



Full wwPDB EM Validation Report ⓘ

Feb 22, 2024 – 04:03 PM EST

PDB ID : 4V61
EMDB ID : EMD-1417
Title : Homology model for the Spinach chloroplast 30S subunit fitted to 9.4Å cryo-EM map of the 70S chlororibosome.
Authors : Sharma, M.R.; Wilson, D.N.; Datta, P.P.; Barat, C.; Schluenzen, F.; Fucini, P.; Agrawal, R.K.
Deposited on : 2007-11-09
Resolution : 9.40 Å(reported)
Based on initial models : 2XYZ, 2ZXY

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

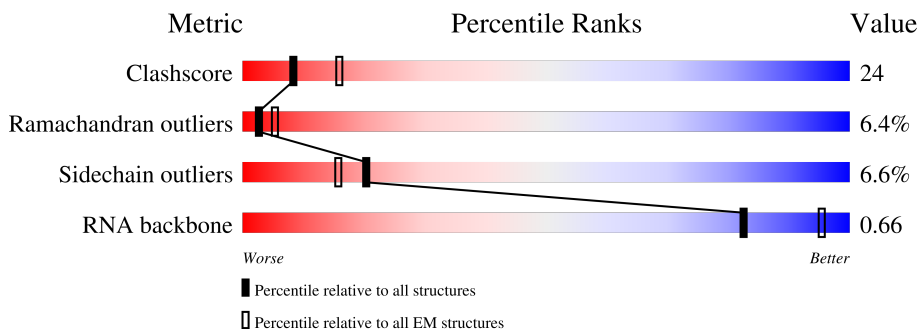
EMDB validation analysis : 0.0.1.dev70
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

1 Overall quality at a glance i

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

The reported resolution of this entry is 9.40 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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

Mol	Chain	Length	Quality of chain
1	AA	1491	16% (Poor fit) 39% (0 outliers), 46% (1 outlier), 14% (2 outliers)
2	AB	231	88% (0 outliers), 84% (1 outlier), 13% (2 outliers)
3	AC	218	39% (0 outliers), 85% (1 outlier), 13% (2 outliers)
4	AD	201	45% (0 outliers), 84% (1 outlier), 15% (2 outliers)
5	AE	308	24% (Poor fit), 43% (0 outliers), 7% (1 outlier), 49% (Not modelled)
6	AF	168	29% (Poor fit), 48% (0 outliers), 15% (1 outlier), 36% (Not modelled)
7	AG	155	72% (0 outliers), 87% (1 outlier), 10% (2 outliers)

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Mol	Chain	Length	Quality of chain
8	AH	134	
9	AI	197	
10	AJ	197	
11	AK	140	
12	AL	123	
13	AM	145	
14	AN	100	
15	AO	90	
16	AP	88	
17	AQ	142	
18	AR	103	
19	AS	92	
20	AT	202	
21	AU	190	
22	BA	2810	
23	BB	117	
24	BC	103	
25	BD	352	
26	BE	269	
27	BF	259	
28	BG	293	
29	BH	220	
30	BI	223	
31	BJ	197	
32	BK	224	

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Mol	Chain	Length	Quality of chain
33	BL	250	
34	BM	121	
35	BN	257	
36	BO	135	
37	BP	205	
38	BQ	161	
39	BR	233	
40	BS	119	
41	BT	257	
42	BU	199	
43	BV	198	
44	BW	191	
45	BX	198	
46	BY	151	
47	BZ	173	
48	B1	144	
49	B2	57	
50	B3	66	
51	B4	152	
52	B5	159	
53	B6	104	

2 Entry composition [i](#)

There are 53 unique types of molecules in this entry. The entry contains 142250 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 RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	AA	1478	31745	14154	5865	10249	1477	0	0

- Molecule 2 is a protein called Ribosomal Protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	AB	231	1827	1152	334	328	13	0	0

- Molecule 3 is a protein called Ribosomal Protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	AC	217	1744	1113	314	310	7	0	0

- Molecule 4 is a protein called Ribosomal Protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	AD	199	1632	1032	318	277	5	0	0

- Molecule 5 is a protein called Ribosomal Protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	AE	158	1190	742	230	212	6	0	0

- Molecule 6 is a protein called Ribosomal Protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	AF	107	872	558	145	166	3	0	0

- Molecule 7 is a protein called Ribosomal Protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	AG	154	1211	753	244	211	3	0	0

- Molecule 8 is a protein called Ribosomal Protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	AH	134	1088	684	211	187	6	0	0

- Molecule 9 is a protein called Ribosomal Protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	AI	127	988	627	188	172	1	0	0

- Molecule 10 is a protein called Ribosomal Protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	AJ	99	803	515	144	139	5	0	0

- Molecule 11 is a protein called Ribosomal Protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	AK	118	888	549	182	152	5	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AK	21	SER	-	insertion	UNP P06506
AK	22	ALA	-	insertion	UNP P06506

- Molecule 12 is a protein called Ribosomal Protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	AL	123	968	604	198	163	3	0	0

- Molecule 13 is a protein called Ribosomal Protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	AM	99	824	513	168	141	2	0	0

- Molecule 14 is a protein called Ribosomal Protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	AN	99	820	507	174	136	3	0	0

- Molecule 15 is a protein called Ribosomal Protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	AO	85	713	454	134	124	1	0	0

- Molecule 16 is a protein called Ribosomal Protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	AP	80	664	425	123	114	2	0	0

- Molecule 17 is a protein called Ribosomal Protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	AQ	83	662	416	130	112	4	0	0

- Molecule 18 is a protein called Ribosomal Protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	AR	58	478	300	94	83	1	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AR	81	GLU	-	insertion	UNP Q9M3K7
AR	82	LYS	-	insertion	UNP Q9M3K7

- Molecule 19 is a protein called Ribosomal Protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AS	92	Total	C	N	O	S	0	0
			747	472	146	126	3		

- Molecule 20 is a protein called Ribosomal Protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AT	102	Total	C	N	O	S	0	0
			799	493	163	142	1		

- Molecule 21 is a protein called Ribosomal Protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AU	53	Total	C	N	O	S	0	0
			455	276	96	81	2		

- Molecule 22 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	BA	2732	Total	C	N	O	P	0	0
			58665	26173	10857	18904	2731		

- Molecule 23 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	BB	117	Total	C	N	O	P	0	0
			2497	1116	452	813	116		

- Molecule 24 is a RNA chain called 4.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	BC	103	Total	C	N	O	P	0	0
			2207	987	408	710	102		

- Molecule 25 is a protein called Ribosomal Protein L1.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	BD	227	Total	C	N	O	S	0	0
			1760	1117	307	329	7		

- Molecule 26 is a protein called Ribosomal Protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	BE	266	2049	1268	418	357	6	0	0

- Molecule 27 is a protein called Ribosomal Protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	BF	154	1196	756	230	205	5	0	0

- Molecule 28 is a protein called Ribosomal Protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	BG	211	1664	1057	309	295	3	0	0

- Molecule 29 is a protein called Ribosomal Protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	BH	175	1351	862	233	248	8	0	0

- Molecule 30 is a protein called Ribosomal Protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	BI	182	1429	907	257	262	3	0	0

- Molecule 31 is a protein called Ribosomal Protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	BJ	148	1177	753	206	215	3	0	0

- Molecule 32 is a protein called Ribosomal Protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	BK	145	1060	679	177	198	6	0	0

- Molecule 33 is a protein called Ribosomal Protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	BL	125	Total	C	N	O	S	0	0
			998	634	192	169	3		

- Molecule 34 is a protein called Ribosomal Protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	BM	121	Total	C	N	O	S	0	0
			943	588	179	171	5		

- Molecule 35 is a protein called Ribosomal Protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	BN	176	Total	C	N	O	S	0	0
			1333	835	257	235	6		

- Molecule 36 is a protein called Ribosomal Protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	BO	135	Total	C	N	O	S	0	0
			1076	677	218	175	6		

- Molecule 37 is a protein called Ribosomal Protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	BP	116	Total	C	N	O	S	0	0
			948	594	195	155	4		

- Molecule 38 is a protein called Ribosomal Protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	BQ	122	Total	C	N	O	S	0	0
			962	597	183	178	4		

- Molecule 39 is a protein called Ribosomal Protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	BR	113	Total	C	N	O	S	0	0
			915	586	177	151	1		

- Molecule 40 is a protein called Ribosomal Protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	BS	119	1030	653	213	161	3	0	0

- Molecule 41 is a protein called Ribosomal Protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	BT	104	826	537	150	139		0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BT	122	ILE	-	insertion	UNP P24613

- Molecule 42 is a protein called Ribosomal Protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	BU	122	986	627	178	175	6	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BU	126	LEU	LYS	conflict	UNP P09594

- Molecule 43 is a protein called Ribosomal Protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	BV	85	677	436	115	124	2	0	0

- Molecule 44 is a protein called Ribosomal Protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	BW	110	869	548	160	160	1	0	0

- Molecule 45 is a protein called Ribosomal Protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	BX	86	660	419	127	114		0	0

- Molecule 46 is a protein called Ribosomal Protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	BY	76	619	395	120	103	1	0	0

- Molecule 47 is a protein called Ribosomal Protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
47	BZ	65	551	341	106	101	3	0	0

- Molecule 48 is a protein called Ribosomal Protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
48	B1	72	581	369	99	109	4	0	0

- Molecule 49 is a protein called Ribosomal Protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	B2	57	469	305	87	76	1	0	0

- Molecule 50 is a protein called Ribosomal Protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	B3	65	524	326	105	88	5	0	0

- Molecule 51 is a protein called Ribosomal Protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
51	B4	37	297	180	70	45	2	0	0

- Molecule 52 is a protein called Ribosomal Protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	B5	62	504	315	107	81	1	0	0

- Molecule 53 is a protein called Ribosomal Protein L36.

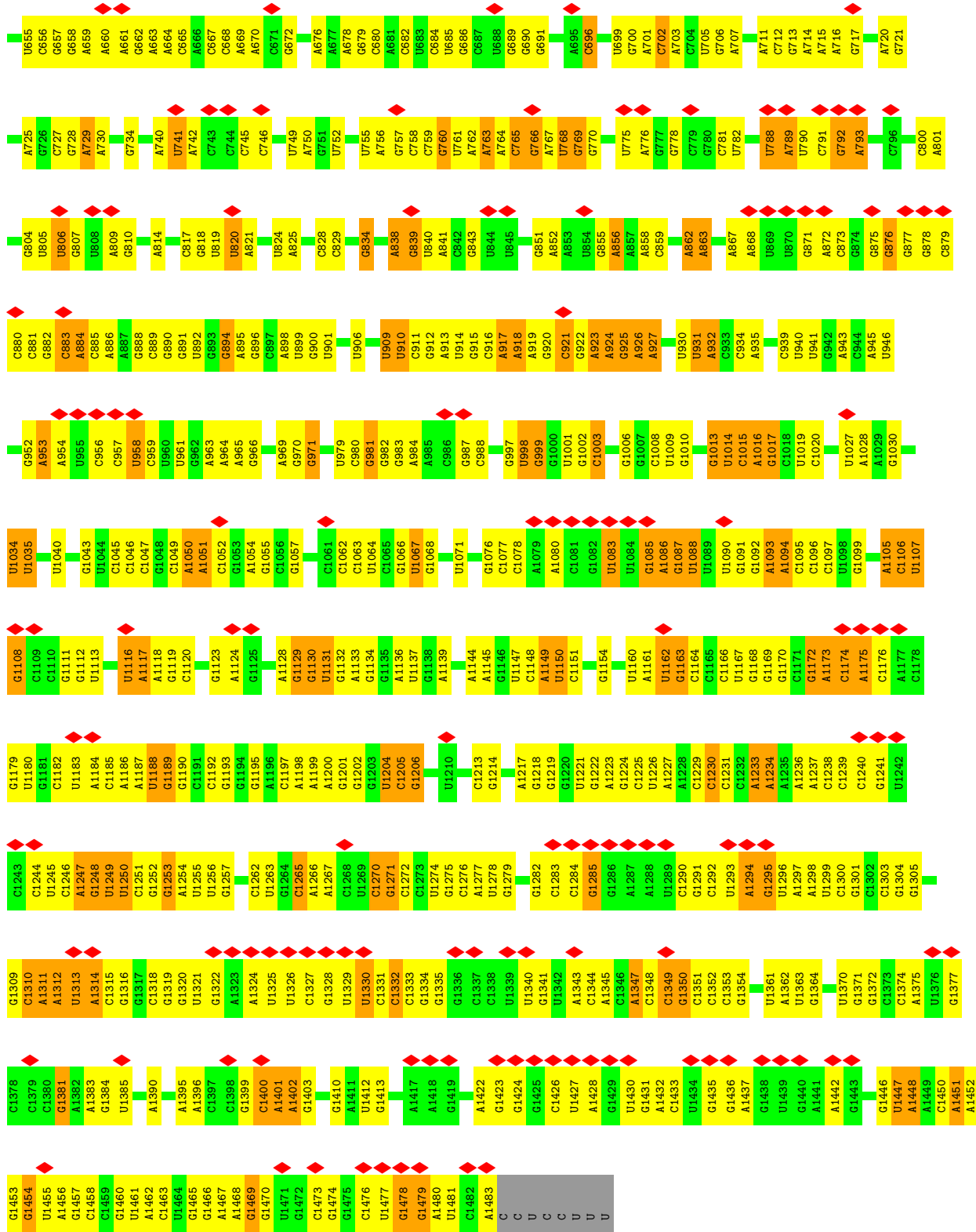
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	B6	38	309	190	65	49	5	0	0

3 Residue-property plots i

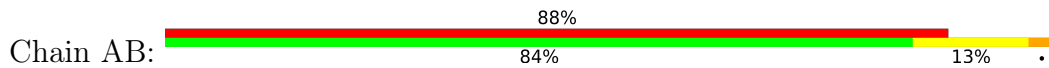
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

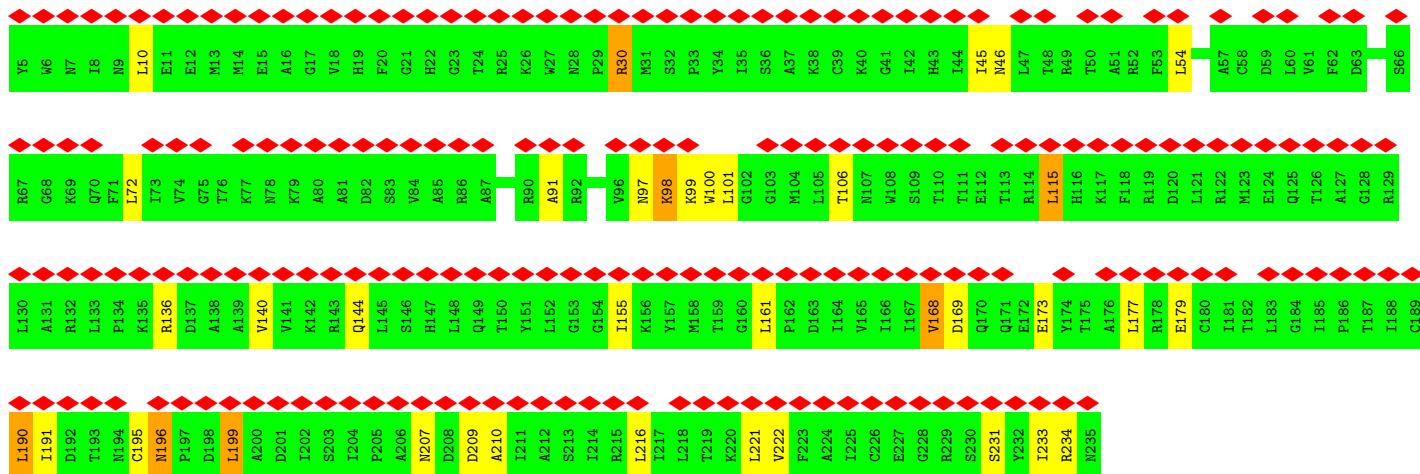
- Molecule 1: 16S rRNA



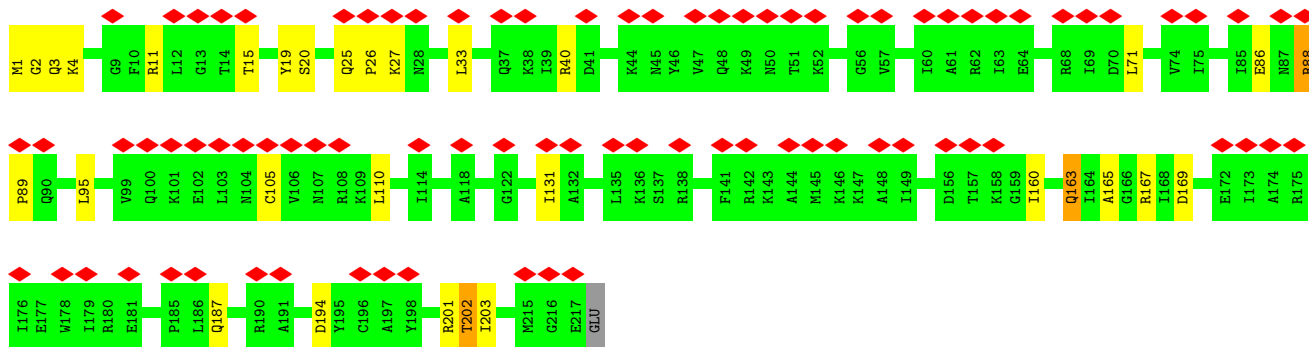
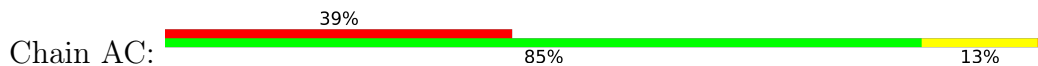


● Molecule 2: Ribosomal Protein S2

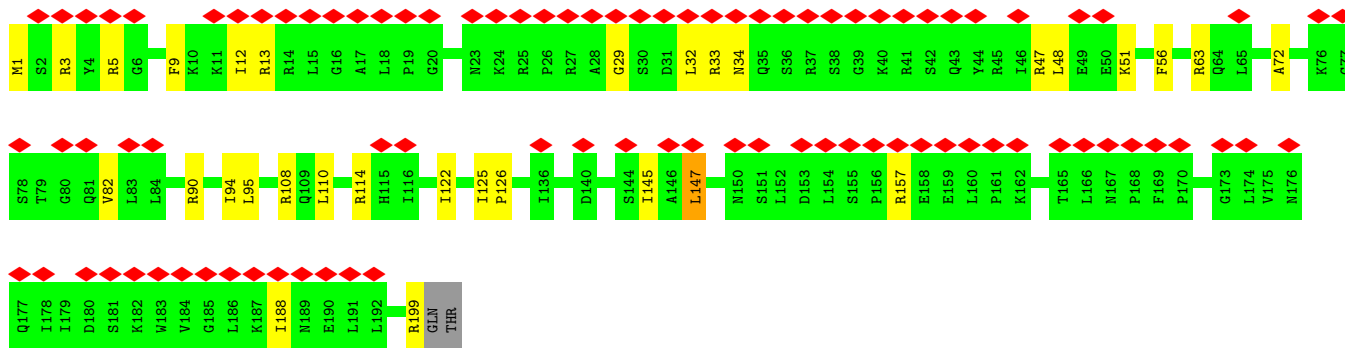
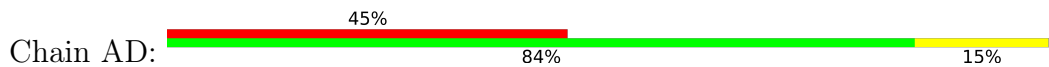




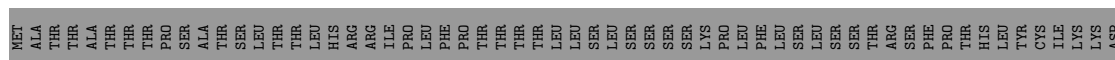
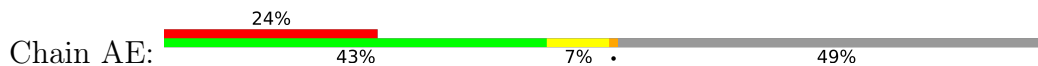
• Molecule 3: Ribosomal Protein S3

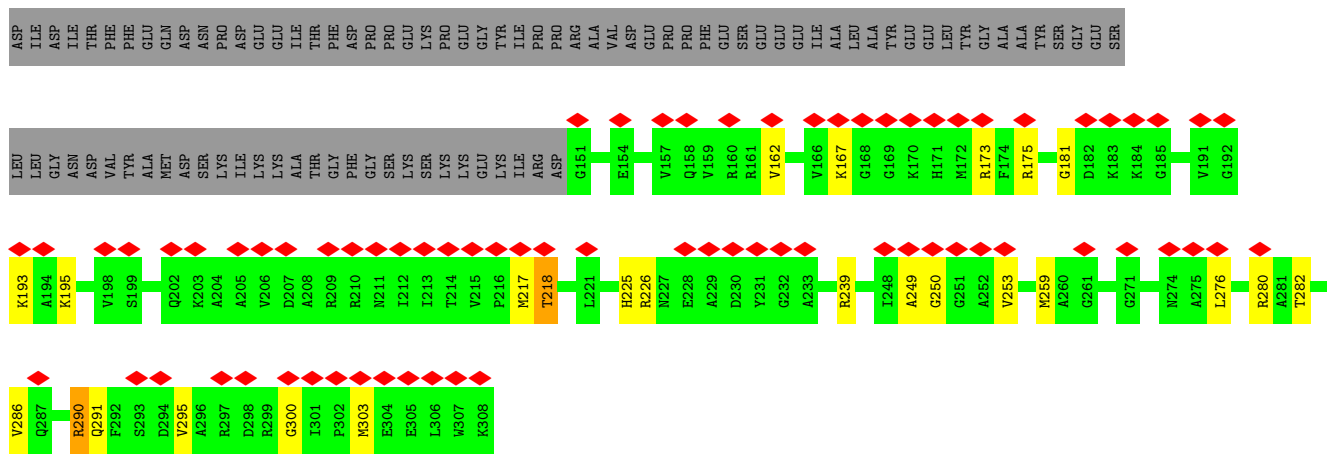


• Molecule 4: Ribosomal Protein S4

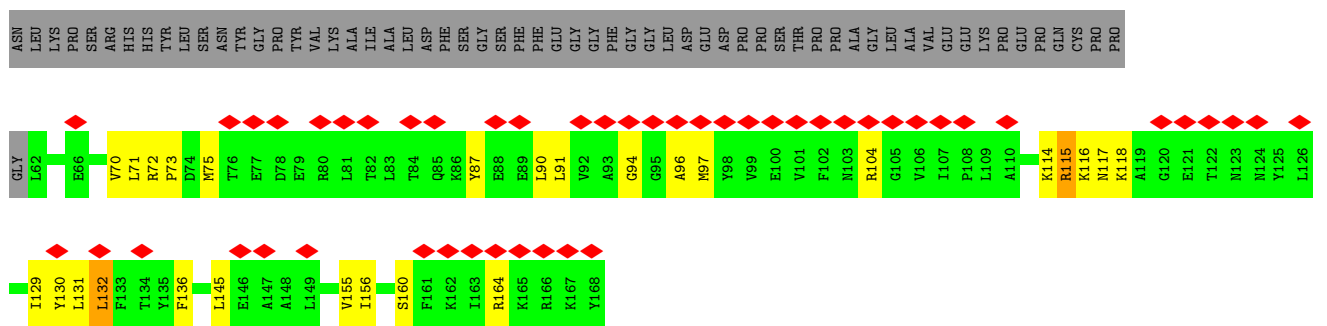


• Molecule 5: Ribosomal Protein S5

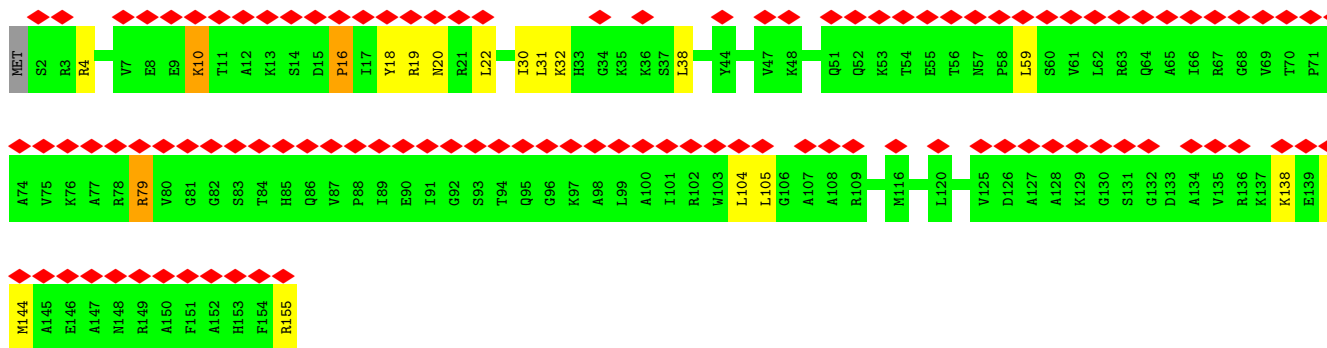
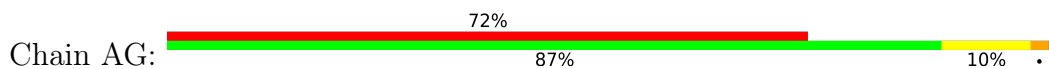




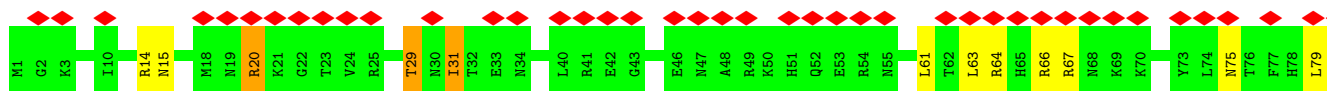
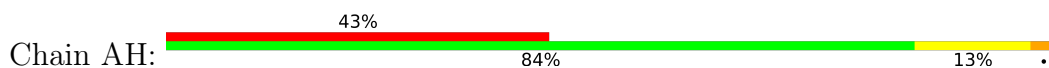
• Molecule 6: Ribosomal Protein S6



• Molecule 7: Ribosomal Protein S7

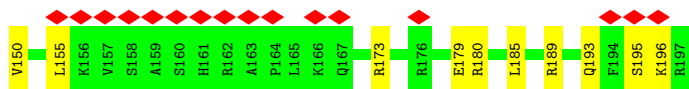
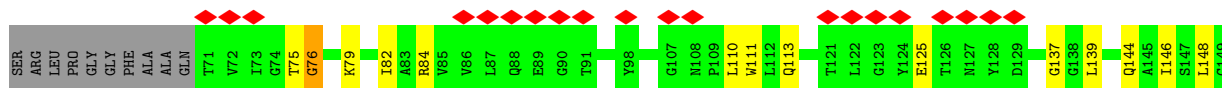
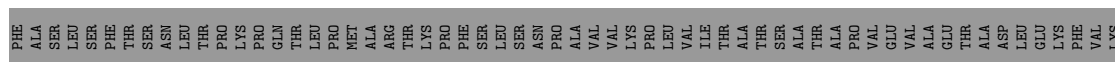


• Molecule 8: Ribosomal Protein S8

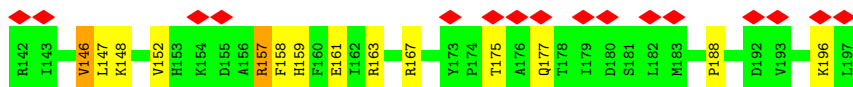
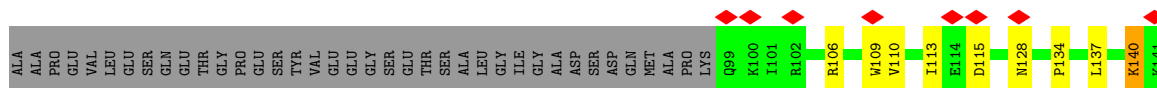
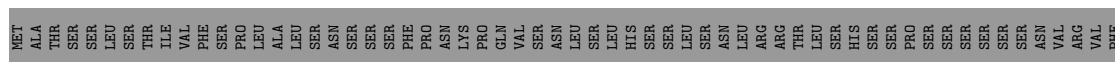
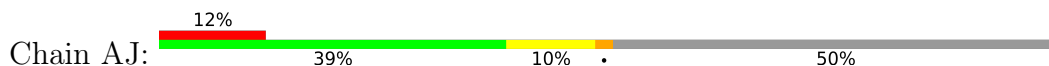




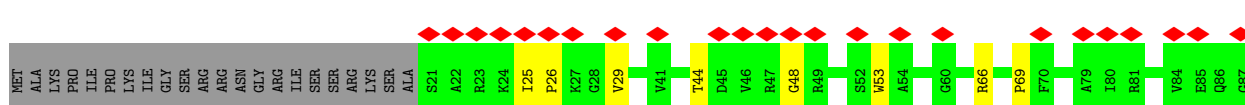
• Molecule 9: Ribosomal Protein S9



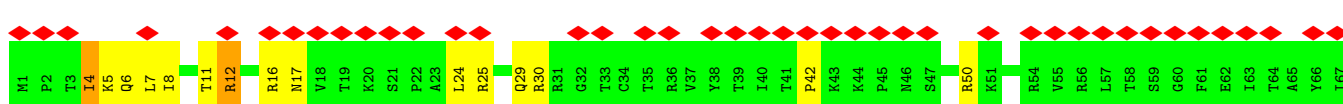
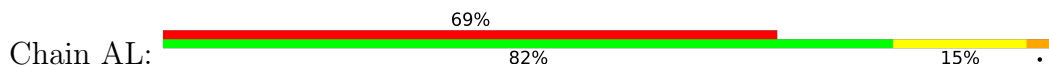
• Molecule 10: Ribosomal Protein S10

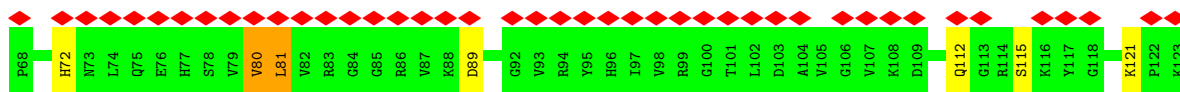


• Molecule 11: Ribosomal Protein S11

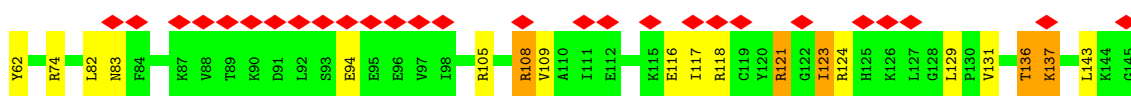
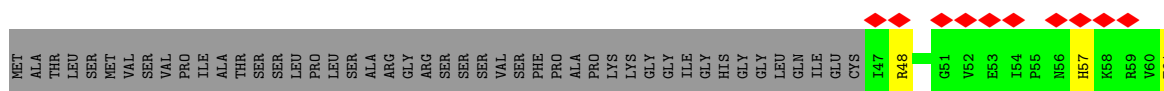


• Molecule 12: Ribosomal Protein S12

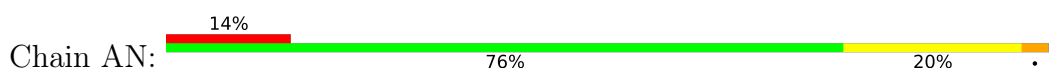




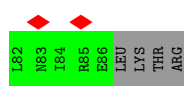
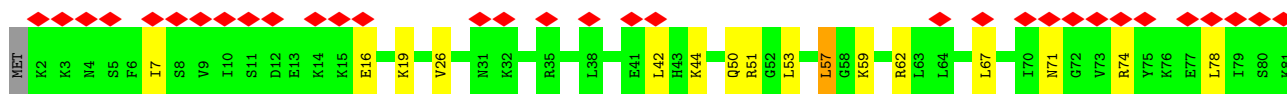
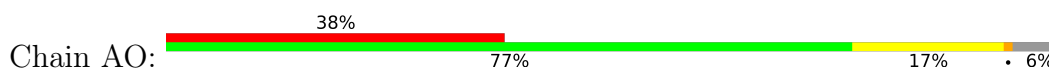
• Molecule 13: Ribosomal Protein S13



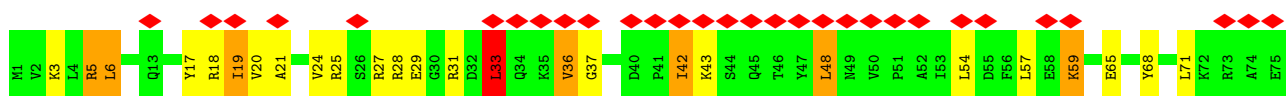
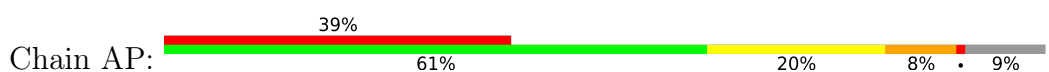
• Molecule 14: Ribosomal Protein S14



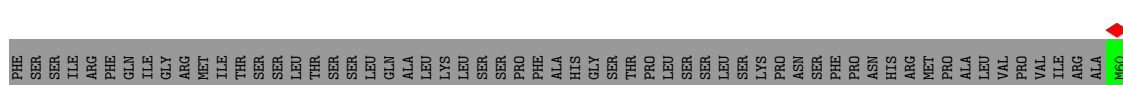
• Molecule 15: Ribosomal Protein S15

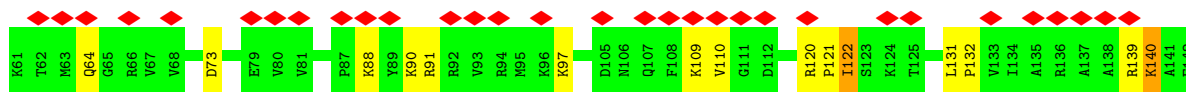


• Molecule 16: Ribosomal Protein S16

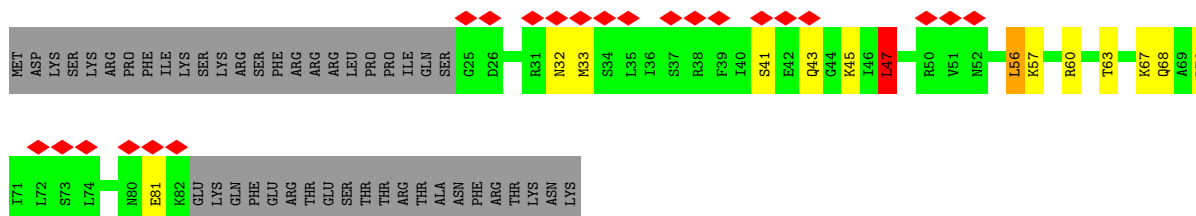
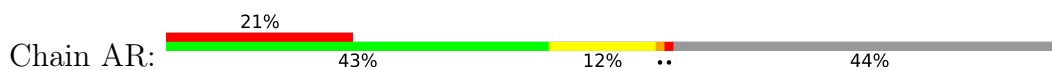


• Molecule 17: Ribosomal Protein S17

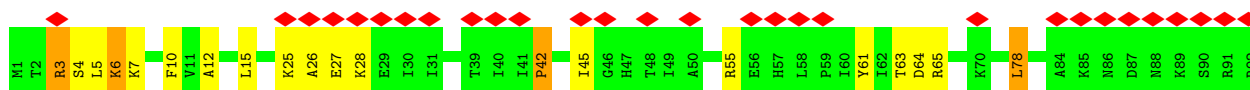
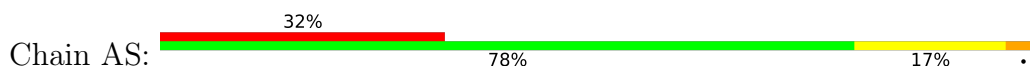




- Molecule 18: Ribosomal Protein S18



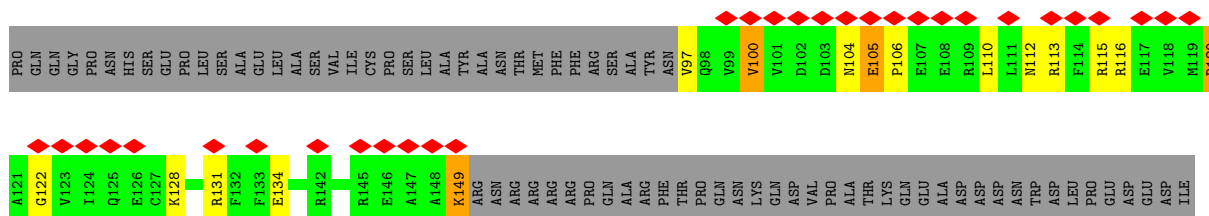
- Molecule 19: Ribosomal Protein S19



- Molecule 20: Ribosomal Protein S20

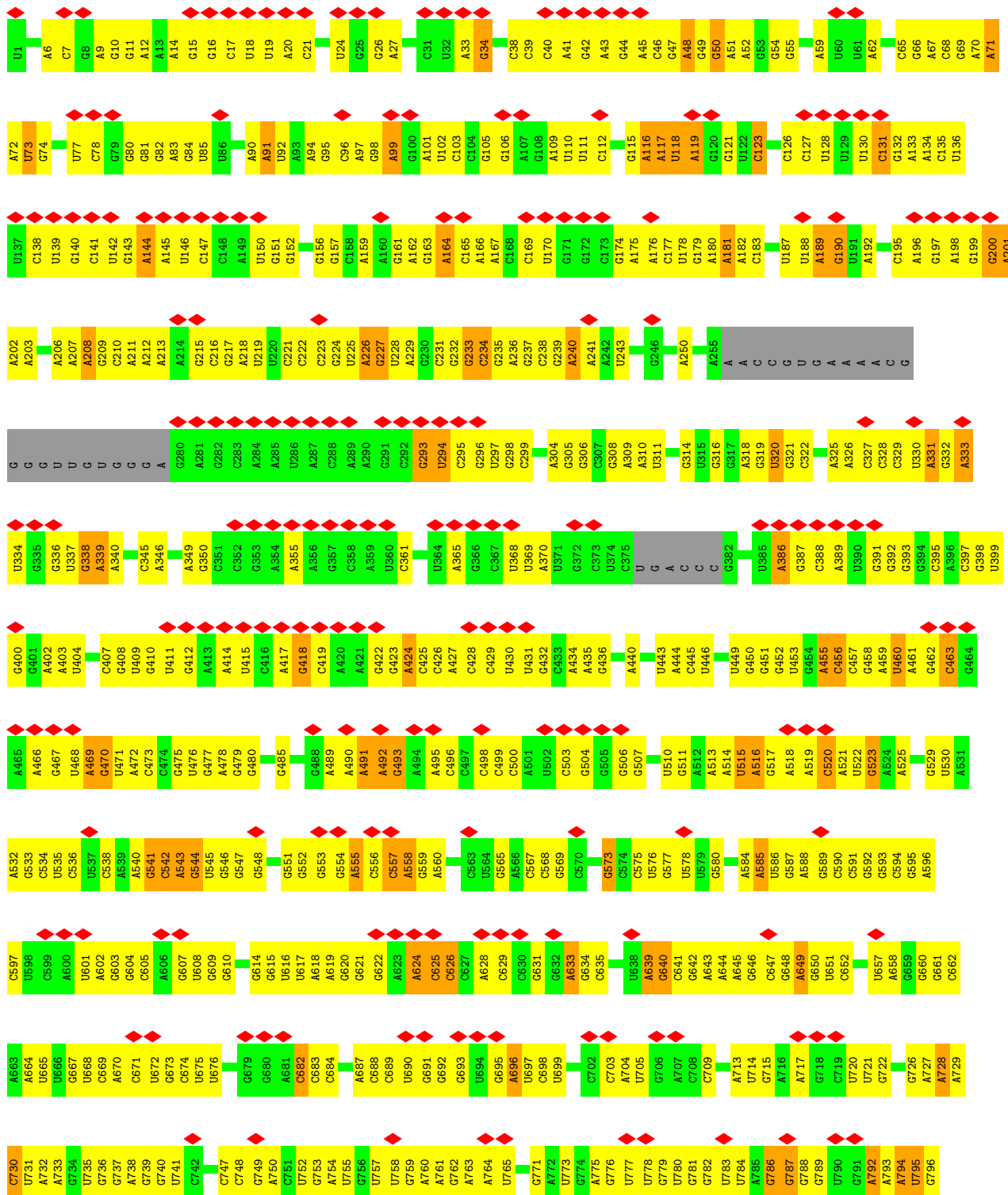


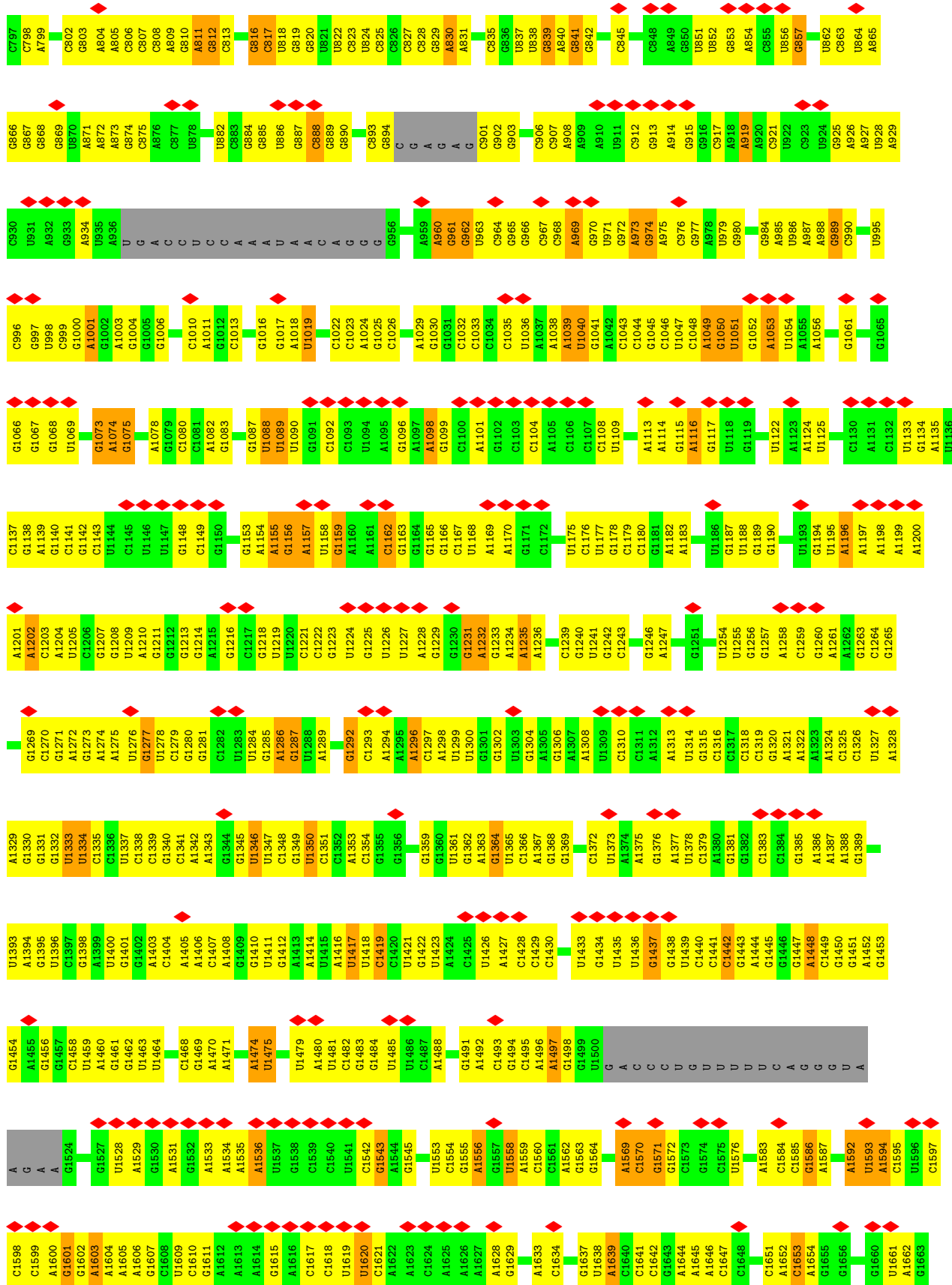
- Molecule 21: Ribosomal Protein S21

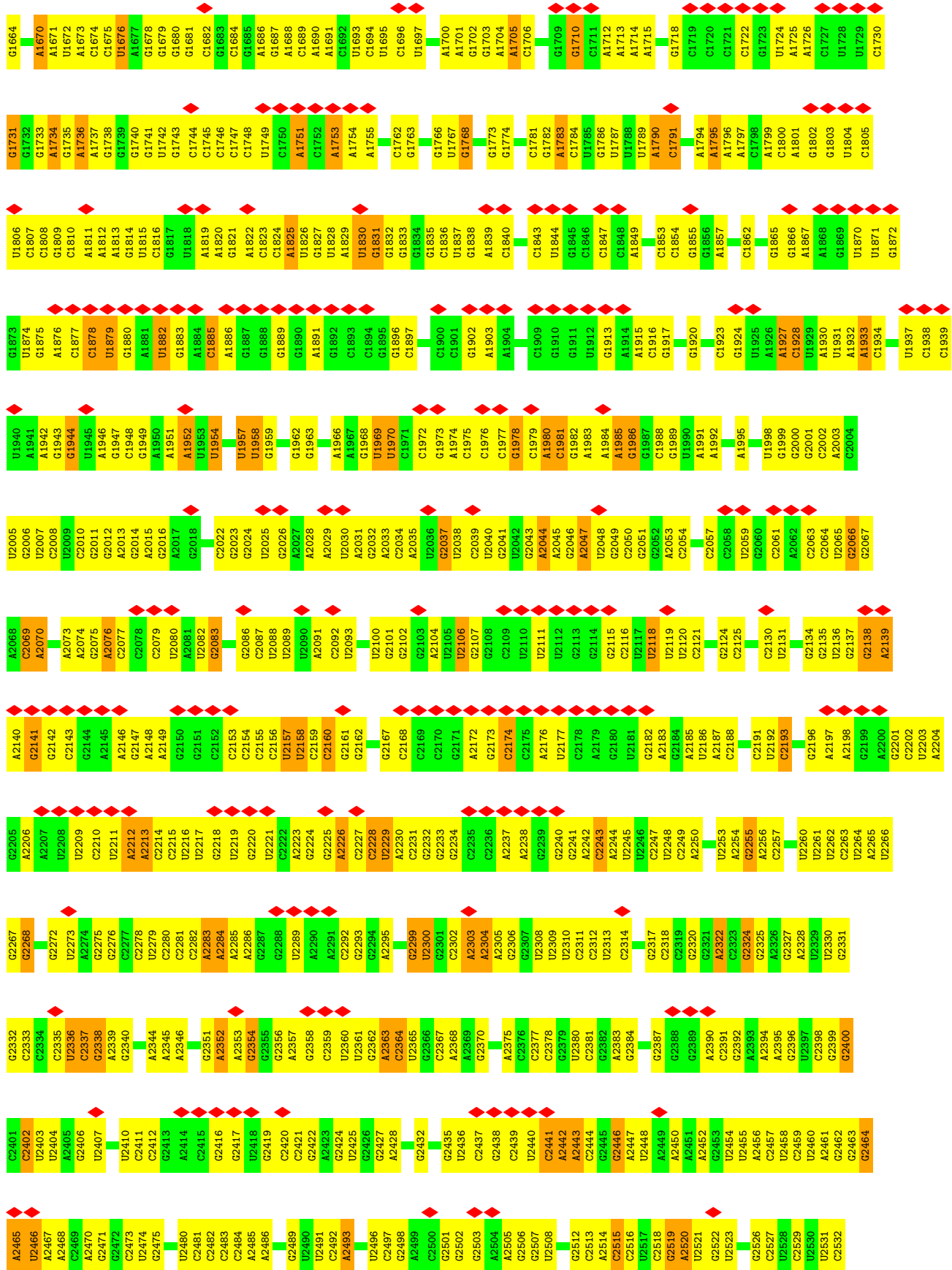


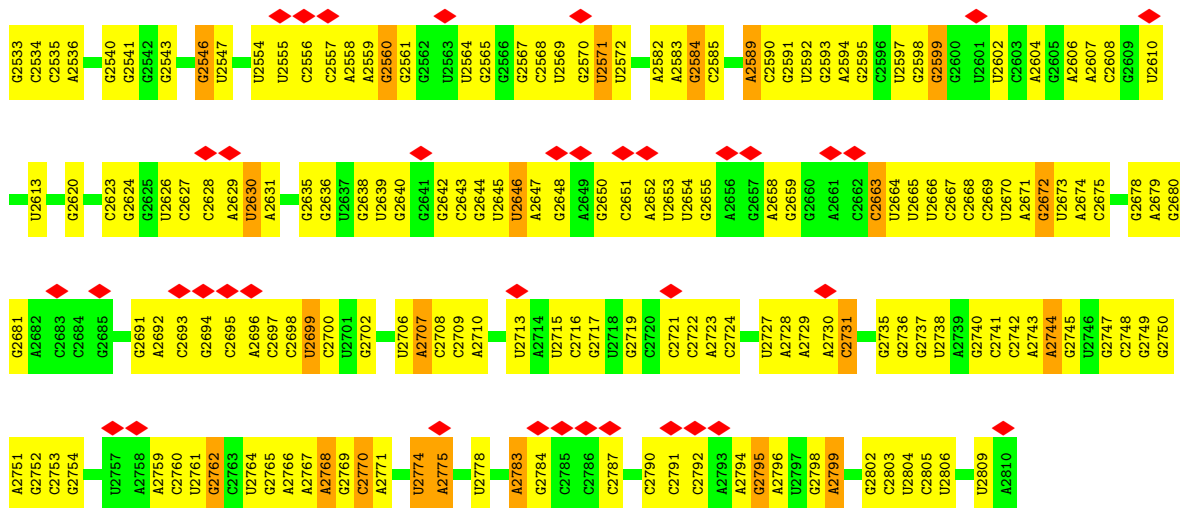
PRO
SER

• Molecule 22: 23S rRNA

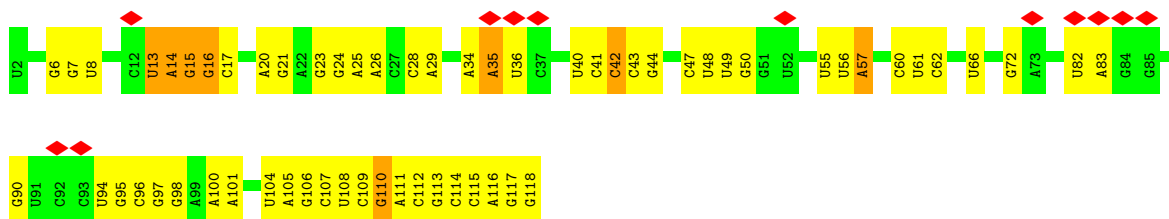




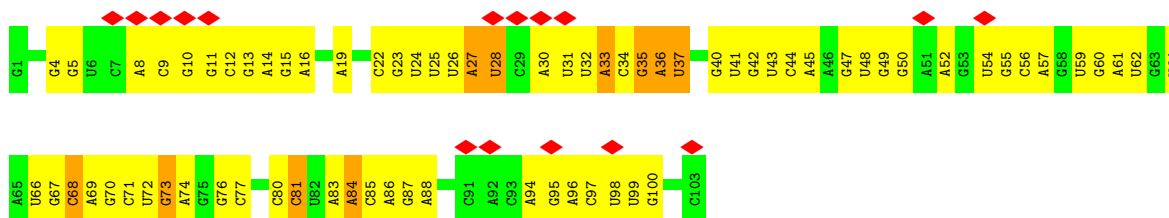




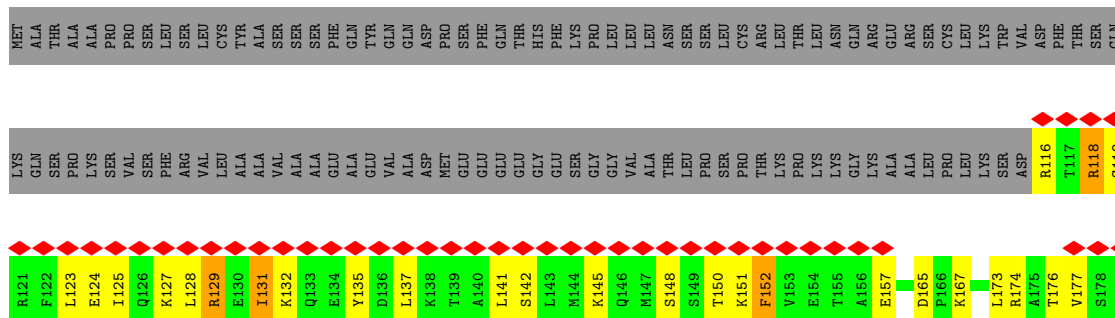
• Molecule 23: 5S rRNA

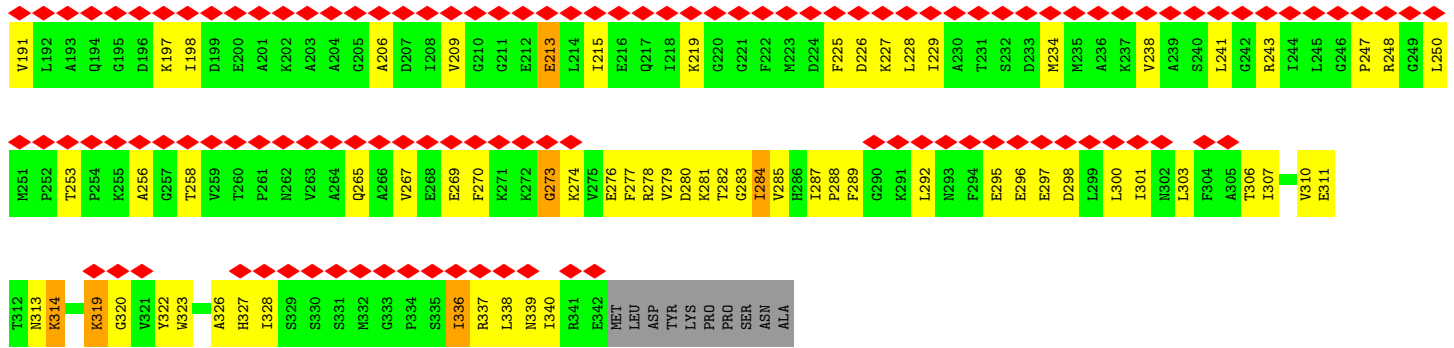


• Molecule 24: 4.8S rRNA

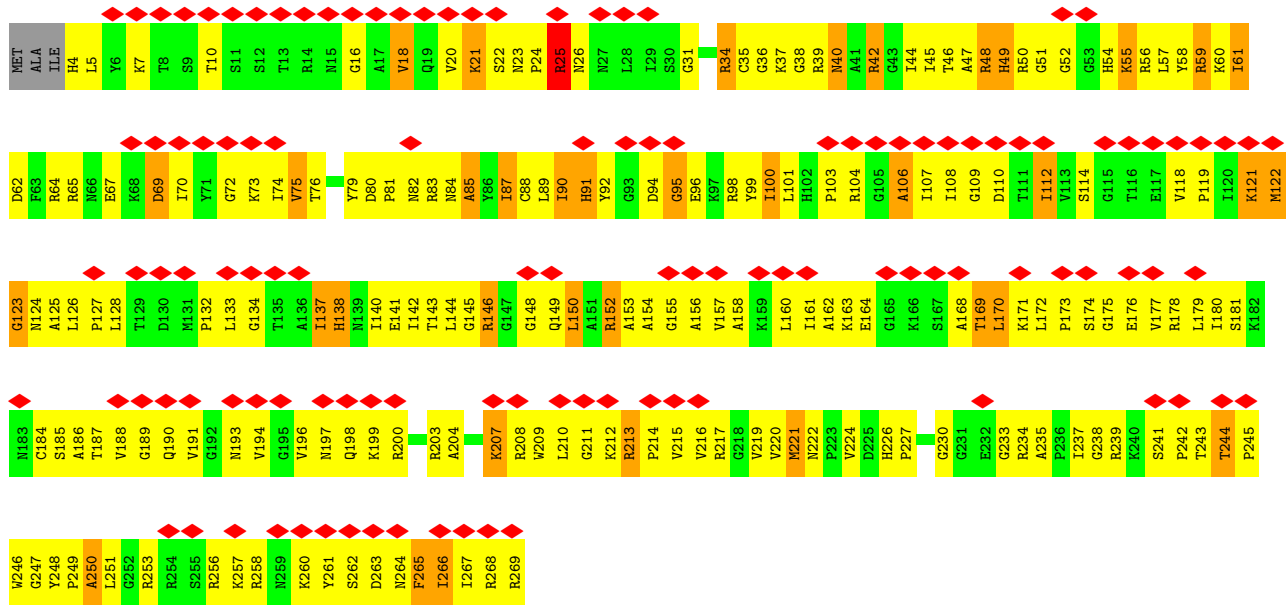


• Molecule 25: Ribosomal Protein L1

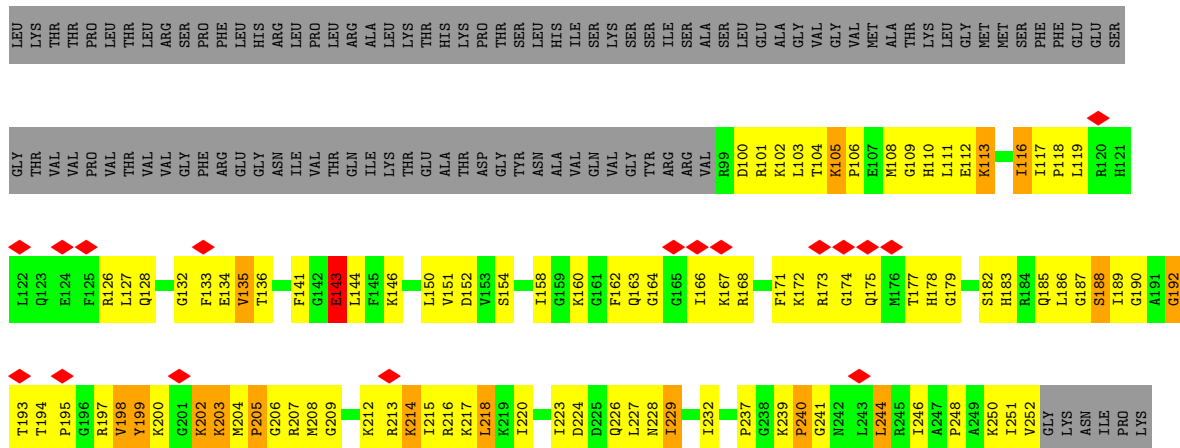
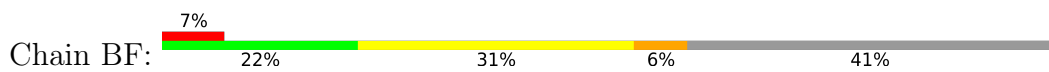


