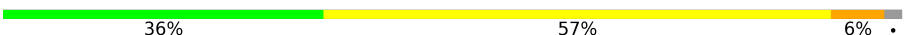












Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	114402	924
Ramachandran outliers	111179	726
Sidechain outliers	111093	686
RNA backbone	3027	244

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. 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  $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	A	750	7% 11% . 81%
2	B	273	47% 51% ..
3	C	209	54% 43% .
4	D	201	43% 52% .
5	E	179	40% 56% ..
6	F	177	41% 58% ..
7	G	149	38% 58% .
8	H	165	30% 42% 7% 21%




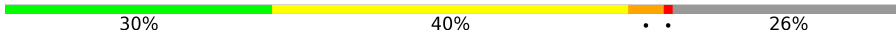
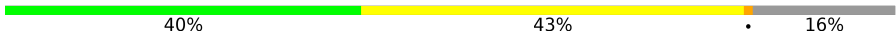

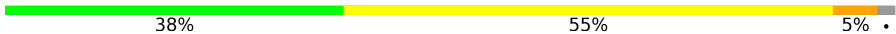
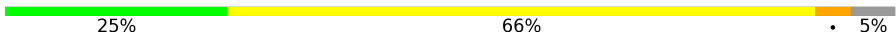
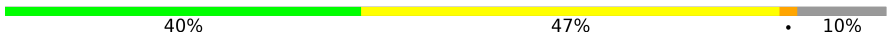
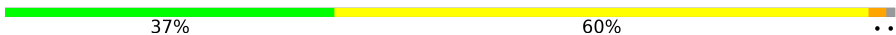
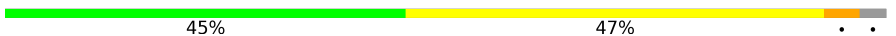
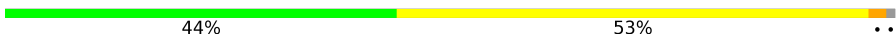
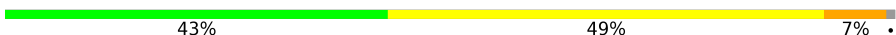
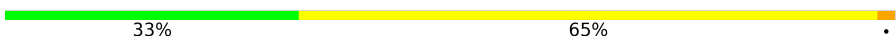










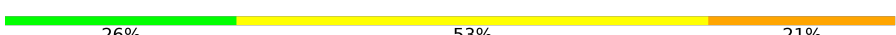
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Mol	Chain	Length	Quality of chain
9	I	142	
10	J	142	
11	K	123	
12	L	144	
13	M	136	
14	N	127	
15	O	117	
16	P	115	
17	Q	118	
18	R	103	
19	S	110	
20	T	100	
21	U	104	
22	V	94	
23	W	85	
24	X	78	
25	Y	63	
26	Z	59	
27	1	70	
28	2	57	
29	3	55	
30	4	46	
31	5	65	
32	6	38	
33	7	241	

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Mol	Chain	Length	Quality of chain
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	
54	28	2903	
55	29	120	
56	30	18	
57	31	77	
58	32	77	

## 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	S	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<sup>f</sup>met.

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<sup>f</sup>Met.

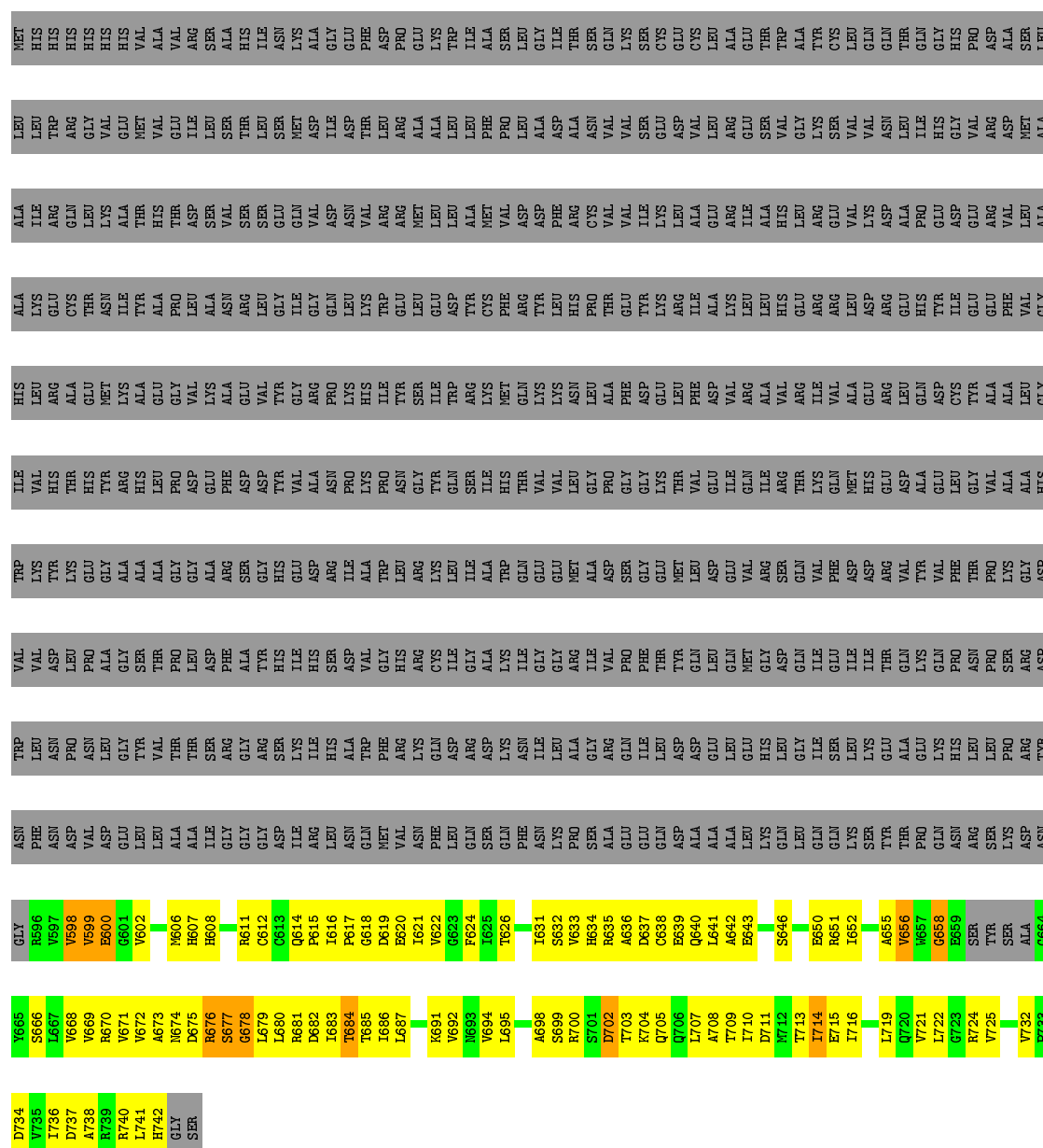
Mol	Chain	Residues	Atoms					AltConf	Trace
58	32	77	Total	C	N	O	P	0	0
			1643	732	297	537	77		

### 3 Residue-property plots

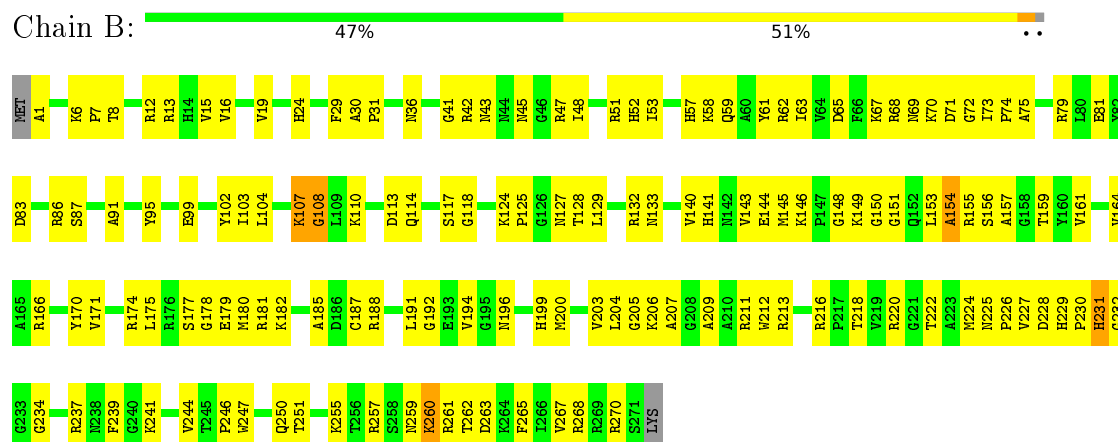
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: GTP pyrophosphokinase

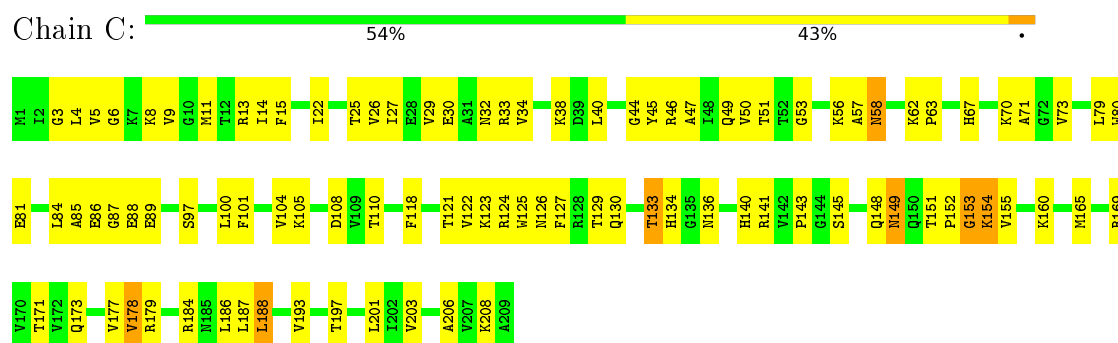
Chain A:  7% 11% 81%



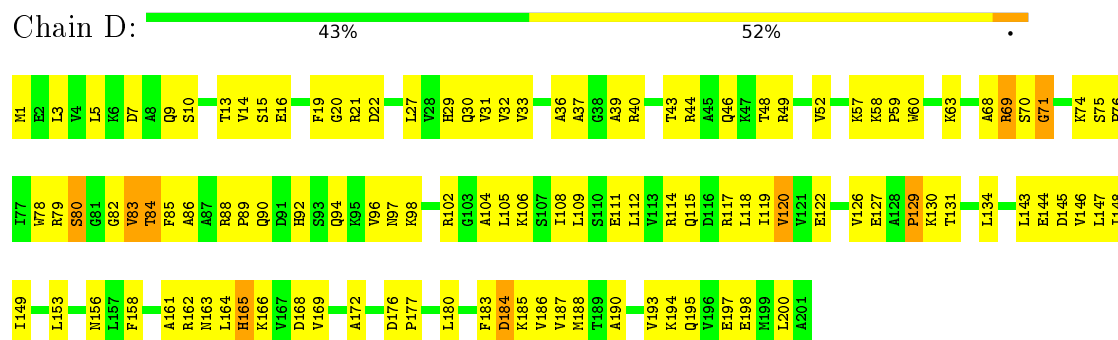
- Molecule 2: 50S ribosomal protein L2



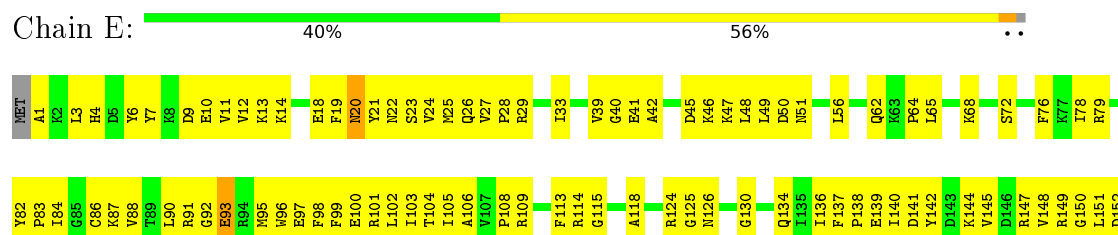
- Molecule 3: 50S ribosomal protein L3



- Molecule 4: 50S ribosomal protein L4



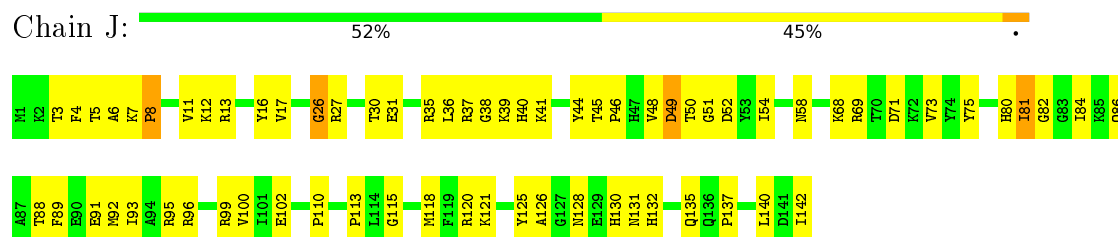
- Molecule 5: 50S ribosomal protein L5



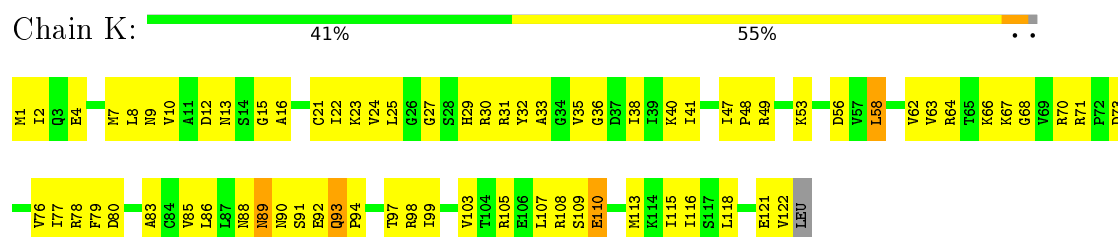




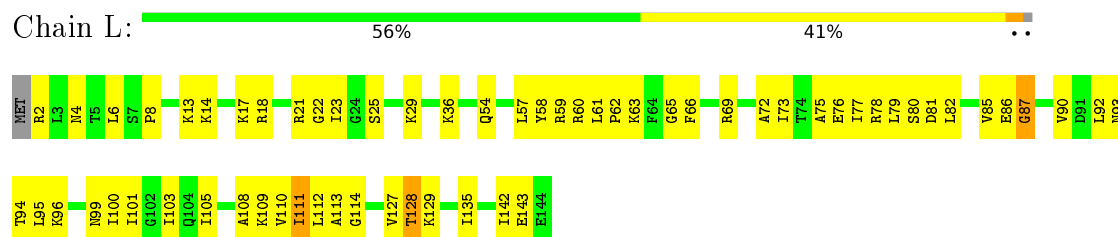
- Molecule 10: 50S ribosomal protein L13



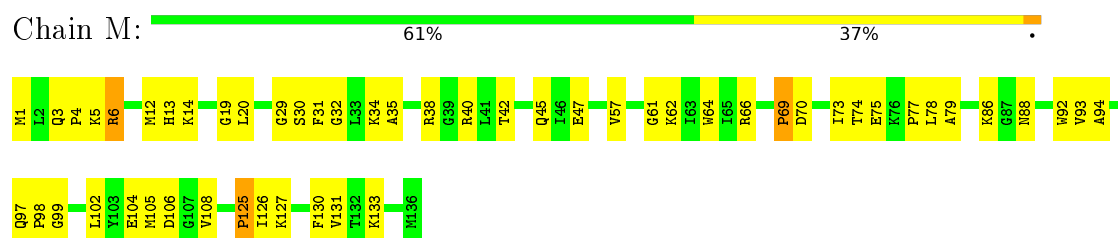
- Molecule 11: 50S ribosomal protein L14



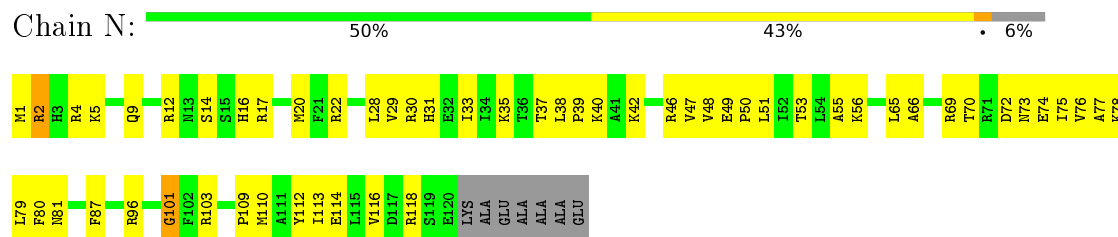
- Molecule 12: 50S ribosomal protein L15



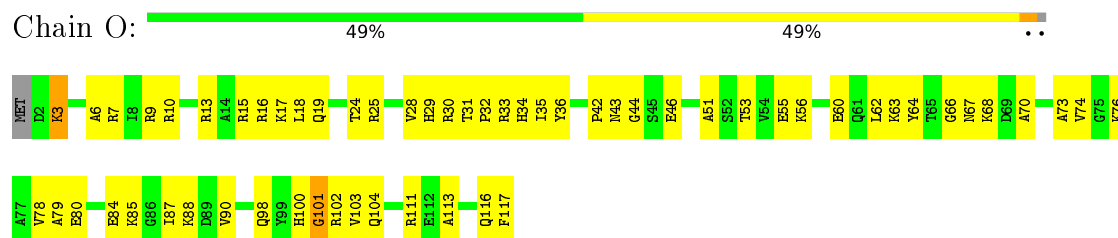
- Molecule 13: 50S ribosomal protein L16



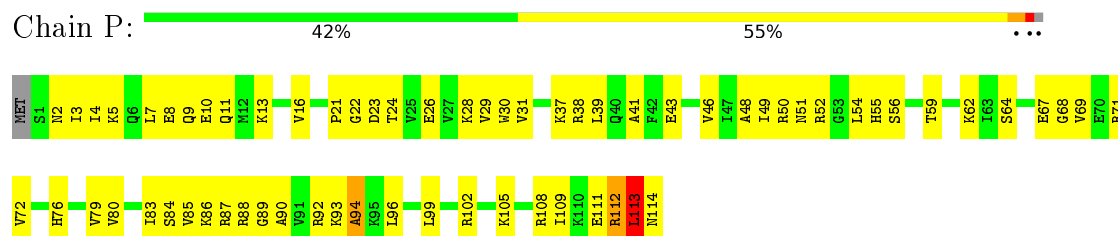
- Molecule 14: 50S ribosomal protein L17



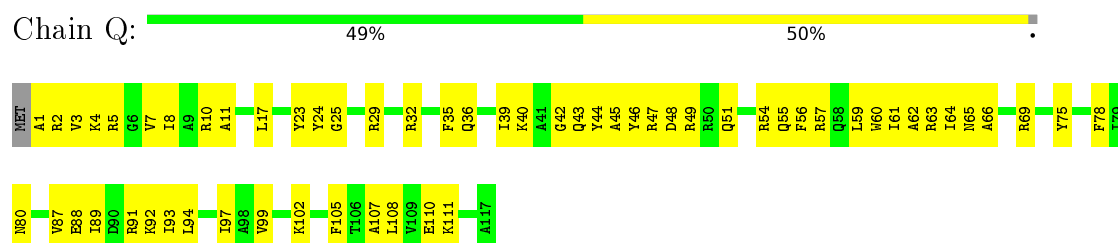
- Molecule 15: 50S ribosomal protein L18



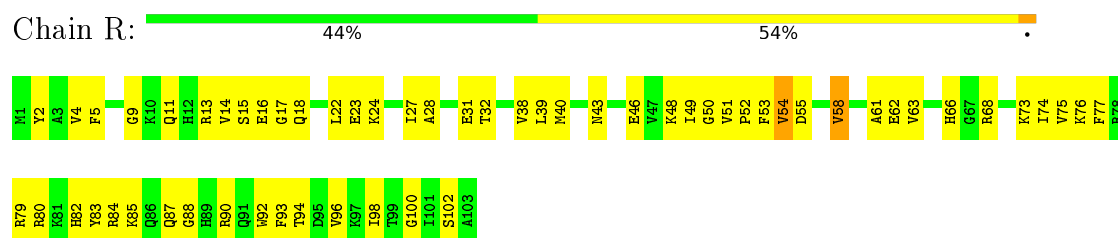
- Molecule 16: 50S ribosomal protein L19



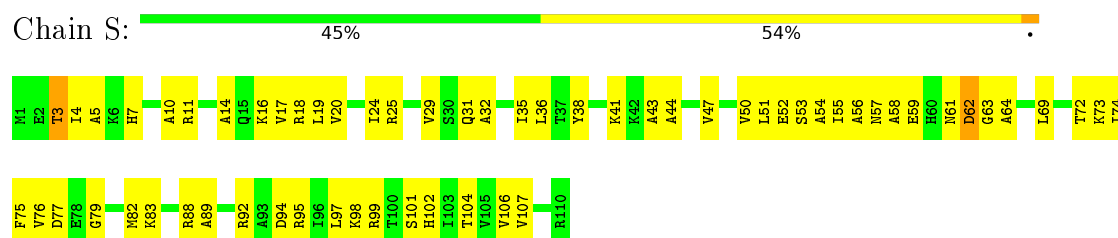
- Molecule 17: 50S ribosomal protein L20



- Molecule 18: 50S ribosomal protein L21

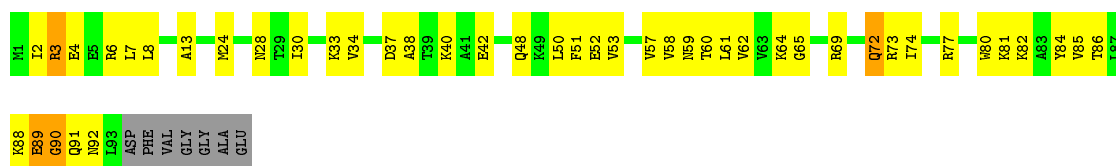


- Molecule 19: 50S ribosomal protein L22



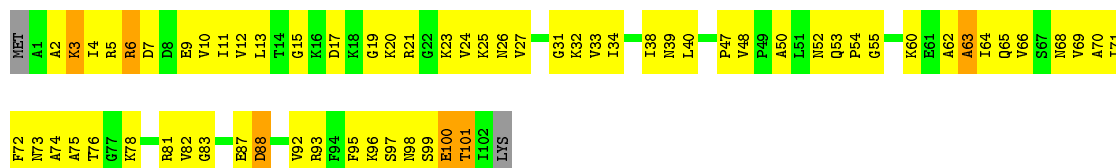
- Molecule 20: 50S ribosomal protein L23





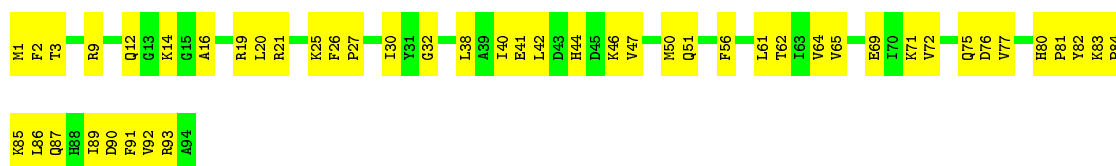
- Molecule 21: 50S ribosomal protein L24

Chain U: 36% 57% 6%



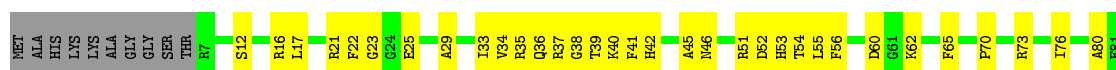
- Molecule 22: 50S ribosomal protein L25

Chain V: 49% 51%



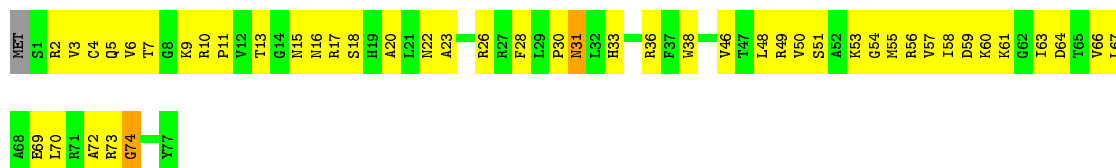
- Molecule 23: 50S ribosomal protein L27

Chain W: 49% 39% 12%



- Molecule 24: 50S ribosomal protein L28

Chain X: 38% 58%



- Molecule 25: 50S ribosomal protein L29

Chain Y: 43% 54%



- Molecule 26: 50S ribosomal protein L30

Chain Z:  53% 44%



- Molecule 27: 50S ribosomal protein L31

Chain 1:  34% 51% 9% 6%



- Molecule 28: 50S ribosomal protein L32

Chain 2:  42% 56%



- Molecule 29: 50S ribosomal protein L33

Chain 3:  53% 38% 9%



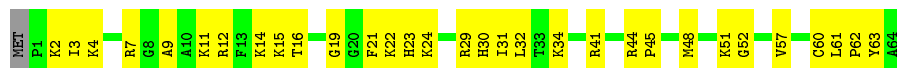
- Molecule 30: 50S ribosomal protein L34

Chain 4:  52% 48%



- Molecule 31: 50S ribosomal protein L35

Chain 5:  51% 48%



- Molecule 32: 50S ribosomal protein L36

Chain 6:  37% 58% 5%

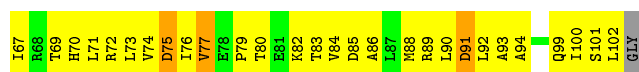


- Molecule 33: 30S ribosomal protein S2

Chain 7:  41% 49% 10%

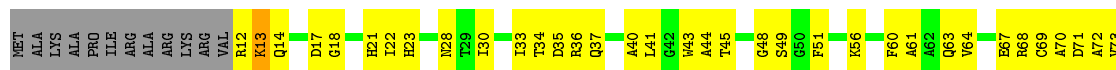






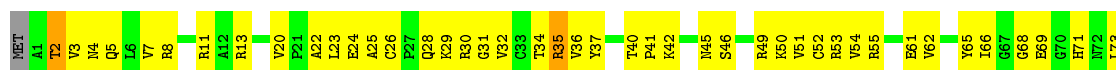
- Molecule 42: 30S ribosomal protein S11

Chain 16: 40% 47% 10%



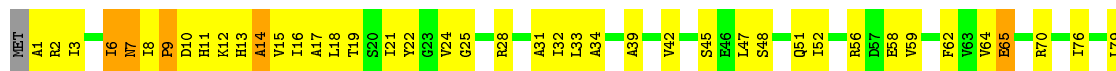
- Molecule 43: 30S ribosomal protein S12

Chain 17: 37% 60% 3%



- Molecule 44: 30S ribosomal protein S13

Chain 18: 45% 47% 8%



- Molecule 45: 30S ribosomal protein S14

Chain 19: 44% 53% 3%



- Molecule 46: 30S ribosomal protein S15

Chain 20: 43% 49% 7%





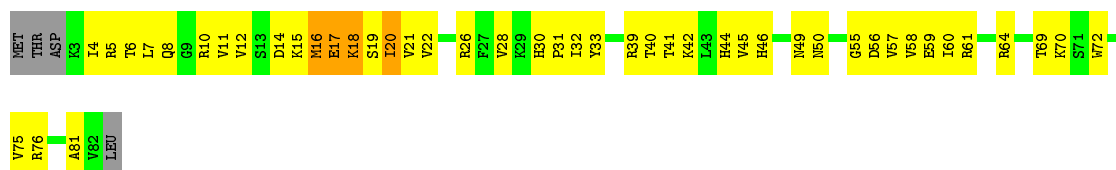
- Molecule 47: 30S ribosomal protein S16

Chain 21: 33% 65%



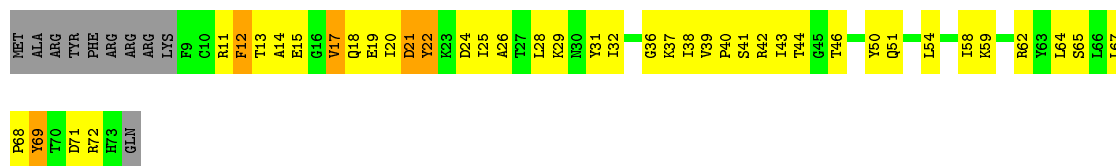
- Molecule 48: 30S ribosomal protein S17

Chain 22: 40% 50% 5% 5%



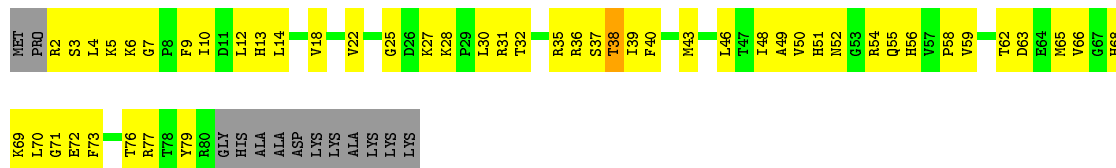
- Molecule 49: 30S ribosomal protein S18