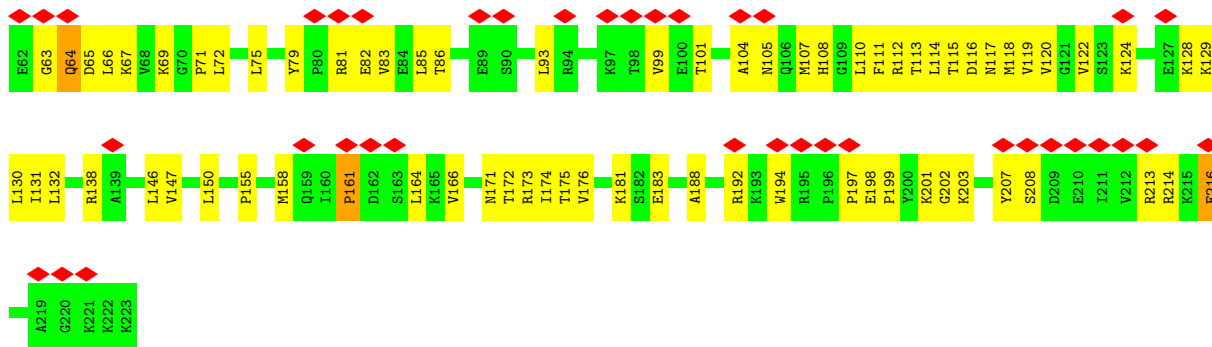


● Molecule 26: Ribosomal Protein L2

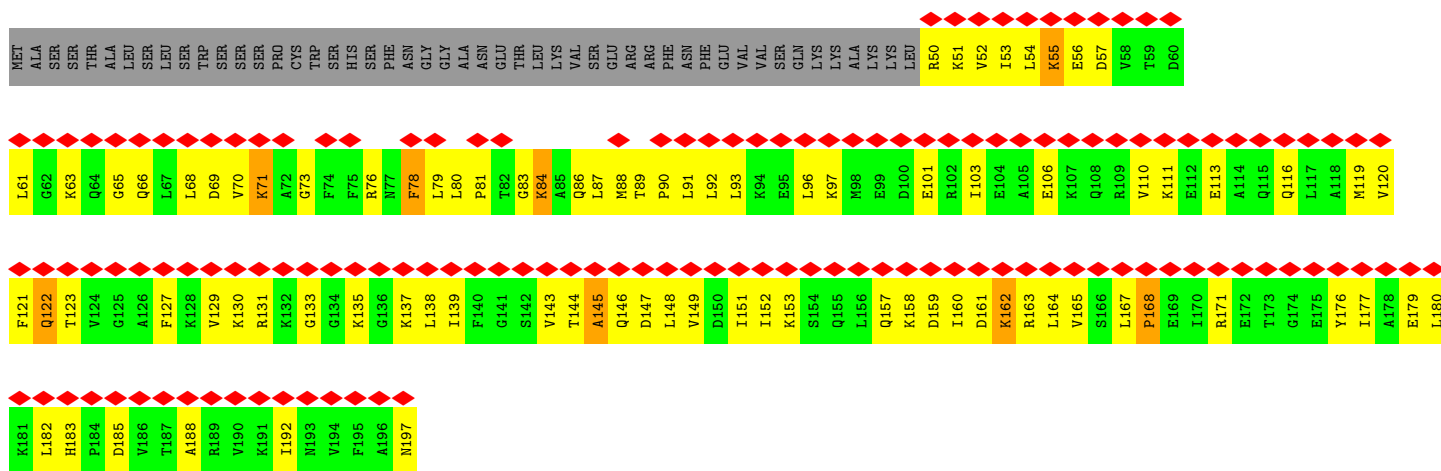


● Molecule 27: Ribosomal Protein L3

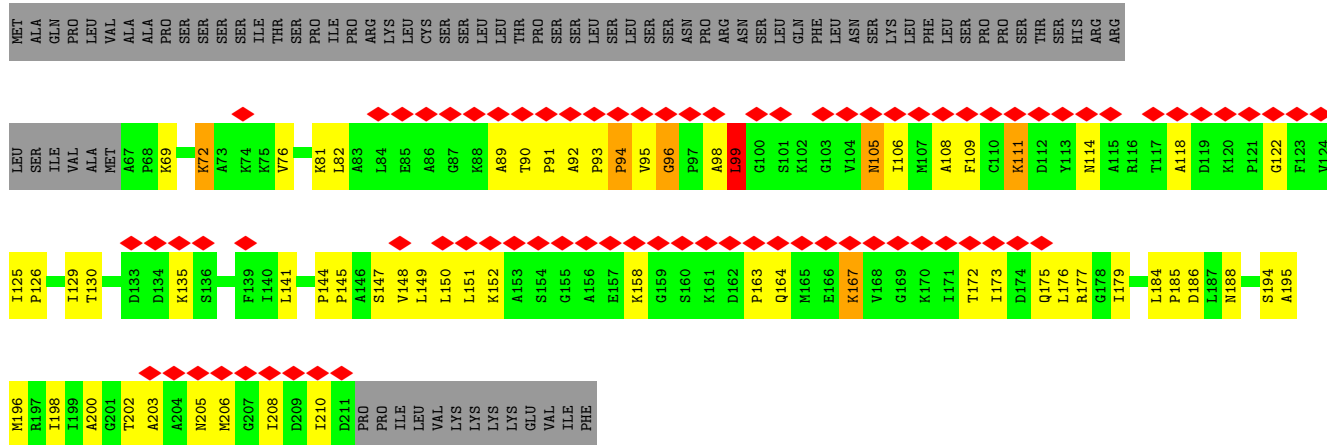




• Molecule 31: Ribosomal Protein L9

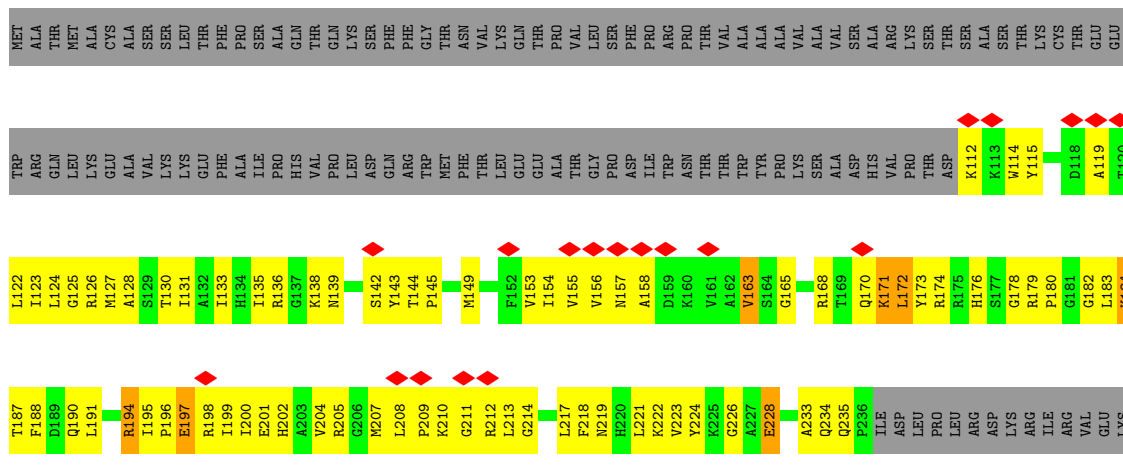


• Molecule 32: Ribosomal Protein L11

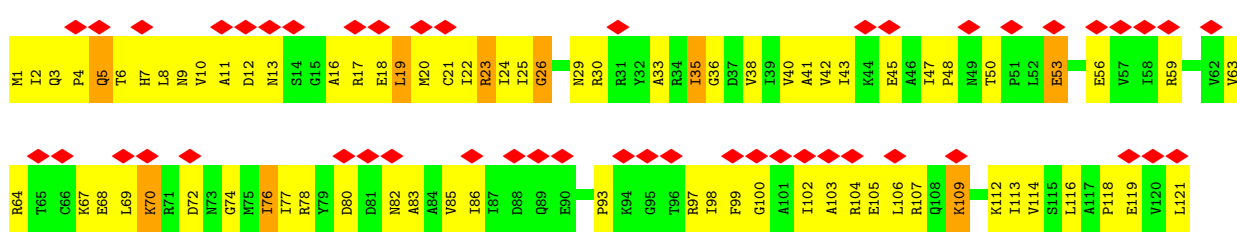
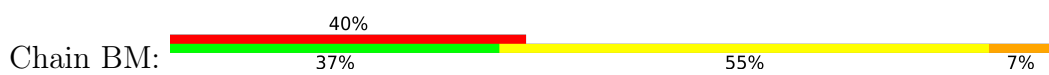


• Molecule 33: Ribosomal Protein L13

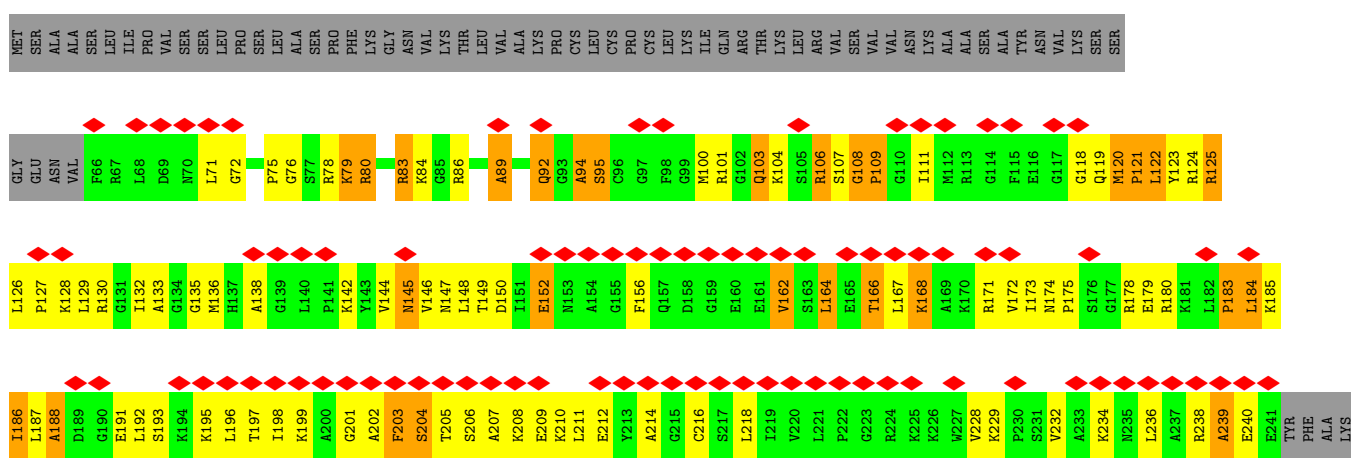
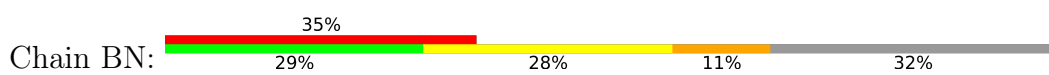




• Molecule 34: Ribosomal Protein L14

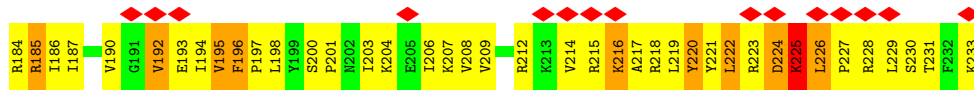


• Molecule 35: Ribosomal Protein L15

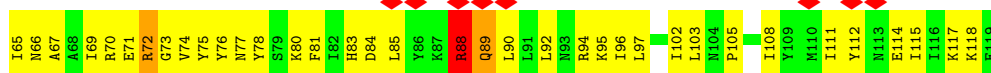
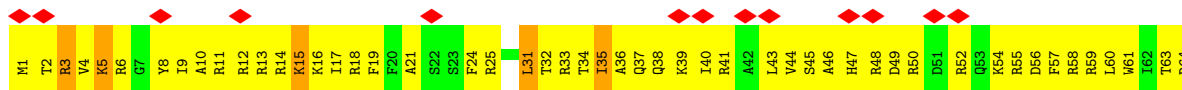


• Molecule 36: Ribosomal Protein L16

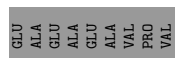
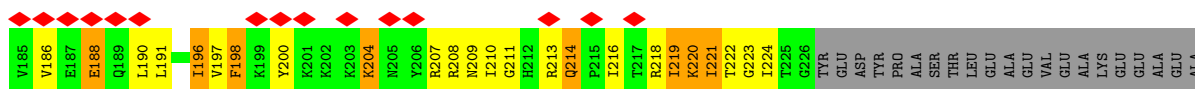
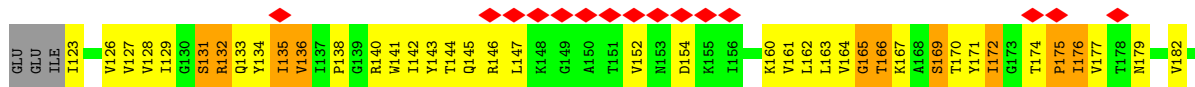
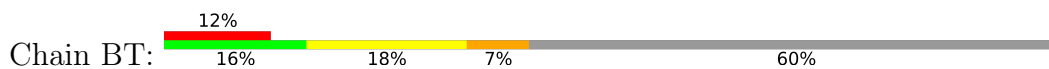




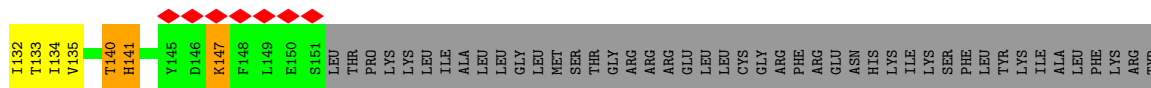
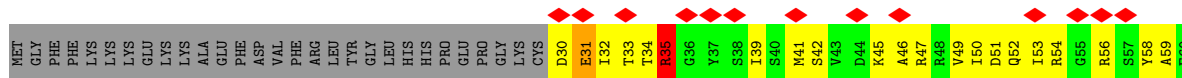
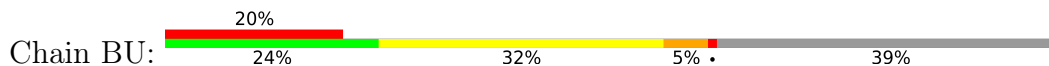
• Molecule 40: Ribosomal Protein L20



• Molecule 41: Ribosomal Protein L21



• Molecule 42: Ribosomal Protein L22



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	86370	Depositor
Resolution determination method	Not provided	
CTF correction method	CTF correction for each Micrograph	Depositor
Microscope	FEI TECNAI F20	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	20	Depositor
Minimum defocus (nm)	700	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	50760	Depositor
Image detector	KODAK SO-163 FILM	Depositor
Maximum map value	262.374	Depositor
Minimum map value	-126.152	Depositor
Average map value	3.285	Depositor
Map value standard deviation	26.943	Depositor
Recommended contour level	49.0	Depositor
Map size (\AA)	358.8, 358.8, 358.8	wwPDB
Map dimensions	130, 130, 130	wwPDB
Map angles ($^\circ$)	90, 90, 90	wwPDB
Pixel spacing (\AA)	2.76, 2.76, 2.76	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	AA	0.22	0/35552	0.66	1/55472 (0.0%)
2	AB	0.62	0/1860	0.69	3/2512 (0.1%)
3	AC	0.63	0/1771	0.75	3/2380 (0.1%)
4	AD	0.61	0/1660	0.74	1/2228 (0.0%)
5	AE	0.56	0/1204	0.64	0/1620
6	AF	0.71	0/887	0.76	2/1195 (0.2%)
7	AG	0.56	0/1227	0.70	2/1641 (0.1%)
8	AH	0.59	0/1103	0.70	0/1477
9	AI	0.63	0/1004	0.75	1/1347 (0.1%)
10	AJ	0.59	0/820	0.69	0/1108
11	AK	0.57	0/902	0.68	0/1214
12	AL	0.56	0/984	0.71	1/1323 (0.1%)
13	AM	0.60	0/833	0.78	1/1108 (0.1%)
14	AN	0.53	0/836	0.77	0/1116
15	AO	0.63	0/721	0.69	0/956
16	AP	0.72	0/674	0.86	2/902 (0.2%)
17	AQ	0.57	0/672	0.69	1/898 (0.1%)
18	AR	0.57	0/481	0.79	1/641 (0.2%)
19	AS	0.59	0/762	0.67	0/1021
20	AT	0.47	0/803	0.64	0/1063
21	AU	0.59	0/458	0.76	0/608
22	BA	0.13	0/65708	0.63	0/102501
23	BB	0.13	0/2793	0.63	0/4353
24	BC	0.13	0/2472	0.63	0/3854
25	BD	0.24	0/1786	0.40	0/2397
26	BE	0.21	0/2085	0.42	0/2800
27	BF	0.24	0/1214	0.42	0/1613
28	BG	0.25	0/1696	0.43	0/2283
29	BH	0.24	0/1372	0.41	0/1848
30	BI	0.23	0/1451	0.42	0/1944
31	BJ	0.24	0/1189	0.40	0/1589
32	BK	0.23	0/1077	0.43	0/1456
33	BL	0.23	0/1019	0.40	0/1369
34	BM	0.22	0/952	0.42	0/1282

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	BN	0.23	0/1354	0.40	0/1806
36	BO	0.24	0/1098	0.41	0/1471
37	BP	0.23	0/964	0.41	0/1288
38	BQ	0.23	0/976	0.41	0/1305
39	BR	0.22	0/929	0.46	0/1248
40	BS	0.24	0/1047	0.40	0/1394
41	BT	0.23	0/839	0.43	0/1135
42	BU	0.23	0/1003	0.40	0/1348
43	BV	0.24	0/685	0.40	0/920
44	BW	0.21	0/878	0.42	0/1171
45	BX	0.25	0/672	0.41	0/896
46	BY	0.25	0/629	0.44	0/835
47	BZ	0.25	0/553	0.40	0/728
48	B1	0.26	0/594	0.37	0/797
49	B2	0.28	0/478	0.39	0/633
50	B3	0.23	0/532	0.40	0/708
51	B4	0.25	0/298	0.39	0/390
52	B5	0.23	0/509	0.38	0/672
53	B6	0.25	0/312	0.37	0/409
All	All	0.27	0/154378	0.62	19/230273 (0.0%)

There are no bond length outliers.

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	AF	132	LEU	CA-CB-CG	7.67	132.94	115.30
13	AM	82	LEU	CA-CB-CG	7.39	132.30	115.30
16	AP	6	LEU	CA-CB-CG	7.02	131.45	115.30
7	AG	31	LEU	CA-CB-CG	6.96	131.32	115.30
16	AP	33	LEU	CA-CB-CG	6.96	131.30	115.30
12	AL	81	LEU	CA-CB-CG	6.05	129.22	115.30
18	AR	47	LEU	CA-CB-CG	6.01	129.13	115.30
9	AI	155	LEU	CA-CB-CG	5.87	128.79	115.30
1	AA	78	U	N1-C1'-C2'	5.85	121.61	114.00
17	AQ	131	LEU	CA-CB-CG	5.80	128.65	115.30
7	AG	105	LEU	CA-CB-CG	5.68	128.37	115.30
3	AC	95	LEU	CA-CB-CG	5.65	128.29	115.30
2	AB	190	LEU	CA-CB-CG	5.63	128.25	115.30
4	AD	48	LEU	CA-CB-CG	5.63	128.26	115.30
2	AB	72	LEU	CA-CB-CG	5.56	128.10	115.30
2	AB	199	LEU	CA-CB-CG	5.50	127.95	115.30
3	AC	88	ARG	N-CA-C	-5.39	96.43	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	AC	71	LEU	CA-CB-CG	5.29	127.47	115.30
6	AF	145	LEU	CA-CB-CG	5.04	126.89	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	31745	0	15984	1134	0
2	AB	1827	0	1867	17	0
3	AC	1744	0	1831	18	0
4	AD	1632	0	1734	17	0
5	AE	1190	0	1245	18	0
6	AF	872	0	884	41	0
7	AG	1211	0	1284	11	0
8	AH	1088	0	1149	14	0
9	AI	988	0	1047	12	0
10	AJ	803	0	845	14	0
11	AK	888	0	933	10	0
12	AL	968	0	1046	12	0
13	AM	824	0	872	26	0
14	AN	820	0	858	13	0
15	AO	713	0	765	48	0
16	AP	664	0	703	13	0
17	AQ	662	0	715	11	0
18	AR	478	0	519	14	0
19	AS	747	0	787	22	0
20	AT	799	0	879	11	0
21	AU	455	0	466	10	0
22	BA	58665	0	29550	2028	0
23	BB	2497	0	1264	51	0
24	BC	2207	0	1114	89	0
25	BD	1760	0	1834	107	0
26	BE	2049	0	2128	412	0
27	BF	1196	0	1282	135	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
28	BG	1664	0	1731	187	0
29	BH	1351	0	1405	129	0
30	BI	1429	0	1510	94	0
31	BJ	1177	0	1259	86	0
32	BK	1060	0	1129	59	0
33	BL	998	0	1038	94	0
34	BM	943	0	996	101	0
35	BN	1333	0	1406	155	0
36	BO	1076	0	1134	127	0
37	BP	948	0	1009	96	0
38	BQ	962	0	992	120	0
39	BR	915	0	1001	153	0
40	BS	1030	0	1100	150	0
41	BT	826	0	900	83	0
42	BU	986	0	1025	106	0
43	BV	677	0	716	55	0
44	BW	869	0	929	107	0
45	BX	660	0	693	92	0
46	BY	619	0	672	97	0
47	BZ	551	0	587	38	0
48	B1	581	0	562	46	0
49	B2	469	0	516	77	0
50	B3	524	0	557	64	0
51	B4	297	0	336	40	0
52	B5	504	0	559	77	0
53	B6	309	0	340	25	0
All	All	142250	0	97687	5825	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 24.

All (5825) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:755:U:H3	26:BE:5:LEU:CD1	1.02	1.62
1:AA:1423:G:C4'	22:BA:1737:A:C2	1.80	1.61
15:AO:44:LYS:HE3	26:BE:7:LYS:CE	1.25	1.61
1:AA:660:A:C5'	26:BE:161:ILE:HA	1.32	1.54
1:AA:1423:G:H4'	22:BA:1737:A:C2	1.37	1.49
1:AA:660:A:H5'	26:BE:161:ILE:CG2	1.41	1.48
1:AA:756:A:C5	26:BE:5:LEU:HD22	1.47	1.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:756:A:N3	26:BE:5:LEU:HD23	1.29	1.42
1:AA:1424:G:H5'	22:BA:1725:A:C4'	1.46	1.42
1:AA:756:A:C2	26:BE:5:LEU:HD23	1.53	1.40
15:AO:57:LEU:CD1	22:BA:726:G:O4'	1.70	1.40
1:AA:755:U:O2	26:BE:5:LEU:CB	1.70	1.38
1:AA:756:A:C2	26:BE:5:LEU:CD2	2.08	1.36
15:AO:44:LYS:CE	26:BE:7:LYS:CE	2.06	1.33
1:AA:756:A:C4	26:BE:5:LEU:HD23	1.62	1.32
1:AA:660:A:H5''	26:BE:161:ILE:CA	1.58	1.31
15:AO:57:LEU:HD11	22:BA:726:G:C1'	1.59	1.31
1:AA:659:A:H4'	26:BE:164:GLU:OE2	1.25	1.30
1:AA:1423:G:C4'	22:BA:1737:A:H2	1.21	1.29
15:AO:50:GLN:NE2	22:BA:726:G:C6	1.98	1.29
1:AA:1423:G:O4'	22:BA:1737:A:H2	1.02	1.28
1:AA:756:A:C4	26:BE:5:LEU:CD2	2.15	1.28
1:AA:756:A:C6	26:BE:5:LEU:CD2	2.18	1.27
1:AA:660:A:C5'	26:BE:161:ILE:CA	2.09	1.27
1:AA:1377:G:H4'	22:BA:1722:C:O2'	1.15	1.27
1:AA:711:A:OP1	22:BA:728:A:N6	1.66	1.26
1:AA:756:A:C5	26:BE:5:LEU:CD2	2.19	1.26
1:AA:1381:G:H5'	39:BR:231:THR:OG1	1.27	1.25
15:AO:50:GLN:NE2	22:BA:726:G:N1	1.85	1.24
15:AO:57:LEU:CD1	22:BA:726:G:C1'	2.14	1.24
1:AA:1432:A:H2	22:BA:1973:G:O2'	1.11	1.23
1:AA:1424:G:H4'	22:BA:1725:A:C5'	1.69	1.23
15:AO:44:LYS:CE	26:BE:7:LYS:HE3	1.66	1.23
15:AO:57:LEU:HD11	22:BA:726:G:O4'	1.07	1.22
1:AA:756:A:C6	26:BE:5:LEU:HD22	1.72	1.21
1:AA:756:A:O4'	26:BE:5:LEU:O	1.56	1.21
1:AA:1432:A:C2	22:BA:1973:G:O2'	1.84	1.19
1:AA:755:U:C2	26:BE:5:LEU:HB3	1.76	1.18
1:AA:755:U:C2	26:BE:5:LEU:HD13	1.75	1.18
1:AA:755:U:N3	26:BE:5:LEU:HD13	0.85	1.17
13:AM:48:ARG:NH2	29:BH:159:GLU:C	1.97	1.16
13:AM:109:VAL:HG21	29:BH:127:ARG:NE	1.57	1.16
1:AA:1424:G:C4'	22:BA:1725:A:H5'	1.76	1.16
1:AA:660:A:C5'	26:BE:161:ILE:HG23	1.76	1.15
1:AA:660:A:H5'	26:BE:161:ILE:CB	1.78	1.12
1:AA:1422:A:H4'	22:BA:1738:G:H4'	1.20	1.12
1:AA:755:U:O2	26:BE:5:LEU:HB3	1.37	1.11
1:AA:756:A:N1	26:BE:5:LEU:HD21	1.65	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AO:50:GLN:NE2	22:BA:726:G:O6	1.83	1.10
1:AA:755:U:O2	26:BE:5:LEU:HB2	1.44	1.10
1:AA:756:A:N1	26:BE:5:LEU:CD2	2.12	1.10
19:AS:45:ILE:HD11	48:B1:95:ASN:ND2	1.65	1.10
19:AS:45:ILE:HD11	48:B1:95:ASN:HD21	1.10	1.08
1:AA:1423:G:C5'	22:BA:1737:A:N3	2.17	1.07
6:AF:117:ASN:HB3	26:BE:163:LYS:CE	1.81	1.07
1:AA:1423:G:H5'	22:BA:1737:A:N3	1.69	1.07
1:AA:1423:G:H4'	22:BA:1737:A:N3	1.71	1.06
1:AA:721:G:H5'	26:BE:198:GLN:HG3	1.38	1.05
1:AA:1424:G:C5'	22:BA:1725:A:C4'	2.34	1.05
1:AA:1331:C:H3'	1:AA:1332:C:H5''	1.37	1.04
1:AA:1423:G:O3'	22:BA:1736:A:N6	1.91	1.03
22:BA:1286:A:H4'	22:BA:1287:G:H4'	1.39	1.03
1:AA:1424:G:OP1	22:BA:1725:A:O4'	1.76	1.03
36:BO:2:LEU:HA	36:BO:70:PRO:HD3	1.40	1.03
1:AA:1424:G:H5'	22:BA:1725:A:H4'	1.08	1.03
13:AM:48:ARG:HH22	29:BH:160:ILE:N	1.57	1.02
26:BE:74:ILE:HA	26:BE:90:ILE:HA	1.42	1.02
1:AA:1423:G:C4'	22:BA:1737:A:N3	2.22	1.02
1:AA:1423:G:O4'	22:BA:1737:A:C2	1.93	1.02
1:AA:660:A:C5'	26:BE:161:ILE:CG2	2.36	1.01
1:AA:1422:A:O2'	22:BA:1738:G:H1'	1.60	1.01
22:BA:575:C:H42	22:BA:585:A:H61	1.05	1.01
39:BR:183:ILE:HG23	39:BR:184:ARG:H	1.26	1.01
6:AF:118:LYS:HE3	26:BE:161:ILE:C	1.81	1.01
39:BR:170:ILE:HD12	39:BR:186:ILE:HD12	1.43	1.01
6:AF:118:LYS:HE3	26:BE:162:ALA:C	1.79	1.00
1:AA:1424:G:OP1	22:BA:1725:A:C1'	2.09	1.00
22:BA:44:G:H5'	22:BA:45:A:H5'	1.40	1.00
44:BW:70:LYS:H	44:BW:70:LYS:HD2	1.26	1.00
22:BA:577:G:H22	22:BA:2044:A:H61	1.06	1.00
6:AF:117:ASN:HB3	26:BE:163:LYS:HE2	1.01	1.00
22:BA:389:A:H61	22:BA:409:U:H3	1.05	0.99
1:AA:660:A:H5'	26:BE:161:ILE:CA	1.83	0.99
22:BA:1542:C:H2'	22:BA:1543:G:H4'	1.40	0.99
38:BQ:56:ARG:H	38:BQ:56:ARG:NE	1.61	0.99
15:AO:50:GLN:NE2	22:BA:726:G:H1	1.52	0.99
27:BF:105:LYS:HD3	27:BF:105:LYS:H	1.24	0.99
39:BR:192:VAL:HG13	39:BR:193:GLU:H	1.28	0.99
1:AA:343:C:H4'	1:AA:344:A:H5'	1.42	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:659:A:O3'	26:BE:161:ILE:HG22	1.62	0.99
15:AO:53:LEU:CD1	22:BA:726:G:N2	2.26	0.99
1:AA:1377:G:C4'	22:BA:1722:C:O2'	2.11	0.98
6:AF:118:LYS:CE	26:BE:162:ALA:C	2.29	0.98
15:AO:53:LEU:HD13	22:BA:726:G:N2	1.78	0.98
13:AM:109:VAL:HG21	29:BH:127:ARG:HE	1.23	0.98
1:AA:1424:G:H4'	22:BA:1725:A:H5'	1.00	0.98
15:AO:57:LEU:CD1	22:BA:726:G:H1'	1.92	0.98
22:BA:2738:U:H3	24:BC:74:A:H62	1.10	0.98
1:AA:660:A:H5'	26:BE:161:ILE:HG23	1.01	0.98
1:AA:755:U:N3	26:BE:5:LEU:CD1	1.81	0.97
1:AA:756:A:H1'	26:BE:5:LEU:HA	1.45	0.97
1:AA:763:A:H62	1:AA:1458:C:H1'	1.26	0.97
1:AA:1422:A:O4'	22:BA:1738:G:O2'	1.83	0.97
1:AA:778:G:H22	1:AA:805:U:H1'	1.28	0.96
6:AF:117:ASN:CB	26:BE:163:LYS:HE2	1.96	0.96
22:BA:2629:A:H2'	49:B2:1:MET:HA	1.47	0.95
22:BA:2116:C:H42	22:BA:2201:G:H1	1.14	0.95
30:BI:57:VAL:HG11	30:BI:119:VAL:HG13	1.49	0.95
1:AA:765:C:H1'	1:AA:767:A:H5'	1.45	0.95
1:AA:347:G:H5''	16:AP:5:ARG:HD3	1.44	0.95
1:AA:1381:G:C5'	39:BR:231:THR:OG1	2.14	0.95
28:BG:240:LEU:HD23	35:BN:78:ARG:HB3	1.49	0.94
13:AM:109:VAL:CG2	29:BH:127:ARG:HE	1.79	0.94
22:BA:1870:U:H3	22:BA:1896:G:H22	1.12	0.94
22:BA:1603:A:H4'	26:BE:57:LEU:HD11	1.50	0.94
1:AA:71:G:H22	1:AA:82:U:H3	1.15	0.94
1:AA:660:A:OP1	26:BE:161:ILE:C	1.99	0.94
49:B2:48:VAL:HG22	49:B2:49:ARG:H	1.30	0.94
1:AA:660:A:C4'	26:BE:171:LYS:NZ	2.30	0.93
22:BA:164:A:H5'	22:BA:165:C:H5'	1.50	0.93
1:AA:1468:A:H2'	1:AA:1469:G:H5'	1.50	0.93
24:BC:68:C:H41	39:BR:143:ILE:HG22	1.33	0.93
15:AO:53:LEU:HD22	22:BA:726:G:N3	1.83	0.93
51:B4:104:SER:HA	51:B4:105:ARG:HH21	1.32	0.93
1:AA:1424:G:C5'	22:BA:1725:A:H4'	1.96	0.93
36:BO:133:ILE:HG23	36:BO:134:SER:H	1.32	0.92
53:B6:7:VAL:HG13	53:B6:8:LYS:H	1.33	0.92
1:AA:755:U:C4	26:BE:5:LEU:HD13	2.03	0.92
15:AO:44:LYS:CE	26:BE:7:LYS:HE2	1.98	0.92
1:AA:1377:G:H4'	22:BA:1722:C:HO2'	1.22	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:755:U:C2	26:BE:5:LEU:CD1	2.45	0.92
22:BA:174:G:H21	22:BA:192:A:H62	1.15	0.92
22:BA:1675:C:H2'	22:BA:1676:U:H5''	1.52	0.92
42:BU:51:ASP:HA	42:BU:54:ARG:HH12	1.33	0.92
34:BM:3:GLN:HB2	34:BM:4:PRO:HD2	1.52	0.91
49:B2:36:LYS:HE2	49:B2:36:LYS:H	1.35	0.91
1:AA:647:C:H2'	1:AA:648:G:H5''	1.53	0.91
1:AA:756:A:C2	26:BE:5:LEU:HD21	1.96	0.91
1:AA:1422:A:C1'	22:BA:1738:G:O2'	2.19	0.91
1:AA:1423:G:C5'	22:BA:1737:A:C2	2.52	0.91
22:BA:1946:A:H62	22:BA:1982:G:H21	1.18	0.91
1:AA:721:G:C2	26:BE:5:LEU:HD12	2.05	0.91
30:BI:81:ARG:HG2	30:BI:82:GLU:H	1.34	0.91
37:BP:197:ALA:HB1	37:BP:198:PRO:HA	1.50	0.91
22:BA:1272:A:H62	40:BS:3:ARG:HH21	1.19	0.91
26:BE:161:ILE:HG12	26:BE:171:LYS:HE3	1.50	0.91
26:BE:213:ARG:HB3	26:BE:213:ARG:HH11	1.33	0.91
15:AO:57:LEU:HD13	22:BA:726:G:O4'	1.71	0.90
22:BA:2214:C:H42	22:BA:2240:G:H1	1.12	0.90
6:AF:118:LYS:NZ	26:BE:162:ALA:N	2.18	0.90
45:BX:108:VAL:HG22	45:BX:109:GLY:H	1.35	0.90
1:AA:756:A:C1'	26:BE:5:LEU:HA	2.01	0.90
52:B5:98:SER:HA	52:B5:101:ARG:HH12	1.36	0.90
25:BD:135:TYR:HB2	25:BD:336:ILE:HD11	1.51	0.90
19:AS:25:LYS:O	48:B1:101:VAL:HG21	1.72	0.90
26:BE:64:ARG:HE	26:BE:145:GLY:HA2	1.33	0.90
22:BA:460:U:H3	22:BA:593:G:H1'	1.34	0.90
52:B5:105:THR:HG23	52:B5:106:GLY:H	1.37	0.90
1:AA:1270:C:H4'	1:AA:1271:G:H5'	1.53	0.90
29:BH:24:ILE:HD13	29:BH:24:ILE:H	1.35	0.90
51:B4:112:HIS:HA	51:B4:117:ARG:HH22	1.37	0.90
1:AA:721:G:O2'	26:BE:194:VAL:HG21	1.73	0.89
22:BA:2223:A:H3'	22:BA:2224:G:H5'	1.54	0.89
1:AA:635:A:N6	1:AA:651:G:H1'	1.88	0.89
1:AA:1422:A:H4'	22:BA:1738:G:C4'	2.03	0.89
1:AA:650:A:C2'	22:BA:1857:A:OP1	2.20	0.89
13:AM:109:VAL:CG2	29:BH:127:ARG:NE	2.33	0.89
1:AA:1424:G:C4'	22:BA:1725:A:C5'	2.43	0.89
44:BW:70:LYS:HE2	44:BW:136:LEU:H	1.37	0.88
1:AA:1331:C:H3'	1:AA:1332:C:C5'	2.03	0.88
35:BN:208:LYS:HG2	35:BN:236:LEU:HD13	1.53	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:167:LYS:H	32:BK:167:LYS:HD2	1.38	0.88
45:BX:143:ILE:HG22	45:BX:144:VAL:HG23	1.55	0.88
23:BB:72:G:H21	23:BB:105:A:H62	1.15	0.88
1:AA:344:A:H1'	1:AA:429:G:H1'	1.53	0.88
22:BA:2028:A:H4'	42:BU:122:SER:HB2	1.56	0.88
1:AA:620:G:H1	1:AA:682:C:H42	1.22	0.88
22:BA:514:A:H5''	22:BA:515:U:H5'	1.54	0.88
35:BN:79:LYS:HA	35:BN:79:LYS:NZ	1.88	0.88
1:AA:166:G:H22	1:AA:177:A:H61	0.90	0.87
22:BA:868:G:H21	22:BA:2286:A:H5'	1.39	0.87
15:AO:44:LYS:HD2	26:BE:7:LYS:NZ	1.89	0.87
22:BA:1189:G:H4'	41:BT:146:ARG:HB3	1.56	0.87
1:AA:166:G:N2	1:AA:177:A:H61	1.71	0.86
33:BL:145:PRO:HD3	40:BS:64:ARG:HH12	1.40	0.86
22:BA:2775:A:H61	30:BI:110:LEU:HD23	1.39	0.86
42:BU:35:ARG:HG2	42:BU:79:LEU:HD13	1.56	0.86
45:BX:77:ARG:HA	45:BX:91:GLY:HA2	1.58	0.86
1:AA:217:A:H61	1:AA:252:G:H1'	1.38	0.86
13:AM:48:ARG:NH2	29:BH:159:GLU:O	2.08	0.86
22:BA:1345:G:H1	22:BA:1351:C:H42	1.20	0.86
6:AF:118:LYS:CE	26:BE:161:ILE:C	2.43	0.86
26:BE:72:GLY:HA2	26:BE:92:TYR:HA	1.57	0.86
1:AA:166:G:H22	1:AA:177:A:N6	1.72	0.86
36:BO:70:PRO:HA	36:BO:95:ALA:HB2	1.57	0.86
1:AA:1424:G:C5'	22:BA:1725:A:H5'	2.05	0.85
22:BA:189:A:O2'	22:BA:190:G:H4'	1.76	0.85
22:BA:1828:U:H4'	22:BA:1831:G:H1'	1.56	0.85
1:AA:806:U:H2'	1:AA:807:G:H5''	1.58	0.85
1:AA:1105:A:H5'	1:AA:1106:C:C6	2.11	0.85
1:AA:400:U:O2'	1:AA:401:G:H5''	1.76	0.85
1:AA:399:G:H4'	1:AA:400:U:O5'	1.74	0.85
1:AA:660:A:H4'	26:BE:171:LYS:NZ	1.90	0.85
22:BA:2674:A:H62	22:BA:2681:G:H21	1.23	0.85
6:AF:118:LYS:HE3	26:BE:161:ILE:O	1.76	0.85
22:BA:1875:G:H21	22:BA:1891:A:H62	1.23	0.85
29:BH:18:ARG:HH12	48:B1:66:ASN:HB2	1.42	0.85
40:BS:88:ARG:HD3	40:BS:89:GLN:HG2	1.59	0.85
1:AA:1423:G:O2'	22:BA:1724:U:H4'	1.77	0.84
33:BL:163:VAL:HG11	33:BL:168:ARG:HB2	1.59	0.84
37:BP:159:ILE:H	37:BP:159:ILE:HD13	1.42	0.84
46:BY:80:PHE:H	46:BY:89:ASN:HD22	1.23	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:45:ILE:HD11	48:B1:95:ASN:CG	1.98	0.84
26:BE:114:SER:HB3	26:BE:124:ASN:HD22	1.40	0.84
26:BE:134:GLY:HA3	26:BE:160:LEU:HD12	1.59	0.84
39:BR:170:ILE:HG22	39:BR:171:SER:H	1.42	0.84
42:BU:91:LYS:HA	42:BU:91:LYS:HE3	1.58	0.84
44:BW:157:LYS:H	44:BW:157:LYS:HD2	1.41	0.84
33:BL:115:TYR:HB2	33:BL:153:VAL:HG22	1.56	0.84
34:BM:19:LEU:HD13	34:BM:19:LEU:H	1.39	0.84
29:BH:52:ASN:HD22	29:BH:103:ALA:HB2	1.43	0.84
45:BX:101:LYS:HA	45:BX:121:ASP:HA	1.58	0.84
1:AA:756:A:N3	26:BE:4:HIS:O	2.11	0.83
45:BX:119:LEU:HD13	45:BX:120:ILE:HG22	1.59	0.83
27:BF:163:GLN:HG3	27:BF:167:LYS:HE3	1.59	0.83
28:BG:204:LYS:HG2	28:BG:205:SER:H	1.43	0.83
1:AA:755:U:C2	26:BE:5:LEU:CB	2.44	0.83
22:BA:2698:C:H42	22:BA:2742:C:H5''	1.44	0.83
38:BQ:104:LEU:HB3	38:BQ:107:SER:HB3	1.60	0.83
51:B4:127:LEU:HD22	51:B4:138:LEU:HB3	1.60	0.83
1:AA:659:A:C4'	26:BE:164:GLU:OE2	2.20	0.83
22:BA:1078:A:H5'	30:BI:42:LYS:HA	1.61	0.83
37:BP:186:ILE:HD13	37:BP:186:ILE:H	1.43	0.83
44:BW:123:ILE:HD13	44:BW:123:ILE:H	1.43	0.83
51:B4:105:ARG:H	51:B4:105:ARG:HE	1.25	0.83
22:BA:2033:A:H4'	40:BS:34:THR:HG22	1.59	0.83
31:BJ:164:LEU:HD22	31:BJ:182:LEU:HA	1.59	0.83
40:BS:94:ARG:HG2	40:BS:97:LEU:HG	1.59	0.83
1:AA:650:A:C1'	22:BA:1857:A:OP1	2.26	0.83
39:BR:151:ILE:HG12	39:BR:208:VAL:HG13	1.61	0.83
1:AA:635:A:H61	1:AA:651:G:H1'	1.42	0.83
44:BW:71:VAL:HA	44:BW:92:ILE:HD12	1.61	0.83
1:AA:377:G:H4'	4:AD:5:ARG:HH21	1.43	0.83
1:AA:1424:G:C5'	22:BA:1725:A:C5'	2.56	0.83
39:BR:141:PRO:HG3	39:BR:208:VAL:HB	1.58	0.83
51:B4:105:ARG:H	51:B4:105:ARG:NE	1.77	0.83
22:BA:1286:A:C4'	22:BA:1287:G:H4'	2.09	0.82
1:AA:77:G:H2'	1:AA:78:U:H4'	1.61	0.82
22:BA:2111:U:H3	22:BA:2206:A:H61	1.23	0.82
36:BO:35:GLN:HE21	36:BO:132:ILE:HD13	1.43	0.82
40:BS:12:ARG:HA	40:BS:15:LYS:HD2	1.61	0.82
25:BD:177:VAL:HG21	25:BD:306:THR:HA	1.61	0.82
50:B3:50:LYS:H	50:B3:50:LYS:HD2	1.44	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:885:C:H1'	1:AA:1332:C:N3	1.94	0.82
1:AA:922:G:H3'	1:AA:923:A:H5''	1.61	0.82
27:BF:166:ILE:HG22	27:BF:172:LYS:HD2	1.61	0.82
1:AA:650:A:H2'	22:BA:1857:A:OP1	1.80	0.82
38:BQ:123:ALA:HB1	38:BQ:157:LYS:HG2	1.61	0.82
22:BA:829:G:H21	22:BA:1210:A:H62	1.23	0.82
28:BG:73:LYS:HA	28:BG:73:LYS:HE2	1.62	0.82
41:BT:191:LEU:HD23	41:BT:191:LEU:H	1.44	0.82
46:BY:142:LYS:H	46:BY:142:LYS:HD3	1.44	0.82
1:AA:375:G:H4'	1:AA:410:U:H3	1.44	0.82
6:AF:114:LYS:HE3	26:BE:163:LYS:HE3	1.62	0.82
24:BC:67:G:H5'	24:BC:69:A:H5'	1.61	0.82
25:BD:157:GLU:HG2	25:BD:288:PRO:HG3	1.62	0.81
6:AF:114:LYS:CE	26:BE:163:LYS:HE3	2.10	0.81
40:BS:45:SER:HA	40:BS:48:ARG:HE	1.44	0.81
1:AA:660:A:H4'	26:BE:171:LYS:CE	2.10	0.81
36:BO:27:ILE:HD13	36:BO:33:ALA:HB2	1.63	0.81
42:BU:71:ARG:HB3	42:BU:71:ARG:NH1	1.95	0.81
2:AB:196:ASN:H	2:AB:196:ASN:HD22	1.26	0.81
22:BA:2432:G:H4'	35:BN:133:ALA:HA	1.62	0.81
36:BO:1:MET:HG3	36:BO:68:ILE:HB	1.61	0.81
44:BW:155:VAL:HB	44:BW:164:THR:HG21	1.62	0.81
40:BS:50:ARG:HH22	41:BT:198:PHE:H	1.27	0.81
45:BX:114:HIS:HB2	45:BX:136:ILE:HG12	1.62	0.81
1:AA:1424:G:H5'	22:BA:1725:A:O4'	1.81	0.81
45:BX:138:VAL:HG12	45:BX:139:TYR:HD1	1.42	0.81
19:AS:45:ILE:CD1	48:B1:95:ASN:HD21	1.93	0.81
22:BA:698:C:H42	22:BA:798:C:H4'	1.43	0.81
44:BW:152:LEU:HD23	44:BW:152:LEU:H	1.44	0.81
15:AO:57:LEU:HD11	22:BA:726:G:C4'	2.11	0.81
29:BH:32:LYS:HA	29:BH:32:LYS:HE3	1.63	0.81
39:BR:204:LYS:HE2	39:BR:204:LYS:HA	1.63	0.81
1:AA:229:A:H61	1:AA:239:U:H3	1.26	0.80
1:AA:660:A:H4'	26:BE:171:LYS:HE3	1.63	0.80
22:BA:2774:U:H5''	22:BA:2775:A:OP1	1.81	0.80
39:BR:173:GLN:HG3	39:BR:185:ARG:HB3	1.62	0.80
1:AA:13:U:H2'	1:AA:14:U:H5''	1.62	0.80
15:AO:44:LYS:HE3	26:BE:7:LYS:HE2	1.52	0.80
28:BG:72:LEU:HD23	28:BG:73:LYS:N	1.96	0.80
35:BN:152:GLU:HB2	35:BN:162:VAL:HG22	1.62	0.80
35:BN:192:LEU:HG	35:BN:193:SER:H	1.47	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:48:ARG:HH22	29:BH:160:ILE:CA	1.93	0.80
44:BW:104:LEU:HD12	44:BW:127:ALA:HB2	1.63	0.80
1:AA:1348:C:H4'	1:AA:1349:C:H5'	1.64	0.80
35:BN:129:LEU:HB3	52:B5:113:ARG:HE	1.46	0.80
30:BI:114:LEU:HA	30:BI:117:ASN:HD21	1.46	0.80
35:BN:83:ARG:HD3	35:BN:83:ARG:H	1.47	0.80
31:BJ:52:VAL:HB	31:BJ:86:GLN:HB3	1.64	0.80
1:AA:479:U:H5''	1:AA:480:A:OP1	1.82	0.80
1:AA:1422:A:O2'	22:BA:1738:G:C1'	2.30	0.80
22:BA:639:A:H4'	22:BA:640:G:H5'	1.63	0.80
22:BA:1958:U:H4'	22:BA:1969:U:H1'	1.64	0.80
22:BA:455:A:H2'	28:BG:96:ARG:HH12	1.46	0.79
22:BA:2247:C:H5''	46:BY:105:ASN:HB2	1.64	0.79
32:BK:141:LEU:HD23	32:BK:141:LEU:H	1.46	0.79
33:BL:133:ILE:HG13	33:BL:139:ASN:HD21	1.47	0.79
45:BX:68:LYS:HE2	45:BX:68:LYS:HA	1.63	0.79
22:BA:715:G:H2'	22:BA:737:G:H22	1.48	0.79
22:BA:1033:C:H5'	22:BA:1040:U:H5''	1.62	0.79
40:BS:80:LYS:HE2	40:BS:80:LYS:HA	1.64	0.79
22:BA:2024:G:H5''	42:BU:71:ARG:HH11	1.48	0.79
28:BG:116:TYR:HB3	28:BG:117:PRO:HD2	1.65	0.79
34:BM:70:LYS:HD3	34:BM:70:LYS:H	1.48	0.79
39:BR:185:ARG:HH22	39:BR:223:ARG:HH12	1.27	0.79
1:AA:199:A:H4'	16:AP:59:LYS:HD3	1.64	0.79
1:AA:980:C:H4'	1:AA:981:G:H5''	1.65	0.79
22:BA:1385:G:H5'	22:BA:1819:A:H1'	1.65	0.79
22:BA:2692:A:H4'	34:BM:29:ASN:HD21	1.47	0.79
33:BL:174:ARG:HH22	33:BL:183:LEU:HG	1.44	0.79
22:BA:200:G:H5''	22:BA:201:A:OP1	1.82	0.79
22:BA:786:G:H4'	22:BA:787:G:H5'	1.64	0.79
13:AM:48:ARG:NH2	29:BH:160:ILE:N	2.24	0.79
22:BA:469:A:O2'	22:BA:470:G:H4'	1.82	0.79
26:BE:104:ARG:HB2	26:BE:191:VAL:HG11	1.65	0.79
28:BG:131:SER:HB3	28:BG:134:ARG:H	1.46	0.79
46:BY:80:PHE:H	46:BY:89:ASN:ND2	1.79	0.79
1:AA:1254:A:N6	1:AA:1279:G:H1'	1.98	0.79
2:AB:207:ASN:HD21	2:AB:210:ALA:H	1.27	0.79
22:BA:11:G:H21	22:BA:2643:C:H4'	1.48	0.79
22:BA:2344:A:H61	22:BA:2404:U:H3	1.28	0.79
34:BM:68:GLU:HG3	34:BM:78:ARG:HD2	1.64	0.79
37:BP:149:LEU:HG	37:BP:153:ARG:HH11	1.48	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BX:94:ILE:HG22	45:BX:125:LYS:HE3	1.64	0.79
1:AA:214:A:H4'	1:AA:215:U:H5'	1.64	0.78
22:BA:1801:A:H5'	26:BE:204:ALA:HB2	1.64	0.78
36:BO:89:SER:H	36:BO:90:PRO:HD3	1.46	0.78
15:AO:53:LEU:HD22	22:BA:726:G:C2	2.18	0.78
22:BA:51:A:H62	22:BA:117:A:N6	1.80	0.78
26:BE:74:ILE:HG12	26:BE:90:ILE:HG22	1.66	0.78
26:BE:79:TYR:HE1	26:BE:84:ASN:HA	1.48	0.78
46:BY:78:CYS:H	46:BY:86:ASN:HD21	1.31	0.78
1:AA:396:G:H4'	4:AD:32:LEU:HD23	1.64	0.78
22:BA:226:A:H2'	22:BA:227:G:H4'	1.65	0.78
35:BN:186:ILE:H	35:BN:186:ILE:HD13	1.49	0.78
22:BA:1158:U:H3	22:BA:2039:C:H5''	1.47	0.78
22:BA:2073:A:H4'	28:BG:120:LYS:HG3	1.66	0.78
27:BF:204:MET:HB3	27:BF:205:PRO:HD2	1.63	0.78
31:BJ:53:ILE:HD13	31:BJ:96:LEU:HD12	1.65	0.78
32:BK:72:LYS:HA	32:BK:72:LYS:HE3	1.65	0.78
45:BX:71:ARG:NH1	45:BX:71:ARG:HB2	1.99	0.78
28:BG:200:ASP:HB2	28:BG:201:PRO:HD3	1.65	0.78
6:AF:114:LYS:HE3	26:BE:163:LYS:CE	2.13	0.78
22:BA:386:A:H1'	22:BA:414:A:H62	1.48	0.78
28:BG:234:LEU:HD21	28:BG:239:VAL:HB	1.64	0.78
38:BQ:45:ARG:HH11	38:BQ:45:ARG:H	1.31	0.78
1:AA:633:G:H2'	1:AA:634:G:C8	2.19	0.78
26:BE:138:HIS:HB2	26:BE:189:GLY:H	1.48	0.78
31:BJ:73:GLY:HA2	31:BJ:76:ARG:HH12	1.49	0.78
22:BA:985:A:H61	22:BA:2475:G:H4'	1.49	0.77
39:BR:174:ASN:HA	39:BR:184:ARG:HB3	1.67	0.77
15:AO:44:LYS:CE	26:BE:7:LYS:NZ	2.46	0.77
22:BA:845:C:H5'	52:B5:140:ARG:HH11	1.48	0.77
39:BR:187:ILE:HA	39:BR:195:VAL:HG12	1.66	0.77
41:BT:219:ILE:HG22	41:BT:220:LYS:H	1.48	0.77
1:AA:93:A:H1'	1:AA:298:A:H1'	1.66	0.77
19:AS:61:TYR:HH	48:B1:91:PHE:HE1	1.31	0.77
22:BA:2502:G:H5''	36:BO:46:GLN:HE21	1.48	0.77
50:B3:25:LYS:HD3	50:B3:26:GLY:H	1.49	0.77
15:AO:57:LEU:HD12	22:BA:726:G:H1'	1.64	0.77
22:BA:2041:G:H1	22:BA:2050:C:H42	1.30	0.77
52:B5:112:ARG:HE	52:B5:137:GLN:NE2	1.83	0.77
1:AA:756:A:H1'	26:BE:5:LEU:CA	2.14	0.77
15:AO:53:LEU:HD11	22:BA:726:G:N2	2.00	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1535:A:H61	26:BE:91:HIS:HA	1.49	0.77
29:BH:50:VAL:HG22	29:BH:105:THR:HB	1.64	0.77
1:AA:712:C:H4'	15:AO:51:ARG:HH22	1.49	0.77
1:AA:1334:G:H2'	1:AA:1335:G:H8	1.49	0.77
6:AF:118:LYS:NZ	26:BE:133:LEU:O	2.17	0.77
22:BA:798:C:H5''	22:BA:799:A:H5'	1.65	0.77
22:BA:1710:G:H1	22:BA:2003:A:H61	1.33	0.77
22:BA:2040:U:H3	22:BA:2051:G:H1	1.33	0.77
22:BA:1814:G:H21	26:BE:48:ARG:HD2	1.50	0.77
31:BJ:130:LYS:HD2	31:BJ:197:ASN:HB3	1.67	0.77
32:BK:111:LYS:HA	32:BK:111:LYS:HE3	1.65	0.77
39:BR:183:ILE:HG12	39:BR:184:ARG:HG2	1.66	0.77
1:AA:229:A:H5'	20:AT:174:ARG:HH22	1.49	0.76
22:BA:624:A:O2'	22:BA:626:C:H5'	1.85	0.76
22:BA:1320:G:H4'	22:BA:1322:A:N3	1.99	0.76
48:B1:63:VAL:HG13	48:B1:64:TYR:HD1	1.49	0.76
22:BA:1702:G:H22	22:BA:2008:C:H42	1.32	0.76
51:B4:128:LYS:HA	51:B4:128:LYS:HE3	1.68	0.76
13:AM:48:ARG:HH22	29:BH:160:ILE:CB	1.98	0.76
1:AA:1424:G:H5'	22:BA:1725:A:C5'	2.15	0.76
22:BA:55:G:H1	22:BA:112:C:H42	1.31	0.76
38:BQ:131:ILE:HD13	38:BQ:132:THR:N	2.01	0.76
1:AA:1312:A:H4'	1:AA:1313:U:O5'	1.83	0.76
39:BR:172:ARG:HH22	39:BR:219:LEU:HG	1.49	0.76
22:BA:200:G:H4'	22:BA:201:A:H4'	1.66	0.76
38:BQ:64:GLU:HB2	38:BQ:84:ASP:HB3	1.68	0.76
45:BX:80:VAL:HG22	45:BX:81:LYS:H	1.50	0.76
40:BS:102:ILE:HG13	40:BS:103:LEU:H	1.51	0.76
22:BA:591:C:H5''	40:BS:14:ARG:HH22	1.51	0.76
46:BY:79:PRO:HA	46:BY:89:ASN:HA	1.68	0.76
51:B4:105:ARG:HE	51:B4:105:ARG:N	1.84	0.76
1:AA:756:A:C6	26:BE:5:LEU:HD21	2.06	0.76
34:BM:78:ARG:HG3	39:BR:195:VAL:HG23	1.67	0.76
35:BN:79:LYS:HA	35:BN:79:LYS:HZ3	1.48	0.76
22:BA:2320:G:H1	22:BA:2330:U:H3	1.32	0.75
1:AA:400:U:H5'	1:AA:401:G:OP1	1.85	0.75
22:BA:1450:G:H1	26:BE:25:ARG:HA	1.51	0.75
31:BJ:71:LYS:HE3	31:BJ:71:LYS:HA	1.68	0.75
39:BR:146:GLY:HA2	39:BR:172:ARG:HH21	1.50	0.75
22:BA:224:G:H22	22:BA:243:U:H3	1.34	0.75
1:AA:721:G:H5'	26:BE:198:GLN:CG	2.15	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1130:G:H5''	1:AA:1131:U:OP1	1.87	0.75
22:BA:425:C:H42	22:BA:2427:G:H1	1.33	0.75
28:BG:204:LYS:HB3	28:BG:206:LEU:HD13	1.69	0.75
34:BM:40:VAL:HG22	34:BM:59:ARG:HG2	1.68	0.75
34:BM:35:ILE:HD12	34:BM:105:GLU:HB2	1.67	0.75
1:AA:464:U:H2'	1:AA:465:G:O4'	1.86	0.75
22:BA:1003:A:H62	22:BA:1016:G:H21	1.33	0.75
36:BO:15:GLY:HA3	36:BO:72:LYS:HE3	1.69	0.75
1:AA:756:A:C4	26:BE:5:LEU:HA	2.21	0.75
30:BI:53:VAL:HA	30:BI:54:PRO:C	2.07	0.75
38:BQ:56:ARG:H	38:BQ:56:ARG:HE	1.33	0.75
46:BY:83:LYS:HG2	46:BY:84:LYS:H	1.50	0.75
1:AA:635:A:H4'	1:AA:636:G:O5'	1.86	0.75
1:AA:712:C:H3'	1:AA:713:G:H21	1.52	0.75
1:AA:721:G:C2	26:BE:5:LEU:CD1	2.70	0.75
43:BV:167:ARG:HH21	43:BV:173:LYS:NZ	1.85	0.75
1:AA:943:A:H2'	14:AN:8:GLN:HE22	1.52	0.75
39:BR:152:ARG:HB3	39:BR:167:GLY:HA3	1.69	0.75
1:AA:606:A:H61	1:AA:696:C:H42	1.34	0.74
22:BA:1167:C:H4'	22:BA:1170:A:H61	1.52	0.74
29:BH:121:LEU:HD22	29:BH:154:PRO:HG2	1.69	0.74
40:BS:15:LYS:HB2	40:BS:18:ARG:HH21	1.52	0.74
22:BA:1074:A:H5'	22:BA:1075:G:H5''	1.69	0.74
22:BA:1321:A:H5'	22:BA:1322:A:N3	2.02	0.74
29:BH:153:PHE:HB2	29:BH:156:ILE:HG12	1.68	0.74
29:BH:157:LYS:HD3	29:BH:157:LYS:H	1.50	0.74
1:AA:209:G:H3'	1:AA:210:U:H5''	1.69	0.74
1:AA:920:G:H5''	1:AA:921:C:H5'	1.69	0.74
22:BA:85:U:H4'	22:BA:102:U:H1'	1.68	0.74
22:BA:1080:C:H42	22:BA:1135:A:H61	1.34	0.74
22:BA:1286:A:H5''	22:BA:1287:G:OP1	1.87	0.74
22:BA:1459:U:H3	22:BA:1587:A:H62	1.32	0.74
35:BN:146:VAL:HA	35:BN:173:ILE:HG22	1.68	0.74
22:BA:164:A:H61	51:B4:117:ARG:HB3	1.53	0.74
22:BA:1456:G:H22	22:BA:1592:A:H61	1.35	0.74
26:BE:137:ILE:HD11	26:BE:186:ALA:HB3	1.68	0.74
1:AA:729:A:H2'	1:AA:730:A:H5'	1.70	0.74
22:BA:1362:G:H5'	43:BV:165:LEU:HB3	1.68	0.74
22:BA:1493:C:H2'	22:BA:1494:G:H5'	1.70	0.74
37:BP:129:ARG:HA	37:BP:129:ARG:HE	1.52	0.74
39:BR:160:ARG:O	39:BR:160:ARG:HD3	1.86	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BX:78:LEU:H	45:BX:91:GLY:H	1.33	0.74
22:BA:1219:U:H4'	40:BS:9:ILE:HD11	1.69	0.74
36:BO:2:LEU:HB2	36:BO:47:ILE:HG21	1.69	0.74
1:AA:1270:C:H5''	1:AA:1271:G:OP1	1.88	0.74
22:BA:727:A:H2'	22:BA:728:A:H5''	1.69	0.74
22:BA:1475:U:H1'	37:BP:149:LEU:HD13	1.70	0.74
31:BJ:120:VAL:HG13	31:BJ:121:PHE:HD1	1.50	0.74
43:BV:165:LEU:HD11	43:BV:173:LYS:HB2	1.69	0.74
1:AA:702:C:O2	1:AA:702:C:H2'	1.88	0.73
26:BE:90:ILE:HD11	26:BE:98:ARG:HB2	1.70	0.73
26:BE:137:ILE:HG23	26:BE:138:HIS:H	1.52	0.73
15:AO:44:LYS:CD	26:BE:7:LYS:NZ	2.51	0.73
22:BA:554:G:H2'	22:BA:555:A:H5''	1.69	0.73
22:BA:1710:G:H1	22:BA:2003:A:N6	1.85	0.73
42:BU:71:ARG:HB3	42:BU:71:ARG:HH11	1.51	0.73
1:AA:1093:A:H5'	1:AA:1094:A:OP1	1.88	0.73
15:AO:44:LYS:HE2	26:BE:7:LYS:CE	2.18	0.73
22:BA:1809:G:N7	26:BE:175:GLY:HA3	2.03	0.73
26:BE:57:LEU:HD23	26:BE:58:TYR:N	2.04	0.73
26:BE:157:VAL:HA	26:BE:190:GLN:HG3	1.70	0.73
38:BQ:80:GLN:HE21	38:BQ:82:ILE:HB	1.52	0.73
1:AA:440:G:H2'	1:AA:441:G:H5''	1.69	0.73
1:AA:441:G:H2'	1:AA:442:G:O4'	1.88	0.73
19:AS:45:ILE:CG1	48:B1:95:ASN:OD1	2.36	0.73
22:BA:530:U:H5'	42:BU:47:ARG:HH22	1.53	0.73
22:BA:715:G:H1'	22:BA:738:A:H61	1.54	0.73
26:BE:158:ALA:H	26:BE:190:GLN:HE21	1.35	0.73
22:BA:1394:A:H4'	22:BA:2228:C:H42	1.53	0.73
52:B5:125:ASN:HB3	52:B5:128:ARG:HB3	1.70	0.73
1:AA:70:G:H21	1:AA:84:C:H41	1.34	0.73
6:AF:118:LYS:CE	26:BE:162:ALA:N	2.51	0.73
22:BA:1410:G:H1	22:BA:1419:C:H42	1.36	0.73
40:BS:35:ILE:O	40:BS:35:ILE:HD13	1.89	0.73
51:B4:137:ILE:HG12	51:B4:139:CYS:H	1.53	0.73
1:AA:67:A:H4'	1:AA:157:U:C4	2.24	0.73
1:AA:180:A:C6	1:AA:192:C:H4'	2.22	0.73
1:AA:906:U:H1'	1:AA:909:U:H5	1.52	0.73
15:AO:44:LYS:HE3	26:BE:7:LYS:NZ	2.02	0.73
15:AO:44:LYS:HE2	26:BE:7:LYS:HE2	1.70	0.73
22:BA:577:G:N2	22:BA:2044:A:H61	1.86	0.73
22:BA:1088:U:H4'	22:BA:1090:U:H5'	1.69	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1592:A:H5''	22:BA:1593:U:H5''	1.70	0.73
28:BG:164:ALA:HB1	28:BG:239:VAL:HG21	1.71	0.73
36:BO:30:GLY:HA2	36:BO:107:SER:HB2	1.69	0.73
42:BU:39:ILE:HG21	42:BU:41:MET:HE2	1.71	0.73
1:AA:1381:G:OP1	39:BR:230:SER:HB2	1.89	0.72
22:BA:1047:U:H2'	22:BA:1048:C:H5'	1.71	0.72
1:AA:1422:A:H1'	22:BA:1738:G:O2'	1.88	0.72
15:AO:53:LEU:CD2	22:BA:726:G:N3	2.52	0.72
41:BT:196:ILE:HA	41:BT:211:GLY:HA2	1.70	0.72
38:BQ:99:SER:HA	38:BQ:103:GLU:HB3	1.71	0.72
19:AS:45:ILE:HD11	48:B1:95:ASN:OD1	1.87	0.72
22:BA:1877:C:H2'	22:BA:1878:C:O4'	1.88	0.72
34:BM:104:ARG:HH12	34:BM:107:ARG:NH1	1.88	0.72
1:AA:543:A:H5''	1:AA:544:A:OP1	1.89	0.72
1:AA:1276:C:H4'	13:AM:74:ARG:NH1	2.04	0.72
1:AA:1424:G:P	22:BA:1725:A:O4'	2.47	0.72
27:BF:203:LYS:HA	27:BF:203:LYS:NZ	2.04	0.72
52:B5:124:LYS:H	52:B5:124:LYS:HD3	1.54	0.72
1:AA:228:G:H1	1:AA:240:U:H3	1.38	0.72
1:AA:1080:A:H61	1:AA:1091:G:H21	1.37	0.72
22:BA:894:G:H21	22:BA:901:C:H41	1.36	0.72
31:BJ:68:LEU:HD23	31:BJ:69:ASP:N	2.02	0.72
1:AA:222:G:H4'	1:AA:223:U:H5'	1.71	0.72
22:BA:1789:U:H5''	22:BA:1790:A:H5''	1.72	0.72
22:BA:2138:G:H2'	22:BA:2139:A:H5'	1.70	0.72
1:AA:50:U:H4'	12:AL:25:ARG:HH11	1.54	0.72
26:BE:50:ARG:HD3	26:BE:215:VAL:HA	1.72	0.72
32:BK:184:LEU:H	32:BK:185:PRO:HD2	1.54	0.72
22:BA:1449:C:H2'	22:BA:1450:G:H5'	1.71	0.72
44:BW:69:VAL:HB	44:BW:70:LYS:HD2	1.70	0.72
1:AA:1076:G:H21	1:AA:1096:C:H42	1.38	0.72
22:BA:1109:U:H4'	32:BK:194:SER:HB3	1.71	0.72
34:BM:63:VAL:HA	34:BM:106:LEU:HD11	1.72	0.72
49:B2:29:LEU:HD23	49:B2:29:LEU:H	1.55	0.72
1:AA:7:G:H4'	1:AA:269:A:H4'	1.72	0.71
22:BA:1456:G:H1	22:BA:1592:A:H61	1.37	0.71
28:BG:177:GLU:H	28:BG:248:THR:HA	1.55	0.71
1:AA:1309:G:H2'	1:AA:1310:C:H5''	1.71	0.71
22:BA:1535:A:H3'	22:BA:1536:A:H5'	1.71	0.71
22:BA:2120:U:H3	22:BA:2197:A:H61	1.36	0.71
23:BB:21:G:H1	23:BB:62:C:H42	1.37	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BO:68:ILE:HD13	36:BO:68:ILE:H	1.55	0.71
1:AA:634:G:H1'	11:AK:53:TRP:NE1	2.05	0.71
13:AM:108:ARG:CZ	29:BH:150:GLN:OE1	2.28	0.71
22:BA:584:A:C6	22:BA:2047:A:H4'	2.26	0.71
22:BA:839:G:H1	22:BA:2264:U:H4'	1.55	0.71
1:AA:99:G:H5''	1:AA:100:A:OP1	1.89	0.71
1:AA:923:A:H4'	1:AA:924:A:H5'	1.70	0.71
22:BA:1686:A:H4'	37:BP:192:ARG:HH22	1.55	0.71
1:AA:957:C:H3'	1:AA:958:U:H5''	1.72	0.71
1:AA:1184:A:H4'	1:AA:1252:G:H4'	1.73	0.71
6:AF:118:LYS:HE3	26:BE:162:ALA:N	2.04	0.71
13:AM:48:ARG:NH2	29:BH:160:ILE:HB	2.04	0.71
1:AA:209:G:C3'	1:AA:210:U:H5''	2.21	0.71
1:AA:756:A:N9	26:BE:5:LEU:HA	2.05	0.71
1:AA:909:U:O2	1:AA:909:U:H2'	1.90	0.71
36:BO:63:LYS:HZ1	36:BO:63:LYS:HA	1.55	0.71
36:BO:89:SER:N	36:BO:90:PRO:HD3	2.04	0.71
1:AA:720:A:C6	26:BE:5:LEU:HD21	2.09	0.71
22:BA:2045:A:N6	22:BA:2515:C:H1'	2.06	0.71
31:BJ:139:ILE:HG13	31:BJ:171:ARG:HH21	1.54	0.71
45:BX:68:LYS:HG3	45:BX:69:ASN:H	1.55	0.71
1:AA:1016:A:H4'	1:AA:1017:G:O5'	1.90	0.71
22:BA:117:A:H5'	22:BA:118:U:OP1	1.91	0.71
22:BA:693:G:H5'	51:B4:122:SER:HB2	1.73	0.71
1:AA:327:A:O2'	1:AA:339:U:H4'	1.91	0.71
1:AA:1106:C:O2	1:AA:1106:C:H2'	1.90	0.71
22:BA:652:C:H42	22:BA:660:G:H1	1.36	0.71
5:AE:225:HIS:HE1	5:AE:290:ARG:H	1.39	0.71
28:BG:72:LEU:HD23	28:BG:73:LYS:H	1.55	0.71
36:BO:39:PRO:HG3	36:BO:98:LYS:HA	1.71	0.71
1:AA:1447:U:H5''	1:AA:1448:A:OP1	1.90	0.70
27:BF:175:GLN:HB2	27:BF:179:GLY:HA3	1.71	0.70
30:BI:48:LYS:HA	30:BI:112:ARG:HD3	1.73	0.70
36:BO:1:MET:HA	36:BO:68:ILE:HG13	1.72	0.70
38:BQ:45:ARG:HH11	38:BQ:45:ARG:N	1.89	0.70
42:BU:52:GLN:HB2	49:B2:22:LYS:HB3	1.74	0.70
22:BA:1139:A:O2'	22:BA:1140:G:H4'	1.91	0.70
27:BF:104:THR:H	27:BF:106:PRO:HD2	1.56	0.70
27:BF:203:LYS:HA	27:BF:203:LYS:HZ1	1.57	0.70
28:BG:144:LYS:HB3	28:BG:145:PRO:HD2	1.72	0.70
1:AA:647:C:C2'	1:AA:648:G:H5''	2.22	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:560:A:N6	41:BT:140:ARG:HH21	1.90	0.70
34:BM:16:ALA:HB1	34:BM:43:ILE:HD13	1.73	0.70
40:BS:15:LYS:HD3	40:BS:16:LYS:N	2.06	0.70
43:BV:148:ARG:HB2	43:BV:162:VAL:HG21	1.74	0.70
47:BZ:73:LYS:NZ	47:BZ:73:LYS:HA	2.06	0.70
1:AA:778:G:N2	1:AA:805:U:H1'	2.03	0.70
22:BA:84:G:H5'	44:BW:94:LYS:HB3	1.72	0.70
22:BA:1235:A:H61	22:BA:1255:U:H3	1.38	0.70
22:BA:1331:G:H2'	22:BA:1332:G:H5'	1.72	0.70
39:BR:185:ARG:HG2	39:BR:187:ILE:HG23	1.74	0.70
22:BA:1201:A:H2'	22:BA:1202:A:H4'	1.73	0.70
28:BG:217:GLU:HG3	28:BG:220:GLY:H	1.55	0.70
36:BO:48:GLU:HA	36:BO:51:ARG:HH12	1.54	0.70
1:AA:1040:U:H3'	7:AG:4:ARG:HH21	1.56	0.70
22:BA:97:A:H2'	22:BA:98:G:H5'	1.72	0.70
22:BA:473:C:H42	22:BA:480:G:H1	1.39	0.70
22:BA:763:A:N1	22:BA:1791:C:H1'	2.07	0.70
22:BA:1289:A:H62	22:BA:2026:G:H21	1.38	0.70
22:BA:2234:G:H5''	46:BY:119:TYR:HB3	1.73	0.70
35:BN:108:GLY:H	35:BN:109:PRO:CD	2.04	0.70
37:BP:91:ARG:CZ	37:BP:91:ARG:HA	2.22	0.70
1:AA:92:G:H5'	1:AA:93:A:H2	1.56	0.70
1:AA:775:U:H3	1:AA:821:A:H61	1.40	0.70
1:AA:788:U:H3'	1:AA:789:A:C5'	2.22	0.70
22:BA:200:G:H4'	22:BA:201:A:C4'	2.22	0.70
49:B2:29:LEU:HG	49:B2:30:LYS:H	1.57	0.70
18:AR:81:GLU:HB3	21:AU:100:VAL:HG13	1.72	0.70
22:BA:625:C:H5'	22:BA:626:C:OP1	1.92	0.70
22:BA:1096:G:H21	22:BA:1124:A:H5'	1.55	0.70
41:BT:172:ILE:HD13	41:BT:172:ILE:H	1.57	0.70
1:AA:245:A:H4'	1:AA:246:G:O5'	1.90	0.70
1:AA:351:G:H2'	1:AA:353:A:OP2	1.92	0.70
1:AA:1341:G:H21	1:AA:1451:A:H1'	1.54	0.70
22:BA:1233:G:H2'	22:BA:1257:G:H1	1.56	0.70
26:BE:137:ILE:HG23	26:BE:138:HIS:N	2.07	0.70
26:BE:150:LEU:HD23	26:BE:150:LEU:H	1.57	0.70
40:BS:50:ARG:NH1	41:BT:197:VAL:HB	2.06	0.70
42:BU:91:LYS:HG3	42:BU:92:GLN:H	1.57	0.70
49:B2:36:LYS:HE2	49:B2:36:LYS:N	2.06	0.70
49:B2:36:LYS:HE2	49:B2:37:SER:H	1.56	0.70
22:BA:1156:G:H5''	22:BA:1157:A:OP1	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1235:A:N6	22:BA:1255:U:H3	1.89	0.70
22:BA:1353:A:H62	22:BA:1645:A:H61	1.40	0.70
22:BA:2636:G:H4'	27:BF:200:LYS:HB3	1.72	0.70
23:BB:6:G:H4'	23:BB:28:C:H4'	1.74	0.70
35:BN:125:ARG:HA	35:BN:125:ARG:HH11	1.57	0.70
36:BO:63:LYS:HA	36:BO:63:LYS:NZ	2.05	0.70
1:AA:26:C:H41	1:AA:507:A:H61	1.39	0.69
1:AA:648:G:H2'	1:AA:649:U:H5''	1.74	0.69
22:BA:26:G:H22	22:BA:523:G:H2'	1.56	0.69
22:BA:386:A:H4'	22:BA:435:A:C2	2.26	0.69
22:BA:1787:U:H3	22:BA:1797:A:H61	1.37	0.69
22:BA:1875:G:N2	22:BA:1891:A:H62	1.89	0.69
24:BC:49:G:HO2'	24:BC:50:G:H5'	1.57	0.69
22:BA:1705:A:H2'	22:BA:1706:C:H5'	1.72	0.69
22:BA:2645:U:H3'	22:BA:2646:U:H5'	1.73	0.69
42:BU:113:LYS:HB3	42:BU:125:ILE:HG21	1.74	0.69
1:AA:701:A:H4'	1:AA:702:C:H5''	1.74	0.69
15:AO:44:LYS:HE3	26:BE:7:LYS:HE3	0.70	0.69
22:BA:616:U:H5''	28:BG:153:ASN:ND2	2.06	0.69
22:BA:2192:U:H2'	25:BD:282:THR:HG21	1.73	0.69
26:BE:69:ASP:C	26:BE:70:ILE:HD12	2.13	0.69
1:AA:1002:G:O6	1:AA:1147:U:H2'	1.91	0.69
22:BA:1811:A:H3'	22:BA:1812:A:H5'	1.72	0.69
22:BA:2536:A:H61	22:BA:2558:A:H2'	1.57	0.69
22:BA:625:C:HO2'	22:BA:626:C:H5	1.41	0.69
22:BA:1364:G:H4'	22:BA:1633:A:H2'	1.73	0.69
22:BA:1705:A:H2'	22:BA:1705:A:N3	2.06	0.69
22:BA:1827:G:H2'	22:BA:1828:U:O4'	1.92	0.69
28:BG:205:SER:HA	28:BG:225:THR:HB	1.73	0.69
50:B3:13:LEU:HD23	50:B3:38:ASN:HD22	1.55	0.69
15:AO:50:GLN:HE22	22:BA:726:G:H1	0.70	0.69
19:AS:25:LYS:O	48:B1:101:VAL:CG2	2.40	0.69
34:BM:109:LYS:HA	34:BM:109:LYS:NZ	2.07	0.69
1:AA:384:G:H4'	1:AA:385:A:H5''	1.75	0.69
1:AA:506:G:H2'	1:AA:507:A:C2	2.28	0.69
22:BA:314:G:H1	22:BA:322:C:H42	1.39	0.69
22:BA:755:U:H5''	22:BA:1694:C:H5''	1.73	0.69
24:BC:55:G:H1	24:BC:64:U:H3	1.38	0.69
26:BE:112:ILE:HA	26:BE:123:GLY:HA2	1.75	0.69
30:BI:52:ALA:O	30:BI:53:VAL:HG12	1.92	0.69
38:BQ:62:THR:OG1	38:BQ:63:PRO:HD2	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BU:140:THR:HG23	42:BU:141:HIS:H	1.56	0.69
16:AP:36:VAL:HG13	16:AP:37:GLY:H	1.57	0.69
22:BA:211:A:H2'	22:BA:212:A:O4'	1.93	0.69
22:BA:740:G:N3	22:BA:740:G:H2'	2.05	0.69
22:BA:1452:A:H61	22:BA:1595:C:N4	1.91	0.69
30:BI:201:LYS:HZ3	30:BI:203:LYS:HE2	1.58	0.69
31:BJ:52:VAL:HG22	31:BJ:70:VAL:HG11	1.72	0.69
1:AA:700:G:H1'	1:AA:702:C:H41	1.56	0.69
1:AA:1468:A:C2'	1:AA:1469:G:H5'	2.23	0.69
15:AO:44:LYS:HD2	26:BE:7:LYS:HZ1	1.58	0.69
22:BA:1167:C:H4'	22:BA:1170:A:N6	2.07	0.69
44:BW:70:LYS:HE2	44:BW:136:LEU:N	2.08	0.69
1:AA:77:G:H2'	1:AA:78:U:C4'	2.23	0.68
1:AA:862:A:H4'	1:AA:863:A:H4'	1.74	0.68
22:BA:1837:U:H2'	22:BA:1838:G:O4'	1.92	0.68
15:AO:44:LYS:HD2	26:BE:7:LYS:HZ2	1.58	0.68
22:BA:750:A:H5'	22:BA:1794:A:N6	2.08	0.68
22:BA:854:A:H61	22:BA:963:U:H3	1.38	0.68
26:BE:140:ILE:HG23	26:BE:149:GLN:HG3	1.74	0.68
1:AA:9:A:O2'	1:AA:10:G:H5'	1.93	0.68
1:AA:440:G:C2'	1:AA:441:G:H5''	2.24	0.68
1:AA:806:U:C2'	1:AA:807:G:H5''	2.23	0.68
22:BA:715:G:H1'	22:BA:738:A:N6	2.08	0.68
33:BL:124:LEU:HD13	33:BL:125:GLY:N	2.09	0.68
35:BN:209:GLU:HB3	35:BN:218:LEU:HD22	1.74	0.68
46:BY:79:PRO:HD2	46:BY:106:LEU:HB3	1.74	0.68
49:B2:36:LYS:H	49:B2:36:LYS:CE	2.04	0.68
22:BA:1340:G:H1	22:BA:1354:C:H42	1.41	0.68
28:BG:75:ALA:H	28:BG:76:PRO:CD	2.07	0.68
34:BM:76:ILE:HD13	34:BM:77:ILE:N	2.08	0.68
52:B5:150:LEU:HB2	52:B5:151:PRO:HD3	1.76	0.68
1:AA:443:A:H5'	1:AA:444:A:OP1	1.94	0.68
1:AA:699:U:H2'	1:AA:700:G:O4'	1.92	0.68
1:AA:807:G:O6	1:AA:818:G:H3'	1.94	0.68
1:AA:1334:G:H2'	1:AA:1335:G:C8	2.29	0.68
22:BA:1766:G:H1'	22:BA:1768:G:N2	2.09	0.68
33:BL:155:VAL:HG11	33:BL:158:ALA:HB2	1.74	0.68
22:BA:130:U:C2'	22:BA:131:C:H5'	2.23	0.68
22:BA:407:C:H5'	46:BY:76:ARG:N	2.08	0.68
22:BA:83:A:C2	22:BA:84:G:H1'	2.29	0.68
30:BI:130:LEU:HB2	30:BI:174:ILE:HB	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:712:C:C4'	15:AO:51:ARG:HH22	2.06	0.68
1:AA:1148:C:H5'	1:AA:1149:A:C5'	2.24	0.68
26:BE:133:LEU:HA	26:BE:162:ALA:HA	1.76	0.68
41:BT:123:ILE:HD11	41:BT:164:VAL:HG13	1.76	0.68
1:AA:382:C:C4	1:AA:384:G:H1'	2.29	0.68
1:AA:923:A:O2'	1:AA:925:G:H5''	1.93	0.68
1:AA:1187:A:H1'	1:AA:1189:G:C4	2.29	0.68
19:AS:45:ILE:HG13	48:B1:95:ASN:OD1	1.92	0.68
26:BE:121:LYS:HG3	26:BE:122:MET:H	1.58	0.68
38:BQ:77:LEU:HD11	38:BQ:150:LEU:HD11	1.76	0.68
28:BG:254:TYR:HA	28:BG:257:GLN:HE21	1.58	0.68
33:BL:183:LEU:O	33:BL:183:LEU:HD23	1.94	0.68
36:BO:2:LEU:HG	36:BO:70:PRO:HB3	1.75	0.68
37:BP:99:LEU:HD21	37:BP:129:ARG:NH2	2.08	0.68
50:B3:25:LYS:HD3	50:B3:26:GLY:N	2.09	0.68
1:AA:862:A:H4'	1:AA:863:A:C4'	2.23	0.67
2:AB:30:ARG:HH21	8:AH:20:ARG:NH1	1.90	0.67
25:BD:141:LEU:HD21	25:BD:296:GLU:HB3	1.76	0.67
32:BK:147:SER:HA	32:BK:206:MET:HE1	1.76	0.67
41:BT:143:TYR:HB2	41:BT:216:ILE:HB	1.76	0.67
44:BW:94:LYS:HG2	44:BW:95:HIS:H	1.58	0.67
49:B2:42:ASN:ND2	49:B2:43:SER:H	1.91	0.67
1:AA:1270:C:H4'	1:AA:1271:G:C5'	2.23	0.67
22:BA:1833:G:H5''	26:BE:48:ARG:HH21	1.58	0.67
22:BA:2631:A:C8	49:B2:1:MET:HB3	2.30	0.67
42:BU:35:ARG:HG3	42:BU:132:ILE:HG23	1.76	0.67
1:AA:250:A:H5'	1:AA:252:G:C5'	2.25	0.67
22:BA:580:G:H2'	22:BA:2044:A:N7	2.09	0.67
22:BA:625:C:H41	28:BG:216:VAL:HG11	1.58	0.67
6:AF:118:LYS:HZ1	26:BE:162:ALA:N	1.93	0.67
22:BA:2442:A:H4'	22:BA:2443:A:O5'	1.93	0.67
34:BM:78:ARG:HG2	39:BR:196:PHE:HB3	1.76	0.67
46:BY:80:PHE:N	46:BY:89:ASN:HD22	1.90	0.67
1:AA:1381:G:H5'	39:BR:231:THR:CB	2.23	0.67
25:BD:310:VAL:HA	25:BD:313:ASN:HD22	1.60	0.67
39:BR:172:ARG:NH1	39:BR:172:ARG:HB3	2.09	0.67
41:BT:152:VAL:HG23	41:BT:188:GLU:HA	1.76	0.67
1:AA:1424:G:P	22:BA:1736:A:N6	2.67	0.67
22:BA:345:C:H5''	44:BW:69:VAL:HG11	1.75	0.67
22:BA:511:G:N2	22:BA:513:A:H3'	2.10	0.67
22:BA:695:G:H2'	22:BA:696:A:H5''	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BE:85:ALA:HB3	26:BE:152:ARG:HH21	1.60	0.67
27:BF:105:LYS:H	27:BF:105:LYS:CD	2.01	0.67
31:BJ:152:ILE:HG13	31:BJ:160:ILE:HD12	1.75	0.67
1:AA:375:G:H4'	1:AA:410:U:N3	2.09	0.67
1:AA:756:A:O4'	26:BE:5:LEU:C	2.33	0.67
22:BA:1231:G:H5'	22:BA:1233:G:O4'	1.95	0.67
22:BA:1284:U:H5''	49:B2:13:LYS:HD3	1.75	0.67
28:BG:236:LEU:O	28:BG:236:LEU:HD13	1.95	0.67
45:BX:71:ARG:HB2	45:BX:71:ARG:HH11	1.58	0.67
1:AA:921:C:H1'	10:AJ:152:VAL:HG13	1.76	0.67
22:BA:795:U:H5''	26:BE:222:ASN:HD21	1.58	0.67
22:BA:1857:A:N3	22:BA:1857:A:H2'	2.09	0.67
22:BA:2655:G:H21	22:BA:2796:A:H62	1.43	0.67
28:BG:209:LEU:HD23	28:BG:210:MET:N	2.10	0.67
35:BN:129:LEU:HD12	52:B5:118:GLN:HG2	1.76	0.67
44:BW:157:LYS:HB2	44:BW:162:ILE:HA	1.77	0.67
47:BZ:73:LYS:HA	47:BZ:73:LYS:HZ3	1.59	0.67