Chain 23: 32% 48% 7% 13%



- Molecule 50: 30S ribosomal protein S19

Chain 24: 32% 53% 14%



- Molecule 51: 30S ribosomal protein S20

Chain 25: 47% 51%



- Molecule 52: 30S ribosomal protein S21

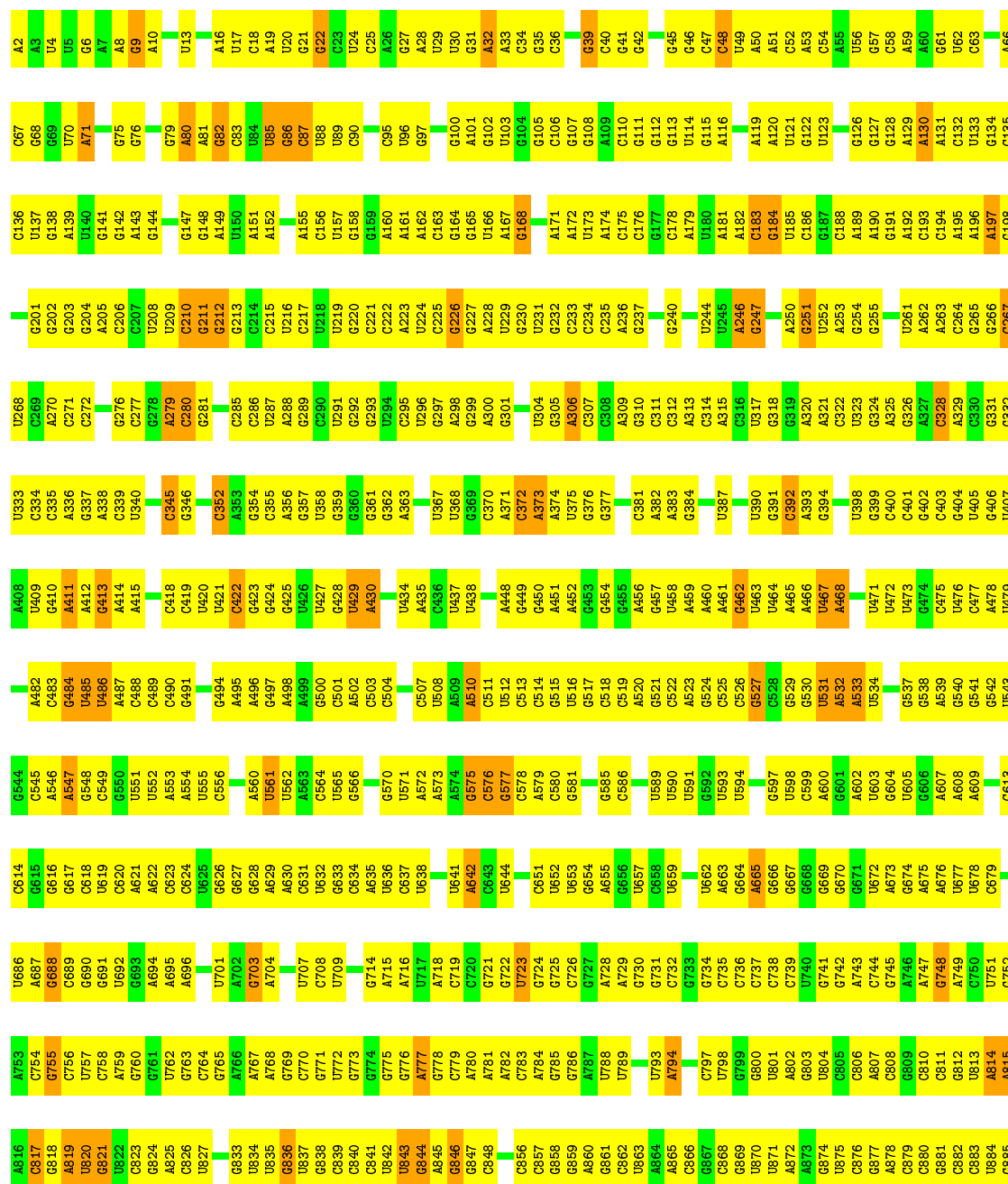


Chain 26:  27% 56% 8% 8%



- Molecule 53: 16S ribosomal RNA

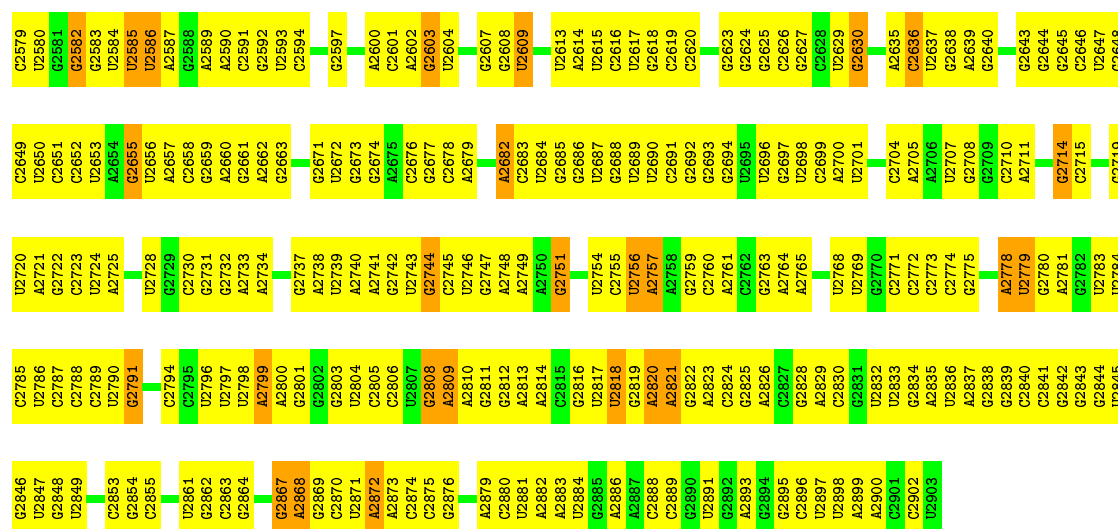
Chain 27:  27% 65% 8%



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U133	U134	U135	U136	U137	U138	U139	U140	U141	U142	U143	U144	U145	U146	U147	U148	U149	U150	U151	U152	U153	U154	U155	U156	U157	U158	U159	U160	U161	U162	U163	U164	U165	U166	U167	U168	U169	U170	U171	U172	U173	U174	U175	U176	U177	U178	U179	U180	U181	U182	U183	U184	U185	U186	U187	U188	U189	U190	U191	U192	U193	U194	U195	U196	U197	U198	U199	U200	U201	U202	U203	U204	U205	U206	U207	U208	U209	U210	U211	U212	U213	U214	U215	U216	U217	U218	U219	U220	U221	U222	U223	U224	U225	U226	U227	U228	U229	U230	U231	U232	U233	U234	U235	U236	U237	U238	U239	U240	U241	U242	U243	U244	U245	U246	U247	U248	U249	U250	U251	U252	U253	U254	U255	U256	U257	U258	U259	U260	U261	U262	U263	U264	U265	U266	U267	U268	U269	U270	U271	U272	U273	U274	U275	U276	U277	U278	U279	U280	U281	U282	U283	U284	U285	U286	U287	U288	U289	U290	U291	U292	U293	U294	U295	U296	U297	U298	U299	U300	U301	U302	U303	U304	U305	U306	U307	U308	U309	U310	U311	U312	U313	U314	U315	U316	U317	U318	U319	U320	U321	U322	U323	U324	U325	U326	U327	U328	U329	U330	U331	U332	U333	U334	U335	U336	U337	U338	U339	U340	U341	U342	U343	U344	U345	U346	U347	U348	U349	U350	U351	U352	U353	U354	U355	U356	U357	U358	U359	U360	U361	U362	U363	U364	U365	U366	U367	U368	U369	U370	U371	U372	U373	U374	U375	U376	U377	U378	U379	U380	U381	U382	U383	U384	U385	U386	U387	U388	U389	U390	U391	U392	U393	U394	U395	U396	U397	U398	U399	U400	U401	U402	U403	U404	U405	U406	U407	U408	U409	U410	U411	U412	U413	U414	U415	U416	U417	U418	U419	U420	U421	U422	U423	U424	U425	U426	U427	U428	U429	U430	U431	U432	U433	U434	U435	U436	U437	U438	U439	U440	U441	U442	U443	U444	U445	U446	U447	U448	U449	U450	U451	U452	U453	U454	U455	U456	U457	U458	U459	U460	U461	U462	U463	U464	U465	U466	U467	U468	U469	U470	U471	U472	U473	U474	U475	U476	U477	U478	U479	U480	U481	U482	U483	U484	U485	U486	U487	U488	U489	U490	U491	U492	U493	U494	U495	U496	U497	U498	U499	U500	U501	U502	U503	U504	U505	U506	U507	U508	U509	U510	U511	U512	U513	U514	U515	U516	U517	U518	U519	U520	U521	U522	U523	U524	U525	U526	U527	U528	U529	U530	U531	U532	U533	U534	U535	U536	U537	U538	U539	U540	U541	U542	U543	U544	U545	U546	U547	U548	U549	U550	U551	U552	U553	U554	U555	U556	U557	U558	U559	U560	U561	U562	U563	U564	U565	U566	U567	U568	U569	U570	U571	U572	U573	U574	U575	U576	U577	U578	U579	U580	U581	U582	U583	U584	U585	U586	U587	U588	U589	U590	U591	U592	U593	U594	U595	U596	U597	U598	U599	U600	U601	U602	U603	U604	U605	U606	U607	U608	U609	U610	U611	U612	U613	U614	U615	U616	U617	U618	U619	U620	U621	U622	U623	U624	U625	U626	U627	U628	U629	U630	U631	U632	U633	U634	U635	U636	U637	U638	U639	U640	U641	U642	U643	U644	U645	U646	U647	U648	U649	U650	U651	U652	U653	U654	U655	U656	U657	U658	U659	U660	U661	U662	U663	U664	U665	U666	U667	U668	U669	U670	U671	U672	U673	U674	U675	U676	U677	U678	U679	U680	U681	U682	U683	U684	U685	U686	U687	U688	U689	U690	U691	U692	U693	U694	U695	U696	U697	U698	U699	U700	U701	U702	U703	U704	U705	U706	U707	U708	U709	U710	U711	U712	U713	U714	U715	U716	U717	U718	U719	U720	U721	U722	U723	U724	U725	U726	U727	U728	U729	U730	U731	U732	U733	U734	U735	U736	U737	U738	U739	U740	U741	U742	U743	U744	U745	U746	U747	U748	U749	U750	U751	U752	U753	U754	U755	U756	U757	U758	U759	U760	U761	U762	U763	U764	U765	U766	U767	U768	U769	U770	U771	U772	U773	U774	U775	U776	U777	U778	U779	U780	U781	U782	U783	U784	U785	U786	U787	U788	U789	U790	U791	U792	U793	U794	U795	U796	U797	U798	U799	U800	U801	U802	U803	U804	U805	U806	U807	U808	U809	U810	U811	U812	U813	U814	U815	U816	U817	U818	U819	U820	U821	U822	U823	U824	U825	U826	U827	U828	U829	U830	U831	U832	U833	U834	U835	U836	U837	U838	U839	U840	U841	U842	U843	U844	U845	U846	U847	U848	U849	U850	U851	U852	U853	U854	U855	U856	U857	U858	U859	U860	U861	U862	U863	U864	U865	U866	U867	U868	U869	U870	U871	U872	U873	U874	U875	U876	U877	U878	U879	U880	U881	U882	U883	U884	U885	U886	U887	U888	U889	U890	U891	U892	U893	U894	U895	U896	U897	U898	U899	U900	U901	U902	U903	U904	U905	U906	U907	U908	U909	U910	U911	U912	U913	U914	U915	U916	U917	U918	U919	U920	U921	U922	U923	U924	U925	U926	U927	U928	U929	U930	U931	U932	U933	U934	U935	U936	U937	U938	U939	U940	U941	U942	U943	U944	U945	U946	U947	U948	U949	U950	U951	U952	U953	U954	U955	U956	U957	U958	U959	U960	U961	U962	U963	U964	U965	U966	U967	U968	U969	U970	U971	U972	U973	U974	U975	U976	U977	U978	U979	U980	U981	U982	U983	U984	U985	U986	U987	U988	U989	U990	U991	U992	U993	U994	U995	U996	U997	U998	U999	U1000	U1001	U1002	U1003	U1004	U1005	U1006	U1007	U1008	U1009	U1010	U1011	U1012	U1013	U1014	U1015	U1016	U1017	U1018	U1019	U1020	U1021	U1022	U1023	U1024	U1025	U1026	U1027	U1028	U1029	U1030	U1031	U1032	U1033	U1034	U1035	U1036	U1037	U1038	U1039	U1040	U1041	U1042	U1043	U1044	U1045	U1046	U1047	U1048	U1049	U1050	U1051	U1052	U1053	U1054	U1055	U1056	U1057	U1058	U1059	U1060	U1061	U1062	U1063	U1064	U1065	U1066	U1067	U1068	U1069	U1070	U1071	U1072	U1073	U1074	U1075	U1076	U1077	U1078	U1079	U1080	U1081	U1082	U1083	U1084	U1085	U1086	U1087	U1088	U1089	U1090	U1091	U1092	U1093	U1094	U1095	U1096	U1097	U1098	U1099	U1100	U1101	U1102	U1103	U1104	U1105	U1106	U1107	U1108	U1109	U1110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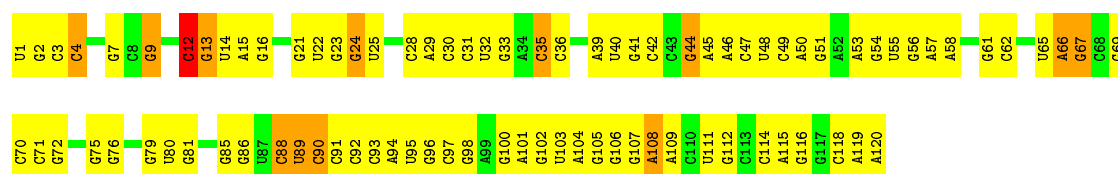
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G1420	G1271	G1271	A1205	A1141	A1077	U999	U934	A866	A800	G733	C672	G600	G539	G469	C398	G328
A1421	C1351	A1272	G1205	A1142	U1078	A1000	C935	C867	U803	G737	C673	A602	A541	A470	U399	A330
G1424	U1352	G1278	G1208	A1143	C1079	A1001	A936	U868	A804	G738	G674	A603	G542	A471	A401	G333
G1425	A1353	G1279	U1209	A1144	U1081	G938	G938	U871	G805	C740	A677	U607	G543	G473	A402	G334
A1426	G1355	G1280	G1210	C1145	U1082	G939	G939	U872	G806	C741	A678	A608	C544	G474	U403	C335
G1427	G1356	G1281	C1211	A1147	U1083	C1006	G940	C973	U807	U741	C679	A609	U545	A477	A404	C336
G1428	C1357	G1282	G1212	A1148	A1084	C1007	A941	A743	G808	A743	C679	C610	A547	A478	G406	C337
A1429	G1358	G1283	A1213	G1149	A1085	G942	G942	C876	G809	A743	C681	C611	U548	A479	G409	G338
G1430	A1359	G1284	A1214	A1150	A1086	A1010	A943	A677	U810	U744	G682	C612	G549	A480	G410	A340
A1431	U1285	A1285	G1215	A1151	G1087	G1011	G946	A878	U811	G745	U683	A613	C550	G481	G411	C341
G1432	G1361	C1286	C1152	C1152	A1088	U1012	C947	G879	C812	U746	U683	A614	G551	G488	C414	A342
A1433	C1362	A1287	U1219	C1153	A1089	C1013	A947	G883	U813	C747	G684	U615	U552	G489	C415	A346
A1434	G1363	G1288	G1220	G1154	A1090	A1014	G948	C884	C814	G748	U686	A616	G553	G490	A415	A347
G1435	G1364	C1289	A1155	U1094	U1094	U1019	G950	C885	C816	A749	C687	G617	U554	G491	U416	
C1436	A1365	C1290	G1223	A1156	A1095	A1020	C951	C886	C817	A752	A689	G620	U556	A492	C417	G350
C1437	A1366	C1291	U1224	G1157	A1096	A1021	G952	U887	G818	U753	C689	A621	C557	G493	C418	C351
U1438	A1367	C1292	G1225	C1158	U1097	G1022	G953	C888	A819	U754	C690	G622	U558	G494	U419	A352
A1439	G1369	U1294	A1227	G1160	A1098	U1023	G954	C889	A820	U755	C691	G623	U559	G495	C420	C353
U1440	C1370	C1295	G1228	G1161	G1099	G1024	G955	C890	A821	A756	C692	G624	C560	G496	C421	C354
U1441	G1371	G1296	G1229	G1162	C1100	G1025	G956	G891	G822	G757	A693	G625	G561	G497	A422	A354
U1442	A1372	C1297	A1230	G1163	U1101	G1026	C957	A892	C823	G758	G694	A626	U562	G498	A423	U355
U1443	U1372	C1298	U1231	C1164	C1102	A1027	U958	C893	U824	G759	G695	A627	A563	G500	G424	
G1444	A1373	G1299	G1232	A1165	A1103	A1028	A959	C894	U825	G760	G696	C630	C564	G501	U427	G357
G1445	C1376	G1300	C1233	G1166	C1104	A1029	A960	U895	U826	G761	G697	G631	C565	A503	A504	U358
C1446	G1377	A1301	G1234	C1167	U1105	C1030	C961	A896	U827	A764	C698	A632	U566	A505	C435	G361
G1448	A1378	A1302	G1236	G1168	G1106	G1031	G962	C897	U828	G765	A699	A633	C436	G506	C437	A362
G1449	U1379	G1303	A1237	A1169	G1107	A1032	U963	C898	A829	U766	G701	A634	U571	A508	A438	C363
C1450	C1380	C1306	G1238	G1170	U1108	U1033	C964	A899	G830	U767	G702	A635	U572	C509	A439	C364
A1451	A1383	A1307	G1239	G1171	C1109	C965	C965	A900	G831	U767	U702	A636	U573	C510	C440	U365
A1452	A1384	G1308	U1240	U1172	G1110	G1037	G966	C901	U832	G768	G703	C635	U574	U511	U441	C366
C1453	A1385	G1309	C1243	U1173	A1111	A1038	U967	G834	G834	G771	G704	A637	U575	U512	G442	G367
G1454	C1386	G1310	G1244	U1174	G1112	A1039	U968	U906	C835	G772	A705	G638	A574	G512	C443	A368
G1455	A1387	G1311	A1244	A1175	U1113	C969	G969	A909	C838	G774	G707	U639	A575	A513	C444	
U1458	C1388	G1312	G1245	U1176	C1117	C1045	U970	A910	U839	G775	G708	C640	U576	A514	C445	A371
G1459	U1394	G1317	A1246	G1177	C1118	A1046	G971	A911	U840	G776	G709	U641	G577	A515	C446	G372
U1460	A1395	U1318	A1247	C1178	G1119	G1047	A972	C912	C840	G777	U710	G644	G578	C516	G447	U373
C1461	U1396	C1319	G1248	A1179	G1120	A1048	A973	U913	A845	G778	G711	C645	G579	C517	A448	A374
G1462	C1320	G1320	G1250	U1180	G1121	C1052	A974	C914	U846	U779	G712	C646	U580	C518	U449	G375
C1463	A1321	A1321	C1251	U1181	G1122	C1053	A975	C915	U847	G780	U713	U646	C581	C519	A450	G376
G1464	G1401	U1326	G1252	U1182	C1123	A1054	A979	G916	C848	A781	A715	U654	A582	C520	U451	G377
G1465	U1402	A1327	A1253	U1183	G1124	G1055	A980	A917	U849	A782	C717	A655	G583	G521	C455	G386
A1469	A1403	G1328	A1254	G1185	G1125	G1056	A981	A918	A849	A783	C718	A656	C584	U521	C456	U387
U1470	C1404	A1329	U1255	G1186	A1126	A1057	C982	U919	U850	G784	A718	U657	G585	U522	U457	G388
G1471	U1405	U1330	G1257	G1187	A1127	U1058	A983	A920	C851	G785	C719	U658	G586	C523	A454	G389
C1475	U1406	G1331	C1257	U1188	G1128	G1059	A984	C921	U852	C786	U720	U659	C587	C524	A455	U390
U1476	G1332	G1332	U1258	A1189	A1129	U1060	C985	C922	C853	C787	A721	G659	U588	C527	C456	A391
A1477	G1335	G1335	G1259	G1190	G1130	U1061	C986	G923	G856	A788	A722	C660	U589	A528	A457	G392
G1478	U1411	G1336	A1260	G1191	G1131	G1062	C987	G924	U857	A789	C723	A661	A590	A529	A458	C393
G1479	U1412	A1336	C1064	G1195	U1132	G1063	A988	A925	G858	U790	U724	G662	U591	G530	U459	G394
C1480	A1413	G1337	C1261	G1196	A1133	C1064	G989	G926	G859	C791	G725	G663	A592	C531	A460	U395
U1481	G1414	G1337	A1264	C1197	A1134	C1064	A990	A927	G860	A794	G726	G664	U593	C532	C461	
G1482	U1415	G1341	A1265	G1197	C1135	G1068	C991	A928	U860	C795	A727	U665	U594	G533	U464	
U1483	G1416	A1342	U1267	U1198	G1136	A1069	C992	U929	A861	C796	G728	A666	C595	U534	G465	
U1484	C1417	G1343	G1268	U1199	G1137	U1267	C995	G930	G862	G797	G729	U667	U596	G535	G466	
			A1268	C1200	G1138	G1071	A996	U931	A863	G797	A730	A668	G597	G536	A466	

U2511	C2443	A2377	G2316	U2245	C2174	G2107	A2042	U1971	C1905	G1831	G1766	A1698	G1630	U1562	U1485
C2512	G2444	A2378	A2317	G2246	A2183	A2108	C2043	G1972	G1906	C1832	G1767	G1702	G1631	U1563	U1486
A2513	G2445	G2379	G2318	A2247	A2184	A2109	C2044	C1973	C1907	C1833	G1770	G1703	G1633	C1564	U1487
U2514	G2446	C2380	G2319	C2248	A2185	G2110	C2045	C1974	C1908	C1837	G1771	G1704	G1634	A1490	A1491
C2515	G2447	A2381	U2320	U2249	G2186	G2111	C2046	U1982	G1910	C1838	A1772	U1709	A1635	G1566	A1492
A2516	A2448	G2382	U2321	G2250	U2187	G2112	C2047	G1983	U1911	C1839	A1773	U1710	U1636	G1568	
C2517	U2449	G2383	A2322	U2187	U2187	A2113	G2048		U1912	G1840	C1774	A1711	U1637	A1569	
A2518	G2384	U2384	G2323	U2257	U2188	A2114	C2049		A1913	U1841	U1775	G1710	C1638	G1570	C1499
U2519	C2385	U2385	U2324	C2258	U2189	G2115	C2050		G1914	G1842	U1776	U1712	C1639	A1571	G1500
C2520	A2386	U2386	G2325	U2259	G2190	A2051	A2051		U1915	C1843	U1777	U1713	C1640		
C2521	U2387	C2260	C2326	C2260	A2191	A2052	A2052		A1916	C1844	U1778	U1714	A1641	A1504	A1505
	G2456	C2388	A2327	C2261	G2192	G2120	C2055		A1917	G1847	U1779	G1715	G1642	U1506	U1507
G2524	U2457	U2389	A2328	C2262	G2193	G2121	G2056		A1918	A1848	A1780	U1716	G1643	C1574	
G2525	G2458	U2390	U2329	C2263	U2194	U2122	A2058		A1919			A1717	C1644	C1577	
	U2460		G2330	C2264	U2195	A2126	A2059		G1922	U1851	A1784	G1718	G1645	U1578	C1507
U2528	C2461	A2392	G2331	U2265	U2197	G2127	A2060		U1923	U1852	A1785	G1719	G1646	A1508	A1509
C2529	U2393	U2393	C2332	A2266	U2197	A2128	G2061		C1924	A1853	A1786	U1720	U1647	A1580	
A2530	C2394	A2267	C2333	A2267	A2199	G2129	A2062		C1925	A1854	A1787	G1721	U1648	G1581	A1515
	G2463		U2334	G2268	C2200	U2130	C2063		U1926	C1788		A1722	G1649	G1516	G1517
U2533	G2464	G2397	A2335	A2270		A2135	U2066		G1930	U1855	C1789		A1650	U1584	
A2534	C2465	U2398	A2336	G2271		U2136	G2067		A1931	C1789		C1726	G1651	C1585	U1520
G2535	C2466	G2399		U2272		U2137	C2068		G1932	C1857	A1790	C1727	A1652	G1521	
U2536	C2467		A2340	U2273		G2133	A2069		U1933	A1866		C1728	G1653	U1588	
C2537	A2468	U2402	G2341	U2274		A2134	C2070		G1934	U1867		U1729	A1654	A1590	G1524
C2538	A2469	U2403	C2342	A2274		A2135	A2071		G1935	U1871		C1730	A1655	A1525	A1526
U2539	G2470	U2404					C2072		U1936	A1876		G1731	C1656	C1527	G1527
A2471	A2471	G2405	U2343	G2277		G2141	A2073		A1937	A1877		U1736	G1660	A1528	A1529
C2472	G2406	A2406	C2344	A2278		A2142	C2073		A1801	A1872		G1737	G1661	G1530	
U2473	A2407	U2407	G2345	G2279		G2143	A2074		U1938	C1873		C1738	C1662	C1531	
C2474	U2408	A2407	A2346	G2280		C2145	A2075		U1940	A1802		A1739	G1663	A1532	A1533
U2475	G2409	A2408	G2347	G2281		A2147	U2079		U1941	C1874		G1740	A1664	U1539	U1539
A2476	G2410	A2409	U2348	G2282		G2148	A2080		U1943	A1805		U1742	A1665	U1534	U1534
U2477	U2411	U2411	U2349	C2283		U2149	U2081			C1806		G1743	G1666	A1535	A1535
A2478				A2288		G2144	A2082		U1946	C1807		G1744		C1536	
	A2482		C2350			C2145	C2082		U1947	A1808		A1745	A1669	G1537	G1537
G2485	G2485	A2417	G2351	C2284		U2150	U2087		C1947	A1809		U1746	C1670	G1538	G1538
C2486	G2487	A2418	A2352	C2285		G2152	G2087		G1948	C1881		U1747	U1671	U1539	U1539
G2488	U2488	U2419	G2357	G2286		A2149	U2081		U1951	C1882		C1748	C1606	G1540	G1540
U2489	G2490	C2420	A2358	A2287		G2156	A2088		A1952	U1883		A1749	C1675	U1542	U1542
U2491	U2491	G2421	G2359	G2294		G2157	A2089		A1953	C1884		G1750	A1608	U1543	U1543
U2492	U2492	C2422	G2360	C2295		A2158	A2090		G1954	A1889		U1751	A1610	A1544	A1544
U2493	U2493	U2423	G2361	U2296		G2159	C2091		U1955	C1890		C1752	C1611		
G2494	G2494	A2424	C2362	A2297		G2160	G2092		U1956	A1891		G1753	A1678	G1541	
	A2497	A2425	G2363	G2298		C2161	G2093		C1957	U1891		A1754	U1680	A1548	A1548
C2498	C2498	A2426	G2364	U2299		G2162	A2094		C1958	C1892		U1755	G1681	C1550	C1550
A2499	U2500	G2428	A2366			C2165	C2095		G1959			G1756	G1682	A1551	A1551
U2500		U2429	G2367	C2305		C2166	C2096			G1896		C1822	U1683	C1555	G1555
G2501	C2501	A2430	C2368	C2306		U2167	A2097		C1962	C1897		U1758	G1684	G1556	G1556
C2502	U2502	U2431	A2369	G2308		G2168	U2098		U1963	U1898		C1759	C1685	C1557	C1557
A2503	A2503	C2432	G2370	C2309		A2169	A2101		G1964	U1899		C1760	G1686	C1558	C1558
U2504	U2504		G2371	U2240		A2170	G2102			A1900		C1761	G1687	G1559	G1559
C2505	G2505	A2435	U2372	C2311		A2171	C2103		C1967	A1901		U1762	U1688	G1560	G1560
U2506	U2506		G2373	U2312		A2172	G2104		U1968	C1902		G1763	A1689	C1561	C1561
C2507	C2507	U2440	G2374	C2313		A2173	U2105		A1969	G1903		U1765	A1690		
U2508	G2508	U2441	U2375	U2243			U2106			G1904					
C2509	C2509	C2442	A2376	G2315											



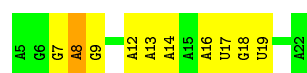
• Molecule 55: 5S ribosomal RNA

Chain 29: 28% 62% 10%



• Molecule 56: mRNA

Chain 30: 44% 50% 6%



• Molecule 57: P site tRNA<sup>fmet</sup>

Chain 31: 45% 53% 2%



• Molecule 58: E-site tRNA<sup>fMet</sup>

Chain 32: 26% 53% 21%



## 4 Experimental information

Property	Value	Source
Reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	Depositor
Number of particles used	76158	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	Not provided	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	Not provided	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	30488	Depositor
Image detector	Not provided	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  >2	RMSZ	# Z  >2
1	A	0.63	1/1115 (0.1%)	0.83	1/1510 (0.1%)
10	J	0.40	0/1152	0.64	0/1551
11	K	0.35	0/947	0.63	0/1268
12	L	0.36	0/1054	0.68	0/1403
13	M	0.39	0/1093	0.64	0/1460
14	N	0.37	0/973	0.62	0/1301
15	O	0.36	0/902	0.59	0/1209
16	P	0.37	0/929	0.67	1/1242 (0.1%)
17	Q	0.42	0/960	0.57	0/1278
18	R	0.41	0/829	0.70	1/1107 (0.1%)
19	S	0.34	0/864	0.60	0/1156
2	B	0.38	0/2121	0.71	0/2852
20	T	0.36	0/744	0.63	0/994
21	U	0.37	0/787	0.69	0/1051
22	V	0.40	0/766	0.61	0/1025
23	W	0.40	0/582	0.65	0/769
24	X	0.38	0/635	0.62	0/848
25	Y	0.40	0/510	0.60	0/677
26	Z	0.35	0/453	0.61	0/605
27	1	0.55	0/531	0.81	0/709
28	2	0.34	0/450	0.66	0/599
29	3	0.41	0/416	0.65	0/554
3	C	0.39	0/1586	0.69	1/2134 (0.0%)
30	4	0.42	0/380	0.67	0/498
31	5	0.38	0/513	0.62	0/676
32	6	0.53	0/303	0.91	2/397 (0.5%)
33	7	0.46	0/1735	0.64	0/2338
34	8	0.39	0/1651	0.62	0/2225
35	9	0.37	0/1665	0.63	0/2227
36	10	0.36	0/1169	0.67	1/1573 (0.1%)
37	11	0.39	0/835	0.70	0/1128
38	12	0.35	0/1195	0.59	0/1602
39	13	0.35	0/989	0.66	0/1326
4	D	0.44	0/1571	0.71	1/2113 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >2	RMSZ	# Z  >2
40	14	0.37	0/1034	0.64	0/1375
41	15	0.38	0/796	0.67	0/1077
42	16	0.38	0/885	0.71	0/1195
43	17	0.38	0/969	0.66	1/1300 (0.1%)
44	18	0.39	0/892	0.66	0/1193
45	19	0.38	0/817	0.57	0/1088
46	20	0.34	0/722	0.61	0/964
47	21	0.39	0/659	0.62	0/884
48	22	0.36	0/657	0.67	0/881
49	23	0.42	0/544	0.66	0/731
5	E	0.40	0/1434	0.64	0/1926
50	24	0.48	0/652	0.70	0/877
51	25	0.37	0/671	0.52	0/888
52	26	0.45	0/550	0.64	0/728
53	27	0.46	1/36967 (0.0%)	0.67	1/57666 (0.0%)
54	28	0.49	1/69801 (0.0%)	0.67	5/108894 (0.0%)
55	29	0.40	1/2876 (0.0%)	0.66	0/4483
56	30	0.62	0/436	0.69	0/679
57	31	0.45	1/1836 (0.1%)	0.66	0/2859
58	32	0.71	1/1835 (0.1%)	0.68	0/2857
6	F	0.38	0/1343	0.67	1/1816 (0.1%)
7	G	0.49	0/1122	0.73	0/1515
8	H	0.60	0/1001	0.75	0/1350
9	I	0.60	0/1046	0.86	2/1410 (0.1%)
All	All	0.46	6/161950 (0.0%)	0.67	18/242041 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
53	27	0	6
54	28	0	9
55	29	0	1
All	All	0	16

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	29	1	U	OP3-P	-6.99	1.52	1.61
53	27	2	A	OP3-P	-6.92	1.52	1.61

*Continued on next page...*



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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	31	1	C	OP3-P	-6.89	1.52	1.61
54	28	1	G	OP3-P	-6.88	1.52	1.61
58	32	1	C	OP3-P	-6.86	1.52	1.61
1	A	684	THR	C-O	5.74	1.34	1.23

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	28	2504	U	N1-C1'-C2'	7.12	123.26	114.00
32	6	19	ARG	NE-CZ-NH1	-6.43	117.09	120.30
43	17	115	LYS	N-CA-C	-5.96	94.89	111.00
1	A	678	GLY	N-CA-C	5.72	127.41	113.10
16	P	113	LEU	CA-CB-CG	5.67	128.34	115.30
3	C	188	LEU	CA-CB-CG	-5.56	102.51	115.30
9	I	65	SER	N-CA-C	-5.51	96.11	111.00
54	28	974	G	N9-C1'-C2'	5.49	121.14	114.00
36	10	101	GLY	N-CA-C	-5.38	99.65	113.10
54	28	2287	A	N9-C1'-C2'	5.31	120.90	114.00
54	28	1329	U	N1-C1'-C2'	5.30	120.90	114.00
18	R	50	GLY	N-CA-C	-5.28	99.90	113.10
54	28	2391	G	C2'-C3'-O3'	5.25	122.10	113.70
53	27	1225	A	N9-C1'-C2'	5.22	120.79	114.00
32	6	18	LYS	N-CA-C	5.17	124.95	111.00
9	I	33	ASN	N-CA-C	5.15	124.91	111.00
6	F	81	GLY	N-CA-C	-5.10	100.36	113.10
4	D	120	VAL	N-CA-C	5.09	124.76	111.00

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

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Mol	Chain	Res	Type	Group
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 ⓘ