22:BA:1443:G:H22	22:BA:1611:G:H1'	1.60	0.67
22:BA:1734:A:O4'	22:BA:1736:A:H5''	1.95	0.67
28:BG:58:LEU:HD12	28:BG:176:GLU:HB2	1.77	0.67
38:BQ:65:ARG:H	38:BQ:65:ARG:NE	1.92	0.67
40:BS:15:LYS:HA	40:BS:18:ARG:HE	1.58	0.67
1:AA:1244:C:H4'	1:AA:1250:U:C4	2.29	0.67
22:BA:839:G:H22	22:BA:2264:U:H4'	1.58	0.67
22:BA:2335:C:H5'	38:BQ:43:THR:HG21	1.76	0.67
22:BA:2805:C:H4'	27:BF:108:MET:SD	2.35	0.67
29:BH:117:ARG:HB3	29:BH:121:LEU:HD11	1.75	0.67
1:AA:1130:G:H4'	1:AA:1131:U:H5''	1.75	0.66
39:BR:183:ILE:HG23	39:BR:184:ARG:N	2.06	0.66
46:BY:110:ARG:HD3	46:BY:121:LYS:HD2	1.77	0.66
1:AA:1034:U:H5''	1:AA:1035:U:OP2	1.95	0.66
22:BA:212:A:H61	22:BA:422:G:H21	1.43	0.66
22:BA:1353:A:H62	22:BA:1645:A:N6	1.92	0.66
38:BQ:147:VAL:HG12	38:BQ:150:LEU:HD12	1.77	0.66
39:BR:192:VAL:HG13	39:BR:193:GLU:N	2.08	0.66
44:BW:100:ILE:C	44:BW:101:ILE:HD13	2.16	0.66
22:BA:1403:A:H2'	22:BA:1403:A:N3	2.11	0.66
27:BF:150:LEU:HD22	27:BF:217:LYS:HE3	1.77	0.66
53:B6:2:LYS:HG2	53:B6:4:ARG:HG3	1.77	0.66
1:AA:712:C:H3'	1:AA:713:G:N2	2.11	0.66
22:BA:1158:U:H4'	22:BA:2532:C:H4'	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:150:LEU:HD13	32:BK:203:ALA:HB2	1.76	0.66
53:B6:7:VAL:HB	53:B6:38:GLY:HA3	1.77	0.66
1:AA:756:A:C1'	26:BE:5:LEU:CA	2.72	0.66
22:BA:575:C:N4	22:BA:585:A:H61	1.86	0.66
26:BE:75:VAL:HG12	26:BE:76:THR:HG23	1.77	0.66
34:BM:69:LEU:HD13	34:BM:70:LYS:N	2.11	0.66
35:BN:130:ARG:NH2	52:B5:112:ARG:HG3	2.09	0.66
35:BN:147:ASN:HD21	35:BN:172:VAL:N	1.93	0.66
50:B3:6:ASP:OD1	50:B3:7:VAL:HG23	1.95	0.66
22:BA:1256:G:H2'	22:BA:1257:G:C8	2.31	0.66
22:BA:1320:G:O6	22:BA:1675:C:H5''	1.96	0.66
22:BA:2077:C:H42	22:BA:2518:C:H1'	1.60	0.66
22:BA:2135:G:H1	22:BA:2191:C:H42	1.43	0.66
39:BR:228:ARG:HH21	39:BR:233:LYS:HE2	1.61	0.66
52:B5:98:SER:HA	52:B5:101:ARG:NH1	2.08	0.66
22:BA:310:A:H5''	44:BW:159:ARG:HE	1.60	0.66
22:BA:647:C:O2'	22:BA:651:U:H5''	1.95	0.66
22:BA:740:G:H1	26:BE:18:VAL:HG11	1.59	0.66
22:BA:2560:G:N2	22:BA:2663:C:H5''	2.11	0.66
45:BX:106:LYS:HG2	45:BX:107:ASN:H	1.60	0.66
1:AA:91:G:H2'	1:AA:92:G:H5''	1.77	0.66
1:AA:511:A:H1'	1:AA:514:G:O2'	1.95	0.66
1:AA:1174:C:O2'	1:AA:1175:A:H5'	1.96	0.66
22:BA:82:G:H21	22:BA:101:A:H62	1.43	0.66
22:BA:1451:G:H21	26:BE:23:ASN:HB2	1.61	0.66
22:BA:1816:C:H4'	26:BE:45:ILE:HG21	1.77	0.66
29:BH:26:LYS:O	29:BH:30:LEU:HD23	1.96	0.66
34:BM:107:ARG:HD3	39:BR:159:LYS:HG2	1.78	0.66
6:AF:118:LYS:HZ2	26:BE:162:ALA:CA	2.08	0.66
22:BA:491:A:O2'	22:BA:492:A:H5'	1.96	0.66
22:BA:522:U:H4'	22:BA:1256:G:O2'	1.95	0.66
22:BA:1286:A:H4'	22:BA:1287:G:C4'	2.23	0.66
22:BA:1814:G:H5'	26:BE:253:ARG:NH1	2.10	0.66
22:BA:2119:U:H3	22:BA:2198:A:H61	1.43	0.66
22:BA:2570:G:H3'	22:BA:2571:U:H5''	1.78	0.66
25:BD:287:ILE:HD11	25:BD:306:THR:HG23	1.76	0.66
28:BG:146:ARG:CZ	28:BG:146:ARG:HA	2.26	0.66
1:AA:958:U:H3	1:AA:969:A:H61	1.44	0.66
1:AA:1006:G:H5''	3:AC:165:ALA:HB3	1.78	0.66
1:AA:1085:G:O2'	1:AA:1086:A:H5''	1.95	0.66
22:BA:1456:G:N2	22:BA:1592:A:H61	1.94	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BV:165:LEU:O	43:BV:172:LYS:HG3	1.95	0.66
44:BW:104:LEU:HD13	44:BW:106:PHE:H	1.59	0.66
50:B3:48:LEU:HD12	50:B3:48:LEU:O	1.96	0.66
35:BN:80:ARG:O	35:BN:80:ARG:HD2	1.96	0.65
45:BX:78:LEU:HB3	45:BX:90:PRO:HA	1.78	0.65
1:AA:361:C:H2'	1:AA:362:G:C8	2.31	0.65
19:AS:45:ILE:CD1	48:B1:95:ASN:OD1	2.44	0.65
22:BA:298:G:H1	22:BA:361:C:H42	1.43	0.65
22:BA:1585:C:H2'	22:BA:1586:G:H5''	1.78	0.65
28:BG:176:GLU:HG3	28:BG:247:PHE:HB2	1.79	0.65
30:BI:120:VAL:HG23	30:BI:124:LYS:HD3	1.78	0.65
42:BU:66:GLU:HG3	42:BU:67:LEU:HD22	1.77	0.65
49:B2:42:ASN:HD22	49:B2:43:SER:H	1.41	0.65
1:AA:77:G:C2	1:AA:78:U:H1'	2.31	0.65
1:AA:109:U:H3	1:AA:207:G:H1	1.43	0.65
1:AA:1185:C:H3'	1:AA:1186:A:H5'	1.77	0.65
22:BA:1039:A:H4'	40:BS:77:ASN:HD21	1.61	0.65
22:BA:1726:A:H62	22:BA:1733:G:H21	1.44	0.65
22:BA:2344:A:N6	22:BA:2404:U:H3	1.95	0.65
25:BD:191:VAL:HG22	25:BD:229:ILE:HD11	1.78	0.65
36:BO:23:ARG:HH21	36:BO:96:VAL:HG23	1.60	0.65
39:BR:151:ILE:HG23	39:BR:153:LEU:HD21	1.78	0.65
40:BS:60:LEU:O	40:BS:64:ARG:HG2	1.96	0.65
1:AA:612:G:H22	1:AA:689:G:H1	1.44	0.65
1:AA:717:G:H4'	1:AA:1462:A:H4'	1.78	0.65
26:BE:196:VAL:HG23	26:BE:197:ASN:OD1	1.96	0.65
53:B6:1:MET:HG2	53:B6:34:LYS:HG2	1.79	0.65
1:AA:765:C:C1'	1:AA:767:A:H5'	2.25	0.65
1:AA:1105:A:H1'	1:AA:1129:G:C2	2.30	0.65
1:AA:1205:C:H5'	1:AA:1206:G:OP2	1.97	0.65
1:AA:1272:C:H5'	1:AA:1310:C:O2'	1.95	0.65
23:BB:44:G:H1'	23:BB:47:C:N4	2.11	0.65
25:BD:141:LEU:HD22	25:BD:300:LEU:HD21	1.79	0.65
26:BE:50:ARG:NH2	26:BE:217:ARG:HB2	2.12	0.65
36:BO:37:LEU:HD23	36:BO:128:ARG:HG3	1.78	0.65
44:BW:76:LYS:HG2	44:BW:86:ILE:HG22	1.79	0.65
22:BA:181:A:H2'	22:BA:181:A:N3	2.12	0.65
22:BA:1718:G:H1	22:BA:1742:U:H3	1.44	0.65
35:BN:120:MET:SD	35:BN:121:PRO:HD3	2.37	0.65
36:BO:89:SER:N	36:BO:90:PRO:CD	2.60	0.65
29:BH:33:GLU:HG3	29:BH:34:GLU:OE1	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BH:48:LYS:HD3	29:BH:107:ARG:HH22	1.60	0.65
30:BI:71:PRO:HG2	30:BI:72:LEU:HD12	1.79	0.65
30:BI:101:THR:HG23	30:BI:104:ALA:H	1.60	0.65
30:BI:201:LYS:NZ	30:BI:203:LYS:HE2	2.12	0.65
35:BN:129:LEU:HB3	52:B5:113:ARG:NE	2.12	0.65
1:AA:634:G:H1'	11:AK:53:TRP:HE1	1.61	0.65
1:AA:650:A:N1	22:BA:1857:A:O4'	2.23	0.65
1:AA:660:A:H5''	26:BE:161:ILE:HA	0.68	0.65
36:BO:75:THR:HB	36:BO:86:GLY:HA3	1.79	0.65
9:AI:75:THR:HG23	9:AI:76:GLY:H	1.62	0.65
22:BA:593:G:H1	22:BA:1278:U:H3	1.45	0.65
22:BA:1087:G:H21	32:BK:198:ILE:HG23	1.62	0.65
22:BA:1966:A:H5'	34:BM:42:VAL:HG21	1.77	0.65
22:BA:2410:U:H5''	35:BN:127:PRO:HA	1.79	0.65
1:AA:1030:G:H5''	5:AE:173:ARG:NH2	2.11	0.64
22:BA:1269:G:H4'	40:BS:1:MET:HE3	1.79	0.64
22:BA:2045:A:H61	22:BA:2515:C:H1'	1.63	0.64
24:BC:25:U:H4'	24:BC:27:A:H5'	1.79	0.64
28:BG:113:ARG:HA	28:BG:113:ARG:HH11	1.62	0.64
38:BQ:45:ARG:HB2	38:BQ:45:ARG:NH1	2.11	0.64
43:BV:159:VAL:HB	43:BV:176:ILE:HD11	1.77	0.64
22:BA:318:A:H4'	44:BW:80:GLY:HA3	1.79	0.64
22:BA:621:G:H1	22:BA:629:C:H42	1.44	0.64
22:BA:1033:C:H42	22:BA:1165:G:H1	1.45	0.64
22:BA:2106:U:H5'	22:BA:2242:A:N1	2.12	0.64
22:BA:2536:A:H5'	22:BA:2584:G:N2	2.11	0.64
36:BO:68:ILE:HA	36:BO:101:ARG:NH2	2.12	0.64
40:BS:54:LYS:HE3	40:BS:58:ARG:HH21	1.63	0.64
1:AA:209:G:H2'	1:AA:210:U:H5''	1.80	0.64
1:AA:1381:G:H5'	39:BR:231:THR:HG1	1.60	0.64
22:BA:83:A:H2	22:BA:84:G:H1'	1.61	0.64
22:BA:639:A:H61	35:BN:187:LEU:HD23	1.61	0.64
22:BA:1456:G:H1	22:BA:1592:A:N6	1.94	0.64
22:BA:2570:G:H1'	22:BA:2599:G:H21	1.61	0.64
22:BA:2708:C:H42	22:BA:2736:G:H1	1.45	0.64
25:BD:228:LEU:HD23	25:BD:250:LEU:HB3	1.78	0.64
26:BE:226:HIS:ND1	26:BE:227:PRO:HD2	2.13	0.64
26:BE:248:TYR:N	26:BE:249:PRO:HD2	2.12	0.64
30:BI:114:LEU:HA	30:BI:117:ASN:ND2	2.12	0.64
36:BO:23:ARG:HD3	36:BO:98:LYS:HD2	1.80	0.64
47:BZ:124:ARG:HH11	47:BZ:124:ARG:HA	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:432:G:O4'	1:AA:434:U:H5'	1.97	0.64
15:AO:53:LEU:HD11	22:BA:726:G:H21	1.61	0.64
19:AS:61:TYR:OH	48:B1:91:PHE:HE1	1.81	0.64
22:BA:698:C:N4	22:BA:798:C:H4'	2.11	0.64
22:BA:1296:A:H2'	22:BA:1297:C:O4'	1.97	0.64
22:BA:1383:C:H4'	22:BA:2232:G:H4'	1.79	0.64
22:BA:1675:C:C2'	22:BA:1676:U:H5''	2.26	0.64
35:BN:173:ILE:HG21	35:BN:180:ARG:HE	1.63	0.64
39:BR:144:ARG:HD3	39:BR:145:THR:N	2.12	0.64
44:BW:129:ILE:HD13	44:BW:130:HIS:H	1.61	0.64
45:BX:127:GLU:HG3	45:BX:128:LYS:H	1.62	0.64
1:AA:763:A:H4'	1:AA:765:C:C4	2.32	0.64
22:BA:840:A:H5'	22:BA:842:G:N7	2.11	0.64
22:BA:427:A:O4'	22:BA:1875:G:H4'	1.98	0.64
22:BA:1331:G:C2'	22:BA:1332:G:H5'	2.27	0.64
22:BA:1599:C:H1'	26:BE:24:PRO:HG3	1.80	0.64
22:BA:2365:U:H5''	50:B3:33:TYR:HE2	1.63	0.64
22:BA:2536:A:N6	22:BA:2558:A:H2'	2.12	0.64
40:BS:15:LYS:HD3	40:BS:16:LYS:H	1.63	0.64
1:AA:667:C:H42	18:AR:70:ARG:HH22	1.45	0.64
22:BA:1335:C:N4	22:BA:1359:G:H1	1.96	0.64
22:BA:2292:C:H2'	36:BO:83:MET:HE2	1.80	0.64
22:BA:2364:C:H4'	50:B3:51:PHE:HE1	1.62	0.64
22:BA:2377:C:H5''	52:B5:112:ARG:HH21	1.61	0.64
24:BC:49:G:O2'	24:BC:50:G:H5'	1.97	0.64
33:BL:188:PHE:HA	33:BL:191:LEU:HD13	1.80	0.64
33:BL:194:ARG:O	33:BL:194:ARG:HD3	1.97	0.64
34:BM:86:ILE:H	34:BM:86:ILE:HD12	1.61	0.64
42:BU:66:GLU:HG3	42:BU:67:LEU:CD2	2.28	0.64
1:AA:92:G:H5'	1:AA:93:A:C2	2.33	0.64
1:AA:394:G:H3'	1:AA:394:G:N3	2.12	0.64
1:AA:1188:U:H2'	7:AG:32:LYS:NZ	2.13	0.64
1:AA:1424:G:P	22:BA:1736:A:H61	2.20	0.64
1:AA:1432:A:H2	22:BA:1973:G:C2'	2.08	0.64
22:BA:180:A:H61	22:BA:183:C:H3'	1.61	0.64
22:BA:709:C:H5''	22:BA:1670:A:H61	1.63	0.64
22:BA:1916:C:H5''	26:BE:237:ILE:HG13	1.80	0.64
22:BA:2738:U:H3	24:BC:74:A:N6	1.89	0.64
22:BA:2783:A:H2'	22:BA:2783:A:N3	2.12	0.64
38:BQ:68:LEU:HG	38:BQ:70:VAL:HG13	1.79	0.64
1:AA:917:A:H5''	1:AA:918:A:OP2	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1087:G:H5'	1:AA:1088:U:OP1	1.98	0.64
1:AA:1130:G:H4'	1:AA:1131:U:C5'	2.28	0.64
22:BA:714:U:H2'	22:BA:715:G:O4'	1.97	0.64
22:BA:2706:U:H5''	22:BA:2707:A:OP2	1.97	0.64
22:BA:2768:A:H1'	30:BI:43:GLU:CD	2.18	0.64
35:BN:95:SER:HA	35:BN:101:ARG:HH21	1.63	0.64
50:B3:52:CYS:HA	50:B3:58:HIS:H	1.61	0.64
22:BA:577:G:H22	22:BA:2044:A:N6	1.86	0.64
22:BA:1381:G:H22	22:BA:2231:C:H42	1.46	0.64
26:BE:178:ARG:HA	26:BE:263:ASP:HA	1.78	0.64
27:BF:105:LYS:N	27:BF:106:PRO:HD2	2.13	0.64
27:BF:189:ILE:HD12	27:BF:189:ILE:N	2.13	0.64
29:BH:51:VAL:HG12	29:BH:169:VAL:HG13	1.79	0.64
31:BJ:129:VAL:HB	31:BJ:151:ILE:HD13	1.79	0.64
42:BU:51:ASP:HA	42:BU:54:ARG:NH1	2.10	0.64
43:BV:119:ILE:HD12	43:BV:135:LEU:HG	1.80	0.64
1:AA:721:G:O2'	26:BE:194:VAL:CG2	2.45	0.63
22:BA:95:G:H2'	22:BA:96:C:C6	2.33	0.63
22:BA:747:C:H42	22:BA:771:G:H1	1.46	0.63
22:BA:829:G:N2	22:BA:1210:A:H62	1.95	0.63
22:BA:1436:U:H2'	22:BA:1437:G:H4'	1.80	0.63
22:BA:1840:C:H42	22:BA:1989:G:H1	1.47	0.63
22:BA:2595:G:H1'	27:BF:188:SER:HB3	1.79	0.63
25:BD:142:SER:HA	25:BD:145:LYS:HE2	1.78	0.63
30:BI:113:THR:HA	30:BI:116:ASP:OD2	1.98	0.63
35:BN:119:GLN:HB3	35:BN:121:PRO:HD2	1.79	0.63
43:BV:167:ARG:HH21	43:BV:173:LYS:HZ1	1.46	0.63
53:B6:16:THR:HG22	53:B6:25:VAL:HG22	1.81	0.63
1:AA:176:C:H2'	1:AA:177:A:C8	2.32	0.63
17:AQ:122:ILE:HD13	17:AQ:122:ILE:H	1.61	0.63
22:BA:1197:A:H2'	22:BA:1198:A:O4'	1.98	0.63
22:BA:1362:G:H3'	22:BA:1418:U:O2	1.98	0.63
22:BA:2140:A:OP2	25:BD:248:ARG:HA	1.98	0.63
1:AA:180:A:H4'	1:AA:181:G:O5'	1.97	0.63
1:AA:222:G:H1	1:AA:242:C:H41	1.46	0.63
1:AA:923:A:C4'	1:AA:924:A:H5'	2.28	0.63
1:AA:1451:A:H62	1:AA:1454:G:H1	1.46	0.63
22:BA:715:G:H2'	22:BA:737:G:N2	2.14	0.63
22:BA:1600:A:H62	26:BE:23:ASN:HA	1.63	0.63
31:BJ:176:TYR:HB2	31:BJ:192:ILE:HB	1.79	0.63
33:BL:214:GLY:HA2	33:BL:217:LEU:HD13	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BX:93:ILE:H	45:BX:125:LYS:HD2	1.61	0.63
45:BX:102:PHE:HE2	45:BX:133:ARG:H	1.45	0.63
51:B4:104:SER:HA	51:B4:105:ARG:NH2	2.10	0.63
1:AA:420:A:H2'	1:AA:421:G:C8	2.33	0.63
1:AA:862:A:H5''	1:AA:863:A:OP1	1.97	0.63
1:AA:981:G:C2'	1:AA:982:G:H5'	2.29	0.63
22:BA:83:A:N6	22:BA:98:G:H5''	2.13	0.63
30:BI:166:VAL:HG13	30:BI:176:VAL:HG22	1.80	0.63
35:BN:130:ARG:HD3	52:B5:113:ARG:H	1.63	0.63
41:BT:123:ILE:HG13	41:BT:165:GLY:H	1.63	0.63
1:AA:361:C:H2'	1:AA:362:G:H8	1.63	0.63
22:BA:1602:G:N3	26:BE:55:LYS:HE3	2.13	0.63
22:BA:1916:C:H4'	26:BE:237:ILE:O	1.99	0.63
29:BH:48:LYS:HB3	29:BH:107:ARG:NH1	2.14	0.63
39:BR:185:ARG:NH2	39:BR:223:ARG:HH22	1.96	0.63
40:BS:46:ALA:HA	40:BS:49:ASP:OD2	1.98	0.63
45:BX:89:LYS:HE2	45:BX:123:LEU:HD23	1.79	0.63
1:AA:649:U:H4'	1:AA:651:G:O4'	1.99	0.63
22:BA:216:C:H2'	22:BA:217:G:O4'	1.98	0.63
22:BA:1182:A:H5''	40:BS:55:ARG:HE	1.63	0.63
36:BO:16:ARG:NH1	36:BO:18:LYS:HG2	2.14	0.63
38:BQ:138:ARG:HH11	38:BQ:147:VAL:HG23	1.64	0.63
13:AM:48:ARG:HH22	29:BH:160:ILE:HB	1.60	0.63
22:BA:174:G:N2	22:BA:192:A:H62	1.92	0.63
22:BA:1913:G:H21	22:BA:1916:C:N4	1.97	0.63
32:BK:194:SER:O	32:BK:198:ILE:HG13	1.98	0.63
1:AA:1030:G:H5''	5:AE:173:ARG:HH21	1.64	0.63
6:AF:104:ARG:HH22	18:AR:33:MET:HB2	1.63	0.63
22:BA:729:A:H2'	22:BA:730:C:H5'	1.81	0.63
22:BA:2519:G:H5'	22:BA:2520:A:H5''	1.81	0.63
38:BQ:111:THR:HG22	38:BQ:113:GLU:H	1.62	0.63
1:AA:788:U:H3'	1:AA:789:A:H5''	1.81	0.63
1:AA:1133:A:H2'	1:AA:1134:G:O4'	1.99	0.63
22:BA:1271:G:H4'	40:BS:6:ARG:HG2	1.81	0.63
22:BA:1375:A:H5'	26:BE:37:LYS:HZ2	1.64	0.63
22:BA:2070:A:N6	22:BA:2594:A:H1'	2.14	0.63
26:BE:242:PRO:HB2	26:BE:246:TRP:HB3	1.81	0.63
39:BR:122:ILE:HD13	39:BR:123:MET:N	2.14	0.63
40:BS:94:ARG:HB3	40:BS:94:ARG:NH1	2.14	0.63
40:BS:108:ILE:HG13	40:BS:111:ILE:HD11	1.79	0.63
1:AA:1149:A:O2'	1:AA:1150:U:H5'	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2076:A:N3	22:BA:2076:A:H2'	2.14	0.62
22:BA:2412:C:H42	22:BA:2438:G:H1	1.47	0.62
26:BE:87:ILE:HG12	26:BE:99:TYR:HB3	1.80	0.62
26:BE:176:GLU:HG3	26:BE:266:ILE:HA	1.80	0.62
34:BM:17:ARG:HA	34:BM:17:ARG:HE	1.61	0.62
1:AA:755:U:O2	26:BE:5:LEU:CD1	2.44	0.62
22:BA:1820:A:H2'	22:BA:1821:G:O4'	1.99	0.62
22:BA:2135:G:H4'	25:BD:278:ARG:HH22	1.64	0.62
22:BA:2139:A:H5''	22:BA:2140:A:H5'	1.81	0.62
31:BJ:70:VAL:HG22	31:BJ:71:LYS:H	1.64	0.62
32:BK:125:ILE:HD11	32:BK:141:LEU:HB2	1.82	0.62
33:BL:179:ARG:HB3	33:BL:180:PRO:HD2	1.80	0.62
1:AA:648:G:C2'	1:AA:649:U:H5''	2.30	0.62
1:AA:768:U:H5''	1:AA:769:G:OP2	1.99	0.62
22:BA:596:A:H1'	22:BA:683:C:H1'	1.81	0.62
22:BA:642:G:H5''	52:B5:134:LYS:NZ	2.14	0.62
22:BA:2185:A:H2'	22:BA:2186:U:H5'	1.81	0.62
28:BG:239:VAL:HG13	28:BG:240:LEU:HD13	1.81	0.62
1:AA:605:U:H2'	1:AA:606:A:C8	2.33	0.62
1:AA:825:A:H4'	8:AH:14:ARG:HH22	1.63	0.62
1:AA:931:U:H1'	1:AA:932:A:N7	2.14	0.62
22:BA:116:A:N3	22:BA:162:A:H1'	2.14	0.62
22:BA:829:G:H21	22:BA:1210:A:N6	1.96	0.62
22:BA:1702:G:H22	22:BA:2008:C:N4	1.97	0.62
22:BA:2134:G:H1'	25:BD:281:LYS:HD2	1.81	0.62
22:BA:2798:G:H5'	33:BL:219:ASN:ND2	2.14	0.62
29:BH:81:VAL:HG12	29:BH:82:LYS:H	1.63	0.62
30:BI:53:VAL:HA	30:BI:54:PRO:O	1.99	0.62
44:BW:107:LYS:HD3	44:BW:107:LYS:H	1.63	0.62
1:AA:765:C:H5'	1:AA:766:G:OP1	1.99	0.62
1:AA:1064:U:H3	1:AA:1133:A:H61	1.47	0.62
12:AL:4:ILE:HD13	12:AL:4:ILE:H	1.65	0.62
22:BA:811:A:H5''	22:BA:812:G:OP1	1.98	0.62
22:BA:865:A:H2'	45:BX:81:LYS:NZ	2.14	0.62
22:BA:1599:C:O2'	26:BE:24:PRO:HG3	1.99	0.62
22:BA:1787:U:H3	22:BA:1797:A:N6	1.97	0.62
25:BD:189:ILE:HD13	25:BD:190:ALA:N	2.14	0.62
32:BK:98:ALA:O	32:BK:99:LEU:HD22	1.98	0.62
40:BS:13:ARG:HA	40:BS:16:LYS:HE2	1.81	0.62
40:BS:94:ARG:HG3	40:BS:96:ILE:H	1.64	0.62
1:AA:756:A:C1'	26:BE:5:LEU:O	2.46	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:556:C:H2'	22:BA:557:C:H5'	1.82	0.62
22:BA:968:C:H2'	22:BA:969:A:H5''	1.81	0.62
22:BA:1231:G:H5''	22:BA:1232:A:O5'	1.99	0.62
22:BA:1957:U:H4'	22:BA:1959:G:H5'	1.80	0.62
22:BA:2157:U:H3'	22:BA:2158:U:H5''	1.81	0.62
34:BM:97:ARG:HA	34:BM:116:LEU:HD11	1.82	0.62
45:BX:68:LYS:HG3	45:BX:69:ASN:N	2.14	0.62
1:AA:755:U:H3	26:BE:5:LEU:CG	2.02	0.62
2:AB:196:ASN:HD22	2:AB:196:ASN:N	1.95	0.62
22:BA:1224:U:H4'	35:BN:78:ARG:HH21	1.64	0.62
22:BA:1703:G:N2	22:BA:2006:G:H5'	2.15	0.62
30:BI:201:LYS:NZ	30:BI:201:LYS:HB2	2.14	0.62
36:BO:33:ALA:HB3	36:BO:132:ILE:HD11	1.82	0.62
37:BP:103:PRO:HA	37:BP:106:ARG:HE	1.65	0.62
38:BQ:63:PRO:HB3	45:BX:134:LYS:HG3	1.81	0.62
1:AA:894:G:H21	1:AA:1282:G:H4'	1.64	0.62
1:AA:1077:C:H2'	1:AA:1078:C:O4'	1.99	0.62
22:BA:240:A:H2'	22:BA:241:A:O4'	2.00	0.62
22:BA:395:C:H5''	22:BA:397:C:OP2	2.00	0.62
22:BA:762:G:H1'	42:BU:119:ARG:HE	1.64	0.62
25:BD:181:LYS:HG2	25:BD:301:ILE:HD11	1.82	0.62
29:BH:75:ILE:HG13	29:BH:76:THR:HG23	1.82	0.62
35:BN:92:GLN:HA	35:BN:101:ARG:HH22	1.65	0.62
35:BN:126:LEU:HB2	52:B5:112:ARG:HD2	1.80	0.62
39:BR:151:ILE:HG13	39:BR:153:LEU:HD22	1.81	0.62
42:BU:39:ILE:HG22	42:BU:41:MET:H	1.65	0.62
46:BY:78:CYS:H	46:BY:86:ASN:ND2	1.98	0.62
1:AA:1361:U:H2'	1:AA:1362:A:C8	2.35	0.62
10:AJ:157:ARG:H	10:AJ:157:ARG:HD2	1.64	0.62
22:BA:70:A:N6	22:BA:112:C:H1'	2.14	0.62
22:BA:1218:G:H1'	22:BA:1271:G:H22	1.64	0.62
22:BA:2707:A:H5'	22:BA:2708:C:OP2	2.00	0.62
40:BS:43:LEU:HG	41:BT:200:TYR:HB2	1.82	0.62
16:AP:5:ARG:H	16:AP:20:VAL:HG21	1.65	0.62
22:BA:1182:A:H5''	40:BS:55:ARG:HH21	1.64	0.62
22:BA:1702:G:H2'	22:BA:1703:G:O4'	2.00	0.62
24:BC:34:C:H4'	24:BC:35:G:C8	2.35	0.62
27:BF:229:ILE:HB	39:BR:121:ASP:HB2	1.82	0.62
34:BM:13:ASN:ND2	34:BM:97:ARG:HG2	2.15	0.62
52:B5:114:ARG:NH1	52:B5:135:LEU:HD22	2.15	0.62
1:AA:1197:C:H2'	1:AA:1198:A:H5'	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:319:G:O2'	22:BA:320:U:H5''	1.98	0.61
22:BA:456:C:H2'	22:BA:457:C:C6	2.35	0.61
22:BA:2182:G:H21	22:BA:2183:A:H62	1.48	0.61
30:BI:213:ARG:HH12	53:B6:29:SER:HA	1.65	0.61
47:BZ:85:LEU:HD12	47:BZ:117:MET:SD	2.39	0.61
1:AA:209:G:C2'	1:AA:210:U:H5''	2.31	0.61
1:AA:883:C:H5'	1:AA:884:A:OP1	2.00	0.61
1:AA:1202:G:H5'	1:AA:1304:G:H4'	1.81	0.61
22:BA:1158:U:N3	22:BA:2039:C:H5''	2.15	0.61
28:BG:76:PRO:N	28:BG:77:PRO:HD2	2.14	0.61
31:BJ:90:PRO:HA	31:BJ:93:LEU:HD12	1.82	0.61
43:BV:142:ALA:O	43:BV:146:MET:HB2	2.00	0.61
1:AA:678:A:H2'	1:AA:679:G:H5'	1.81	0.61
1:AA:1318:C:H2'	1:AA:1319:G:C8	2.35	0.61
20:AT:118:VAL:HG21	20:AT:146:ALA:HB2	1.82	0.61
22:BA:200:G:H4'	22:BA:201:A:O5'	1.98	0.61
22:BA:2513:C:H2'	22:BA:2514:A:H5'	1.82	0.61
28:BG:216:VAL:HG13	28:BG:228:LEU:HD12	1.82	0.61
29:BH:69:ILE:HG23	29:BH:70:ASN:ND2	2.14	0.61
35:BN:168:LYS:HB2	35:BN:172:VAL:HB	1.82	0.61
36:BO:51:ARG:NH1	36:BO:51:ARG:HB3	2.14	0.61
39:BR:219:LEU:O	39:BR:220:TYR:HB3	2.01	0.61
49:B2:13:LYS:HB3	49:B2:13:LYS:NZ	2.15	0.61
1:AA:1014:U:H1'	1:AA:1015:C:H5	1.65	0.61
1:AA:1401:A:H4'	1:AA:1402:A:C2	2.35	0.61
22:BA:1137:C:H2'	22:BA:1138:G:O4'	2.01	0.61
22:BA:1943:G:O2'	22:BA:1944:G:H5''	2.00	0.61
22:BA:2076:A:H4'	22:BA:2459:C:OP2	1.99	0.61
26:BE:65:ARG:HH22	26:BE:187:THR:N	1.98	0.61
26:BE:137:ILE:HG13	26:BE:138:HIS:N	2.15	0.61
27:BF:101:ARG:N	27:BF:101:ARG:HD2	2.16	0.61
35:BN:205:THR:O	35:BN:209:GLU:HG2	2.01	0.61
46:BY:84:LYS:HD2	46:BY:122:LEU:HD12	1.81	0.61
1:AA:51:A:N6	1:AA:332:G:H4'	2.15	0.61
1:AA:281:G:H5''	16:AP:31:ARG:HB2	1.82	0.61
1:AA:557:A:C5'	16:AP:18:ARG:HH22	2.13	0.61
10:AJ:146:VAL:HG12	14:AN:84:ARG:HH21	1.65	0.61
22:BA:7:C:H42	24:BC:96:A:H61	1.47	0.61
22:BA:414:A:H2'	22:BA:415:U:H5'	1.82	0.61
22:BA:1218:G:H1'	22:BA:1271:G:N2	2.15	0.61
22:BA:1946:A:H62	22:BA:1982:G:N2	1.93	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2582:A:H2'	22:BA:2583:A:H4'	1.82	0.61
28:BG:80:ALA:HB3	28:BG:83:VAL:HG22	1.82	0.61
32:BK:184:LEU:N	32:BK:185:PRO:HD2	2.14	0.61
52:B5:128:ARG:CZ	52:B5:132:LEU:HD21	2.30	0.61
1:AA:380:G:H22	1:AA:404:C:H42	1.48	0.61
2:AB:30:ARG:HH21	8:AH:20:ARG:HH12	1.48	0.61
22:BA:407:C:H4'	46:BY:76:ARG:HB2	1.83	0.61
22:BA:1810:C:H1'	22:BA:1812:A:O4'	2.01	0.61
26:BE:213:ARG:HB3	26:BE:213:ARG:NH1	2.08	0.61
28:BG:218:LYS:HB2	28:BG:218:LYS:HZ2	1.65	0.61
36:BO:11:LYS:HB2	36:BO:11:LYS:NZ	2.16	0.61
38:BQ:104:LEU:HD13	38:BQ:105:ASP:N	2.16	0.61
40:BS:65:ILE:O	40:BS:69:ILE:HG12	2.00	0.61
1:AA:740:A:H4'	1:AA:741:U:H5''	1.82	0.61
22:BA:98:G:H5''	22:BA:99:A:OP2	1.99	0.61
22:BA:164:A:H62	51:B4:127:LEU:HG	1.65	0.61
29:BH:48:LYS:HD3	29:BH:107:ARG:NH2	2.16	0.61
38:BQ:146:ARG:HA	38:BQ:146:ARG:HE	1.66	0.61
22:BA:34:G:H1'	22:BA:466:A:H1'	1.81	0.61
22:BA:2299:G:O2'	22:BA:2300:U:OP2	2.15	0.61
28:BG:206:LEU:HA	28:BG:242:ALA:HB1	1.82	0.61
34:BM:13:ASN:HD22	34:BM:97:ARG:HG2	1.63	0.61
37:BP:164:ILE:HD12	37:BP:165:VAL:N	2.16	0.61
40:BS:114:GLU:HA	40:BS:117:LYS:HE2	1.82	0.61
1:AA:377:G:H4'	4:AD:5:ARG:NH2	2.14	0.61
1:AA:1433:C:H4'	22:BA:1974:A:O2'	2.01	0.61
22:BA:1362:G:H4'	43:BV:163:ASN:OD1	2.00	0.61
28:BG:218:LYS:HB2	28:BG:218:LYS:NZ	2.16	0.61
30:BI:45:ARG:HG2	30:BI:46:ILE:N	2.16	0.61
30:BI:46:ILE:HG22	30:BI:112:ARG:HH12	1.66	0.61
38:BQ:155:ARG:HH12	38:BQ:161:PHE:H	1.49	0.61
6:AF:118:LYS:HE3	26:BE:162:ALA:CA	2.31	0.61
22:BA:1231:G:H4'	22:BA:1232:A:OP2	2.01	0.61
27:BF:111:LEU:HD23	27:BF:111:LEU:O	2.00	0.61
35:BN:127:PRO:HB3	52:B5:118:GLN:HE21	1.64	0.61
44:BW:123:ILE:H	44:BW:123:ILE:CD1	2.13	0.61
1:AA:930:U:H2'	1:AA:931:U:C5	2.36	0.60
22:BA:1375:A:H5'	26:BE:37:LYS:NZ	2.15	0.60
22:BA:2229:U:C2'	22:BA:2230:A:H5'	2.31	0.60
24:BC:48:U:H2'	24:BC:49:G:O4'	2.00	0.60
33:BL:172:LEU:HD23	33:BL:174:ARG:HG3	1.81	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BO:133:ILE:HG23	36:BO:134:SER:N	2.12	0.60
42:BU:41:MET:HE2	42:BU:75:PRO:HD2	1.83	0.60
52:B5:95:HIS:HE1	52:B5:97:ALA:HB3	1.64	0.60
1:AA:543:A:H2'	1:AA:589:A:N1	2.17	0.60
15:AO:71:ASN:HD21	15:AO:74:ARG:HH21	1.48	0.60
22:BA:210:C:H2'	22:BA:211:A:O4'	2.01	0.60
22:BA:727:A:C2'	22:BA:728:A:H5''	2.31	0.60
22:BA:1187:G:H21	41:BT:131:SER:HB3	1.66	0.60
22:BA:2698:C:N4	22:BA:2742:C:H5''	2.14	0.60
29:BH:81:VAL:HG12	29:BH:82:LYS:N	2.17	0.60
34:BM:69:LEU:HB3	34:BM:77:ILE:HG23	1.82	0.60
35:BN:122:LEU:HD13	35:BN:123:TYR:CD2	2.36	0.60
35:BN:146:VAL:HG23	35:BN:147:ASN:N	2.17	0.60
45:BX:106:LYS:HG2	45:BX:107:ASN:N	2.15	0.60
48:B1:83:ASP:OD2	48:B1:84:VAL:HG22	2.01	0.60
1:AA:114:A:H1'	1:AA:235:U:C4'	2.31	0.60
1:AA:343:C:O2'	1:AA:344:A:OP2	2.15	0.60
1:AA:375:G:H1	1:AA:447:A:H62	1.50	0.60
1:AA:518:G:H5'	1:AA:768:U:O4'	2.02	0.60
1:AA:519:U:H4'	1:AA:767:A:N6	2.16	0.60
1:AA:884:A:H1'	1:AA:1333:C:O2	2.00	0.60
22:BA:1039:A:C5'	40:BS:77:ASN:HD21	2.15	0.60
25:BD:131:ILE:O	25:BD:131:ILE:HD13	2.01	0.60
25:BD:148:SER:HB3	25:BD:292:LEU:HG	1.83	0.60
31:BJ:143:VAL:HG13	31:BJ:147:ASP:HB2	1.83	0.60
38:BQ:138:ARG:HD2	38:BQ:147:VAL:HG21	1.82	0.60
39:BR:182:ARG:HH21	39:BR:197:PRO:HG3	1.66	0.60
40:BS:6:ARG:HE	40:BS:10:ALA:HB2	1.67	0.60
41:BT:208:ARG:HB2	41:BT:208:ARG:NH1	2.16	0.60
1:AA:1001:U:H2'	1:AA:1148:C:H41	1.66	0.60
22:BA:2514:A:H4'	22:BA:2515:C:C5	2.36	0.60
39:BR:225:LYS:HB2	39:BR:225:LYS:NZ	2.17	0.60
45:BX:61:LYS:O	45:BX:61:LYS:HD2	2.00	0.60
46:BY:132:ILE:HA	46:BY:137:LEU:HG	1.84	0.60
49:B2:48:VAL:HG22	49:B2:49:ARG:N	2.10	0.60
1:AA:264:G:N2	1:AA:276:G:H1'	2.16	0.60
1:AA:939:C:H2'	1:AA:940:U:O4'	2.01	0.60
1:AA:1329:U:H4'	1:AA:1330:U:C5	2.36	0.60
22:BA:605:C:H42	22:BA:673:G:H1	1.49	0.60
22:BA:857:G:H1'	22:BA:962:G:N2	2.16	0.60
22:BA:1199:A:H2'	22:BA:1200:A:H5'	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2089:U:H4'	22:BA:2613:U:O2	2.01	0.60
23:BB:72:G:N2	23:BB:105:A:H62	1.93	0.60
25:BD:137:LEU:HG	25:BD:300:LEU:HD22	1.82	0.60
31:BJ:70:VAL:HG22	31:BJ:71:LYS:N	2.16	0.60
32:BK:92:ALA:HB3	32:BK:93:PRO:HD3	1.82	0.60
34:BM:35:ILE:HD11	34:BM:106:LEU:HG	1.84	0.60
35:BN:216:CYS:SG	35:BN:236:LEU:HD11	2.40	0.60
40:BS:63:THR:HG22	40:BS:64:ARG:HH21	1.66	0.60
1:AA:48:C:H4'	1:AA:49:U:O5'	2.01	0.60
1:AA:156:A:H2'	1:AA:158:A:OP2	2.01	0.60
1:AA:862:A:H4'	1:AA:863:A:O5'	2.01	0.60
25:BD:189:ILE:HD11	25:BD:229:ILE:HG12	1.84	0.60
32:BK:93:PRO:HB2	32:BK:94:PRO:HD3	1.84	0.60
1:AA:605:U:H2'	1:AA:606:A:H8	1.67	0.60
1:AA:855:G:C2'	1:AA:856:A:H5''	2.32	0.60
22:BA:1116:A:H61	32:BK:205:ASN:HD22	1.49	0.60
22:BA:1450:G:H2'	22:BA:1450:G:N3	2.16	0.60
22:BA:1599:C:H4'	26:BE:22:SER:OG	2.02	0.60
45:BX:108:VAL:HG22	45:BX:109:GLY:N	2.10	0.60
45:BX:125:LYS:HB2	45:BX:128:LYS:O	2.02	0.60
22:BA:2229:U:H2'	22:BA:2230:A:H5'	1.83	0.60
22:BA:2284:A:H2'	22:BA:2284:A:N3	2.16	0.60
34:BM:2:ILE:HB	34:BM:33:ALA:HB3	1.82	0.60
35:BN:128:LYS:HG3	52:B5:101:ARG:HA	1.83	0.60
36:BO:72:LYS:HD3	36:BO:96:VAL:HG13	1.83	0.60
38:BQ:95:THR:HG22	38:BQ:118:VAL:HG21	1.84	0.60
42:BU:74:TYR:CD1	42:BU:75:PRO:HA	2.36	0.60
48:B1:59:GLU:HA	48:B1:62:LYS:HD3	1.84	0.60
53:B6:7:VAL:HG13	53:B6:8:LYS:N	2.09	0.60
1:AA:756:A:C1'	26:BE:5:LEU:C	2.70	0.60
1:AA:1296:U:H4'	9:AI:189:ARG:HG3	1.83	0.60
22:BA:2140:A:H62	25:BD:247:PRO:HA	1.67	0.60
22:BA:2533:G:H2'	22:BA:2534:C:C6	2.37	0.60
33:BL:195:ILE:N	33:BL:196:PRO:HD3	2.16	0.60
35:BN:192:LEU:HD13	35:BN:210:LYS:NZ	2.16	0.60
1:AA:755:U:N3	26:BE:5:LEU:CG	2.61	0.60
22:BA:95:G:OP1	47:BZ:103:LYS:HG2	2.01	0.60
22:BA:164:A:N7	51:B4:127:LEU:HB2	2.16	0.60
22:BA:1049:A:H3'	22:BA:1050:G:H5''	1.84	0.60
22:BA:1458:C:H2'	22:BA:1459:U:C6	2.36	0.60
24:BC:87:G:H3'	24:BC:87:G:N3	2.16	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BF:101:ARG:HD2	27:BF:101:ARG:H	1.67	0.60
28:BG:209:LEU:HD23	28:BG:211:ASP:H	1.67	0.60
31:BJ:106:GLU:HG3	31:BJ:110:VAL:HG21	1.84	0.60
33:BL:201:GLU:O	33:BL:205:ARG:HG3	2.02	0.60
37:BP:172:VAL:CG1	37:BP:173:PRO:HD3	2.32	0.60
22:BA:84:G:N2	22:BA:97:A:H1'	2.17	0.59
22:BA:176:A:H2'	22:BA:177:C:C6	2.37	0.59
22:BA:1334:U:H2'	22:BA:1335:C:H5'	1.84	0.59
26:BE:92:TYR:HD2	26:BE:96:GLU:HB3	1.66	0.59
29:BH:69:ILE:HD13	29:BH:69:ILE:O	2.02	0.59
30:BI:164:LEU:HD11	30:BI:183:GLU:HB3	1.83	0.59
37:BP:135:LYS:HB2	37:BP:139:LYS:HE3	1.84	0.59
42:BU:112:LYS:HB2	42:BU:112:LYS:NZ	2.17	0.59
47:BZ:86:LYS:HB2	47:BZ:86:LYS:NZ	2.17	0.59
49:B2:44:LYS:HG2	49:B2:45:SER:H	1.65	0.59
1:AA:93:A:H1'	1:AA:298:A:C1'	2.31	0.59
1:AA:1167:U:H2'	1:AA:1168:G:C8	2.38	0.59
22:BA:543:A:H3'	22:BA:543:A:N3	2.17	0.59
22:BA:1823:C:H2'	22:BA:1824:C:O4'	2.01	0.59
32:BK:167:LYS:NZ	32:BK:167:LYS:HB3	2.16	0.59
35:BN:147:ASN:ND2	35:BN:171:ARG:HB3	2.17	0.59
37:BP:152:ARG:HG2	37:BP:169:PHE:CZ	2.38	0.59
50:B3:50:LYS:HD2	50:B3:50:LYS:N	2.17	0.59
1:AA:13:U:H4'	1:AA:474:C:H4'	1.85	0.59
1:AA:685:U:H5'	6:AF:160:SER:O	2.02	0.59
1:AA:889:C:H2'	1:AA:890:G:C8	2.38	0.59
1:AA:943:A:H2'	14:AN:8:GLN:NE2	2.17	0.59
1:AA:1290:C:H2'	1:AA:1291:G:C8	2.38	0.59
6:AF:114:LYS:HE2	26:BE:163:LYS:HE3	1.81	0.59
22:BA:130:U:O2'	22:BA:131:C:H5'	2.02	0.59
22:BA:206:A:H5''	22:BA:207:A:O4'	2.03	0.59
22:BA:1349:G:H2'	22:BA:1351:C:C5	2.37	0.59
25:BD:284:ILE:HD13	25:BD:285:VAL:N	2.17	0.59
29:BH:157:LYS:HD3	29:BH:157:LYS:N	2.17	0.59
40:BS:54:LYS:O	40:BS:58:ARG:HG3	2.02	0.59
49:B2:19:ILE:HD12	49:B2:20:TRP:N	2.17	0.59
1:AA:347:G:H2'	1:AA:348:G:H8	1.67	0.59
22:BA:639:A:H4'	22:BA:640:G:OP1	2.02	0.59
22:BA:811:A:H4'	22:BA:813:C:OP2	2.01	0.59
22:BA:1456:G:H22	22:BA:1592:A:N6	2.00	0.59
22:BA:1786:G:N2	22:BA:1799:A:H1'	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2436:U:H1'	50:B3:30:VAL:HG23	1.84	0.59
22:BA:2794:A:H4'	22:BA:2795:G:H5''	1.83	0.59
24:BC:23:G:O2'	24:BC:24:U:H5'	2.03	0.59
25:BD:314:LYS:HB2	25:BD:314:LYS:NZ	2.18	0.59
26:BE:83:ARG:HA	26:BE:152:ARG:HH12	1.67	0.59
30:BI:214:ARG:NH1	30:BI:214:ARG:HB3	2.17	0.59
40:BS:88:ARG:CD	40:BS:89:GLN:HG2	2.31	0.59
1:AA:961:U:H3	1:AA:966:G:H1	1.49	0.59
22:BA:590:C:O3'	40:BS:31:LEU:HD21	2.02	0.59
22:BA:621:G:H1	22:BA:629:C:N4	2.01	0.59
22:BA:1693:U:OP1	27:BF:182:SER:HB3	2.02	0.59
22:BA:1809:G:H22	26:BE:150:LEU:HB3	1.66	0.59
22:BA:2214:C:N4	22:BA:2240:G:H1	1.94	0.59
22:BA:2442:A:H5''	22:BA:2443:A:C8	2.38	0.59
34:BM:23:ARG:HD2	34:BM:24:ILE:N	2.17	0.59
35:BN:124:ARG:HG3	52:B5:140:ARG:HH21	1.66	0.59
38:BQ:77:LEU:HD23	38:BQ:78:TYR:N	2.18	0.59
39:BR:154:GLU:HG3	39:BR:165:TYR:HB2	1.85	0.59
22:BA:233:G:O5'	22:BA:234:C:H5''	2.01	0.59
22:BA:2396:G:H4'	38:BQ:58:LYS:HG2	1.84	0.59
29:BH:41:LEU:O	29:BH:43:VAL:HG13	2.02	0.59
39:BR:147:ASP:OD2	39:BR:149:VAL:HG13	2.02	0.59
51:B4:136:LYS:HB2	51:B4:136:LYS:NZ	2.17	0.59
1:AA:514:G:H5''	1:AA:515:G:OP1	2.03	0.59
1:AA:1315:C:H2'	1:AA:1316:G:H8	1.68	0.59
22:BA:200:G:C4'	22:BA:201:A:H4'	2.33	0.59
22:BA:764:A:H2'	22:BA:765:U:C6	2.37	0.59
22:BA:793:A:H4'	22:BA:794:A:C8	2.38	0.59
22:BA:822:U:O4	35:BN:94:ALA:HB1	2.03	0.59
22:BA:1844:U:O2'	22:BA:1983:A:H2'	2.03	0.59
22:BA:2489:G:H2'	22:BA:2546:G:N2	2.17	0.59
24:BC:80:C:H4'	24:BC:81:C:C5	2.38	0.59
35:BN:186:ILE:HD13	35:BN:186:ILE:N	2.18	0.59
40:BS:96:ILE:HD12	40:BS:96:ILE:N	2.16	0.59
1:AA:93:A:H5'	1:AA:94:C:OP2	2.03	0.59
1:AA:271:A:H2'	1:AA:272:G:O4'	2.02	0.59
1:AA:660:A:P	26:BE:161:ILE:C	2.81	0.59
1:AA:1040:U:H3'	7:AG:4:ARG:NH2	2.17	0.59
22:BA:12:A:H61	22:BA:536:C:H2'	1.68	0.59
22:BA:1637:G:H2'	22:BA:1638:U:O4'	2.03	0.59
28:BG:224:ARG:HG3	28:BG:225:THR:H	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BI:48:LYS:HB2	30:BI:48:LYS:NZ	2.18	0.59
33:BL:123:ILE:HD11	33:BL:126:ARG:HE	1.67	0.59
33:BL:124:LEU:HD22	33:BL:125:GLY:H	1.68	0.59
37:BP:98:LYS:HA	37:BP:106:ARG:HH11	1.67	0.59
1:AA:66:G:H2'	1:AA:66:G:N3	2.18	0.59
22:BA:330:U:O2'	28:BG:218:LYS:HB3	2.02	0.59
22:BA:1571:G:C2'	22:BA:1572:G:H5'	2.33	0.59
22:BA:1571:G:H2'	22:BA:1572:G:H5'	1.84	0.59
37:BP:91:ARG:HB2	37:BP:94:ARG:HB2	1.84	0.59
44:BW:82:GLU:HB3	44:BW:103:ASP:HB3	1.84	0.59
44:BW:150:LYS:N	44:BW:150:LYS:HE3	2.18	0.59
1:AA:1107:U:O5'	1:AA:1108:G:OP1	2.20	0.59
22:BA:617:U:O4	22:BA:631:G:H2'	2.03	0.59
22:BA:2216:U:H2'	22:BA:2217:U:C6	2.37	0.59
26:BE:60:LYS:NZ	26:BE:87:ILE:HD13	2.18	0.59
34:BM:70:LYS:HD3	34:BM:70:LYS:N	2.15	0.59
43:BV:139:ASP:O	43:BV:172:LYS:HD3	2.02	0.59
44:BW:85:LYS:HB2	44:BW:85:LYS:NZ	2.17	0.59
1:AA:557:A:H5'	16:AP:18:ARG:HH22	1.68	0.58
1:AA:1016:A:H5''	1:AA:1017:G:OP1	2.03	0.58
1:AA:1199:A:O2'	1:AA:1319:G:H5'	2.02	0.58
1:AA:1427:U:H2'	1:AA:1428:A:C8	2.38	0.58
6:AF:118:LYS:HZ2	26:BE:162:ALA:N	2.01	0.58
22:BA:1830:U:H5''	22:BA:1831:G:OP2	2.03	0.58
22:BA:2059:U:H4'	49:B2:15:ILE:HG21	1.83	0.58
24:BC:88:A:N3	49:B2:29:LEU:HB3	2.19	0.58
26:BE:64:ARG:HD3	26:BE:146:ARG:H	1.68	0.58
46:BY:80:PHE:HB2	46:BY:88:ALA:HA	1.85	0.58
46:BY:131:THR:HA	46:BY:135:ASN:ND2	2.18	0.58
1:AA:14:U:O2'	1:AA:863:A:H5'	2.03	0.58
1:AA:420:A:H2'	1:AA:421:G:H8	1.66	0.58
1:AA:721:G:O3'	26:BE:194:VAL:CG2	2.51	0.58
22:BA:330:U:H1'	28:BG:218:LYS:HZ2	1.68	0.58
22:BA:458:G:H4'	22:BA:461:A:C4	2.38	0.58
22:BA:1168:U:H4'	22:BA:1169:A:C4	2.38	0.58
22:BA:2791:C:H5''	27:BF:212:LYS:HB2	1.85	0.58
26:BE:124:ASN:ND2	26:BE:125:ALA:H	2.00	0.58
26:BE:267:ILE:HG13	26:BE:269:ARG:H	1.68	0.58
38:BQ:47:ASP:OD2	38:BQ:49:THR:HG22	2.03	0.58
38:BQ:98:LYS:O	38:BQ:98:LYS:HD3	2.02	0.58
22:BA:26:G:N2	22:BA:523:G:H2'	2.17	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:225:U:H3'	22:BA:226:A:H5''	1.86	0.58
22:BA:1346:U:H1'	42:BU:115:LYS:NZ	2.18	0.58
22:BA:1800:C:OP2	26:BE:216:VAL:HB	2.03	0.58
22:BA:2774:U:H4'	22:BA:2775:A:C5'	2.33	0.58
29:BH:52:ASN:ND2	29:BH:103:ALA:HB2	2.15	0.58
52:B5:114:ARG:HA	52:B5:114:ARG:NE	2.19	0.58
1:AA:1113:U:H3	1:AA:1119:G:H1	1.51	0.58
1:AA:1118:A:H2'	1:AA:1119:G:O4'	2.02	0.58
1:AA:1148:C:H5'	1:AA:1149:A:H5''	1.84	0.58
22:BA:1243:C:OP1	41:BT:191:LEU:HD21	2.04	0.58
22:BA:1320:G:H22	22:BA:1676:U:H5'	1.69	0.58
29:BH:45:LYS:NZ	29:BH:45:LYS:HB3	2.18	0.58
30:BI:129:LYS:HB2	30:BI:208:SER:HB3	1.84	0.58
35:BN:107:SER:OG	35:BN:109:PRO:HD3	2.04	0.58
36:BO:1:MET:SD	36:BO:97:VAL:HG22	2.44	0.58
36:BO:68:ILE:HD13	36:BO:68:ILE:N	2.17	0.58
39:BR:148:ILE:HD13	39:BR:148:ILE:O	2.03	0.58
40:BS:44:VAL:HG22	41:BT:200:TYR:HB3	1.84	0.58
41:BT:219:ILE:HG22	41:BT:220:LYS:N	2.16	0.58
1:AA:233:A:H5''	20:AT:163:THR:OG1	2.04	0.58
1:AA:1197:C:C2'	1:AA:1198:A:H5'	2.34	0.58
22:BA:530:U:H5'	42:BU:47:ARG:NH2	2.16	0.58
22:BA:893:C:N4	22:BA:901:C:H42	2.02	0.58
22:BA:1296:A:H3'	22:BA:1296:A:N3	2.17	0.58
22:BA:1378:U:H2'	22:BA:1379:C:O4'	2.03	0.58
22:BA:1879:U:O2'	22:BA:1880:G:H5'	2.02	0.58
22:BA:2193:C:O4'	25:BD:282:THR:HG22	2.03	0.58
25:BD:127:LYS:HB3	25:BD:127:LYS:NZ	2.18	0.58
28:BG:182:PHE:HZ	28:BG:215:ASN:HD22	1.51	0.58
34:BM:35:ILE:HD13	34:BM:36:GLY:N	2.17	0.58
34:BM:107:ARG:HE	34:BM:114:VAL:HG11	1.67	0.58
35:BN:196:LEU:HD21	35:BN:211:LEU:HB3	1.83	0.58
37:BP:102:PRO:HD2	37:BP:105:GLN:HG3	1.84	0.58
40:BS:81:PHE:HZ	40:BS:111:ILE:HD12	1.68	0.58
44:BW:76:LYS:HD2	44:BW:137:ILE:HG21	1.83	0.58
49:B2:29:LEU:HG	49:B2:30:LYS:N	2.18	0.58
1:AA:381:G:H2'	1:AA:400:U:O4	2.03	0.58
1:AA:422:A:H4'	1:AA:423:A:C8	2.39	0.58
1:AA:755:U:C2	26:BE:5:LEU:CG	2.87	0.58
1:AA:1198:A:H4'	9:AI:137:GLY:N	2.19	0.58
1:AA:1423:G:H5'	22:BA:1737:A:C2	2.30	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:201:ARG:HG3	3:AC:202:THR:H	1.68	0.58
22:BA:38:C:H1'	28:BG:97:ARG:HH22	1.69	0.58
22:BA:1471:A:H61	22:BA:1480:A:H2	1.52	0.58
35:BN:192:LEU:HD13	35:BN:210:LYS:HZ3	1.67	0.58
39:BR:148:ILE:HG21	39:BR:212:ARG:NH2	2.18	0.58
1:AA:184:G:C2	1:AA:185:G:H1'	2.38	0.58
1:AA:1134:G:H4'	9:AI:189:ARG:HH22	1.69	0.58
31:BJ:84:LYS:N	31:BJ:84:LYS:HD2	2.18	0.58
36:BO:77:ARG:NH1	36:BO:77:ARG:HB2	2.19	0.58
40:BS:52:ARG:HD3	40:BS:55:ARG:NH1	2.17	0.58
42:BU:50:ILE:HA	42:BU:53:ILE:HG12	1.85	0.58
44:BW:109:LYS:N	44:BW:109:LYS:HD2	2.18	0.58
46:BY:117:LYS:HD3	46:BY:138:ASP:OD1	2.04	0.58
1:AA:911:C:H2'	1:AA:912:G:C8	2.38	0.58
1:AA:1182:C:H4'	1:AA:1313:U:O2'	2.03	0.58
1:AA:1330:U:O2'	1:AA:1331:C:H5'	2.03	0.58
1:AA:1424:G:C5'	22:BA:1725:A:O4'	2.47	0.58
22:BA:2492:C:H42	22:BA:2546:G:H22	1.52	0.58
35:BN:146:VAL:HG23	35:BN:147:ASN:H	1.68	0.58
38:BQ:116:LYS:HB2	38:BQ:116:LYS:NZ	2.18	0.58
39:BR:200:SER:HB3	39:BR:201:PRO:HD3	1.84	0.58
44:BW:94:LYS:HG2	44:BW:95:HIS:N	2.17	0.58
53:B6:26:ILE:HD12	53:B6:26:ILE:N	2.18	0.58
1:AA:806:U:C3'	1:AA:807:G:H5''	2.34	0.58
22:BA:650:G:H2'	22:BA:651:U:C6	2.39	0.58
25:BD:173:LEU:HD23	25:BD:174:ARG:N	2.19	0.58
28:BG:72:LEU:HD22	28:BG:73:LYS:HG2	1.84	0.58
31:BJ:53:ILE:H	31:BJ:86:GLN:HB3	1.68	0.58
31:BJ:73:GLY:HA2	31:BJ:76:ARG:NH1	2.19	0.58
35:BN:208:LYS:HE2	35:BN:218:LEU:HA	1.85	0.58
46:BY:132:ILE:HD13	46:BY:137:LEU:HG	1.86	0.58
50:B3:14:GLU:HG2	50:B3:31:SER:HA	1.84	0.58
1:AA:103:A:H4'	1:AA:104:A:C4	2.39	0.58
1:AA:862:A:H4'	1:AA:863:A:C5'	2.33	0.58
1:AA:872:A:H4'	5:AE:167:LYS:HG3	1.85	0.58
22:BA:10:G:H2'	22:BA:11:G:H5'	1.86	0.58
22:BA:330:U:OP2	28:BG:187:THR:HG22	2.03	0.58
22:BA:458:G:H4'	22:BA:461:A:N3	2.18	0.58
22:BA:1006:G:H1	22:BA:1013:C:N4	2.02	0.58
22:BA:2470:A:H2'	22:BA:2471:G:H8	1.69	0.58
23:BB:34:A:H2'	23:BB:44:G:O6	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BD:191:VAL:HB	25:BD:209:VAL:HG22	1.85	0.58
30:BI:161:PRO:HG2	30:BI:164:LEU:HD12	1.86	0.58
39:BR:226:LEU:HB3	39:BR:227:PRO:HD3	1.83	0.58
40:BS:31:LEU:CD1	40:BS:33:ARG:H	2.16	0.58
47:BZ:103:LYS:HD2	47:BZ:103:LYS:N	2.19	0.58
1:AA:443:A:H4'	1:AA:444:A:O5'	2.04	0.57
1:AA:981:G:H2'	1:AA:982:G:H5'	1.86	0.57
22:BA:236:A:H2'	22:BA:237:G:O4'	2.03	0.57
22:BA:329:C:H2'	28:BG:187:THR:HG21	1.86	0.57
22:BA:568:C:H5''	33:BL:210:LYS:HG2	1.85	0.57
22:BA:1075:G:H2'	22:BA:1138:G:H1	1.68	0.57
22:BA:1178:G:H4'	40:BS:83:HIS:HD2	1.68	0.57
22:BA:2067:G:OP1	27:BF:193:THR:HA	2.04	0.57
22:BA:2182:G:H21	22:BA:2183:A:N6	2.01	0.57
37:BP:165:VAL:HG23	37:BP:166:HIS:N	2.19	0.57
40:BS:43:LEU:HD12	41:BT:198:PHE:CD1	2.39	0.57
45:BX:138:VAL:HG12	45:BX:139:TYR:CD1	2.33	0.57
1:AA:250:A:H5'	1:AA:252:G:O4'	2.03	0.57
1:AA:762:A:H5'	1:AA:1460:G:H4'	1.85	0.57
6:AF:115:ARG:H	6:AF:115:ARG:HD3	1.69	0.57
22:BA:2158:U:O2'	22:BA:2160:C:H5''	2.04	0.57
22:BA:2674:A:H62	22:BA:2681:G:N2	1.99	0.57
22:BA:2804:U:H4'	27:BF:109:GLY:HA2	1.85	0.57
26:BE:140:ILE:HG13	26:BE:141:GLU:N	2.18	0.57
26:BE:178:ARG:C	26:BE:179:LEU:HD12	2.23	0.57
28:BG:90:THR:HG23	28:BG:91:HIS:ND1	2.19	0.57
28:BG:209:LEU:HD22	28:BG:228:LEU:HD22	1.86	0.57
36:BO:1:MET:C	36:BO:2:LEU:HD12	2.24	0.57
38:BQ:138:ARG:NH1	38:BQ:147:VAL:HG23	2.19	0.57
39:BR:138:ARG:HH12	39:BR:141:PRO:HD3	1.69	0.57
46:BY:110:ARG:HH21	46:BY:123:ARG:CZ	2.17	0.57
1:AA:209:G:H3'	1:AA:210:U:C5'	2.34	0.57
1:AA:447:A:H4'	1:AA:448:G:OP1	2.04	0.57
3:AC:20:SER:HB2	3:AC:40:ARG:HH12	1.69	0.57
22:BA:1286:A:H4'	22:BA:1287:G:O5'	2.05	0.57
22:BA:2154:C:H2'	22:BA:2155:C:C6	2.39	0.57
31:BJ:122:GLN:HG3	31:BJ:123:THR:HG23	1.86	0.57
35:BN:108:GLY:H	35:BN:109:PRO:HD3	1.68	0.57
37:BP:159:ILE:H	37:BP:159:ILE:CD1	2.15	0.57
40:BS:50:ARG:NH2	41:BT:198:PHE:H	2.00	0.57
41:BT:197:VAL:HG23	41:BT:210:ILE:HG13	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BY:83:LYS:HG2	46:BY:84:LYS:N	2.18	0.57
49:B2:22:LYS:HD3	49:B2:22:LYS:H	1.69	0.57
1:AA:669:A:H4'	1:AA:670:A:H5''	1.84	0.57
1:AA:1237:A:H3'	1:AA:1238:C:H6	1.69	0.57
6:AF:114:LYS:HE3	26:BE:163:LYS:HE2	1.86	0.57
22:BA:455:A:H2'	28:BG:96:ARG:NH1	2.18	0.57
22:BA:1039:A:H4'	40:BS:77:ASN:ND2	2.20	0.57
22:BA:1207:G:H2'	22:BA:1208:G:O4'	2.04	0.57
22:BA:2255:G:H3'	22:BA:2255:G:N3	2.18	0.57
22:BA:2760:C:H2'	22:BA:2761:U:C6	2.40	0.57
28:BG:217:GLU:HG3	28:BG:220:GLY:N	2.19	0.57
34:BM:86:ILE:HD12	34:BM:86:ILE:N	2.19	0.57
37:BP:135:LYS:HA	37:BP:138:ASP:OD2	2.03	0.57
41:BT:172:ILE:HD13	41:BT:172:ILE:N	2.19	0.57
44:BW:70:LYS:H	44:BW:70:LYS:CD	2.06	0.57
45:BX:89:LYS:HB3	45:BX:123:LEU:HD23	1.86	0.57
52:B5:105:THR:HG23	52:B5:106:GLY:N	2.16	0.57
1:AA:1148:C:H5'	1:AA:1149:A:H5'	1.85	0.57
1:AA:1256:U:H2'	1:AA:1257:G:C8	2.40	0.57
22:BA:47:G:H22	22:BA:161:G:H22	1.51	0.57
22:BA:212:A:O2'	22:BA:213:A:H5'	2.03	0.57
22:BA:1287:G:N7	42:BU:45:LYS:HG3	2.18	0.57
22:BA:1558:U:H2'	22:BA:1559:A:C8	2.40	0.57
22:BA:2221:U:H3	22:BA:2234:G:H22	1.51	0.57
22:BA:2589:A:H62	27:BF:193:THR:HB	1.69	0.57
33:BL:199:ILE:HG23	33:BL:200:ILE:HG12	1.86	0.57
44:BW:90:SER:O	44:BW:100:ILE:HG22	2.04	0.57
44:BW:114:LYS:HD2	44:BW:116:GLU:OE1	2.04	0.57
1:AA:376:U:H5''	1:AA:443:A:H2	1.68	0.57
22:BA:414:A:C2'	22:BA:415:U:H5'	2.35	0.57
22:BA:457:C:H2'	22:BA:458:G:O4'	2.04	0.57
26:BE:256:ARG:HB2	26:BE:260:LYS:HA	1.87	0.57
27:BF:100:ASP:HB3	27:BF:101:ARG:HH11	1.69	0.57
28:BG:168:ALA:HB1	28:BG:245:LEU:HD21	1.86	0.57
29:BH:47:VAL:HG13	29:BH:48:LYS:HG2	1.87	0.57
32:BK:105:ASN:HD22	32:BK:106:ILE:N	2.02	0.57
36:BO:17:MET:SD	36:BO:39:PRO:HB2	2.45	0.57
39:BR:223:ARG:CZ	39:BR:223:ARG:HA	2.35	0.57
45:BX:73:SER:HB3	45:BX:74:PRO:C	2.25	0.57
52:B5:128:ARG:C	52:B5:128:ARG:HD3	2.24	0.57
1:AA:9:A:H1'	5:AE:249:ALA:O	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:48:C:O5'	1:AA:49:U:OP1	2.23	0.57
1:AA:701:A:H5''	1:AA:702:C:OP1	2.05	0.57
22:BA:85:U:P	44:BW:94:LYS:HG3	2.45	0.57
22:BA:1259:C:H2'	22:BA:1260:G:C8	2.40	0.57
22:BA:1600:A:H5'	26:BE:207:LYS:NZ	2.19	0.57
26:BE:64:ARG:NE	26:BE:145:GLY:HA2	2.14	0.57
26:BE:83:ARG:HB2	26:BE:152:ARG:HH22	1.69	0.57
26:BE:137:ILE:HG13	26:BE:138:HIS:H	1.68	0.57
31:BJ:180:LEU:HB3	31:BJ:188:ALA:HB3	1.86	0.57
35:BN:168:LYS:HE3	35:BN:172:VAL:HG23	1.85	0.57
39:BR:122:ILE:HG23	39:BR:126:LEU:HD11	1.87	0.57
46:BY:146:ILE:HG13	46:BY:147:ASP:N	2.19	0.57
1:AA:61:A:H4'	1:AA:62:G:O5'	2.04	0.57
1:AA:240:U:H2'	1:AA:241:A:C8	2.39	0.57
1:AA:1150:U:H2'	1:AA:1151:C:O4'	2.05	0.57
1:AA:1250:U:H5''	1:AA:1251:C:OP1	2.04	0.57
1:AA:1390:A:H62	1:AA:1410:G:H21	1.53	0.57
22:BA:201:A:H2'	22:BA:202:A:C8	2.40	0.57
22:BA:2473:C:H42	22:BA:2512:G:H1	1.53	0.57
23:BB:56:U:H4'	23:BB:57:A:C8	2.40	0.57
24:BC:77:C:H4'	39:BR:125:ILE:HD13	1.87	0.57
25:BD:137:LEU:HD13	25:BD:303:LEU:HD12	1.87	0.57
26:BE:221:MET:HA	26:BE:230:GLY:H	1.69	0.57
28:BG:113:ARG:HD2	28:BG:115:PRO:HG3	1.85	0.57
40:BS:88:ARG:HG2	40:BS:118:LYS:HE2	1.86	0.57
45:BX:120:ILE:HG23	45:BX:120:ILE:O	2.05	0.57
1:AA:400:U:H3'	4:AD:9:PHE:CZ	2.40	0.57
22:BA:1410:G:H1	22:BA:1419:C:N4	2.02	0.57
22:BA:1645:A:H1'	22:BA:1652:A:C4'	2.35	0.57
22:BA:1801:A:N6	22:BA:1838:G:H2'	2.19	0.57
22:BA:2403:U:O3'	45:BX:96:ARG:HG3	2.05	0.57
22:BA:2483:C:H5'	53:B6:5:SER:HB2	1.87	0.57
39:BR:129:LYS:NZ	39:BR:129:LYS:HB2	2.19	0.57
41:BT:132:ARG:N	41:BT:132:ARG:HD2	2.19	0.57
50:B3:32:ARG:HG3	50:B3:35:THR:H	1.69	0.57
1:AA:1066:G:H4'	9:AI:173:ARG:NH2	2.20	0.57
22:BA:71:A:O2'	47:BZ:115:ALA:HB1	2.05	0.57
22:BA:1001:A:H2'	22:BA:1207:G:H22	1.70	0.57
22:BA:2761:U:H3'	22:BA:2762:G:H5''	1.87	0.57
28:BG:131:SER:N	28:BG:132:PRO:HA	2.20	0.57
31:BJ:54:LEU:HD13	31:BJ:86:GLN:NE2	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:BJ:145:ALA:HA	31:BJ:148:LEU:HD12	1.86	0.57
35:BN:144:VAL:HG22	35:BN:145:ASN:N	2.20	0.57
41:BT:127:VAL:HG11	41:BT:182:VAL:HG11	1.87	0.57
41:BT:138:PRO:HB2	41:BT:224:ILE:HG22	1.87	0.57
45:BX:110:ILE:HD13	45:BX:110:ILE:N	2.19	0.57
50:B3:23:VAL:HG21	50:B3:51:PHE:HE2	1.70	0.57
50:B3:45:ARG:HG3	50:B3:46:LEU:HG	1.87	0.57
1:AA:217:A:N6	1:AA:252:G:H1'	2.16	0.56
1:AA:1315:C:H2'	1:AA:1316:G:C8	2.40	0.56
22:BA:82:G:N2	22:BA:101:A:H62	2.03	0.56
22:BA:1073:G:H4'	22:BA:1075:G:O4'	2.04	0.56
22:BA:1167:C:H2'	22:BA:1168:U:H5'	1.87	0.56
22:BA:1327:U:H2'	22:BA:1328:A:H8	1.70	0.56
22:BA:1829:A:H2'	26:BE:174:SER:OG	2.05	0.56
22:BA:2377:C:H2'	22:BA:2378:C:O4'	2.05	0.56
28:BG:52:LEU:HD12	28:BG:71:ASN:HA	1.85	0.56
35:BN:103:GLN:O	35:BN:106:ARG:HD3	2.05	0.56
35:BN:198:ILE:HD12	35:BN:216:CYS:SG	2.45	0.56
36:BO:39:PRO:HG3	36:BO:98:LYS:HG2	1.86	0.56
42:BU:30:ASP:HA	42:BU:135:VAL:HG21	1.86	0.56
42:BU:140:THR:HG23	42:BU:141:HIS:N	2.20	0.56
46:BY:76:ARG:C	46:BY:77:ILE:HD12	2.24	0.56
1:AA:76:G:H2'	1:AA:77:G:O4'	2.05	0.56
1:AA:953:A:H2'	1:AA:954:A:O4'	2.06	0.56
1:AA:1424:G:OP1	22:BA:1725:A:N9	2.37	0.56
22:BA:238:C:H2'	22:BA:239:G:O4'	2.06	0.56
22:BA:2362:G:O2'	22:BA:2399:G:H5'	2.05	0.56
22:BA:2399:G:H2'	52:B5:127:LYS:HD3	1.86	0.56
24:BC:87:G:C5	49:B2:29:LEU:HD11	2.40	0.56
35:BN:187:LEU:HD23	35:BN:187:LEU:H	1.70	0.56
39:BR:126:LEU:HD13	39:BR:126:LEU:H	1.69	0.56
39:BR:178:HIS:CD2	39:BR:179:THR:HG23	2.40	0.56
42:BU:49:VAL:HG21	42:BU:72:ALA:HB3	1.87	0.56
43:BV:180:LYS:N	43:BV:180:LYS:HD2	2.20	0.56
45:BX:135:LYS:HB2	45:BX:135:LYS:NZ	2.20	0.56
48:B1:78:LYS:HD2	48:B1:78:LYS:N	2.21	0.56
49:B2:32:PHE:HB3	49:B2:36:LYS:HD2	1.86	0.56
1:AA:39:G:H4'	1:AA:495:A:C6	2.40	0.56
1:AA:605:U:O2'	15:AO:19:LYS:HD2	2.05	0.56
18:AR:43:GLN:HE21	21:AU:97:VAL:HG12	1.70	0.56
22:BA:82:G:H21	22:BA:101:A:N6	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:445:C:H2'	22:BA:446:U:C6	2.40	0.56
22:BA:541:G:H2'	22:BA:2049:G:H4'	1.88	0.56
22:BA:792:A:H5''	22:BA:793:A:N7	2.20	0.56
22:BA:1209:U:H5'	41:BT:204:LYS:HG3	1.87	0.56
22:BA:2107:G:H21	22:BA:2212:A:H62	1.52	0.56
22:BA:2116:C:N4	22:BA:2201:G:H1	1.96	0.56
22:BA:2653:U:H2'	22:BA:2654:U:C6	2.40	0.56
23:BB:35:A:H3'	23:BB:35:A:N3	2.20	0.56
23:BB:108:U:O2'	23:BB:109:C:H5'	2.06	0.56
25:BD:219:LYS:NZ	25:BD:219:LYS:HB3	2.20	0.56
28:BG:79:LYS:N	28:BG:79:LYS:HD3	2.20	0.56
29:BH:123:LEU:HA	29:BH:125:ARG:H	1.71	0.56
29:BH:148:ARG:HD2	29:BH:148:ARG:N	2.20	0.56
31:BJ:53:ILE:O	31:BJ:86:GLN:HG2	2.05	0.56
35:BN:84:LYS:NZ	35:BN:84:LYS:HB3	2.20	0.56
47:BZ:109:ARG:HA	47:BZ:112:LYS:HE2	1.87	0.56
49:B2:36:LYS:HB2	49:B2:39:SER:HB2	1.87	0.56
50:B3:50:LYS:H	50:B3:50:LYS:CD	2.16	0.56
52:B5:96:LYS:HD2	52:B5:100:LYS:HE3	1.86	0.56
1:AA:561:C:H2'	1:AA:562:A:C8	2.40	0.56
18:AR:56:LEU:H	18:AR:56:LEU:HD23	1.71	0.56
22:BA:463:C:OP2	28:BG:103:LEU:HD21	2.06	0.56
22:BA:1304:G:N2	22:BA:1306:G:H3'	2.20	0.56
22:BA:1731:G:H3'	22:BA:1731:G:N3	2.21	0.56
22:BA:2209:U:H2'	22:BA:2210:C:C6	2.40	0.56
22:BA:2396:G:O3'	38:BQ:58:LYS:HG2	2.05	0.56
26:BE:59:ARG:O	26:BE:60:LYS:HB2	2.05	0.56
28:BG:226:LEU:HD23	28:BG:227:LYS:N	2.20	0.56
29:BH:24:ILE:H	29:BH:24:ILE:CD1	2.13	0.56
36:BO:41:TRP:HB3	36:BO:94:VAL:HG21	1.87	0.56
37:BP:151:LYS:HD2	37:BP:151:LYS:N	2.21	0.56
40:BS:56:ASP:O	40:BS:60:LEU:HG	2.06	0.56
44:BW:94:LYS:HD2	44:BW:94:LYS:N	2.20	0.56
44:BW:102:LYS:HD2	44:BW:105:ASN:HD21	1.69	0.56
45:BX:128:LYS:HB3	45:BX:128:LYS:NZ	2.20	0.56
1:AA:78:U:O2	1:AA:78:U:H2'	2.06	0.56
1:AA:456:U:H4'	1:AA:457:A:O5'	2.05	0.56
1:AA:660:A:C4'	26:BE:161:ILE:HG23	2.36	0.56
1:AA:889:C:H2'	1:AA:890:G:H8	1.71	0.56
22:BA:97:A:C2'	22:BA:98:G:H5'	2.34	0.56
22:BA:457:C:O2'	22:BA:458:G:H5'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:575:C:H42	22:BA:585:A:N6	1.90	0.56
22:BA:1088:U:H4'	22:BA:1090:U:OP2	2.05	0.56
22:BA:1320:G:N2	22:BA:1676:U:H5'	2.20	0.56
22:BA:1975:C:H2'	22:BA:1976:C:O4'	2.06	0.56
27:BF:208:MET:CE	27:BF:209:GLY:H	2.19	0.56
41:BT:123:ILE:N	41:BT:224:ILE:HA	2.20	0.56
44:BW:100:ILE:HG13	44:BW:126:GLU:HB2	1.86	0.56
44:BW:102:LYS:HA	44:BW:126:GLU:HG2	1.88	0.56
52:B5:117:LYS:O	52:B5:117:LYS:HD3	2.05	0.56
1:AA:22:G:H2'	1:AA:23:G:C8	2.40	0.56
15:AO:53:LEU:HD13	22:BA:726:G:C2	2.39	0.56
22:BA:85:U:OP2	44:BW:94:LYS:HG3	2.05	0.56
22:BA:1277:G:H21	28:BG:133:LEU:HD22	1.69	0.56
22:BA:2118:U:H2'	22:BA:2119:U:C5	2.41	0.56
22:BA:2223:A:H3'	22:BA:2224:G:C5'	2.31	0.56
25:BD:307:ILE:O	25:BD:311:GLU:HG3	2.06	0.56
28:BG:75:ALA:H	28:BG:76:PRO:HD2	1.69	0.56
28:BG:102:THR:HG21	28:BG:142:GLY:HA3	1.88	0.56
31:BJ:162:LYS:HD2	31:BJ:163:ARG:N	2.20	0.56
39:BR:146:GLY:HA3	39:BR:219:LEU:HD12	1.86	0.56
43:BV:191:ILE:HD12	43:BV:191:ILE:N	2.21	0.56
44:BW:107:LYS:HD3	44:BW:107:LYS:N	2.20	0.56
1:AA:132:A:H61	1:AA:158:A:H61	1.53	0.56
1:AA:740:A:H5''	1:AA:741:U:OP1	2.06	0.56
1:AA:1202:G:O4'	1:AA:1304:G:H5''	2.06	0.56
2:AB:233:ILE:HG22	2:AB:234:ARG:H	1.70	0.56
22:BA:727:A:C3'	22:BA:728:A:H5''	2.36	0.56
22:BA:798:C:C5'	22:BA:799:A:H5'	2.36	0.56
22:BA:1734:A:H5'	22:BA:1736:A:H4'	1.87	0.56
25:BD:226:ASP:OD1	25:BD:227:LYS:HG3	2.05	0.56
26:BE:65:ARG:HD2	26:BE:124:ASN:HD21	1.71	0.56
26:BE:83:ARG:CA	26:BE:152:ARG:HH12	2.19	0.56
27:BF:220:ILE:HG21	27:BF:223:ILE:HD11	1.87	0.56
32:BK:98:ALA:C	32:BK:99:LEU:HD13	2.26	0.56
40:BS:13:ARG:NH1	40:BS:13:ARG:HB3	2.20	0.56
1:AA:1294:A:H4'	1:AA:1295:G:H4'	1.88	0.56
22:BA:51:A:H62	22:BA:117:A:H62	1.53	0.56
22:BA:639:A:H4'	22:BA:640:G:C5'	2.36	0.56
22:BA:807:C:H2'	22:BA:808:C:C6	2.41	0.56
22:BA:1140:G:H2'	22:BA:1141:C:C6	2.41	0.56
22:BA:1272:A:N6	40:BS:3:ARG:HH21	1.98	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2370:G:H1'	45:BX:87:VAL:HG13	1.88	0.56
25:BD:119:SER:HB2	25:BD:124:GLU:OE2	2.05	0.56
25:BD:238:VAL:HA	25:BD:241:LEU:HD23	1.88	0.56
26:BE:84:ASN:HD21	26:BE:196:VAL:HB	1.70	0.56
38:BQ:131:ILE:O	38:BQ:133:LYS:HG3	2.05	0.56
41:BT:163:LEU:HD11	41:BT:169:SER:HB2	1.87	0.56
42:BU:32:ILE:N	42:BU:32:ILE:HD12	2.21	0.56
46:BY:87:ARG:HH21	46:BY:90:LYS:HD3	1.71	0.56
1:AA:447:A:H4'	1:AA:448:G:H5'	1.87	0.56
1:AA:1270:C:C4'	1:AA:1271:G:H5'	2.32	0.56
22:BA:554:G:C2'	22:BA:555:A:H5''	2.35	0.56
22:BA:874:G:H2'	22:BA:875:C:O4'	2.06	0.56
22:BA:2295:A:H62	45:BX:67:THR:HG21	1.70	0.56
22:BA:2303:A:H3'	22:BA:2303:A:N3	2.21	0.56
22:BA:2353:A:O2'	22:BA:2402:C:H5''	2.06	0.56
22:BA:2514:A:H4'	22:BA:2515:C:H5	1.71	0.56
23:BB:49:U:H2'	23:BB:50:G:C8	2.41	0.56
24:BC:35:G:H2'	24:BC:35:G:N3	2.20	0.56
34:BM:121:LEU:HD11	39:BR:194:ILE:HD13	1.87	0.56
38:BQ:112:ILE:HD13	38:BQ:146:ARG:NH2	2.21	0.56
45:BX:71:ARG:HH11	45:BX:71:ARG:CB	2.18	0.56
47:BZ:125:GLU:O	47:BZ:126:ILE:HG22	2.05	0.56
50:B3:21:LYS:N	50:B3:21:LYS:HD2	2.21	0.56
1:AA:48:C:H4'	1:AA:49:U:C5'	2.35	0.56
1:AA:53:C:H2'	1:AA:54:A:H8	1.70	0.56
1:AA:347:G:H5''	16:AP:5:ARG:HH11	1.69	0.56
1:AA:817:C:H2'	1:AA:818:G:O4'	2.06	0.56
1:AA:881:C:O5'	1:AA:881:C:H6	1.88	0.56
12:AL:6:GLN:HE21	12:AL:12:ARG:HH22	1.53	0.56
22:BA:919:A:H1'	22:BA:2281:C:O2'	2.06	0.56
22:BA:1299:U:H4'	37:BP:123:ILE:HG23	1.88	0.56
22:BA:1330:G:H2'	22:BA:1331:G:O4'	2.05	0.56
22:BA:1348:C:H2'	22:BA:1349:G:O4'	2.04	0.56
22:BA:1687:G:H2'	22:BA:1688:A:O4'	2.06	0.56
22:BA:1701:A:H1'	34:BM:1:MET:HB2	1.88	0.56
22:BA:1885:C:H2'	22:BA:1886:A:H8	1.71	0.56
22:BA:2570:G:H1'	22:BA:2599:G:N2	2.21	0.56
26:BE:140:ILE:HG12	26:BE:170:LEU:HD11	1.87	0.56
36:BO:2:LEU:HD11	36:BO:42:ILE:O	2.06	0.56
37:BP:133:VAL:O	37:BP:137:VAL:HG23	2.05	0.56
45:BX:71:ARG:HG3	45:BX:72:ASP:H	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:235:U:H5''	17:AQ:120:ARG:HH21	1.70	0.55
1:AA:714:A:H2'	1:AA:715:A:O4'	2.06	0.55
1:AA:1139:A:H5'	3:AC:4:LYS:HD3	1.88	0.55
1:AA:1237:A:H3'	1:AA:1238:C:C6	2.41	0.55
22:BA:188:U:H3	22:BA:189:A:N6	2.04	0.55
22:BA:818:U:H4'	22:BA:2462:G:O3'	2.06	0.55
22:BA:1228:A:H2'	22:BA:1229:G:H8	1.71	0.55
22:BA:1271:G:H5'	40:BS:3:ARG:NH1	2.20	0.55
22:BA:1885:C:H2'	22:BA:1886:A:C8	2.41	0.55
25:BD:319:LYS:HD2	25:BD:320:GLY:N	2.21	0.55
26:BE:158:ALA:H	26:BE:190:GLN:NE2	2.04	0.55
29:BH:80:PRO:HA	29:BH:104:VAL:HG12	1.88	0.55
38:BQ:45:ARG:N	38:BQ:45:ARG:HD3	2.20	0.55
42:BU:67:LEU:HD11	49:B2:42:ASN:H	1.71	0.55
42:BU:91:LYS:HG3	42:BU:92:GLN:N	2.20	0.55
44:BW:70:LYS:HE3	44:BW:136:LEU:HD12	1.86	0.55
46:BY:83:LYS:N	46:BY:83:LYS:HD3	2.21	0.55
46:BY:90:LYS:NZ	46:BY:90:LYS:HB3	2.21	0.55
47:BZ:113:GLN:HA	47:BZ:116:ARG:HH12	1.71	0.55
1:AA:245:A:H5''	1:AA:246:G:OP1	2.06	0.55
1:AA:1424:G:H4'	22:BA:1725:A:H5''	1.75	0.55
15:AO:26:VAL:HG21	15:AO:78:LEU:HD21	1.86	0.55
22:BA:239:G:O2'	22:BA:240:A:H5''	2.06	0.55
22:BA:829:G:C2'	22:BA:830:A:H5''	2.35	0.55
22:BA:2281:C:H2'	22:BA:2282:C:C6	2.41	0.55
22:BA:2338:G:H3'	22:BA:2338:G:N3	2.22	0.55
35:BN:148:LEU:HB3	35:BN:188:ALA:HB3	1.87	0.55
41:BT:126:VAL:H	41:BT:161:VAL:HG23	1.71	0.55
44:BW:138:LEU:N	44:BW:138:LEU:HD23	2.21	0.55
1:AA:466:C:H1'	1:AA:477:G:C2	2.42	0.55
1:AA:705:U:H2'	1:AA:706:G:O4'	2.06	0.55
1:AA:927:A:N3	1:AA:1267:A:H1'	2.21	0.55
22:BA:525:A:H4'	40:BS:18:ARG:HH12	1.71	0.55
22:BA:996:C:H2'	22:BA:997:G:C8	2.41	0.55
22:BA:1412:G:N2	22:BA:1414:A:H3'	2.21	0.55
22:BA:1829:A:H5''	22:BA:1830:U:OP1	2.07	0.55
26:BE:118:VAL:HB	26:BE:119:PRO:HD2	1.89	0.55
29:BH:63:LYS:NZ	29:BH:63:LYS:HB3	2.21	0.55
29:BH:138:ASP:OD1	29:BH:142:ASN:HB2	2.05	0.55
50:B3:15:CYS:HA	50:B3:63:GLU:H	1.71	0.55
1:AA:660:A:C4'	26:BE:171:LYS:HZ1	2.09	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:701:A:H4'	1:AA:702:C:C5'	2.34	0.55
1:AA:1477:U:H4'	1:AA:1478:G:N2	2.21	0.55
6:AF:117:ASN:CB	26:BE:163:LYS:CE	2.65	0.55
22:BA:591:C:H5''	40:BS:14:ARG:NH2	2.21	0.55
22:BA:1784:C:N4	26:BE:203:ARG:HH21	2.05	0.55
22:BA:1837:U:H5'	22:BA:1985:A:H4'	1.88	0.55
22:BA:2100:U:H3	22:BA:2250:A:H2	1.54	0.55
22:BA:2107:G:H21	22:BA:2212:A:N6	2.05	0.55
22:BA:2650:G:H4'	27:BF:105:LYS:NZ	2.21	0.55
33:BL:145:PRO:HD3	40:BS:64:ARG:NH1	2.19	0.55
34:BM:102:ILE:HG22	34:BM:119:GLU:O	2.07	0.55
37:BP:161:GLU:HB2	37:BP:164:ILE:HG13	1.88	0.55
38:BQ:65:ARG:NE	38:BQ:65:ARG:N	2.54	0.55
52:B5:113:ARG:NH1	52:B5:117:LYS:HB3	2.21	0.55
1:AA:728:G:O2'	1:AA:729:A:H5''	2.06	0.55
22:BA:616:U:H5''	28:BG:153:ASN:HD21	1.71	0.55
22:BA:1222:C:H2'	22:BA:1223:G:H8	1.72	0.55
22:BA:1703:G:H22	22:BA:2006:G:H5'	1.71	0.55
22:BA:2484:C:H2'	22:BA:2485:A:O4'	2.07	0.55
22:BA:2559:A:H4'	22:BA:2560:G:H8	1.72	0.55
26:BE:65:ARG:HD3	26:BE:100:ILE:HD12	1.89	0.55
31:BJ:79:LEU:HD11	31:BJ:84:LYS:HB2	1.87	0.55
33:BL:143:TYR:HA	40:BS:64:ARG:NH1	2.22	0.55
35:BN:207:ALA:HB1	35:BN:211:LEU:HD12	1.89	0.55
44:BW:70:LYS:HD2	44:BW:70:LYS:N	2.09	0.55
52:B5:95:HIS:CE1	52:B5:97:ALA:HB3	2.41	0.55
1:AA:8:G:H4'	1:AA:9:A:OP1	2.06	0.55
1:AA:71:G:N2	1:AA:82:U:H3	1.95	0.55
22:BA:1277:G:N2	28:BG:133:LEU:HD22	2.21	0.55
22:BA:1365:U:O2'	22:BA:1405:A:H2'	2.06	0.55
22:BA:1731:G:H1'	26:BE:16:GLY:HA2	1.88	0.55
22:BA:2243:C:C2	26:BE:258:ARG:HG2	2.42	0.55
23:BB:105:A:H2'	23:BB:106:G:O4'	2.07	0.55
27:BF:202:LYS:HD3	27:BF:204:MET:HG3	1.88	0.55
29:BH:176:LYS:HD2	29:BH:176:LYS:N	2.21	0.55
33:BL:158:ALA:HB1	33:BL:200:ILE:HG13	1.88	0.55
36:BO:2:LEU:HD22	36:BO:44:SER:CA	2.37	0.55
38:BQ:56:ARG:NE	38:BQ:56:ARG:N	2.44	0.55
42:BU:107:LYS:HD3	42:BU:108:GLY:N	2.21	0.55
1:AA:347:G:H2'	1:AA:348:G:C8	2.42	0.55
1:AA:888:G:H2'	1:AA:889:C:C6	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1095:C:H1'	9:AI:84:ARG:NH1	2.22	0.55
1:AA:1399:G:H4'	1:AA:1400:C:H5	1.72	0.55
3:AC:3:GLN:HE21	3:AC:163:GLN:HE22	1.53	0.55
22:BA:2435:G:H21	50:B3:25:LYS:HG3	1.71	0.55
22:BA:2675:C:H4'	30:BI:201:LYS:HE2	1.89	0.55
30:BI:66:LEU:HD23	30:BI:67:LYS:N	2.22	0.55
35:BN:125:ARG:HH11	35:BN:125:ARG:CA	2.20	0.55
38:BQ:83:ASP:CG	38:BQ:84:ASP:H	2.09	0.55
44:BW:128:ALA:O	44:BW:129:ILE:HG22	2.06	0.55
47:BZ:118:LEU:H	47:BZ:118:LEU:HD12	1.71	0.55
50:B3:53:PRO:HD3	50:B3:61:HIS:HE1	1.71	0.55
52:B5:124:LYS:H	52:B5:124:LYS:CD	2.20	0.55
1:AA:721:G:O4'	26:BE:198:GLN:NE2	2.39	0.55
1:AA:1253:G:H22	1:AA:1279:G:H2'	1.71	0.55
22:BA:591:C:OP1	40:BS:32:THR:HG22	2.07	0.55
22:BA:1116:A:H3'	22:BA:1116:A:N3	2.22	0.55
22:BA:2215:C:H5'	22:BA:2244:A:H61	1.70	0.55
22:BA:2336:U:O4'	38:BQ:43:THR:HG23	2.07	0.55
26:BE:55:LYS:HB2	26:BE:55:LYS:NZ	2.22	0.55
27:BF:113:LYS:HD2	27:BF:113:LYS:N	2.22	0.55
29:BH:19:LEU:HB2	29:BH:116:ASP:HB2	1.88	0.55
34:BM:36:GLY:HA2	34:BM:106:LEU:HD23	1.89	0.55
35:BN:172:VAL:HG22	35:BN:174:ASN:H	1.72	0.55
41:BT:191:LEU:H	41:BT:191:LEU:CD2	2.18	0.55
42:BU:50:ILE:HD13	42:BU:105:VAL:HG23	1.88	0.55
1:AA:178:A:H1'	1:AA:193:C:O2'	2.06	0.55
1:AA:306:C:H2'	1:AA:307:A:H8	1.72	0.55
1:AA:1071:U:H3	1:AA:1099:G:H22	1.55	0.55
1:AA:1162:U:H5'	1:AA:1163:G:OP2	2.07	0.55
1:AA:1309:G:C2'	1:AA:1310:C:H5''	2.36	0.55
22:BA:461:A:H2'	22:BA:462:G:O4'	2.07	0.55
22:BA:773:U:O2	22:BA:1452:A:H5''	2.06	0.55
22:BA:997:G:H2'	22:BA:998:U:C6	2.41	0.55
22:BA:1809:G:C5	26:BE:172:LEU:HD13	2.42	0.55
22:BA:2364:C:H2'	22:BA:2365:U:C6	2.41	0.55
22:BA:2435:G:N2	50:B3:25:LYS:HE3	2.22	0.55
22:BA:2798:G:H5'	33:BL:219:ASN:HD22	1.71	0.55
29:BH:46:VAL:HG22	29:BH:173:THR:HG22	1.88	0.55
34:BM:53:GLU:H	34:BM:53:GLU:CD	2.09	0.55
41:BT:172:ILE:H	41:BT:172:ILE:CD1	2.19	0.55
49:B2:44:LYS:HG2	49:B2:45:SER:N	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:B4:130:ARG:HE	51:B4:130:ARG:HA	1.71	0.55
1:AA:380:G:H22	1:AA:404:C:N4	2.05	0.55
1:AA:538:U:H2'	1:AA:539:U:C6	2.43	0.55
1:AA:676:A:N6	15:AO:51:ARG:HE	2.05	0.55
1:AA:1173:A:N3	1:AA:1173:A:H2'	2.22	0.55
22:BA:1218:G:H22	22:BA:1270:C:H1'	1.71	0.55
22:BA:2473:C:H2'	22:BA:2474:U:O4'	2.07	0.55
23:BB:114:C:O2'	38:BQ:88:HIS:HA	2.06	0.55
28:BG:103:LEU:HD22	28:BG:103:LEU:N	2.22	0.55
28:BG:214:GLU:CD	28:BG:214:GLU:H	2.10	0.55
33:BL:127:MET:O	33:BL:127:MET:HE3	2.07	0.55
35:BN:130:ARG:HH22	52:B5:101:ARG:HG2	1.71	0.55
37:BP:165:VAL:HG23	37:BP:166:HIS:H	1.72	0.55
42:BU:59:ALA:HA	42:BU:62:LEU:HG	1.89	0.55
49:B2:30:LYS:HD2	49:B2:43:SER:HB3	1.89	0.55
50:B3:60:ILE:HD12	50:B3:60:ILE:N	2.22	0.55
1:AA:13:U:C2'	1:AA:14:U:H5''	2.34	0.54
1:AA:17:A:O2'	1:AA:18:U:H5'	2.07	0.54
1:AA:166:G:N3	1:AA:166:G:H5''	2.22	0.54
1:AA:610:U:H3	1:AA:691:G:H1	1.55	0.54
1:AA:898:A:H4'	1:AA:1313:U:O4	2.07	0.54
1:AA:1249:U:O2'	1:AA:1250:U:OP1	2.25	0.54
22:BA:1047:U:C2'	22:BA:1048:C:H5'	2.35	0.54
22:BA:1050:G:H4'	22:BA:1051:U:C6	2.42	0.54
22:BA:1122:U:H1'	22:BA:1125:U:H5	1.71	0.54
22:BA:1801:A:OP1	26:BE:208:ARG:HG2	2.07	0.54
22:BA:2658:A:H61	22:BA:2791:C:H42	1.53	0.54
24:BC:80:C:H4'	24:BC:81:C:H5	1.72	0.54
26:BE:83:ARG:HB2	26:BE:152:ARG:NH2	2.22	0.54
28:BG:88:LEU:HD23	28:BG:88:LEU:O	2.06	0.54
28:BG:113:ARG:NH1	28:BG:113:ARG:HB2	2.22	0.54
34:BM:9:ASN:HD21	34:BM:64:ARG:NH2	2.05	0.54
1:AA:606:A:N6	1:AA:696:C:H42	2.03	0.54
22:BA:1089:U:O4	32:BK:126:PRO:HG3	2.07	0.54
22:BA:1168:U:O4	33:BL:165:GLY:HA2	2.08	0.54
22:BA:1228:A:H2	22:BA:1260:G:H22	1.55	0.54
22:BA:1246:G:H5'	41:BT:209:ASN:O	2.08	0.54
22:BA:1394:A:H5''	22:BA:2228:C:N3	2.21	0.54
22:BA:1481:U:H2'	22:BA:1482:C:C6	2.42	0.54
22:BA:1617:C:H2'	22:BA:1618:C:H5'	1.89	0.54
22:BA:2025:U:H2'	22:BA:2026:G:O4'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2387:G:H21	50:B3:57:LYS:NZ	2.05	0.54
25:BD:336:ILE:HD13	25:BD:336:ILE:C	2.27	0.54
27:BF:215:ILE:HG12	27:BF:218:LEU:HD11	1.88	0.54
28:BG:245:LEU:N	28:BG:245:LEU:HD23	2.22	0.54
34:BM:78:ARG:HG3	39:BR:195:VAL:CG2	2.34	0.54
34:BM:116:LEU:O	34:BM:116:LEU:HD13	2.07	0.54
35:BN:103:GLN:CD	35:BN:104:LYS:H	2.09	0.54
36:BO:48:GLU:HA	36:BO:51:ARG:NH1	2.22	0.54
44:BW:123:ILE:HD13	44:BW:123:ILE:N	2.19	0.54
44:BW:150:LYS:HE3	44:BW:150:LYS:H	1.71	0.54
1:AA:35:C:H2'	1:AA:36:G:C8	2.42	0.54
1:AA:600:U:O4	1:AA:700:G:H2'	2.08	0.54
22:BA:1048:C:H4'	22:BA:1049:A:C5	2.43	0.54
22:BA:1289:A:H62	22:BA:2026:G:N2	2.04	0.54
22:BA:1786:G:H22	22:BA:1799:A:H1'	1.71	0.54
25:BD:118:ARG:N	25:BD:118:ARG:HD2	2.22	0.54
26:BE:248:TYR:N	26:BE:249:PRO:CD	2.71	0.54
35:BN:130:ARG:NH2	52:B5:101:ARG:HG2	2.21	0.54
37:BP:129:ARG:HA	37:BP:129:ARG:NE	2.21	0.54
39:BR:144:ARG:HE	39:BR:146:GLY:H	1.53	0.54
39:BR:185:ARG:CZ	39:BR:223:ARG:HH22	2.20	0.54
44:BW:74:THR:HG22	44:BW:88:GLU:HA	1.88	0.54
49:B2:22:LYS:HD3	49:B2:22:LYS:N	2.22	0.54
50:B3:14:GLU:HB2	50:B3:63:GLU:CD	2.28	0.54
50:B3:32:ARG:NH2	50:B3:36:GLN:HB2	2.21	0.54
52:B5:109:LYS:HD3	52:B5:136:ILE:HD12	1.89	0.54
52:B5:114:ARG:HA	52:B5:114:ARG:HE	1.71	0.54
1:AA:31:U:H5''	1:AA:32:G:OP2	2.08	0.54
1:AA:377:G:C4'	4:AD:5:ARG:HH21	2.18	0.54
22:BA:81:G:H2'	22:BA:82:G:C8	2.43	0.54
22:BA:200:G:H4'	22:BA:201:A:C5'	2.38	0.54
22:BA:739:G:H4'	26:BE:20:VAL:HA	1.88	0.54
22:BA:794:A:H1'	22:BA:1789:U:O4'	2.07	0.54
22:BA:1039:A:C4'	40:BS:77:ASN:HD21	2.20	0.54
22:BA:1087:G:H2'	22:BA:1088:U:C5	2.43	0.54
22:BA:2061:C:H42	22:BA:2638:G:H1	1.56	0.54
22:BA:2192:U:C2'	25:BD:282:THR:HG21	2.37	0.54
22:BA:2774:U:H4'	22:BA:2775:A:H5''	1.89	0.54
30:BI:146:LEU:HD23	30:BI:147:VAL:N	2.23	0.54
30:BI:166:VAL:HG22	30:BI:176:VAL:HG13	1.89	0.54
32:BK:135:LYS:N	32:BK:135:LYS:HD2	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BM:17:ARG:HA	34:BM:17:ARG:NE	2.22	0.54
36:BO:23:ARG:HD3	36:BO:98:LYS:HB2	1.89	0.54
36:BO:120:ILE:H	36:BO:120:ILE:HD12	1.72	0.54
38:BQ:146:ARG:HA	38:BQ:146:ARG:NE	2.21	0.54
39:BR:144:ARG:NE	39:BR:146:GLY:H	2.06	0.54
39:BR:203:ILE:HG13	39:BR:204:LYS:HG2	1.89	0.54
39:BR:216:LYS:HD3	39:BR:216:LYS:N	2.22	0.54
40:BS:84:ASP:O	40:BS:88:ARG:HB2	2.06	0.54
46:BY:79:PRO:HG2	46:BY:105:ASN:O	2.08	0.54
46:BY:93:HIS:NE2	46:BY:101:LEU:HG	2.23	0.54
50:B3:17:GLY:HA2	50:B3:61:HIS:HA	1.89	0.54
1:AA:530:U:H3	1:AA:707:A:H62	1.55	0.54
1:AA:678:A:C2'	1:AA:679:G:H5'	2.38	0.54
1:AA:1096:C:H2'	1:AA:1097:C:O4'	2.06	0.54
1:AA:1105:A:H4'	1:AA:1106:C:O5'	2.07	0.54
1:AA:1447:U:H4'	1:AA:1448:A:O5'	2.06	0.54
5:AE:300:GLY:H	8:AH:75:ASN:ND2	2.05	0.54
7:AG:10:LYS:HD3	7:AG:10:LYS:H	1.71	0.54
22:BA:625:C:H2'	28:BG:229:LEU:HA	1.89	0.54
22:BA:1449:C:H41	22:BA:1603:A:H5''	1.72	0.54
22:BA:2706:U:O2'	22:BA:2731:C:H1'	2.08	0.54
22:BA:2749:G:OP1	27:BF:217:LYS:HG3	2.07	0.54
26:BE:249:PRO:HG2	26:BE:251:LEU:HD11	1.90	0.54
1:AA:386:A:H3'	1:AA:387:G:H8	1.73	0.54
1:AA:456:U:H5''	1:AA:457:A:OP1	2.07	0.54
1:AA:763:A:H2'	1:AA:1476:C:H1'	1.90	0.54
1:AA:1245:U:O2'	1:AA:1246:C:H5	1.91	0.54
22:BA:510:U:H4'	44:BW:106:PHE:HZ	1.73	0.54
22:BA:1216:G:H21	22:BA:1247:A:H2	1.54	0.54
22:BA:1407:C:H2'	22:BA:1408:A:C8	2.43	0.54
22:BA:1602:G:C6	26:BE:24:PRO:HB2	2.43	0.54
23:BB:55:U:O2'	23:BB:56:U:H5'	2.07	0.54
26:BE:51:GLY:HA2	26:BE:212:LYS:HG3	1.89	0.54
26:BE:140:ILE:HG12	26:BE:170:LEU:CD1	2.38	0.54
29:BH:148:ARG:HD2	29:BH:148:ARG:H	1.71	0.54
34:BM:109:LYS:HA	34:BM:109:LYS:HZ3	1.70	0.54
1:AA:77:G:N3	1:AA:78:U:H1'	2.21	0.54
1:AA:354:A:H2'	1:AA:355:G:O4'	2.08	0.54
1:AA:721:G:O2'	26:BE:194:VAL:HG11	2.07	0.54
1:AA:721:G:N3	26:BE:5:LEU:HD12	2.23	0.54
1:AA:806:U:H3'	1:AA:807:G:C5'	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:906:U:H1'	1:AA:909:U:C5	2.39	0.54
1:AA:1176:C:H5	13:AM:137:LYS:HB2	1.73	0.54
13:AM:109:VAL:HG21	29:BH:127:ARG:CD	2.36	0.54
22:BA:496:C:H42	22:BA:507:G:H1	1.56	0.54
22:BA:634:G:OP2	35:BN:175:PRO:HB2	2.08	0.54
22:BA:2299:G:H4'	22:BA:2300:U:O5'	2.08	0.54
22:BA:2492:C:H2'	22:BA:2493:A:H5'	1.90	0.54
25:BD:197:LYS:N	25:BD:197:LYS:HD2	2.22	0.54
29:BH:81:VAL:O	29:BH:102:ILE:HG22	2.08	0.54
32:BK:176:LEU:HD21	32:BK:200:ALA:HB2	1.88	0.54
36:BO:120:ILE:HD12	36:BO:120:ILE:N	2.21	0.54
42:BU:45:LYS:NZ	42:BU:45:LYS:HB3	2.23	0.54
44:BW:76:LYS:HG3	44:BW:137:ILE:HG12	1.89	0.54
47:BZ:117:MET:O	47:BZ:121:LYS:HG3	2.07	0.54
50:B3:59:THR:C	50:B3:60:ILE:HD12	2.28	0.54
1:AA:344:A:OP2	1:AA:344:A:H3'	2.08	0.54
22:BA:425:C:N4	22:BA:2427:G:H1	2.04	0.54
22:BA:720:U:H3	22:BA:733:A:H61	1.54	0.54
22:BA:779:G:N2	22:BA:1400:U:H1'	2.23	0.54
22:BA:873:A:H2'	22:BA:874:G:O4'	2.07	0.54
22:BA:2442:A:O2'	22:BA:2443:A:OP2	2.24	0.54
22:BA:2502:G:H5''	36:BO:46:GLN:NE2	2.20	0.54
26:BE:52:GLY:N	26:BE:213:ARG:HG2	2.22	0.54
33:BL:112:LYS:NZ	33:BL:149:MET:HA	2.23	0.54
33:BL:222:LYS:HD2	33:BL:222:LYS:N	2.22	0.54
34:BM:6:THR:O	34:BM:20:MET:HA	2.07	0.54
35:BN:208:LYS:HB3	35:BN:218:LEU:HA	1.89	0.54
36:BO:23:ARG:HB2	36:BO:98:LYS:HB2	1.90	0.54
37:BP:94:ARG:HH22	37:BP:97:PRO:HA	1.73	0.54
38:BQ:109:SER:HB3	38:BQ:110:PRO:HD3	1.89	0.54
45:BX:86:GLN:OE1	45:BX:119:LEU:HG	2.08	0.54
50:B3:11:VAL:HG11	50:B3:40:HIS:HB2	1.90	0.54
1:AA:443:A:H4'	1:AA:444:A:O4'	2.08	0.54
1:AA:715:A:H4'	1:AA:1474:G:C4'	2.38	0.54
1:AA:720:A:H1'	26:BE:4:HIS:N	2.23	0.54
1:AA:1170:G:P	1:AA:1270:C:H41	2.31	0.54
13:AM:48:ARG:NH2	29:BH:160:ILE:CA	2.69	0.54
22:BA:1693:U:OP1	27:BF:185:GLN:HB2	2.08	0.54
22:BA:2584:G:H2'	22:BA:2585:C:C6	2.42	0.54
26:BE:213:ARG:NH1	26:BE:214:PRO:HD2	2.23	0.54
35:BN:146:VAL:HG22	35:BN:185:LYS:HB2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BQ:55:ILE:C	38:BQ:55:ILE:HD13	2.28	0.54
1:AA:1166:C:H2'	1:AA:1167:U:C6	2.43	0.54
13:AM:48:ARG:CZ	29:BH:159:GLU:O	2.43	0.54
16:AP:19:ILE:HD13	16:AP:19:ILE:H	1.71	0.54
22:BA:649:A:H4'	22:BA:650:G:O4'	2.07	0.54
22:BA:1836:C:H2'	22:BA:1837:U:O4'	2.08	0.54
22:BA:2700:C:N4	22:BA:2745:G:H21	2.05	0.54
25:BD:328:ILE:HD11	25:BD:338:LEU:HG	1.89	0.54
31:BJ:89:THR:O	31:BJ:93:LEU:HG	2.08	0.54
38:BQ:79:VAL:HG23	38:BQ:122:ILE:HD12	1.90	0.54
39:BR:162:LEU:HD12	39:BR:162:LEU:N	2.23	0.54
39:BR:182:ARG:NH2	39:BR:197:PRO:HG3	2.22	0.54
39:BR:225:LYS:HB2	39:BR:225:LYS:HZ2	1.73	0.54
40:BS:17:ILE:HG22	40:BS:35:ILE:HD12	1.90	0.54
46:BY:109:LYS:HB3	46:BY:109:LYS:NZ	2.23	0.54
49:B2:20:TRP:HA	49:B2:20:TRP:CE3	2.42	0.54
49:B2:20:TRP:HA	49:B2:20:TRP:HE3	1.73	0.54
1:AA:507:A:H4'	1:AA:508:A:H5''	1.88	0.53
1:AA:825:A:H5'	8:AH:80:LYS:NZ	2.23	0.53
1:AA:1020:C:H5''	5:AE:195:LYS:NZ	2.22	0.53
1:AA:1293:U:H5''	1:AA:1294:A:OP1	2.08	0.53
22:BA:763:A:H3'	22:BA:763:A:N3	2.23	0.53
22:BA:2212:A:H1'	31:BJ:78:PHE:HB2	1.89	0.53
22:BA:2502:G:C5'	36:BO:46:GLN:HE21	2.20	0.53
28:BG:131:SER:CB	28:BG:134:ARG:H	2.17	0.53
37:BP:126:THR:HG22	37:BP:192:ARG:HH21	1.72	0.53
38:BQ:42:LYS:C	38:BQ:42:LYS:HD3	2.29	0.53
1:AA:144:A:H2'	1:AA:145:A:O4'	2.08	0.53
1:AA:368:A:H3'	1:AA:368:A:N3	2.23	0.53
1:AA:1291:G:H2'	1:AA:1292:C:C6	2.44	0.53
20:AT:114:ARG:O	20:AT:118:VAL:HG23	2.08	0.53
22:BA:144:A:H1'	22:BA:2223:A:H5'	1.90	0.53
22:BA:775:A:N6	22:BA:1786:G:H1'	2.23	0.53
22:BA:2241:G:H4'	22:BA:2243:C:N4	2.22	0.53
22:BA:2532:C:H2'	22:BA:2533:G:C8	2.43	0.53
22:BA:2774:U:O2'	22:BA:2775:A:H5''	2.08	0.53
24:BC:33:A:H3'	24:BC:34:C:H5'	1.89	0.53
26:BE:160:LEU:HD23	26:BE:170:LEU:HA	1.90	0.53
27:BF:160:LYS:HD3	27:BF:163:GLN:NE2	2.23	0.53
29:BH:75:ILE:HA	29:BH:155:GLU:HG2	1.90	0.53
34:BM:35:ILE:HD13	34:BM:35:ILE:C	2.29	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BN:208:LYS:O	35:BN:212:GLU:HB3	2.09	0.53
39:BR:147:ASP:N	39:BR:172:ARG:HE	2.05	0.53
39:BR:183:ILE:HG22	39:BR:198:LEU:O	2.08	0.53
39:BR:223:ARG:HA	39:BR:223:ARG:NE	2.23	0.53
40:BS:31:LEU:HD12	40:BS:33:ARG:H	1.73	0.53
40:BS:95:LYS:N	40:BS:95:LYS:HD2	2.22	0.53
41:BT:191:LEU:HA	41:BT:214:GLN:O	2.08	0.53
44:BW:152:LEU:H	44:BW:152:LEU:CD2	2.20	0.53
48:B1:73:THR:HB	48:B1:76:THR:HG22	1.90	0.53
22:BA:215:G:H2'	22:BA:216:C:C6	2.42	0.53
22:BA:516:A:H2'	22:BA:517:G:H5'	1.90	0.53
22:BA:971:U:OP1	35:BN:107:SER:HB3	2.09	0.53
22:BA:1601:G:N7	26:BE:79:TYR:HB3	2.22	0.53
22:BA:1781:C:H2'	22:BA:1782:G:C8	2.44	0.53
22:BA:2556:C:H5'	53:B6:3:VAL:HG21	1.89	0.53
22:BA:2631:A:N3	49:B2:2:ALA:HB3	2.23	0.53
25:BD:284:ILE:HD13	25:BD:284:ILE:C	2.28	0.53
26:BE:121:LYS:HG3	26:BE:122:MET:N	2.22	0.53
28:BG:79:LYS:HG3	28:BG:163:THR:HG22	1.90	0.53
28:BG:209:LEU:HD22	28:BG:228:LEU:CD2	2.37	0.53
30:BI:85:LEU:HD23	30:BI:86:THR:N	2.23	0.53
31:BJ:167:LEU:HD23	31:BJ:168:PRO:N	2.24	0.53
33:BL:210:LYS:HD2	33:BL:210:LYS:N	2.24	0.53
38:BQ:93:ALA:HA	38:BQ:97:GLN:NE2	2.23	0.53
38:BQ:100:ILE:N	38:BQ:100:ILE:HD12	2.23	0.53
40:BS:94:ARG:HB3	40:BS:94:ARG:HH11	1.73	0.53
41:BT:167:LYS:HD2	41:BT:167:LYS:N	2.24	0.53
51:B4:108:LEU:HD12	51:B4:108:LEU:N	2.24	0.53
1:AA:35:C:H2'	1:AA:36:G:H8	1.73	0.53
1:AA:103:A:H4'	1:AA:104:A:N9	2.23	0.53
1:AA:1149:A:O2'	1:AA:1150:U:C5'	2.56	0.53
1:AA:1427:U:H2'	1:AA:1428:A:H8	1.74	0.53
22:BA:68:C:H2'	22:BA:69:G:O4'	2.09	0.53
22:BA:645:A:H2'	22:BA:646:G:O4'	2.08	0.53
22:BA:740:G:N1	26:BE:18:VAL:HG11	2.24	0.53
22:BA:2272:G:H2'	22:BA:2273:U:O4'	2.08	0.53
24:BC:24:U:H4'	24:BC:84:A:C6	2.43	0.53
26:BE:142:ILE:HG13	26:BE:143:THR:HG23	1.89	0.53
27:BF:101:ARG:H	27:BF:101:ARG:CD	2.22	0.53
27:BF:134:GLU:HG3	27:BF:135:VAL:HG12	1.90	0.53
27:BF:227:LEU:H	27:BF:227:LEU:HD12	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BU:71:ARG:HH11	42:BU:71:ARG:CB	2.21	0.53
44:BW:93:HIS:HB3	44:BW:98:THR:H	1.72	0.53
46:BY:102:GLN:HE21	46:BY:104:VAL:HG12	1.73	0.53
47:BZ:62:LYS:HG3	47:BZ:63:ARG:HG3	1.91	0.53
1:AA:983:G:H2'	1:AA:984:A:C8	2.43	0.53
15:AO:59:LYS:HG2	15:AO:62:ARG:HH21	1.74	0.53
22:BA:161:G:H3'	22:BA:161:G:N3	2.24	0.53
22:BA:187:U:H2'	22:BA:188:U:O4'	2.09	0.53
22:BA:233:G:C2	22:BA:2448:U:H4'	2.44	0.53
22:BA:607:G:O2'	35:BN:86:ARG:HG2	2.08	0.53
22:BA:1453:G:H2'	22:BA:1454:G:C8	2.43	0.53
22:BA:1600:A:N3	26:BE:210:LEU:HD13	2.23	0.53
24:BC:83:A:H2'	24:BC:84:A:H5''	1.91	0.53
26:BE:104:ARG:HD3	26:BE:191:VAL:HG11	1.89	0.53
30:BI:188:ALA:HB1	30:BI:207:TYR:HE1	1.73	0.53
33:BL:156:VAL:O	33:BL:226:GLY:HA2	2.09	0.53
36:BO:8:ARG:NH1	36:BO:8:ARG:HB3	2.22	0.53
36:BO:69:PHE:CD1	36:BO:70:PRO:HD2	2.44	0.53
42:BU:64:ILE:O	42:BU:68:MET:HG2	2.09	0.53
1:AA:400:U:H1'	1:AA:401:G:C8	2.44	0.53
1:AA:920:G:C6	1:AA:1314:A:H5'	2.44	0.53
1:AA:1014:U:H1'	1:AA:1015:C:C5	2.44	0.53
1:AA:1090:U:H2'	1:AA:1091:G:O4'	2.08	0.53
22:BA:492:A:H1'	44:BW:106:PHE:HE2	1.72	0.53
22:BA:789:G:H5''	26:BE:45:ILE:HD12	1.90	0.53
22:BA:868:G:N2	22:BA:2286:A:H5'	2.16	0.53
22:BA:1051:U:H2'	22:BA:1052:G:O4'	2.09	0.53
22:BA:1340:G:H1	22:BA:1354:C:N4	2.05	0.53
22:BA:2217:U:H2'	22:BA:2218:G:O4'	2.09	0.53
22:BA:2240:G:H2'	22:BA:2241:G:O4'	2.09	0.53
22:BA:2529:C:H1'	27:BF:189:ILE:HG23	1.91	0.53
25:BD:189:ILE:HD13	25:BD:189:ILE:C	2.29	0.53
25:BD:338:LEU:HD13	25:BD:339:ASN:N	2.24	0.53
26:BE:58:TYR:CZ	26:BE:60:LYS:HD2	2.44	0.53
26:BE:141:GLU:HB2	26:BE:184:CYS:SG	2.47	0.53
27:BF:227:LEU:HD12	27:BF:227:LEU:N	2.23	0.53
28:BG:130:GLY:HA2	28:BG:138:GLY:H	1.73	0.53
29:BH:32:LYS:HE2	29:BH:37:TYR:HA	1.90	0.53
34:BM:23:ARG:HH11	34:BM:23:ARG:HG3	1.73	0.53
37:BP:190:LEU:HD12	37:BP:191:PRO:HD2	1.90	0.53
37:BP:197:ALA:HB1	37:BP:198:PRO:CA	2.32	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BX:68:LYS:NZ	45:BX:69:ASN:H	2.06	0.53
1:AA:163:G:H1	1:AA:179:A:H62	1.57	0.53
1:AA:191:G:O2'	1:AA:192:C:H5'	2.09	0.53
1:AA:344:A:C1'	1:AA:429:G:H1'	2.32	0.53
1:AA:382:C:N4	1:AA:384:G:H1'	2.23	0.53
1:AA:508:A:C4	1:AA:514:G:H1'	2.43	0.53
1:AA:957:C:C3'	1:AA:958:U:H5''	2.39	0.53
1:AA:1017:G:N2	1:AA:1057:G:H1'	2.24	0.53
1:AA:1247:A:H2'	1:AA:1248:G:H5'	1.91	0.53
3:AC:25:GLN:NE2	10:AJ:106:ARG:HH22	2.07	0.53
22:BA:6:A:H4'	33:BL:114:TRP:CH2	2.44	0.53
22:BA:1296:A:H8	37:BP:105:GLN:HB3	1.73	0.53
23:BB:96:C:H2'	23:BB:97:G:C8	2.44	0.53
25:BD:225:PHE:HE1	25:BD:250:LEU:HD13	1.71	0.53
28:BG:204:LYS:HG2	28:BG:205:SER:N	2.19	0.53
39:BR:185:ARG:HG2	39:BR:187:ILE:CG2	2.38	0.53
40:BS:47:HIS:HA	40:BS:50:ARG:NE	2.23	0.53
40:BS:84:ASP:OD2	40:BS:115:ILE:HB	2.08	0.53
41:BT:162:LEU:HD23	41:BT:176:ILE:HA	1.90	0.53
45:BX:141:ARG:HA	45:BX:141:ARG:HE	1.74	0.53
45:BX:141:ARG:HA	45:BX:141:ARG:NE	2.24	0.53
46:BY:82:GLY:HA3	46:BY:108:TYR:OH	2.09	0.53
1:AA:18:U:H2'	1:AA:19:C:C6	2.44	0.53
1:AA:77:G:C2'	1:AA:78:U:H4'	2.36	0.53
1:AA:214:A:O2'	1:AA:215:U:OP2	2.21	0.53
1:AA:399:G:H5''	1:AA:400:U:OP1	2.09	0.53
1:AA:663:A:H2'	1:AA:664:A:C8	2.43	0.53
1:AA:1188:U:H2'	7:AG:32:LYS:HZ2	1.73	0.53
22:BA:84:G:H2'	22:BA:85:U:C6	2.43	0.53
22:BA:642:G:H5''	52:B5:134:LYS:HZ1	1.73	0.53
22:BA:839:G:H1	22:BA:2264:U:C4'	2.20	0.53
22:BA:2244:A:H4'	26:BE:257:LYS:HE2	1.89	0.53
22:BA:2395:A:H2'	22:BA:2396:G:H5'	1.90	0.53
22:BA:2737:G:N2	24:BC:73:G:H1	2.07	0.53
26:BE:112:ILE:HD12	26:BE:112:ILE:N	2.24	0.53
28:BG:113:ARG:HG3	28:BG:115:PRO:HD3	1.91	0.53
42:BU:76:ILE:O	42:BU:79:LEU:HB3	2.09	0.53
46:BY:124:LEU:HD12	46:BY:124:LEU:N	2.24	0.53
50:B3:5:LYS:N	50:B3:5:LYS:HD2	2.22	0.53
1:AA:664:A:H2'	1:AA:665:C:O4'	2.08	0.53
1:AA:825:A:H4'	8:AH:14:ARG:NH2	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:931:U:H4'	1:AA:932:A:O4'	2.08	0.53
1:AA:1467:A:H2'	1:AA:1468:A:C8	2.43	0.53
22:BA:84:G:H3'	44:BW:94:LYS:NZ	2.24	0.53
22:BA:602:A:HO2'	52:B5:91:LYS:N	2.06	0.53
22:BA:976:C:H2'	22:BA:977:G:C8	2.44	0.53
22:BA:984:G:C6	22:BA:986:U:H5'	2.43	0.53
22:BA:1272:A:H62	40:BS:3:ARG:NH2	1.99	0.53
22:BA:1272:A:OP2	40:BS:13:ARG:HD3	2.09	0.53
22:BA:1809:G:N2	26:BE:150:LEU:HB3	2.22	0.53
22:BA:1882:U:H2'	22:BA:1883:G:H5'	1.91	0.53
27:BF:174:GLY:HA3	27:BF:183:HIS:HA	1.91	0.53
28:BG:210:MET:HG3	28:BG:229:LEU:O	2.09	0.53
29:BH:48:LYS:HB2	29:BH:105:THR:OG1	2.09	0.53
30:BI:45:ARG:HG2	30:BI:46:ILE:H	1.73	0.53
30:BI:49:GLN:N	30:BI:49:GLN:NE2	2.57	0.53
38:BQ:81:VAL:HG22	38:BQ:91:ALA:O	2.08	0.53
41:BT:164:VAL:HB	41:BT:170:THR:OG1	2.09	0.53
48:B1:71:MET:HG2	48:B1:72:THR:HG23	1.90	0.53
1:AA:32:G:H5'	1:AA:33:A:OP2	2.08	0.53
1:AA:1106:C:O2	1:AA:1106:C:C2'	2.53	0.53
1:AA:1167:U:H2'	1:AA:1168:G:H8	1.71	0.53
1:AA:1225:C:O2'	1:AA:1227:A:H1'	2.09	0.53
1:AA:1233:A:O2'	1:AA:1234:A:H3'	2.09	0.53
1:AA:1295:G:HO2'	1:AA:1296:U:H5	1.52	0.53
22:BA:795:U:H5''	26:BE:222:ASN:ND2	2.24	0.53
22:BA:862:U:H3	22:BA:934:A:H61	1.56	0.53
22:BA:1315:G:H2'	22:BA:1316:C:C6	2.44	0.53
22:BA:1535:A:N6	26:BE:91:HIS:HA	2.20	0.53
28:BG:164:ALA:HB1	28:BG:239:VAL:HG11	1.91	0.53
33:BL:136:ARG:CZ	33:BL:209:PRO:HG3	2.39	0.53
35:BN:120:MET:O	35:BN:124:ARG:HB2	2.09	0.53
36:BO:34:LEU:HD11	36:BO:129:THR:HB	1.91	0.53
39:BR:226:LEU:H	39:BR:227:PRO:HD2	1.74	0.53
41:BT:143:TYR:HD1	41:BT:143:TYR:H	1.57	0.53
42:BU:107:LYS:HE3	42:BU:128:PRO:HA	1.90	0.53
46:BY:143:LYS:HD2	46:BY:143:LYS:N	2.24	0.53
1:AA:7:G:O2'	1:AA:8:G:H8	1.92	0.52
1:AA:549:G:H1	1:AA:585:U:H3	1.57	0.52
1:AA:765:C:H1'	1:AA:767:A:C5'	2.30	0.52
1:AA:926:A:H2'	1:AA:1172:G:O6	2.09	0.52
22:BA:626:C:OP1	28:BG:230:THR:HB	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:640:G:N2	22:BA:648:G:H1'	2.23	0.52
22:BA:1838:G:N2	26:BE:216:VAL:HG21	2.24	0.52
27:BF:177:THR:HG23	27:BF:178:HIS:ND1	2.25	0.52
29:BH:173:THR:HG21	29:BH:184:LEU:HD23	1.92	0.52
36:BO:110:ALA:HB3	36:BO:113:ILE:HG22	1.90	0.52
41:BT:172:ILE:HG13	41:BT:176:ILE:O	2.09	0.52
46:BY:76:ARG:HG2	46:BY:77:ILE:N	2.25	0.52
1:AA:299:C:O2'	1:AA:300:A:P	2.68	0.52
1:AA:1105:A:H5''	1:AA:1106:C:OP1	2.08	0.52
1:AA:1244:C:H4'	1:AA:1250:U:O4	2.08	0.52
22:BA:118:U:H4'	22:BA:119:A:H5''	1.90	0.52
22:BA:319:G:H4'	22:BA:320:U:H5	1.73	0.52
22:BA:349:A:H2'	22:BA:350:G:O4'	2.09	0.52
22:BA:475:G:N2	22:BA:477:G:H3'	2.25	0.52
22:BA:1000:G:H3'	22:BA:1001:A:H5''	1.92	0.52
22:BA:1426:U:H2'	22:BA:1427:A:C8	2.44	0.52
22:BA:2463:G:O6	22:BA:2518:C:H2'	2.09	0.52
22:BA:2747:G:H2'	22:BA:2748:C:C6	2.44	0.52
24:BC:12:C:H3'	24:BC:14:A:H62	1.73	0.52
28:BG:103:LEU:HB2	28:BG:139:VAL:HB	1.91	0.52
32:BK:90:THR:OG1	32:BK:91:PRO:HD3	2.09	0.52
38:BQ:55:ILE:HG12	38:BQ:56:ARG:HH21	1.75	0.52
40:BS:95:LYS:HD2	40:BS:95:LYS:H	1.74	0.52
44:BW:93:HIS:CG	44:BW:94:LYS:H	2.27	0.52
46:BY:118:ARG:O	46:BY:120:VAL:HG23	2.09	0.52