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	102	0
2	B	2082	0	2157	138	0
3	C	1565	0	1616	96	0
4	D	1552	0	1619	118	0
5	E	1410	0	1447	121	0
6	F	1323	0	1374	92	0
7	G	1111	0	1148	84	0
8	H	988	0	1025	127	0
9	I	1032	0	1088	128	0
10	J	1129	0	1162	70	0
11	K	938	0	1012	68	0
12	L	1045	0	1117	73	0
13	M	1074	0	1157	47	0
14	N	960	0	1000	52	0
15	O	892	0	923	57	0
16	P	917	0	965	80	0
17	Q	947	0	1022	71	0
18	R	816	0	839	60	0
19	S	857	0	922	53	0
20	T	738	0	807	39	0
21	U	779	0	834	64	0
22	V	753	0	780	37	0
23	W	575	0	592	33	0
24	X	625	0	655	44	0
25	Y	509	0	543	38	0
26	Z	449	0	491	25	0
27	1	522	0	521	47	0
28	2	444	0	461	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	3	409	0	440	14	0
30	4	377	0	418	29	0
31	5	504	0	574	27	0
32	6	302	0	343	26	0
33	7	1704	0	1732	104	0
34	8	1624	0	1699	99	0
35	9	1643	0	1710	121	0
36	10	1156	0	1199	90	0
37	11	817	0	808	71	0
38	12	1181	0	1240	79	0
39	13	979	0	1034	64	0
40	14	1022	0	1070	98	0
41	15	786	0	828	81	0
42	16	869	0	878	67	0
43	17	955	0	1019	100	0
44	18	883	0	944	73	0
45	19	805	0	847	58	0
46	20	714	0	737	46	0
47	21	649	0	666	59	0
48	22	648	0	691	55	0
49	23	535	0	552	44	0
50	24	637	0	665	72	0
51	25	665	0	714	46	0
52	26	544	0	579	59	0
53	27	33016	0	16617	1316	0
54	28	62322	0	31345	2457	0
55	29	2572	0	1302	116	0
56	30	388	0	196	10	0
57	31	1644	0	836	31	0
58	32	1643	0	836	66	0
All	All	149128	0	100926	6677	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 (6677) 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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
46:20:71:ARG:NH2	53:27:754:C:H5'	1.69	1.06
1:A:673:ALA:O	1:A:708:ALA:HB3	1.55	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
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
54:28:728:G:HO2'	54:28:730:A:H8	1.13	0.96
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
33:7:31:PHE:HB2	33:7:39:ILE:HB	1.47	0.95
9:I:7:TYR:CA	9:I:58:ILE:O	2.15	0.95
3:C:148:GLN:O	54:28:2052:A:H4'	1.66	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:121:G:H4'	54:28:149:A:H5'	1.48	0.91
12:L:95:LEU:HD22	12:L:100:ILE:HD11	1.52	0.91
4:D:117:ARG:HH12	12:L:2:ARG:HG2	1.34	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
8:H:59:LEU:HD21	54:28:1047:G:H2'	1.51	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
53:27:673:A:H2'	53:27:674:G:C8	2.07	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
28:2:8:THR:CG2	54:28:2020:A:H5'	2.03	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:13:42:GLU:HG2	39:13:100:ILE:HD13	1.54	0.88
9:I:71:LYS:HE2	54:28:1059:G:OP1	1.73	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
54:28:1056:G:H4'	54:28:1086:A:H8	1.39	0.87
54:28:528:A:C2	54:28:2042:A:H2'	2.10	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
54:28:2629:U:O2'	54:28:2630:G:H5''	1.76	0.85
5:E:33:ILE:HG13	5:E:95:MET:HE3	1.59	0.85
9:I:27:LEU:HB2	9:I:32:VAL:HB	1.58	0.85
38:12:110:ARG:HH22	38:12:121:ASN:HB3	1.42	0.85
54:28:2548:U:H2'	54:28:2549:G:H5''	1.58	0.85
21:U:47:PRO:HD3	21:U:55:GLY:HA2	1.59	0.85
54:28:2183:A:H2'	54:28:2184:A:C8	2.12	0.85
33:7:163:ILE:HD11	33:7:209:VAL:HB	1.57	0.84
13:M:45:GLN:HE21	54:28:2485:G:H5''	1.39	0.84
53:27:1029:U:H2'	53:27:1031:C:H1'	1.59	0.84
33:7:53:LEU:HB3	33:7:219:THR:HG21	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
45:19:60:ARG:HG2	53:27:981:U:H4'	1.60	0.84
28:2:49:ARG:HG2	54:28:2884:U:H6	1.42	0.84
9:I:123:ALA:HB1	54:28:1081:U:H5''	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
54:28:2538:C:H2'	54:28:2539:C:H6	1.42	0.84
34:8:156:LEU:O	34:8:156:LEU:HD12	1.76	0.84
20:T:88:LYS:O	20:T:90:GLY:N	2.11	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1347:G:N2	53:27:1373:G:H2'	1.92	0.84
8:H:58:THR:HG22	54:28:1107:G:H5''	1.60	0.84
40:14:108:ARG:HG3	53:27:1347:G:O5'	1.78	0.83
53:27:960:U:H4'	53:27:961:U:O5'	1.78	0.83
33:7:99:MET:HA	33:7:106:VAL:HG21	1.60	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
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
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
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
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
8:H:94:ARG:HB2	8:H:97:LYS:HE2	1.60	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
41:15:40:ILE:HD11	53:27:1124:G:H4'	1.62	0.82
53:27:714:G:H2'	53:27:715:A:C8	2.14	0.82
35:9:12:ARG:HD2	35:9:36:ALA:HB3	1.61	0.82
54:28:2243:U:H2'	54:28:2244:U:H6	1.44	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
53:27:235:C:H2'	53:27:236:A:C8	2.14	0.82
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
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
33:7:58:LYS:O	33:7:61:SER:HB2	1.80	0.81
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
48:22:16:MET:HG3	48:22:19:SER:HB2	1.60	0.81
22:V:75:GLN:HB2	22:V:92:VAL:HG23	1.62	0.81
14:N:33:ILE:HD12	14:N:118:ARG:HH22	1.44	0.81
39:13:52:GLY:HA3	39:13:56:PRO:HA	1.63	0.81
17:Q:3:VAL:HG22	54:28:1199:U:H1'	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:462:G:H5'	53:27:463:U:OP2	1.80	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
1:A:640:GLN:OE1	54:28:894:U:H4'	1.79	0.81
54:28:2070:A:H2'	54:28:2071:A:C8	2.16	0.81
7:G:79:THR:HA	7:G:145:ASN:HB3	1.62	0.81
18:R:14:VAL:HG21	18:R:98:ILE:HG13	1.61	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
54:28:45:G:C5'	54:28:46:G:H5'	2.04	0.81
18:R:49:ILE:HB	18:R:51:VAL:O	1.79	0.81
32:6:32:LYS:HE3	54:28:2478:A:H5'	1.60	0.81
8:H:80:THR:N	54:28:1108:U:H5'	1.96	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
54:28:1702:G:C2'	54:28:1703:G:H5''	2.11	0.80
9:I:23:VAL:CG1	9:I:24:GLY:H	1.95	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
9:I:2:LYS:HE3	9:I:62:ALA:HB2	1.63	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
38:12:2:ARG:HB3	53:27:933:G:OP2	1.82	0.80
4:D:5:LEU:O	4:D:9:GLN:HA	1.82	0.80
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
54:28:1434:A:H2'	54:28:1435:G:H8	1.45	0.80
7:G:1:MET:HG3	7:G:2:GLN:H	1.47	0.80
50:24:30:LEU:HB2	50:24:48:ILE:HG22	1.65	0.79
8:H:59:LEU:CD2	54:28:1047:G:H2'	2.11	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:1251:C:O2'	54:28:1252:G:H3'	1.82	0.79
4:D:69:ARG:HB2	54:28:674:G:H4'	1.64	0.79
1:A:672:VAL:HB	1:A:737:ASP:HB3	1.63	0.79
5:E:114:ARG:NH2	27:1:47:LYS:HA	1.97	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
11:K:98:ARG:NH2	53:27:340:U:OP2	2.16	0.79
41:15:57:VAL:HG22	41:15:58:ASN:H	1.45	0.79
54:28:1825:U:H2'	54:28:1826:G:H8	1.48	0.79
54:28:593:U:H2'	54:28:594:U:C6	2.18	0.79
53:27:797:C:H2'	53:27:798:U:H6	1.47	0.79
7:G:40:THR:HB	7:G:43:ASN:HD22	1.48	0.79
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
34:8:147:GLY:HA3	34:8:202:PHE:HB3	1.64	0.78
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
44:18:88:LEU:HG	44:18:91:ARG:HH21	1.48	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
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
21:U:6:ARG:HG3	21:U:7:ASP:H	1.49	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
54:28:1096:A:H3'	54:28:1097:U:H5''	1.65	0.78
54:28:594:U:H2'	54:28:595:C:C6	2.18	0.78
54:28:2443:C:H2'	54:28:2444:G:C8	2.18	0.78
32:6:36:ARG:HG2	32:6:37:GLN:H	1.49	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
8:H:88:HIS:HB3	8:H:89:PRO:HD3	1.65	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
1:A:698:ALA:HB3	1:A:711:ASP:O	1.84	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:26:ARG:NH1	24:X:28:PHE:HE1	1.81	0.78
39:13:65:PHE:CD2	39:13:66:GLN:HG3	2.19	0.78
7:G:1:MET:HG3	7:G:2:GLN:N	1.99	0.78
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
34:8:31:ASN:HD21	34:8:58:ARG:HD2	1.46	0.77
1:A:611:ARG:HB2	54:28:883:G:O3'	1.84	0.77
8:H:80:THR:H	54:28:1108:U:C5'	1.96	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
35:9:49:ASP:O	35:9:52:VAL:HG22	1.83	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
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
53:27:1352: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
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
4:D:131:THR:HG23	54:28:321:U:H5''	1.66	0.77
58:32:23:C:H2'	58:32:24:U:C6	2.20	0.77
3:C:105:LYS:O	3:C:177:VAL:HG12	1.83	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
1:A:700:ARG:O	1:A:709:THR:HG22	1.85	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
41:15:35:GLN:HG2	41:15:77:VAL:HG23	1.66	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
54:28:277:G:H1'	54:28:361:G:H1	1.49	0.76
35:9:147:LYS:HD2	53:27:491:G:OP1	1.85	0.76
6:F:163:TYR:HB2	6:F:166:GLU:HB2	1.67	0.76
15:O:55:GLU:HG2	55:29:116:G:H5'	1.68	0.76
9:I:35:MET:HG3	9:I:36:GLU:N	1.99	0.76
37:11:4:TYR:O	37:11:63:ASN:HA	1.86	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
5:E:113:PHE:HZ	5:E:175:PRO:HB3	1.50	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
30:4:34:ARG:HE	30:4:39:ARG:HD2	1.51	0.76
12:L:135:ILE:HB	12:L:142:ILE:HD11	1.66	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
28:2:51:ARG:HG3	28:2:53:VAL:HG13	1.67	0.76
54:28:2277:G:C2'	54:28:2278:A:H5''	2.16	0.76
54:28:548:G:H2'	54:28:549:G:O4'	1.85	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
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
54:28:549:G:H2'	54:28:550:C:C6	2.21	0.75
21:U:12:VAL:HA	21:U:69:VAL:HG12	1.65	0.75
43:17:71:HIS:HA	43:17:98:ARG:HH12	1.51	0.75
53:27:70:U:H4'	53:27:71:A:H8	1.51	0.75
17:Q:2:ARG:HD2	54:28:1248:G:C2	2.20	0.75
54:28:1434:A:H2'	54:28:1435:G:C8	2.22	0.75
33:7:208:ALA:O	33:7:211:LEU:HG	1.87	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
34:8:109:GLU:HB2	34:8:143:LEU:HD22	1.66	0.75
10:J:27:ARG:NH2	54:28:1142:A:H4'	2.01	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
54:28:1258:U:H2'	54:28:1259:G:C8	2.22	0.75
54:28:947:A:H2'	54:28:948:C:C6	2.20	0.75
54:28:860:U:H2'	54:28:861:A:H8	1.49	0.75
33:7:185:ILE:HA	33:7:199:ILE:HB	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:2:ARG:HB2	54:28:1248:G:C5	2.22	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
11:K:30:ARG:NE	54:28:2674:G:H4'	2.02	0.75
4:D:75:SER:HB3	4:D:78:TRP:HD1	1.52	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
44:18:12:LYS:HD3	44:18:16:ILE:HG22	1.66	0.74
42:16:126:ARG:O	52:26:34:ARG:NH2	2.18	0.74
55:29:3:C:C2'	55:29:4:C:H5''	2.17	0.74
54:28:2170:A:C2'	54:28:2171:A:H4'	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
54:28:1053:C:H6	54:28:1053:C:H5'	1.49	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
8:H:23:LEU:HD22	8:H:126:LEU:HD21	1.69	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
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
53:27:1507:A:H2'	53:27:1508:A:C8	2.22	0.74
24:X:16:ASN:HD22	54:28:2081:U:H5''	1.52	0.74
17:Q:91:ARG:HH22	54:28:998:C:P	2.11	0.74
35:9:59:LYS:HE3	35:9:194:ILE:HG22	1.69	0.74
8:H:58:THR:CG2	54:28:1107:G:H5''	2.17	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
4:D:68:ALA:HA	54:28:1255:U:C5	2.22	0.74
20:T:88:LYS:C	20:T:90:GLY:N	2.38	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
54:28:1179: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
54:28:657:U:H2'	54:28:658:U:C6	2.23	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:29:65:U:H3'	55:29:108:A:N6	2.01	0.74
42:16:34:THR:HG22	42:16:40:ALA:HA	1.69	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
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
53:27:1526:G:H2'	53:27:1527:U:C6	2.24	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
54:28:2699:C:H2'	54:28:2700:A:H8	1.53	0.73
54:28:851:C:H2'	54:28:852:U:C6	2.22	0.73
55:29:66:A:H5''	55:29:67:G:OP1	1.88	0.73
15:O:62:LEU:HD11	15:O:70:ALA:CB	2.18	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
53:27:422:C:H4'	53:27:423:G:H5''	1.71	0.73
54:28:1594:U:H2'	54:28:1595:C:C6	2.24	0.73
58:32:67:C:H2'	58:32:68:C:C6	2.24	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
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
53:27:1062:U:H2'	53:27:1063:C:C6	2.23	0.73
53:27:337:G:H2'	53:27:338:A:C8	2.23	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
9:I:101:SER:HA	9:I:140:GLU:O	1.89	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
53:27:501:C:H2'	53:27:502:A:H8	1.53	0.72
9:I:90:GLY:HA2	54:28:1064:C:C1'	2.15	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2406:A:H5'	54:28:2407:A:OP1	1.87	0.72
54:28:1636:U:H2'	54:28:1637:A:C8	2.24	0.72
54:28:565:C:H2'	54:28:566:U:C6	2.24	0.72
42:16:80:ASN:HD22	42:16:105:ARG:HB3	1.54	0.72
34:8:175:HIS:ND1	53:27:1108:G:H5'	2.03	0.72
53:27:1491:G:H2'	53:27:1492:A:H5''	1.70	0.72
9:I:92:PRO:HD2	54:28:1076:C:H1'	1.70	0.72
54:28:1536:C:H4'	54:28:1537:G:N2	2.04	0.72
23:W:39:THR:H	54:28:2331:G:H4'	1.54	0.72
54:28:2470:G:H2'	54:28:2471:A:H8	1.55	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
3:C:15:PHE:H	16:P:11:GLN:NE2	1.87	0.72
40:14:70:GLY:HA3	53:27:1371:G:O3'	1.89	0.72
16:P:26:GLU:HA	16:P:43:GLU:HA	1.70	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
53:27:1131:G:C3'	53:27:1132:C:H5''	2.18	0.72
53:27:1402:C:H2'	53:27:1403:C:O4'	1.88	0.72
8:H:55:VAL:HA	54:28:1084:A:H5'	1.69	0.72
53:27:1148:U:H2'	53:27:1149:C:O4'	1.90	0.72
8:H:75:ALA:O	8:H:77:VAL:N	2.23	0.72
8:H:42:ARG:HD2	9:I:117:THR:HA	1.72	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
53:27:835:U:C2'	53:27:836:G:H5''	2.20	0.72
8:H:80:THR:O	54:28:1107:G:H4'	1.90	0.72
54:28:2493:U:H3'	54:28:2494:G:H5''	1.70	0.72
54:28:848:C:H2'	54:28:849:A:C8	2.24	0.72
55:29:88:C:H5''	55:29:89:U:OP1	1.90	0.72
53:27:1305:G:H22	53:27:1331:G:H2'	1.54	0.71
53:27:950:U:H2'	53:27:951:G:H8	1.54	0.71
54:28:144:A:H2'	54:28:145:C:C6	2.25	0.71
54:28:2086:U:H2'	54:28:2087:G:C8	2.25	0.71
17:Q:55:GLN:NE2	54:28:559:G:H1'	2.05	0.71
54:28:679:C:H2'	54:28:680:C:C6	2.25	0.71
6:F:79:THR:HG22	6:F:80:GLU:HG3	1.72	0.71
15:O:62:LEU:HD11	15:O:70:ALA:CA	2.20	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
4:D:75:SER:HB3	4:D:78:TRP:CD1	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:27:ARG:HD2	54:28:1012:U:N3	2.05	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
32:6:18:LYS:O	32:6:18:LYS:HG2	1.87	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
1:A:626:THR:HG23	1:A:632:SER:HB2	1.71	0.71
53:27:1014:A:H2'	53:27:1015:G:O4'	1.91	0.71
53:27:475:C:H2'	53:27:476:U:C6	2.25	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
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
9:I:79:LEU:O	9:I:83:ALA:HB3	1.90	0.71
1:A:700:ARG:HB2	1:A:709:THR:HG23	1.71	0.71
53:27:151:A:H2'	53:27:152:A:O4'	1.91	0.71
53:27:56:U:H2'	53:27:57:G:C8	2.26	0.71
17:Q:40:LYS:HG3	17:Q:44:TYR:HE2	1.55	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
54:28:2389:G:H5''	54:28:2390:U:O4'	1.89	0.71
54:28:825:A:H2'	54:28:826:U:C6	2.26	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
54:28:2070:A:H2'	54:28:2071:A:H8	1.55	0.71
23:W:12:SER:OG	54:28:2262:U:H5	1.71	0.71
54:28:2297:A:N1	54:28:2321:U:C5	2.59	0.71
6:F:174:LYS:HE3	54:28:2529:G:H4'	1.73	0.71
5:E:7:TYR:HA	5:E:11:VAL:CG2	2.21	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
53:27:1342:C:H2'	53:27:1343:G:C8	2.25	0.71
53:27:86:G:H4'	53:27:87:C:C6	2.26	0.71
54:28:1179:G:C3'	54:28:1180:U:H4'	2.21	0.71
54:28:942:G:H2'	54:28:943:A:O4'	1.90	0.71
1:A:598:VAL:HG12	1:A:598:VAL:O	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:382:A:H2'	53:27:383:A:C8	2.26	0.70
54:28:1178:C:H2'	54:28:1179:G:C8	2.25	0.70
54:28:279:A:H61	54:28:361:G:H1'	1.55	0.70
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
53:27:1464:U:H2'	53:27:1465:A:C8	2.27	0.70
54:28:2796:U:H2'	54:28:2798:U:OP2	1.91	0.70
54:28:974:G:H8	54:28:990:A:H62	1.34	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
53:27:70: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
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
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
8:H:57:ASN:HB2	8:H:62:ARG:HD2	1.73	0.70
41:15:6:ILE:HB	41:15:76:ILE:HB	1.73	0.70
53:27:634:C:H2'	53:27:635:A:H8	1.56	0.70
44:18:100:ARG:HH22	53:27:950:U:H3'	1.55	0.70
3:C:56:LYS:NZ	54:28:2830:C:H5"	2.06	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
33:7:124:THR:HG22	33:7:127:LYS:HD2	1.72	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
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
40:14:40:ARG:HH22	53:27:1292:G:H4'	1.55	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
30:4:11:LYS:CE	54:28:686:U:H5"	2.22	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1259:C:H3'	53:27:1260:G:C5'	2.16	0.70
53:27:413:G:H1'	53:27:428:G:N2	2.07	0.70
54:28:1295:C:H2'	54:28:1296:G:C8	2.27	0.70
3:C:34:VAL:HA	3:C:50:VAL:HG12	1.74	0.70
53:27:736:C:H2'	53:27:737:C:C6	2.27	0.70
9:I:11:GLN:H	54:28:1061:U:H5	1.36	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
54:28:310:A:C2'	54:28:311:A:H5''	2.21	0.70
55:29:106:G:H2'	55:29:107:G:O4'	1.91	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
54:28:2233:U:H2'	54:28:2234:G:C8	2.27	0.70
15:O:17:LYS:NZ	54:28:2380:C:H5'	2.07	0.70
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
54:28:1826: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
54:28:690:G:H2'	54:28:691:C:C6	2.26	0.69
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
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
31:5:7:ARG:NH2	54:28:245:G:N7	2.40	0.69
7:G:116:ARG:HG3	7:G:133:GLN:HG3	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
54:28:1320:C:O2'	54:28:1321:A:H5''	1.93	0.69
54:28:277:G:H1'	54:28:361:G:N1	2.07	0.69
58:32:72:A:H2'	58:32:73:A:O4'	1.93	0.69
9:I:20:SER:HB3	9:I:21:PRO:HD3	1.72	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
23:W:38:GLY:HA2	54:28:2330:G:H21	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2848:G:O2'	54:28:2849:U:H5'	1.92	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:HG3	16:P:38:ARG:HH21	1.57	0.69
53:27:1071:C:H2'	53:27:1072:G:H8	1.57	0.69
53:27:448:A:H3'	53:27:449:G:C8	2.27	0.69
54:28:1283:G:H1'	54:28:1329:U:O2	1.92	0.69
34:8:87:ARG:HG3	34:8:98:ALA:O	1.92	0.69
15:O:51:ALA:HB3	15:O:78:VAL:HG22	1.73	0.69
53:27:533:A:O2'	53:27:534:U:H5''	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
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
39:13:5:PRO:HB2	39:13:32:LYS:NZ	2.08	0.69
7:G:114:GLU:HA	7:G:116:ARG:HH12	1.58	0.69
40:14:16:ALA:HA	40:14:66:VAL:HA	1.75	0.69
54:28:1068:G:N2	54:28:1096:A:H5'	2.08	0.69
54:28:184:C:H2'	54:28:185:G:H8	1.57	0.69
54:28:1881:C:H2'	54:28:1882:U:O4'	1.93	0.69
30:4:24:THR:HG23	30:4:27:GLY:H	1.58	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
33:7:66:ILE:HD12	33:7:159:ALA:HB3	1.74	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
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
6:F:2:ARG:HD2	54:28:2751:G:O4'	1.92	0.69
54:28:2861:U:H2'	54:28:2862:G:H8	1.58	0.69
54:28:821:A:H5''	54:28:822:G:C5'	2.13	0.69
9:I:127:SER:HA	54:28:1080:A:H1'	1.75	0.69
9:I:36:GLU:HB3	9:I:66:PHE:HE2	1.58	0.69
18:R:58:VAL:H	18:R:102:SER:HB2	1.58	0.69
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
53:27:955:U:C1'	53:27:1227:A:H61	2.05	0.68
11:K:49:ARG:NH2	53:27:1423:G:H5'	2.08	0.68
53:27:312:C:H2'	53:27:313:A:H8	1.57	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
54:28:967:U:H2'	54:28:968:C:C6	2.28	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
35:9:36:ALA:H	35:9:37:PRO:HD3	1.58	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
36:10:134:ASN:HD21	53:27:1078:U:H1'	1.57	0.68
53:27:1011:C:H2'	53:27:1012:A:C8	2.29	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
43:17:49:ARG:NH2	53:27:522:C:H41	1.91	0.68
54:28:1295:C:H2'	54:28:1296:G:H8	1.57	0.68
54:28:191:A:H2'	54:28:192:C:C6	2.28	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
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
9:I:7:TYR:CD1	9:I:59:THR:HA	2.28	0.68
46:20:63:ARG:HD2	46:20:87:ARG:HH22	1.59	0.68
44:18:25:GLY:H	53:27:1329:A:H5"	1.58	0.68
53:27:918:A:H2'	53:27:919:A:C8	2.28	0.68
54:28:1057:A:N7	54:28:1086:A:H2'	2.08	0.68
8:H:37:LYS:HE2	54:28:1086:A:N6	2.09	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
54:28:215:G:H4'	54:28:216:A:H4'	1.73	0.68
54:28:7:G:H2'	54:28:8:C:C6	2.28	0.68
15:O:101:GLY:HA3	55:29:49:C:OP1	1.93	0.68
58:32:21:A:H62	58:32:47:U:H4'	1.58	0.68
5:E:169:LEU:HB3	5:E:174:PHE:HD2	1.58	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
43:17:109:ARG:HB2	43:17:118:VAL:HG21	1.74	0.68
53:27:539:A:H2'	53:27:540:G:H8	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:24:54:ARG:HB3	53:27:958:A:C2	2.29	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
35:9:94:GLU:HA	35:9:99:ASN:HD22	1.58	0.68
47:21:15:PRO:HG2	47:21:41:PRO:HG3	1.74	0.68
53:27:328:C:H4'	53:27:329:A:H5'	1.76	0.68
53:27:54:C:H2'	53:27:352:C:H41	1.59	0.68
53:27:613:C:H2'	53:27:614:C:C6	2.29	0.68
54:28:2233:U:H2'	54:28:2234:G:H8	1.57	0.68
54:28:813:U:H2'	54:28:814:C:C6	2.29	0.68
44:18:7:ASN:HD22	44:18:21:ILE:HD11	1.59	0.68
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
14:N:29:VAL:HG12	14:N:78:LYS:HD2	1.74	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
8:H:61:ARG:HB3	54:28:1047:G:C8	2.29	0.68
54:28:2114:A:C6	54:28:2115:G:H1'	2.29	0.68
24:X:36:ARG:NH2	54:28:2199:A:OP1	2.26	0.68
54:28:580:U:H2'	54:28:581:C:C6	2.28	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
18:R:74:ILE:HB	18:R:87:GLN:HB3	1.76	0.68
20:T:88:LYS:C	20:T:90:GLY:H	1.97	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
13:M:20:LEU:HD23	22:V:81:PRO:HG2	1.76	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
54:28:1789: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
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
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
37:11:78:PHE:HD1	37:11:84:VAL:HG11	1.58	0.67
54:28:1678:A:H2'	54:28:1679:A:H8	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1857:G:N2	54:28:1884:G:H2'	2.08	0.67
54:28:2345:G:N3	54:28:2381:A:H2'	2.09	0.67
54:28:2060:A:H1'	54:28:2502:G:O2'	1.93	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
58:32:10:G:H2'	58:32:11:A:C8	2.29	0.67
25:Y:38:GLN:O	54:28:95:A:H4'	1.93	0.67
53:27:1144:G:H21	53:27:1146:A:H62	1.39	0.67
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
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
55:29:3:C:C3'	55:29:4:C:H5''	2.24	0.67
30:4:11:LYS:HE2	54:28:686:U:H5''	1.76	0.67
8:H:59:LEU:HD23	8:H:62:ARG:HB2	1.75	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
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
58:32:1:C:H2'	58:32:2:G:C8	2.30	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
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
35:9:119:HIS:HD1	53:27:437:U:HO2'	1.40	0.67
28:2:8:THR:HG21	54:28:2020:A:H5'	1.76	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
32:6:18:LYS:HE2	32:6:21:GLY:HA2	1.77	0.67
6:F:102:ILE:HD12	6:F:114:HIS:HD2	1.60	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
53:27:1213:A:C2	53:27:1215:G:H1'	2.29	0.67
53:27:950:U:H2'	53:27:951:G:C8	2.28	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
32:6:8:LYS:H	32:6:35:GLN:HE22	1.42	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:8:89:VAL:O	34:8:93:ILE:HG13	1.95	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
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
42:16:30:ILE:HD13	42:16:45:THR:HG22	1.77	0.67
38:12:78:ARG:HH11	53:27:1382:C:H4'	1.59	0.67
35:9:33:ILE:HG12	35:9:34:GLU:N	2.05	0.67
4:D:119:ILE:O	4:D:187:VAL:HG23	1.95	0.67
9:I:113:ALA:O	9:I:114:ALA:C	2.32	0.67
43:17:98:ARG:HB2	43:17:116:TYR:HA	1.77	0.67
53:27:147:G:H2'	53:27:148:G:C8	2.29	0.67
53:27:24:U:H2'	53:27:25:C:C6	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
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
40:14:11:ARG:NH1	40:14:106:ASP:OD2	2.27	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
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
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
54:28:1082: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
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
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
53:27:413:G:H1'	53:27:428:G:H21	1.59	0.66
53:27:562:U:H5	53:27:884:U:HO2'	1.40	0.66
54:28:1028:A:H2'	54:28:1029:A:C8	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:64:A:H2'	54:28:65:U:C6	2.29	0.66
35:9:10:LEU:HD13	35:9:62:ARG:HD2	1.77	0.66
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
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
53:27:1169:A:H2'	53:27:1170:A:C8	2.31	0.66
53:27:56:U:H2'	53:27:57:G:H8	1.59	0.66
54:28:282:A:H2'	54:28:283:G:H8	1.58	0.66
4:D:149:ILE:CG2	4:D:188:MET:HG2	2.25	0.66
6:F:112:VAL:HG12	6:F:112:VAL:O	1.95	0.66
54:28:1021:A:C8	54:28:1023:U:H1'	2.30	0.66
8:H:81:LEU:HA	54:28:1107:G:C4'	2.26	0.66
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
7:G:103:VAL:HG12	7:G:108:VAL:HB	1.77	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
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
53:27:1170:A:H2'	53:27:1171:A:O4'	1.96	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
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
54:28:2146:C:H4'	54:28:2147:A:N7	2.11	0.66
54:28:2144:G:H1'	54:28:2148:G:N2	2.11	0.66
54:28:78:U:H2'	54:28:79:C:C6	2.31	0.66
55:29:114:C:H2'	55:29:115:A:C8	2.30	0.66
22:V:62:THR:HG22	22:V:71:LYS:HG2	1.78	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
35:9:8:LEU:HD12	35:9:11:SER:HB2	1.77	0.66
2:B:36:ASN:HB2	2:B:61:TYR:HB2	1.77	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
37:11:38:ARG:HB3	37:11:63:ASN:HB2	1.78	0.66
27:1:43:PHE:HB2	27:1:47:LYS:HE3	1.76	0.66
46:20:48:ASP:OD2	46:20:51:SER:HB2	1.96	0.66
52:26:19:LYS:N	52:26:19:LYS:HD2	2.11	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
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
54:28:2493:U:C3'	54:28:2494:G:H5''	2.26	0.66
22:V:19:ARG:NH2	55:29:95:U:OP2	2.29	0.66
12:L:78:ARG:NH2	12:L:80:SER:OG	2.29	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
53:27:502:A:H2'	53:27:503:C:C6	2.31	0.66
54:28:1107:G:H2'	54:28:1108:U: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
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
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
48:22:30:HIS:HD2	48:22:33:TYR:H	1.44	0.66
43:17:87:LYS:HD3	53:27:525:C:OP1	1.96	0.66
54:28:1678:A:H2'	54:28:1679:A:C8	2.31	0.66
54:28:732:C:H2'	54:28:733:G:O4'	1.96	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
5:E:134:GLN:OE1	5:E:134:GLN:N	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
42:16:116:PRO:HB3	53:27:676:A:C1'	2.25	0.65
53:27:1417:G:H2'	53:27:1482:G:N2	2.11	0.65
53:27:797:C:H2'	53:27:798:U:C6	2.31	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:73:ASN:HB2	7:G:108:VAL:HG23	1.77	0.65
7:G:12:LEU:HD13	7:G:19:VAL:HG21	1.77	0.65
53:27:593:U:H2'	53:27:594:U:H6	1.61	0.65
54:28:1736:U:H2'	54:28:1737:G:O4'	1.96	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
2:B:164:VAL:HG23	2:B:174:ARG:HB2	1.78	0.65
38:12:70:PRO:HG3	38:12:98:LEU:HD23	1.77	0.65
27:1:42:PRO:O	27:1:46:GLY:HA3	1.97	0.65
43:17:23:LEU:HG	43:17:24:GLU:HG3	1.77	0.65
53:27:999:C:H2'	53:27:1000:A:C8	2.32	0.65
53:27:31:G:N2	53:27:47:C:H5''	2.10	0.65
51:25:4:LYS:NZ	53:27:61:G:P	2.69	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
15:O:3:LYS:HE3	55:29:46:A:H5''	1.78	0.65
55:29:56:G:H4'	55:29:57:A:H8	1.61	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
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
28:2:3:GLN:HA	54:28:2615:U:C2	2.31	0.65
54:28:2292:U:H2'	54:28:2293:G:H8	1.61	0.65
54:28:558:U:H2'	54:28:559:G:H8	1.60	0.65
8:H:80:THR:C	54:28:1107:G:H4'	2.16	0.65
17:Q:65:ASN:HA	17:Q:75:TYR:HB2	1.79	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
54:28:1331:G:O2'	54:28:1332:G:H5''	1.97	0.65
54:28:934:U:H2'	54:28:935:C:C6	2.32	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:B:206:LYS:HD2	54:28:729:G:C8	2.31	0.65
1:A:639:GLU:O	1:A:642:ALA:HB3	1.97	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
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
27:1:62:LYS:O	27:1:65:ASN:ND2	2.30	0.65
45:19:7:ALA:O	45:19:10:VAL:HG12	1.97	0.65
52:26:67:THR:CB	53:27:1088:G:HO2'	2.10	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
54:28:2273:A:H2'	54:28:2274:A:C8	2.31	0.65
54:28:635:C:H2'	54:28:636:G:C8	2.32	0.65
29:3:7:LYS:HA	29:3:23:THR:HA	1.77	0.65
10:J:27:ARG:HD2	54:28:1012:U:H3	1.62	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
54:28:1096:A:C3'	54:28:1097:U:H5''	2.26	0.65
54:28:466:A:N3	54:28:683:U:H1'	2.12	0.65
54:28:5:A:H2'	54:28:6:A:C8	2.32	0.65
10:J:16:TYR:CD1	10:J:140:LEU:HB2	2.31	0.65
53:27:1486:G:H2'	53:27:1487:G:C8	2.32	0.65
53:27:229:U:H2'	53:27:230:G:C8	2.31	0.65
30:4:3:ARG:HG2	54:28:1613:G:H4'	1.79	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
54:28:851:C:H2'	54:28:852:U:H6	1.61	0.65
4:D:186:VAL:HG12	4:D:186:VAL:O	1.95	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
53:27:1030:U:H2'	53:27:1031:C:H5'	1.78	0.64
39:13:83:ARG:NH2	53:27:644:U:H4'	2.12	0.64
54:28:1821:A:H2'	54:28:1822:C:H6	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2704:C:H2'	54:28:2705:A:O4'	1.96	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
33:7:22:TRP:CZ3	33:7:24:PRO:HA	2.32	0.64
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
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
16:P:92:ARG:HD3	54:28:1753:G:H5''	1.78	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
30:4:31:LEU:HG	30:4:42:LEU:HD21	1.79	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
4:D:162:ARG:NH1	54:28:321:U:O3'	2.30	0.64
2:B:74:PRO:HB3	2:B:114:GLN:HE21	1.62	0.64
3:C:56:LYS:HZ2	54:28:2830:C:H5''	1.62	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
53:27:687: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
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
53:27:1029:U:H1'	53:27:1033:G:H22	1.60	0.64
53:27:381:C:H2'	53:27:382:A:O4'	1.96	0.64
46:20:50:HIS:ND1	53:27:667:G:H4'	2.11	0.64
54:28:591:U:H2'	54:28:592:A:C8	2.33	0.64
8:H:82:ILE:HG22	8:H:83:ALA:H	1.62	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:744:C:H2'	53:27:745:G:C8	2.33	0.64
54:28:1080:A:O2'	54:28:1081:U:H5'	1.97	0.64
54:28:5:A:H2'	54:28:6:A:H8	1.62	0.64
57:31:16:C:O2'	57:31:17:C:H5'	1.97	0.64
35:9:36:ALA:N	35:9:37:PRO:HD3	2.12	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:NH2	16:P:38:ARG:HG3	2.11	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
33:7:103:TRP:CH2	33:7:107:ARG:HD3	2.33	0.64
33:7:68:PHE:HE1	33:7:216:VAL:HG11	1.62	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
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
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
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
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
54:28:1199: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
54:28:181:A:H2'	54:28:182:A:H8	1.60	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
21:U:73:ASN:HA	21:U:95:PHE:CE1	2.31	0.64
42:16:22:ILE:O	42:16:22:ILE:HG22	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
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
44:18:10:ASP:C	44:18:12:LYS:H	2.00	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:1190:G:H2'	54:28:1191:G:C8	2.33	0.63
17:Q:1:ALA:N	54:28:1248:G:OP1	2.31	0.63
54:28:2228:G:H2'	54:28:2229:U:C6	2.33	0.63
54:28:616:A:H2'	54:28:617:G:O4'	1.97	0.63
58:32:46:A:C3'	58:32:47:U:H5''	2.28	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
1:A:640:GLN:NE2	54:28:883:G:H21	1.95	0.63
20:T:90:GLY:O	20:T:92:ASN:ND2	2.31	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
7:G:1:MET:O	7:G:20:ASN:HA	1.98	0.63
18:R:5:PHE:O	18:R:11:GLN:HA	1.99	0.63
47:21:22:ALA:HA	47:21:33:ILE:HD12	1.78	0.63
53:27:1201:A:H4'	53:27:1203:C:OP2	1.98	0.63
53:27:946:A:H2'	53:27:947:G:C8	2.33	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
54:28:718:A:H2'	54:28:719:C:H5'	1.80	0.63
35:9:169:TRP:CD1	35:9:185:PRO:HG3	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
53:27:1023:U:H2'	53:27:1024:G:H8	1.63	0.63
53:27:49:U:O2'	53:27:50:A:H2'	1.98	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
34:8:110:LEU:HG	34:8:143:LEU:HD23	1.80	0.63
34:8:39:ARG:HG3	34:8:54:ILE:HD11	1.79	0.63
35:9:106:PHE:CD1	35:9:144:ILE:HD11	2.33	0.63
8:H:81:LEU:HA	54:28:1107:G:H4'	1.79	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
53:27:1333:A:H2'	53:27:1334:G:O4'	1.99	0.63
53:27:162:A:H2'	53:27:163:C:O4'	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:282:A:H2'	54:28:283:G:C8	2.33	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
28:2:54:ILE:HG23	28:2:56:LYS:H	1.64	0.63
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
7:G:29:PHE:HB2	54:28:2198:A:N3	2.14	0.63
7:G:16:GLY:HA2	7:G:47:PHE:CZ	2.34	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
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
53:27:1429:A:H2'	53:27:1430:A:C8	2.33	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
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
55:29:111:U:H2'	55:29:112:G:H8	1.64	0.63
55:29:3:C:H3'	55:29:4:C:H5''	1.81	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
43:17:28: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
54:28:1486: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
54:28:376:G:H2'	54:28:377:G:H8	1.64	0.63
58:32:38:A:H2'	58:32:39:C:O4'	1.99	0.63
33:7:53:LEU:HD23	33:7:56:LEU:HD12	1.81	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
53:27:113:G:H2'	53:27:114:U:C6	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:1444: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
54:28:161:A:H3'	54:28:162:U:H5''	1.80	0.63
54:28:1675:C:H2'	54:28:1676:A:O4'	1.97	0.63
54:28:170:U:H2'	54:28:171:U:C6	2.34	0.63
54:28:1721:G:H2'	54:28:1738:G:N2	2.14	0.63
54:28:176:A:O2'	54:28:177:G:H5'	1.99	0.63
54:28:2243:U:H2'	54:28:2244:U:C6	2.30	0.63
54:28:420:C:H2'	54:28:421:C:H6	1.63	0.63
39:13:49:LYS:HB2	39:13:59:GLU:HB3	1.81	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
35:9:144:ILE:CD1	35:9:177:MET:HB3	2.27	0.62
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
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
4:D:44:ARG:HH22	54:28:1248:G:P	2.22	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
54:28:288:U:H2'	54:28:289:G:C8	2.34	0.62
33:7:9:LEU:HG	33:7:14:HIS:HE1	1.64	0.62
26:Z:40:THR:OG1	26:Z:41:PRO:HD2	1.99	0.62
53:27:1071:C:H2'	53:27:1072:G:C8	2.34	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
54:28:277:G:H3'	54:28:277:G:N3	2.15	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
43:17:71:HIS:HA	43:17:98:ARG:NH1	2.14	0.62
53:27:1524:C:H2'	53:27:1525:G:H8	1.63	0.62
53:27:730:G:H2'	53:27:731:G:H5'	1.82	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
54:28:946:C:H2'	54:28:947:A:H8	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:7:65:LYS:O	33:7:66:ILE:HD13	1.99	0.62
19:S:77:ASP:OD1	19:S:102:HIS:HB2	1.98	0.62
27:1:16:CYS:SG	27:1:18:CYS:HB2	2.38	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
33:7:20:ARG:HG3	33:7:21:TYR:H	1.64	0.62
7:G:23:ALA:HB1	7:G:27:ARG:HH21	1.64	0.62
8:H:61:ARG:HB2	54:28:1047:G:N7	2.13	0.62
8:H:8:LYS:HB2	54:28:1046:A:N1	2.14	0.62
23:W:33:ILE:HG22	23:W:34:VAL:HG23	1.82	0.62
42:16:111:ASP:OD1	42:16:113:THR:HG23	1.99	0.62
53:27:1506:U:O2'	53:27:1507:A:H5'	1.99	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
43:17:25:ALA:HB1	53:27:554:A:H5'	1.79	0.62
9:I:93:ASN:CB	54:28:1077:A:H4'	2.17	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
30:4:4:THR:O	54:28:687:C:H5"	2.00	0.62
35:9:28:ASP:O	35:9:30:LYS:N	2.28	0.62
16:P:23:ASP:HA	16:P:89:GLY:H	1.65	0.62
36:10:104:ILE:O	36:10:104:ILE:HG23	1.99	0.62
40:14:59:LYS:C	40:14:60:LEU:HD12	2.20	0.62
45:19:39:ASP:HA	45:19:42:ASN:HD22	1.65	0.62
28:2:46:GLY:HA3	28:2:54:ILE:HB	1.80	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
54:28:2114: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
10:J:113:PRO:HD3	54:28:529:A:OP2	1.99	0.62
54:28:878:A:H3'	54:28:879:G:H8	1.65	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
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
43:17:41:PRO:HG3	43:17:49:ARG:HG2	1.80	0.62
28:2:38:LEU:HB2	28:2:41:HIS:HB2	1.81	0.62
53:27:1388:C:H2'	53:27:1389:C:H6	1.63	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)
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
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
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
54:28:1744: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
54:28:214:G:H2'	54:28:215:G:C8	2.35	0.62
32:6:36:ARG:HG2	32:6:37:GLN:N	2.13	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
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
54:28:2637:U:H2'	54:28:2638:G:O4'	1.99	0.62
54:28:394:C:H2'	54:28:395:U:O4'	1.99	0.62
30:4:4:THR:CG2	54:28:789:A:H5'	2.30	0.62
35:9:196:GLU:HA	35:9:199:ILE:HD13	1.82	0.62
35:9:37:PRO:HD2	35:9:41:GLY:CA	2.30	0.62
35:9:4:LEU:HD12	35:9:4:LEU:O	2.00	0.62
6:F:27:GLY:HA3	6:F:78:VAL:HB	1.82	0.62
15:O:24:THR:HG22	15:O:42:PRO:HD3	1.82	0.62
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
53:27:1491:G:C2'	53:27:1492:A:H5''	2.29	0.61
53:27:149:A:H1'	53:27:1446:A:C2	2.35	0.61
54:28:2146:C:H4'	54:28:2147:A:C5	2.35	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
58:32:19:G:P	58:32:60:U:H3	2.22	0.61
33:7:162:VAL:HG12	33:7:164:ASP:H	1.64	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
54:28:1023:U:H4'	54:28:1123:C:OP1	2.00	0.61
54:28:119:A:H4'	54:28:120:U:H5'	1.82	0.61
4:D:78:TRP:CE3	54:28:1257:C:H4'	2.35	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
54:28:1999: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
54:28:554:U:H2'	54:28:555:G:O4'	2.00	0.61
22:V:46:LYS:O	22:V:50:MET:HG2	2.00	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
53:27:1427:C:H2'	53:27:1428:A:C8	2.34	0.61
53:27:513:C:H2'	53:27:514:C:C6	2.34	0.61
54:28:2111:U:H1'	54:28:2118:U:H4'	1.82	0.61
23:W:51:ARG:NH1	54:28:2364:C:OP1	2.33	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
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
45:19:53:ASP:HA	45:19:58:ARG:HD3	1.81	0.61
53:27:517:G:H2'	53:27:531:U:H5	1.64	0.61
43:17:49:ARG:HH22	53:27:522:C:H41	1.48	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
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
46:20:88:ARG:NH2	54:28:716:A:OP1	2.33	0.61
54:28:876:C:H2'	54:28:877:A:O4'	2.00	0.61
34:8:68:HIS:HA	34:8:103:ALA:O	2.00	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
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
53:27:1530:G:H2'	53:27:1531:A:H8	1.64	0.61
53:27:672:U:H2'	53:27:673:A:H8	1.66	0.61
54:28:1570:A:H2'	54:28:1571:A:C8	2.36	0.61
54:28:635:C:H2'	54:28:636:G:H8	1.64	0.61
55:29:75:G:H2'	55:29:76:G:H8	1.65	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
53:27:946:A:H2'	53:27:947:G:H8	1.64	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
31:5:34:LYS:HD2	54:28:2391:G:OP2	1.99	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
36:10:61:LYS:NZ	53:27:1073:U:OP2	2.33	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
53:27:909:A:H2'	53:27:910:C:O4'	2.00	0.61
54:28:1363:C:H2'	54:28:1364:G:H8	1.64	0.61
54:28:1721:G:HO2'	54:28:1722:A:H8	1.47	0.61
54:28:1785:A:OP2	54:28:1982:U:H5'	2.01	0.61
54:28:538:A:H2'	54:28:539:G:O4'	2.00	0.61
13:M:40:ARG:HD2	54:28:958:U:C4	2.35	0.61
40:14:56:MET:HG3	40:14:57:VAL:N	2.15	0.61
51:25:4:LYS:O	51:25:7:LYS:HG2	2.01	0.61
53:27:1347:G:H22	53:27:1373:G:H2'	1.62	0.61
53:27:476:U:H2'	53:27:477:C:C6	2.36	0.61
42:16:126:ARG:NH2	53:27:692:U:H5''	2.16	0.61
54:28:2241:A:H2'	54:28:2242:G:C8	2.35	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
33:7:98:GLY:O	33:7:102:ASN:HB3	2.01	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
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
54:28:2121:G:H2'	54:28:2122:U:O4'	2.01	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
31:5:14:LYS:HD3	31:5:22:LYS:HE2	1.82	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1342:C:H2'	53:27:1343:G:H8	1.64	0.61
54:28:2638:G:HO2'	54:28:2639:A:H8	1.46	0.61
55:29:13:G:H21	55:29:16:G:H1'	1.65	0.61
7:G:78:VAL:HG21	7:G:103:VAL:HG22	1.83	0.61
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
53:27:604:G:H2'	53:27:605:U:O4'	2.00	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
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
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
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
51:25:53:MET:O	51:25:56:ILE:HG22	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
53:27:747:A:H2'	53:27:748:G:O4'	2.01	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
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
58:32:31:G:H2'	58:32:32:C:H5'	1.82	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
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
54:28:2217: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
54:28:419:U:H2'	54:28:420:C:H6	1.66	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:23:ARG:O	25:Y:24:GLU:C	2.39	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
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
52:26:3:ILE:HD11	52:26:22:CYS:SG	2.41	0.60
53:27:1033:G:C2'	53:27:1034:G:H5'	2.31	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
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
54:28:167:A:C2	54:28:168:G:H1'	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
54:28:672:C:O2'	54:28:673:C:H5'	2.01	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
31:5:57:VAL:HA	31:5:60:CYS:SG	2.42	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
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
50:24:52:ASN:ND2	50:24:55:GLN:HB2	2.17	0.60
33:7:101:THR:HG23	53:27:1074:G:O2'	2.02	0.60
53:27:1144:G:N2	53:27:1146:A:H62	1.99	0.60
53:27:598:U:H2'	53:27:599:C:C6	2.37	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
33:7:20:ARG:HG3	33:7:21:TYR:N	2.16	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:153:PRO:HG3	6:F:161:VAL:O	2.02	0.60
6:F:90:GLY:HA3	6:F:93:TYR:CD2	2.36	0.60
16:P:83:ILE:O	16:P:83:ILE:HG22	2.00	0.60
37:11:29:ILE:HG22	37:11:34:GLY:CA	2.32	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:1702:G:H2'	54:28:1703:G:C5'	2.27	0.60
54:28:20:C:H2'	54:28:21:A:H8	1.67	0.60
54:28:2732:G:O2'	54:28:2733:A:H5'	2.01	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
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
12:L:86:GLU:O	12:L:87:GLY:C	2.38	0.60
43:17:4:ASN:ND2	53:27:880:C:OP1	2.35	0.60
43:17:2:THR:HG21	43:17:5:GLN:HG3	1.84	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
54:28:1020: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
5:E:130:GLY:HA3	54:28:2305:U:H5''	1.83	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
33:7:181:PRO:HA	33:7:196:ASP:OD2	2.02	0.60
33:7:94:ARG:HE	53:27:1100:C:P	2.25	0.60
35:9:117:VAL:HG12	35:9:130:ASN:O	2.01	0.60
8:H:11:ILE:HD12	8:H:66:GLY:HA3	1.84	0.60
50:24:10:ILE:HG12	50:24:40:PHE:HE2	1.67	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
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
39:13:106:SER:HA	53:27:642:A:N7	2.17	0.60
53:27:701:U:C5'	53:27:703:G:H1'	2.29	0.60
54:28:1161:C:H2'	54:28:1162:G:H8	1.67	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
9:I:100:ILE:O	9:I:140:GLU:O	2.20	0.60
53:27:1301:U:H2'	53:27:1301:U:O2	2.02	0.60
54:28:2107:G:C2	54:28:2108:A:H1'	2.37	0.60
7:G:28:ASN:OD1	54:28:2199:A:H4'	2.01	0.60
54:28:2259:U:H2'	54:28:2260:C:H6	1.67	0.60
54:28:445:C:O2'	54:28:446:G:H5'	2.02	0.60
1:A:640:GLN:HE21	54:28:883:G:H21	1.49	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
53:27:1409: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
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
54:28:1843:C:H2'	54:28:1844:C:H6	1.67	0.59
23:W:16:ARG:HD3	54:28:2271:G:H5'	1.84	0.59
54:28:2538:C:H2'	54:28:2539:C:C6	2.29	0.59
54:28:692:C:H2'	54:28:693:A:C8	2.37	0.59
55:29:118:C:H2'	55:29:119:A:H8	1.67	0.59
34:8:73:GLY:O	34:8:76:ILE:HG13	2.00	0.59
1:A:616:ILE:HG12	1:A:740:ARG:HH12	1.66	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
53:27:1331: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
39:13:88:LYS:HG3	53:27:600:A:H5''	1.83	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
54:28:1856:U:H2'	54:28:1857:G:O4'	2.02	0.59
7:G:25:TYR:CD1	54:28:2094:A:H5'	2.37	0.59
54:28:236:C:H2'	54:28:237:C:H6	1.67	0.59
54:28:2582:G:O2'	54:28:2583:G:H5'	2.02	0.59
54:28:319:G:H2'	54:28:320:A:O4'	2.02	0.59
54:28:26:G:H1'	54:28:515:A:H61	1.67	0.59
15:O:29:HIS:CD2	55:29:7:G:H5''	2.38	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
40:14:37:TYR:O	40:14:38:PHE:HB3	2.02	0.59
41:15:91:ASP:CG	41:15:92:LEU:H	2.04	0.59
42:16:109:ILE:HG22	52:26:16:ARG:NH1	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:221:A:H2'	54:28:266:G:N7	2.17	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
54:28:310:A:O2'	54:28:311:A:H2'	2.02	0.59
54:28:46:G:H2'	54:28:47:C:H6	1.67	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
4:D:112:LEU:HA	4:D:115:GLN:HB2	1.84	0.59
42:16:87:GLY:H	42:16:113:THR:HG22	1.67	0.59
53:27:20:U:H2'	53:27:21:G:O4'	2.01	0.59
43:17:49:ARG:HH12	53:27:523:A:H61	1.48	0.59
53:27:62:U:H2'	53:27:63:C:C6	2.37	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
54:28:859:G:H1'	54:28:860:U:C5	2.31	0.59
40:14:43:ALA:O	40:14:46:VAL:HG22	2.02	0.59
53:27:339:C:H2'	53:27:340:U:C6	2.38	0.59
53:27:33:A:H2'	53:27:34:C:C6	2.36	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
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
4:D:76:PRO:HA	4:D:82:GLY:HA3	1.82	0.59
8:H:114:GLU:HA	8:H:123:ILE:HA	1.84	0.59
8:H:45:GLY:O	8:H:49:GLY:HA2	2.02	0.59
42:16:87:GLY:O	42:16:92:ARG:NH2	2.36	0.59
45:19:48:GLN:OE1	45:19:48:GLN:N	2.30	0.59
51:25:61:ALA:HB1	51:25:68:LYS:HB2	1.83	0.59
47:21:70:ARG:CG	53:27:375:U:OP1	2.50	0.59
53:27:406:G:H2'	53:27:407:U:C6	2.36	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
54:28:150:U:H2'	54:28:151:C:C6	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1683:U:H2'	54:28:1684:G:H8	1.67	0.59
54:28:315:G:H2'	54:28:316:C:C6	2.38	0.59
4:D:162:ARG:NH1	54:28:340:A:O2'	2.35	0.59
54:28:277:G:H1'	54:28:361:G:C6	2.37	0.59
54:28:950:G:H2'	54:28:951:C:C6	2.38	0.59
35:9:191:SER:OG	35:9:194:ILE:HG12	2.02	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
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:N3	54:28:1111:A:H2'	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
34:8:57:GLU:OE1	34:8:64:ARG:HD2	2.02	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
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
53:27:1202:U:H2'	53:27:1203:C:O4'	2.03	0.59
53:27:309:A:H2'	53:27:310:G:H8	1.67	0.59
54:28:1201:U:H2'	54:28:1202:G:H8	1.67	0.59
24:X:2:ARG:NH1	54:28:1364:G:H5''	2.18	0.59
9:I:54:ILE:HA	9:I:74:PRO:HD3	1.83	0.59
10:J:125:TYR:HH	10:J:132:HIS:HE2	1.49	0.59
11:K:92:GLU:O	11:K:93:GLN:O	2.20	0.59
37:11:29:ILE:HG22	37:11:34:GLY:HA3	1.83	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
53:27:824:G:H2'	53:27:825:A:H8	1.67	0.59
54:28:1089:A:H2	54:28:1090:A:H62	1.50	0.59
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:40:LYS:HE3	54:28:2330:G:O2'	2.03	0.59
31:5:61:LEU:O	31:5:61:LEU:HD12	2.02	0.59
16:P:113:LEU:O	16:P:113:LEU:HD12	2.03	0.59
53:27:1035:A:H2'	53:27:1036:A:C8	2.38	0.59
38:12:113:LYS:HB3	53:27:1297:G:N2	2.17	0.59
53:27:514:C:H2'	53:27:515:G:H8	1.68	0.59
43:17:8:ARG:NH2	53:27:759:A:H1'	2.18	0.59
8:H:54:VAL:N	54:28:1084:A:OP1	2.35	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
2:B:15:VAL:HA	2:B:204:LEU:O	2.02	0.59
16:P:26:GLU:HB3	16:P:84:SER:OG	2.02	0.59
21:U:97:SER:C	21:U:99:SER:H	2.06	0.59
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
28:2:28:SER:OG	28:2:39:ARG:HD3	2.03	0.58
50:24:76:THR:HG21	53:27:1221:G:O3'	2.02	0.58
53:27:1316:G:N2	53:27:1318:A:H3'	2.18	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
54:28:669:G:H2'	54:28:669:G:N3	2.18	0.58
34:8:56:ILE:HG23	34:8:63:ILE:HD11	1.85	0.58
12:L:79:LEU:HD12	12:L:114:GLY:H	1.68	0.58
38:12:78:ARG:HB3	38:12:83:THR:HG22	1.85	0.58
8:H:56:ARG:HB3	54:28:1106:G:H4'	1.85	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
6:F:152:ARG:NH1	54:28:2743:U:O2'	2.36	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
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
8:H:94:ARG:O	8:H:97:LYS:HG2	2.03	0.58
10:J:130:HIS:O	10:J:130:HIS:ND1	2.35	0.58
12:L:96:LYS:HD2	12:L:103:ILE:HA	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
28:2:49:ARG:HG2	54:28:2884:U:C6	2.31	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
53:27:225:C:H2'	53:27:226:G:H5''	1.84	0.58
53:27:783:C:H2'	53:27:784:A:H8	1.68	0.58
53:27:570:G:H1'	53:27:820:U:C4	2.38	0.58
53:27:82:G:H2'	53:27:83:C:O4'	2.04	0.58
54:28:140:C:OP2	54:28:140:C:H3'	2.02	0.58
54:28:1765:U:H2'	54:28:1766:G:C8	2.39	0.58
54:28:189:G:H2'	54:28:205:G:N2	2.18	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
35:9:7:LYS:HE2	35:9:21:LYS:HB2	1.85	0.58
3:C:184:ARG:HG3	3:C:186:LEU:HG	1.85	0.58
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
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
33:7:94:ARG:HG3	53:27:1100:C:OP2	2.03	0.58
9:I:135:MET:HA	54:28:1063:G:H1'	1.85	0.58
5:E:76:PHE:HE1	54:28:2308:G:C6	2.21	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
21:U:15:GLY:HA2	54:28:309:A:H4'	1.84	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
8:H:75:ALA:C	8:H:77:VAL:N	2.57	0.58
17:Q:80:ASN:CG	54:28:1151:A:H4'	2.23	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
54:28:2339:C:H2'	54:28:2340:A:H8	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:624:PHE:HA	1:A:652:ILE:HG12	1.85	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
53:27:1070:U:H2'	53:27:1071:C:C6	2.39	0.58
53:27:131:A:H2'	53:27:132:C:C6	2.39	0.58
53:27:1404:C:H2'	53:27:1405:G:C8	2.37	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
17:Q:5:ARG:NH1	54:28:585:G:N7	2.52	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
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
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
8:H:4:ASN:ND2	54:28:1046:A:H2'	2.17	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
54:28:288:U:H2'	54:28:289:G:H8	1.67	0.58
54:28:53:A:H2'	54:28:54:G:O4'	2.03	0.58
35:9:101:VAL:HG13	35:9:106:PHE:HB2	1.85	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
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
53:27:1254:A:H2'	53:27:1255:G:C8	2.38	0.58
53:27:390:U:H2'	53:27:391:G:C8	2.39	0.58
54:28:1000:A:H2'	54:28:1001:A:C8	2.39	0.58
54:28:443:A:H1'	54:28:1201:U:O4'	2.03	0.58
55:29:3:C:H2'	55:29:4:C:C5'	2.33	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:57:VAL:HB	9:I:69:VAL:HB	1.86	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
54:28:1590: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
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
35:9:67:LEU:HD11	53:27:547:A:OP2	2.03	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
53:27:123:U:H5''	53:27:311:C:O2'	2.04	0.58
24:X:36:ARG:N	54:28:2200:C:OP1	2.35	0.58
54:28:248:G:N3	54:28:2431:U:H4'	2.18	0.58
11:K:23:LYS:NZ	54:28:2562:U:H1'	2.19	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
5:E:68:LYS:HZ3	55:29:41:G:H1	1.50	0.58
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
53:27:1029: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
53:27:827:U:H2'	53:27:870:U:O4	2.03	0.57
54:28:1352:U:O2'	54:28:1353:A:H5'	2.03	0.57
54:28:167:A:H2'	54:28:168:G:O4'	2.04	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
54:28:807:U:H1'	54:28:2445:G:OP1	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
54:28:308:G:H2'	54:28:309:A:C8	2.38	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:10:156:ARG:C	36:10:158:LYS:H	2.08	0.57
36:10:149:PRO:HB2	36:10:163:ILE:HD13	1.86	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
39:13:106:SER:HA	53:27:642:A:C8	2.39	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
24:X:22:ASN:OD1	54:28:2079:U:O2'	2.22	0.57
54:28:703:U:H2'	54:28:704:G:O4'	2.04	0.57
33:7:101:THR:HG22	33:7:174:GLU:OE2	2.04	0.57
1:A:679:LEU:N	1:A:679:LEU:HD12	2.20	0.57
1:A:679:LEU:O	1:A:682:ASP:CB	2.38	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
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
54:28:1730: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
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
55:29:92:C:O2'	55:29:93:C:H5'	2.04	0.57
5:E:65:LEU:HD22	55:29:42:C:C5	2.39	0.57
6:F:122:ALA:HA	6:F:132:LEU:HA	1.86	0.57
6:F:82:PHE:CE2	6:F:137:LYS:HB2	2.40	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1516:G:H2'	53:27:1518:A:OP2	2.03	0.57
53:27:810:C:H2'	53:27:811:C:O4'	2.04	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
54:28:596:U:H2'	54:28:597:G:C8	2.39	0.57
57:31:62:C:H2'	57:31:63:G:H8	1.70	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
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
53:27:1464:U:H2'	53:27:1465:A:H8	1.67	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
43:17:111:GLN:HB3	53:27:538:G:OP2	2.04	0.57
53:27:917:G:H2'	53:27:918:A:C8	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
2:B:220:ARG:HD2	54:28:1827:U:OP2	2.04	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
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
1:A:716:ILE:HD11	1:A:721:VAL:HB	1.85	0.57
6:F:100:ASN:O	6:F:116:LEU:HB2	2.05	0.57
6:F:19:ASN:HB3	6:F:22:VAL:HB	1.87	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
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
53:27:1527:U:H2'	53:27:1528:U:C6	2.40	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
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
13:M:45:GLN:NE2	54:28:2485:G:H5''	2.17	0.57
54:28:2760:C:O2'	54:28:2761:A:H5'	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:29:104:A:H2'	55:29:105:G:O4'	2.03	0.57
55:29:56:G:H4'	55:29:57:A:C8	2.39	0.57
29:3:10:LEU:HD23	29:3:50:GLU:HA	1.87	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
30:4:13:ASN:O	30:4:17:GLY:HA3	2.04	0.57
5:E:90:LEU:O	5:E:90:LEU:HD12	2.05	0.57
10:J:16:TYR:HD1	10:J:140:LEU:HB2	1.69	0.57
18:R:4:VAL:HB	18:R:40:MET:HG2	1.84	0.57
53:27:1130:A:N6	53:27:1144:G:H1'	2.18	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
8:H:81:LEU:HD13	54:28:1106:G:N3	2.20	0.57
54:28:1127:A:H2'	54:28:1128:G:H5''	1.86	0.57
4:D:68:ALA:HA	54:28:1255:U:C4	2.40	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
6:F:7:PRO:HB3	6:F:50:THR:HA	1.87	0.57
8:H:57:ASN:CG	8:H:63:ALA:HB2	2.24	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
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
53:27:1079: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
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
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
53:27:71:A:C2	53:27:100:G:H1'	2.40	0.57
53:27:751:U:H2'	53:27:752:G:O4'	2.05	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
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
2:B:206:LYS:HD2	54:28:729:G:N9	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:29:41:G:H2'	55:29:41:G:N3	2.19	0.57
32:6:2:LYS:HB2	32:6:35:GLN:HB3	1.85	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
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
30:4:46:LYS:HE3	54:28:127:A:OP2	2.05	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
17:Q:24:TYR:HE2	54:28:2020:A:H4'	1.69	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
34:8:155:ARG:O	34:8:156:LEU:C	2.43	0.57
1:A:680:LEU:O	1:A:683:ILE:HB	2.05	0.57
8:H:51:TYR:CE2	8:H:95:LEU:HD11	2.39	0.57
20:T:28:ASN:HD21	20:T:91:GLN:HA	1.70	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
53:27:1387:G:H2'	53:27:1388:C:C6	2.40	0.57
53:27:762:U:H2'	53:27:763:G:C8	2.40	0.57
8:H:34:THR:HG21	54:28:1056:G:H5'	1.85	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
7:G:110:VAL:HG21	7:G:134:VAL:HG12	1.87	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
21:U:73:ASN:O	21:U:74:ALA:HB3	2.05	0.57
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
54:28:138:U:H3'	54:28:139:U:H5'	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:16:C:H2'	54:28:17:G:H8	1.70	0.56
54:28:176:A:C2'	54:28:177:G:H5'	2.34	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
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
58:32:38:A:H2'	58:32:39:C:C6	2.40	0.56
33:7:117:GLU:O	33:7:121:GLN:HB2	2.05	0.56
2:B:155:ARG:NH2	54:28:1818:U:H5	2.02	0.56
2:B:174:ARG:HH11	2:B:180:MET:HE1	1.69	0.56
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
36:10:100:GLU:C	36:10:102:THR:N	2.58	0.56
40:14:5:TYR:CD1	40:14:88:GLU:HB3	2.40	0.56
53:27:1460:C:H2'	53:27:1461:G:C8	2.40	0.56
53:27:767:A:H2'	53:27:768:A:O4'	2.04	0.56
54:28:163:C:H2'	54:28:164:C:O4'	2.05	0.56
54:28:162:U:HO2'	54:28:163:C:H6	1.53	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
3:C:63:PRO:HG3	54:28:2787:C:H1'	1.86	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
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
38:12:113:LYS:HZ3	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
45:19:26:LEU:O	45:19:30:ILE:N	2.38	0.56
53:27:1410:A:H2'	53:27:1411:C:H6	1.70	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:1561:C:H2'	54:28:1562:U:C6	2.41	0.56
54:28:189:G:H2'	54:28:205:G:H22	1.71	0.56
54:28:2190:G:H2'	54:28:2191:A:H8	1.70	0.56
54:28:441:U:H2'	54:28:442:G:C8	2.40	0.56
30:4:4:THR:HG21	54:28:789:A:H5'	1.86	0.56
54:28:971:G:H2'	54:28:972:A:O4'	2.06	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
34:8:105:VAL:HG21	34:8:111:ASP:OD2	2.06	0.56
34:8:46:LEU:O	34:8:49:ALA:HB3	2.06	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
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
35:9:25:ARG:HH22	53:27:411:A:P	2.28	0.56
53:27:928:G:H2'	53:27:929:G:H8	1.70	0.56
54:28:1297:C:H2'	54:28:1298:C:H6	1.70	0.56
54:28:2345:G:H5'	54:28:2347:C:O4'	2.05	0.56
24:X:15:ASN:HD22	54:28:381:G:H5''	1.70	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
12:L:21:ARG:NH2	54:28:811:U:C4	2.73	0.56
54:28:820:A:H2'	54:28:821:A:C8	2.40	0.56
7:G:90:LEU:HB2	7:G:123:ARG:O	2.06	0.56
9:I:23:VAL:CG2	9:I:27:LEU:HD21	2.35	0.56
16:P:112:ARG:NH2	16:P:114:ASN:HD22	2.04	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
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
54:28:253:C:H2'	54:28:254:G:O4'	2.05	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:8:77:GLY:HA3	34:8:82:ASP:OD2	2.05	0.56
2:B:171:VAL:HG23	2:B:185:ALA:HA	1.88	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
44:18:95:PRO:HA	44:18:108:ARG:HG3	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
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
54:28:2162:G:H8	54:28:2162:G:H5'	1.71	0.56
54:28:2447:G:C4	54:28:2500:U:C5	2.93	0.56
54:28:630:G:H22	54:28:632:A:H3'	1.70	0.56
55:29:28:C:H2'	55:29:29:A:H8	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
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
42:16:71:ASP:O	42:16:72:ALA:HB3	2.06	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
54:28:20:C:H2'	54:28:21:A:C8	2.40	0.56
54:28:2282:G:H4'	54:28:2389:G:O2'	2.05	0.56
12:L:63:LYS:HE2	54:28:2394:C:H5''	1.87	0.56
54:28:2848:G:H2'	54:28:2867:G:H21	1.71	0.56
10:J:113:PRO:HD2	54:28:558:U:P	2.46	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
34:8:96:VAL:HB	34:8:97:PRO:HD2	1.88	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
39:13:28:SER:HB2	39:13:58:LEU:N	2.21	0.56
43:17:98:ARG:HD2	43:17:103:CYS:SG	2.46	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1097:C:H2'	53:27:1098:C:H6	1.70	0.56
38:12:113:LYS:NZ	53:27:1297:G:H1'	2.21	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
43:17:45:ASN:HA	53:27:529:G:O6	2.06	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
45:19:68:ARG:HH22	53:27:974:A:P	2.29	0.56
54:28:1657:U:H2'	54:28:1658:C:H6	1.69	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
57:31:69:C:H2'	57:31:70:G:H8	1.71	0.56
24:X:5:GLN:O	24:X:73:ARG:NH2	2.39	0.56
36:10:24:VAL:HG23	36:10:26:GLY:H	1.70	0.56
5:E:104:THR:HG21	27:1:22:MET:CE	2.36	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
17:Q:57:ARG:NH1	54:28:1154:G:P	2.79	0.56
54:28:1239:G:H2'	54:28:1240:U:O4'	2.05	0.56
54:28:133:U:H2'	54:28:134:G:C8	2.41	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
54:28:39:G:H2'	54:28:40:U:C6	2.41	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
1:A:622:VAL:HG23	1:A:636:ALA:HA	1.87	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
37:11:45:ARG:HD3	37:11:59:TYR:HD2	1.71	0.56
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
54:28:1842:G:H2'	54:28:1843:C:C6	2.41	0.56
54:28:528:A:H2	54:28:2042:A:H2'	1.67	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
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
5:E:92:GLY:O	5:E:95:MET:HG2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
37:11:61: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
53:27:1057:G:H2'	53:27:1058:G:O4'	2.06	0.56
53:27:742:G:H2'	53:27:743:A:C8	2.41	0.56
53:27:975:A:H8	53:27:1357:A:HO2'	1.53	0.56
54:28:2064:C:H2'	54:28:2065:C:C6	2.41	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
3:C:5:VAL:H	3:C:32:ASN:HD21	1.54	0.56
19:S:97:LEU:O	19:S:97:LEU:HD12	2.06	0.56
22:V:86:LEU:HD13	22:V:89:ILE:HD11	1.87	0.56
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
28:2:18:HIS:CD2	54:28:2046:G:HI'	2.41	0.55
53:27:1003:G:N2	53:27:1037:C:O2	2.39	0.55
53:27:708:C:H2'	53:27:709:U:C6	2.41	0.55
54:28:1396:U:H5''	54:28:1397:U:OP2	2.06	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
57:31:62:C:H2'	57:31:63:G:C8	2.40	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
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
39:13:82:LEU:O	39:13:82:LEU:HD23	2.06	0.55
49:23:17:VAL:CG2	49:23:18:GLN:H	2.11	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
53:27:662:U:H2'	53:27:663:A:C8	2.41	0.55
9:I:93:ASN:HB2	54:28:1077:A:C5'	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
35:9:196:GLU:N	35:9:196:GLU:OE1	2.39	0.55
1:A:676:ARG:O	1:A:678:GLY:N	2.39	0.55
2:B:153:LEU:HD11	2:B:181:ARG:HH21	1.70	0.55
6:F:53:PRO:HG3	6:F:61:TRP:CE2	2.40	0.55
11:K:97:THR:O	11:K:118:LEU:HD13	2.06	0.55
12:L:75:ALA:O	12:L:108:ALA:HA	2.06	0.55
38:12:68:VAL:HG21	38:12:103:ILE:HD11	1.88	0.55
41:15:86:ALA:HA	41:15:90:LEU:HD12	1.89	0.55
47:21:19:VAL:HG12	47:21:37:GLY:C	2.27	0.55
28:2:35:GLU:OE1	28:2:43:THR:HB	2.07	0.55
53:27:1060:U:H2'	53:27:1061:G:H8	1.72	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
54:28:226:A:H2'	54:28:227:A:O4'	2.05	0.55
54:28:2285:C:O2'	54:28:2287:A:H1'	2.06	0.55
54:28:414:C:H2'	54:28:415:A:C8	2.40	0.55
33:7:101:THR:HG22	33:7:174:GLU:CD	2.26	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
26:Z:30:ARG:HD2	54:28:1158:C:H5''	1.87	0.55
36:10:13:LYS:HE2	36:10:115:GLU:OE2	2.06	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
53:27:113:G:H1'	53:27:354:G:H5''	1.88	0.55
53:27:1349:A:H2'	53:27:1350:A:O4'	2.05	0.55
47:21:70:ARG:HG3	53:27:375:U:OP1	2.05	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
37:11:86:ARG:NH2	53:27:673:A:O3'	2.39	0.55
54:28:1110:G:HO2'	54:28:1111:A:H8	1.53	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
4:D:97:ASN:HA	54:28:607:U:OP1	2.06	0.55
54:28:622:G:H2'	54:28:623:C:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
54:28:103:A:H2'	54:28:104:A:O4'	2.07	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
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
54:28:7:G:H2'	54:28:8:C:H6	1.71	0.55
33:7:153:MET:HE1	33:7:157:PRO:HG3	1.89	0.55
35:9:94:GLU:HA	35:9:99:ASN:ND2	2.20	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
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
54:28:1188: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
54:28:24:G:H2'	54:28:25:U:O4'	2.06	0.55
54:28:2557:G:H2'	54:28:2558:C:C6	2.42	0.55
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
13:M:14:LYS:NZ	54:28:958:U:H5'	2.22	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
10:J:12:LYS:O	10:J:41:LYS:NZ	2.40	0.55
25:Y:9:LYS:HZ1	25:Y:11:VAL:HG23	1.71	0.55
26:Z:9:THR:HG22	26:Z:53:MET:C	2.27	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
53:27:1128:C:H2'	53:27:1129:C:O4'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1395:C:H5'	53:27:1395:C:H6	1.72	0.55
53:27:1463:U:H2'	53:27:1464:U:C6	2.42	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
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
54:28:580:U:H2'	54:28:581:C:H6	1.72	0.55
1:A:612:CYS:SG	54:28:884:U:H4'	2.47	0.55
33:7:183:PHE:HE1	33:7:197:PHE:HD2	1.55	0.55
5:E:4:HIS:O	5:E:7:TYR:HB3	2.06	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
38:12:12:LEU:CD1	38:12:13:PRO:HD2	2.33	0.55
27:1:37:CYS:N	27:1:40:CYS:SG	2.67	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
54:28:1363: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
2:B:43:ASN:HD21	54:28:1806:C:H1'	1.72	0.55
54:28:2114:A:C2	54:28:2167:U:H1'	2.42	0.55
54:28:217:A:H2'	54:28:218:A:O4'	2.07	0.55
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
54:28:813:U:H2'	54:28:814:C:H6	1.71	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
40:14:11:ARG:HG2	40:14:12:LYS:HG2	1.88	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
40:14:121:ARG:HH12	53:27:1346:A:P	2.30	0.55
53:27:1401:G:C2	53:27:1402:C:H1'	2.42	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
3:C:11:MET:O	54:28:2682:A:H5'	2.06	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
35:9:61:ARG:NH2	35:9:66:VAL:O	2.40	0.55
2:B:222:THR:HG22	2:B:239:PHE:CD1	2.42	0.55
4:D:43:THR:O	54:28:38:A:H1'	2.07	0.55
11:K:29:HIS:O	11:K:29:HIS:ND1	2.40	0.55
44:18:76:ILE:HA	44:18:79:LEU:HD12	1.89	0.55
5:E:101:ARG:HH22	27:1:9:TYR:HE1	1.54	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
52:26:67:THR:HB	53:27:1088:G:HO2'	1.71	0.55
53:27:1233:G:H2'	53:27:1234:C:C6	2.41	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
37:11:91:ARG:HG3	53:27:737:C:OP1	2.06	0.55
54:28:1084:A:H2	54:28:1105:U:O2	1.90	0.55
2:B:179:GLU:OE1	54:28:1799:G:C8	2.60	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
54:28:414:C:H2'	54:28:415:A:H8	1.72	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
2:B:30:ALA:HB3	2:B:31:PRO:HD3	1.88	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
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
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
53:27:1213:A:N1	53:27:1215:G:H1'	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:398:U:H2'	53:27:399: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
3:C:154:LYS:NZ	54:28:2025:C:H5'	2.22	0.54
54:28:2147:A:H62	54:28:2148:G:H21	1.54	0.54
54:28:290:U:H2'	54:28:291:G:H8	1.72	0.54
54:28:52:A:O2'	54:28:53:A:H5'	2.06	0.54
35:9:70:GLN:HA	35:9:73:ASN:HD22	1.72	0.54
10:J:40:HIS:CE1	10:J:41:LYS:HG3	2.43	0.54
3:C:123:LYS:HE2	14:N:1:MET:CE	2.37	0.54
36:10:135:VAL:O	36:10:139:THR:HG23	2.07	0.54
27:1:27:THR:HG23	27:1:28:VAL:H	1.72	0.54
39:13:72:GLU:HB3	39:13:129:ALA:O	2.07	0.54
5:E:114:ARG:HH21	27:1:47:LYS:HA	1.71	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
53:27:1343:G:H2'	53:27:1344:C:C6	2.41	0.54
38:12:91:ARG:NH2	53:27:1378:C:H4'	2.12	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
54:28:1549:A:H2'	54:28:1550:C:C6	2.42	0.54
54:28:528:A:N1	54:28:2042:A:H2'	2.22	0.54
54:28:19:A:H2'	54:28:20: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
54:28:752:A:H62	54:28:2609:U:H3	1.54	0.54
1:A:670:ARG:HE	1:A:741:LEU:HD12	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
37:11:98:GLU:OE2	37:11:100:SER:HB2	2.07	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
40:14:111:GLU:OE2	53:27:1186:G:H4'	2.08	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
54:28:1019:U:H2'	54:28:1020:A:C8	2.42	0.54
54:28:171:U:H2'	54:28:172:A:H8	1.72	0.54
54:28:1999:C:O2'	54:28:2000:C:H5'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:3:47:ILE:HD12	29:3:47:ILE:H	1.72	0.54
34:8:184:ASN:OD1	34:8:185:THR:N	2.37	0.54
2:B:48:ILE:HG23	2:B:48:ILE:O	2.08	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
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
8:H:61:ARG:HB3	54:28:1047:G:H8	1.72	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
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
21:U:10:VAL:HA	21:U:72:PHE:H	1.72	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:OP2	53:27:184:G:H3'	2.07	0.54
53:27:184:G:H2'	53:27:185:U:H6	1.72	0.54
53:27:202:G:H2'	53:27:203:G:H8	1.73	0.54
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
54:28:1565: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
54:28:917:A:H5''	54:28:2268:A:H61	1.72	0.54
54:28:540:C:H2'	54:28:541:A:H8	1.71	0.54
4:D:71:GLY:HA3	54:28:674:G:H5''	1.89	0.54
54:28:857:G:H2'	54:28:858:G:C1'	2.37	0.54
54:28:897:C:OP2	54:28:897:C:H3'	2.07	0.54
55:29:93:C:H2'	55:29:94:A:C8	2.42	0.54
29:3:31:GLU:OE1	29:3:31:GLU:N	2.39	0.54
4:D:31:VAL:HG21	4:D:104:ALA:HB2	1.88	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
40:14:11:ARG:HD3	40:14:76:GLY:HA3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
53:27:1182:G:H5'	53:27:1183:U:OP1	2.08	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
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
24:X:16:ASN:ND2	54:28:2081:U:H5''	2.21	0.54
54:28:19:A:H2'	54:28:20:C:H6	1.73	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
20:T:73:ARG:NH1	54:28:456:C:C6	2.70	0.54
54:28:553:G:H2'	54:28:554:U:O4'	2.08	0.54
5:E:26:GLN:HE21	55:29:57:A:H4'	1.73	0.54
56:30:13:A:N6	58:32:35:A:N6	2.55	0.54
35:9:33:ILE:CG1	35:9:34:GLU:H	2.05	0.54
5:E:21:TYR:HB3	5:E:26:GLN:OE1	2.08	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
25:Y:58:ASN:ND2	54:28:111:A:O2'	2.40	0.54
38:12:148:LYS:HE3	42:16:60:PHE:CZ	2.43	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
53:27:785:G:H2'	53:27:786:G:H8	1.72	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
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
29:3:9:LYS:O	29:3:51:ALA:CB	2.51	0.54
32:6:1:MET:HE2	32:6:36:ARG:HB2	1.90	0.54
9:I:80:LYS:HA	9:I:85:ILE:CG1	2.37	0.54
16:P:84:SER:HB2	16:P:86:LYS:HZ1	1.71	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
38:12:101:ARG:NH1	53:27:939:G:H5'	2.23	0.54
38:12:71:THR:O	38:12:90:VAL:HG12	2.08	0.54
39:13:5:PRO:HB2	39:13:32:LYS:HZ2	1.71	0.54
38:12:30:MET:SD	53:27:1373:G:H4'	2.47	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
53:27:514:C:H2'	53:27:515:G:C8	2.43	0.54
54:28:1278:C:H2'	54:28:1279:G:C8	2.42	0.54
54:28:155:A:H2'	54:28:156:A:C8	2.43	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
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
54:28:691: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
54:28:586:A:H2	54:28:809:G:N3	2.06	0.54
58:32:32:C:H2'	58:32:33:U:O4'	2.08	0.54
32:6:18:LYS:CE	32:6:21:GLY:HA2	2.37	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
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
53:27:1426:G:H2'	53:27:1427:C:C6	2.42	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
53:27:52:C:H2'	53:27:53:A:H8	1.72	0.54
53:27:834:U:H2'	53:27:835:U:C6	2.42	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
54:28:654:A:H3'	54:28:654:A:N3	2.22	0.54
1:A:679:LEU:HB3	1:A:734:ASP:OD2	2.07	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: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
22:V:51:GLN:OE1	22:V:86:LEU:HD21	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:49:ASP:O	25:Y:53:VAL:HG23	2.08	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
40:14:123:ARG:HB3	53:27:1343:G:C4'	2.36	0.54
50:24:5:LYS:HD2	50:24:6:LYS:NZ	2.23	0.54
53:27:212:G:H2'	53:27:213: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
54:28:492:A:H2'	54:28:493:G:O4'	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
35:9:82:LYS:O	35:9:83:GLY:C	2.44	0.54
1:A:679:LEU:N	1:A:679:LEU:CD1	2.70	0.54
2:B:104:LEU:HD13	2:B:155:ARG:HB2	1.90	0.54
2:B:65:ASP:OD2	2:B:68:ARG:HD2	2.07	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
27:1:35:ASP:OD1	27:1:36:VAL:N	2.41	0.53
8:H:61:ARG:CB	54:28:1047:G:C8	2.90	0.53
54:28:1139:G:O2'	54:28:1140:C:H5'	2.08	0.53
54:28:737:C:H2'	54:28:738:G:O4'	2.08	0.53
2:B:227:VAL:HG11	54:28:784:G:C2	2.43	0.53
34:8:121:SER:HB3	34:8:125:ARG:HH12	1.72	0.53
2:B:231:HIS:HA	2:B:241:LYS:HE2	1.90	0.53
8:H:39:THR:HA	8:H:42:ARG:HB3	1.89	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
3:C:13:ARG:HH11	16:P:55:HIS:HA	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
53:27:1478:U:H2'	53:27:1479:C:C6	2.43	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
17:Q:57:ARG:NH1	54:28:1154:G:OP2	2.29	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
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
21:U:52:ASN:OD1	21:U:53:GLN:N	2.40	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
9:I:118:GLY:HA3	54:28:1082:U:H5'	1.90	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
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
33:7:209:VAL:HA	33:7:212:TYR:HD2	1.72	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
21:U:97:SER:O	21:U:99:SER:N	2.38	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
49:23:31:TYR:O	49:23:39:VAL:HB	2.09	0.53
28:2:27:LEU:HD23	28:2:36:LYS:HB3	1.90	0.53
42:16:124:LYS:O	52:26:34:ARG:NE	2.41	0.53
52:26:45:LYS:HE3	53:27:723:U:O4'	2.07	0.53
53:27:1351:U:H2'	53:27:1352:C:C6	2.43	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
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
20:T:64:LYS:NZ	54:28:1602:U:OP2	2.41	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
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
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
24:X:11:PRO:HA	24:X:28:PHE:O	2.08	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
53:27:1030: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
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
18:R:88:GLY:O	54:28:1224:U:H4'	2.09	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
19:S:25:ARG:HH22	54:28:519:U:H5''	1.73	0.53
54:28:558:U:H2'	54:28:559:G:C8	2.43	0.53
2:B:206:LYS:HB2	54:28:729:G:C6	2.44	0.53
54:28:816:C:H2'	54:28:817:C:C6	2.44	0.53
56:30:13:A:C2'	56:30:14:A:H5'	2.37	0.53
35:9:167:PRO:HB3	35:9:169:TRP:CH2	2.43	0.53
1:A:692:VAL:HG21	1:A:715:GLU:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:90:LEU:HD13	5:E:95:MET:HA	1.91	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
21:U:21:ARG:HD3	21:U:72:PHE:CD1	2.44	0.53
7:G:31:VAL:HG12	24:X:38:TRP:HD1	1.74	0.53
25:Y:39:GLN:HB2	25:Y:41:HIS:HE1	1.71	0.53
54:28:1130:U:O2'	54:28:1131:G:OP1	2.26	0.53
17:Q:2:ARG:HD2	54:28:1248:G:N1	2.23	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
54:28:808:G:H2'	54:28:809:G:H8	1.71	0.53
33:7:206:ILE:HG13	33:7:207:ARG:N	2.24	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
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
47:21:50:THR:HG22	47:21:50:THR:O	2.09	0.53
52:26:37:TYR:C	52:26:40:PRO:HD2	2.29	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
54:28:1289: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
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
1:A:640:GLN:NE2	54:28:883:G:N2	2.57	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:66:ARG:NH1	13:M:104:GLU:OE2	2.41	0.53
36:10:88:HIS:CE1	36:10:89:THR:HG1	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
53:27:1229:A:H2'	53:27:1230:C:H6	1.73	0.53
44:18:13:HIS:NE2	53:27:1296:C:H5'	2.24	0.53
53:27:1386:G:H2'	53:27:1387:G:H8	1.72	0.53
53:27:208:U:O2'	53:27:211:G:N2	2.42	0.53
53:27:59:A:H5''	53:27:387:U:H5''	1.91	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
8:H:61:ARG:NE	54:28:1045:C:O2'	2.42	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
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
56:30:7:G:H2'	56:30:8:A:C8	2.44	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
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
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
53:27:1009: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
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
36:10:108:GLY:H	53:27:9:G:H4'	1.74	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
23:W:35:ARG:NH1	54:28:2355:G:O2'	2.42	0.53
54:28:2470:G:H2'	54:28:2471:A:C8	2.41	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
56:30:17:U:H2'	56:30:18:G:H8	1.73	0.53
2:B:170:TYR:HB3	2:B:182:LYS:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
12:L:86:GLU:C	12:L:87:GLY:O	2.45	0.53
14:N:29:VAL:HG11	14:N:75:ILE:HG23	1.91	0.53
24:X:11:PRO:HG3	24:X:30:PRO:HD2	1.90	0.53
27:1:45:THR:O	27:1:48:GLN:HB3	2.09	0.53
41:15:37:ARG:HD3	53:27:1124:G:OP1	2.09	0.53
53:27:1287:A:H2'	53:27:1288:A:C8	2.43	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
54:28:115:C:O2'	54:28:116:C:H5'	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
11:K:23:LYS:HZ3	54:28:2562:U:H1'	1.74	0.53
54:28:2643:G:H2'	54:28:2644:G:C8	2.44	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
55:29:89:U:H5'	55:29:90:C:C6	2.43	0.53
34:8:55:VAL:HB	34:8:66:THR:HB	1.90	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
36:10:105:ILE:HD11	36:10:123:LEU:HA	1.91	0.52
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
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
47:21:39:PHE:HD1	47:21:50:THR:HG23	1.73	0.52
40:14:123:ARG:HB3	53:27:1343:G:O3'	2.09	0.52
53:27:309:A:H2'	53:27:310:G:C8	2.45	0.52
53:27:52:C:H2'	53:27:53:A:C8	2.44	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
54:28:1435: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
54:28:171:U:H2'	54:28:172:A:C8	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1853:A:H2'	54:28:1854:A:C8	2.44	0.52
54:28:337:C:H2'	54:28:338:G:O4'	2.09	0.52
2:B:228:ASP:CG	54:28:780:G:H1	2.13	0.52
54:28:796:C:H2'	54:28:797:G:C8	2.44	0.52
55:29:2:G:H2'	55:29:3:C:C6	2.44	0.52
7:G:83:LYS:C	7:G:91:PHE:HB2	2.29	0.52
16:P:84:SER:HB2	16:P:86:LYS:HZ2	1.73	0.52
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
39:13:11:THR:HG22	39:13:15:ASN:ND2	2.23	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:N3	53:27:1453:G:H3'	2.24	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
43:17:25:ALA:CB	53:27:554:A:H5'	2.39	0.52
53:27:801:U:H2'	53:27:802:A:C8	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
10:J:102:GLU:OE2	54:28:2780:G:N1	2.41	0.52
54:28:2837:A:H2'	54:28:2838:G:H8	1.74	0.52
54:28:583:G:H2'	54:28:584: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
14:N:31:HIS:CD2	54:28:1279:G:H4'	2.45	0.52
14:N:69:ARG:O	14:N:70:THR:OG1	2.25	0.52
20:T:88:LYS:O	20:T:89:GLU:C	2.46	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
54:28:1387: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
54:28:297:G:H2'	54:28:298:G:O4'	2.09	0.52
54:28:1:G:H2'	54:28:2:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:609:A:H2'	54:28:610:C:O4'	2.09	0.52
18:R:85:LYS:HE2	54:28:815:C:P	2.50	0.52
55:29:85:G:H2'	55:29:86:G:H8	1.74	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
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:99:PHE:O	5:E:102:LEU:HB3	2.09	0.52
5:E:91:ARG:HA	5:E:95:MET:HB3	1.90	0.52
6:F:34:ARG:HD3	6:F:74:MET:SD	2.50	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
24:X:3:VAL:HG22	24:X:10:ARG:HB3	1.92	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
49:23:28:LEU:HD23	49:23:58:ILE:HD13	1.91	0.52
34:8:196:GLY:H	53:27:1057:G:H4'	1.73	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
53:27:189:A:H2'	53:27:190:A:O4'	2.09	0.52
4:D:44:ARG:NH1	54:28:1248:G:OP1	2.42	0.52
19:S:11:ARG:NH2	54:28:1321:A:H4'	2.25	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
12:L:65:GLY:C	54:28:2415:G:H4'	2.30	0.52
54:28:2848:G:O2'	54:28:2868:A:N6	2.43	0.52
54:28:438:G:H2'	54:28:439:A:H8	1.72	0.52
54:28:96:C:H2'	54:28:97:C:H6	1.75	0.52
35:9:53:GLN:HB3	35:9:202:LEU:HD12	1.91	0.52
35:9:8:LEU:HD21	35:9:31:CYS:SG	2.50	0.52
1:A:607:HIS:HB3	1:A:631:ILE:HB	1.91	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
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
54:28:1177:G:H2'	54:28:1178:C:C1'	2.40	0.52
11:K:66:LYS:HD3	54:28:1666:G:OP1	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
16:P:2:ASN:HD21	54:28:2876:G:H4'	1.74	0.52
54:28:532:A:N3	54:28:532:A:H2'	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
4:D:85:PHE:CD1	54:28:588:U:H1'	2.45	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
58:32:9:G:O2'	58:32:45:G:H2'	2.09	0.52
2:B:207:ALA:HB2	54:28:1790:C:O2'	2.09	0.52
4:D:68:ALA:O	4:D:69:ARG:C	2.47	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
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
28:2:46:GLY:HA3	28:2:54:ILE:CB	2.39	0.52
53:27:880:C:H2'	53:27:881:G:C8	2.39	0.52
54:28:2037:A:H2'	54:28:2038:G:H8	1.72	0.52
54:28:2747:G:H1	54:28:2754:U:H2'	1.75	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
13:M:75:GLU:HA	54:28:957:C:OP2	2.10	0.52
35:9:57:LYS:NZ	35:9:58:GLN:OE1	2.40	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
14:N:53:THR:HA	14:N:56:LYS:HG2	1.92	0.52
20:T:50:LEU:HD12	20:T:50:LEU:N	2.24	0.52
27:1:50:ASP:OD1	44:18:70:ARG:NE	2.31	0.52
48:22:56:ASP:HB3	48:22:81:ALA:N	2.24	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
36:10:131:ASN:HD21	53:27:18:C:P	2.32	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
54:28:1013:C:O2'	54:28:1014:A:H5'	2.10	0.52
17:Q:80:ASN:ND2	54:28:1151:A:H4'	2.24	0.52
17:Q:36:GLN:NE2	54:28:1252:G:H1	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:2813:A:H2'	54:28:2814:A:C8	2.44	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
55:29:39:A:H2'	55:29:40:U:C5	2.45	0.52
30:4:11:LYS:HE3	54:28:686:U:H5''	1.90	0.52
4:D:149:ILE:HD11	4:D:172:ALA:HA	1.92	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
20:T:69:ARG:NH1	20:T:72:GLN:O	2.43	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
43:17:98:ARG:HA	43:17:103:CYS:SG	2.49	0.52
47:21:4:ILE:HG12	47:21:21:VAL:HG22	1.91	0.52
53:27:1412:C:H2'	53:27:1413:A:C8	2.45	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
46:20:27:GLN:NE2	53:27:657:U:O4'	2.40	0.52
53:27:741:G:H2'	53:27:742:G:O4'	2.10	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
54:28:259:G:O2'	54:28:260:G:H5'	2.10	0.52
54:28:2784:U:H2'	54:28:2785:C:H6	1.75	0.52
54:28:996:A:H2'	54:28:997:G:H8	1.74	0.52
33:7:165:ALA:HB2	33:7:186:VAL:HG12	1.91	0.52
33:7:170:ILE:HG13	33:7:171:ALA:N	2.24	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
49:23:15:GLU:N	49:23:15:GLU:OE1	2.43	0.52
40:14:98:ARG:NH2	53:27:1180:A:OP2	2.39	0.52
38:12:41:ILE:HD11	53:27:1240:U:O4'	2.10	0.52
53:27:128:G:O2'	53:27:129:A:H5'	2.10	0.52
50:24:72:GLU:CG	53:27:1320:C:H4'	2.40	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
7:G:29:PHE:HB2	54:28:2198:A:C2	2.45	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
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
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
9:I:113:ALA:C	9:I:115:ASP:N	2.63	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
53:27:1328:C:H2'	53:27:1329:A:O4'	2.10	0.52
16:P:105:LYS:HG2	53:27:1432:G:O5'	2.10	0.52
39:13:85:TYR:CD1	53:27:598:U:H4'	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
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
10:J:113:PRO:HD2	54:28:558:U:OP1	2.10	0.52
54:28:968:C:H2'	54:28:969:G:C8	2.45	0.52
8:H:75:ALA:O	8:H:76:PHE:C	2.47	0.52
18:R:49:ILE:O	18:R:49:ILE:HD12	2.09	0.52
19:S:51:LEU:O	19:S:55:ILE:HG13	2.10	0.52
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
53:27:1113:C:H2'	53:27:1114:C:H6	1.74	0.51
53:27:1053:G:N7	53:27:1199:U:H3'	2.25	0.51
53:27:1436:U:H2'	53:27:1437:A:H8	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1472:U:H2'	53:27:1473:G:C8	2.45	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
8:H:37:LYS:HD3	54:28:1085:A:N6	2.25	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
54:28:401:A:H2'	54:28:402:A:C8	2.45	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
6:F:97:VAL:HG21	6:F:122:ALA:O	2.10	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
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
27:1:9:TYR:CE1	27:1:26:SER:HA	2.46	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
54:28:1744: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
54:28:277:G:H1'	54:28:361:G:O6	2.10	0.51
57:31:23:C:H2'	57:31:24:U:C6	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
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:HD2	5:E:144:LYS:N	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
21:U:6:ARG:HG3	21:U:7:ASP:N	2.23	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
51:25:67:HIS:O	51:25:67:HIS:ND1	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1097:C:H2'	53:27:1098:C:C6	2.46	0.51
53:27:516:U:H5	53:27:533:A:N6	2.08	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
54:28:195:A:H2'	54:28:198:C:N4	2.24	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
17:Q:23:TYR:CD1	54:28:533:G:H5'	2.45	0.51
54:28:600:G:H2'	54:28:601:C:C6	2.45	0.51
1:A:598:VAL:O	1:A:599:VAL:C	2.47	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
37:11:2:ARG:HG3	37:11:68:GLN:NE2	2.26	0.51
27:1:58:ASP:OD1	27:1:59:ARG:N	2.41	0.51
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
38:12:3:ARG:HB2	53:27:932:C:OP1	2.09	0.51
54:28:121:G:C4'	54:28:149:A:H5'	2.31	0.51
54:28:1722:A:H62	54:28:1738:G:H1'	1.75	0.51
2:B:149:LYS:HD3	54:28:2204:G:H4'	1.91	0.51
54:28:2565:A:C2'	54:28:2566:A:H5'	2.41	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
54:28:9:G:H2'	54:28:2629:U:O4	2.10	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
37:11:74:LEU:O	37:11:77:THR:OG1	2.25	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
53:27:1390: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:13:85:TYR:CG	53:27:598:U:H4'	2.45	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
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
11:K:31:ARG:HH12	54:28:2676:C:P	2.34	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
35:9:147:LYS:CD	53:27:491:G:OP1	2.55	0.51
1:A:675:ASP:O	1:A:676:ARG:HB3	2.10	0.51
5:E:139:GLU:H	5:E:139:GLU:CD	2.13	0.51
5:E:42:ALA:HB1	5:E:46:LYS:HD3	1.92	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
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
54:28:1032: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
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
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
35:9:111:ALA:HB1	53:27:407:U:H5''	1.93	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
22:V:9:ARG:NH2	22:V:12:GLN:HA	2.26	0.51
20:T:50:LEU:HD23	25:Y:26:PHE:CD2	2.46	0.51
20:T:8:LEU:O	25:Y:29:ARG:NH1	2.43	0.51
36:10:160:VAL:HA	36:10:163:ILE:HG13	1.93	0.51
42:16:124:LYS:HD3	53:27:780:A:H5''	1.93	0.51
42:16:95:THR:HG23	42:16:96:ILE:N	2.26	0.51
49:23:11:ARG:NH2	53:27:845:A:O2'	2.44	0.51
53:27:1004:A:C6	53:27:1026:G:H1'	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:105:G:H2'	53:27:106:C:C6	2.45	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
43:17:20:VAL:HG21	53:27:553:A:H5''	1.93	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
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
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
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
55:29:111:U:H2'	55:29:112:G:C8	2.45	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
5:E:105:ILE:HG13	5:E:106:ALA:N	2.24	0.51
5:E:72:SER:OG	5:E:79:ARG:HG2	2.10	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
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
9:I:135:MET:HB3	54:28:1063:G:C4'	2.41	0.51
2:B:156:SER:OG	54:28:1821:A:H5'	2.10	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
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
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
34:8:47:ALA:O	34:8:49:ALA:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:9:106:PHE:CE1	35:9:144:ILE:HD11	2.46	0.51
1:A:703:THR:HG23	1:A:704:LYS:N	2.26	0.51
4:D:1:MET:O	4:D:13:THR:HA	2.11	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
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
49:23:11:ARG:NH1	49:23:14:ALA:HB3	2.24	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
53:27:27:G:H2'	53:27:28:A:H8	1.75	0.51
35:9:12:ARG:HH22	53:27:428:G:H3'	1.76	0.51
53:27:25:C:H5'	53:27:524:G:H1'	1.92	0.51
51:25:4:LYS:HZ3	53:27:61:G:P	2.34	0.51
43:17:2:THR:HG21	53:27:880:C:OP2	2.10	0.51
53:27:999:C:H2'	53:27:1000:A:H8	1.76	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
6:F:138:GLN:HE22	54:28:2759:G:N2	2.08	0.51
54:28:2841:C:H2'	54:28:2842:G:H8	1.76	0.51
54:28:29:U:H2'	54:28:30:G:C8	2.46	0.51
17:Q:32:ARG:HB2	54:28:581:C:OP1	2.11	0.51
54:28:847:U:H2'	54:28:847:U:O2	2.10	0.51
54:28:972:A:H3'	54:28:973:A:H2'	1.92	0.51
18:R:9:GLY:O	54:28:996:A:H1'	2.11	0.51
58:32:72:A:C3'	58:32:73:A:H5''	2.41	0.51
34:8:201:ILE:O	34:8:203:LYS:HG3	2.11	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
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:107:ALA:O	17:Q:110:GLU:HB2	2.10	0.51
21:U:47:PRO:HB3	21:U:55:GLY:N	2.26	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
49:23:32:ILE:HD12	49:23:36:GLY:HA2	1.92	0.51
28:2:47:TYR:HA	28:2:51:ARG:O	2.10	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:519:C:H2'	53:27:520:A:O4'	2.10	0.51
49:23:15:GLU:OE2	53:27:845:A:H4'	2.10	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
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
54:28:804:A:H2'	54:28:806:C:C4	2.46	0.51
55:29:93:C:H2'	55:29:94:A:H8	1.75	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
4:D:130:LYS:NZ	54:28:320:A:OP1	2.44	0.51
12:L:111:ILE:H	12:L:128:THR:HG23	1.76	0.51
37:11:98:GLU:HG3	37:11:99:ALA:N	2.26	0.50
40:14:118:ARG:CZ	53:27:1233:G:H5'	2.41	0.50
40:14:56:MET:HE3	40:14:60:LEU:H	1.75	0.50
45:19:52:ARG:NE	53:27:1317:C:N3	2.59	0.50
51:25:4:LYS:HZ1	53:27:61:G:P	2.34	0.50
53:27:1460:C:H2'	53:27:1461:G:H8	1.77	0.50
53:27:781:A:H4'	53:27:1522:U:O2'	2.11	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
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
54:28:145:C:H2'	54:28:146:A:C8	2.46	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:N3	54:28:2518:A:H2'	2.26	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
56:30:13:A:H61	58:32:35:A:N6	2.09	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
1:A:598:VAL:CG2	1:A:658:GLY:HA2	2.41	0.50
1:A:598:VAL:CG1	1:A:598:VAL:O	2.58	0.50
5:E:103:ILE:HG13	5:E:104:THR:N	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:90:GLY:HA3	6:F:93:TYR:CE2	2.46	0.50
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
25:Y:42:LEU:O	25:Y:43:LEU:C	2.49	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
51:25:30:PHE:O	51:25:33:LYS:HB2	2.11	0.50
53:27:1009:U:H2'	53:27:1010:U:C6	2.46	0.50
53:27:189:A:O2'	53:27:190:A:H5'	2.12	0.50
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
9:I:126:ARG:HB3	54:28:1080:A:H4'	1.93	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
54:28:56:A:H2'	54:28:57:C:O4'	2.10	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
54:28:89:A:H2'	54:28:90:U:C6	2.46	0.50
54:28:963:U:H2'	54:28:964:C:H6	1.75	0.50
57:31:68:C:H2'	57:31:69:C:C6	2.46	0.50
34:8:71:ARG:HE	34:8:74:ILE:HD11	1.76	0.50
5:E:134:GLN:HB3	5:E:149:ARG:O	2.12	0.50
5:E:92:GLY:O	5:E:93:GLU:C	2.49	0.50
8:H:3:LEU:HD12	8:H:5:LEU:H	1.76	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
37:11:46:GLN:CA	37:11:56:LYS:HG2	2.38	0.50
28:2:12:ARG:HH11	28:2:16:ARG:NH1	2.09	0.50
53:27:1115:U:H2'	53:27:1116:U:C6	2.46	0.50
38:12:1:PRO:HB2	53:27:1379:G:N7	2.25	0.50
53:27:1476:A:H2'	53:27:1477:U:O4'	2.11	0.50
53:27:182:A:C2'	53:27:183:C:H5''	2.39	0.50
43:17:113:ARG:NH2	53:27:501:C:OP1	2.44	0.50
54:28:1056:G:H1'	54:28:1103:A:H61	1.75	0.50
54:28:1047:G:H21	54:28:1110:G:H2'	1.76	0.50
54:28:1464:G:H2'	54:28:1465:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:371:A:H61	54:28:401:A:H3'	1.76	0.50
30:4:11:LYS:HE2	54:28:686:U:OP1	2.11	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
57:31:63:G:H2'	57:31:64:G:H8	1.76	0.50
58:32:40:C:H2'	58:32:41: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
5:E:175:PRO:O	5:E:176:PHE:HB2	2.11	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
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
40:14:78:ILE:O	40:14:82:ILE:HG13	2.12	0.50
27:1:47:LYS:O	27:1:50:ASP:HB3	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
37:11:49:TYR:CE2	49:23:65:SER:HA	2.47	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
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
53:27:88:U:H2'	53:27:89:U:H6	1.73	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
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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:85:LYS:C	6:F:86:LEU:HD12	2.32	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
36:10:110:MET:O	36:10:113:VAL:HG12	2.11	0.50
38:12:113:LYS:HZ1	53:27:1298:U:H5	1.58	0.50
38:12:111:GLY:HA2	38:12:118:ARG:HD3	1.93	0.50
53:27:1305:G:N2	53:27:1331:G:H2'	2.24	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
53:27:813:U:C2'	53:27:814:A:H5''	2.41	0.50
53:27:663:A:H5'	53:27:836:G:OP1	2.12	0.50
54:28:443:A:N3	54:28:1201:U:H1'	2.26	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
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
43:17:51:VAL:HG22	43:17:52:CYS:N	2.25	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
50:24:5:LYS:HD2	50:24:6:LYS:HZ3	1.76	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
35:9:205:LYS:HB3	53:27:8:A:C5	2.46	0.50
50:24:54:ARG:NH1	53:27:958:A:C5	2.80	0.50
54:28:1001:A:H2'	54:28:1002:G:O4'	2.12	0.50
8:H:61:ARG:CB	54:28:1047:G:N7	2.74	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:886:A:H1'	54:28:891:G:N2	2.27	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
33:7:66:ILE:N	33:7:88:GLN:OE1	2.39	0.50
37:11:9:MET:HB3	37:11:59:TYR:CE1	2.47	0.50
43:17:106:VAL:HG23	43:17:116:TYR:HB3	1.92	0.50
41:15:67:ILE:HG23	45:19:95:LEU:HD13	1.94	0.50
53:27:1221:G:H2'	53:27:1222:G:C8	2.47	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
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
3:C:118:PHE:HB2	54:28:2823:A:OP1	2.11	0.50
13:M:66:ARG:NH2	54:28:906:U:O2'	2.38	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
1:A:699:SER:HA	1:A:710:ILE:HA	1.92	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
16:P:46:VAL:HA	16:P:59:THR:O	2.12	0.50
5:E:114:ARG:HH22	27:1:47:LYS:HA	1.72	0.50
28:2:40:HIS:HA	28:2:48:TYR:OH	2.11	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
53:27:401: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
53:27:79:G:N3	53:27:80:A:H1'	2.27	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2743:U:H2'	54:28:2744:G:O4'	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
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
7:G:68:ARG:HA	7:G:71:LYS:HD2	1.92	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
36:10:155:LYS:HG2	39:13:65:PHE:HB2	1.94	0.50
51:25:23:ARG:HH21	51:25:60:GLN:HE22	1.59	0.50
53:27:1296:C:H4'	53:27:1302:C:H41	1.77	0.50
50:24:2:ARG:HA	53:27:1313:U:O4	2.11	0.50
53:27:1408:A:H2	53:27:1492:A:H62	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
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
54:28:894:U:O2'	54:28:895:U:H5'	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
18:R:27:ILE:CG2	18:R:31:GLU:HB3	2.42	0.50
18:R:17:GLY:H	18:R:98:ILE:HB	1.75	0.50
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
53:27:1211:U:H4'	53:27:1213:A:C1'	2.41	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
57:31:37:A:H2'	57:31:38:A:C8	2.47	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
4:D:115:GLN:C	4:D:117:ARG:H	2.15	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
5:E:64:PRO:HA	5:E:88:VAL:HG22	1.94	0.49
9:I:27:LEU:O	9:I:31:GLY:N	2.45	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
38:12:128:GLU:N	38:12:128:GLU:OE1	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
53:27:1137: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
53:27:276:G:H2'	53:27:277:C:C6	2.48	0.49
53:27:34:C:H2'	53:27:35:G:H8	1.75	0.49
53:27:370:C:H2'	53:27:371:A:H8	1.77	0.49
53:27:47:C:H4'	53:27:48:C:C5'	2.42	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
54:28:1126:A:H8	54:28:1126:A:OP1	1.95	0.49
54:28:114:U:H2'	54:28:115:C:H6	1.77	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
15:O:17:LYS:HZ2	54:28:2380:C:H5'	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:9:169:TRP:HA	35:9:183:ARG:CZ	2.41	0.49
3:C:101:PHE:HZ	3:C:203:VAL:O	1.95	0.49
5:E:105:ILE:C	5:E:108:PRO:HD2	2.33	0.49
6:F:3:VAL:HG12	6:F:68:ARG:HG2	1.94	0.49
7:G:132:PHE:HB3	7:G:134:VAL:HG13	1.94	0.49
7:G:75:LEU:HB3	7:G:77:THR:HG22	1.93	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
1:A:606:MET:HE3	50:24:55:GLN:HG3	1.94	0.49
52:26:49:ALA:O	52:26:53:LYS:HG3	2.11	0.49
44:18:101:THR:HG22	53:27:1226:C:H2'	1.94	0.49
53:27:1345:U:O2	53:27:1376:U:O2	2.30	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
53:27:67:C:H2'	53:27:68:G:C8	2.46	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
5:E:84:ILE:HG21	54:28:2312:U:H5'	1.92	0.49
3:C:197:THR:HB	54:28:2820:A:C6	2.47	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
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
33:7:164:ASP:OD2	33:7:166:ASP:HB3	2.12	0.49
34:8:8:GLY:HA3	45:19:88:MET:HE3	1.94	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
21:U:40:LEU:HA	21:U:60:LYS:O	2.12	0.49
21:U:4:ILE:HD12	21:U:4:ILE:H	1.77	0.49
21:U:5:ARG:O	21:U:6:ARG:C	2.51	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
32:6:30:GLU:HG3	32:6:32:LYS:HB2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:6:24:ARG:HG2	32:6:36:ARG:HG3	1.95	0.49
33:7:101:THR:CG2	53:27:1074:G:O2'	2.60	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:130:VAL:CG2	7:G:144:VAL:HG21	2.42	0.49
7:G:25:TYR:HD1	54:28:2093:G:O2'	1.95	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
36:10:113:VAL:HG13	36:10:114:LEU:HD12	1.95	0.49
36:10:79:THR:OG1	36:10:80:LEU:N	2.37	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
53:27:1074:G:H2'	53:27:1075:U:C6	2.48	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
53:27:1508:A:H2'	53:27:1509:C:H6	1.77	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
54:28:1823:G:H2'	54:28:1824:G:H8	1.77	0.49
54:28:18:U:H2'	54:28:19:A:H8	1.76	0.49
54:28:2024:G:H2'	54:28:2025:C:C6	2.47	0.49
54:28:917:A:H5''	54:28:2268:A:N6	2.28	0.49
54:28:689:A:H2'	54:28:690:G:H8	1.78	0.49
58:32:30:G:H2'	58:32:31:G:H8	1.77	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
6:F:116:LEU:HD11	6:F:122:ALA:HB2	1.95	0.49
16:P:30:TRP:CZ3	16:P:39:LEU:HB2	2.47	0.49
16:P:28:LYS:HA	16:P:41:ALA:HA	1.93	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
36:10:160:VAL:HA	36:10:163:ILE:CG1	2.42	0.49
41:15:67:ILE:HG13	41:15:67:ILE:O	2.12	0.49
44:18:6:ILE:CG1	44:18:7:ASN:H	2.09	0.49
44:18:8:ILE:O	44:18:8:ILE:HG22	2.13	0.49
48:22:6:THR:O	48:22:7:LEU:HD12	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:22:8:GLN:HG2	48:22:59:GLU:HG2	1.93	0.49
28:2:5:ASN:HB2	54:28:2022:U:O4	2.13	0.49
53:27:107:G:H2'	53:27:108:G:O4'	2.11	0.49
33:7:94:ARG:NE	53:27:1100:C:OP1	2.28	0.49
53:27:1305:G:H1'	53:27:1332:A:N6	2.28	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
54:28:1208:C:H2'	54:28:1209:U:C6	2.47	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
54:28:2408: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
54:28:979:A:H2'	54:28:982:C:H42	1.78	0.49
55:29:100:G:H2'	55:29:101:A:O4'	2.12	0.49
55:29:91:C:O2'	55:29:92:C:H5'	2.12	0.49
58:32:60:U:H2'	58:32:61:C:C5	2.48	0.49
35:9:108:ALA:HB1	35:9:160:LEU:HD23	1.93	0.49
35:9:10:LEU:HD22	35:9:62:ARG:NH1	2.28	0.49
4:D:63:LYS:HB3	54:28:2060:A:H5'	1.95	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:56:LEU:O	25:Y:60:LYS:HG2	2.13	0.49
25:Y:9:LYS:NZ	25:Y:11:VAL:HG23	2.27	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:HG3	40:14:12:LYS:O	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
53:27:1102:A:H2'	53:27:1103:C:C6	2.48	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:107:G:H2'	54:28:108:G:H8	1.77	0.49
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:H3'	54:28:2884:U:O2	2.13	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
58:32:31:G:C2'	58:32:32:C:H5'	2.43	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
1:A:621:ILE:HG13	1:A:655:ALA:HB3	1.94	0.49
2:B:87:SER:C	2:B:157:ALA:HB2	2.33	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
8:H:57:ASN:C	8:H:59:LEU:H	2.16	0.49
36:10:22:LYS:HB3	36:10:29:ILE:CG2	2.43	0.49
38:12:68:VAL:C	38:12:137:ARG:HD3	2.33	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
27:1:38:SER:O	27:1:43:PHE:HE2	1.96	0.49
44:18:6:ILE:HD11	44:18:21:ILE:HG23	1.94	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
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
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
54:28:194: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
54:28:2497: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
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
54:28:704:G:HO2'	54:28:705:A:H8	1.59	0.49
54:28:2421:G:H2'	58:32:76:A:H62	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:261:ARG:HG3	2:B:262:THR:HG23	1.94	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
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
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
27:1:27:THR:HG23	27:1:28:VAL:N	2.28	0.49
39:13:14:ARG:HD2	53:27:875:U:O2'	2.12	0.49
5:E:62:GLN:HB2	27:1:6:HIS:ND1	2.28	0.49
43:17:41:PRO:HB3	43:17:88:ASP:OD1	2.12	0.49
42:16:92:ARG:CZ	52:26:24:LYS:HD2	2.43	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
53:27:222:C:H2'	53:27:223:A:C8	2.47	0.49
53:27:75:G:H2'	53:27:76:G:C8	2.48	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
2:B:148:GLY:O	54:28:2205:A:H5'	2.12	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
54:28:612:G:H1'	54:28:616:A:N6	2.28	0.49
2:B:12:ARG:HH21	54:28:728:G:H5'	1.77	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
31:5:51:LYS:HZ2	54:28:937:C:P	2.36	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
6:F:162:ARG:CZ	6:F:168:VAL:HG21	2.43	0.49
6:F:167:VAL:O	6:F:167:VAL:HG13	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:103:ARG:N	14:N:110:MET:HG2	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:123:LYS:HE2	14:N:1:MET:HE3	1.95	0.49
14:N:2:ARG:HA	14:N:5:LYS:HD2	1.93	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
47:21:12:LYS:O	47:21:13:LYS:HB2	2.12	0.49
50:24:5:LYS:HG3	50:24:6:LYS:N	2.26	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
53:27:537:G:H2'	53:27:538:G:C8	2.48	0.49
53:27:79:G:H2'	53:27:80:A:O4'	2.13	0.49
53:27:996:A:O2'	53:27:997:U:H5'	2.12	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
2:B:255:LYS:NZ	54:28:1844:C:O3'	2.45	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
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
58:32:39:C:H2'	58:32:40:C:C6	2.48	0.49
32:6:13:ASN:OD1	32:6:29:ALA:HB2	2.13	0.49
33:7:168:GLU:N	33:7:168:GLU:OE1	2.46	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
3:C:15:PHE:N	16:P:11:GLN:HE22	2.01	0.49
36:10:106:ALA:HB1	36:10:110:MET:CG	2.40	0.48
38:12:16:LYS:NZ	38:12:47:GLU:OE2	2.38	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
54:28:1794:A:H2'	54:28:1795:C:C6	2.48	0.48
24:X:13:THR:HG21	54:28:189:G:P	2.53	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
27:1:39:LYS:HG3	27:1:40:CYS:N	2.27	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
28:2:52:LYS:HG3	28:2:52:LYS:O	2.13	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
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
54:28:1045:C:H1'	54:28:1047:G:N1	2.28	0.48
8:H:81:LEU:CA	54:28:1107:G:H4'	2.43	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
23:W:56:PHE:CE1	54:28:2365:G:H4'	2.48	0.48
54:28:242:G:H22	54:28:254:G:C2'	2.21	0.48
54:28:2737:G:H2'	54:28:2738:A:C8	2.47	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
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
2:B:71:ASP:O	2:B:73:ILE:N	2.43	0.48
6:F:132:LEU:C	6:F:132:LEU:HD12	2.34	0.48
12:L:85:VAL:HG13	12:L:94:THR:HG22	1.94	0.48
16:P:38:ARG:HH22	53:27:345:C:P	2.36	0.48
22:V:77:VAL:HG21	22:V:86:LEU:HD22	1.94	0.48
22:V:75:GLN:CB	22:V:92:VAL:HG23	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:11:3:HIS:H	37:11:92:THR:HG22	1.78	0.48
43:17:109:ARG:NH2	43:17:112:ALA:HB3	2.27	0.48
43:17:66:ILE:HD12	43:17:66:ILE:H	1.79	0.48
53:27:1055:A:C6	53:27:1206:G:C5	3.01	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
8:H:56:ARG:HB2	54:28:1106:G:H4'	1.96	0.48
54:28:194:G:H2'	54:28:195:A:O4'	2.12	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
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
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
34:8:10:ARG:HH21	34:8:181:ILE:HB	1.79	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:118:ILE:HB	8:H:119:PRO:HD3	1.95	0.48
8:H:68:PRO:HA	8:H:72:LEU:HD12	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
40:14:29:ILE:HA	40:14:64:ILE:O	2.13	0.48
45:19:20:PHE:C	45:19:22:LYS:N	2.61	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
53:27:1510:C:H2'	53:27:1511:G:H8	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
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
5:E:91:ARG:NH2	55:29:45:A:O4'	2.46	0.48
57:31:44:A:H2'	57:31:45:G:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:62:PRO:HB2	31:5:29:ARG:HH11	1.78	0.48
1:A:692:VAL:HB	1:A:715:GLU:HG2	1.95	0.48
9:I:100:ILE:HD11	9:I:139:VAL:HG12	1.94	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
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
45:19:20:PHE:C	45:19:22:LYS:H	2.14	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
53:27:1213:A:H2'	53:27:1215:G:C8	2.48	0.48
53:27:129:A:H1'	53:27:130:A: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
53:27:437:U:H2'	53:27:438:U:O4'	2.13	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
54:28:220:G:H22	54:28:427:U:H2'	1.79	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
54:28:255:A:H2'	54:28:256:A:C8	2.49	0.48
24:X:15:ASN:HD22	54:28:381:G:C5'	2.25	0.48
54:28:397:U:H2'	54:28:398:C:C6	2.48	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
54:28:950:G:H2'	54:28:951:C:H6	1.78	0.48
33:7:202:ASN:HD21	33:7:208:ALA:HB2	1.78	0.48
1:A:719:LEU:O	1:A:722:LEU:HB3	2.14	0.48
2:B:132:ARG:HB3	2:B:185:ALA:HB1	1.95	0.48
2:B:51:ARG:HG3	2:B:52:HIS:ND1	2.27	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
16:P:105:LYS:HD3	53:27:1433:A:OP1	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
54:28:1268: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
2:B:43:ASN:ND2	54:28:1806:C:H1'	2.28	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
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
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
33:7:19:THR:OG1	33:7:20:ARG:N	2.44	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
38:12:113:LYS:HE3	53:27:1297:G:N3	2.29	0.48
46:20:32:THR:CB	46:20:84:LEU:HD21	2.44	0.48
51:25:73:ARG:NH1	53:27:263:A:OP1	2.47	0.48
52:26:67:THR:CB	53:27:1088:G:O2'	2.62	0.48
53:27:1137:C:H4'	53:27:1138:G:C2	2.49	0.48
53:27:321:A:H2'	53:27:322:C:C6	2.48	0.48
39:13:106:SER:HA	53:27:642:A:C5	2.48	0.48
46:20:71:ARG:NH2	53:27:754:C:OP1	2.47	0.48
53:27:79:G:C2	53:27:80:A:H1'	2.48	0.48
53:27:920:U:H2'	53:27:921:U:C6	2.48	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
54:28:1451:C:H4'	54:28:1452:G:N9	2.29	0.48
54:28:151:C:H2'	54:28:152:A:C8	2.48	0.48
2:B:86:ARG:NH2	54:28:1817:G:OP1	2.47	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
58:32:62:C:O5'	58:32:62:C:H6	1.97	0.48
1:A:705:GLN:HE21	1:A:707:LEU:HB2	1.79	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
14:N:47:VAL:C	14:N:50:PRO:HD2	2.33	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
36:10:10:LEU:HD12	36:10:67:ARG:NH1	2.29	0.48
36:10:10:LEU:O	36:10:11:GLN:C	2.52	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
27:1:61:ASN:O	27:1:64:PHE:HB3	2.14	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
53:27:1305:G:O2'	53:27:1306:A:H8	1.96	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
53:27:89:U:H2'	53:27:90:C:C6	2.49	0.48
53:27:995:C:N3	53:27:1046:A:O2'	2.42	0.48
54:28:1195:G:O2'	54:28:1196:C:H5'	2.12	0.48
54:28:729:G:H2'	54:28:1775:U:H1'	1.94	0.48
12:L:54:GLN:NE2	54:28:2428:G:N2	2.62	0.48
54:28:579:G:H2'	54:28:580:U:C6	2.48	0.48
31:5:44:ARG:N	31:5:45:PRO:HD2	2.28	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
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
34:8:8:GLY:HA3	45:19:88:MET:CE	2.44	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
44:18:97:ARG:HB2	44:18:99:GLN:NE2	2.29	0.48
53:27:1392:G:H2'	53:27:1393:U:C6	2.49	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
54:28:115:C:C2'	54:28:116:C:H5'	2.44	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
3:C:133:THR:HG22	54:28:1993:U:H4'	1.95	0.48
54:28:237:C:H2'	54:28:238:C:H6	1.78	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:O5'	54:28:2662:A:H8	1.97	0.48
54:28:269:C:H2'	54:28:270:A:H8	1.79	0.48
54:28:2774:C:H2'	54:28:2775:G:O4'	2.14	0.48
54:28:817:C:O2'	54:28:839:U:H5''	2.14	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
35:9:149:LYS:HG2	35:9:177:MET:HE3	1.96	0.48
1:A:634:HIS:O	1:A:634:HIS:ND1	2.47	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
36:10:15:ILE:HD11	36:10:37:VAL:HG23	1.96	0.48
44:18:10:ASP:C	44:18:12:LYS:N	2.67	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
53:27:1273: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
53:27:482:A:H2'	53:27:483:C:O4'	2.13	0.48
53:27:840:C:HO2'	53:27:841:C:H5	1.61	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
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
54:28:974:G:H1'	54:28:975:A:H8	1.77	0.48
58:32:72:A:H2'	58:32:73:A:C4'	2.42	0.48
33:7:95:TRP:CH2	33:7:171:ALA:HA	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:9:72:ARG:O	35:9:75:TYR:HB3	2.14	0.48
12:L:90:VAL:HG13	12:L:95:LEU:HD21	1.96	0.48
15:O:28:VAL:HG13	15:O:28:VAL:O	2.14	0.48
16:P:52:ARG:H	16:P:56:SER:HB3	1.79	0.48
11:K:77:ILE:HG12	16:P:71:ARG:HG3	1.96	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
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
54:28:1442: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
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
34:8:149:LYS:HA	34:8:167:TYR:O	2.14	0.47
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
37:11:29:ILE:HD13	37:11:64:VAL:HG21	1.95	0.47
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
44:18:10:ASP:O	44:18:11:HIS:HB2	2.15	0.47
48:22:46:HIS:HB2	48:22:70:LYS:HE2	1.95	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
36:10:130:THR:HG21	53:27:10:A:OP2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1381:U:H5	53:27:1382:C:C4	2.32	0.47
49:23:37:LYS:CG	53:27:719:C:H1'	2.42	0.47
53:27:70:U:H5''	53:27:71:A:OP1	2.14	0.47
46:20:41:HIS:HD1	53:27:739:C:HO2'	1.59	0.47
54:28:1565:C:HO2'	54:28:1566:A:H8	1.58	0.47
54:28:1670:C:H2'	54:28:1671:U:O4'	2.14	0.47
28:2:13:GLY:HA3	54:28:16:C:H5''	1.96	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
3:C:130:GLN:HE22	54:28:2578:G:N2	2.12	0.47
25:Y:2:LYS:HD2	54:28:78:U:OP2	2.13	0.47
5:E:26:GLN:HE21	55:29:57:A:C4'	2.27	0.47
32:6:1:MET:CE	32:6:36:ARG:HB2	2.44	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
13:M:14:LYS:HD3	54:28:958:U:O4'	2.14	0.47
13:M:6:ARG:O	13:M:6:ARG:HG3	2.13	0.47
16:P:29:VAL:CG1	16:P:79:VAL:HG22	2.44	0.47
36:10:45:VAL:CG2	36:10:117:ALA:HA	2.45	0.47
39:13:5:PRO:HB2	39:13:32:LYS:HZ1	1.78	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
53:27:1386:G:H2'	53:27:1387:G:C8	2.49	0.47
53:27:279:A:H5''	53:27:280:C:O3'	2.14	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
53:27:730:G:C2'	53:27:731:G:H5'	2.44	0.47
53:27:884:U:H4'	53:27:885:G:H5''	1.97	0.47
53:27:865:A:C2	53:27:918:A:H4'	2.49	0.47
54:28:1023:U:OP2	54:28:1025:G:O2'	2.32	0.47
8:H:37:LYS:HE2	54:28:1085:A:N6	2.28	0.47
54:28:819:A:OP2	54:28:1187:G:N2	2.47	0.47
2:B:155:ARG:NH2	54:28:1818:U:C5	2.81	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
54:28:257:C:H2'	54:28:258:G:O4'	2.13	0.47
32:6:24:ARG:NH1	54:28:2742:G:OP2	2.45	0.47
54:28:2829:A:H2'	54:28:2830:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2832:U:H1'	54:28:2834:G:N3	2.29	0.47
54:28:339:U:H6	54:28:339:U:O5'	1.97	0.47
13:M:13:HIS:HA	54:28:955:U:OP1	2.14	0.47
55:29:79:G:O2'	55:29:80:U:H5'	2.14	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
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: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
6:F:29:ASN:HD22	6:F:78:VAL:C	2.15	0.47
13:M:19:GLY:C	13:M:20:LEU:HD12	2.35	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
10:J:4:PHE:O	17:Q:63:ARG:NH2	2.48	0.47
22:V:32:GLY:O	22:V:93:ARG:NH1	2.41	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
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:O	50:24:48:ILE:HD12	2.14	0.47
51:25:28:ARG:O	51:25:32:LYS:HG2	2.13	0.47
53:27:843:U:OP1	53:27:844:G:H3'	2.15	0.47
53:27:86:G:H4'	53:27:87:C:C5	2.49	0.47
45:19:12:ARG:NH2	53:27:980:C:O3'	2.47	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
54:28:226:A:H5''	54:28:257:C:O2'	2.13	0.47
54:28:2329:U:H2'	54:28:2330:G:H8	1.79	0.47
54:28:2720:U:H2'	54:28:2721:A:C8	2.49	0.47
54:28:522:A:O2'	54:28:523:C:H5'	2.15	0.47
54:28:61:C:C2'	54:28:62:U:H5'	2.44	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
25:Y:16:THR:HG22	25:Y:20:ASN:ND2	2.28	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
53:27:1102:A:H2'	53:27:1103:C:H6	1.80	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
54:28:1102:C:H2'	54:28:1103:A:H8	1.78	0.47
30:4:1:MET:N	54:28:1619:G:O2'	2.48	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
54:28:209:C:H2'	54:28:210:C:H6	1.79	0.47
54:28:2150:C:H2'	54:28:2151:U:O4'	2.14	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
54:28:74:A:H4'	54:28:75:G:O5'	2.14	0.47
1:A:619:ASP:OD2	1:A:636:ALA:HB3	2.14	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
3:C:186:LEU:HD13	16:P:7:LEU:HD11	1.96	0.47
20:T:65:GLY:HA3	20:T:77:ARG:O	2.14	0.47
20:T:58:VAL:HG13	20:T:85:VAL:HG22	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
27:1:44:PHE:CD1	27:1:45:THR:HG23	2.49	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
53:27:1345: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
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
54:28:1858:A:C2	54:28:1885:A:H1'	2.49	0.47
3:C:154:LYS:NZ	54:28:2024:G:O2'	2.48	0.47
54:28:2286:G:H5'	54:28:2287:A:C1'	2.44	0.47
54:28:76:C:O2'	54:28:77:G:H5'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
31:5:7:ARG:NH1	54:28:243:U:OP2	2.48	0.47
35:9:3:TYR:O	35:9:4:LEU:C	2.53	0.47
9:I:116:MET:HB3	9:I:124:MET:SD	2.54	0.47
13:M:74:THR:HA	13:M:88:ASN:O	2.14	0.47
38:12:67:ASN:O	38:12:137:ARG:NE	2.48	0.47
44:18:92:ARG:O	44:18:94:LEU:HG	2.14	0.47
52:26:17:ARG:NE	52:26:20:ARG:HH21	2.12	0.47
52:26:9:GLU:HB2	52:26:10:PRO:HD3	1.96	0.47
53:27:1143:G:H2'	53:27:1144:G:H8	1.80	0.47
53:27:484:G:H4'	53:27:485:U:C5'	2.45	0.47
47:21:46:LYS:CD	53:27:617:G:H4'	2.45	0.47
53:27:782:A:H4'	53:27:1514:G:O2'	2.15	0.47
53:27:696:A:H1'	53:27:786:G:O2'	2.15	0.47
50:24:54:ARG:NH1	53:27:958:A:C6	2.80	0.47
3:C:154:LYS:HE2	54:28:1130:U:O2	2.15	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
54:28:1555:G:H2'	54:28:1556:C:C6	2.50	0.47
2:B:52:HIS:ND1	54:28:1824:G:OP1	2.46	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
54:28:2314:A:H2'	54:28:2315:G:C8	2.50	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
16:P:94:ALA:N	54:28:2848:G:OP2	2.48	0.47
55:29:4:C:H6	55:29:4:C:H5'	1.79	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
1:A:691:LYS:HD2	1:A:691:LYS:N	2.28	0.47
5:E:125:GLY:CA	5:E:162:ASP:HA	2.44	0.47
5:E:113:PHE:CZ	5:E:175:PRO:HB3	2.40	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
19:S:79:GLY:H	19:S:101:SER:HA	1.79	0.47
40:14:125:GLN:HE22	53:27:1342:C:C1'	2.28	0.47
43:17:55:ARG:NH1	43:17:61:GLU:OE1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
52:26:45:LYS:HE3	53:27:723:U:C1'	2.45	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
53:27:317:U:H2'	53:27:318:G:H8	1.79	0.47
43:17:11:ARG:CG	53:27:562:U:H1'	2.42	0.47
47:21:46:LYS:NZ	53:27:617:G:H4'	2.28	0.47
53:27:835:U:C3'	53:27:836:G:H5''	2.45	0.47
53:27:244:U:O4	53:27:906:A:H1'	2.14	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
54:28:1544:A:H2'	54:28:1545:A:C8	2.50	0.47
54:28:1663:G:O2'	54:28:1664:A:H5'	2.14	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
54:28:2821:A:H2'	54:28:2822:G:H8	1.79	0.47
54:28:510:C:H3'	54:28:510:C:OP1	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
55:29:106:G:C2	55:29:107:G:H1'	2.50	0.47
2:B:61:TYR:CE2	2:B:63:ILE:HA	2.50	0.47
4:D:149:ILE:O	4:D:149:ILE:HG23	2.14	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
7:G:72:ILE:HB	7:G:108:VAL:HG22	1.97	0.47
23:W:36:GLN:OE1	23:W:41:PHE:N	2.47	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
19:S:38:TYR:HE2	28:2:27:LEU:HD21	1.79	0.47
53:27:17:U:O2'	53:27:18:C: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:H6	54:28:1670:C:O5'	1.98	0.47
54:28:1726:C:H2'	54:28:1727:C:C6	2.50	0.47
54:28:2459:A:OP2	54:28:2459:A:H3'	2.14	0.47
54:28:455:C:O2	54:28:473:G:H5'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
35:9:169:TRP:CE2	35:9:185:PRO:HG3	2.49	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
1:A:684:THR:O	1:A:685:THR:C	2.53	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:124:ARG:HA	5:E:160:LYS:O	2.15	0.47
5:E:49:LEU:CD2	5:E:83:PRO:HB2	2.44	0.47
11:K:24:VAL:HG11	11:K:32:TYR:O	2.15	0.47
11:K:13:ASN:HB3	11:K:98:ARG:HB2	1.97	0.47
15:O:88:LYS:O	15:O:116:GLN:HB2	2.15	0.47
15:O:6:ALA:O	15:O:9:ARG:HG2	2.14	0.47
16:P:29:VAL:C	16:P:39:LEU:HD12	2.35	0.47
17:Q:42:GLY:O	17:Q:45:ALA:HB3	2.14	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
36:10:100:GLU:C	36:10:102:THR:H	2.16	0.47
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
44:18:32:ILE:HG23	44:18:58:GLU:CG	2.44	0.47
27:1:60:PHE:HZ	50:24:40:PHE:CE1	2.32	0.47
50:24:39:ILE:HB	50:24:66:VAL:HA	1.97	0.47
41:15:41:PRO:CB	53:27:1151:A:H1'	2.44	0.47
53:27:1354:U:H2'	53:27:1355:G:C8	2.48	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
54:28:1319:C:O2'	54:28:1320:C:H5'	2.14	0.47
19:S:11:ARG:HH21	54:28:1321:A:H4'	1.80	0.47
54:28:2297:A:N1	54:28:2321:U:H5	2.09	0.47
54:28:305:C:H6	54:28:305:C:O5'	1.97	0.47
54:28:956:G:N2	54:28:959:A:H3'	2.30	0.47
33:7:116:LEU:HD11	33:7:136:ARG:HB3	1.95	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
21:U:13:LEU:HD11	21:U:70:ALA:HB2	1.95	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
34:8:175:HIS:HD1	53:27:1108:G:H5'	1.79	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
53:27:299:G:C6	53:27:300:A:C6	3.03	0.47
53:27:31:G:H5'	53:27:306:A:C2	2.50	0.47
53:27:437:U:HO2'	53:27:438:U:H5'	1.80	0.47
54:28:1038:G:H2'	54:28:1039:A:C8	2.50	0.47
9:I:92:PRO:O	54:28:1077:A:H5'	2.14	0.47
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
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
34:8:11:LEU:HD13	34:8:17:TRP:NE1	2.30	0.47
34:8:9:ILE:HG23	34:8:10:ARG:HG3	1.97	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
11:K:4:GLU:HA	11:K:21:CYS:O	2.15	0.47
13:M:12:MET:HA	54:28:910:A:H62	1.80	0.47
13:M:4:PRO:CG	13:M:70:ASP:HA	2.44	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:47:PRO:HD3	21:U:55:GLY:CA	2.38	0.47
36:10:108:GLY:O	36:10:109:ALA:HB3	2.15	0.46
36:10:98:ALA:CB	36:10:123:LEU:HG	2.45	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:C2'	53:27:1301:U:O2	2.63	0.46
8:H:59:LEU:HD11	54:28:1047:G:C8	2.50	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
54:28:14:A:H3'	54:28:14:A:OP2	2.15	0.46
54:28:1790:C:H2'	54:28:1791:A:C5	2.50	0.46
54:28:18:U:O2'	54:28:554:U:H5''	2.15	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
54:28:2075:U:C1'	54:28:2597:G:H21	2.22	0.46
17:Q:10:ARG:HH21	54:28:28:A:C2'	2.28	0.46
54:28:302:C:H2'	54:28:303:G:H8	1.80	0.46
54:28:615:U:H6	54:28:615:U:O5'	1.98	0.46
54:28:67:U:H2'	54:28:68:G:H8	1.80	0.46
54:28:822:G:H2'	54:28:823:C:C6	2.49	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
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
12:L:92:LEU:O	12:L:96:LYS:NZ	2.47	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
37:11:39:LEU:O	37:11:39:LEU:HD23	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
53:27:1171:A:H2'	53:27:1172:C:H6	1.77	0.46
53:27:737:C:H2'	53:27:738:C:C6	2.50	0.46
54:28:197:A:C2	54:28:198:C:H1'	2.50	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
30:4:34:ARG:NH1	54:28:466:A:OP1	2.36	0.46
54:28:966:G:C5	54:28:967:U:C4	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:70:PRO:HD3	55:29:12:C:N4	2.29	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
1:A:634:HIS:HB3	1:A:641:LEU:HD13	1.96	0.46
1:A:682:ASP:O	1:A:683:ILE:C	2.53	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
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:96:LYS:HG3	12:L:101:ILE:HD11	1.97	0.46
12:L:57:LEU:HD13	12:L:60:ARG:NH1	2.31	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
25:Y:55:THR:HG21	54:28:77:G:O4'	2.15	0.46
49:23:40:PRO:HG2	49:23:43:ILE:HG12	1.97	0.46
50:24:39:ILE:HG22	50:24:40:PHE:N	2.31	0.46
50:24:32:THR:CG2	50:24:50:VAL:HG22	2.44	0.46
53:27:1015:G:H2'	53:27:1016:A:O4'	2.16	0.46
53:27:113:G:H2'	53:27:114:U:H6	1.78	0.46
53:27:1280:A:O2'	53:27:1281:C:H5'	2.15	0.46
53:27:134:G:H2'	53:27:135:C:O4'	2.15	0.46
53:27:554:A:H2'	53:27:555:U:H6	1.81	0.46
54:28:1037:G:O2'	54:28:1038:G:H5'	2.14	0.46
8:H:61:ARG:CG	54:28:1046:A:H4'	2.41	0.46
54:28:1157:G:H2'	54:28:1158:C:C6	2.50	0.46
54:28:818:G:N1	54:28:1188:U:OP2	2.34	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
54:28:2030:A:N3	54:28:2499:C:H5"	2.30	0.46
54:28:574:A:O3'	54:28:2055:C:H5	1.97	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
54:28:1759:A:C2	54:28:2697:G:H1'	2.51	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:783:A:C2'	54:28:784:G:H5'	2.46	0.46
54:28:963:U:H2'	54:28:964:C:C6	2.50	0.46
33:7:120:SER:HA	33:7:125:PHE:HA	1.97	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
2:B:68:ARG:NH1	2:B:128:THR:OG1	2.48	0.46
4:D:96:VAL:HG23	4:D:96:VAL:O	2.16	0.46
8:H:37:LYS:CE	54:28:1086:A:N6	2.79	0.46
8:H:75:ALA:O	8:H:77:VAL:C	2.53	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
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:O	48:22:19:SER:N	2.48	0.46
52:26:52:VAL:HG21	53:27:723:U:C5	2.51	0.46
36:10:134:ASN:ND2	53:27:1078:U:H1'	2.28	0.46
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
53:27:531:U:C4'	53:27:532:A:H5"	2.45	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
14:N:96:ARG:HG3	54:28:2882:A:H5'	1.98	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
55:29:115:A:H2'	55:29:116:G:H8	1.74	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
38:12:141:HIS:O	38:12:144:ALA:HB3	2.16	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
33:7:101:THR:OG1	53:27:1074:G:O3'	2.25	0.46
45:19:27:LYS:HE2	53:27:1317:C:OP2	2.15	0.46
53:27:1329:A:C2'	53:27:1330:U:H5'	2.45	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
53:27:66:A:H4'	53:27:173:U:C5	2.51	0.46
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
23:W:40:LYS:CE	54:28:2330:G:H4'	2.46	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
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
33:7:98:GLY:HA2	33:7:174:GLU:OE1	2.15	0.46
35:9:7:LYS:HB2	35:9:20:LEU:HD13	1.96	0.46
1:A:741:LEU:HD23	1:A:742:HIS:N	2.30	0.46
2:B:260:LYS:HA	2:B:263:ASP:OD2	2.15	0.46
2:B:57:HIS:ND1	2:B:58:LYS:O	2.49	0.46
4:D:143:LEU:HD22	4:D:185:LYS:HG3	1.96	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
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
40:14:35:GLU:H	40:14:35:GLU:CD	2.18	0.46
42:16:82:GLU:N	42:16:82:GLU:OE1	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
47:21:22:ALA:HB2	47:21:32:PHE:CB	2.46	0.46
48:22:59:GLU:C	48:22:60:ILE:HG13	2.36	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
53:27:1114:C:H2'	53:27:1115:U:C6	2.51	0.46
45:19:74:ARG:HE	53:27:1359:C:H5	1.63	0.46
53:27:472:U:H2'	53:27:473:U:H6	1.81	0.46
2:B:200:MET:HE3	53:27:773:G:H4'	1.98	0.46
53:27:979:C:OP2	53:27:980:C:H5	1.98	0.46
54:28:1056:G:O2'	54:28:1086:A:H1'	2.15	0.46
54:28:1430:G:H2'	54:28:1431:A:C8	2.51	0.46
16:P:102:ARG:NH2	54:28:1754:A:O3'	2.49	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
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
54:28:1297:C:OP1	54:28:2710:C:H4'	2.15	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:P	54:28:897:C:H3'	2.56	0.46
33:7:35:ASN:HB3	33:7:37:VAL:HG12	1.98	0.46
34:8:129:PHE:CZ	34:8:156:LEU:HD13	2.51	0.46
34:8:13:ILE:HG22	34:8:14:VAL:HG23	1.96	0.46
35:9:151:GLN:O	35:9:153:ARG:N	2.49	0.46
35:9:190:LEU:O	35:9:190:LEU:HD12	2.15	0.46
1:A:702:ASP:CG	1:A:703:THR:H	2.19	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
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
21:U:48:VAL:O	21:U:53:GLN:HB3	2.15	0.46
7:G:27:ARG:NH1	24:X:55:MET:HG2	2.31	0.46
39:13:42:GLU:HG2	39:13:100:ILE:HG21	1.97	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
40:14:98:ARG:HH12	53:27:1179:A:H5''	1.80	0.46
53:27:1471:U:O2'	53:27:1472:U:H5'	2.15	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:13:80:PRO:HG2	53:27:878:A:C5'	2.46	0.46
13:M:127:LYS:NZ	54:28:1030:C:OP2	2.48	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
54:28:200:U:H2'	54:28:201:C:O4'	2.16	0.46
54:28:2134:A:H62	54:28:2157:G:C4'	2.28	0.46
54:28:271:G:HO2'	54:28:272:A:H8	1.64	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
15:O:30:ARG:NH2	55:29:48:U:OP2	2.48	0.46
30:4:34:ARG:HD2	30:4:34:ARG:HA	1.75	0.46
35:9:58:GLN:O	35:9:59:LYS:C	2.54	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
3:C:3:GLY:C	3:C:4:LEU:HD12	2.36	0.46
5:E:12:VAL:O	5:E:13:LYS:C	2.54	0.46
6:F:161:VAL:HG12	6:F:162:ARG:N	2.31	0.46
6:F:1:SER:N	54:28:2749:A:H5''	2.31	0.46
8:H:23:LEU:CD2	8:H:126:LEU:HD21	2.43	0.46
16:P:13:LYS:HZ2	16:P:80:VAL:HG23	1.80	0.46
40:14:104:THR:HG22	40:14:106:ASP:H	1.80	0.46
38:12:15:PRO:HA	40:14:45:MET:SD	2.55	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
53:27:1060: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
44:18:25:GLY:N	53:27:1329:A:H5''	2.30	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
54:28:1080:A:C2'	54:28:1081:U:H5'	2.46	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
54:28:191:A:O2'	54:28:192:C:H5'	2.16	0.46
54:28:1130:U:C2	54:28:2025:C:H5''	2.50	0.46
54:28:2488:G:H2'	54:28:2489:U:C6	2.51	0.46
30:4:11:LYS:NZ	54:28:686:U:OP1	2.49	0.46
54:28:699:A:H2'	54:28:700:G:O4'	2.16	0.46
1:A:611:ARG:HB2	54:28:884:U:P	2.55	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:29:71:C:H2'	55:29:72:G:O4'	2.15	0.46
30:4:19:ARG:HD3	54:28:125:A:OP2	2.15	0.46
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
35:9:123:MET:HE2	35:9:145:ARG:HA	1.97	0.46
35:9:117:VAL:HG11	35:9:132:ALA:HA	1.97	0.46
1:A:676:ARG:HG3	1:A:677:SER:H	1.79	0.46
5:E:48:LEU:HD21	5:E:147:ARG:NH1	2.30	0.46
5:E:22:ASN:N	5:E:26:GLN:OE1	2.49	0.46
9:I:116:MET:HE1	54:28:1059:G:H1'	1.98	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:HG2	20:T:91:GLN:O	2.15	0.46
21:U:95:PHE:O	21:U:97:SER:O	2.33	0.46
36:10:40:ASP:CG	36:10:44:ARG:HB2	2.36	0.46
37:11:67:PRO:HG2	37:11:70:VAL:CG2	2.44	0.46
47:21:70:ARG:HA	47:21:70:ARG:HD2	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
42:16:111:ASP:HB2	52:26:16:ARG:NH2	2.30	0.46
52:26:28:LEU:C	52:26:30:GLU:H	2.18	0.46
53:27:1236:A:H4'	53:27:1304:G:H4'	1.98	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
54:28:1094:U:H1'	54:28:1097:U:C5	2.49	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
54:28:1847:G:HO2'	54:28:1848:A:H8	1.62	0.46
54:28:571:U:C4	54:28:2030:A:C6	3.04	0.46
54:28:2560:A:H2'	54:28:2561:U:O4'	2.15	0.46
54:28:481:G:H1'	54:28:506:G:N2	2.30	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
57:31:69:C:H2'	57:31:70:G:C8	2.50	0.46
33:7:153:MET:CE	33:7:157:PRO:HG3	2.46	0.46
35:9:54:LEU:HD23	35:9:202:LEU:HD11	1.97	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:74:ILE:O	19:S:74:ILE:HG23	2.16	0.46
19:S:7:HIS:HB2	19:S:50:VAL:HG22	1.98	0.46
38:12:24:LYS:HA	38:12:27:ASN:HD22	1.81	0.46
43:17:66:ILE:HD12	43:17:66:ILE:N	2.31	0.46
53:27:1040:U:H2'	53:27:1041:G:H8	1.80	0.46
33:7:174:GLU:OE1	53:27:1101:A:N6	2.49	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
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
42:16:126:ARG:HH22	53:27:692:U:C3'	2.28	0.46
53:27:911:U:H2'	53:27:912:C:C6	2.51	0.46
53:27:971:G:H3'	53:27:971:G:OP1	2.16	0.46
54:28:1006:C:O2'	54:28:1007:C:H5'	2.16	0.46
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
54:28:190:A:C6	54:28:191:A:C6	3.04	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
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
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
3:C:56:LYS:NZ	54:28:2830:C:OP1	2.48	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
11:K:7:MET:C	11:K:8:LEU:HD12	2.36	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:11:9:MET:HG3	37:11:85:ILE:O	2.16	0.45
40:14:30:ASN:C	40:14:32:ARG:H	2.20	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
53:27:1143: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
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
53:27:793:U:H5'	53:27:794:A:O5'	2.16	0.45
53:27:723:U:N3	53:27:856:C:H5'	2.31	0.45
9:I:10:LEU:HD23	54:28:1070:A:C2	2.52	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
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
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
55:29:24:G:N7	55:29:56:G:O2'	2.45	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
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:137:PHE:HA	5:E:138:PRO:HD3	1.83	0.45
5:E:7:TYR:HA	5:E:11:VAL:HG23	1.98	0.45
5:E:4:HIS:HB2	5:E:96:TRP:CG	2.51	0.45
9:I:8:VAL:HG12	9:I:9:LYS:N	2.31	0.45
11:K:99:ILE:HD13	11:K:115:ILE:HG23	1.97	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
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
40:14:118:ARG:O	40:14:119:LYS:HB3	2.17	0.45
40:14:29:ILE:HG23	40:14:29:ILE:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:1:56:ARG:HH22	50:24:68:HIS:HE1	1.64	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
43:17:87:LYS:HG2	43:17:87:LYS:O	2.16	0.45
48:22:14:ASP:O	48:22:16:MET:N	2.49	0.45
51:25:23:ARG:NH1	53:27:176:C:H5''	2.32	0.45
51:25:6:ALA:O	51:25:9:ARG:HB3	2.15	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
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
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
54:28:1773:A:C2'	54:28:1774:C:H5'	2.47	0.45
54:28:185:G:H2'	54:28:186:G:H8	1.81	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
54:28:213:A:H2'	54:28:214:G:C8	2.51	0.45
54:28:2171:A:O2'	54:28:2172:U:H5'	2.16	0.45
54:28:2242:G:H8	54:28:2242:G:O5'	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
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
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
33:7:107:ARG:HA	33:7:110:ILE:HD12	1.98	0.45
2:B:68:ARG:O	2:B:188:ARG:NH1	2.49	0.45
2:B:196:ASN:O	2:B:196:ASN:OD1	2.34	0.45
2:B:52:HIS:CA	2:B:216:ARG:HB2	2.45	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
36:10:57:ALA:O	36:10:61:LYS:HB2	2.15	0.45
44:18:6:ILE:O	44:18:7:ASN:C	2.53	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
54:28:1424:G:H2'	54:28:1425:G:O4'	2.17	0.45
54:28:151:C:H2'	54:28:152:A:H8	1.80	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
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
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
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
3:C:88:GLU:OE1	3:C:88:GLU:N	2.48	0.45
4:D:134:LEU:CD2	4:D:161:ALA:HB2	2.46	0.45
4:D:1:MET:HB3	4:D:14:VAL:O	2.16	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
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
52:26:67:THR:HB	53:27:1088:G:O2'	2.16	0.45
34:8:175:HIS:NE2	53:27:1190:G:H5''	2.31	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1405:G:O2'	53:27:1406:U:H5'	2.17	0.45
53:27:904:U:H2'	53:27:905:U:C6	2.51	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
54:28:528:A:H2'	54:28:2042:A:N1	2.32	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
31:5:32:LEU:HD13	54:28:2419:U:OP2	2.16	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
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
54:28:542:C:H2'	54:28:543:G:H5''	1.98	0.45
55:29:30:C:C2'	55:29:31:C:H5'	2.46	0.45
35:9:13:ARG:HD2	35:9:55:ARG:CZ	2.47	0.45
4:D:111:GLU:O	4:D:115:GLN:N	2.49	0.45
27:1:16:CYS:HA	27:1:34:LEU:HB2	1.98	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
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
53:27:922:G:N3	53:27:1398:A:H2	2.15	0.45
53:27:654:G:H2'	53:27:655:A:O4'	2.15	0.45
53:27:81:A:H2	53:27:88:U:O2	1.99	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:30:16:A:H2'	56:30:17:U:C6	2.51	0.45
33:7:162:VAL:HB	33:7:184:ALA:CB	2.47	0.45
33:7:96:LEU:O	33:7:98:GLY:N	2.50	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
4:D:63:LYS:O	54:28:2060:A:OP1	2.35	0.45
5:E:10:GLU:CD	5:E:10:GLU:H	2.20	0.45
5:E:14:LYS:NZ	5:E:18:GLU:OE2	2.49	0.45
5:E:115:GLY:HA2	5:E:175:PRO:HB3	1.97	0.45
5:E:47:LYS:O	5:E:50:ASP:HB2	2.17	0.45
9:I:23:VAL:O	9:I:24:GLY:C	2.54	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
37:11:1:MET:SD	37:11:66:ALA:HA	2.56	0.45
43:17:113:ARG:HG2	43:17:113:ARG:HH11	1.82	0.45
43:17:34:THR:O	43:17:53:ARG:HB3	2.16	0.45
28:2:28:SER:HG	54:28:2886:A:H2	1.61	0.45
50:24:35:ARG:HA	50:24:70:LEU:HB2	1.98	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
11:K:49:ARG:HH21	53:27:1423:G:H5'	1.81	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
8:H:81:LEU:HA	54:28:1107:G:O4'	2.17	0.45
2:B:62:ARG:NH2	54:28:1568:G:OP2	2.48	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:H3'	55:29:88:C:P	2.57	0.45
58:32:42:G:O2'	58:32:43:A:H5'	2.17	0.45
32:6:1:MET:HE3	32:6:34:LYS:HG2	1.98	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
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: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:42:ALA:HA	5:E:45:ASP:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:3:LEU:O	5:E:6:TYR:HB3	2.17	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
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
40:14:119:LYS:O	40:14:122:ARG:N	2.45	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
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
44:18:109:LYS:NZ	53:27:1226:C:O2'	2.48	0.45
53:27:1458:G:H2'	53:27:1459:G:H8	1.81	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
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
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
2:B:225:ASN:ND2	54:28:784:G:O5'	2.50	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
54:28:948:C:H2'	54:28:949:G:H8	1.82	0.45
13:M:40:ARG:HD2	54:28:958:U:O4	2.16	0.45
54:28:918:A:H5''	55:29:97:C:O2'	2.17	0.45
28:2:9:ARG:O	28:2:12:ARG:HB3	2.17	0.45
58:32:29:G:H2'	58:32:30:G:O4'	2.16	0.45
33:7:221:ARG:HG2	33:7:224:ARG:HE	1.82	0.45
4:D:176:ASP:HA	4:D:177:PRO:HD3	1.77	0.45
4:D:82:GLY:O	4:D:83:VAL:HB	2.16	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
53:27:1051:C:H2'	53:27:1052:U:O4'	2.17	0.45
53:27:122:G:H2'	53:27:123:U:C6	2.52	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
35:9:119:HIS:CE1	53:27:437:U:HO2'	2.35	0.45
54:28:1152:C:O2'	54:28:1153:C:H5'	2.17	0.45
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
54:28:226:A:H3'	54:28:227:A:H8	1.82	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
30:4:5:PHE:CD2	30:4:7:PRO:HD3	2.52	0.45
34:8:109:GLU:HB2	34:8:143:LEU:CD2	2.42	0.45
34:8:53:ARG:HG3	34:8:68:HIS:ND1	2.31	0.45
35:9:26:ALA:O	35:9:28:ASP:N	2.50	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
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
18:R:51:VAL:O	18:R:52:PRO:C	2.53	0.45
21:U:39:ASN:HB2	21:U:62:ALA:O	2.16	0.45
7:G:27:ARG:HH11	24:X:55:MET:HG2	1.81	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
53:27:1036:A:H5'	53:27:1037:C:OP2	2.16	0.45
53:27:865:A:H5'	53:27:1078:U:O4	2.16	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:689:C:H2'	53:27:690:G:O4'	2.16	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
2:B:175:LEU:HD13	54:28:1799:G:C4	2.52	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
54:28:2456: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
54:28:2452:C:C2	54:28:2504:U:O4	2.70	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
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
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:602:VAL:CG2	50:24:31:ARG:HD3	2.46	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
13:M:77:PRO:O	13:M:78:LEU:C	2.55	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
39:13:9:MET:HG3	39:13:26:MET:SD	2.57	0.45
43:17:87:LYS:HB3	43:17:87:LYS:HE3	1.85	0.45
44:18:94:LEU:HB3	44:18:95:PRO:HD2	1.97	0.45
44:18:8:ILE:N	44:18:9:PRO:HD3	2.32	0.45
34:8:39:ARG:NE	45:19:91:GLU:OE1	2.50	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
42:16:21:HIS:NE2	53:27:707:U:O3'	2.49	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:149:A:H2'	54:28:150:U:H6	1.82	0.45
54:28:1604:C:H2'	54:28:1605:C:C6	2.53	0.45
54:28:1308:A:N6	54:28:1606:C:H1'	2.32	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
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
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
30:4:11:LYS:CE	54:28:686:U:OP1	2.65	0.45
54:28:92:U:H2'	54:28:93:G:H5'	1.98	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
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
34:8:178:ARG:CZ	53:27:1112:C:H1'	2.46	0.45
34:8:20:THR:O	34:8:57:GLU:HA	2.17	0.45
1:A:640:GLN:CA	1:A:643:GLU:OE1	2.64	0.45
3:C:154:LYS:HZ3	54:28:2025:C:H5'	1.81	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
21:U:87:GLU:CD	21:U:101:THR:HG21	2.37	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
36:10:156:ARG:NH2	36:10:163:ILE:HG22	2.31	0.44
27:1:27:THR:O	27:1:29:GLY:N	2.50	0.44
39:13:104:SER:HB3	53:27:642:A:C2	2.52	0.44
41:15:15:HIS:CG	41:15:16:ARG:N	2.85	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
51:25:25:SER:HB3	53:27:1458:G:H5"	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
47:21:12:LYS:HD2	53:27:393:A:OP2	2.17	0.44
43:17:69:GLU:HB2	53:27:521:G:OP1	2.17	0.44
45:19:5:MET:HE1	53:27:981:U:OP1	2.17	0.44
9:I:92:PRO:HD3	54:28:1063:G:H21	1.82	0.44
54:28:141:G:H5''	54:28:142:A:N9	2.33	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
54:28:2134:A:C6	54:28:2158:A:H4'	2.52	0.44
54:28:2075:U:H3'	54:28:2238:G:H21	1.82	0.44
31:5:11:LYS:HE3	54:28:249:C:O2	2.17	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
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
35:9:125:ASN:HA	35:9:141:VAL:CG2	2.46	0.44
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
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
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
28:2:11:LYS:NZ	54:28:2616:C:H5''	2.33	0.44
48:22:42:LYS:HZ1	53:27:277:C:P	2.40	0.44
50:24:35:ARG:HH11	53:27:1221:G:C5'	2.29	0.44
50:24:39:ILE:HG23	50:24:43:MET:CE	2.46	0.44
53:27:1138:G:N3	53:27:1138:G:C3'	2.78	0.44
53:27:390:U:H2'	53:27:391:G:H8	1.82	0.44
35:9:13:ARG:NH2	53:27:542:G:O3'	2.51	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
35:9:80:ARG:HH21	53:27:613:C:P	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:637:C:O2'	53:27:638:U:H5'	2.16	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
54:28:16:C:H2'	54:28:17:G:C8	2.50	0.44
54:28:2247:A:H2'	54:28:2248:C:H6	1.82	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
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
30:4:30:VAL:O	30:4:34:ARG:HG2	2.17	0.44
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
5:E:151:LEU:HD12	5:E:151:LEU:C	2.38	0.44
6:F:67:ALA:O	6:F:70:LEU:HB2	2.17	0.44
7:G:103:VAL:CG1	7:G:108:VAL:HB	2.47	0.44
7:G:9:VAL:CG1	7:G:12:LEU:HG	2.46	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
24:X:46:VAL:HG11	24:X:67:LEU:HD21	1.98	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
38:12:63: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
53:27:1127: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
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
38:12:2:ARG:NH2	53:27:935:A:C2	2.85	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:255:A:H2'	54:28:256:A:O4'	2.17	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
54:28:35:G:H1'	54:28:454:A:C4	2.52	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
13:M:75:GLU:HG3	54:28:957:C:H5'	2.00	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
55:29:4:C:C5'	55:29:4:C:H6	2.30	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
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
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
17:Q:93:ILE:HG21	18:R:4:VAL:HG11	1.99	0.44
21:U:54:PRO:O	21:U:55:GLY:C	2.54	0.44
25:Y:36:GLN:O	25:Y:38:GLN:OE1	2.36	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
47:21:36:VAL:HG22	47:21:53:ASP:HB3	1.98	0.44
48:22:17:GLU:C	48:22:19:SER:N	2.70	0.44
53:27:1179:A:H2'	53:27:1180:A:O4'	2.17	0.44
53:27:299:G:H2'	53:27:300:A:C8	2.52	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
54:28:374:A:H2'	54:28:375:G:O4'	2.18	0.44
54:28:44:A:H2'	54:28:45:G:O4'	2.17	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
33:7:49:PHE:O	33:7:53:LEU:HG	2.18	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
1:A:692:VAL:HG11	1:A:715:GLU:O	2.17	0.44
3:C:178:VAL:HG12	3:C:179:ARG:N	2.33	0.44
6:F:15:ASP:OD2	6:F:26:LYS:HE3	2.18	0.44
7:G:96:THR:HG22	7:G:117:LEU:HG	2.00	0.44
7:G:59:ALA:O	7:G:62:LEU:HB2	2.16	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
12:L:93:ASN:C	12:L:95:LEU:H	2.20	0.44
14:N:79:LEU:O	14:N:80:PHE:CB	2.66	0.44
37:11:52:ASN:O	37:11:53:LYS:HB2	2.17	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
50:24:39:ILE:HG23	50:24:43:MET:HE2	1.99	0.44
53:27:1035:A:H2'	53:27:1036:A:H8	1.81	0.44
53:27:105:G:H2'	53:27:106:C:H6	1.82	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
53:27:32:A:H2'	53:27:33:A:C8	2.53	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
54:28:1029:A:H8	54:28:1029:A:O5'	2.00	0.44
9:I:135:MET:HB3	54:28:1063:G:O4'	2.17	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
54:28:235:U:H2'	54:28:236:C:H6	1.83	0.44
54:28:2721:A:H2'	54:28:2722:G:C8	2.53	0.44
54:28:418:C:H2'	54:28:419:U:O4'	2.17	0.44
18:R:80:ARG:N	54:28:565:C:OP2	2.50	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
4:D:105:LEU:HD21	4:D:177:PRO:HG3	1.99	0.44
7:G:67:ALA:O	7:G:70:GLU:HB3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:56:ARG:O	8:H:57:ASN:HB3	2.17	0.44
9:I:117:THR:CB	54:28:1081:U:O2'	2.66	0.44
9:I:76:ALA:O	9:I:80:LYS:HG3	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
20:T:61:LEU:HD12	20:T:61:LEU:C	2.38	0.44
23:W:16:ARG:HE	54:28:2357:G:P	2.40	0.44
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
53:27:1272: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
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
53:27:39:G:O2'	53:27:40:C:H5'	2.16	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
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
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
2:B:42:ARG:NH2	54:28:691:C:O4'	2.51	0.44
54:28:955:U:H5	54:28:962:G:C6	2.35	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
35:9:11:SER:O	35:9:15:GLY:N	2.50	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:12:ALA:HB2	26:Z:23:LEU:HD12	1.99	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
47:21:51:ARG:C	47:21:52:LEU:HD12	2.38	0.44
53:27:1511:G:H2'	53:27:1512:U:O4'	2.18	0.44
53:27:333:U:H2'	53:27:334:C:C6	2.53	0.44
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
8:H:80:THR:CA	54:28:1107:G:O2'	2.51	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
54:28:156:A:O2'	54:28:157:C:H5'	2.18	0.44
20:T:64:LYS:HZ3	54:28:1602:U:P	2.40	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
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
10:J:3:THR:HB	54:28:995:C:O2	2.18	0.44
29:3:39:ASP:O	29:3:43:ARG:N	2.51	0.44
33:7:82:ALA:O	33:7:85:SER:OG	2.28	0.44
35:9:82:LYS:O	35:9:88:ASN:ND2	2.40	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
8:H:80:THR:HA	54:28:1107:G:HO2'	1.79	0.44
10:J:131:ASN:O	54:28:6:A:H4'	2.18	0.44
10:J:27:ARG:HD3	10:J:27:ARG:N	2.32	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:29:ARG:NH1	54:28:930:G:H5''	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:9:THR:HG22	26:Z:53:MET:O	2.18	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
45:19:3:GLN:HG2	53:27:1048:G:OP1	2.17	0.44
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
53:27:1160: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
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
44:18:112:ARG:NH1	53:27:946:A:OP1	2.49	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
54:28:1637:A:H5'	54:28:1760:C:HO2'	1.82	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
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
5:E:25:MET:HB3	55:29:57:A:N3	2.32	0.44
58:32:74:C:H2'	58:32:75:C:H5''	1.98	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
3:C:101:PHE:HD1	3:C:104:VAL:HG21	1.83	0.44
4:D:109:LEU:HD11	4:D:180:LEU:HD13	2.00	0.44
4:D:32:VAL:HG13	4:D:33:VAL:N	2.32	0.44
5:E:140:ILE:HG22	5:E:142:TYR:N	2.16	0.44
5:E:39:VAL:HG13	5:E:40:GLY:N	2.33	0.44
7:G:104:THR:HG23	7:G:109:GLU:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:99:ILE:HD12	7:G:117:LEU:HD21	2.00	0.44
8:H:100:ALA:O	8:H:103:ASN:N	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
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
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
38:12:104: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
27:1:55:GLY:O	27:1:58:ASP:OD1	2.35	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
45:19:85:GLU:OE2	45:19:89:ARG:NH2	2.51	0.44
44:18:82:LEU:HD11	50:24:65:MET:HB2	1.99	0.44
53:27:114:U:H2'	53:27:115:G:C8	2.53	0.44
50:24:2:ARG:HA	53:27:1313:U:C5	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
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
36:10:107:GLY:CA	53:27:9:G:H5'	2.26	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
54:28:161:A:C5	54:28:162:U:H5	2.36	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:Cl'	2.30	0.44
28:2:39:ARG:HD2	54:28:2884:U:O4	2.18	0.44
54:28:490:C:H4'	54:28:491:G:OP2	2.18	0.44
54:28:61:C:H2'	54:28:62:U:H5'	2.00	0.44
5:E:25:MET:HG3	55:29:57:A:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:5:16:THR:HG21	31:5:48:MET:SD	2.57	0.44
1:A:702:ASP:O	1:A:703:THR:C	2.57	0.44
2:B:181:ARG:HG3	2:B:265:PHE:C	2.38	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
10:J:132:HIS:O	10:J:137:PRO:HD3	2.18	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
37:11:92:THR:O	37:11:93:LYS:HB2	2.18	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
38:12:2:ARG:HA	53:27:1380:U:C4	2.53	0.43
53:27:1479:C:H2'	53:27:1480:A:H8	1.82	0.43
53:27:861:G:O2'	53:27:862:C:H5'	2.18	0.43
54:28:1292:G:H2'	54:28:1293:C:C6	2.53	0.43
54:28:1416:G:H2'	54:28:1417:C:C6	2.53	0.43
54:28:1386:C:H1'	54:28:1470:A:H1'	1.99	0.43
14:N:2:ARG:HG2	54:28:1654:A:OP1	2.18	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
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
54:28:37:C:H4'	54:28:451:U:OP1	2.17	0.43
54:28:542:C:O2	54:28:542:C:H2'	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:970:U:O2'	54:28:984:A:H4'	2.18	0.43
54:28:995:C:H5'	54:28:995:C:H6	1.83	0.43
58:32:19:G:OP1	58:32:60:U:N3	2.50	0.43
34:8:10:ARG:O	34:8:11:LEU:O	2.36	0.43
1:A:598:VAL:HG23	1:A:658:GLY:HA3	1.98	0.43
1:A:681:ARG:O	1:A:682:ASP:C	2.55	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
19:S:36:LEU:HD13	19:S:47:VAL:HG13	2.00	0.43
21:U:96:LYS:C	21:U:97:SER:O	2.55	0.43
24:X:17:ARG:HD3	24:X:23:ALA:HA	1.99	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
41:15:80:THR:O	41:15:83:THR:HB	2.18	0.43
42:16:126:ARG:O	42:16:127:ARG:HB2	2.18	0.43
44:18:106:ARG:NH1	44:18:112:ARG:HA	2.32	0.43
44:18:48:SER:O	44:18:52:ILE:HG13	2.17	0.43
47:21:18:GLN:HE21	47:21:35:ARG:NE	2.16	0.43
48:22:6:THR:C	48:22:7:LEU:HD12	2.38	0.43
53:27:1109:C:H6	53:27:1109:C:O5'	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
53:27:138:G:H2'	53:27:139:A:C8	2.53	0.43
52:26:38:GLU:HB3	53:27:1526:G:OP2	2.19	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
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
54:28:278:A:N3	54:28:278:A:H2'	2.33	0.43
54:28:790:U:H2'	54:28:791:C:H5'	2.00	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
30:4:12:ARG:HG2	30:4:44:VAL:HG21	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
12:L:61:LEU:HD13	31:5:23:HIS:CG	2.53	0.43
22:V:80:HIS:HE1	22:V:82:TYR:CE2	2.37	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
27:1:18:CYS:SG	27:1:35:ASP:O	2.75	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
27:1:56:ARG:HH22	50:24:68:HIS:CE1	2.37	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
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:H6	53:27:984:C:O5'	2.01	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
54:28:2071: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
54:28:2060:A:N6	54:28:2445:G:OP2	2.51	0.43
54:28:2465:C:H2'	54:28:2466:C:H6	1.83	0.43
54:28:372:G:O2'	54:28:373:U:C5	2.71	0.43
2:B:216:ARG:NH1	54:28:691:C:OP1	2.51	0.43
54:28:948:C:H2'	54:28:949:G:C8	2.53	0.43
58:32:14:A:C2	58:32:15:G:H1'	2.52	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
3:C:13:ARG:O	3:C:14:ILE:HD13	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:38:GLY:CA	10:J:51:GLY:HA2	2.48	0.43
10:J:37:ARG:HD3	10:J:39:LYS:HB2	1.99	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
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
43:17:31:GLY:HA3	43:17:54:VAL:CG1	2.49	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
51:25:54:GLN:N	51:25:55:PRO:HD2	2.33	0.43
52:26:40:PRO:O	52:26:41:THR:C	2.57	0.43
40:14:17:ARG:NH2	53:27:1147:C:H1'	2.22	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
53:27:163:C:H2'	53:27:164:G:O4'	2.19	0.43
51:25:2:ASN:ND2	53:27:331:G:O2'	2.51	0.43
43:17:114:SER:HB2	53:27:502:A:OP1	2.18	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
54:28:281:C:H42	54:28:359:G:H1	1.66	0.43
21:U:15:GLY:HA2	54:28:309:A:O3'	2.18	0.43
54:28:954:G:C6	54:28:955:U:C4	3.07	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
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:119:ILE:O	4:D:119:ILE:HG22	2.17	0.43
4:D:7:ASP:OD2	4:D:122:GLU:HG2	2.18	0.43
5:E:140:ILE:HD12	5:E:140:ILE:H	1.83	0.43
8:H:61:ARG:HG3	54:28:1046:A:C4'	2.46	0.43
8:H:82:ILE:HG22	8:H:83:ALA:N	2.31	0.43
16:P:24:THR:HB	16:P:87:ARG:H	1.83	0.43
11:K:73:ASP:OD2	16:P:79:VAL:HG11	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
48:22:70:LYS:HZ3	53:27:255:G:P	2.41	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
24:X:20:ALA:HB1	54:28:2432:A:N1	2.33	0.43
54:28:2545:G:C2	54:28:2546:U:H1'	2.53	0.43
54:28:784:G:OP2	54:28:2589:A:OP1	2.35	0.43
3:C:81:GLU:HB2	54:28:2636:C:O5'	2.19	0.43
54:28:2787:C:O2'	54:28:2788:C:H5'	2.18	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
54:28:795:C:H2'	54:28:796:C:H6	1.84	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:HA	35:9:55:ARG:HD3	1.71	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
5:E:104:THR:O	5:E:108:PRO:HG2	2.17	0.43
11:K:12:ASP:HB2	11:K:98:ARG:O	2.18	0.43
16:P:22:GLY:C	16:P:89:GLY:HA3	2.38	0.43
19:S:29:VAL:HG21	19:S:69:LEU:HG	2.00	0.43
36:10:138:ALA:O	36:10:141:ASP:HB3	2.18	0.43
36:10:55:VAL:N	36:10:56:PRO:HD2	2.33	0.43
36:10:9:GLU:N	36:10:9:GLU:OE1	2.51	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
48:22:4:ILE:HG21	48:22:61:ARG:HH12	1.84	0.43
51:25:78:LEU:O	51:25:81:GLN:HB2	2.18	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:201:G:H2'	53:27:202:G:C8	2.53	0.43
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
43:17:69:GLU:HB3	53:27:521:G:O5'	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
54:28:1105:U:H2'	54:28:1106:G:C8	2.37	0.43
54:28:116:C:O2'	54:28:117:G:H5'	2.18	0.43
4:D:165:HIS:CE1	54:28:1205:A:C4	3.07	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
54:28:149:A:H2'	54:28:150:U:C6	2.53	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
14:N:4:ARG:HA	54:28:2820:A:OP1	2.18	0.43
2:B:206:LYS:NZ	54:28:729:G:OP2	2.52	0.43
54:28:6:A:H2'	54:28:7:G:C8	2.54	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
2:B:177:SER:HB3	54:28:1799:G:O6	2.18	0.43
2:B:75:ALA:HB2	2:B:95:TYR:CD1	2.52	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
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
36:10:160:VAL:HG13	36:10:161:GLU:N	2.34	0.43
36:10:40:ASP:OD1	36:10:44:ARG:HB2	2.18	0.43
38:12:129:ASN:CA	38:12:134:VAL:HG11	2.44	0.43
38:12:66:GLU:HB3	38:12:69:ARG:HH21	1.84	0.43
41:15:10:LEU:HD11	41:15:72:ARG:HB2	2.01	0.43
45:19:53:ASP:O	45:19:54:SER:OG	2.29	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1149:C:O2'	53:27:1150:A:H5'	2.18	0.43
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
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
46:20:47:LYS:NZ	53:27:808:C:OP2	2.51	0.43
54:28:1086:A:N3	54:28:1086:A:H3'	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
54:28:235:U:H2'	54:28:236:C:C6	2.54	0.43
54:28:2377:A:O2'	54:28:2378:A:H5'	2.18	0.43
54:28:303:G:H2'	54:28:304:U:O4'	2.18	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
54:28:872:U:H2'	54:28:873:C:H6	1.79	0.43
30:4:30:VAL:HG22	30:4:33:ARG:HH12	1.82	0.43
34:8:147:GLY:HA3	34:8:171:ARG:O	2.19	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
27:1:10:GLU:N	27:1:26:SER:O	2.52	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
28:2:14:MET:SD	54:28:2045:C:H5''	2.59	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:170:U:H2'	54:28:171:U:H6	1.79	0.43
54:28:2078:C:O2'	54:28:2079:U:H5'	2.18	0.43
54:28:2146:C:H4'	54:28:2147:A:C8	2.54	0.43
13:M:79:ALA:HA	54:28:2494:G:O2'	2.18	0.43
54:28:441:U:H2'	54:28:442:G:H8	1.82	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
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
21:U:6:ARG:CG	21:U:7:ASP:N	2.80	0.43
21:U:95:PHE:HD2	21:U:100:GLU:HB2	1.83	0.43
27:1:11:GLU:HB2	27:1:25:ARG:HG2	2.01	0.43
27:1:66:ILE:O	27:1:66:ILE:HG23	2.19	0.43
43:17:113:ARG:NE	43:17:120:ARG:HA	2.34	0.43
42:16:111:ASP:HB3	52:26:3:ILE:N	2.33	0.43
53:27:1203:C:O2'	53:27:1204:A:H5'	2.18	0.43
53:27:136:C:O2'	53:27:137:U:H5'	2.19	0.43
53:27:1434:A:H2'	53:27:1435:G:O4'	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
41:15:59:LYS:HD3	53:27:972:C:O3'	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
54:28:145:C:H2'	54:28:146:A:H8	1.84	0.43
11:K:66:LYS:HD3	54:28:1666:G:P	2.59	0.43
54:28:1738:G:HO2'	54:28:1739:A:H8	1.66	0.43
54:28:176:A:HO2'	54:28:177:G:H5'	1.83	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
12:L:60:ARG:O	54:28:2393:U:H5'	2.18	0.43
54:28:2544:G:H2'	54:28:2545:G:C8	2.54	0.43
54:28:819:A:O2'	54:28:820:A:H5'	2.19	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
34:8:198:LYS:HE3	53:27:1058:G:OP1	2.18	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:117:LEU:C	8:H:117:LEU:HD23	2.39	0.43
8:H:42:ARG:HG3	9:I:118:GLY:H	1.84	0.43
12:L:103:ILE:HD12	54:28:622:G:OP1	2.19	0.43
15:O:73:ALA:O	15:O:76:LYS:HB3	2.18	0.43
15:O:70:ALA:O	15:O:74:VAL:HG23	2.19	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
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
43:17:66: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
45:19:53:ASP:C	45:19:55:SER:H	2.21	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
53:27:1228:C:H2'	53:27:1229:A:H8	1.83	0.43
53:27:924:C:H2'	53:27:925:G:H8	1.83	0.43
9:I:135:MET:HB3	54:28:1063:G:H4'	2.00	0.43
54:28:1047:G:H22	54:28:1110:G:H2'	1.80	0.43
54:28:323:C:H2'	54:28:1205:A:N1	2.34	0.43
4:D:165:HIS:HE1	54:28:1205:A:O2'	2.02	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
54:28:320:A:C2	54:28:323:C:H5	2.37	0.43
54:28:940:G:C3'	54:28:941:A:H5''	2.49	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
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
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
15:O:43:ASN:OD1	15:O:44:GLY:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
21:U:97:SER:C	21:U:99:SER:N	2.72	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
36:10:10:LEU:HA	36:10:10:LEU:HD23	1.82	0.42
37:11:36:ILE:HD11	37:11:38:ARG:O	2.19	0.42
38:12:85:GLN:HB2	38:12:147:ASN:ND2	2.33	0.42
27:1:26:SER:OG	27:1:27:THR:N	2.51	0.42
39:13:76:ARG:NH1	39:13:125:ILE:HG23	2.35	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
53:27:1015:G:O2'	53:27:1016:A:H5'	2.19	0.42
53:27:123:U:OP1	53:27:312:C:H5'	2.19	0.42
43:17:28:GLN:HE21	53:27:363:A:H1'	1.83	0.42
53:27:45:G:H2'	53:27:46:G:C8	2.54	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
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
2:B:247:TRP:CG	54:28:1805:A:H5''	2.53	0.42
54:28:1873:G:O2'	54:28:1874:C:H5'	2.18	0.42
54:28:1914:C:O4'	54:28:1914:C:O2	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
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
33:7:86:CYS:HG	33:7:87:ASP:H	1.67	0.42
35:9:18:LEU:C	35:9:20:LEU:H	2.22	0.42
2:B:225:ASN:HA	2:B:226:PRO:HD3	1.73	0.42
3:C:108:ASP:CG	3:C:206:ALA:HA	2.40	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
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
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
43:17:35:ARG:HG2	43:17:37:TYR:HD2	1.84	0.42
46:20:67:ASP:O	46:20:68:TYR:C	2.56	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
53:27:1206:G:C2	53:27:1207:G:H1'	2.53	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
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:N3	54:28:1919:A:H2'	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
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
55:29:103:U:H2'	55:29:104:A:H8	1.83	0.42
34:8:118:SER:O	34:8:122:GLN:HG3	2.18	0.42
1:A:643:GLU:O	1:A:646:SER:HB3	2.18	0.42
2:B:70:LYS:O	2:B:117:SER:OG	2.30	0.42
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
4:D:58:LYS:HZ1	4:D:70:SER:HB2	1.84	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:HG22	18:R:58:VAL:O	2.19	0.42
21:U:65:GLN:HG3	54:28:328:U:H4'	2.00	0.42
26:Z:4:ILE:C	26:Z:36:GLU:HG3	2.40	0.42
37:11:42:TRP:HH2	37:11:100:SER:O	2.02	0.42
37:11:55:HIS:O	37:11:56:LYS:HB2	2.18	0.42
37:11:38:ARG:HD3	37:11:98:GLU:H	1.84	0.42
5:E:139:GLU:HG3	27:1:28:VAL:H	1.84	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
53:27:1031:C:H6	53:27:1031:C:O5'	2.02	0.42
53:27:234:C:H2'	53:27:235:C:C6	2.54	0.42
35:9:129:VAL:HG12	53:27:619:U:O2'	2.19	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
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
54:28:175:G:H2'	54:28:176:A: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
23:W:16:ARG:NE	54:28:2357:G:OP1	2.42	0.42
54:28:2660:A:H2'	54:28:2661:G:O4'	2.19	0.42
54:28:274:C:C2'	54:28:275:C:H5'	2.49	0.42
54:28:2843:G:H2'	54:28:2844:G:O4'	2.19	0.42
24:X:60:LYS:HZ2	54:28:372:G:C1'	2.33	0.42
54:28:404:A:H1'	54:28:406:G:C4	2.54	0.42
21:U:6:ARG:HB2	54:28:85:G:P	2.59	0.42
54:28:859:G:H2'	54:28:916:G:O6	2.19	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
35:9:169:TRP:HA	35:9:183:ARG:NH1	2.35	0.42
2:B:154:ALA:CB	2:B:161:VAL:HG23	2.49	0.42
2:B:6:LYS:O	2:B:8:THR:N	2.51	0.42
4:D:126:VAL:HG22	4:D:127:GLU:N	2.34	0.42
4:D:48:THR:O	4:D:52:VAL:HG23	2.18	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
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
5:E:114:ARG:HH22	27:1:50:ASP:HB2	1.85	0.42
45:19:41:TRP:O	45:19:44:VAL:HG22	2.18	0.42
47:21:19:VAL:HG13	47:21:19:VAL:O	2.20	0.42
47:21:7:ALA:HB1	47:21:9:HIS:CE1	2.54	0.42
52:26:28:LEU:HA	52:26:31:VAL:HG12	2.01	0.42
53:27:100:G:H3'	53:27:101:A:H8	1.84	0.42
33:7:101:THR:O	53:27:1074:G:H4'	2.19	0.42
53:27:462:G:H2'	53:27:462:G:N3	2.34	0.42
53:27:57:G:H2'	53:27:58:C:C6	2.55	0.42
42:16:21:HIS:CD2	53:27:707:U:H5''	2.54	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
54:28:190:A:H3'	54:28:191:A:C8	2.54	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
54:28:28:A:H1'	54:28:513:A:C2	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
4:D:69:ARG:NE	54:28:674:G:H1'	2.31	0.42
30:4:27:GLY:O	30:4:30:VAL:HB	2.20	0.42
31:5:4:LYS:HZ2	54:28:253:C:P	2.42	0.42
33:7:113:LEU:HD13	33:7:143:LEU:HB3	2.02	0.42
2:B:24:HIS:CD2	2:B:79:ARG:NH1	2.87	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
38:12:38:ALA:O	38:12:41:ILE:HB	2.19	0.42
46:20:45:HIS:O	46:20:46:LYS:HB2	2.20	0.42
28:2:15:ARG:HH22	54:28:1264:A:H5''	1.85	0.42
52:26:19:LYS:N	52:26:19:LYS:CD	2.79	0.42
53:27:1131:G:C3'	53:27:1132:C:C5'	2.95	0.42
41:15:44:THR:OG1	53:27:1151:A:H5''	2.20	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
53:27:54:C:H2'	53:27:352:C:N4	2.31	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
39:13:12:ARG:NH2	53:27:826:C:H5'	2.34	0.42
54:28:1361:G:H2'	54:28:1362:C:C6	2.55	0.42
54:28:182:A:O2'	54:28:183:C:H5'	2.19	0.42
54:28:1839:G:C5	54:28:1840:G:N7	2.87	0.42
54:28:1839:G:C4	54:28:1840:G:C8	3.07	0.42
54:28:2027:G:H2'	54:28:2028:U:H6	1.84	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
58:32:11:A:H2'	58:32:12:G:H8	1.84	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
1:A:624:PHE:HB3	1:A:632:SER:HB3	2.01	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
14:N:49:GLU:HB2	14:N:50:PRO:HD3	2.02	0.42
16:P:30:TRP:CE3	16:P:37:LYS:HG2	2.53	0.42
16:P:30:TRP:CD2	16:P:39:LEU:HD13	2.54	0.42
24:X:5:GLN:HE22	24:X:49:ARG:HB3	1.85	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
46:20:44:GLU:O	46:20:45:HIS:HB2	2.20	0.42
53:27:1097:C:O2'	53:27:1098:C:H5'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
54:28:158:U:H2'	54:28:159:G:O4'	2.19	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
54:28:226:A:H2'	54:28:227:A:C8	2.54	0.42
54:28:2508:G:C6	54:28:2580:U:H5	2.37	0.42
28:2:39:ARG:HA	54:28:2884:U:O4	2.20	0.42
30:4:37:LYS:NZ	54:28:468:G:OP2	2.50	0.42
26:Z:13:ILE:HD11	54:28:989:G:OP2	2.20	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
33:7:160:LEU:HG	33:7:160:LEU:O	2.19	0.42
34:8:76:ILE:HA	34:8:83:VAL:HG23	2.01	0.42
1:A:703:THR:HG23	1:A:704:LYS:H	1.84	0.42
1:A:614:GLN:HB2	1:A:740:ARG:HD2	2.00	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:23:SER:OG	55:29:55:U:H4'	2.19	0.42
5:E:22:ASN:HB2	5:E:26:GLN:HE22	1.83	0.42
7:G:132:PHE:H	7:G:140:ALA:HB3	1.85	0.42
8:H:100:ALA:O	8:H:101:LYS:C	2.58	0.42
12:L:77:ILE:HD11	12:L:108:ALA:HB1	2.02	0.42
12:L:57:LEU:C	12:L:59:ARG:H	2.23	0.42
12:L:73:ILE:O	12:L:105:ILE:HA	2.18	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
10:J:4:PHE:CD2	17:Q:99:VAL:HG11	2.55	0.42
38:12:42:VAL:O	38:12:46:LEU:HD13	2.20	0.42
43:17:106:VAL:HG12	43:17:107:LYS:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:26:38:GLU:O	52:26:41:THR:HB	2.20	0.42
53:27:1037:C:H2'	53:27:1038:C:C5	2.54	0.42
34:8:196:GLY:HA3	53:27:1057:G:O3'	2.20	0.42
53:27:1066:C:H2'	53:27:1067:A:C8	2.54	0.42
40:14:105:ARG:NE	53:27:1118:U:OP1	2.42	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
53:27:85:U:O5'	53:27:85:U:H6	2.02	0.42
15:O:10:ARG:NH1	54:28:2295:C:OP1	2.53	0.42
5:E:76:PHE:CE1	54:28:2308:G:C6	3.06	0.42
54:28:197:A:C4	54:28:2430:A:C6	3.08	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
54:28:64:A:H2'	54:28:65:U:H6	1.82	0.42
54:28:758:C:O2	54:28:758:C:C2'	2.67	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
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
2:B:155:ARG:HA	2:B:194:VAL:HG21	2.01	0.42
5:E:150:GLY:O	54:28:2305:U:N3	2.52	0.42
5:E:1:ALA:N	5:E:97:GLU:OE1	2.53	0.42
6:F:172:GLU:C	6:F:174:LYS:H	2.22	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
36:10:29:ILE:HD11	36:10:53:ARG:CZ	2.49	0.42
37:11:39:LEU:HD23	37:11:39:LEU:C	2.40	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
50:24:35:ARG:NH2	53:27:1320:C:O2	2.53	0.42
53:27:130:A:O2'	53:27:264:C:H5'	2.20	0.42
53:27:1439:G:C2	53:27:1440:U:H1'	2.55	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
53:27:39:G:C6	53:27:404:G:C6	3.07	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
54:28:1047:G:H1'	54:28:1110:G:N2	2.35	0.42
18:R:83:TYR:CZ	54:28:1187:G:H5''	2.55	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
54:28:251:A:C4	54:28:252:G:H1'	2.55	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
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
35:9:124:VAL:HA	35:9:142:VAL:HA	2.00	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:79:ARG:O	18:R:80:ARG:HB2	2.20	0.42
24:X:54:GLY:O	24:X:57:VAL:HB	2.20	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
41:15:84:VAL:O	41:15:84:VAL:HG22	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
39:13:12:ARG:HH12	53:27:826:C:H5''	1.85	0.42
2:B:213:ARG:NH2	54:28:1566:A:H5'	2.34	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
4:D:163:ASN:HB2	54:28:322:A:P	2.59	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:67:U:C2	54:28:68:G:C8	3.08	0.42
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
55:29:14:U:OP2	55:29:71:C:H5'	2.20	0.42
33:7:156:LEU:HA	33:7:157:PRO:HD3	1.86	0.42
2:B:129:LEU:HD13	2:B:133:ASN:HB2	2.02	0.42
2:B:203:VAL:O	2:B:204:LEU:C	2.57	0.42
4:D:162:ARG:HH12	54:28:340:A:HO2'	1.68	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
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
47:21:12:LYS:C	47:21:14:ARG:H	2.22	0.42
50:24:39:ILE:HB	50:24:66:VAL:C	2.40	0.42
50:24:59:VAL:O	50:24:59:VAL:HG23	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
53:27:991: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
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
53:27:41:G:O2'	53:27:42:G:H5'	2.19	0.42
53:27:954:G:H2'	53:27:955:U:O4'	2.19	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
54:28:209:C:H2'	54:28:210:C:C6	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
54:28:277:G:C1'	54:28:361:G:H1	2.26	0.42
18:R:85:LYS:HE2	54:28:815:C:OP1	2.20	0.42
54:28:946:C:H2'	54:28:947:A:C8	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:29:61:G:H2'	55:29:62:C:H6	1.85	0.42
33:7:49:PHE:CD1	33:7:199:ILE:HD13	2.55	0.42
33:7:206:ILE:HA	33:7:209:VAL:HG22	2.01	0.42
33:7:23:ASN:ND2	33:7:190:SER:O	2.53	0.42
33:7:65:LYS:HD2	33:7:153:MET:HG3	2.02	0.42
34:8:114:LEU:HD23	34:8:114:LEU:HA	1.84	0.42
34:8:161:ILE:O	34:8:161:ILE:HG13	2.20	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
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
17:Q:59:LEU:O	17:Q:62:ALA:HB3	2.20	0.42
22:V:76:ASP:O	22:V:90:ASP:N	2.47	0.42
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
34:8:5:HIS:HB3	45:19:88:MET:CE	2.50	0.41
47:21:53:ASP:OD2	47:21:56:ARG:HB2	2.20	0.41
47:21:7:ALA:HB1	47:21:9:HIS:HE1	1.85	0.41
51:25:43:LYS:HE2	51:25:85:LEU:HG	2.01	0.41
53:27:1332:A:H2'	53:27:1333:A:C8	2.55	0.41
53:27:309:A:C2	53:27:310:G:C5	3.07	0.41
43:17:114:SER:OG	53:27:501:C:O3'	2.30	0.41
53:27:564:C:C4	53:27:565:U:C4	3.08	0.41
53:27:901:A:C5	53:27:902:G:H1'	2.55	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
54:28:228:C:N4	54:28:417:C:H1'	2.35	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
3:C:155:VAL:HG21	54:28:2618:G:H21	1.85	0.41
54:28:510:C:H2'	54:28:511:U:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:79:ARG:NH1	54:28:572:A:OP2	2.45	0.41
54:28:634:C:H6	54:28:634:C:O5'	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
33:7:206:ILE:O	33:7:209:VAL:HG22	2.20	0.41
34:8:69:THR:C	34:8:105:VAL:HG12	2.40	0.41
35:9:96:ARG:O	35:9:100:VAL:HG23	2.19	0.41
3:C:9:VAL:HG12	16:P:4:ILE:HD11	2.02	0.41
4:D:108:ILE:HG13	4:D:109:LEU:HD12	2.02	0.41
4:D:90:GLN:HE21	4:D:92:HIS:CE1	2.37	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
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: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:48:VAL:HG22	21:U:50:ALA:H	1.85	0.41
21:U:5:ARG:HB2	54:28:85:G:OP1	2.20	0.41
25:Y:49:ASP:HA	25:Y:52:ARG:HG2	2.02	0.41
36:10:12:GLU:HA	36:10:38:VAL:HA	2.02	0.41
40:14:54:VAL:CG2	40:14:56:MET:HG2	2.45	0.41
47:21:75:ILE:O	47:21:78:VAL:HG12	2.21	0.41
48:22:17:GLU:C	48:22:19:SER:H	2.23	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
28:2:48:TYR:O	28:2:51:ARG:HG2	2.20	0.41
51:25:67:HIS:O	51:25:67:HIS:CG	2.73	0.41
42:16:111:ASP:HB2	52:26:16:ARG:HH22	1.85	0.41
53:27:1254:A:H2'	53:27:1255:G:H8	1.83	0.41
53:27:597:G:H2'	53:27:598:U:H5'	2.01	0.41
39:13:55:LYS:HE3	53:27:653:U:C1'	2.50	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:2:5:ASN:ND2	54:28:2020:A:H62	2.17	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
54:28:239:C:H2'	54:28:240:C:O4'	2.21	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
28:2:49:ARG:NH1	54:28:2883:A:OP2	2.49	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
54:28:84:A:H4'	54:28:85:G:O5'	2.19	0.41
54:28:84:A:N7	54:28:101:A:H2	2.18	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
32:6:30:GLU:HA	32:6:31:PRO:HD3	1.92	0.41
34:8:47:ALA:C	34:8:49:ALA:H	2.23	0.41
35:9:146:GLU:OE1	35:9:146:GLU:N	2.42	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
18:R:32:THR:OG1	18:R:61:ALA:O	2.32	0.41
37:11:14:GLN:CD	37:11:14:GLN:H	2.23	0.41
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
44:18:48:SER:HB2	44:18:51:GLN:HG3	2.02	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
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
53:27:306:A:C2'	53:27:307:C:H5'	2.50	0.41
53:27:305:G:H5''	53:27:306:A:OP1	2.20	0.41
53:27:629:A:H2'	53:27:630:A:O4'	2.21	0.41
54:28:1268:A:H2'	54:28:1269:A:O4'	2.20	0.41
54:28:155:A:H2'	54:28:156:A:H8	1.83	0.41
54:28:1877:A:H2'	54:28:1878:G:O4'	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
15:O:10:ARG:HD3	54:28:2294:G:OP1	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2561:U:H2'	54:28:2562:U:C5'	2.40	0.41
54:28:1999:C:H1'	54:28:2687:U:O2'	2.20	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
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
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
35:9:108: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
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
6:F:148:ARG:HD2	6:F:163:TYR:CE1	2.55	0.41
6:F:34:ARG:HH21	6:F:70:LEU:HD13	1.85	0.41
7:G:6:LEU:HD11	7:G:37:VAL:CG2	2.48	0.41
8:H:102:ALA:HA	8:H:105:LYS:HB3	2.02	0.41
8:H:51:TYR:CD2	8:H:52:MET:N	2.88	0.41
10:J:115:GLY:O	10:J:118:MET:HG2	2.21	0.41
10:J:75:TYR:HE1	10:J:86:GLN:OE1	2.03	0.41
4:D:117:ARG:NH1	12:L:2:ARG:HG2	2.16	0.41
13:M:31:PHE:HD1	13:M:130:PHE:CZ	2.38	0.41
17:Q:61:ILE:HG23	17:Q:75:TYR:CZ	2.56	0.41
17:Q:88:GLU:N	17:Q:88:GLU:OE1	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
37:11:67:PRO:HB2	37:11:69:GLU:OE1	2.19	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
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
53:27:1220: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
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
53:27:703:G:HO2'	53:27:704:A:H8	1.62	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:833:G:H2'	53:27:834:U:O4'	2.21	0.41
38:12:2:ARG:CB	53:27:933:G:OP2	2.62	0.41
54:28:1210:G:P	54:28:1212:G:H5'	2.60	0.41
54:28:563:A:C6	54:28:2018:G:C5	3.08	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
3:C:145:SER:O	54:28:2512:C:H1'	2.19	0.41
54:28:2555:U:C2'	54:28:2556:C:H5'	2.50	0.41
54:28:2051:A:H5'	54:28:2578:G:O4'	2.20	0.41
54:28:2707:U:H2'	54:28:2708:G:C8	2.55	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
26:Z:22:THR:HA	54:28:850:U:O2'	2.20	0.41
15:O:3:LYS:NZ	55:29:46:A:H5"	2.35	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
32:6:6:SER:O	32:6:8:LYS:NZ	2.53	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
4:D:46:GLN:HB2	4:D:86:ALA:HB1	2.03	0.41
5:E:1:ALA:HB2	5:E:93:GLU:OE1	2.20	0.41
6:F:29:ASN:ND2	6:F:79:THR:C	2.74	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:13:ALA:O	9:I:15:GLY:N	2.54	0.41
9:I:9:LYS:HB3	9:I:57:VAL:HG22	2.02	0.41
13:M:35:ALA:O	13:M:99:GLY:N	2.51	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:HG13	22:V:65:VAL:O	2.20	0.41
26:Z:35:VAL:HG21	26:Z:37:ARG:NH2	2.36	0.41
36:10:132:PRO:O	36:10:135:VAL:CG2	2.67	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
27:1:66:ILE:O	27:1:66:ILE:HG12	2.20	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:2:15:ARG:HH12	54:28:1264:A:P	2.44	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
53:27:1146: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
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
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
54:28:227:A:N1	54:28:2407:A:H1'	2.36	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
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
55:29:14:U:HO2'	55:29:15:A:H8	1.68	0.41
55:29:4:C:OP1	55:29:4:C:H4'	2.20	0.41
55:29:54:G:H2'	55:29:55:U:H6	1.85	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
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:HG22	6:F:18:ILE:O	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
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
18:R:49:ILE:HD13	18:R:51:VAL:C	2.41	0.41
19:S:25:ARG:HE	19:S:74:ILE:HG23	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:9:LYS:O	25:Y:13:GLU:HG2	2.20	0.41
35:9:201:GLU:HG2	36:10:105:ILE:HG22	2.02	0.41
38:12:142:ARG:HB3	58:32:41:C:H4'	2.02	0.41
38:12:5:VAL:O	38:12:5:VAL:HG23	2.21	0.41
38:12:92:PRO:O	38:12:95:ARG:HB3	2.20	0.41
40:14:98:ARG:CG	40:14:103:VAL:HG21	2.37	0.41
40:14:90:ASP:C	40:14:92:SER:H	2.23	0.41
27:1:57:VAL:HG23	50:24:63:ASP:OD1	2.20	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
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
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
53:27:232:G:O2'	53:27:233:C:H5'	2.21	0.41
53:27:40:C:O2'	53:27:41:G:H5'	2.20	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
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
54:28:814:C:C1'	54:28:1225:G:H21	2.31	0.41
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
54:28:279:A:H2'	54:28:280:U:O4'	2.21	0.41
54:28:2818:U:H2'	54:28:2819:G:H8	1.86	0.41
54:28:30:G:H2'	54:28:31:C:H6	1.86	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
54:28:852:U:H2'	54:28:853:C:C6	2.55	0.41
26:Z:24:LEU:HD21	54:28:930:G:H1'	2.02	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
33:7:157:PRO:O	33:7:180:ILE:HD13	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:93:ASN:HD22	9:I:96:LYS:HE2	1.85	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
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
42:16:117:HIS:CD2	53:27:718:A:C5	3.09	0.41
42:16:13:LYS:O	42:16:14:GLN:HB3	2.21	0.41
44:18:32:ILE:HG23	44:18:58:GLU:HG3	2.03	0.41
47:21:14:ARG:HE	47:21:42:ILE:HD13	1.86	0.41
40:14:12:LYS:NZ	53:27:1373:G:O6	2.53	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
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
53:27:947:G:H2'	53:27:948:C:H6	1.85	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
54:28:123:G:H2'	54:28:124:G:C8	2.54	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
54:28:161:A:H1'	54:28:2208:C:H1'	2.03	0.41
54:28:1747:U:H2'	54:28:1748:C:C6	2.55	0.41
54:28:414:C:H1'	54:28:1864:U:H1'	2.02	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
54:28:35:G:O2'	54:28:36:G:H5'	2.21	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
4:D:94:GLN:HB2	54:28:660:C:H5''	2.02	0.41
46:20:88:ARG:HE	54:28:714:U:H5	1.68	0.41
58:32:8:U:O2	58:32:21:A:H2	2.03	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
4:D:16:GLU:O	4:D:20:GLY:N	2.54	0.41
5:E:33:ILE:HB	5:E:90:LEU:HD12	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
15:O:103:VAL:HG23	15:O:104:GLN:N	2.36	0.41
16:P:88:ARG:O	16:P:112:ARG:HG3	2.20	0.41
16:P:80:VAL:O	16:P:80:VAL:HG23	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
36:10:109:ALA:O	36:10:110:MET:C	2.58	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
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
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
49:23:19:GLU:CD	49:23:19:GLU:H	2.23	0.41
49:23:25:ILE:O	49:23:26:ALA:C	2.58	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:H2'	53:27:945:G:N3	2.35	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
54:28:209:C:O2'	54:28:210:C:H5'	2.21	0.41
54:28:2198:A:O2'	54:28:2199:A:H8	2.03	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
54:28:2649: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
54:28:40:U:H2'	54:28:41:C:C6	2.56	0.41
54:28:477:A:H2'	54:28:478:A:C8	2.55	0.41
17:Q:55:GLN:HE22	54:28:559:G:H1'	1.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
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
3:C:85:ALA:C	3:C:87:GLY:H	2.24	0.41
4:D:146:VAL:HA	4:D:185:LYS:O	2.21	0.41
5:E:100:GLU:C	5:E:102:LEU:N	2.74	0.41
5:E:114:ARG:NH2	27:1:50:ASP:HB2	2.35	0.41
5:E:78:ILE:O	5:E:78:ILE:HG13	2.20	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:60:TRP:CG	17:Q:92:LYS:HA	2.56	0.41
25:Y:39:GLN:HE21	25:Y:42:LEU:HD11	1.84	0.41
37:11:18:VAL:HG11	37:11:58:HIS:CE1	2.56	0.41
27:1:59:ARG:O	27:1:62:LYS:HB2	2.20	0.41
44:18:10:ASP:OD1	44:18:45:SER:N	2.54	0.41
44:18:8:ILE:N	44:18:9:PRO:CD	2.84	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
53:27:1130:A:C2	53:27:1146:A:C5	3.08	0.41
53:27:155:A:H2'	53:27:156:C:C6	2.56	0.41
53:27:334:C:O2'	53:27:335:C:H5'	2.21	0.41
53:27:35:G:H2'	53:27:36:C:C6	2.56	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
54:28:989:G:O5'	54:28:1157:G:H4'	2.21	0.41
54:28:749:A:H4'	54:28:1271:G:N3	2.35	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
54:28:120:U:H1'	54:28:149: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:28:439:A:H2'	54:28:440:C:C6	2.56	0.41
54:28:771:G:N3	54:28:771:G:H2'	2.36	0.41
54:28:799:G:H3'	54:28:800:A:H8	1.86	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
31:5:16:THR:HG23	31:5:21:PHE:HA	2.03	0.41
33:7:82:ALA:HB3	33:7:213:LEU:HD23	2.03	0.41
35:9:56:GLU:HG3	35:9:199:ILE:HD11	2.03	0.41
9:I:36:GLU:O	9:I:37:PHE:C	2.58	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
17:Q:65:ASN:ND2	17:Q:69:ARG:HE	2.18	0.41
19:S:31:GLN:O	19:S:35:ILE:HG13	2.21	0.41
20:T:28:ASN:ND2	20:T:91:GLN:HA	2.35	0.41
21:U:12:VAL:HB	21:U:17:ASP:O	2.20	0.41
21:U:6:ARG:HD2	21:U:6:ARG:HA	1.84	0.41
26:Z:29:ARG:HD2	54:28:1183:U:H5''	2.02	0.41
37:11:12:PRO:O	37:11:16:GLU:HG2	2.21	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
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
48:22:59:GLU:CD	48:22:76:ARG:HE	2.24	0.41
51:25:68:LYS:O	51:25:72:ALA:N	2.38	0.41
41:15:41:PRO:HB2	53:27:1151:A:H1'	2.02	0.41
40:14:123:ARG:CB	53:27:1343:G:O3'	2.69	0.41
51:25:59:ARG:NH2	53:27:178:C:OP2	2.53	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
16:P:38:ARG:HH11	53:27:345:C:H5'	1.78	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
53:27:47:C:H4'	53:27:48:C:H5''	2.03	0.41
53:27:616:G:O2'	53:27:617:G:H5'	2.20	0.41
53:27:951:G:H2'	53:27:952:U:C6	2.56	0.41
17:Q:69:ARG:NH1	54:28:1011:G:OP2	2.53	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
54:28:1532:A:N3	54:28:1532:A:H2'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1770:G:C6	54:28:1983:G:C5	3.08	0.41
2:B:175:LEU:HD13	54:28:1799:G:C5	2.56	0.41
54:28:1804:C:H2'	54:28:1805:A:C8	2.55	0.41
54:28:198:C:O5'	54:28:198:C:H6	2.04	0.41
7:G:22:LYS:HD2	54:28:2094:A:OP1	2.21	0.41
54:28:2441:U:O2'	54:28:2442:C:H5'	2.21	0.41
32:6:20:ASP:HA	54:28:2757:A:OP2	2.21	0.41
54:28:551:G:O2'	54:28:552:U:H5'	2.21	0.41
2:B:216:ARG:NH2	54:28:781:A:OP1	2.54	0.41
54:28:914:G:H5'	54:28:915:C:OP2	2.21	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
29:3:50:GLU:CD	29:3:51:ALA:N	2.75	0.41
31:5:9:ALA:HB1	31:5:61:LEU:HD23	2.03	0.41
2:B:224:MET:SD	2:B:229:HIS:HB2	2.61	0.41
2:B:71:ASP:C	2:B:73:ILE:H	2.23	0.41
3:C:153:GLY:O	3:C:154:LYS:HB3	2.21	0.41
3:C:208:LYS:HZ3	54:28:2732:G:P	2.44	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
8:H:113:PHE:CD1	8:H:113:PHE:O	2.74	0.41
9:I:85:ILE:CD1	9:I:135:MET:HE1	2.51	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
13:M:57:VAL:HG11	13:M:105:MET:HE2	2.03	0.41
14:N:33:ILE:HA	14:N:113:ILE:O	2.21	0.41
21:U:93:ARG:O	21:U:101:THR:HA	2.20	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
37:11:38:ARG:HB3	37:11:63:ASN:ND2	2.35	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
43:17:22:ALA:O	43:17:23:LEU:HB3	2.21	0.41
44:18:89:ARG:HH21	44:18:95:PRO:HG2	1.86	0.41
51:25:9:ARG:HG2	53:27:108:G:C6	2.55	0.41
53:27:1213:A:C5	53:27:1215:G:C4	3.09	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:97:ARG:HH21	54:28:2220:U:H4'	1.86	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
17:Q:4:LYS:NZ	54:28:30:G:OP2	2.48	0.41
54:28:765:C:H2'	54:28:766:U:O4'	2.20	0.41
55:29:21:G:H2'	55:29:22:U:C6	2.55	0.41
34:8:30:ASP:O	34:8:33:ASP:HB3	2.21	0.41
34:8:21:TRP:CB	34:8:58:ARG:HB3	2.51	0.41
1:A:669:VAL:HA	1:A:740:ARG:HA	2.03	0.41
4:D:118:LEU:O	4:D:119:ILE:HD13	2.21	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
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
18:R:93:PHE:CD1	18:R:93:PHE:C	2.94	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
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
40:14:90:ASP:C	40:14:92:SER:N	2.75	0.40
42:16:35:ASP:OD2	42:16:37:GLN:NE2	2.55	0.40
43:17:54:VAL:O	43:17:61:GLU:HA	2.21	0.40
43:17:49:ARG:HB2	43:17:89:LEU:HD21	2.03	0.40
44:18:14:ALA:O	44:18:17:ALA:HB3	2.20	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
28:2:23:ALA:O	28:2:25:THR:HG23	2.21	0.40
48:22:46:HIS:CG	48:22:70:LYS:HE2	2.56	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
53:27:106:C:H2'	53:27:107:G:H8	1.86	0.40
53:27:1406:U:C2'	53:27:1407:C:H5'	2.51	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)
39:13:121:GLY:O	53:27:599:C:H4'	2.20	0.40
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
53:27:96:U:O2'	53:27:97:G:H5'	2.22	0.40
54:28:1491:G:H2'	54:28:1492:G:H8	1.86	0.40
54:28:1287:A:C2	54:28:1649:G:H4'	2.57	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
54:28:222:A:H61	54:28:232:G:H1'	1.87	0.40
54:28:2397:G:C6	54:28:2398:U:C4	3.09	0.40
28:2:40:HIS:CD2	54:28:2816:G:H4'	2.57	0.40
54:28:2828:G:O2'	54:28:2829:A:H5'	2.20	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
26:Z:37:ARG:NH1	54:28:929:U:H5''	2.36	0.40
54:28:938:G:H2'	54:28:939:G:H8	1.86	0.40
30:4:7:PRO:HG3	54:28:1612:C:H5'	2.03	0.40
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:142:TYR:CE2	44:18:8:ILE:HG21	2.56	0.40
5:E:7:TYR:HA	5:E:11:VAL:HG21	2.00	0.40
7:G:80:ILE:HD12	7:G:144:VAL:HG13	2.03	0.40
8:H:118:ILE:HD13	8:H:118:ILE:HA	1.95	0.40
8:H:28:ALA:HB2	8:H:82:ILE:HG23	2.02	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
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
27:1:44:PHE:HD1	27:1:45:THR:HG23	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
48:22:10:ARG:HH11	48:22:55:GLY:HA2	1.86	0.40
49:23:25:ILE:O	49:23:29:LYS:HG3	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
52:26:37:TYR:HE2	53:27:1526:G:OP1	2.04	0.40
47:21:14:ARG:NH1	53:27:618:C:O2'	2.54	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
54:28:164:C:H2'	54:28:165:A:O4'	2.21	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
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
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
35:9:104:MET:HE1	35:9:170:LEU:HB2	2.03	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
3:C:22:ILE:O	3:C:22:ILE:HG13	2.20	0.40
5:E:174:PHE:HA	5:E:175:PRO:HD3	1.95	0.40
5:E:19:PHE:C	5:E:20:ASN:OD1	2.60	0.40
5:E:19:PHE:HB3	5:E:21:TYR:CZ	2.56	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
12:L:22:GLY:O	12:L:25:SER:HB3	2.21	0.40
13:M:97:GLN:O	13:M:98:PRO:C	2.58	0.40
19:S:79:GLY:N	19:S:101:SER:HA	2.36	0.40
19:S:61:ASN:OD1	54:28:496:G:H1'	2.21	0.40
21:U:47:PRO:HB2	21:U:53:GLN:HB2	2.01	0.40
43:17:113:ARG:HE	43:17:120:ARG:HA	1.86	0.40
47:21:60:TRP:HA	47:21:63:GLN:HB3	2.03	0.40
47:21:8:ARG:HD3	47:21:17:TYR:CE1	2.56	0.40
50:24:38:THR:HA	50:24:69:LYS:HA	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:25:57:VAL:HG22	51:25:71:ALA:HB1	2.03	0.40
53:27:126:G:OP1	53:27:605:U:O2'	2.33	0.40
53:27:487:A:H3'	53:27:488:C:C6	2.56	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
54:28:2103:C:H2'	54:28:2104:C:H6	1.86	0.40
54:28:2063:C:O2	54:28:2450:A:N1	2.55	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
54:28:470:A:H2'	54:28:471:A:O4'	2.21	0.40
54:28:90:U:H3'	54:28:91:A:H8	1.85	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
2:B:180:MET:HB2	2:B:268:ARG:N	2.31	0.40
2:B:211:ARG:HD2	2:B:211:ARG:HA	1.82	0.40
5:E:175:PRO:HB2	5:E:176:PHE:H	1.69	0.40
9:I:118:GLY:CA	54:28:1082:U:C5'	3.00	0.40
9:I:118:GLY:HA3	54:28:1082:U:C5'	2.51	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:N	13:M:97:GLN:OE1	2.51	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
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
52:26:25:ALA:O	52:26:26:GLY:C	2.60	0.40
33:7:101:THR:HG21	53:27:1075:U:H5'	2.04	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
53:27:120:A:C4	53:27:122:G:C5	3.10	0.40
53:27:1250:A:C2	53:27:1370:G:H1'	2.56	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
8:H:38:MET:SD	54:28:1058:U:H4'	2.62	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1293:C:H2'	54:28:1294:U:C6	2.56	0.40
54:28:1612:C:H6	54:28:1612:C:O5'	2.04	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:O4'	54:28:2580:U:O2	2.40	0.40
54:28:2785:C:O2'	54:28:2786:U:H5'	2.21	0.40
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
55:29:13:G:H1	55:29:69:G:HO2'	1.69	0.40
33:7:163:ILE:HG12	33:7:163:ILE:O	2.21	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
1:A:598:VAL:HB	1:A:656:VAL:CG2	2.51	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
7:G:112:LYS:O	7:G:115:VAL:HB	2.21	0.40
8:H:74:ASP:OD1	8:H:116:GLU:HG2	2.21	0.40
8:H:57:ASN:ND2	8:H:63:ALA:HB2	2.37	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
4:D:29:HIS:CE1	12:L:8:PRO:HB3	2.56	0.40
13:M:38:ARG:NH2	13:M:98:PRO:HG2	2.37	0.40
16:P:90:ALA:HB2	16:P:112:ARG:HA	2.04	0.40
16:P:84:SER:CB	16:P:86:LYS:NZ	2.79	0.40
17:Q:10:ARG:O	17:Q:11:ALA:C	2.58	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
24:X:5:GLN:HE22	24:X:49:ARG:CB	2.34	0.40
36:10:156:ARG:O	36:10:158:LYS:N	2.50	0.40
38:12:102:TRP:CZ3	38:12:137:ARG:HA	2.56	0.40
38:12:26:VAL:O	38:12:30:MET:N	2.53	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
28:2:28:SER:HG	28:2:39:ARG:HD3	1.86	0.40
50:24:14:LEU:O	50:24:18:VAL:HG23	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:26:39:LYS:N	52:26:40:PRO:CD	2.83	0.40
53:27:1159:U:C5	53:27:1182:G:H2'	2.57	0.40
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
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
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
14:N:9:GLN:HE21	54:28:2002:G:H5''	1.87	0.40
54:28:202:U:H2'	54:28:203:A:O4'	2.22	0.40
54:28:2129:C:H2'	54:28:2130:U:O4'	2.22	0.40
54:28:274:C:H2'	54:28:275:C:H5'	2.04	0.40
3:C:56:LYS:HZ1	54:28:2830:C:H5''	1.85	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
35:9:166:LYS:HD2	35:9:167:PRO:HD2	2.03	0.40
35:9:90:LEU:HA	35:9:90:LEU:HD23	1.93	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
8:H:121:SER:OG	8:H:124:ASP:O	2.37	0.40
9:I:7:TYR:OH	9:I:60:VAL:O	2.32	0.40
10:J:31:GLU:HG2	10:J:142:ILE:CD1	2.52	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