1:AA:180:A:H5''	1:AA:181:G:OP1	2.08	0.52
1:AA:327:A:HO2'	1:AA:339:U:H4'	1.74	0.52
1:AA:1340:U:H2'	1:AA:1341:G:C8	2.45	0.52
14:AN:92:LEU:HD22	14:AN:93:PRO:HD2	1.91	0.52
22:BA:69:G:H4'	22:BA:72:A:O4'	2.10	0.52
22:BA:199:G:O2'	22:BA:200:G:H5'	2.09	0.52
22:BA:478:A:H4'	51:B4:126:LEU:HD11	1.91	0.52
22:BA:608:U:H3	22:BA:670:A:H61	1.57	0.52
22:BA:652:C:N4	22:BA:660:G:H1	2.05	0.52
22:BA:740:G:O6	26:BE:203:ARG:HB2	2.09	0.52
22:BA:837:U:H5''	22:BA:2446:G:P	2.49	0.52
24:BC:16:A:OP1	27:BF:162:PHE:HB2	2.08	0.52
28:BG:223:ILE:HG21	28:BG:226:LEU:HD13	1.91	0.52
28:BG:225:THR:O	28:BG:226:LEU:HB2	2.09	0.52
52:B5:124:LYS:HD3	52:B5:124:LYS:N	2.21	0.52
1:AA:443:A:H1'	1:AA:444:A:C5	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:599:C:H2'	1:AA:600:U:C6	2.44	0.52
1:AA:855:G:O2'	1:AA:856:A:H5''	2.09	0.52
1:AA:952:G:N2	1:AA:954:A:H5'	2.24	0.52
1:AA:1179:G:H4'	9:AI:195:SER:HB3	1.90	0.52
1:AA:1430:U:H2'	1:AA:1431:G:C8	2.44	0.52
22:BA:212:A:H2	22:BA:430:U:H1'	1.73	0.52
22:BA:318:A:H4'	22:BA:338:G:O6	2.10	0.52
22:BA:865:A:H2'	45:BX:81:LYS:HZ1	1.74	0.52
22:BA:1411:U:H3	22:BA:1416:A:N6	2.07	0.52
22:BA:1610:C:H2'	22:BA:1611:G:C8	2.44	0.52
22:BA:1812:A:H2'	22:BA:1813:A:H8	1.74	0.52
22:BA:1835:G:H2'	22:BA:1836:C:C6	2.45	0.52
22:BA:2088:U:H2'	22:BA:2089:U:C6	2.45	0.52
22:BA:2546:G:OP2	22:BA:2547:U:H5''	2.09	0.52
23:BB:7:G:H21	38:BQ:80:GLN:HE22	1.57	0.52
24:BC:36:A:H4'	24:BC:37:U:H5	1.74	0.52
26:BE:150:LEU:HD23	26:BE:150:LEU:N	2.23	0.52
28:BG:186:LYS:HZ2	28:BG:188:LYS:HB2	1.73	0.52
29:BH:85:ALA:O	29:BH:96:GLU:HG2	2.09	0.52
35:BN:149:THR:H	35:BN:185:LYS:HD2	1.74	0.52
50:B3:15:CYS:HB2	50:B3:32:ARG:HH11	1.74	0.52
1:AA:495:A:H5'	1:AA:496:G:OP1	2.10	0.52
1:AA:1093:A:O2'	1:AA:1094:A:H5''	2.09	0.52
22:BA:624:A:H2'	22:BA:624:A:N3	2.23	0.52
22:BA:974:G:H2'	22:BA:975:A:H8	1.75	0.52
22:BA:2053:A:H2'	22:BA:2054:C:C6	2.43	0.52
27:BF:105:LYS:HG2	27:BF:106:PRO:HD3	1.92	0.52
27:BF:160:LYS:HZ3	27:BF:167:LYS:HD2	1.75	0.52
30:BI:81:ARG:HG2	30:BI:82:GLU:N	2.15	0.52
31:BJ:106:GLU:O	31:BJ:111:LYS:HG2	2.09	0.52
35:BN:168:LYS:HD3	35:BN:168:LYS:N	2.25	0.52
37:BP:96:VAL:HG22	37:BP:135:LYS:HD2	1.91	0.52
41:BT:135:ILE:O	41:BT:135:ILE:HG12	2.09	0.52
44:BW:93:HIS:CB	44:BW:98:THR:H	2.22	0.52
45:BX:97:GLN:H	45:BX:97:GLN:CD	2.12	0.52
1:AA:650:A:H1'	22:BA:1857:A:OP1	2.10	0.52
1:AA:1299:U:H2'	1:AA:1300:C:C6	2.45	0.52
22:BA:1022:C:H1'	41:BT:132:ARG:NH2	2.24	0.52
22:BA:1114:A:H2'	22:BA:1114:A:N3	2.24	0.52
22:BA:1296:A:O2'	22:BA:1297:C:H5'	2.10	0.52
22:BA:2470:A:H2'	22:BA:2471:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:BB:13:U:H5''	23:BB:15:G:N7	2.25	0.52
27:BF:186:LEU:HD11	27:BF:205:PRO:HD3	1.91	0.52
27:BF:207:ARG:HG2	27:BF:208:MET:N	2.23	0.52
32:BK:141:LEU:H	32:BK:141:LEU:CD2	2.19	0.52
34:BM:43:ILE:HG22	34:BM:56:GLU:HG2	1.90	0.52
35:BN:208:LYS:HE2	35:BN:218:LEU:HD12	1.92	0.52
40:BS:78:TYR:O	40:BS:81:PHE:HB3	2.10	0.52
42:BU:50:ILE:HD13	42:BU:132:ILE:HD12	1.91	0.52
46:BY:76:ARG:HG2	46:BY:77:ILE:H	1.74	0.52
50:B3:10:LYS:N	50:B3:10:LYS:HD3	2.23	0.52
51:B4:136:LYS:HB2	51:B4:136:LYS:HZ2	1.75	0.52
1:AA:177:A:O2'	1:AA:178:A:H5'	2.09	0.52
1:AA:483:A:H5''	1:AA:484:C:OP2	2.10	0.52
1:AA:712:C:C2'	1:AA:713:G:H5'	2.39	0.52
1:AA:1195:G:H22	1:AA:1238:C:N4	2.07	0.52
6:AF:118:LYS:HZ1	26:BE:161:ILE:N	2.08	0.52
14:AN:63:CYS:HB3	14:AN:67:GLY:H	1.75	0.52
22:BA:164:A:N6	51:B4:127:LEU:HG	2.25	0.52
22:BA:543:A:H61	22:BA:2034:C:H1'	1.74	0.52
22:BA:2593:G:H2'	22:BA:2593:G:N3	2.25	0.52
22:BA:2679:A:H2'	22:BA:2680:G:O4'	2.09	0.52
31:BJ:56:GLU:HB2	31:BJ:84:LYS:HG2	1.91	0.52
36:BO:77:ARG:HH11	36:BO:77:ARG:HA	1.73	0.52
39:BR:177:ILE:HG13	39:BR:178:HIS:HD2	1.74	0.52
41:BT:204:LYS:N	41:BT:204:LYS:HD2	2.23	0.52
43:BV:191:ILE:HD12	43:BV:191:ILE:H	1.75	0.52
44:BW:138:LEU:HD12	44:BW:139:LYS:HZ1	1.75	0.52
1:AA:679:G:H5''	1:AA:714:A:H4'	1.91	0.52
1:AA:1174:C:H5''	13:AM:136:THR:HG23	1.91	0.52
8:AH:107:ILE:HD13	8:AH:107:ILE:H	1.74	0.52
22:BA:703:C:H5'	26:BE:39:ARG:HB2	1.92	0.52
22:BA:1804:U:H2'	22:BA:1805:C:C6	2.45	0.52
22:BA:2543:G:O2'	53:B6:1:MET:HG3	2.10	0.52
28:BG:73:LYS:NZ	28:BG:77:PRO:HB3	2.25	0.52
28:BG:158:ARG:HG2	28:BG:259:TYR:HA	1.92	0.52
33:BL:112:LYS:HZ3	33:BL:149:MET:HA	1.74	0.52
35:BN:126:LEU:HD22	35:BN:126:LEU:H	1.73	0.52
36:BO:113:ILE:HA	36:BO:116:ARG:HH11	1.75	0.52
37:BP:127:LYS:H	37:BP:198:PRO:HG2	1.75	0.52
39:BR:172:ARG:HB3	39:BR:172:ARG:HH11	1.75	0.52
41:BT:164:VAL:HG12	41:BT:166:THR:HG22	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:129:G:H22	1:AA:161:C:N4	2.07	0.52
1:AA:306:C:H2'	1:AA:307:A:C8	2.44	0.52
1:AA:637:C:H1'	1:AA:652:A:H2	1.74	0.52
1:AA:923:A:C5'	1:AA:924:A:H5'	2.40	0.52
22:BA:225:U:H5'	22:BA:634:G:O2'	2.10	0.52
22:BA:314:G:H1	22:BA:322:C:N4	2.05	0.52
22:BA:585:A:H2'	22:BA:586:U:C6	2.45	0.52
22:BA:1705:A:C2'	22:BA:1706:C:H5'	2.37	0.52
22:BA:1878:C:O2'	22:BA:1879:U:P	2.68	0.52
22:BA:2436:U:H1'	50:B3:30:VAL:CG2	2.39	0.52
22:BA:2570:G:C3'	22:BA:2571:U:H5''	2.40	0.52
27:BF:246:ILE:HG13	27:BF:246:ILE:O	2.10	0.52
28:BG:88:LEU:HD12	28:BG:236:LEU:HD12	1.92	0.52
39:BR:172:ARG:HH12	39:BR:219:LEU:HA	1.75	0.52
42:BU:67:LEU:HD21	49:B2:41:GLY:H	1.73	0.52
43:BV:164:THR:HG23	43:BV:172:LYS:CE	2.39	0.52
45:BX:127:GLU:HG3	45:BX:128:LYS:N	2.23	0.52
47:BZ:124:ARG:HH11	47:BZ:124:ARG:CA	2.22	0.52
51:B4:130:ARG:HA	51:B4:130:ARG:NE	2.25	0.52
1:AA:705:U:H4'	1:AA:770:G:H21	1.74	0.52
1:AA:715:A:H4'	1:AA:1474:G:H4'	1.90	0.52
22:BA:755:U:H4'	22:BA:1694:C:O3'	2.10	0.52
22:BA:1052:G:H3'	22:BA:1053:A:H5''	1.91	0.52
22:BA:1165:G:H2'	22:BA:1166:G:O4'	2.09	0.52
22:BA:1559:A:H2'	22:BA:1560:C:O4'	2.10	0.52
26:BE:160:LEU:HD21	26:BE:170:LEU:HD23	1.91	0.52
28:BG:213:VAL:HG22	28:BG:231:PRO:HG3	1.92	0.52
28:BG:239:VAL:HG13	28:BG:240:LEU:CD1	2.39	0.52
37:BP:149:LEU:HG	37:BP:153:ARG:NH1	2.22	0.52
38:BQ:56:ARG:HH12	38:BQ:67:ARG:HD3	1.74	0.52
40:BS:49:ASP:HA	40:BS:52:ARG:HB2	1.92	0.52
45:BX:71:ARG:HG3	45:BX:72:ASP:N	2.24	0.52
45:BX:80:VAL:HG22	45:BX:81:LYS:N	2.22	0.52
46:BY:124:LEU:HD21	46:BY:132:ILE:HG13	1.92	0.52
1:AA:229:A:C5'	20:AT:174:ARG:HH12	2.23	0.51
11:AK:98:PRO:HA	11:AK:102:ARG:HE	1.74	0.51
15:AO:53:LEU:CD2	22:BA:726:G:C2	2.89	0.51
22:BA:969:A:H2'	22:BA:970:G:O4'	2.11	0.51
22:BA:1006:G:H1	22:BA:1013:C:H42	1.56	0.51
22:BA:1189:G:H2'	22:BA:1190:G:C8	2.44	0.51
22:BA:2754:G:N2	22:BA:2787:C:H1'	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BE:150:LEU:H	26:BE:150:LEU:CD2	2.22	0.51
38:BQ:69:CYS:HB2	38:BQ:80:GLN:HB3	1.91	0.51
38:BQ:114:VAL:O	38:BQ:118:VAL:HG23	2.10	0.51
40:BS:4:VAL:O	40:BS:4:VAL:HG22	2.10	0.51
44:BW:136:LEU:HD22	44:BW:136:LEU:C	2.30	0.51
48:B1:56:GLU:HB3	48:B1:58:HIS:NE2	2.26	0.51
1:AA:355:G:H2'	1:AA:356:C:C6	2.45	0.51
1:AA:369:U:H2'	1:AA:370:G:C8	2.46	0.51
1:AA:420:A:H61	1:AA:432:G:H1	1.58	0.51
6:AF:118:LYS:NZ	26:BE:162:ALA:CA	2.68	0.51
22:BA:643:A:H1'	22:BA:2432:G:O2'	2.10	0.51
22:BA:660:G:H2'	22:BA:661:G:H8	1.75	0.51
22:BA:804:A:H62	22:BA:2086:G:H5'	1.74	0.51
22:BA:1395:G:H2'	22:BA:1396:U:O4'	2.10	0.51
22:BA:1427:A:H2'	22:BA:1428:C:C6	2.45	0.51
22:BA:2031:A:N3	49:B2:7:ARG:HD2	2.25	0.51
22:BA:2735:G:H2'	22:BA:2736:G:C8	2.46	0.51
24:BC:83:A:C3'	24:BC:84:A:H5''	2.41	0.51
26:BE:219:VAL:HG11	26:BE:235:ALA:HB2	1.92	0.51
28:BG:56:PRO:HA	28:BG:64:LYS:HE3	1.93	0.51
30:BI:99:VAL:HG23	30:BI:101:THR:HG22	1.92	0.51
31:BJ:54:LEU:HG	31:BJ:66:GLN:HE21	1.75	0.51
38:BQ:134:VAL:HB	38:BQ:159:LEU:HD22	1.92	0.51
40:BS:11:ARG:O	40:BS:11:ARG:HD2	2.10	0.51
40:BS:12:ARG:HB3	40:BS:15:LYS:NZ	2.25	0.51
42:BU:67:LEU:CD1	49:B2:42:ASN:H	2.22	0.51
52:B5:129:LYS:HD3	52:B5:130:ASN:N	2.24	0.51
1:AA:132:A:H1'	1:AA:1396:A:H1'	1.92	0.51
1:AA:514:G:H4'	1:AA:515:G:OP1	2.09	0.51
21:AU:120:ARG:HG3	21:AU:122:GLY:H	1.76	0.51
22:BA:839:G:N2	22:BA:2264:U:H4'	2.26	0.51
22:BA:1227:U:H2'	22:BA:1228:A:O4'	2.11	0.51
22:BA:1260:G:H2'	22:BA:1261:A:O4'	2.10	0.51
22:BA:1329:A:H4'	51:B4:105:ARG:NH1	2.25	0.51
22:BA:1839:A:H2'	22:BA:1840:C:O4'	2.10	0.51
26:BE:152:ARG:HE	26:BE:154:ALA:H	1.58	0.51
27:BF:150:LEU:HD12	27:BF:150:LEU:N	2.25	0.51
28:BG:52:LEU:HD22	28:BG:52:LEU:N	2.25	0.51
35:BN:228:VAL:HG12	35:BN:229:LYS:N	2.25	0.51
1:AA:397:U:H2'	1:AA:398:C:C6	2.45	0.51
1:AA:469:G:O2'	1:AA:470:C:H5'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:914:U:H1'	1:AA:918:A:C4	2.45	0.51
1:AA:1136:A:H2'	1:AA:1137:U:O4'	2.10	0.51
22:BA:717:A:H62	22:BA:736:G:H21	1.59	0.51
22:BA:786:G:C4'	22:BA:787:G:H5'	2.38	0.51
22:BA:2695:C:H2'	22:BA:2696:A:C8	2.46	0.51
26:BE:74:ILE:HD12	26:BE:106:ALA:HB1	1.92	0.51
26:BE:169:THR:HG22	26:BE:170:LEU:N	2.25	0.51
35:BN:144:VAL:HG22	35:BN:145:ASN:H	1.75	0.51
40:BS:3:ARG:HB2	40:BS:3:ARG:HH11	1.74	0.51
40:BS:102:ILE:HG13	40:BS:103:LEU:N	2.22	0.51
44:BW:141:GLN:O	44:BW:143:VAL:HG23	2.10	0.51
49:B2:42:ASN:ND2	49:B2:43:SER:N	2.56	0.51
49:B2:50:LYS:HE2	49:B2:57:GLU:HB2	1.93	0.51
1:AA:215:U:H1'	1:AA:843:G:N2	2.25	0.51
22:BA:625:C:O2'	22:BA:626:C:H5	1.94	0.51
22:BA:1802:G:H5''	26:BE:200:ARG:HH11	1.75	0.51
22:BA:1924:G:H1	22:BA:1934:C:N4	2.09	0.51
22:BA:2707:A:H1'	37:BP:106:ARG:HH22	1.74	0.51
26:BE:31:GLY:HA3	26:BE:99:TYR:OH	2.10	0.51
28:BG:71:ASN:HB3	28:BG:261:VAL:HG23	1.92	0.51
28:BG:191:ILE:HD12	28:BG:191:ILE:N	2.26	0.51
31:BJ:61:LEU:HD12	31:BJ:61:LEU:N	2.26	0.51
35:BN:183:PRO:HG2	35:BN:184:LEU:H	1.75	0.51
36:BO:23:ARG:HB3	36:BO:101:ARG:HB2	1.93	0.51
1:AA:792:G:H21	1:AA:793:A:H62	1.59	0.51
1:AA:1478:G:O5'	1:AA:1479:G:OP2	2.29	0.51
22:BA:218:A:H61	22:BA:440:A:H61	1.59	0.51
22:BA:988:A:H2'	22:BA:990:C:C6	2.46	0.51
22:BA:1048:C:H4'	22:BA:1049:A:N7	2.26	0.51
22:BA:1104:C:O2'	32:BK:163:PRO:HD2	2.10	0.51
22:BA:1188:U:H2'	22:BA:1189:G:C8	2.45	0.51
22:BA:1969:U:O4	22:BA:2569:U:H1'	2.11	0.51
22:BA:2173:G:H2'	22:BA:2174:C:H4'	1.92	0.51
27:BF:103:LEU:HD12	27:BF:103:LEU:N	2.26	0.51
33:BL:122:LEU:HD13	33:BL:127:MET:HG2	1.93	0.51
34:BM:76:ILE:O	39:BR:196:PHE:HB2	2.11	0.51
37:BP:193:ARG:N	37:BP:193:ARG:HD3	2.26	0.51
45:BX:124:VAL:HG22	45:BX:125:LYS:N	2.26	0.51
1:AA:18:U:C5'	5:AE:162:VAL:HG12	2.40	0.51
1:AA:447:A:O2'	1:AA:448:G:C8	2.63	0.51
1:AA:804:G:O2'	1:AA:805:U:H5'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:828:C:H2'	1:AA:829:C:C6	2.46	0.51
1:AA:1087:G:H4'	1:AA:1088:U:O5'	2.09	0.51
1:AA:1430:U:H2'	1:AA:1431:G:H8	1.75	0.51
22:BA:38:C:H1'	28:BG:97:ARG:NH2	2.25	0.51
22:BA:588:A:H2'	22:BA:589:G:H5''	1.91	0.51
22:BA:1101:A:H4'	22:BA:2491:U:O3'	2.11	0.51
22:BA:1321:A:H2'	22:BA:1670:A:O2'	2.10	0.51
22:BA:1641:C:H2'	22:BA:1642:C:O4'	2.11	0.51
22:BA:1830:U:H5	26:BE:155:GLY:HA3	1.74	0.51
22:BA:2421:C:H2'	22:BA:2422:G:O4'	2.10	0.51
22:BA:2536:A:H5'	22:BA:2584:G:H21	1.76	0.51
22:BA:2638:G:H2'	22:BA:2639:U:C6	2.46	0.51
26:BE:73:LYS:HD2	26:BE:109:GLY:HA3	1.92	0.51
29:BH:110:LEU:H	29:BH:110:LEU:HD12	1.76	0.51
35:BN:120:MET:N	35:BN:121:PRO:CD	2.73	0.51
39:BR:229:LEU:N	39:BR:229:LEU:HD23	2.26	0.51
40:BS:37:GLN:O	40:BS:41:ARG:HG3	2.10	0.51
42:BU:47:ARG:O	42:BU:50:ILE:HG12	2.10	0.51
42:BU:56:ARG:HA	42:BU:56:ARG:HE	1.76	0.51
45:BX:120:ILE:C	45:BX:120:ILE:HD13	2.30	0.51
49:B2:29:LEU:HD23	49:B2:29:LEU:N	2.24	0.51
49:B2:29:LEU:H	49:B2:29:LEU:CD2	2.23	0.51
50:B3:18:CYS:O	50:B3:20:ARG:HG3	2.11	0.51
1:AA:27:A:H61	1:AA:506:G:H1'	1.76	0.51
1:AA:422:A:H2'	1:AA:422:A:N3	2.25	0.51
1:AA:1027:U:H2'	1:AA:1028:A:O4'	2.11	0.51
1:AA:1245:U:O2'	1:AA:1246:C:C5	2.64	0.51
22:BA:229:A:OP2	52:B5:96:LYS:HE2	2.11	0.51
22:BA:816:G:H4'	35:BN:109:PRO:O	2.11	0.51
22:BA:1828:U:H4'	22:BA:1831:G:C1'	2.36	0.51
22:BA:1980:A:O2'	22:BA:2610:U:H5'	2.11	0.51
22:BA:2775:A:H2'	22:BA:2775:A:N3	2.25	0.51
25:BD:228:LEU:N	25:BD:228:LEU:HD22	2.26	0.51
26:BE:94:ASP:OD1	26:BE:95:GLY:N	2.44	0.51
31:BJ:91:LEU:HD12	31:BJ:91:LEU:N	2.26	0.51
33:BL:119:ALA:HA	33:BL:122:LEU:HD12	1.92	0.51
34:BM:86:ILE:H	34:BM:86:ILE:CD1	2.24	0.51
36:BO:36:ALA:C	36:BO:37:LEU:HD22	2.31	0.51
39:BR:126:LEU:HD22	39:BR:126:LEU:C	2.32	0.51
40:BS:17:ILE:HG23	40:BS:39:LYS:NZ	2.25	0.51
1:AA:131:G:H2'	1:AA:132:A:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:206:C:H2'	1:AA:207:G:C8	2.46	0.51
1:AA:806:U:C3'	1:AA:807:G:C5'	2.89	0.51
1:AA:979:U:H5''	1:AA:980:C:H5	1.76	0.51
22:BA:12:A:N6	22:BA:536:C:H2'	2.25	0.51
22:BA:67:A:H2'	22:BA:68:C:O4'	2.11	0.51
22:BA:167:A:H61	22:BA:200:G:H1	1.56	0.51
22:BA:319:G:H4'	22:BA:320:U:C5	2.46	0.51
22:BA:760:A:H5'	22:BA:1292:G:H1'	1.93	0.51
22:BA:1379:C:H2'	22:BA:1393:U:O4	2.11	0.51
22:BA:1746:C:H4'	24:BC:59:U:O2	2.11	0.51
22:BA:2654:U:H3	22:BA:2794:A:H62	1.58	0.51
26:BE:65:ARG:HH22	26:BE:186:ALA:C	2.14	0.51
29:BH:185:LEU:HD13	29:BH:190:MET:SD	2.51	0.51
33:BL:217:LEU:HD12	33:BL:217:LEU:N	2.26	0.51
37:BP:94:ARG:NH2	37:BP:97:PRO:HA	2.25	0.51
38:BQ:112:ILE:HB	38:BQ:146:ARG:HH12	1.75	0.51
43:BV:161:LYS:C	43:BV:161:LYS:HD3	2.31	0.51
44:BW:140:GLU:OE1	44:BW:143:VAL:HG21	2.11	0.51
46:BY:111:ILE:HG21	46:BY:133:GLU:OE1	2.11	0.51
1:AA:317:G:N3	1:AA:317:G:H3'	2.26	0.51
1:AA:323:C:H4'	1:AA:325:G:OP1	2.10	0.51
1:AA:337:U:H1'	1:AA:366:C:O2	2.11	0.51
1:AA:1247:A:H3'	1:AA:1247:A:N3	2.25	0.51
1:AA:1351:C:H2'	1:AA:1352:C:O4'	2.11	0.51
22:BA:345:C:H2'	22:BA:346:A:C8	2.46	0.51
22:BA:597:C:H5	35:BN:95:SER:HB3	1.76	0.51
22:BA:1046:C:H2'	22:BA:1047:U:C6	2.46	0.51
22:BA:1809:G:H4'	22:BA:1810:C:H5''	1.93	0.51
22:BA:1878:C:H4'	22:BA:1879:U:OP1	2.11	0.51
22:BA:2303:A:C1'	50:B3:49:ARG:HH22	2.24	0.51
23:BB:14:A:H2'	23:BB:108:U:O2'	2.11	0.51
23:BB:104:U:H2'	23:BB:105:A:H8	1.76	0.51
26:BE:217:ARG:NE	26:BE:217:ARG:HA	2.26	0.51
27:BF:141:PHE:C	27:BF:143:GLU:H	2.15	0.51
33:BL:154:ILE:HG22	33:BL:222:LYS:H	1.76	0.51
34:BM:42:VAL:HG23	34:BM:56:GLU:H	1.75	0.51
35:BN:203:PHE:HA	35:BN:236:LEU:HD22	1.93	0.51
37:BP:103:PRO:HA	37:BP:106:ARG:NE	2.25	0.51
38:BQ:63:PRO:O	38:BQ:64:GLU:HG3	2.10	0.51
40:BS:54:LYS:CE	40:BS:58:ARG:HH21	2.23	0.51
40:BS:97:LEU:CD2	41:BT:135:ILE:HB	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BT:126:VAL:HG23	41:BT:163:LEU:HB3	1.92	0.51
43:BV:164:THR:HG23	43:BV:172:LYS:NZ	2.27	0.51
44:BW:148:GLY:N	44:BW:157:LYS:HE3	2.26	0.51
48:B1:58:HIS:O	48:B1:62:LYS:HG3	2.11	0.51
50:B3:21:LYS:HD2	50:B3:21:LYS:H	1.76	0.51
50:B3:37:LYS:HG2	50:B3:39:ARG:HH21	1.76	0.51
51:B4:130:ARG:CZ	51:B4:135:ARG:HG3	2.41	0.51
1:AA:684:C:H2'	1:AA:685:U:C6	2.45	0.50
1:AA:702:C:O2	1:AA:702:C:C2'	2.59	0.50
1:AA:1278:U:H2'	1:AA:1279:G:O4'	2.12	0.50
1:AA:1374:C:H2'	1:AA:1375:A:C8	2.46	0.50
1:AA:1446:G:H1'	1:AA:1467:A:H2	1.76	0.50
6:AF:118:LYS:CE	26:BE:162:ALA:CA	2.88	0.50
22:BA:51:A:H2	22:BA:163:G:HO2'	1.59	0.50
22:BA:960:A:H2'	22:BA:962:G:O6	2.11	0.50
22:BA:2039:C:H2'	22:BA:2040:U:C6	2.46	0.50
22:BA:2470:A:O2'	22:BA:2589:A:H1'	2.11	0.50
22:BA:2736:G:H2'	22:BA:2737:G:C8	2.46	0.50
23:BB:21:G:H1	23:BB:62:C:N4	2.08	0.50
27:BF:105:LYS:HD3	27:BF:105:LYS:N	2.07	0.50
27:BF:197:ARG:O	27:BF:198:VAL:HG12	2.11	0.50
33:BL:156:VAL:HG13	33:BL:157:ASN:N	2.26	0.50
38:BQ:98:LYS:HD2	38:BQ:103:GLU:OE1	2.10	0.50
41:BT:214:GLN:HG3	41:BT:216:ILE:HG23	1.93	0.50
42:BU:56:ARG:HA	42:BU:56:ARG:NE	2.26	0.50
42:BU:126:LEU:O	42:BU:128:PRO:HD3	2.10	0.50
44:BW:64:LEU:HD12	44:BW:64:LEU:N	2.27	0.50
53:B6:18:LYS:HD2	53:B6:19:ARG:N	2.27	0.50
1:AA:494:A:H2'	4:AD:1:MET:N	2.26	0.50
22:BA:1224:U:H5''	28:BG:241:ASN:ND2	2.26	0.50
22:BA:1231:G:OP1	22:BA:1232:A:H3'	2.11	0.50
22:BA:1482:C:H2'	22:BA:1483:G:C8	2.46	0.50
22:BA:1597:C:N4	26:BE:25:ARG:HD2	2.27	0.50
22:BA:1598:C:O2'	22:BA:1599:C:H5'	2.11	0.50
22:BA:2228:C:HO2'	22:BA:2229:U:H5	1.59	0.50
22:BA:2302:C:H4'	22:BA:2305:A:N6	2.26	0.50
22:BA:2570:G:H1'	22:BA:2599:G:N3	2.26	0.50
22:BA:2698:C:H4'	22:BA:2699:U:H5	1.75	0.50
22:BA:2715:U:H2'	22:BA:2716:C:C6	2.46	0.50
27:BF:197:ARG:HH22	27:BF:200:LYS:HG3	1.75	0.50
29:BH:20:LYS:HD2	29:BH:20:LYS:O	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:BJ:138:LEU:N	31:BJ:138:LEU:HD12	2.26	0.50
35:BN:126:LEU:HD22	35:BN:126:LEU:N	2.25	0.50
35:BN:129:LEU:HD23	35:BN:129:LEU:C	2.32	0.50
35:BN:150:ASP:CB	35:BN:171:ARG:HG3	2.41	0.50
36:BO:34:LEU:HD21	36:BO:129:THR:HB	1.93	0.50
37:BP:127:LYS:H	37:BP:198:PRO:CG	2.23	0.50
45:BX:110:ILE:HD13	45:BX:110:ILE:H	1.76	0.50
46:BY:124:LEU:HD23	46:BY:128:ALA:HB3	1.92	0.50
48:B1:69:LEU:N	48:B1:69:LEU:HD22	2.26	0.50
1:AA:502:U:H2'	1:AA:503:C:C6	2.46	0.50
1:AA:711:A:H2'	1:AA:712:C:C6	2.45	0.50
5:AE:276:LEU:HG	5:AE:280:ARG:HH21	1.76	0.50
22:BA:27:A:H61	22:BA:523:G:H1'	1.76	0.50
22:BA:647:C:O2	22:BA:651:U:H4'	2.11	0.50
22:BA:867:G:H1	22:BA:929:A:H61	1.59	0.50
22:BA:868:G:C2	22:BA:2285:A:H2'	2.46	0.50
22:BA:1155:A:H62	22:BA:2505:A:H1'	1.76	0.50
22:BA:2022:C:H2'	22:BA:2023:G:C8	2.46	0.50
22:BA:2506:G:H2'	22:BA:2507:G:O4'	2.11	0.50
22:BA:2767:A:OP1	30:BI:46:ILE:HG23	2.11	0.50
24:BC:40:G:H4'	37:BP:138:ASP:CG	2.31	0.50
27:BF:105:LYS:N	27:BF:106:PRO:CD	2.74	0.50
32:BK:167:LYS:HD2	32:BK:167:LYS:N	2.18	0.50
34:BM:19:LEU:H	34:BM:19:LEU:CD1	2.19	0.50
35:BN:204:SER:O	35:BN:208:LYS:HG3	2.11	0.50
37:BP:129:ARG:O	37:BP:133:VAL:HG22	2.12	0.50
47:BZ:121:LYS:O	47:BZ:125:GLU:HB2	2.11	0.50
52:B5:150:LEU:HD12	52:B5:150:LEU:N	2.26	0.50
1:AA:36:G:H21	12:AL:115:SER:HB2	1.77	0.50
1:AA:656:C:H2'	1:AA:657:G:C8	2.45	0.50
1:AA:1341:G:N2	1:AA:1451:A:H1'	2.25	0.50
22:BA:545:U:H2'	22:BA:546:G:C8	2.47	0.50
22:BA:839:G:N1	22:BA:2264:U:H4'	2.24	0.50
22:BA:1937:U:H2'	22:BA:1938:C:C6	2.46	0.50
22:BA:2193:C:H1'	25:BD:282:THR:HA	1.93	0.50
22:BA:2260:U:H2'	22:BA:2261:U:C6	2.46	0.50
22:BA:2303:A:H1'	50:B3:49:ARG:HH22	1.76	0.50
22:BA:2680:G:H2'	22:BA:2681:G:O4'	2.12	0.50
25:BD:150:THR:HG22	25:BD:151:LYS:N	2.27	0.50
27:BF:197:ARG:HH12	27:BF:200:LYS:CG	2.24	0.50
27:BF:239:LYS:HZ3	27:BF:240:PRO:HD2	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BG:131:SER:HB3	28:BG:133:LEU:N	2.26	0.50
28:BG:199:LEU:HD21	28:BG:244:LYS:HE3	1.94	0.50
28:BG:213:VAL:HG22	28:BG:251:THR:HG22	1.93	0.50
29:BH:117:ARG:HH21	48:B1:62:LYS:N	2.09	0.50
39:BR:226:LEU:HB3	39:BR:227:PRO:CD	2.40	0.50
41:BT:138:PRO:HB2	41:BT:224:ILE:CG2	2.42	0.50
43:BV:124:ALA:O	43:BV:128:ILE:HG12	2.11	0.50
43:BV:145:LYS:HD3	43:BV:145:LYS:C	2.31	0.50
43:BV:161:LYS:O	43:BV:176:ILE:HD12	2.12	0.50
49:B2:56:LEU:N	49:B2:56:LEU:HD12	2.26	0.50
1:AA:363:G:H2'	1:AA:364:A:C8	2.46	0.50
1:AA:568:C:H1'	4:AD:125:ILE:HG21	1.92	0.50
1:AA:682:C:H4'	18:AR:67:LYS:HZ2	1.76	0.50
1:AA:1204:U:O5'	1:AA:1206:G:H1'	2.11	0.50
1:AA:1370:U:H2'	1:AA:1371:G:H8	1.77	0.50
15:AO:53:LEU:HD13	22:BA:726:G:H22	1.70	0.50
17:AQ:140:LYS:H	17:AQ:140:LYS:HD2	1.77	0.50
20:AT:161:LYS:H	20:AT:161:LYS:HD2	1.75	0.50
22:BA:52:A:H62	22:BA:115:G:H21	1.59	0.50
22:BA:506:G:O4'	42:BU:34:THR:HG22	2.12	0.50
22:BA:668:U:H2'	22:BA:669:C:C6	2.47	0.50
22:BA:1189:G:H2'	22:BA:1190:G:H8	1.77	0.50
22:BA:1450:G:N1	26:BE:25:ARG:HA	2.24	0.50
22:BA:1470:A:H2'	22:BA:1471:A:C8	2.46	0.50
22:BA:2332:G:H2'	22:BA:2333:C:C6	2.47	0.50
22:BA:2559:A:H4'	22:BA:2560:G:C8	2.46	0.50
22:BA:2761:U:C3'	22:BA:2762:G:H5''	2.42	0.50
26:BE:35:CYS:HB3	26:BE:57:LEU:HA	1.93	0.50
26:BE:178:ARG:HD3	26:BE:180:ILE:HD11	1.93	0.50
27:BF:103:LEU:HD12	27:BF:103:LEU:H	1.77	0.50
27:BF:200:LYS:HZ3	33:BL:180:PRO:HD3	1.76	0.50
27:BF:224:ASP:HB2	27:BF:229:ILE:CG2	2.41	0.50
30:BI:131:ILE:HA	30:BI:172:THR:O	2.12	0.50
32:BK:98:ALA:HB1	32:BK:99:LEU:HD13	1.91	0.50
37:BP:99:LEU:HD22	37:BP:99:LEU:N	2.26	0.50
38:BQ:46:GLU:H	38:BQ:46:GLU:CD	2.15	0.50
38:BQ:63:PRO:HA	45:BX:134:LYS:HA	1.93	0.50
39:BR:141:PRO:HG2	39:BR:142:GLY:H	1.76	0.50
40:BS:111:ILE:O	40:BS:115:ILE:HG23	2.12	0.50
43:BV:135:LEU:HD11	43:BV:173:LYS:HB3	1.92	0.50
46:BY:78:CYS:SG	46:BY:79:PRO:HD2	2.52	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BY:110:ARG:HB3	46:BY:123:ARG:HG2	1.94	0.50
1:AA:9:A:O2'	5:AE:250:GLY:HA2	2.11	0.50
1:AA:1381:G:H5'	39:BR:231:THR:CG2	2.41	0.50
1:AA:1465:G:H2'	1:AA:1467:A:OP2	2.12	0.50
10:AJ:113:ILE:HD12	10:AJ:167:ARG:HE	1.76	0.50
22:BA:139:U:H2'	22:BA:140:G:C8	2.47	0.50
22:BA:208:A:OP1	22:BA:434:A:H5'	2.12	0.50
22:BA:410:G:H5''	22:BA:2104:A:H1'	1.94	0.50
22:BA:459:A:H4'	22:BA:461:A:N7	2.27	0.50
22:BA:1083:G:HO2'	22:BA:1113:A:H2	1.60	0.50
22:BA:1492:A:H2'	22:BA:1493:C:O4'	2.11	0.50
22:BA:1571:G:H3'	22:BA:1571:G:N3	2.26	0.50
22:BA:2137:G:H3'	22:BA:2138:G:H5''	1.93	0.50
22:BA:2157:U:H3'	22:BA:2158:U:C5'	2.42	0.50
24:BC:48:U:H5'	39:BR:220:TYR:CD2	2.47	0.50
26:BE:144:LEU:HD12	26:BE:144:LEU:N	2.26	0.50
26:BE:188:VAL:O	26:BE:188:VAL:HG12	2.12	0.50
29:BH:27:MET:O	29:BH:31:LEU:HG	2.12	0.50
32:BK:203:ALA:HB1	32:BK:208:ILE:HB	1.94	0.50
34:BM:1:MET:HE3	34:BM:67:LYS:HG2	1.94	0.50
36:BO:9:PHE:HD1	36:BO:9:PHE:H	1.58	0.50
36:BO:26:ARG:HB2	36:BO:26:ARG:NH1	2.27	0.50
39:BR:151:ILE:HD13	39:BR:209:VAL:H	1.77	0.50
39:BR:170:ILE:HG22	39:BR:171:SER:N	2.21	0.50
39:BR:221:TYR:CE1	39:BR:223:ARG:HG2	2.46	0.50
45:BX:106:LYS:HZ3	45:BX:133:ARG:HD2	1.76	0.50
46:BY:113:TRP:CZ3	46:BY:133:GLU:HB2	2.47	0.50
51:B4:121:THR:HA	51:B4:124:ARG:HG3	1.93	0.50
1:AA:487:A:H2'	1:AA:488:G:C8	2.46	0.50
1:AA:1066:G:H21	1:AA:1128:A:H1'	1.77	0.50
22:BA:995:U:H2'	22:BA:996:C:C6	2.47	0.50
22:BA:1294:A:H5''	22:BA:1682:C:H42	1.75	0.50
22:BA:1333:U:H3	43:BV:168:PRO:HG2	1.76	0.50
22:BA:1602:G:N1	26:BE:24:PRO:HB2	2.26	0.50
22:BA:1812:A:H2'	22:BA:1813:A:C8	2.46	0.50
22:BA:2041:G:H1	22:BA:2050:C:N4	2.03	0.50
22:BA:2203:U:H2'	22:BA:2204:A:C8	2.46	0.50
22:BA:2261:U:H2'	22:BA:2262:U:O4'	2.12	0.50
22:BA:2387:G:H21	50:B3:57:LYS:HZ3	1.58	0.50
22:BA:2436:U:H2'	22:BA:2437:C:C6	2.46	0.50
27:BF:207:ARG:HG2	27:BF:208:MET:H	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BG:116:TYR:O	28:BG:118:GLN:HG3	2.11	0.50
33:BL:138:LYS:O	40:BS:67:ALA:HA	2.11	0.50
34:BM:102:ILE:HD11	34:BM:106:LEU:HD12	1.93	0.50
37:BP:204:LEU:N	37:BP:204:LEU:HD12	2.26	0.50
39:BR:122:ILE:HD13	39:BR:122:ILE:C	2.32	0.50
44:BW:139:LYS:N	44:BW:139:LYS:HD3	2.26	0.50
46:BY:109:LYS:HB3	46:BY:109:LYS:HZ2	1.77	0.50
1:AA:239:U:H2'	1:AA:240:U:C6	2.47	0.50
10:AJ:158:PHE:HB2	14:AN:84:ARG:HH22	1.75	0.50
11:AK:137:ARG:H	11:AK:137:ARG:HD2	1.77	0.50
22:BA:55:G:H1	22:BA:112:C:N4	2.06	0.50
22:BA:229:A:H62	22:BA:239:G:H21	1.59	0.50
22:BA:703:C:H5'	26:BE:39:ARG:CB	2.42	0.50
22:BA:794:A:H1'	22:BA:1789:U:C1'	2.42	0.50
22:BA:1202:A:H2'	22:BA:1203:C:C6	2.46	0.50
22:BA:2766:A:H1'	22:BA:2775:A:N6	2.26	0.50
23:BB:43:C:H1'	29:BH:105:THR:O	2.11	0.50
26:BE:40:ASN:O	26:BE:46:THR:HG23	2.12	0.50
26:BE:101:LEU:HD22	26:BE:101:LEU:N	2.27	0.50
28:BG:210:MET:O	28:BG:251:THR:HG21	2.11	0.50
28:BG:236:LEU:HD22	28:BG:240:LEU:HD13	1.93	0.50
28:BG:245:LEU:HD23	28:BG:245:LEU:H	1.77	0.50
29:BH:110:LEU:HD12	29:BH:110:LEU:N	2.26	0.50
37:BP:161:GLU:O	37:BP:165:VAL:HG13	2.12	0.50
41:BT:222:THR:O	41:BT:224:ILE:HG23	2.12	0.50
44:BW:70:LYS:CE	44:BW:136:LEU:HD12	2.42	0.50
45:BX:78:LEU:HD23	45:BX:79:GLY:N	2.27	0.50
49:B2:15:ILE:N	49:B2:15:ILE:HD12	2.27	0.50
1:AA:53:C:H2'	1:AA:54:A:C8	2.47	0.50
1:AA:825:A:H5'	8:AH:80:LYS:HZ3	1.77	0.50
1:AA:1304:G:H2'	1:AA:1305:G:C8	2.47	0.50
4:AD:13:ARG:HB3	4:AD:29:GLY:HA2	1.94	0.50
11:AK:110:ARG:HH12	21:AU:110:LEU:HD13	1.77	0.50
22:BA:15:G:OP1	49:B2:14:ARG:HB3	2.11	0.50
22:BA:740:G:OP2	26:BE:21:LYS:HE3	2.12	0.50
22:BA:990:C:H3'	22:BA:990:C:OP1	2.12	0.50
22:BA:1731:G:O2'	26:BE:16:GLY:HA2	2.12	0.50
23:BB:42:C:C1'	29:BH:81:VAL:HG22	2.42	0.50
24:BC:49:G:C2'	24:BC:69:A:H61	2.24	0.50
28:BG:254:TYR:HA	28:BG:257:GLN:NE2	2.26	0.50
29:BH:47:VAL:HG22	29:BH:107:ARG:HH12	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:149:LEU:HD13	32:BK:179:ILE:HG23	1.94	0.50
34:BM:7:HIS:C	34:BM:8:LEU:HD22	2.31	0.50
34:BM:10:VAL:HG21	34:BM:16:ALA:O	2.11	0.50
34:BM:76:ILE:HD13	34:BM:76:ILE:C	2.32	0.50
35:BN:124:ARG:HG3	52:B5:140:ARG:NH2	2.26	0.50
35:BN:196:LEU:HB3	35:BN:214:ALA:HB3	1.94	0.50
42:BU:35:ARG:HH11	42:BU:39:ILE:HD11	1.77	0.50
43:BV:115:LEU:HD12	43:BV:115:LEU:N	2.27	0.50
44:BW:160:TYR:O	44:BW:162:ILE:HG13	2.12	0.50
45:BX:97:GLN:HB2	45:BX:124:VAL:O	2.12	0.50
48:B1:88:ASN:HD22	48:B1:89:HIS:N	2.09	0.50
49:B2:36:LYS:C	49:B2:38:LEU:H	2.15	0.50
1:AA:14:U:O2'	1:AA:863:A:H3'	2.11	0.49
1:AA:299:C:O2	1:AA:299:C:H2'	2.12	0.49
1:AA:721:G:O3'	26:BE:194:VAL:HG21	2.12	0.49
1:AA:814:A:H5'	1:AA:1027:U:O4	2.12	0.49
1:AA:877:G:H2'	1:AA:878:G:H8	1.77	0.49
1:AA:915:G:H2'	1:AA:916:C:C6	2.47	0.49
1:AA:965:A:H4'	1:AA:1166:C:H4'	1.94	0.49
1:AA:1239:C:H2'	1:AA:1240:C:C6	2.46	0.49
22:BA:68:C:O2'	22:BA:69:G:H5'	2.11	0.49
22:BA:1029:A:H2'	22:BA:1030:G:O4'	2.12	0.49
22:BA:1372:C:H2'	22:BA:1373:U:C6	2.47	0.49
22:BA:1794:A:H4'	22:BA:1795:A:C8	2.46	0.49
22:BA:1821:G:H2'	22:BA:1822:A:O4'	2.12	0.49
22:BA:2607:A:H2'	22:BA:2608:C:C6	2.46	0.49
22:BA:2736:G:H2'	22:BA:2737:G:H8	1.75	0.49
23:BB:72:G:H21	23:BB:105:A:N6	1.96	0.49
26:BE:213:ARG:HH11	26:BE:214:PRO:HD2	1.77	0.49
26:BE:241:SER:N	26:BE:242:PRO:CD	2.75	0.49
28:BG:109:ARG:HA	28:BG:109:ARG:NE	2.27	0.49
28:BG:224:ARG:HG3	28:BG:225:THR:N	2.27	0.49
29:BH:123:LEU:HA	29:BH:125:ARG:N	2.27	0.49
34:BM:10:VAL:HG11	34:BM:16:ALA:HB3	1.94	0.49
40:BS:21:ALA:HB2	40:BS:35:ILE:HG13	1.93	0.49
40:BS:92:LEU:HD21	41:BT:171:TYR:HD1	1.77	0.49
41:BT:128:VAL:HG12	41:BT:133:GLN:HE21	1.76	0.49
50:B3:32:ARG:NE	50:B3:34:ILE:HB	2.26	0.49
1:AA:721:G:N1	26:BE:5:LEU:CD1	2.76	0.49
22:BA:713:A:H2'	22:BA:714:U:C6	2.46	0.49
22:BA:786:G:O5'	22:BA:788:G:H1'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:869:G:H1'	22:BA:2285:A:N3	2.27	0.49
22:BA:894:G:N2	22:BA:901:C:H41	2.06	0.49
22:BA:902:G:H2'	22:BA:903:G:H5'	1.94	0.49
22:BA:1039:A:H4'	40:BS:77:ASN:OD1	2.12	0.49
22:BA:1087:G:N2	32:BK:198:ILE:HG23	2.27	0.49
22:BA:1347:U:H2'	22:BA:1348:C:C6	2.46	0.49
22:BA:1393:U:H2'	22:BA:1394:A:H8	1.76	0.49
22:BA:1533:A:H2'	22:BA:1534:A:O4'	2.12	0.49
22:BA:1855:G:H5''	26:BE:268:ARG:NH2	2.26	0.49
22:BA:1923:C:H2'	22:BA:1924:G:C8	2.47	0.49
22:BA:1933:A:H2'	22:BA:1934:C:H5'	1.93	0.49
22:BA:1943:G:C2'	22:BA:1944:G:H5''	2.43	0.49
22:BA:1946:A:N6	22:BA:1982:G:H21	2.00	0.49
22:BA:2268:G:H4'	22:BA:2466:U:H4'	1.94	0.49
22:BA:2464:G:H5'	22:BA:2518:C:OP2	2.12	0.49
22:BA:2640:G:OP1	24:BC:19:A:H1'	2.12	0.49
28:BG:158:ARG:HD2	28:BG:158:ARG:C	2.32	0.49
28:BG:236:LEU:HD11	28:BG:240:LEU:HD22	1.93	0.49
29:BH:66:ASP:HA	29:BH:69:ILE:HG22	1.94	0.49
30:BI:71:PRO:HG2	30:BI:72:LEU:CD1	2.41	0.49
35:BN:104:LYS:HE2	35:BN:111:ILE:HG22	1.94	0.49
39:BR:218:ARG:HD2	39:BR:220:TYR:CE1	2.47	0.49
40:BS:15:LYS:HA	40:BS:18:ARG:NE	2.26	0.49
42:BU:102:LYS:HB3	42:BU:135:VAL:HG12	1.94	0.49
45:BX:106:LYS:HB3	45:BX:130:GLY:O	2.11	0.49
47:BZ:67:LEU:O	47:BZ:67:LEU:HD23	2.11	0.49
1:AA:171:A:H2'	1:AA:172:G:O4'	2.13	0.49
1:AA:408:U:H2'	1:AA:409:U:O4'	2.12	0.49
1:AA:585:U:H2'	1:AA:586:G:C8	2.46	0.49
1:AA:800:C:H2'	1:AA:801:A:C8	2.47	0.49
1:AA:1204:U:H4'	1:AA:1206:G:H1'	1.94	0.49
7:AG:22:LEU:HD23	7:AG:22:LEU:H	1.77	0.49
22:BA:142:U:H3	22:BA:152:G:H1	1.60	0.49
22:BA:717:A:H62	22:BA:736:G:N2	2.09	0.49
22:BA:1003:A:H2'	22:BA:1004:G:O4'	2.12	0.49
22:BA:1294:A:H5''	22:BA:1682:C:N4	2.26	0.49
22:BA:1605:A:H2'	22:BA:1606:A:C8	2.48	0.49
22:BA:1927:A:O2'	22:BA:1928:C:P	2.70	0.49
22:BA:2671:A:H1'	22:BA:2673:U:C2	2.48	0.49
28:BG:113:ARG:HH11	28:BG:113:ARG:CA	2.23	0.49
29:BH:83:THR:HG22	29:BH:101:GLY:O	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BN:167:LEU:HD12	35:BN:167:LEU:N	2.28	0.49
38:BQ:55:ILE:HD13	38:BQ:56:ARG:N	2.27	0.49
38:BQ:157:LYS:HD2	38:BQ:158:GLY:N	2.27	0.49
39:BR:148:ILE:HD13	39:BR:148:ILE:C	2.33	0.49
39:BR:187:ILE:H	39:BR:195:VAL:HA	1.78	0.49
41:BT:123:ILE:HG22	41:BT:138:PRO:HG2	1.94	0.49
44:BW:157:LYS:H	44:BW:157:LYS:CD	2.19	0.49
46:BY:84:LYS:HE3	46:BY:123:ARG:H	1.77	0.49
47:BZ:124:ARG:NH1	47:BZ:124:ARG:HB2	2.26	0.49
52:B5:148:GLY:C	52:B5:151:PRO:HD2	2.33	0.49
1:AA:647:C:C3'	1:AA:648:G:H5''	2.42	0.49
1:AA:669:A:N6	18:AR:60:ARG:HH22	2.10	0.49
1:AA:1014:U:HO2'	1:AA:1015:C:H6	1.56	0.49
13:AM:109:VAL:HG23	29:BH:127:ARG:HH21	1.77	0.49
22:BA:1702:G:O2'	22:BA:1703:G:H5'	2.13	0.49
22:BA:1930:A:H2'	22:BA:1931:U:O4'	2.13	0.49
22:BA:2153:C:H2'	22:BA:2154:C:C6	2.47	0.49
22:BA:2218:G:N2	22:BA:2219:U:H5	2.10	0.49
22:BA:2279:U:H1'	22:BA:2345:A:H1'	1.94	0.49
22:BA:2527:C:H4'	27:BF:173:ARG:NH2	2.28	0.49
24:BC:54:U:H2'	24:BC:55:G:C8	2.46	0.49
26:BE:62:ASP:OD1	26:BE:100:ILE:HD13	2.12	0.49
27:BF:216:ARG:NH2	27:BF:251:ILE:HA	2.27	0.49
28:BG:84:VAL:HA	28:BG:160:ALA:HB1	1.95	0.49
28:BG:210:MET:HE1	28:BG:255:LEU:HD11	1.94	0.49
30:BI:63:GLY:C	30:BI:64:GLN:HE21	2.15	0.49
30:BI:150:LEU:HD12	30:BI:150:LEU:N	2.27	0.49
35:BN:130:ARG:CZ	52:B5:112:ARG:HA	2.42	0.49
37:BP:198:PRO:O	37:BP:199:MET:HG2	2.12	0.49
38:BQ:72:ARG:HE	38:BQ:146:ARG:CB	2.26	0.49
39:BR:183:ILE:HG22	39:BR:198:LEU:H	1.77	0.49
42:BU:47:ARG:NH1	42:BU:105:VAL:H	2.10	0.49
49:B2:22:LYS:H	49:B2:22:LYS:CD	2.26	0.49
1:AA:465:G:H4'	1:AA:467:C:C4	2.46	0.49
1:AA:909:U:O2	1:AA:909:U:C2'	2.60	0.49
1:AA:956:C:H2'	1:AA:957:C:C6	2.47	0.49
1:AA:1218:G:H2'	1:AA:1219:G:H8	1.76	0.49
1:AA:1249:U:O2'	1:AA:1250:U:P	2.70	0.49
1:AA:1353:C:H2'	1:AA:1354:G:C8	2.47	0.49
22:BA:6:A:H61	24:BC:97:C:H42	1.60	0.49
22:BA:9:A:H2'	22:BA:10:G:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1302:G:H1	22:BA:1310:C:H42	1.58	0.49
22:BA:2595:G:H1'	27:BF:188:SER:CB	2.43	0.49
25:BD:241:LEU:HD22	25:BD:241:LEU:N	2.28	0.49
29:BH:69:ILE:HD13	29:BH:69:ILE:C	2.33	0.49
34:BM:104:ARG:HH21	39:BR:157:GLU:CD	2.16	0.49
38:BQ:48:ARG:C	38:BQ:50:ALA:H	2.16	0.49
38:BQ:62:THR:HA	45:BX:135:LYS:HE3	1.94	0.49
38:BQ:113:GLU:O	38:BQ:117:LYS:HG2	2.12	0.49
41:BT:208:ARG:C	41:BT:209:ASN:HD22	2.15	0.49
42:BU:31:GLU:HB3	42:BU:32:ILE:HD12	1.94	0.49
42:BU:47:ARG:HH12	42:BU:104:GLU:HA	1.76	0.49
43:BV:135:LEU:HD11	43:BV:173:LYS:HD2	1.95	0.49
1:AA:363:G:H2'	1:AA:364:A:H8	1.77	0.49
1:AA:909:U:O2'	1:AA:910:U:OP2	2.27	0.49
1:AA:980:C:H5'	1:AA:981:G:C4	2.48	0.49
22:BA:237:G:H2'	22:BA:238:C:C6	2.48	0.49
22:BA:602:A:H4'	52:B5:91:LYS:N	2.28	0.49
22:BA:1204:A:H2'	22:BA:1205:U:C6	2.48	0.49
22:BA:1300:U:OP2	37:BP:124:LYS:HE2	2.12	0.49
22:BA:1491:G:H22	22:BA:1553:U:H3	1.59	0.49
22:BA:2320:G:O3'	29:BH:136:SER:HA	2.11	0.49
22:BA:2571:U:H2'	22:BA:2572:U:C6	2.47	0.49
22:BA:2628:C:H2'	22:BA:2629:A:C8	2.47	0.49
24:BC:61:A:H2'	24:BC:62:U:O4'	2.11	0.49
25:BD:295:GLU:HB2	25:BD:298:ASP:OD1	2.12	0.49
26:BE:247:GLY:HA3	26:BE:251:LEU:HD21	1.93	0.49
28:BG:105:ARG:CB	28:BG:108:VAL:HB	2.42	0.49
37:BP:137:VAL:O	37:BP:141:ILE:HG12	2.13	0.49
40:BS:9:ILE:HA	40:BS:12:ARG:NH1	2.28	0.49
46:BY:106:LEU:O	46:BY:106:LEU:HD12	2.12	0.49
46:BY:117:LYS:HD3	46:BY:138:ASP:CG	2.33	0.49
1:AA:68:C:H2'	1:AA:69:G:H8	1.78	0.49
1:AA:217:A:H4'	1:AA:218:G:H4'	1.93	0.49
1:AA:376:U:H5''	1:AA:443:A:C2	2.47	0.49
1:AA:568:C:H2'	1:AA:569:A:O4'	2.13	0.49
1:AA:656:C:H2'	1:AA:657:G:H8	1.78	0.49
1:AA:880:C:H2'	1:AA:881:C:C6	2.48	0.49
1:AA:1331:C:C3'	1:AA:1332:C:C5'	2.85	0.49
22:BA:492:A:H2'	22:BA:492:A:N3	2.27	0.49
22:BA:595:G:H2'	22:BA:1272:A:N1	2.28	0.49
22:BA:648:G:OP2	35:BN:204:SER:HB2	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:830:A:H5'	22:BA:1001:A:C2	2.47	0.49
22:BA:974:G:H2'	22:BA:975:A:C8	2.47	0.49
22:BA:1299:U:H2'	22:BA:1300:U:C6	2.48	0.49
22:BA:1443:G:N2	22:BA:1611:G:H1'	2.27	0.49
22:BA:2029:A:H2'	22:BA:2030:U:H5'	1.94	0.49
22:BA:2707:A:N6	24:BC:74:A:H2	2.11	0.49
25:BD:129:ARG:O	25:BD:129:ARG:HD3	2.13	0.49
27:BF:160:LYS:NZ	27:BF:167:LYS:HD2	2.28	0.49
28:BG:194:MET:HA	28:BG:197:TRP:CE3	2.48	0.49
32:BK:163:PRO:HG3	32:BK:205:ASN:O	2.12	0.49
35:BN:79:LYS:HA	35:BN:79:LYS:HZ2	1.70	0.49
35:BN:238:ARG:HA	35:BN:238:ARG:NE	2.27	0.49
36:BO:2:LEU:O	36:BO:47:ILE:HG12	2.12	0.49
41:BT:191:LEU:HD23	41:BT:191:LEU:N	2.22	0.49
42:BU:117:ARG:HD2	42:BU:123:TYR:OH	2.12	0.49
43:BV:133:SER:OG	43:BV:177:MET:HG2	2.13	0.49
1:AA:146:A:H2'	1:AA:147:C:O4'	2.13	0.49
1:AA:756:A:H2'	1:AA:757:G:C8	2.48	0.49
1:AA:1051:A:H2'	1:AA:1052:C:C6	2.48	0.49
1:AA:1051:A:O2'	1:AA:1052:C:H5'	2.13	0.49
22:BA:540:A:P	33:BL:212:ARG:HD3	2.53	0.49
22:BA:560:A:H62	41:BT:140:ARG:HH21	1.61	0.49
22:BA:888:C:H2'	22:BA:889:G:O4'	2.13	0.49
22:BA:917:C:H1'	36:BO:71:ASP:OD2	2.13	0.49
22:BA:1089:U:O4	32:BK:145:PRO:HG3	2.12	0.49
22:BA:2118:U:H2'	22:BA:2119:U:H5	1.78	0.49
22:BA:2210:C:H2'	22:BA:2211:U:C6	2.47	0.49
23:BB:36:U:O4	23:BB:49:U:H1'	2.13	0.49
25:BD:292:LEU:HD22	25:BD:292:LEU:N	2.28	0.49
26:BE:220:VAL:O	26:BE:220:VAL:HG22	2.12	0.49
28:BG:72:LEU:O	28:BG:73:LYS:HB2	2.12	0.49
28:BG:84:VAL:HG23	28:BG:85:HIS:CD2	2.47	0.49
35:BN:166:THR:HB	35:BN:178:ARG:HB2	1.95	0.49
36:BO:37:LEU:HA	36:BO:99:PRO:HB3	1.94	0.49
38:BQ:63:PRO:HB2	38:BQ:64:GLU:OE1	2.12	0.49
45:BX:116:ILE:HG13	45:BX:138:VAL:HB	1.93	0.49
46:BY:77:ILE:HD12	46:BY:77:ILE:N	2.27	0.49
1:AA:184:G:H2'	1:AA:185:G:O4'	2.13	0.49
1:AA:1076:G:N2	1:AA:1096:C:H42	2.07	0.49
2:AB:196:ASN:H	2:AB:196:ASN:ND2	2.03	0.49
13:AM:109:VAL:HG23	29:BH:127:ARG:HE	1.72	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:224:G:H2'	22:BA:225:U:O4'	2.13	0.49
22:BA:224:G:N2	22:BA:243:U:H3	2.05	0.49
22:BA:646:G:H2'	22:BA:647:C:C6	2.48	0.49
22:BA:873:A:H4'	23:BB:101:A:C2	2.48	0.49
22:BA:1019:U:H3	22:BA:1190:G:H22	1.61	0.49
22:BA:1089:U:H4'	22:BA:1098:A:O2'	2.13	0.49
22:BA:1199:A:C2'	22:BA:1200:A:H5'	2.43	0.49
22:BA:1343:A:H5''	42:BU:127:ARG:HH12	1.77	0.49
22:BA:1601:G:H21	26:BE:26:ASN:HB3	1.78	0.49
22:BA:2013:A:H5''	22:BA:2741:C:O2'	2.13	0.49
22:BA:2247:C:H2'	22:BA:2248:U:C6	2.48	0.49
22:BA:2345:A:H2'	22:BA:2346:A:C8	2.48	0.49
22:BA:2744:A:N3	22:BA:2744:A:H2'	2.28	0.49
25:BD:131:ILE:HD13	25:BD:131:ILE:C	2.32	0.49
26:BE:127:PRO:HA	26:BE:184:CYS:O	2.13	0.49
27:BF:150:LEU:HD23	27:BF:218:LEU:N	2.27	0.49
28:BG:186:LYS:HG2	28:BG:187:THR:H	1.78	0.49
28:BG:209:LEU:HD12	28:BG:226:LEU:HD11	1.94	0.49
31:BJ:131:ARG:CZ	31:BJ:143:VAL:HG21	2.43	0.49
32:BK:82:LEU:HD12	32:BK:82:LEU:N	2.28	0.49
36:BO:1:MET:CG	36:BO:68:ILE:HB	2.37	0.49
36:BO:2:LEU:HD22	36:BO:44:SER:HA	1.93	0.49
36:BO:23:ARG:HG3	36:BO:101:ARG:HD2	1.95	0.49
39:BR:151:ILE:HG23	39:BR:153:LEU:CD2	2.43	0.49
40:BS:31:LEU:HD13	40:BS:32:THR:N	2.27	0.49
45:BX:82:ILE:HA	45:BX:116:ILE:HG22	1.95	0.49
49:B2:36:LYS:HE2	49:B2:37:SER:N	2.27	0.49
1:AA:292:A:O2'	1:AA:293:C:H5'	2.12	0.49
1:AA:761:U:O2'	1:AA:762:A:H5'	2.13	0.49
1:AA:884:A:H2'	1:AA:885:C:C6	2.47	0.49
22:BA:91:A:H2'	22:BA:92:U:O4'	2.13	0.49
22:BA:333:A:H2'	22:BA:334:U:O4'	2.13	0.49
22:BA:450:G:H2'	22:BA:451:G:C8	2.48	0.49
22:BA:1032:C:O2'	22:BA:1038:A:H2'	2.12	0.49
22:BA:1050:G:N2	22:BA:1167:C:H2'	2.27	0.49
22:BA:1056:A:N6	22:BA:1153:G:H2'	2.27	0.49
22:BA:1418:U:O2	22:BA:1418:U:H2'	2.13	0.49
22:BA:1584:C:H2'	22:BA:1585:C:C6	2.48	0.49
22:BA:1866:G:H2'	22:BA:1867:A:O4'	2.13	0.49
22:BA:1984:A:H1'	22:BA:1986:G:C4	2.47	0.49
22:BA:2141:G:H2'	22:BA:2142:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2645:U:H5'	22:BA:2646:U:C6	2.48	0.49
26:BE:64:ARG:HD3	26:BE:146:ARG:N	2.28	0.49
26:BE:168:ALA:HB1	26:BE:179:LEU:HB3	1.94	0.49
34:BM:112:LYS:O	34:BM:112:LYS:HD2	2.13	0.49
35:BN:130:ARG:HG2	35:BN:130:ARG:HH11	1.78	0.49
35:BN:187:LEU:O	35:BN:188:ALA:HB2	2.13	0.49
36:BO:42:ILE:HG13	36:BO:97:VAL:HG21	1.93	0.49
44:BW:76:LYS:CD	44:BW:137:ILE:HG21	2.43	0.49
44:BW:78:ILE:HG23	44:BW:78:ILE:O	2.13	0.49
44:BW:85:LYS:HZ1	44:BW:103:ASP:HB3	1.78	0.49