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%)	1	17
2	B	269/273 (98%)	227 (84%)	31 (12%)	11 (4%)	3	36
3	C	207/209 (99%)	183 (88%)	17 (8%)	7 (3%)	5	42
4	D	199/201 (99%)	162 (81%)	28 (14%)	9 (4%)	3	33
5	E	175/179 (98%)	140 (80%)	31 (18%)	4 (2%)	8	50
6	F	174/177 (98%)	145 (83%)	27 (16%)	2 (1%)	17	63
7	G	147/149 (99%)	115 (78%)	23 (16%)	9 (6%)	2	27
8	H	129/165 (78%)	85 (66%)	29 (22%)	15 (12%)	0	9
9	I	139/142 (98%)	112 (81%)	21 (15%)	6 (4%)	3	35
10	J	140/142 (99%)	123 (88%)	13 (9%)	4 (3%)	6	45
11	K	120/123 (98%)	102 (85%)	12 (10%)	6 (5%)	3	31
12	L	141/144 (98%)	110 (78%)	25 (18%)	6 (4%)	3	35
13	M	134/136 (98%)	115 (86%)	16 (12%)	3 (2%)	8	50
14	N	118/127 (93%)	96 (81%)	18 (15%)	4 (3%)	5	42
15	O	114/117 (97%)	100 (88%)	10 (9%)	4 (4%)	4	41
16	P	112/115 (97%)	99 (88%)	11 (10%)	2 (2%)	11	54
17	Q	115/118 (98%)	105 (91%)	10 (9%)	0	100	100
18	R	101/103 (98%)	84 (83%)	13 (13%)	4 (4%)	4	37
19	S	108/110 (98%)	95 (88%)	8 (7%)	5 (5%)	3	33
20	T	91/100 (91%)	77 (85%)	8 (9%)	6 (7%)	1	25
21	U	100/104 (96%)	83 (83%)	8 (8%)	9 (9%)	1	16
22	V	92/94 (98%)	79 (86%)	12 (13%)	1 (1%)	17	63
23	W	73/85 (86%)	66 (90%)	6 (8%)	1 (1%)	14	58
24	X	75/78 (96%)	67 (89%)	5 (7%)	3 (4%)	4	37
25	Y	61/63 (97%)	53 (87%)	5 (8%)	3 (5%)	3	32
26	Z	56/59 (95%)	52 (93%)	3 (5%)	1 (2%)	11	54
27	1	64/70 (91%)	48 (75%)	10 (16%)	6 (9%)	1	15
28	2	54/57 (95%)	46 (85%)	7 (13%)	1 (2%)	10	53
29	3	48/55 (87%)	45 (94%)	2 (4%)	1 (2%)	9	51

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	4	44/46 (96%)	40 (91%)	4 (9%)	0	100	100
31	5	62/65 (95%)	54 (87%)	6 (10%)	2 (3%)	5	43
32	6	36/38 (95%)	29 (81%)	6 (17%)	1 (3%)	6	46
33	7	216/241 (90%)	170 (79%)	36 (17%)	10 (5%)	3	33
34	8	204/233 (88%)	179 (88%)	20 (10%)	5 (2%)	7	48
35	9	203/206 (98%)	167 (82%)	22 (11%)	14 (7%)	1	23
36	10	155/167 (93%)	117 (76%)	26 (17%)	12 (8%)	1	20
37	11	98/135 (73%)	77 (79%)	13 (13%)	8 (8%)	1	18
38	12	149/179 (83%)	127 (85%)	18 (12%)	4 (3%)	6	46
39	13	127/130 (98%)	116 (91%)	8 (6%)	3 (2%)	7	49
40	14	125/130 (96%)	105 (84%)	10 (8%)	10 (8%)	1	19
41	15	96/103 (93%)	75 (78%)	16 (17%)	5 (5%)	2	31
42	16	114/129 (88%)	95 (83%)	13 (11%)	6 (5%)	2	30
43	17	121/124 (98%)	91 (75%)	24 (20%)	6 (5%)	3	31
44	18	112/118 (95%)	98 (88%)	8 (7%)	6 (5%)	2	30
45	19	98/101 (97%)	80 (82%)	13 (13%)	5 (5%)	2	31
46	20	86/89 (97%)	62 (72%)	14 (16%)	10 (12%)	0	9
47	21	80/82 (98%)	64 (80%)	11 (14%)	5 (6%)	2	26
48	22	78/84 (93%)	60 (77%)	13 (17%)	5 (6%)	2	26
49	23	63/75 (84%)	52 (82%)	6 (10%)	5 (8%)	1	19
50	24	77/92 (84%)	64 (83%)	11 (14%)	2 (3%)	7	47
51	25	83/87 (95%)	77 (93%)	6 (7%)	0	100	100
52	26	63/71 (89%)	39 (62%)	15 (24%)	9 (14%)	0	5
All	All	5985/6970 (86%)	4958 (83%)	749 (12%)	278 (5%)	5	33