46:BY:80:PHE:HB2	46:BY:88:ALA:CA	2.43	0.49
1:AA:838:A:H4'	1:AA:839:G:OP1	2.13	0.48
1:AA:1381:G:OP1	39:BR:230:SER:CB	2.61	0.48
13:AM:123:ILE:HD13	13:AM:124:ARG:H	1.78	0.48
22:BA:418:G:H2'	22:BA:419:C:C6	2.48	0.48
22:BA:578:U:H5'	22:BA:973:A:N6	2.27	0.48
22:BA:810:G:H2'	22:BA:811:A:C8	2.48	0.48
22:BA:854:A:N6	22:BA:963:U:H3	2.08	0.48
22:BA:1087:G:H2'	22:BA:1088:U:C6	2.48	0.48
22:BA:1330:G:OP1	51:B4:105:ARG:HB3	2.13	0.48
22:BA:1745:C:H2'	22:BA:1746:C:C6	2.48	0.48
22:BA:1825:A:H1'	22:BA:1827:G:N9	2.27	0.48
22:BA:1865:G:H2'	22:BA:1866:G:H8	1.77	0.48
22:BA:1875:G:H21	22:BA:1891:A:N6	2.00	0.48
22:BA:2217:U:O2'	22:BA:2218:G:H5'	2.13	0.48
22:BA:2265:A:H2'	22:BA:2266:U:H5'	1.93	0.48
22:BA:2531:U:H2'	22:BA:2532:C:C6	2.48	0.48
28:BG:65:VAL:HG13	28:BG:65:VAL:O	2.13	0.48
28:BG:89:ILE:O	28:BG:93:GLN:HG2	2.12	0.48
28:BG:199:LEU:HD12	28:BG:199:LEU:N	2.28	0.48
28:BG:214:GLU:HG2	28:BG:215:ASN:N	2.27	0.48
31:BJ:96:LEU:HD23	31:BJ:96:LEU:C	2.34	0.48
35:BN:148:LEU:HB3	35:BN:188:ALA:CB	2.43	0.48
36:BO:54:MET:HE1	36:BO:118:VAL:HA	1.95	0.48
40:BS:25:ARG:NE	40:BS:25:ARG:HA	2.28	0.48
42:BU:47:ARG:HH11	42:BU:105:VAL:H	1.61	0.48
1:AA:1052:C:H5''	2:AB:101:LEU:HD22	1.95	0.48
16:AP:48:LEU:HD21	16:AP:71:LEU:HD12	1.96	0.48
22:BA:1381:G:H22	22:BA:2231:C:N4	2.10	0.48
22:BA:1814:G:H2'	22:BA:1815:U:C6	2.48	0.48
22:BA:2481:C:H2'	22:BA:2482:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2554:U:H2'	22:BA:2555:U:C6	2.47	0.48
22:BA:2674:A:N6	22:BA:2681:G:H21	2.02	0.48
29:BH:113:SER:HB3	48:B1:62:LYS:HB3	1.93	0.48
29:BH:157:LYS:HG2	29:BH:157:LYS:O	2.13	0.48
31:BJ:97:LYS:O	31:BJ:101:GLU:HG2	2.12	0.48
36:BO:50:GLY:HA2	36:BO:124:LYS:HG3	1.95	0.48
38:BQ:145:GLY:C	38:BQ:147:VAL:H	2.16	0.48
40:BS:57:PHE:HA	40:BS:60:LEU:HD12	1.95	0.48
42:BU:64:ILE:HD11	49:B2:24:GLY:HA2	1.95	0.48
46:BY:101:LEU:HD12	46:BY:101:LEU:N	2.27	0.48
48:B1:89:HIS:ND1	48:B1:93:LEU:HD22	2.28	0.48
1:AA:317:G:C2'	1:AA:318:G:H5'	2.43	0.48
1:AA:629:C:H2'	1:AA:630:G:C8	2.48	0.48
1:AA:899:U:H2'	1:AA:900:G:H8	1.77	0.48
1:AA:927:A:C2	1:AA:1267:A:H1'	2.48	0.48
22:BA:11:G:N2	22:BA:2643:C:H4'	2.24	0.48
22:BA:198:A:H2'	22:BA:199:G:C8	2.48	0.48
22:BA:788:G:H2'	22:BA:789:G:C8	2.49	0.48
22:BA:1451:G:O6	26:BE:25:ARG:HG3	2.13	0.48
22:BA:1991:A:H2'	22:BA:1992:A:O4'	2.12	0.48
22:BA:2121:C:H42	22:BA:2196:G:H1	1.61	0.48
25:BD:198:ILE:HG13	25:BD:209:VAL:HG12	1.95	0.48
26:BE:190:GLN:O	26:BE:190:GLN:HG2	2.14	0.48
27:BF:200:LYS:HD2	27:BF:200:LYS:O	2.13	0.48
28:BG:186:LYS:HZ2	28:BG:188:LYS:CB	2.25	0.48
28:BG:191:ILE:HD12	28:BG:191:ILE:H	1.79	0.48
29:BH:19:LEU:HD12	29:BH:112:TYR:HB3	1.95	0.48
29:BH:20:LYS:HD2	29:BH:20:LYS:C	2.34	0.48
31:BJ:121:PHE:HE2	31:BJ:152:ILE:HD12	1.78	0.48
31:BJ:133:GLY:HA2	31:BJ:139:ILE:HG22	1.94	0.48
33:BL:128:ALA:HA	33:BL:131:ILE:HG22	1.96	0.48
33:BL:182:GLY:C	33:BL:184:LYS:H	2.16	0.48
35:BN:130:ARG:NE	52:B5:112:ARG:HA	2.27	0.48
37:BP:167:ALA:HB1	37:BP:171:GLU:OE1	2.14	0.48
41:BT:132:ARG:HB3	41:BT:134:TYR:HE1	1.76	0.48
43:BV:167:ARG:HE	43:BV:173:LYS:HE2	1.79	0.48
45:BX:108:VAL:CG2	45:BX:109:GLY:H	2.17	0.48
48:B1:93:LEU:HD23	48:B1:94:GLY:N	2.29	0.48
22:BA:639:A:C4'	22:BA:640:G:OP1	2.61	0.48
22:BA:763:A:C6	22:BA:1791:C:H1'	2.48	0.48
22:BA:1448:A:H4'	22:BA:1449:C:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1681:G:H5'	22:BA:1682:C:O4'	2.13	0.48
22:BA:2762:G:H1	22:BA:2778:U:H3	1.61	0.48
23:BB:90:G:OP2	36:BO:38:GLU:HB3	2.13	0.48
25:BD:123:LEU:HD23	25:BD:123:LEU:O	2.13	0.48
27:BF:173:ARG:HB3	27:BF:173:ARG:NH1	2.27	0.48
28:BG:146:ARG:NH1	28:BG:147:ASP:H	2.11	0.48
28:BG:220:GLY:O	28:BG:226:LEU:HD22	2.14	0.48
33:BL:156:VAL:HG13	33:BL:157:ASN:OD1	2.14	0.48
34:BM:8:LEU:HD13	34:BM:82:ASN:OD1	2.14	0.48
35:BN:121:PRO:HA	35:BN:125:ARG:NH2	2.28	0.48
37:BP:123:ILE:O	37:BP:202:ILE:HG22	2.13	0.48
37:BP:126:THR:HG22	37:BP:192:ARG:NH2	2.28	0.48
49:B2:10:ILE:HG13	49:B2:11:TYR:N	2.28	0.48
1:AA:1217:A:H2'	1:AA:1218:G:H5'	1.96	0.48
1:AA:1329:U:H4'	1:AA:1330:U:C6	2.49	0.48
1:AA:1477:U:O2'	1:AA:1478:G:H3'	2.14	0.48
9:AI:111:TRP:HE1	9:AI:144:GLN:HG3	1.78	0.48
13:AM:109:VAL:CG2	29:BH:127:ARG:CZ	2.91	0.48
22:BA:218:A:H2'	22:BA:219:U:C6	2.48	0.48
22:BA:820:G:O6	35:BN:104:LYS:HE3	2.14	0.48
22:BA:835:C:H1'	22:BA:2375:A:N7	2.28	0.48
22:BA:979:U:H2'	22:BA:980:G:H8	1.79	0.48
22:BA:1688:A:H2'	22:BA:1689:C:O4'	2.14	0.48
22:BA:2647:A:H2'	22:BA:2648:G:C8	2.49	0.48
22:BA:2706:U:H4'	22:BA:2731:C:O2	2.14	0.48
22:BA:2750:G:H3'	22:BA:2751:A:H5'	1.96	0.48
29:BH:46:VAL:O	29:BH:111:MET:HE1	2.13	0.48
30:BI:214:ARG:HH11	30:BI:214:ARG:HA	1.78	0.48
32:BK:90:THR:N	32:BK:91:PRO:CD	2.76	0.48
36:BO:80:GLU:OE1	36:BO:80:GLU:N	2.47	0.48
39:BR:137:LEU:O	39:BR:139:PRO:HD3	2.14	0.48
39:BR:148:ILE:CD1	39:BR:150:GLN:HG3	2.44	0.48
40:BS:17:ILE:CG2	40:BS:35:ILE:HD12	2.44	0.48
44:BW:129:ILE:HD13	44:BW:130:HIS:N	2.25	0.48
47:BZ:118:LEU:HD12	47:BZ:118:LEU:N	2.28	0.48
52:B5:110:ILE:O	52:B5:110:ILE:HG23	2.13	0.48
1:AA:61:A:N6	1:AA:92:G:H4'	2.29	0.48
1:AA:585:U:H2'	1:AA:586:G:H8	1.78	0.48
1:AA:622:G:H2'	1:AA:623:A:C8	2.49	0.48
1:AA:682:C:O5'	1:AA:682:C:H6	1.97	0.48
1:AA:782:U:O5'	1:AA:782:U:H6	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:824:U:H1'	8:AH:15:ASN:OD1	2.14	0.48
1:AA:1265:C:H2'	1:AA:1266:A:O4'	2.14	0.48
15:AO:44:LYS:CD	26:BE:7:LYS:HZ2	2.21	0.48
21:AU:113:ARG:HE	21:AU:116:ARG:HB3	1.78	0.48
22:BA:144:A:H2'	22:BA:145:A:C8	2.48	0.48
22:BA:176:A:H2'	22:BA:177:C:H6	1.79	0.48
22:BA:456:C:H4'	28:BG:100:ALA:HB2	1.95	0.48
22:BA:824:U:H2'	22:BA:825:C:C6	2.48	0.48
22:BA:1001:A:H2'	22:BA:1207:G:N2	2.29	0.48
22:BA:1024:A:H4'	40:BS:94:ARG:HE	1.79	0.48
22:BA:1089:U:H4'	22:BA:1098:A:H1'	1.94	0.48
22:BA:1361:U:H1'	22:BA:1639:A:H5'	1.96	0.48
22:BA:1653:C:OP1	22:BA:1653:C:H3'	2.13	0.48
22:BA:1673:A:H2'	22:BA:1674:C:C6	2.49	0.48
22:BA:1744:C:H2'	22:BA:1745:C:C6	2.48	0.48
22:BA:2032:G:H21	40:BS:37:GLN:NE2	2.12	0.48
22:BA:2111:U:H3	22:BA:2206:A:N6	2.01	0.48
22:BA:2279:U:H2'	22:BA:2280:C:C6	2.48	0.48
22:BA:2464:G:O2'	22:BA:2465:A:H5''	2.14	0.48
24:BC:22:C:H2'	24:BC:23:G:C8	2.49	0.48
28:BG:206:LEU:O	28:BG:244:LYS:HB2	2.14	0.48
30:BI:108:HIS:CE1	30:BI:112:ARG:HH21	2.32	0.48
37:BP:95:LYS:HE3	37:BP:96:VAL:HG23	1.96	0.48
37:BP:118:LEU:HD22	37:BP:118:LEU:N	2.29	0.48
37:BP:186:ILE:H	37:BP:186:ILE:CD1	2.22	0.48
38:BQ:42:LYS:HD3	38:BQ:43:THR:N	2.28	0.48
40:BS:48:ARG:O	40:BS:52:ARG:HG2	2.13	0.48
42:BU:104:GLU:O	42:BU:132:ILE:HG13	2.14	0.48
43:BV:121:THR:H	43:BV:124:ALA:HB3	1.79	0.48
45:BX:115:THR:HG22	45:BX:117:PHE:H	1.78	0.48
46:BY:131:THR:HA	46:BY:135:ASN:HD21	1.79	0.48
1:AA:465:G:H4'	1:AA:467:C:C2	2.49	0.48
1:AA:769:G:H2'	1:AA:770:G:C8	2.49	0.48
1:AA:1063:C:H4'	10:AJ:163:ARG:HH22	1.79	0.48
1:AA:1136:A:H4'	10:AJ:159:HIS:NE2	2.29	0.48
22:BA:641:C:H2'	22:BA:642:G:H8	1.78	0.48
22:BA:818:U:H2'	22:BA:819:G:C8	2.49	0.48
22:BA:1597:C:H42	26:BE:25:ARG:HD2	1.78	0.48
22:BA:1700:A:H62	22:BA:2006:G:N2	2.12	0.48
22:BA:1806:U:H2'	22:BA:1807:C:C6	2.49	0.48
22:BA:1809:G:H4'	22:BA:1810:C:H6	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1824:C:N3	22:BA:1825:A:N6	2.61	0.48
22:BA:1855:G:H5''	26:BE:268:ARG:CZ	2.43	0.48
26:BE:179:LEU:HD13	26:BE:262:SER:O	2.12	0.48
30:BI:64:GLN:NE2	30:BI:64:GLN:N	2.62	0.48
30:BI:138:ARG:HB2	30:BI:171:ASN:HB2	1.95	0.48
34:BM:77:ILE:HA	39:BR:196:PHE:CG	2.49	0.48
36:BO:57:ASN:HD22	36:BO:57:ASN:N	2.11	0.48
37:BP:110:LEU:HD11	37:BP:136:TYR:HB3	1.94	0.48
41:BT:136:VAL:HG13	41:BT:136:VAL:O	2.14	0.48
46:BY:120:VAL:O	46:BY:122:LEU:HD22	2.14	0.48
48:B1:59:GLU:O	48:B1:63:VAL:HG12	2.14	0.48
50:B3:13:LEU:HD22	50:B3:13:LEU:N	2.28	0.48
50:B3:14:GLU:HG2	50:B3:32:ARG:N	2.28	0.48
1:AA:48:C:H4'	1:AA:49:U:H5''	1.94	0.48
1:AA:370:G:H2'	1:AA:371:C:C6	2.49	0.48
22:BA:788:G:H2'	22:BA:789:G:H8	1.79	0.48
22:BA:874:G:O2'	22:BA:875:C:H5'	2.14	0.48
22:BA:1088:U:C4'	22:BA:1090:U:H5'	2.42	0.48
22:BA:1365:U:H4'	22:BA:1405:A:C6	2.48	0.48
22:BA:1800:C:OP1	26:BE:214:PRO:HB3	2.13	0.48
22:BA:2140:A:N6	25:BD:247:PRO:HA	2.29	0.48
22:BA:2352:A:OP2	38:BQ:53:VAL:HG22	2.13	0.48
22:BA:2742:C:H2'	22:BA:2743:A:H8	1.78	0.48
23:BB:49:U:H2'	23:BB:50:G:H8	1.78	0.48
27:BF:110:HIS:CD2	27:BF:117:ILE:HG22	2.48	0.48
27:BF:200:LYS:HD2	27:BF:200:LYS:C	2.34	0.48
29:BH:138:ASP:CG	29:BH:142:ASN:HB2	2.34	0.48
31:BJ:116:GLN:O	31:BJ:120:VAL:HG12	2.14	0.48
33:BL:213:LEU:HD23	33:BL:213:LEU:C	2.34	0.48
41:BT:138:PRO:HB3	41:BT:221:ILE:HG22	1.94	0.48
41:BT:174:THR:OG1	41:BT:175:PRO:HD2	2.14	0.48
43:BV:138:VAL:O	43:BV:172:LYS:HB3	2.14	0.48
45:BX:125:LYS:HZ3	45:BX:128:LYS:HD3	1.78	0.48
46:BY:118:ARG:HB3	46:BY:148:LEU:HG	1.95	0.48
46:BY:118:ARG:HG2	46:BY:118:ARG:HH11	1.79	0.48
46:BY:137:LEU:O	46:BY:137:LEU:HD13	2.13	0.48
53:B6:18:LYS:HD2	53:B6:18:LYS:C	2.34	0.48
1:AA:47:G:O2'	1:AA:336:U:H1'	2.14	0.48
1:AA:190:C:H2'	1:AA:191:G:C8	2.49	0.48
1:AA:541:U:H2'	1:AA:542:U:C6	2.49	0.48
1:AA:792:G:N2	1:AA:793:A:H62	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:957:C:H2'	1:AA:958:U:H4'	1.96	0.48
1:AA:1050:A:H4'	1:AA:1051:A:O4'	2.13	0.48
22:BA:84:G:H2'	22:BA:85:U:H6	1.79	0.48
22:BA:296:G:H2'	22:BA:297:U:C6	2.49	0.48
22:BA:305:G:H2'	22:BA:306:G:H8	1.79	0.48
22:BA:783:U:P	51:B4:110:ARG:HE	2.37	0.48
22:BA:873:A:P	36:BO:21:SER:HB2	2.54	0.48
22:BA:1016:G:C2	22:BA:1017:G:H1'	2.49	0.48
22:BA:1452:A:H61	22:BA:1595:C:H42	1.60	0.48
22:BA:1604:A:H2'	22:BA:1605:A:C8	2.49	0.48
22:BA:2367:C:H2'	22:BA:2368:A:O4'	2.14	0.48
25:BD:176:THR:HG22	25:BD:276:GLU:HG2	1.95	0.48
26:BE:160:LEU:CD2	26:BE:170:LEU:HD23	2.44	0.48
27:BF:200:LYS:CE	33:BL:179:ARG:HA	2.44	0.48
27:BF:214:LYS:HD2	27:BF:216:ARG:HD3	1.95	0.48
29:BH:69:ILE:HA	29:BH:80:PRO:HG2	1.95	0.48
30:BI:110:LEU:C	30:BI:110:LEU:HD13	2.34	0.48
33:BL:154:ILE:HG22	33:BL:221:LEU:HA	1.96	0.48
36:BO:1:MET:HG2	36:BO:1:MET:O	2.14	0.48
37:BP:168:LEU:H	37:BP:168:LEU:HD12	1.79	0.48
39:BR:157:GLU:O	39:BR:161:ARG:HD3	2.13	0.48
39:BR:177:ILE:HG13	39:BR:178:HIS:CD2	2.49	0.48
40:BS:97:LEU:HD22	41:BT:135:ILE:HB	1.96	0.48
42:BU:50:ILE:CD1	42:BU:105:VAL:HG23	2.44	0.48
50:B3:64:ILE:O	50:B3:64:ILE:HG23	2.14	0.48
1:AA:90:C:H2'	1:AA:91:G:C8	2.49	0.48
1:AA:225:G:O2'	1:AA:226:G:H5'	2.14	0.48
1:AA:448:G:N2	1:AA:494:A:H1'	2.28	0.48
1:AA:669:A:H4'	1:AA:670:A:C5'	2.44	0.48
1:AA:1348:C:H5''	1:AA:1349:C:OP1	2.13	0.48
22:BA:231:C:H5''	22:BA:402:A:N1	2.29	0.48
22:BA:234:C:H5	22:BA:2412:C:H5''	1.79	0.48
22:BA:829:G:O2'	22:BA:830:A:H5''	2.14	0.48
22:BA:873:A:H4'	23:BB:101:A:N3	2.29	0.48
22:BA:1075:G:H2'	22:BA:1138:G:N1	2.28	0.48
22:BA:1618:C:H4'	22:BA:1620:U:C4	2.48	0.48
22:BA:1675:C:O2'	22:BA:2716:C:H4'	2.14	0.48
22:BA:2024:G:H2'	22:BA:2025:U:C6	2.49	0.48
22:BA:2115:G:H2'	22:BA:2116:C:C6	2.49	0.48
22:BA:2362:G:H2'	22:BA:2398:C:O2	2.14	0.48
22:BA:2406:G:H5''	22:BA:2407:U:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:BC:15:G:O6	37:BP:90:MET:HB2	2.14	0.48
24:BC:22:C:H2'	24:BC:23:G:H8	1.79	0.48
28:BG:186:LYS:NZ	28:BG:188:LYS:HB2	2.29	0.48
33:BL:204:VAL:O	33:BL:208:LEU:HG	2.14	0.48
35:BN:187:LEU:H	35:BN:206:SER:HB2	1.79	0.48
35:BN:192:LEU:HG	35:BN:193:SER:N	2.21	0.48
39:BR:144:ARG:HE	39:BR:146:GLY:N	2.12	0.48
42:BU:61:THR:O	42:BU:65:LEU:HG	2.13	0.48
44:BW:111:VAL:O	44:BW:111:VAL:HG12	2.14	0.48
44:BW:126:GLU:N	44:BW:126:GLU:OE1	2.47	0.48
44:BW:140:GLU:OE2	44:BW:161:LEU:HD12	2.14	0.48
45:BX:93:ILE:HB	45:BX:125:LYS:HZ1	1.77	0.48
1:AA:1192:C:H2'	1:AA:1193:G:C8	2.48	0.47
20:AT:170:ARG:HB2	20:AT:174:ARG:HH21	1.79	0.47
22:BA:44:G:H2'	22:BA:200:G:C5	2.49	0.47
22:BA:95:G:H4'	47:BZ:105:SER:HB2	1.96	0.47
22:BA:533:G:H4'	22:BA:552:G:O2'	2.15	0.47
22:BA:684:C:H1'	22:BA:1275:A:H2	1.79	0.47
22:BA:976:C:H5''	22:BA:989:G:O2'	2.13	0.47
22:BA:1113:A:N6	22:BA:1114:A:H62	2.11	0.47
22:BA:1617:C:C2'	22:BA:1618:C:H5'	2.43	0.47
22:BA:1646:A:H5''	22:BA:1647:C:OP2	2.14	0.47
22:BA:1712:A:O2'	27:BF:178:HIS:HB3	2.14	0.47
22:BA:2220:G:H2'	22:BA:2221:U:C6	2.49	0.47
22:BA:2322:A:H5''	29:BH:146:GLY:HA3	1.96	0.47
22:BA:2556:C:H2'	22:BA:2557:C:C6	2.48	0.47
22:BA:2742:C:H2'	22:BA:2743:A:C8	2.49	0.47
25:BD:180:PRO:HB2	25:BD:301:ILE:HD12	1.96	0.47
25:BD:183:THR:OG1	25:BD:273:GLY:HA3	2.14	0.47
25:BD:206:ALA:HB2	25:BD:267:VAL:HG21	1.95	0.47
26:BE:42:ARG:HH11	26:BE:42:ARG:HG3	1.78	0.47
26:BE:152:ARG:O	26:BE:156:ALA:HB2	2.13	0.47
28:BG:75:ALA:N	28:BG:76:PRO:CD	2.75	0.47
29:BH:67:ALA:O	29:BH:71:GLU:HB2	2.14	0.47
30:BI:52:ALA:O	30:BI:53:VAL:O	2.31	0.47
32:BK:206:MET:SD	32:BK:208:ILE:HD12	2.54	0.47
35:BN:120:MET:CG	35:BN:121:PRO:HD3	2.44	0.47
41:BT:123:ILE:N	41:BT:138:PRO:HG2	2.29	0.47
42:BU:62:LEU:HD12	42:BU:63:MET:HG3	1.96	0.47
1:AA:27:A:N6	1:AA:506:G:H1'	2.29	0.47
1:AA:456:U:H4'	1:AA:457:A:H8	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:514:G:C4'	1:AA:515:G:OP1	2.61	0.47
1:AA:537:C:H5''	8:AH:29:THR:HB	1.94	0.47
1:AA:1331:C:H4'	7:AG:79:ARG:NE	2.29	0.47
1:AA:1384:G:H2'	1:AA:1385:U:C6	2.49	0.47
22:BA:34:G:C1'	22:BA:466:A:H1'	2.44	0.47
22:BA:59:A:H2'	22:BA:62:A:H61	1.79	0.47
22:BA:135:C:H42	22:BA:159:A:H61	1.62	0.47
22:BA:427:A:H2'	22:BA:428:C:C6	2.50	0.47
22:BA:786:G:H5'	22:BA:787:G:OP1	2.14	0.47
22:BA:866:G:H1'	45:BX:81:LYS:HD2	1.95	0.47
22:BA:1176:C:H2'	22:BA:1177:U:C6	2.49	0.47
22:BA:1178:G:H2'	22:BA:1179:C:C6	2.49	0.47
22:BA:1280:G:H2'	22:BA:1281:G:C8	2.49	0.47
25:BD:319:LYS:HD2	25:BD:319:LYS:C	2.35	0.47
25:BD:336:ILE:HD13	25:BD:337:ARG:N	2.29	0.47
26:BE:57:LEU:HD23	26:BE:58:TYR:H	1.77	0.47
27:BF:213:ARG:HG2	27:BF:237:PRO:HB3	1.97	0.47
29:BH:121:LEU:C	29:BH:123:LEU:H	2.18	0.47
34:BM:12:ASP:OD2	34:BM:85:VAL:HG13	2.13	0.47
34:BM:19:LEU:HD13	34:BM:19:LEU:N	2.20	0.47
34:BM:121:LEU:HD22	34:BM:121:LEU:N	2.28	0.47
35:BN:71:LEU:N	35:BN:71:LEU:HD22	2.28	0.47
39:BR:144:ARG:CD	39:BR:146:GLY:H	2.28	0.47
39:BR:216:LYS:HD3	39:BR:216:LYS:H	1.79	0.47
40:BS:88:ARG:HA	40:BS:118:LYS:HE2	1.95	0.47
48:B1:73:THR:HG21	48:B1:77:LYS:HZ2	1.78	0.47
1:AA:749:U:H2'	1:AA:750:A:H8	1.79	0.47
1:AA:1168:G:H2'	1:AA:1169:G:H8	1.79	0.47
1:AA:1350:G:H2'	1:AA:1351:C:O4'	2.13	0.47
22:BA:71:A:H5''	22:BA:72:A:OP2	2.13	0.47
22:BA:430:U:H2'	22:BA:431:U:C6	2.49	0.47
22:BA:1018:A:H62	22:BA:1207:G:H1'	1.78	0.47
22:BA:1142:G:H2'	22:BA:1143:C:C6	2.49	0.47
22:BA:1481:U:H5'	22:BA:2719:G:H21	1.79	0.47
22:BA:1766:G:H1'	22:BA:1768:G:H21	1.79	0.47
22:BA:2303:A:H8	50:B3:49:ARG:HH12	1.62	0.47
26:BE:169:THR:HG22	26:BE:170:LEU:H	1.79	0.47
27:BF:186:LEU:O	27:BF:189:ILE:HD11	2.14	0.47
27:BF:227:LEU:HB3	39:BR:121:ASP:O	2.13	0.47
28:BG:239:VAL:HG13	28:BG:240:LEU:N	2.30	0.47
30:BI:57:VAL:HG23	30:BI:69:LYS:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BM:43:ILE:HD11	34:BM:45:GLU:O	2.14	0.47
38:BQ:84:ASP:O	38:BQ:86:LYS:N	2.46	0.47
39:BR:144:ARG:HD3	39:BR:146:GLY:H	1.78	0.47
44:BW:93:HIS:CD2	44:BW:94:LYS:H	2.32	0.47
44:BW:147:VAL:HB	44:BW:156:ARG:HG2	1.97	0.47
45:BX:87:VAL:O	45:BX:87:VAL:HG22	2.13	0.47
1:AA:25:U:H2'	1:AA:26:C:C6	2.49	0.47
1:AA:30:A:O2'	1:AA:31:U:H5'	2.14	0.47
1:AA:660:A:C5'	26:BE:161:ILE:C	2.79	0.47
1:AA:745:C:H2'	1:AA:746:C:C6	2.50	0.47
1:AA:871:G:H2'	1:AA:872:A:C8	2.50	0.47
1:AA:1116:U:O5'	1:AA:1117:A:OP2	2.32	0.47
1:AA:1422:A:C4'	22:BA:1738:G:O2'	2.62	0.47
6:AF:118:LYS:HD3	26:BE:163:LYS:HA	1.96	0.47
22:BA:304:A:H2'	22:BA:305:G:H5'	1.97	0.47
22:BA:426:C:H2'	22:BA:427:A:C8	2.49	0.47
22:BA:675:U:H2'	22:BA:676:U:C6	2.48	0.47
22:BA:1448:A:H4'	22:BA:1449:C:C6	2.49	0.47
22:BA:1903:A:H1'	22:BA:2101:G:H5'	1.96	0.47
22:BA:2022:C:H2'	22:BA:2023:G:H8	1.78	0.47
22:BA:2063:C:H2'	22:BA:2064:C:C6	2.49	0.47
22:BA:2694:G:H2'	22:BA:2695:C:C6	2.49	0.47
25:BD:279:VAL:HG13	25:BD:283:GLY:HA2	1.97	0.47
26:BE:222:ASN:HD22	26:BE:222:ASN:N	2.13	0.47
27:BF:250:LYS:NZ	27:BF:252:VAL:HG13	2.29	0.47
29:BH:23:TYR:O	29:BH:28:VAL:HG23	2.15	0.47
31:BJ:129:VAL:HG13	31:BJ:129:VAL:O	2.15	0.47
36:BO:91:GLU:CD	36:BO:92:TYR:N	2.68	0.47
36:BO:102:ILE:HD11	36:BO:105:GLU:HG2	1.96	0.47
37:BP:199:MET:HE2	37:BP:199:MET:HA	1.96	0.47
38:BQ:56:ARG:HG2	38:BQ:59:VAL:HG22	1.95	0.47
38:BQ:127:LEU:O	38:BQ:127:LEU:HD23	2.13	0.47
42:BU:42:SER:HA	42:BU:128:PRO:O	2.15	0.47
46:BY:122:LEU:HD12	46:BY:150:LYS:HE3	1.96	0.47
49:B2:10:ILE:CD1	49:B2:14:ARG:HE	2.28	0.47
1:AA:26:C:H5'	1:AA:472:G:H1'	1.96	0.47
1:AA:448:G:H2'	1:AA:449:C:C6	2.50	0.47
1:AA:1150:U:H5'	14:AN:68:ARG:NH2	2.29	0.47
1:AA:1469:G:H2'	1:AA:1470:G:C8	2.50	0.47
22:BA:393:G:H5'	46:BY:93:HIS:HB2	1.97	0.47
22:BA:492:A:H1'	44:BW:106:PHE:CE2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:522:U:H5'	22:BA:1257:G:H5'	1.97	0.47
22:BA:641:C:H2'	22:BA:642:G:C8	2.50	0.47
22:BA:673:G:C5'	35:BN:89:ALA:H	2.26	0.47
22:BA:968:C:C2'	22:BA:969:A:H5''	2.44	0.47
22:BA:973:A:C2	22:BA:2465:A:H1'	2.50	0.47
22:BA:1175:U:H2'	22:BA:1176:C:C6	2.49	0.47
22:BA:1346:U:H1'	42:BU:115:LYS:HZ2	1.79	0.47
22:BA:1459:U:O2'	22:BA:1460:A:H5'	2.14	0.47
22:BA:1768:G:C6	22:BA:2713:U:H5'	2.49	0.47
22:BA:1947:G:H2'	22:BA:1948:C:O4'	2.14	0.47
22:BA:2377:C:H5'	52:B5:137:GLN:HE22	1.78	0.47
26:BE:34:ARG:HD2	26:BE:37:LYS:HD3	1.96	0.47
28:BG:174:VAL:HG11	28:BG:246:VAL:HB	1.95	0.47
29:BH:73:ALA:HB2	29:BH:80:PRO:HD3	1.97	0.47
33:BL:202:HIS:HA	33:BL:205:ARG:HD3	1.96	0.47
35:BN:122:LEU:HD13	35:BN:123:TYR:HD2	1.78	0.47
37:BP:172:VAL:HG13	37:BP:173:PRO:HD3	1.95	0.47
39:BR:218:ARG:HD2	39:BR:220:TYR:HE1	1.79	0.47
45:BX:84:GLY:HA2	45:BX:117:PHE:HD2	1.80	0.47
48:B1:101:VAL:HG23	48:B1:101:VAL:O	2.14	0.47
50:B3:14:GLU:OE2	50:B3:30:VAL:HG13	2.14	0.47
1:AA:114:A:H1'	1:AA:235:U:O4'	2.14	0.47
1:AA:190:C:H2'	1:AA:191:G:H8	1.79	0.47
1:AA:400:U:H5''	4:AD:9:PHE:CE2	2.50	0.47
1:AA:432:G:O2'	1:AA:433:G:P	2.73	0.47
1:AA:1057:G:H5''	3:AC:4:LYS:HZ2	1.80	0.47
1:AA:1267:A:H5'	19:AS:3:ARG:HH21	1.80	0.47
22:BA:84:G:H1	22:BA:96:C:N4	2.13	0.47
22:BA:178:U:H2'	22:BA:179:G:H8	1.79	0.47
22:BA:616:U:H4'	22:BA:669:C:O2'	2.14	0.47
22:BA:771:G:H4'	22:BA:1786:G:OP1	2.14	0.47
22:BA:1329:A:H4'	51:B4:105:ARG:HH12	1.79	0.47
22:BA:1394:A:H2'	22:BA:1395:G:O4'	2.14	0.47
22:BA:1444:A:H2'	22:BA:1445:G:C8	2.50	0.47
22:BA:1470:A:H2'	22:BA:1471:A:H8	1.79	0.47
22:BA:1957:U:H4'	22:BA:1959:G:OP2	2.14	0.47
22:BA:1980:A:H1'	22:BA:2610:U:C5'	2.45	0.47
22:BA:2324:G:H4'	22:BA:2328:A:H61	1.79	0.47
22:BA:2480:U:H2'	22:BA:2481:C:C6	2.50	0.47
22:BA:2593:G:OP1	27:BF:192:GLY:HA3	2.14	0.47
24:BC:34:C:H4'	24:BC:35:G:N7	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:BC:35:G:N3	24:BC:35:G:C2'	2.77	0.47
28:BG:231:PRO:HG3	28:BG:251:THR:HG22	1.97	0.47
29:BH:26:LYS:C	29:BH:29:PRO:HD2	2.35	0.47
29:BH:179:LYS:HA	29:BH:182:TYR:CE2	2.50	0.47
30:BI:216:GLU:N	30:BI:216:GLU:OE1	2.48	0.47
31:BJ:78:PHE:H	31:BJ:81:PRO:HD2	1.79	0.47
34:BM:21:CYS:HA	34:BM:41:ALA:HB2	1.96	0.47
35:BN:86:ARG:HB3	35:BN:86:ARG:NH1	2.30	0.47
36:BO:66:VAL:HG23	36:BO:66:VAL:O	2.15	0.47
36:BO:77:ARG:HH11	36:BO:77:ARG:CA	2.28	0.47
38:BQ:155:ARG:HA	38:BQ:159:LEU:O	2.15	0.47
40:BS:9:ILE:HA	40:BS:12:ARG:HH12	1.79	0.47
40:BS:9:ILE:CD1	40:BS:12:ARG:HH22	2.28	0.47
41:BT:129:ILE:HG23	41:BT:144:THR:HB	1.96	0.47
42:BU:86:ASN:HB3	42:BU:90:ASN:ND2	2.30	0.47
45:BX:80:VAL:HG22	45:BX:81:LYS:HD2	1.96	0.47
50:B3:23:VAL:HG22	50:B3:23:VAL:O	2.15	0.47
51:B4:112:HIS:HA	51:B4:117:ARG:NH2	2.19	0.47
1:AA:115:C:H2'	1:AA:116:C:C6	2.49	0.47
1:AA:178:A:H5''	20:AT:155:LYS:HG2	1.96	0.47
1:AA:670:A:H3'	1:AA:670:A:N3	2.30	0.47
1:AA:755:U:O2	26:BE:5:LEU:CG	2.54	0.47
1:AA:884:A:H2	1:AA:1332:C:N4	2.12	0.47
1:AA:1046:C:H2'	1:AA:1047:C:C6	2.50	0.47
1:AA:1218:G:H2'	1:AA:1219:G:C8	2.50	0.47
1:AA:1254:A:H61	1:AA:1279:G:H1'	1.77	0.47
1:AA:1412:U:H2'	1:AA:1413:G:C8	2.49	0.47
17:AQ:110:VAL:HG13	17:AQ:139:ARG:HH11	1.80	0.47
22:BA:15:G:H5''	49:B2:14:ARG:CB	2.45	0.47
22:BA:80:G:H2'	22:BA:81:G:O4'	2.15	0.47
22:BA:226:A:H1'	22:BA:228:U:N1	2.29	0.47
22:BA:319:G:C2'	22:BA:320:U:H5''	2.44	0.47
22:BA:643:A:H5''	52:B5:103:ARG:NH1	2.29	0.47
22:BA:1740:G:H2'	22:BA:1741:G:C8	2.50	0.47
22:BA:2048:U:O2'	22:BA:2049:G:H5'	2.14	0.47
22:BA:2092:C:H2'	22:BA:2093:U:C6	2.50	0.47
22:BA:2155:C:H2'	22:BA:2156:C:C6	2.50	0.47
22:BA:2275:G:C5	22:BA:2443:A:H5'	2.50	0.47
22:BA:2643:C:H2'	22:BA:2644:G:C8	2.50	0.47
24:BC:88:A:N9	49:B2:29:LEU:HD13	2.29	0.47
26:BE:65:ARG:HD2	26:BE:124:ASN:ND2	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BE:65:ARG:HH12	26:BE:187:THR:HA	1.78	0.47
26:BE:67:GLU:HG2	26:BE:70:ILE:HD13	1.96	0.47
26:BE:140:ILE:HG13	26:BE:141:GLU:H	1.80	0.47
26:BE:209:TRP:C	26:BE:211:GLY:H	2.18	0.47
28:BG:107:GLU:HG3	28:BG:113:ARG:NH2	2.29	0.47
28:BG:157:ARG:O	28:BG:161:LEU:HG	2.15	0.47
31:BJ:79:LEU:CD1	31:BJ:84:LYS:HB2	2.45	0.47
31:BJ:182:LEU:HG	31:BJ:183:HIS:CD2	2.50	0.47
33:BL:196:PRO:O	33:BL:199:ILE:HG22	2.15	0.47
34:BM:5:GLN:HA	34:BM:21:CYS:O	2.15	0.47
34:BM:102:ILE:HG13	34:BM:103:ALA:N	2.29	0.47
35:BN:148:LEU:HD12	35:BN:148:LEU:N	2.29	0.47
35:BN:167:LEU:C	35:BN:168:LYS:HD3	2.34	0.47
35:BN:197:THR:O	35:BN:199:LYS:HG3	2.15	0.47
39:BR:172:ARG:O	39:BR:184:ARG:HD2	2.14	0.47
40:BS:88:ARG:O	40:BS:89:GLN:HB3	2.13	0.47
44:BW:93:HIS:HB2	44:BW:98:THR:O	2.14	0.47
45:BX:80:VAL:HG22	45:BX:81:LYS:CD	2.45	0.47
45:BX:93:ILE:HB	45:BX:125:LYS:NZ	2.30	0.47
46:BY:108:TYR:HE2	46:BY:123:ARG:NE	2.12	0.47
47:BZ:109:ARG:O	47:BZ:113:GLN:HG3	2.15	0.47
49:B2:15:ILE:HD12	49:B2:15:ILE:H	1.80	0.47
51:B4:107:SER:O	51:B4:111:THR:HG22	2.15	0.47
51:B4:128:LYS:HE3	51:B4:128:LYS:CA	2.42	0.47
1:AA:18:U:H5'	5:AE:162:VAL:HG12	1.97	0.47
1:AA:68:C:H2'	1:AA:69:G:C8	2.50	0.47
1:AA:900:G:O2'	1:AA:901:U:H5'	2.15	0.47
1:AA:930:U:H2'	1:AA:931:U:H5	1.77	0.47
1:AA:1013:G:H5'	1:AA:1014:U:OP1	2.15	0.47
1:AA:1423:G:HO2'	22:BA:1724:U:H4'	1.74	0.47
1:AA:1426:C:H2'	1:AA:1427:U:C6	2.50	0.47
22:BA:15:G:H4'	49:B2:15:ILE:HD11	1.97	0.47
22:BA:392:G:H5'	46:BY:94:SER:C	2.35	0.47
22:BA:586:U:H2'	22:BA:587:G:C8	2.50	0.47
22:BA:644:A:H2'	22:BA:645:A:C8	2.50	0.47
22:BA:871:A:H5'	36:BO:18:LYS:NZ	2.30	0.47
22:BA:1258:A:O2'	22:BA:1259:C:H4'	2.15	0.47
22:BA:1333:U:H3	43:BV:168:PRO:CG	2.26	0.47
22:BA:1367:A:H2'	22:BA:1368:G:H8	1.80	0.47
22:BA:1830:U:C5	26:BE:155:GLY:HA3	2.50	0.47
22:BA:2540:G:H1'	22:BA:2783:A:N7	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2555:U:H2'	22:BA:2556:C:C6	2.50	0.47
22:BA:2669:C:H2'	22:BA:2670:U:O4'	2.14	0.47
24:BC:8:A:H2'	24:BC:9:C:C6	2.50	0.47
25:BD:303:LEU:C	25:BD:303:LEU:HD13	2.35	0.47
31:BJ:54:LEU:HD22	31:BJ:54:LEU:N	2.30	0.47
33:BL:226:GLY:O	33:BL:228:GLU:HG3	2.15	0.47
40:BS:31:LEU:HB3	40:BS:34:THR:OG1	2.15	0.47
42:BU:35:ARG:HG2	42:BU:79:LEU:CD1	2.39	0.47
50:B3:10:LYS:HB3	50:B3:37:LYS:NZ	2.30	0.47
52:B5:117:LYS:HD3	52:B5:117:LYS:C	2.35	0.47
1:AA:124:G:H2'	1:AA:125:G:C8	2.49	0.47
1:AA:495:A:H4'	1:AA:496:G:O4'	2.15	0.47
1:AA:781:C:H42	1:AA:800:C:N4	2.13	0.47
1:AA:901:U:H5'	1:AA:921:C:N4	2.30	0.47
1:AA:963:A:C2	1:AA:1167:U:H1'	2.50	0.47
1:AA:1076:G:H8	1:AA:1076:G:O5'	1.98	0.47
1:AA:1343:A:H5''	1:AA:1344:C:OP2	2.15	0.47
6:AF:72:ARG:HH21	6:AF:156:ILE:HA	1.78	0.47
22:BA:27:A:N6	22:BA:523:G:H1'	2.30	0.47
22:BA:151:G:H5'	46:BY:148:LEU:HB2	1.96	0.47
22:BA:460:U:H3	22:BA:593:G:C1'	2.18	0.47
22:BA:473:C:N4	22:BA:480:G:H1	2.10	0.47
22:BA:603:G:H2'	22:BA:604:G:C8	2.49	0.47
22:BA:761:A:C2	22:BA:763:A:H4'	2.50	0.47
22:BA:1141:C:H2'	22:BA:1142:G:C8	2.50	0.47
22:BA:1923:C:H2'	22:BA:1924:G:H8	1.80	0.47
22:BA:2497:C:H2'	22:BA:2498:G:O4'	2.14	0.47
25:BD:327:HIS:HA	25:BD:336:ILE:O	2.15	0.47
27:BF:198:VAL:HG22	27:BF:198:VAL:O	2.15	0.47
29:BH:46:VAL:HA	29:BH:173:THR:HG22	1.97	0.47
32:BK:99:LEU:HD13	32:BK:99:LEU:N	2.29	0.47
34:BM:47:ILE:HB	34:BM:50:THR:HG21	1.96	0.47
35:BN:126:LEU:HG	52:B5:112:ARG:CZ	2.44	0.47
36:BO:27:ILE:HG23	36:BO:27:ILE:O	2.15	0.47
37:BP:95:LYS:O	37:BP:95:LYS:HD3	2.15	0.47
39:BR:212:ARG:HB2	39:BR:212:ARG:HH11	1.80	0.47
40:BS:41:ARG:HG2	40:BS:41:ARG:HH11	1.79	0.47
44:BW:64:LEU:HD12	44:BW:64:LEU:H	1.78	0.47
44:BW:105:ASN:ND2	44:BW:126:GLU:HG3	2.30	0.47
48:B1:91:PHE:HA	48:B1:95:ASN:HD22	1.79	0.47
1:AA:229:A:H4'	20:AT:174:ARG:HH12	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:375:G:H2'	1:AA:376:U:C6	2.50	0.47
1:AA:422:A:H1'	1:AA:423:A:N7	2.29	0.47
1:AA:503:C:H2'	1:AA:504:C:C6	2.50	0.47
1:AA:1080:A:H61	1:AA:1091:G:N2	2.11	0.47
1:AA:1446:G:H21	1:AA:1468:A:H1'	1.80	0.47
1:AA:1447:U:H1'	1:AA:1448:A:N7	2.30	0.47
12:AL:24:LEU:HD12	12:AL:30:ARG:HH11	1.79	0.47
22:BA:578:U:H5'	22:BA:973:A:H61	1.78	0.47
22:BA:698:C:H2'	22:BA:699:U:O4'	2.15	0.47
22:BA:845:C:H5'	52:B5:140:ARG:NH1	2.23	0.47
22:BA:871:A:H62	22:BA:925:G:H21	1.63	0.47
22:BA:1562:A:H2'	22:BA:1563:G:O4'	2.15	0.47
22:BA:2015:A:H1'	22:BA:2706:U:H3	1.79	0.47
22:BA:2339:A:H2'	22:BA:2340:G:O4'	2.15	0.47
22:BA:2383:A:H2'	22:BA:2384:G:O4'	2.14	0.47
22:BA:2697:C:H5'	27:BF:237:PRO:HA	1.97	0.47
24:BC:26:U:O4	24:BC:28:U:H4'	2.15	0.47
24:BC:99:U:H2'	24:BC:100:G:C8	2.50	0.47
26:BE:84:ASN:H	26:BE:152:ARG:NH1	2.13	0.47
31:BJ:92:LEU:HD12	31:BJ:92:LEU:N	2.29	0.47
34:BM:6:THR:H	34:BM:21:CYS:H	1.63	0.47
36:BO:43:THR:HA	36:BO:94:VAL:HG12	1.96	0.47
37:BP:186:ILE:HD13	37:BP:186:ILE:N	2.20	0.47
38:BQ:106:TYR:H	38:BQ:106:TYR:HD1	1.62	0.47
39:BR:154:GLU:HB2	39:BR:206:ILE:HG22	1.97	0.47
39:BR:155:VAL:HG12	39:BR:166:LYS:O	2.14	0.47
43:BV:187:LEU:C	43:BV:187:LEU:HD13	2.35	0.47
47:BZ:99:ARG:C	47:BZ:99:ARG:HD3	2.35	0.47
51:B4:116:LEU:HD13	51:B4:116:LEU:C	2.36	0.47
1:AA:378:G:H1	1:AA:406:U:H3	1.62	0.46
1:AA:758:C:O2'	1:AA:759:C:H5'	2.14	0.46
1:AA:1009:U:H5'	10:AJ:148:LYS:HG2	1.97	0.46
1:AA:1096:C:O3'	9:AI:82:ILE:HG21	2.15	0.46
22:BA:150:U:OP1	46:BY:143:LYS:HB3	2.14	0.46
22:BA:197:G:H2'	22:BA:198:A:C8	2.51	0.46
22:BA:328:C:H2'	22:BA:329:C:O4'	2.14	0.46
22:BA:1115:G:N3	22:BA:1117:G:H1'	2.29	0.46
22:BA:1167:C:C2'	22:BA:1168:U:H5'	2.45	0.46
22:BA:1222:C:H2'	22:BA:1223:G:C8	2.49	0.46
22:BA:1686:A:H4'	37:BP:192:ARG:NH2	2.28	0.46
22:BA:1802:G:C6	22:BA:1838:G:H1'	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2033:A:H62	49:B2:6:LYS:NZ	2.13	0.46
22:BA:2439:C:H2'	22:BA:2441:C:C6	2.50	0.46
22:BA:2543:G:H5'	22:BA:2760:C:O2'	2.16	0.46
22:BA:2774:U:H4'	22:BA:2775:A:O5'	2.14	0.46
26:BE:138:HIS:HB2	26:BE:189:GLY:N	2.25	0.46
27:BF:197:ARG:HH22	27:BF:200:LYS:NZ	2.13	0.46
27:BF:200:LYS:HZ3	33:BL:180:PRO:CD	2.28	0.46
28:BG:96:ARG:HH11	28:BG:96:ARG:HG3	1.80	0.46
28:BG:105:ARG:HB3	28:BG:108:VAL:HB	1.97	0.46
30:BI:75:LEU:HD12	30:BI:75:LEU:N	2.29	0.46
35:BN:136:MET:HE3	35:BN:138:ALA:HB3	1.95	0.46
37:BP:172:VAL:HG12	37:BP:173:PRO:HD3	1.97	0.46
41:BT:177:VAL:HG22	41:BT:179:ASN:H	1.80	0.46
1:AA:539:U:H2'	1:AA:540:U:C6	2.50	0.46
1:AA:639:G:H2'	1:AA:640:U:C6	2.50	0.46
1:AA:1014:U:O2'	1:AA:1015:C:H6	1.97	0.46
1:AA:1204:U:H5''	3:AC:27:LYS:NZ	2.29	0.46
22:BA:73:U:H5'	22:BA:74:G:O4'	2.15	0.46
22:BA:116:A:H5'	22:BA:117:A:C8	2.50	0.46
22:BA:130:U:H2'	22:BA:131:C:H5'	1.96	0.46
22:BA:673:G:H4'	35:BN:89:ALA:H	1.79	0.46
22:BA:786:G:H1'	22:BA:788:G:C2	2.50	0.46
22:BA:1177:U:H2'	22:BA:1178:G:C8	2.51	0.46
22:BA:1388:A:H2'	22:BA:1389:G:H5'	1.97	0.46
22:BA:1484:G:H2'	22:BA:1485:U:O4'	2.16	0.46
22:BA:1610:C:H2'	22:BA:1611:G:H8	1.80	0.46
22:BA:1801:A:N1	22:BA:1839:A:H5'	2.30	0.46
22:BA:2008:C:H4'	27:BF:173:ARG:HD2	1.97	0.46
22:BA:2012:G:H4'	22:BA:2742:C:O2'	2.15	0.46
22:BA:2255:G:H4'	22:BA:2257:C:H5	1.79	0.46
24:BC:83:A:H3'	24:BC:84:A:H5''	1.98	0.46
27:BF:197:ARG:HG2	27:BF:197:ARG:HH11	1.80	0.46
27:BF:224:ASP:HB2	27:BF:229:ILE:HG23	1.97	0.46
28:BG:72:LEU:CD2	28:BG:73:LYS:HG2	2.44	0.46
29:BH:149:GLU:OE2	29:BH:150:GLN:HG2	2.16	0.46
29:BH:160:ILE:HG23	29:BH:160:ILE:O	2.14	0.46
36:BO:20:ILE:HG13	36:BO:99:PRO:HG2	1.97	0.46
36:BO:39:PRO:CG	36:BO:98:LYS:HG2	2.45	0.46
40:BS:105:PRO:HA	40:BS:108:ILE:HG22	1.97	0.46
42:BU:45:LYS:HZ1	42:BU:71:ARG:HH12	1.61	0.46
44:BW:150:LYS:HB3	44:BW:152:LEU:HD23	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BY:110:ARG:HG2	46:BY:110:ARG:HH11	1.80	0.46
1:AA:52:A:O2'	1:AA:53:C:OP2	2.23	0.46
1:AA:372:C:H2'	1:AA:373:G:C8	2.51	0.46
1:AA:523:G:H4'	1:AA:524:C:O5'	2.15	0.46
1:AA:1270:C:C5'	1:AA:1271:G:OP1	2.62	0.46
3:AC:25:GLN:HE22	10:AJ:106:ARG:HH22	1.61	0.46
6:AF:118:LYS:CD	26:BE:163:LYS:HA	2.34	0.46
22:BA:492:A:OP2	22:BA:493:G:H5'	2.15	0.46
22:BA:777:U:H2'	22:BA:778:U:C6	2.50	0.46
22:BA:822:U:H5	35:BN:95:SER:HG	1.62	0.46
22:BA:1221:C:H2'	22:BA:1222:C:C6	2.50	0.46
22:BA:1407:C:O2'	22:BA:1488:A:H1'	2.15	0.46
22:BA:1421:U:H2'	22:BA:1422:G:C8	2.51	0.46
22:BA:1600:A:N7	26:BE:24:PRO:HD3	2.31	0.46
22:BA:1705:A:N3	22:BA:1705:A:C2'	2.78	0.46
22:BA:1807:C:H2'	22:BA:1808:C:C6	2.50	0.46
22:BA:2244:A:O4'	26:BE:258:ARG:HG3	2.15	0.46
24:BC:36:A:H4'	24:BC:37:U:C5	2.50	0.46
25:BD:123:LEU:HD23	25:BD:123:LEU:C	2.36	0.46
25:BD:225:PHE:CD1	25:BD:228:LEU:HD21	2.50	0.46
26:BE:250:ALA:O	26:BE:251:LEU:HB2	2.15	0.46
30:BI:46:ILE:CD1	30:BI:105:ASN:HD22	2.29	0.46
33:BL:221:LEU:HD23	33:BL:221:LEU:C	2.36	0.46
36:BO:2:LEU:HD12	36:BO:2:LEU:N	2.30	0.46
36:BO:77:ARG:HD3	36:BO:78:PRO:HD2	1.98	0.46
39:BR:161:ARG:HG3	39:BR:163:SER:H	1.80	0.46
40:BS:8:TYR:CE2	40:BS:12:ARG:HD3	2.49	0.46
43:BV:180:LYS:HD2	43:BV:180:LYS:H	1.79	0.46
46:BY:148:LEU:O	46:BY:148:LEU:HD13	2.15	0.46
47:BZ:83:VAL:HA	47:BZ:86:LYS:HG2	1.98	0.46
52:B5:135:LEU:HD12	52:B5:135:LEU:N	2.31	0.46
1:AA:712:C:H2'	1:AA:713:G:H5'	1.96	0.46
1:AA:1240:C:H2'	1:AA:1241:G:C8	2.49	0.46
9:AI:146:ILE:O	9:AI:150:VAL:HG23	2.16	0.46
22:BA:54:G:H2'	22:BA:55:G:H8	1.80	0.46
22:BA:140:G:H2'	22:BA:141:C:C6	2.50	0.46
22:BA:544:G:H5'	40:BS:24:PHE:HD1	1.81	0.46
22:BA:639:A:H5'	22:BA:640:G:OP1	2.16	0.46
22:BA:747:C:N4	22:BA:771:G:H1	2.13	0.46
22:BA:835:C:N4	22:BA:972:G:H22	2.13	0.46
22:BA:1225:G:O2'	22:BA:1226:U:H5''	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1362:G:O4'	43:BV:165:LEU:HD23	2.16	0.46
22:BA:1782:G:O4'	22:BA:1796:A:H4'	2.16	0.46
23:BB:55:U:O2'	29:BH:41:LEU:HD21	2.16	0.46
25:BD:124:GLU:CD	25:BD:124:GLU:H	2.19	0.46
25:BD:125:ILE:O	25:BD:129:ARG:HG3	2.16	0.46
27:BF:154:SER:HA	27:BF:214:LYS:HA	1.97	0.46
29:BH:80:PRO:HA	29:BH:104:VAL:CG1	2.45	0.46
31:BJ:80:LEU:C	31:BJ:80:LEU:HD23	2.34	0.46
38:BQ:72:ARG:HE	38:BQ:146:ARG:HB3	1.80	0.46
38:BQ:75:LYS:O	38:BQ:75:LYS:HD3	2.15	0.46
42:BU:111:LEU:HD23	42:BU:111:LEU:C	2.36	0.46
1:AA:16:G:H2'	1:AA:17:A:O4'	2.15	0.46
1:AA:99:G:H1'	1:AA:100:A:N7	2.30	0.46
1:AA:262:U:H2'	1:AA:263:G:H8	1.80	0.46
1:AA:514:G:H4'	1:AA:515:G:H5'	1.96	0.46
1:AA:636:G:O2'	1:AA:637:C:H5'	2.15	0.46
1:AA:658:G:O2'	1:AA:659:A:H5'	2.15	0.46
1:AA:1390:A:H62	1:AA:1410:G:N2	2.13	0.46
12:AL:80:VAL:HG12	12:AL:81:LEU:H	1.80	0.46
16:AP:54:LEU:H	16:AP:57:LEU:HD23	1.80	0.46
22:BA:541:G:H2'	22:BA:2049:G:O2'	2.16	0.46
22:BA:696:A:OP1	51:B4:111:THR:HG21	2.15	0.46
22:BA:731:U:H2'	22:BA:732:A:C8	2.51	0.46
22:BA:793:A:H4'	22:BA:794:A:N7	2.30	0.46
22:BA:1702:G:HO2'	22:BA:1703:G:H5'	1.80	0.46
22:BA:1822:A:H2'	22:BA:1823:C:C6	2.50	0.46
22:BA:2598:G:H3'	22:BA:2598:G:N3	2.30	0.46
24:BC:11:G:H2'	24:BC:12:C:C6	2.51	0.46
27:BF:151:VAL:HG12	27:BF:220:ILE:HD11	1.98	0.46
29:BH:123:LEU:CA	29:BH:125:ARG:H	2.28	0.46
31:BJ:127:PHE:HE2	31:BJ:152:ILE:HD13	1.80	0.46
31:BJ:177:ILE:HG13	31:BJ:177:ILE:O	2.15	0.46
33:BL:157:ASN:HA	33:BL:226:GLY:HA2	1.98	0.46
33:BL:223:VAL:HG23	33:BL:224:TYR:N	2.31	0.46
34:BM:5:GLN:HG3	34:BM:5:GLN:O	2.15	0.46
37:BP:164:ILE:HD12	37:BP:164:ILE:C	2.36	0.46
38:BQ:112:ILE:HB	38:BQ:146:ARG:NH1	2.29	0.46
41:BT:175:PRO:O	41:BT:176:ILE:HG12	2.15	0.46
1:AA:528:U:H2'	1:AA:529:G:O4'	2.16	0.46
1:AA:655:U:H2'	1:AA:656:C:C6	2.51	0.46
6:AF:96:ALA:HB1	6:AF:136:PHE:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:212:A:N6	22:BA:422:G:H21	2.11	0.46
22:BA:223:C:H4'	22:BA:618:A:O2'	2.16	0.46
22:BA:554:G:C3'	22:BA:555:A:H5''	2.46	0.46
22:BA:608:U:H2'	22:BA:609:G:C8	2.50	0.46
22:BA:1341:C:H41	22:BA:1350:U:H5''	1.80	0.46
22:BA:1376:G:H2'	22:BA:1377:A:H8	1.81	0.46
22:BA:1428:C:H2'	22:BA:1429:C:C6	2.50	0.46
22:BA:1833:G:C5'	26:BE:48:ARG:HH21	2.25	0.46
22:BA:2032:G:H21	40:BS:37:GLN:HE22	1.62	0.46
22:BA:2303:A:N1	50:B3:44:SER:HA	2.31	0.46
22:BA:2560:G:H2'	22:BA:2561:G:O4'	2.15	0.46
22:BA:2623:C:H2'	22:BA:2624:G:C8	2.51	0.46
24:BC:8:A:O4'	49:B2:28:ALA:HB2	2.16	0.46
24:BC:24:U:O2'	24:BC:84:A:H2'	2.15	0.46
27:BF:116:ILE:HG23	27:BF:116:ILE:O	2.15	0.46
28:BG:75:ALA:C	28:BG:77:PRO:HD2	2.36	0.46
30:BI:128:LYS:O	30:BI:175:THR:HA	2.15	0.46
30:BI:132:LEU:O	30:BI:132:LEU:HD12	2.15	0.46
34:BM:26:GLY:HA3	34:BM:30:ARG:HD3	1.96	0.46
35:BN:132:ILE:HG13	35:BN:132:ILE:O	2.16	0.46
38:BQ:117:LYS:O	38:BQ:121:VAL:HG13	2.16	0.46
1:AA:293:C:H2'	1:AA:294:U:H6	1.81	0.46
1:AA:910:U:H3	1:AA:932:A:H62	1.63	0.46
1:AA:1139:A:C5'	3:AC:4:LYS:HD3	2.45	0.46
5:AE:253:VAL:HG13	5:AE:282:THR:HG21	1.96	0.46
22:BA:403:A:H2'	22:BA:404:U:O4'	2.16	0.46
22:BA:540:A:OP2	33:BL:212:ARG:HD3	2.16	0.46
22:BA:609:G:H4'	28:BG:82:ALA:CB	2.45	0.46
22:BA:698:C:H42	22:BA:798:C:C4'	2.19	0.46
22:BA:851:U:H3	22:BA:966:G:H1	1.63	0.46
22:BA:1050:G:H4'	22:BA:1051:U:C5	2.51	0.46
22:BA:1269:G:OP1	28:BG:143:PRO:HG3	2.15	0.46
22:BA:1438:G:H2'	22:BA:1439:U:O4'	2.15	0.46
22:BA:1762:C:H2'	22:BA:1763:G:C8	2.51	0.46
22:BA:2002:C:H2'	22:BA:2003:A:H8	1.81	0.46
22:BA:2135:G:H1	22:BA:2191:C:N4	2.12	0.46
22:BA:2140:A:H62	25:BD:247:PRO:CA	2.28	0.46
22:BA:2241:G:H4'	22:BA:2243:C:C4	2.51	0.46
22:BA:2247:C:H5''	46:BY:105:ASN:CB	2.39	0.46
22:BA:2456:A:O2'	22:BA:2604:A:H5''	2.16	0.46
22:BA:2655:G:N2	22:BA:2796:A:H62	2.12	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2716:C:H2'	22:BA:2717:G:C8	2.51	0.46
24:BC:69:A:H2'	24:BC:70:G:C8	2.51	0.46
25:BD:277:PHE:HB3	25:BD:287:ILE:HG21	1.97	0.46
26:BE:73:LYS:O	26:BE:91:HIS:HB3	2.16	0.46
27:BF:164:GLY:C	27:BF:205:PRO:HA	2.35	0.46
27:BF:239:LYS:NZ	27:BF:240:PRO:HD2	2.31	0.46
33:BL:209:PRO:HB2	33:BL:210:LYS:HD2	1.98	0.46
35:BN:180:ARG:HH22	35:BN:183:PRO:HB3	1.80	0.46
36:BO:57:ASN:ND2	36:BO:57:ASN:H	2.14	0.46
37:BP:110:LEU:HD13	37:BP:110:LEU:C	2.35	0.46
45:BX:106:LYS:HD2	45:BX:130:GLY:O	2.16	0.46
45:BX:125:LYS:NZ	45:BX:128:LYS:HD3	2.30	0.46
1:AA:524:C:H5'	1:AA:525:G:OP2	2.16	0.46
1:AA:668:C:H4'	18:AR:47:LEU:O	2.16	0.46
1:AA:1045:C:H2'	1:AA:1046:C:C6	2.51	0.46
1:AA:1161:A:O2'	1:AA:1162:U:H5''	2.15	0.46
1:AA:1448:A:H1'	1:AA:1469:G:H5'	1.97	0.46
22:BA:6:A:H4'	33:BL:114:TRP:HH2	1.80	0.46
22:BA:17:C:H1'	22:BA:565:G:OP1	2.16	0.46
22:BA:19:U:H2'	22:BA:20:A:C8	2.51	0.46
22:BA:50:G:H21	22:BA:117:A:H1'	1.80	0.46
22:BA:94:A:H1'	47:BZ:104:SER:OG	2.16	0.46
22:BA:145:A:H2	22:BA:2234:G:HO2'	1.62	0.46
22:BA:602:A:H2'	22:BA:603:G:C8	2.51	0.46
22:BA:721:U:H2'	22:BA:722:G:C8	2.51	0.46
22:BA:802:C:O2'	22:BA:804:A:H5'	2.16	0.46
22:BA:827:C:H2'	22:BA:828:C:C6	2.51	0.46
22:BA:841:G:H1'	22:BA:2465:A:N1	2.31	0.46
22:BA:1433:U:H2'	22:BA:1434:G:C8	2.51	0.46
22:BA:1713:A:H2	22:BA:2005:U:H1'	1.81	0.46
22:BA:1828:U:O4	26:BE:148:GLY:HA2	2.16	0.46
22:BA:2024:G:H5''	42:BU:71:ARG:HB2	1.97	0.46
22:BA:2065:U:OP1	27:BF:188:SER:HA	2.16	0.46
22:BA:2597:U:H2'	22:BA:2598:G:H5'	1.98	0.46
22:BA:2702:G:H1'	22:BA:2744:A:N1	2.31	0.46
22:BA:2783:A:N3	22:BA:2784:G:H5'	2.31	0.46
25:BD:227:LYS:C	25:BD:228:LEU:HD22	2.37	0.46
26:BE:10:THR:HB	26:BE:199:LYS:HG2	1.98	0.46
26:BE:49:HIS:NE2	26:BE:50:ARG:NH1	2.63	0.46
26:BE:74:ILE:N	26:BE:109:GLY:HA2	2.31	0.46