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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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%)	121 (100%)	0	100	100
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%)	88	94
6	F	137/138 (99%)	136 (99%)	1 (1%)	88	94
7	G	114/114 (100%)	114 (100%)	0	100	100
8	H	100/123 (81%)	100 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	I	109/110 (99%)	109 (100%)	0	100	100
10	J	116/116 (100%)	116 (100%)	0	100	100
11	K	103/104 (99%)	102 (99%)	1 (1%)	82	91
12	L	102/103 (99%)	102 (100%)	0	100	100
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%)	82	91
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
21	U	83/85 (98%)	83 (100%)	0	100	100
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%)	68	88
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%)	38 (100%)	0	100	100
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%)	172 (100%)	0	100	100
36	10	119/126 (94%)	119 (100%)	0	100	100
37	11	87/116 (75%)	86 (99%)	1 (1%)	80	90
38	12	124/147 (84%)	124 (100%)	0	100	100
39	13	104/105 (99%)	104 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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%)	89 (100%)	0	100	100
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
52	26	55/61 (90%)	55 (100%)	0	100	100
All	All	4972/5698 (87%)	4966 (100%)	6 (0%)	95	97

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	E	174	PHE
6	F	117	PRO
11	K	58	LEU
16	P	113	LEU
27	1	37	CYS
37	11	12	PRO

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (94) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	674	ASN
1	A	705	GLN
1	A	730	ASN
2	B	44	ASN
2	B	114	GLN
2	B	199	HIS
3	C	32	ASN
3	C	42	ASN

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Mol	Chain	Res	Type
3	C	49	GLN
3	C	130	GLN
3	C	150	GLN
4	D	29	HIS
4	D	41	GLN
4	D	90	GLN
4	D	165	HIS
5	E	51	ASN
6	F	29	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
9	I	11	GLN
9	I	30	GLN
9	I	33	ASN
10	J	58	ASN
14	N	9	GLN
14	N	81	ASN
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	55	GLN
18	R	89	HIS
18	R	91	GLN
20	T	28	ASN
21	U	68	ASN
21	U	73	ASN
24	X	15	ASN
24	X	16	ASN
25	Y	20	ASN
25	Y	39	GLN
25	Y	58	ASN
28	2	5	ASN

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Mol	Chain	Res	Type
28	2	41	HIS
30	4	13	ASN
30	4	29	GLN
31	5	27	ASN
32	6	35	GLN
33	7	14	HIS
33	7	41	ASN
33	7	189	ASN
34	8	24	ASN
35	9	73	ASN
36	10	11	GLN
36	10	42	ASN
36	10	134	ASN
37	11	3	HIS
37	11	11	HIS
37	11	63	ASN
38	12	27	ASN
38	12	121	ASN
39	13	3	GLN
39	13	17	GLN
39	13	20	ASN
40	14	4	GLN
40	14	30	ASN
40	14	36	GLN
40	14	125	GLN
42	16	80	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
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	18	GLN
48	22	30	HIS
49	23	51	GLN
50	24	55	GLN

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Mol	Chain	Res	Type
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%)	386 (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%)	594 (12%)	30 (0%)

All (594) 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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
54	28	1428	C
54	28	1461	C
54	28	1482	G
54	28	1490	A
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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

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Mol	Chain	Res	Type
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 carbohydrates 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.