28:BG:235:ASN:OD1	28:BG:237:PHE:HB3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BH:184:LEU:O	29:BH:188:MET:HB2	2.16	0.46
31:BJ:80:LEU:HB3	31:BJ:81:PRO:HD3	1.97	0.46
31:BJ:119:MET:HA	31:BJ:122:GLN:OE1	2.16	0.46
32:BK:147:SER:O	32:BK:151:LEU:HG	2.15	0.46
32:BK:202:THR:HG22	32:BK:206:MET:HE3	1.98	0.46
34:BM:4:PRO:HA	34:BM:21:CYS:SG	2.55	0.46
36:BO:1:MET:HG3	36:BO:68:ILE:CB	2.38	0.46
37:BP:149:LEU:HD12	37:BP:152:ARG:HB2	1.97	0.46
38:BQ:157:LYS:HE2	38:BQ:159:LEU:HB2	1.97	0.46
40:BS:32:THR:O	40:BS:36:ALA:HB2	2.16	0.46
42:BU:113:LYS:HG2	42:BU:114:VAL:N	2.31	0.46
45:BX:87:VAL:HG13	45:BX:87:VAL:O	2.16	0.46
48:B1:110:ARG:HD2	48:B1:112:ARG:HD2	1.97	0.46
50:B3:38:ASN:C	50:B3:39:ARG:HE	2.18	0.46
1:AA:166:G:H3'	1:AA:167:G:H8	1.80	0.46
1:AA:589:A:O2'	1:AA:590:A:C8	2.65	0.46
1:AA:1213:C:H2'	1:AA:1214:G:H8	1.81	0.46
1:AA:1221:U:H2'	1:AA:1222:G:O4'	2.16	0.46
6:AF:117:ASN:CG	26:BE:162:ALA:HB1	2.37	0.46
22:BA:45:A:O2'	22:BA:46:C:H5'	2.15	0.46
22:BA:50:G:N2	22:BA:117:A:H1'	2.31	0.46
22:BA:211:A:O2'	22:BA:212:A:H5'	2.15	0.46
22:BA:976:C:H2'	22:BA:977:G:H8	1.81	0.46
22:BA:979:U:H2'	22:BA:980:G:C8	2.51	0.46
22:BA:1018:A:N6	22:BA:1207:G:H1'	2.31	0.46
22:BA:1347:U:H2'	22:BA:1348:C:H6	1.81	0.46
22:BA:1673:A:H4'	22:BA:2728:A:O2'	2.15	0.46
22:BA:1701:A:H2'	22:BA:1702:G:O4'	2.16	0.46
22:BA:2248:U:H2'	22:BA:2249:C:C6	2.51	0.46
25:BD:253:THR:HG23	25:BD:256:ALA:H	1.81	0.46
25:BD:338:LEU:HD13	25:BD:338:LEU:C	2.36	0.46
31:BJ:87:LEU:O	31:BJ:92:LEU:HD22	2.16	0.46
35:BN:238:ARG:HA	35:BN:238:ARG:HE	1.81	0.46
36:BO:34:LEU:HD13	36:BO:34:LEU:C	2.36	0.46
37:BP:109:LEU:O	37:BP:109:LEU:HD13	2.16	0.46
37:BP:138:ASP:HB2	37:BP:183:TYR:HD2	1.81	0.46
40:BS:3:ARG:NH1	40:BS:3:ARG:HB2	2.30	0.46
40:BS:94:ARG:H	40:BS:97:LEU:HD12	1.81	0.46
44:BW:90:SER:HB2	44:BW:101:ILE:H	1.80	0.46
50:B3:52:CYS:HB2	50:B3:57:LYS:HE3	1.97	0.46
1:AA:895:A:H2'	1:AA:896:G:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1182:C:H2'	1:AA:1183:U:C6	2.50	0.46
1:AA:1309:G:C3'	1:AA:1310:C:H5''	2.45	0.46
1:AA:1435:G:H2'	1:AA:1436:G:C8	2.51	0.46
1:AA:1452:A:H5''	1:AA:1453:G:OP2	2.17	0.46
22:BA:77:U:H2'	22:BA:78:C:C6	2.51	0.46
22:BA:588:A:OP1	22:BA:1276:U:H4'	2.16	0.46
22:BA:591:C:H2'	22:BA:592:G:C8	2.51	0.46
22:BA:968:C:C3'	22:BA:969:A:H5''	2.46	0.46
22:BA:1096:G:N2	22:BA:1124:A:H5'	2.28	0.46
22:BA:1236:A:H61	22:BA:1254:U:H3	1.63	0.46
22:BA:1469:G:H2'	22:BA:1470:A:C8	2.51	0.46
22:BA:2134:G:H21	25:BD:280:ASP:HB2	1.80	0.46
22:BA:2765:G:H4'	30:BI:113:THR:HG21	1.97	0.46
25:BD:213:GLU:OE1	25:BD:213:GLU:N	2.49	0.46
26:BE:170:LEU:HD12	26:BE:180:ILE:HB	1.98	0.46
27:BF:208:MET:HE3	27:BF:209:GLY:H	1.80	0.46
29:BH:28:VAL:HB	29:BH:29:PRO:HD3	1.98	0.46
32:BK:81:LYS:C	32:BK:82:LEU:HD12	2.37	0.46
32:BK:184:LEU:N	32:BK:185:PRO:CD	2.79	0.46
39:BR:183:ILE:CG2	39:BR:184:ARG:H	2.08	0.46
41:BT:123:ILE:CG1	41:BT:165:GLY:H	2.27	0.46
41:BT:146:ARG:C	41:BT:147:LEU:HD22	2.36	0.46
41:BT:147:LEU:HD22	41:BT:147:LEU:N	2.31	0.46
45:BX:77:ARG:NH1	45:BX:77:ARG:HB3	2.30	0.46
47:BZ:89:LEU:O	47:BZ:89:LEU:HD23	2.16	0.46
53:B6:2:LYS:HD3	53:B6:4:ARG:HD2	1.98	0.46
1:AA:181:G:O2'	1:AA:182:G:H5'	2.17	0.45
1:AA:400:U:H4'	1:AA:401:G:O5'	2.16	0.45
1:AA:635:A:H61	1:AA:651:G:C1'	2.22	0.45
1:AA:740:A:H4'	1:AA:741:U:C5'	2.46	0.45
1:AA:775:U:O4	1:AA:819:U:H1'	2.15	0.45
1:AA:1198:A:H2'	1:AA:1199:A:C8	2.50	0.45
22:BA:24:U:H4'	42:BU:108:GLY:O	2.16	0.45
22:BA:174:G:P	46:BY:91:VAL:HG21	2.57	0.45
22:BA:321:G:H2'	22:BA:322:C:C6	2.51	0.45
22:BA:424:A:H2'	22:BA:425:C:O4'	2.17	0.45
22:BA:569:G:C1'	40:BS:59:ARG:HH22	2.30	0.45
22:BA:573:G:H22	40:BS:33:ARG:HH21	1.61	0.45
22:BA:1681:G:H5''	22:BA:1682:C:H5'	1.97	0.45
22:BA:1822:A:H2'	22:BA:1823:C:H6	1.81	0.45
22:BA:1847:C:H4'	22:BA:1942:A:C4'	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2089:U:H3'	22:BA:2255:G:H22	1.81	0.45
22:BA:2306:G:H22	22:BA:2361:U:H4'	1.81	0.45
22:BA:2309:U:H2'	22:BA:2310:U:C6	2.51	0.45
22:BA:2569:U:O2	22:BA:2571:U:H5'	2.15	0.45
23:BB:94:U:H2'	23:BB:95:G:H8	1.81	0.45
25:BD:314:LYS:HB2	25:BD:314:LYS:HZ2	1.79	0.45
29:BH:121:LEU:HD23	48:B1:65:CYS:O	2.15	0.45
30:BI:49:GLN:NE2	30:BI:49:GLN:H	2.15	0.45
30:BI:72:LEU:HD13	30:BI:122:VAL:O	2.16	0.45
31:BJ:55:LYS:H	31:BJ:65:GLY:N	2.14	0.45
35:BN:125:ARG:NH1	35:BN:125:ARG:HB2	2.31	0.45
39:BR:147:ASP:HB3	39:BR:214:VAL:HG13	1.98	0.45
41:BT:141:TRP:HB2	41:BT:218:ARG:HB3	1.98	0.45
41:BT:166:THR:HG23	41:BT:166:THR:O	2.16	0.45
44:BW:90:SER:HB2	44:BW:99:VAL:HB	1.98	0.45
1:AA:658:G:H4'	6:AF:116:LYS:HD3	1.98	0.45
1:AA:876:G:H4'	1:AA:1452:A:H62	1.80	0.45
1:AA:981:G:H2'	1:AA:982:G:C4'	2.46	0.45
22:BA:830:A:H5'	22:BA:1001:A:H2	1.81	0.45
22:BA:915:G:H4'	36:BO:67:ARG:NH2	2.31	0.45
22:BA:1045:G:H2'	22:BA:1046:C:C6	2.51	0.45
22:BA:1179:C:H2'	22:BA:1180:C:H6	1.81	0.45
22:BA:1642:C:H4'	22:BA:1644:A:C4	2.51	0.45
22:BA:2357:A:H2'	22:BA:2358:G:C8	2.51	0.45
22:BA:2377:C:C5'	52:B5:137:GLN:HE22	2.29	0.45
27:BF:154:SER:O	27:BF:244:LEU:HA	2.15	0.45
27:BF:213:ARG:O	27:BF:214:LYS:HB3	2.17	0.45
28:BG:131:SER:HB3	28:BG:132:PRO:C	2.36	0.45
30:BI:66:LEU:HD23	30:BI:66:LEU:C	2.37	0.45
31:BJ:145:ALA:O	31:BJ:149:VAL:HG12	2.16	0.45
32:BK:195:ALA:HA	32:BK:198:ILE:HD12	1.97	0.45
34:BM:116:LEU:HD13	34:BM:116:LEU:C	2.37	0.45
36:BO:23:ARG:HD2	36:BO:23:ARG:N	2.31	0.45
36:BO:29:PHE:HB2	36:BO:105:GLU:OE1	2.16	0.45
37:BP:109:LEU:HD13	37:BP:109:LEU:C	2.36	0.45
37:BP:135:LYS:HG3	37:BP:136:TYR:CD1	2.51	0.45
39:BR:183:ILE:HG21	39:BR:198:LEU:HG	1.97	0.45
41:BT:144:THR:O	41:BT:216:ILE:HA	2.16	0.45
42:BU:46:ALA:O	42:BU:47:ARG:HB3	2.17	0.45
46:BY:79:PRO:C	46:BY:106:LEU:HD23	2.37	0.45
48:B1:88:ASN:ND2	48:B1:90:PRO:HD3	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:62:G:O2'	1:AA:63:U:H5'	2.17	0.45
1:AA:102:U:O4	1:AA:259:A:H2'	2.16	0.45
1:AA:250:A:H5'	1:AA:252:G:O5'	2.15	0.45
1:AA:329:U:H2'	1:AA:330:G:C8	2.52	0.45
1:AA:419:A:H2'	1:AA:420:A:O4'	2.17	0.45
1:AA:606:A:H61	1:AA:696:C:N4	2.08	0.45
1:AA:629:C:H2'	1:AA:630:G:H8	1.79	0.45
1:AA:640:U:H5'	1:AA:745:C:C5'	2.46	0.45
1:AA:1154:G:H4'	3:AC:203:ILE:O	2.16	0.45
1:AA:1331:C:H4'	7:AG:79:ARG:CZ	2.47	0.45
2:AB:168:VAL:HG23	2:AB:169:ASP:H	1.81	0.45
22:BA:71:A:H61	22:BA:109:A:C2'	2.29	0.45
22:BA:81:G:H4'	22:BA:306:G:H5'	1.97	0.45
22:BA:316:G:H21	22:BA:339:A:H61	1.63	0.45
22:BA:605:C:N4	22:BA:673:G:H1	2.13	0.45
22:BA:1213:G:H2'	22:BA:1214:G:H8	1.81	0.45
22:BA:1239:C:H2'	22:BA:1240:G:C8	2.52	0.45
22:BA:1388:A:C2'	22:BA:1389:G:H5'	2.46	0.45
22:BA:1645:A:O2'	22:BA:1652:A:H5'	2.16	0.45
22:BA:1877:C:O2'	22:BA:1878:C:H5'	2.16	0.45
22:BA:1916:C:H2'	22:BA:1917:G:O4'	2.16	0.45
22:BA:2066:G:O6	22:BA:2635:G:H1'	2.16	0.45
22:BA:2392:G:N2	22:BA:2394:A:H3'	2.31	0.45
22:BA:2470:A:H4'	22:BA:2589:A:O2'	2.16	0.45
25:BD:287:ILE:HG13	25:BD:287:ILE:O	2.17	0.45
26:BE:180:ILE:HG22	26:BE:181:SER:N	2.31	0.45
26:BE:249:PRO:O	26:BE:251:LEU:HD12	2.16	0.45
28:BG:141:PHE:O	40:BS:1:MET:HB3	2.16	0.45
31:BJ:162:LYS:HD2	31:BJ:162:LYS:C	2.37	0.45
32:BK:175:GLN:O	32:BK:179:ILE:HG13	2.16	0.45
33:BL:233:ALA:HB3	33:BL:234:GLN:HE22	1.81	0.45
36:BO:37:LEU:HD22	36:BO:37:LEU:N	2.31	0.45
39:BR:146:GLY:CA	39:BR:172:ARG:HH21	2.25	0.45
40:BS:40:ILE:O	40:BS:44:VAL:HG23	2.17	0.45
40:BS:58:ARG:HA	40:BS:61:TRP:CE3	2.51	0.45
47:BZ:82:VAL:HG22	47:BZ:117:MET:SD	2.56	0.45
1:AA:436:U:H2'	1:AA:437:C:C6	2.51	0.45
1:AA:729:A:C2'	1:AA:730:A:H5'	2.41	0.45
1:AA:1303:C:O2'	1:AA:1304:G:H5'	2.17	0.45
1:AA:1424:G:OP1	22:BA:1736:A:N6	2.49	0.45
22:BA:17:C:H2'	22:BA:18:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:321:G:H4'	22:BA:340:A:C6	2.52	0.45
22:BA:828:C:H2'	22:BA:829:G:O4'	2.16	0.45
22:BA:837:U:H2'	22:BA:839:G:O4'	2.17	0.45
22:BA:1279:C:H2'	22:BA:1280:G:C8	2.51	0.45
22:BA:1298:A:O2'	22:BA:1299:U:H5'	2.17	0.45
22:BA:2033:A:H62	49:B2:6:LYS:HG3	1.81	0.45
22:BA:2142:G:O2'	22:BA:2143:C:H5'	2.17	0.45
22:BA:2692:A:H4'	34:BM:29:ASN:ND2	2.24	0.45
22:BA:2698:C:H1'	22:BA:2745:G:N2	2.31	0.45
25:BD:177:VAL:O	25:BD:274:LYS:HA	2.15	0.45
26:BE:263:ASP:C	26:BE:264:ASN:HD22	2.19	0.45
27:BF:244:LEU:N	27:BF:244:LEU:HD12	2.31	0.45
30:BI:85:LEU:HD23	30:BI:85:LEU:C	2.37	0.45
32:BK:148:VAL:O	32:BK:152:LYS:HG3	2.16	0.45
34:BM:3:GLN:HB2	34:BM:4:PRO:CD	2.35	0.45
35:BN:185:LYS:HG2	35:BN:186:ILE:N	2.32	0.45
36:BO:34:LEU:HD12	36:BO:103:LEU:HD12	1.99	0.45
38:BQ:97:GLN:HA	38:BQ:100:ILE:HD13	1.98	0.45
41:BT:207:ARG:NH1	41:BT:207:ARG:HB2	2.32	0.45
44:BW:110:HIS:O	44:BW:120:GLY:HA3	2.16	0.45
46:BY:146:ILE:HG13	46:BY:147:ASP:H	1.79	0.45
47:BZ:118:LEU:H	47:BZ:118:LEU:CD1	2.29	0.45
50:B3:30:VAL:HG22	50:B3:31:SER:N	2.31	0.45
1:AA:14:U:H1'	1:AA:863:A:H8	1.81	0.45
1:AA:32:G:O2'	1:AA:47:G:H5'	2.17	0.45
1:AA:679:G:O2'	1:AA:680:C:H5'	2.17	0.45
1:AA:840:U:H2'	1:AA:841:A:H8	1.80	0.45
1:AA:1331:C:H2'	1:AA:1332:C:H4'	1.99	0.45
1:AA:1348:C:H4'	1:AA:1349:C:C5'	2.40	0.45
22:BA:69:G:O2'	22:BA:70:A:H5'	2.17	0.45
22:BA:169:C:H4'	22:BA:202:A:C2	2.51	0.45
22:BA:411:U:H2'	22:BA:412:G:O4'	2.16	0.45
22:BA:691:G:H2'	22:BA:692:G:C8	2.52	0.45
22:BA:802:C:H2'	22:BA:803:G:H5''	1.99	0.45
22:BA:1373:U:H5'	22:BA:1605:A:H1'	1.97	0.45
22:BA:1713:A:C2	22:BA:2005:U:H1'	2.51	0.45
22:BA:2093:U:H4'	22:BA:2450:A:C2	2.51	0.45
22:BA:2157:U:C3'	22:BA:2158:U:H5''	2.45	0.45
23:BB:29:A:H61	23:BB:55:U:H3	1.63	0.45
23:BB:110:G:H2'	23:BB:111:A:C8	2.52	0.45
26:BE:219:VAL:HG13	26:BE:220:VAL:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BG:206:LEU:CD2	28:BG:243:GLU:HB2	2.47	0.45
28:BG:226:LEU:HD23	28:BG:226:LEU:C	2.37	0.45
38:BQ:48:ARG:NH1	38:BQ:48:ARG:HB2	2.32	0.45
38:BQ:93:ALA:HA	38:BQ:97:GLN:HE22	1.80	0.45
39:BR:148:ILE:O	39:BR:149:VAL:C	2.55	0.45
43:BV:121:THR:O	43:BV:125:ILE:HG13	2.17	0.45
46:BY:117:LYS:HD2	46:BY:148:LEU:HD11	1.99	0.45
1:AA:61:A:O2'	1:AA:62:G:P	2.75	0.45
1:AA:638:G:O5'	1:AA:638:G:H8	2.00	0.45
1:AA:645:U:O2	1:AA:746:C:H1'	2.16	0.45
1:AA:1324:A:H2'	1:AA:1325:U:C6	2.51	0.45
2:AB:140:VAL:HG12	2:AB:144:GLN:HE21	1.82	0.45
22:BA:69:G:H4'	22:BA:72:A:C4'	2.47	0.45
22:BA:325:A:H2'	22:BA:326:A:C8	2.52	0.45
22:BA:345:C:H2'	22:BA:346:A:H8	1.81	0.45
22:BA:479:G:O2'	22:BA:480:G:H5'	2.15	0.45
22:BA:597:C:C5	35:BN:95:SER:HB3	2.51	0.45
22:BA:690:U:H2'	22:BA:691:G:C8	2.51	0.45
22:BA:1412:G:H22	22:BA:1414:A:H3'	1.82	0.45
22:BA:1645:A:H1'	22:BA:1652:A:H4'	1.98	0.45
22:BA:1958:U:C4'	22:BA:1969:U:H1'	2.40	0.45
22:BA:1978:G:H2'	22:BA:1981:C:OP1	2.17	0.45
22:BA:2069:C:H2'	22:BA:2521:U:O4'	2.16	0.45
22:BA:2218:G:H5'	26:BE:146:ARG:HH21	1.82	0.45
22:BA:2513:C:H5'	36:BO:82:ARG:HH22	1.81	0.45
22:BA:2593:G:N3	22:BA:2593:G:C2'	2.78	0.45
23:BB:115:C:H2'	23:BB:116:A:C8	2.52	0.45
24:BC:56:C:H2'	24:BC:57:A:C8	2.52	0.45
25:BD:176:THR:HB	25:BD:274:LYS:HB3	1.99	0.45
25:BD:279:VAL:CG1	25:BD:283:GLY:HA2	2.46	0.45
26:BE:25:ARG:C	26:BE:25:ARG:HD3	2.36	0.45
26:BE:189:GLY:O	26:BE:191:VAL:HG23	2.17	0.45
27:BF:204:MET:HB3	27:BF:205:PRO:CD	2.41	0.45
33:BL:135:ILE:HD11	33:BL:208:LEU:HD21	1.98	0.45
33:BL:197:GLU:OE1	33:BL:197:GLU:N	2.50	0.45
34:BM:80:ASP:HB2	39:BR:193:GLU:HB2	1.98	0.45
35:BN:187:LEU:H	35:BN:187:LEU:CD2	2.30	0.45
39:BR:229:LEU:HD23	39:BR:229:LEU:H	1.81	0.45
43:BV:143:ASP:O	43:BV:147:ILE:HG13	2.17	0.45
46:BY:137:LEU:HD13	46:BY:137:LEU:C	2.37	0.45
46:BY:142:LYS:H	46:BY:142:LYS:CD	2.23	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:B6:7:VAL:CG1	53:B6:8:LYS:H	2.15	0.45
1:AA:243:C:H2'	1:AA:244:A:H8	1.81	0.45
1:AA:523:G:O5'	1:AA:524:C:OP1	2.35	0.45
1:AA:602:G:C2	1:AA:701:A:H1'	2.51	0.45
1:AA:885:C:H2'	1:AA:886:A:C8	2.52	0.45
1:AA:912:G:H2'	1:AA:913:A:H8	1.81	0.45
1:AA:1223:A:H2'	1:AA:1224:G:O4'	2.17	0.45
5:AE:291:GLN:O	5:AE:295:VAL:HG23	2.17	0.45
22:BA:65:C:H2'	22:BA:66:G:H8	1.82	0.45
22:BA:127:C:H2'	22:BA:128:U:C6	2.52	0.45
22:BA:431:U:H2'	22:BA:432:G:C8	2.52	0.45
22:BA:805:A:H2'	22:BA:806:C:C6	2.51	0.45
22:BA:1299:U:H5''	37:BP:124:LYS:O	2.16	0.45
22:BA:1444:A:H2'	22:BA:1445:G:H8	1.81	0.45
22:BA:1948:C:H4'	22:BA:1988:C:O3'	2.17	0.45
22:BA:2136:U:H2'	22:BA:2137:G:C8	2.51	0.45
22:BA:2213:A:N6	22:BA:2242:A:H1'	2.32	0.45
22:BA:2526:G:N2	22:BA:2597:U:H1'	2.32	0.45
24:BC:85:C:H2'	24:BC:86:A:C8	2.52	0.45
29:BH:72:LEU:HD22	29:BH:75:ILE:HD11	1.99	0.45
30:BI:64:GLN:HB3	30:BI:79:TYR:O	2.17	0.45
31:BJ:50:ARG:HD2	31:BJ:69:ASP:OD2	2.16	0.45
36:BO:81:THR:HG23	36:BO:82:ARG:N	2.32	0.45
39:BR:155:VAL:O	39:BR:157:GLU:HG2	2.16	0.45
42:BU:33:THR:HG23	42:BU:134:ILE:O	2.17	0.45
44:BW:125:ILE:HG12	44:BW:126:GLU:N	2.32	0.45
1:AA:107:C:OP1	1:AA:283:C:H5'	2.17	0.45
1:AA:561:C:H2'	1:AA:562:A:H8	1.80	0.45
1:AA:931:U:H1'	1:AA:932:A:C8	2.52	0.45
1:AA:1006:G:H5''	3:AC:165:ALA:CB	2.46	0.45
1:AA:1331:C:H3'	1:AA:1332:C:C4'	2.45	0.45
3:AC:19:TYR:H	14:AN:90:CYS:HB3	1.82	0.45
12:AL:8:ILE:HD12	17:AQ:91:ARG:HH11	1.81	0.45
22:BA:298:G:H2'	22:BA:299:C:C6	2.52	0.45
22:BA:368:U:H2'	22:BA:369:U:C6	2.52	0.45
22:BA:650:G:O2'	22:BA:651:U:H5'	2.17	0.45
22:BA:660:G:H2'	22:BA:661:G:C8	2.52	0.45
22:BA:735:U:H2'	22:BA:736:G:O4'	2.17	0.45
22:BA:1025:G:H2'	22:BA:1026:C:C6	2.52	0.45
22:BA:1277:G:H21	28:BG:133:LEU:HB3	1.82	0.45
22:BA:1339:C:H2'	22:BA:1340:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1493:C:C2'	22:BA:1494:G:H5'	2.44	0.45
22:BA:1583:A:H2'	22:BA:1584:C:C6	2.52	0.45
22:BA:1847:C:H4'	22:BA:1942:A:O4'	2.16	0.45
22:BA:2306:G:OP1	22:BA:2306:G:H3'	2.17	0.45
22:BA:2527:C:N4	22:BA:2592:U:N3	2.65	0.45
26:BE:176:GLU:CG	26:BE:266:ILE:HA	2.45	0.45
26:BE:266:ILE:HG13	26:BE:266:ILE:O	2.17	0.45
27:BF:163:GLN:OE1	27:BF:168:ARG:HG2	2.17	0.45
29:BH:53:CYS:HB3	29:BH:72:LEU:HD11	1.98	0.45
33:BL:156:VAL:HG13	33:BL:157:ASN:H	1.82	0.45
33:BL:174:ARG:NH1	33:BL:185:GLU:HB3	2.32	0.45
36:BO:31:ARG:H	36:BO:107:SER:HB2	1.81	0.45
38:BQ:57:LYS:HE3	45:BX:132:ASP:HB3	1.98	0.45
38:BQ:157:LYS:HD2	38:BQ:157:LYS:C	2.37	0.45
1:AA:443:A:H1'	1:AA:444:A:C4	2.52	0.45
1:AA:574:U:H2'	1:AA:575:G:C8	2.51	0.45
1:AA:755:U:H2'	26:BE:5:LEU:O	2.16	0.45
1:AA:855:G:H2'	1:AA:856:A:H5''	1.97	0.45
1:AA:1050:A:H4'	1:AA:1051:A:C4'	2.47	0.45
1:AA:1277:A:O2'	1:AA:1278:U:H5'	2.17	0.45
21:AU:112:ASN:ND2	21:AU:116:ARG:HH21	2.15	0.45
22:BA:145:A:H61	46:BY:118:ARG:CZ	2.30	0.45
22:BA:388:C:H2'	22:BA:389:A:C8	2.52	0.45
22:BA:476:U:H2'	22:BA:477:G:O4'	2.17	0.45
22:BA:500:C:H1'	42:BU:78:LYS:NZ	2.32	0.45
22:BA:558:A:H2'	22:BA:559:G:H5'	1.99	0.45
22:BA:617:U:OP1	28:BG:153:ASN:HA	2.17	0.45
22:BA:829:G:H2'	22:BA:830:A:H5''	1.97	0.45
22:BA:1053:A:H1'	22:BA:1162:C:C4'	2.47	0.45
22:BA:1239:C:H2'	22:BA:1240:G:H8	1.81	0.45
22:BA:1276:U:O4	28:BG:125:ARG:HB2	2.17	0.45
22:BA:1434:G:H2'	22:BA:1435:U:C6	2.51	0.45
22:BA:1854:C:H5''	26:BE:251:LEU:O	2.17	0.45
22:BA:1948:C:O2'	22:BA:1949:G:H5'	2.17	0.45
22:BA:1980:A:H1'	22:BA:2610:U:H5'	1.98	0.45
22:BA:2325:G:H2'	22:BA:2325:G:N3	2.31	0.45
22:BA:2636:G:H4'	27:BF:200:LYS:CB	2.43	0.45
27:BF:220:ILE:HG21	27:BF:223:ILE:CD1	2.46	0.45
28:BG:229:LEU:HD23	28:BG:229:LEU:C	2.37	0.45
29:BH:149:GLU:CD	29:BH:150:GLN:HG2	2.37	0.45
31:BJ:96:LEU:HD23	31:BJ:96:LEU:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BQ:56:ARG:CZ	38:BQ:65:ARG:HD2	2.46	0.45
40:BS:47:HIS:HA	40:BS:50:ARG:CD	2.47	0.45
40:BS:75:TYR:H	40:BS:75:TYR:HD1	1.65	0.45
42:BU:147:LYS:HD2	42:BU:147:LYS:C	2.37	0.45
43:BV:122:GLU:CD	43:BV:122:GLU:H	2.20	0.45
44:BW:148:GLY:HA3	44:BW:150:LYS:NZ	2.32	0.45
46:BY:84:LYS:HA	46:BY:150:LYS:HD2	1.97	0.45
46:BY:132:ILE:HD12	46:BY:150:LYS:HZ3	1.81	0.45
1:AA:286:A:H5''	1:AA:288:U:OP2	2.17	0.45
1:AA:507:A:H5'	1:AA:509:U:OP1	2.16	0.45
1:AA:924:A:HO2'	1:AA:925:G:P	2.40	0.45
1:AA:1067:U:H2'	1:AA:1068:G:C8	2.52	0.45
1:AA:1170:G:OP2	1:AA:1270:C:N4	2.50	0.45
1:AA:1461:U:H2'	1:AA:1462:A:C8	2.52	0.45
2:AB:91:ALA:HB2	2:AB:222:VAL:HG13	1.98	0.45
10:AJ:161:GLU:HB2	14:AN:98:SER:HB2	1.99	0.45
22:BA:195:C:H2'	22:BA:196:A:H8	1.82	0.45
22:BA:449:U:H2'	22:BA:450:G:C8	2.51	0.45
22:BA:455:A:N6	28:BG:96:ARG:HB2	2.31	0.45
22:BA:762:G:C1'	42:BU:119:ARG:HE	2.29	0.45
22:BA:784:U:H4'	26:BE:44:ILE:O	2.17	0.45
22:BA:928:U:H2'	22:BA:929:A:H8	1.82	0.45
22:BA:965:G:H2'	22:BA:966:G:C8	2.52	0.45
22:BA:969:A:O2'	22:BA:1211:G:H4'	2.17	0.45
22:BA:1333:U:O4	43:BV:168:PRO:HB3	2.17	0.45
22:BA:1600:A:H5'	26:BE:207:LYS:HZ3	1.81	0.45
22:BA:1927:A:O2'	22:BA:1928:C:OP1	2.28	0.45
22:BA:2033:A:H62	49:B2:6:LYS:HZ3	1.65	0.45
22:BA:2049:G:H5''	22:BA:2050:C:OP2	2.17	0.45
22:BA:2442:A:O2'	22:BA:2443:A:P	2.74	0.45
22:BA:2442:A:H5'	22:BA:2444:C:H5'	1.99	0.45
22:BA:2460:U:H2'	22:BA:2461:A:C8	2.52	0.45
22:BA:2467:A:O2'	22:BA:2468:A:H5'	2.17	0.45
22:BA:2783:A:N3	22:BA:2783:A:C2'	2.80	0.45
26:BE:213:ARG:HH11	26:BE:213:ARG:CB	2.15	0.45
26:BE:227:PRO:HG2	26:BE:244:THR:H	1.81	0.45
27:BF:185:GLN:HG2	27:BF:187:GLY:H	1.82	0.45
35:BN:127:PRO:HG2	52:B5:115:ALA:HA	1.98	0.45
35:BN:142:LYS:HG3	35:BN:144:VAL:HG12	1.99	0.45
35:BN:166:THR:HG23	35:BN:167:LEU:HD12	1.99	0.45
36:BO:81:THR:OG1	36:BO:82:ARG:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BV:116:GLN:HB3	43:BV:137:THR:OG1	2.17	0.45
44:BW:138:LEU:HD12	44:BW:139:LYS:NZ	2.30	0.45
48:B1:73:THR:HG21	48:B1:77:LYS:NZ	2.32	0.45
50:B3:32:ARG:HG3	50:B3:35:THR:N	2.31	0.45
52:B5:113:ARG:NH2	52:B5:118:GLN:HG3	2.32	0.45
1:AA:132:A:H61	1:AA:158:A:N6	2.15	0.44
1:AA:291:G:H2'	1:AA:292:A:C8	2.52	0.44
1:AA:610:U:H2'	1:AA:611:A:C8	2.52	0.44
1:AA:721:G:C6	26:BE:5:LEU:HD11	2.51	0.44
1:AA:931:U:H5''	1:AA:932:A:OP1	2.18	0.44
1:AA:958:U:H1'	1:AA:970:G:N1	2.32	0.44
1:AA:958:U:H2'	1:AA:959:C:C6	2.52	0.44
1:AA:1375:A:H61	1:AA:1423:G:H1	1.65	0.44
7:AG:16:PRO:HB3	9:AI:110:LEU:HD11	1.99	0.44
13:AM:108:ARG:NH2	29:BH:150:GLN:CD	2.55	0.44
22:BA:71:A:N6	22:BA:110:U:O4'	2.50	0.44
22:BA:293:G:O2'	22:BA:294:U:P	2.75	0.44
22:BA:639:A:N6	35:BN:187:LEU:O	2.50	0.44
22:BA:753:G:H2'	22:BA:754:A:C8	2.52	0.44
22:BA:886:U:H2'	22:BA:887:G:O4'	2.17	0.44
22:BA:1033:C:N4	22:BA:1165:G:H1	2.14	0.44
22:BA:1053:A:H1'	22:BA:1162:C:H4'	1.98	0.44
22:BA:1092:C:OP1	32:BK:158:LYS:HB2	2.17	0.44
22:BA:1367:A:H2'	22:BA:1368:G:C8	2.52	0.44
22:BA:1599:C:H4'	26:BE:22:SER:CB	2.47	0.44
22:BA:2284:A:N3	22:BA:2284:A:C2'	2.79	0.44
22:BA:2360:U:O2'	22:BA:2361:U:H5'	2.18	0.44
22:BA:2396:G:C4'	38:BQ:58:LYS:HG2	2.46	0.44
22:BA:2751:A:H2'	22:BA:2752:G:C8	2.52	0.44
28:BG:194:MET:HA	28:BG:197:TRP:HE3	1.82	0.44
28:BG:211:ASP:HA	28:BG:248:THR:HG23	1.99	0.44
31:BJ:144:THR:O	31:BJ:168:PRO:HG3	2.17	0.44
40:BS:12:ARG:HB3	40:BS:15:LYS:HZ1	1.83	0.44
44:BW:71:VAL:HA	44:BW:92:ILE:CD1	2.38	0.44
50:B3:37:LYS:HG2	50:B3:39:ARG:NH2	2.32	0.44
1:AA:660:A:H4'	26:BE:161:ILE:HG12	1.98	0.44
1:AA:858:A:H2'	1:AA:859:C:O4'	2.16	0.44
1:AA:919:A:H5''	1:AA:921:C:O4'	2.17	0.44
1:AA:1092:G:N2	1:AA:1094:A:H62	2.15	0.44
1:AA:1331:C:H2'	1:AA:1332:C:C4'	2.48	0.44
1:AA:1422:A:C4'	22:BA:1738:G:HO2'	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1469:G:H2'	1:AA:1470:G:H8	1.81	0.44
6:AF:118:LYS:HE2	26:BE:169:THR:HG21	2.00	0.44
22:BA:59:A:H2'	22:BA:62:A:N6	2.32	0.44
22:BA:138:C:H2'	22:BA:139:U:C6	2.52	0.44
22:BA:894:G:H21	22:BA:901:C:N4	2.11	0.44
22:BA:1048:C:H4'	22:BA:1049:A:C8	2.52	0.44
22:BA:1148:G:H2'	22:BA:1149:C:C6	2.52	0.44
22:BA:1600:A:N6	26:BE:23:ASN:HA	2.30	0.44
22:BA:2002:C:H2'	22:BA:2003:A:C8	2.52	0.44
22:BA:2359:C:O2'	22:BA:2391:C:H5''	2.17	0.44
22:BA:2390:A:H2'	22:BA:2391:C:C6	2.52	0.44
24:BC:43:U:H3	24:BC:76:G:H1	1.64	0.44
28:BG:161:LEU:HD13	28:BG:234:LEU:O	2.16	0.44
28:BG:214:GLU:HG2	28:BG:215:ASN:H	1.83	0.44
28:BG:217:GLU:H	28:BG:228:LEU:HG	1.82	0.44
32:BK:114:ASN:O	32:BK:118:ALA:HB2	2.18	0.44
33:BL:201:GLU:HB3	33:BL:218:PHE:CZ	2.52	0.44
34:BM:22:ILE:HD11	34:BM:42:VAL:HB	1.99	0.44
35:BN:156:PHE:HD1	35:BN:156:PHE:H	1.62	0.44
37:BP:122:ARG:HG2	37:BP:203:GLU:HB2	1.99	0.44
43:BV:166:ILE:C	43:BV:166:ILE:HD12	2.37	0.44
44:BW:157:LYS:HG3	44:BW:162:ILE:HG12	1.99	0.44
49:B2:42:ASN:HD22	49:B2:43:SER:N	2.09	0.44
1:AA:35:C:H1'	12:AL:29:GLN:HE22	1.81	0.44
1:AA:611:A:H2'	1:AA:612:G:C8	2.53	0.44
1:AA:820:U:H5''	1:AA:821:A:OP2	2.16	0.44
1:AA:873:C:HO2'	1:AA:1451:A:H2	1.63	0.44
1:AA:877:G:H2'	1:AA:878:G:C8	2.52	0.44
1:AA:1002:G:H5'	1:AA:1003:C:H5'	1.99	0.44
1:AA:1019:U:O2'	1:AA:1020:C:H5'	2.17	0.44
5:AE:175:ARG:NH1	5:AE:276:LEU:HD13	2.32	0.44
22:BA:639:A:H61	35:BN:187:LEU:CD2	2.28	0.44
22:BA:964:C:H2'	22:BA:965:G:C8	2.52	0.44
22:BA:998:U:H2'	22:BA:999:C:C6	2.52	0.44
22:BA:1035:C:H5''	33:BL:136:ARG:HH12	1.83	0.44
22:BA:1528:U:H2'	22:BA:1529:A:C8	2.53	0.44
22:BA:1554:C:H2'	22:BA:1555:G:O4'	2.17	0.44
22:BA:1645:A:O2'	22:BA:1646:A:H5'	2.17	0.44
22:BA:1831:G:H2'	22:BA:1832:G:O4'	2.18	0.44
22:BA:1954:U:C4	22:BA:1978:G:H4'	2.52	0.44
22:BA:2119:U:H3	22:BA:2198:A:N6	2.11	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2187:A:H2'	22:BA:2188:C:H5'	1.99	0.44
22:BA:2310:U:H2'	22:BA:2311:C:C6	2.52	0.44
22:BA:2486:A:O4'	36:BO:56:ARG:HD2	2.18	0.44
22:BA:2527:C:N4	22:BA:2592:U:H3	2.15	0.44
23:BB:7:G:H2'	23:BB:8:U:C6	2.53	0.44
25:BD:128:LEU:HD12	25:BD:128:LEU:N	2.33	0.44
25:BD:229:ILE:HG22	25:BD:258:THR:HB	1.98	0.44
26:BE:124:ASN:CG	26:BE:125:ALA:H	2.18	0.44
28:BG:88:LEU:HD23	28:BG:88:LEU:C	2.37	0.44
30:BI:83:VAL:HG11	30:BI:111:PHE:HE2	1.81	0.44
37:BP:143:MET:HB3	37:BP:151:LYS:HB3	1.98	0.44
39:BR:206:ILE:HG13	39:BR:207:LYS:N	2.32	0.44
43:BV:140:VAL:HA	43:BV:172:LYS:HD2	1.99	0.44
46:BY:110:ARG:HH21	46:BY:123:ARG:NH2	2.14	0.44
47:BZ:118:LEU:HA	47:BZ:121:LYS:HB2	1.98	0.44
48:B1:93:LEU:HD23	48:B1:93:LEU:C	2.38	0.44
52:B5:114:ARG:HD2	52:B5:135:LEU:HD13	2.00	0.44
52:B5:128:ARG:NH2	52:B5:132:LEU:HD21	2.31	0.44
1:AA:250:A:H5'	1:AA:252:G:H5'	2.00	0.44
1:AA:628:C:H4'	26:BE:265:PHE:CD2	2.52	0.44
1:AA:660:A:C5'	26:BE:161:ILE:CB	2.59	0.44
1:AA:661:A:H2'	1:AA:662:G:C8	2.52	0.44
1:AA:756:A:H2'	1:AA:757:G:H8	1.83	0.44
1:AA:981:G:H2'	1:AA:982:G:C5'	2.46	0.44
1:AA:1255:U:H2'	1:AA:1256:U:C6	2.53	0.44
2:AB:98:LYS:HB3	2:AB:99:LYS:H	1.58	0.44
2:AB:196:ASN:N	2:AB:196:ASN:ND2	2.65	0.44
15:AO:53:LEU:HD22	22:BA:726:G:C4	2.50	0.44
22:BA:392:G:H2'	22:BA:393:G:C8	2.53	0.44
22:BA:643:A:H5''	52:B5:103:ARG:HH12	1.82	0.44
22:BA:830:A:H2'	22:BA:831:A:O4'	2.18	0.44
22:BA:1182:A:H5''	40:BS:55:ARG:NH2	2.30	0.44
22:BA:1376:G:H2'	22:BA:1377:A:C8	2.52	0.44
22:BA:1387:A:H2'	22:BA:1388:A:O4'	2.17	0.44
22:BA:1747:C:H2'	22:BA:1748:C:C6	2.52	0.44
22:BA:2000:G:H2'	22:BA:2001:G:C8	2.52	0.44
22:BA:2280:C:H2'	22:BA:2281:C:C6	2.52	0.44
22:BA:2527:C:H4'	27:BF:173:ARG:HH22	1.81	0.44
22:BA:2592:U:H4'	27:BF:192:GLY:N	2.32	0.44
22:BA:2647:A:H2'	22:BA:2648:G:H8	1.83	0.44
26:BE:247:GLY:HA3	26:BE:251:LEU:CD2	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BE:261:TYR:H	26:BE:261:TYR:HD1	1.61	0.44
27:BF:119:LEU:O	27:BF:119:LEU:HD23	2.18	0.44
27:BF:189:ILE:HG21	27:BF:202:LYS:HE3	1.99	0.44
29:BH:65:LEU:HD23	29:BH:65:LEU:C	2.37	0.44
29:BH:160:ILE:O	29:BH:160:ILE:HG13	2.18	0.44
30:BI:72:LEU:HD12	30:BI:72:LEU:N	2.33	0.44
31:BJ:135:LYS:HB2	31:BJ:138:LEU:HB2	1.98	0.44
36:BO:16:ARG:HH12	36:BO:18:LYS:HG2	1.82	0.44
40:BS:15:LYS:O	40:BS:19:PHE:HD1	2.00	0.44
41:BT:129:ILE:HG22	41:BT:129:ILE:O	2.18	0.44
42:BU:121:ARG:HG2	42:BU:121:ARG:HH11	1.81	0.44
44:BW:104:LEU:HD13	44:BW:104:LEU:C	2.38	0.44
45:BX:78:LEU:HD23	45:BX:78:LEU:C	2.38	0.44
49:B2:15:ILE:C	49:B2:17:LYS:H	2.21	0.44
1:AA:217:A:H4'	1:AA:218:G:OP1	2.18	0.44
1:AA:422:A:H4'	1:AA:423:A:N9	2.32	0.44
1:AA:676:A:N6	15:AO:51:ARG:NE	2.65	0.44
1:AA:740:A:H2'	1:AA:742:A:N7	2.31	0.44
1:AA:1476:C:H2'	1:AA:1477:U:O4'	2.18	0.44
22:BA:38:C:H2'	22:BA:39:C:C6	2.53	0.44
22:BA:54:G:H2'	22:BA:55:G:C8	2.52	0.44
22:BA:386:A:H1'	22:BA:414:A:N6	2.26	0.44
22:BA:682:C:H2'	22:BA:683:C:C6	2.53	0.44
22:BA:752:U:H2'	22:BA:753:G:C8	2.53	0.44
22:BA:863:C:H2'	22:BA:864:U:C6	2.53	0.44
22:BA:1066:G:H2'	22:BA:1067:G:C8	2.52	0.44
22:BA:1294:A:H4'	22:BA:1296:A:OP1	2.16	0.44
22:BA:1315:G:H2'	22:BA:1316:C:H6	1.83	0.44
22:BA:1754:A:H2'	22:BA:1755:A:O4'	2.18	0.44
22:BA:2037:G:H2'	22:BA:2038:U:C6	2.52	0.44
22:BA:2264:U:O2'	22:BA:2265:A:H5'	2.17	0.44
22:BA:2325:G:N3	22:BA:2325:G:C2'	2.81	0.44
28:BG:216:VAL:HG13	28:BG:228:LEU:CD1	2.47	0.44
30:BI:54:PRO:C	30:BI:56:ASN:H	2.20	0.44
30:BI:118:MET:O	30:BI:122:VAL:HG22	2.17	0.44
30:BI:214:ARG:HH11	30:BI:214:ARG:CA	2.30	0.44
32:BK:130:THR:HG23	32:BK:130:THR:O	2.17	0.44
34:BM:118:PRO:HG2	34:BM:119:GLU:H	1.82	0.44
35:BN:120:MET:HG2	35:BN:121:PRO:HD3	2.00	0.44
36:BO:92:TYR:HB3	36:BO:93:TRP:H	1.63	0.44
38:BQ:109:SER:H	38:BQ:110:PRO:CD	2.30	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BQ:131:ILE:HD13	38:BQ:131:ILE:C	2.37	0.44
42:BU:59:ALA:C	42:BU:63:MET:HE2	2.38	0.44
45:BX:81:LYS:N	45:BX:81:LYS:HD3	2.32	0.44
53:B6:18:LYS:HA	53:B6:23:VAL:HA	1.99	0.44
1:AA:374:C:H2'	1:AA:375:G:H8	1.82	0.44
1:AA:659:A:O3'	26:BE:161:ILE:O	2.35	0.44
1:AA:1006:G:OP1	3:AC:165:ALA:HB1	2.17	0.44
1:AA:1267:A:H5''	19:AS:4:SER:OG	2.17	0.44
1:AA:1370:U:H2'	1:AA:1371:G:C8	2.52	0.44
11:AK:69:PRO:HD3	11:AK:100:LEU:HB3	2.00	0.44
22:BA:82:G:H2'	22:BA:83:A:O4'	2.18	0.44
22:BA:619:A:H2'	22:BA:620:G:O4'	2.18	0.44
22:BA:647:C:H2'	22:BA:648:G:H8	1.82	0.44
22:BA:819:G:H2'	22:BA:820:G:C8	2.52	0.44
22:BA:872:A:H2'	22:BA:873:A:O4'	2.16	0.44
22:BA:884:G:H2'	22:BA:885:G:C8	2.52	0.44
22:BA:961:G:H5''	22:BA:962:G:N7	2.32	0.44
22:BA:1264:C:H2'	22:BA:1265:G:C8	2.52	0.44
22:BA:1297:C:O2	37:BP:109:LEU:HD23	2.18	0.44
22:BA:1393:U:H2'	22:BA:1394:A:C8	2.53	0.44
22:BA:1449:C:N4	22:BA:1603:A:H5''	2.32	0.44
22:BA:1651:C:C6	42:BU:116:PRO:HG2	2.53	0.44
22:BA:1678:G:H2'	22:BA:1679:G:C8	2.52	0.44
22:BA:1843:C:O2'	22:BA:1844:U:H5'	2.17	0.44
22:BA:2243:C:O2	26:BE:258:ARG:HA	2.18	0.44
22:BA:2435:G:H2'	22:BA:2436:U:C6	2.53	0.44
22:BA:2770:C:H3'	22:BA:2771:A:H8	1.82	0.44
22:BA:2790:C:H4'	27:BF:214:LYS:HZ3	1.82	0.44
24:BC:85:C:H2'	24:BC:86:A:H8	1.82	0.44
25:BD:127:LYS:HB3	25:BD:127:LYS:HZ3	1.83	0.44
26:BE:109:GLY:O	26:BE:112:ILE:HD13	2.18	0.44
27:BF:101:ARG:N	27:BF:101:ARG:CD	2.80	0.44
27:BF:119:LEU:HD23	27:BF:119:LEU:C	2.38	0.44
28:BG:195:GLN:HA	28:BG:200:ASP:OD2	2.18	0.44
29:BH:39:ASN:OD1	29:BH:41:LEU:HD12	2.18	0.44
34:BM:64:ARG:HD3	34:BM:100:GLY:O	2.17	0.44
36:BO:74:VAL:CG2	36:BO:94:VAL:HG22	2.47	0.44
38:BQ:63:PRO:CB	45:BX:134:LYS:HG3	2.47	0.44
41:BT:140:ARG:HG2	41:BT:140:ARG:HH11	1.81	0.44
42:BU:107:LYS:HD3	42:BU:107:LYS:C	2.38	0.44
43:BV:183:ASN:OD1	43:BV:185:SER:HB3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BW:136:LEU:HD11	44:BW:145:ASP:HB3	1.99	0.44
48:B1:84:VAL:HG23	48:B1:84:VAL:O	2.18	0.44
50:B3:13:LEU:CD2	50:B3:38:ASN:HD22	2.26	0.44
51:B4:108:LEU:HA	51:B4:112:HIS:HD2	1.82	0.44
1:AA:292:A:H61	1:AA:303:G:H1	1.64	0.44
1:AA:556:A:H2'	1:AA:557:A:O4'	2.18	0.44
1:AA:851:G:H2'	1:AA:852:A:H8	1.82	0.44
1:AA:899:U:H2'	1:AA:900:G:C8	2.53	0.44
1:AA:998:U:O2'	1:AA:999:G:OP2	2.33	0.44
1:AA:1363:U:H2'	1:AA:1364:G:H8	1.81	0.44
11:AK:94:MET:HG3	11:AK:120:ARG:HG3	1.98	0.44
22:BA:212:A:H61	22:BA:422:G:N2	2.12	0.44
22:BA:576:U:H2'	22:BA:577:G:C8	2.53	0.44
22:BA:625:C:H4'	22:BA:626:C:O5'	2.16	0.44
22:BA:640:G:H2'	22:BA:641:C:C6	2.52	0.44
22:BA:642:G:N2	22:BA:644:A:H3'	2.33	0.44
22:BA:736:G:H2'	22:BA:737:G:O4'	2.18	0.44
22:BA:781:G:H2'	22:BA:782:G:C8	2.52	0.44
22:BA:1082:A:H2'	22:BA:1083:G:C8	2.53	0.44
22:BA:1179:C:H2'	22:BA:1180:C:C6	2.53	0.44
22:BA:1337:U:H2'	22:BA:1338:C:C6	2.53	0.44
22:BA:1853:C:H2'	22:BA:1854:C:C6	2.53	0.44
22:BA:2107:G:H1'	22:BA:2242:A:N6	2.32	0.44
22:BA:2131:U:H4'	22:BA:2162:G:H22	1.83	0.44
24:BC:52:A:H1'	37:BP:153:ARG:CZ	2.48	0.44
25:BD:173:LEU:HD23	25:BD:173:LEU:C	2.37	0.44
25:BD:322:TYR:HD2	25:BD:323:TRP:NE1	2.15	0.44
26:BE:243:THR:O	26:BE:244:THR:HB	2.18	0.44
28:BG:212:LEU:HD12	28:BG:217:GLU:N	2.33	0.44
31:BJ:149:VAL:HG11	31:BJ:162:LYS:HA	1.98	0.44
32:BK:109:PHE:CE1	32:BK:129:ILE:HD11	2.52	0.44
33:BL:126:ARG:HH11	33:BL:126:ARG:HG3	1.82	0.44
34:BM:64:ARG:HH21	34:BM:83:ALA:HB2	1.83	0.44
42:BU:73:CYS:O	42:BU:77:PHE:HB2	2.18	0.44
43:BV:165:LEU:C	43:BV:165:LEU:HD12	2.38	0.44
44:BW:102:LYS:HG3	44:BW:102:LYS:O	2.18	0.44
47:BZ:67:LEU:HD23	47:BZ:67:LEU:C	2.37	0.44
1:AA:130:G:O2'	1:AA:131:G:H5'	2.18	0.44
1:AA:272:G:H5''	17:AQ:88:LYS:HE3	1.99	0.44
1:AA:317:G:H2'	1:AA:318:G:H5'	1.99	0.44
1:AA:760:G:N3	1:AA:760:G:H2'	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:987:G:H2'	1:AA:988:C:C6	2.53	0.44
1:AA:998:U:O2'	1:AA:999:G:P	2.76	0.44
1:AA:1105:A:H1'	1:AA:1129:G:N2	2.33	0.44
1:AA:1424:G:OP1	22:BA:1725:A:C8	2.70	0.44
1:AA:1424:G:OP1	22:BA:1725:A:H1'	2.07	0.44
22:BA:429:C:H2'	22:BA:430:U:C6	2.52	0.44
22:BA:624:A:N3	22:BA:624:A:C2'	2.80	0.44
22:BA:1039:A:H5''	40:BS:77:ASN:HD21	1.82	0.44
22:BA:1165:G:H21	33:BL:207:MET:HE1	1.83	0.44
22:BA:1322:A:N7	22:BA:1324:A:N7	2.65	0.44
22:BA:1375:A:H62	22:BA:1398:G:H21	1.66	0.44
22:BA:2356:G:H2'	22:BA:2357:A:C8	2.53	0.44
22:BA:2416:G:H2'	22:BA:2417:G:C8	2.52	0.44
22:BA:2564:U:H2'	22:BA:2565:G:C8	2.52	0.44
25:BD:129:ARG:HD3	25:BD:129:ARG:C	2.39	0.44
25:BD:289:PHE:CE2	25:BD:303:LEU:HD23	2.53	0.44
26:BE:44:ILE:O	26:BE:45:ILE:HD13	2.18	0.44
26:BE:49:HIS:O	26:BE:50:ARG:HB2	2.17	0.44
26:BE:170:LEU:O	26:BE:177:VAL:HG13	2.18	0.44
26:BE:200:ARG:HH11	26:BE:200:ARG:HG3	1.82	0.44
30:BI:65:ASP:OD2	30:BI:67:LYS:HE2	2.18	0.44
33:BL:221:LEU:C	33:BL:222:LYS:HD2	2.38	0.44
34:BM:112:LYS:HD2	34:BM:112:LYS:C	2.38	0.44
35:BN:192:LEU:HD11	35:BN:211:LEU:HD23	1.99	0.44
35:BN:205:THR:HG22	35:BN:218:LEU:HD11	2.00	0.44
37:BP:192:ARG:HD2	37:BP:195:ASP:OD1	2.18	0.44
40:BS:21:ALA:HA	40:BS:24:PHE:CE2	2.53	0.44
41:BT:132:ARG:HB3	41:BT:134:TYR:CE1	2.52	0.44
43:BV:111:VAL:HG11	43:BV:146:MET:HE3	2.00	0.44
43:BV:148:ARG:HG3	43:BV:159:VAL:HG21	1.99	0.44
45:BX:80:VAL:HG13	45:BX:81:LYS:HD3	1.99	0.44
46:BY:78:CYS:HB2	46:BY:127:LYS:HD2	1.99	0.44
49:B2:24:GLY:O	49:B2:25:TYR:C	2.56	0.44
50:B3:49:ARG:HH11	50:B3:49:ARG:HG3	1.83	0.44
1:AA:91:G:C2'	1:AA:92:G:H5''	2.44	0.44
1:AA:322:G:H5''	1:AA:323:C:OP1	2.17	0.44
1:AA:328:G:OP1	1:AA:338:U:H5''	2.18	0.44
1:AA:639:G:O2'	1:AA:745:C:H4'	2.18	0.44
1:AA:894:G:N2	1:AA:1282:G:H4'	2.31	0.44
1:AA:1244:C:H2'	1:AA:1245:U:O4'	2.17	0.44
1:AA:1276:C:H2'	1:AA:1277:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1311:A:H3'	1:AA:1311:A:N3	2.33	0.44
1:AA:1436:G:O2'	1:AA:1437:A:H5'	2.18	0.44
22:BA:46:C:N4	22:BA:162:A:H61	2.15	0.44
22:BA:338:G:O4'	22:BA:489:A:H1'	2.18	0.44
22:BA:391:G:H4'	22:BA:2249:C:H5''	1.99	0.44
22:BA:688:C:H2'	22:BA:689:C:C6	2.53	0.44
22:BA:1067:G:H2'	22:BA:1068:G:C8	2.53	0.44
22:BA:1316:C:H4'	37:BP:111:ARG:NH2	2.32	0.44
22:BA:1980:A:H1'	22:BA:2610:U:H4'	2.00	0.44
22:BA:2210:C:H2'	22:BA:2211:U:O4'	2.17	0.44
22:BA:2244:A:H5'	26:BE:257:LYS:HE2	2.00	0.44
22:BA:2283:A:H1'	22:BA:2289:U:C4	2.52	0.44
22:BA:2313:U:H1'	22:BA:2354:G:N2	2.33	0.44
22:BA:2360:U:O3'	22:BA:2390:A:H4'	2.18	0.44
22:BA:2696:A:H2'	22:BA:2697:C:C6	2.52	0.44
26:BE:184:CYS:SG	26:BE:185:SER:N	2.91	0.44
28:BG:113:ARG:HH11	28:BG:113:ARG:CB	2.30	0.44
28:BG:233:SER:HA	28:BG:258:ARG:NH1	2.33	0.44
33:BL:127:MET:HE3	33:BL:130:THR:HB	2.00	0.44
38:BQ:72:ARG:NH2	38:BQ:77:LEU:HD12	2.32	0.44
39:BR:153:LEU:HD22	39:BR:153:LEU:N	2.33	0.44
47:BZ:78:LEU:C	47:BZ:78:LEU:HD23	2.38	0.44
50:B3:12:ILE:HG23	50:B3:12:ILE:O	2.18	0.44
1:AA:124:G:H2'	1:AA:125:G:H8	1.81	0.43
1:AA:166:G:H3'	1:AA:167:G:C8	2.53	0.43
1:AA:396:G:H2'	1:AA:397:U:C6	2.53	0.43
1:AA:497:C:H2'	1:AA:498:G:C8	2.52	0.43
1:AA:514:G:C5'	1:AA:515:G:OP1	2.66	0.43
1:AA:700:G:H4'	1:AA:702:C:H5	1.83	0.43
1:AA:756:A:H1'	26:BE:5:LEU:C	2.38	0.43
1:AA:886:A:H1'	1:AA:1328:G:N2	2.32	0.43
1:AA:1284:C:H1'	1:AA:1285:G:C6	2.53	0.43
1:AA:1294:A:H5''	1:AA:1295:G:OP1	2.18	0.43
1:AA:1319:G:O2'	1:AA:1320:G:H5'	2.18	0.43
1:AA:1462:A:H2'	1:AA:1463:C:C6	2.53	0.43
6:AF:118:LYS:NZ	26:BE:162:ALA:C	2.70	0.43
11:AK:29:VAL:HG23	11:AK:44:THR:HG23	1.99	0.43
22:BA:569:G:H1'	40:BS:59:ARG:HH22	1.83	0.43
22:BA:780:U:H2'	22:BA:781:G:C8	2.52	0.43
22:BA:1228:A:H2'	22:BA:1229:G:C8	2.52	0.43
22:BA:1463:U:H2'	22:BA:1464:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2747:G:O2'	27:BF:218:LEU:HD21	2.18	0.43
22:BA:2802:G:H2'	22:BA:2803:C:C6	2.53	0.43
24:BC:98:U:H2'	24:BC:99:U:C6	2.53	0.43
25:BD:141:LEU:HG	25:BD:296:GLU:OE1	2.17	0.43
26:BE:87:ILE:HG12	26:BE:87:ILE:O	2.17	0.43
28:BG:204:LYS:HB3	28:BG:206:LEU:CD1	2.43	0.43
29:BH:171:ILE:HG23	29:BH:171:ILE:O	2.18	0.43
32:BK:108:ALA:O	32:BK:109:PHE:HB3	2.17	0.43
34:BM:2:ILE:HD12	34:BM:8:LEU:HD11	1.99	0.43
36:BO:20:ILE:CG1	36:BO:99:PRO:HG2	2.46	0.43
36:BO:51:ARG:CB	36:BO:51:ARG:HH11	2.31	0.43
39:BR:173:GLN:NE2	39:BR:173:GLN:N	2.66	0.43
39:BR:195:VAL:O	39:BR:196:PHE:O	2.36	0.43
39:BR:198:LEU:C	39:BR:198:LEU:HD12	2.39	0.43
41:BT:160:LYS:HD2	41:BT:176:ILE:HG21	2.00	0.43
44:BW:141:GLN:N	44:BW:141:GLN:OE1	2.51	0.43
1:AA:336:U:O2	1:AA:336:U:C2'	2.65	0.43
1:AA:471:A:N6	12:AL:50:ARG:HH12	2.16	0.43
1:AA:596:A:H2'	1:AA:597:A:C8	2.53	0.43
1:AA:1002:G:H4'	1:AA:1003:C:H5'	2.01	0.43
1:AA:1013:G:H4'	1:AA:1014:U:O5'	2.17	0.43
1:AA:1049:C:O2	1:AA:1051:A:H5'	2.18	0.43
2:AB:191:ILE:HG23	2:AB:195:CYS:HB3	2.00	0.43
4:AD:72:ALA:HB1	4:AD:82:VAL:HG23	2.00	0.43
6:AF:118:LYS:NZ	26:BE:162:ALA:O	2.35	0.43
22:BA:115:G:H4'	51:B4:114:PHE:HE2	1.84	0.43
22:BA:156:G:H2'	22:BA:157:G:C8	2.53	0.43
22:BA:534:C:H4'	22:BA:551:G:N3	2.33	0.43
22:BA:649:A:C2	22:BA:664:A:H4'	2.53	0.43
22:BA:674:C:H2'	22:BA:675:U:C6	2.53	0.43
22:BA:912:C:H2'	22:BA:913:G:C8	2.54	0.43
22:BA:1073:G:H4'	22:BA:1075:G:C1'	2.48	0.43
22:BA:1468:C:H2'	22:BA:1469:G:C8	2.53	0.43
22:BA:1483:G:H2'	22:BA:1484:G:C8	2.53	0.43
22:BA:1534:A:H4'	26:BE:95:GLY:O	2.19	0.43
22:BA:1746:C:H2'	22:BA:1747:C:C6	2.53	0.43
22:BA:2070:A:O2'	49:B2:5:LYS:HD3	2.18	0.43
22:BA:2070:A:H61	22:BA:2629:A:H61	1.66	0.43
22:BA:2176:A:H2'	22:BA:2177:U:C6	2.53	0.43
22:BA:2327:G:H2'	22:BA:2328:A:H5'	1.99	0.43
22:BA:2411:C:H2'	22:BA:2412:C:C6	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2512:G:H2'	22:BA:2513:C:O4'	2.17	0.43
22:BA:2671:A:O2'	22:BA:2672:G:H4'	2.19	0.43
24:BC:31:U:H2'	24:BC:33:A:OP1	2.18	0.43
26:BE:34:ARG:HH11	26:BE:37:LYS:HD3	1.82	0.43
26:BE:114:SER:HB3	26:BE:124:ASN:HB3	1.99	0.43
29:BH:19:LEU:O	29:BH:19:LEU:HD13	2.18	0.43
30:BI:173:ARG:NH1	30:BI:173:ARG:HB2	2.33	0.43
32:BK:173:ILE:HD13	32:BK:210:ILE:HD11	2.00	0.43
33:BL:133:ILE:CG1	33:BL:139:ASN:HD21	2.24	0.43
33:BL:142:SER:HA	33:BL:149:MET:SD	2.57	0.43
33:BL:235:GLN:HA	33:BL:235:GLN:HE21	1.83	0.43
34:BM:11:ALA:HB1	34:BM:99:PHE:O	2.18	0.43
35:BN:180:ARG:HH11	35:BN:180:ARG:HG3	1.83	0.43
40:BS:55:ARG:HB3	40:BS:55:ARG:HH11	1.83	0.43
42:BU:45:LYS:NZ	42:BU:71:ARG:HH12	2.16	0.43
44:BW:101:ILE:HD13	44:BW:101:ILE:N	2.32	0.43
44:BW:136:LEU:HD21	44:BW:158:VAL:HG12	1.99	0.43
46:BY:83:LYS:CG	46:BY:84:LYS:H	2.16	0.43
52:B5:131:ARG:HG3	52:B5:131:ARG:HH11	1.83	0.43
1:AA:36:G:H1'	12:AL:115:SER:O	2.18	0.43
1:AA:916:C:OP1	1:AA:918:A:H5'	2.18	0.43
1:AA:1199:A:O2'	1:AA:1200:A:H5'	2.19	0.43
22:BA:101:A:H5''	47:BZ:62:LYS:HD3	2.00	0.43
22:BA:542:C:H2'	40:BS:41:ARG:NH2	2.34	0.43
22:BA:705:U:H1'	22:BA:1400:U:O2	2.18	0.43
22:BA:852:U:H2'	22:BA:853:G:C8	2.53	0.43
22:BA:926:A:H2'	22:BA:927:A:O4'	2.18	0.43
22:BA:999:C:H2'	22:BA:1000:G:O4'	2.17	0.43
22:BA:1114:A:N3	22:BA:1114:A:C2'	2.81	0.43
22:BA:1133:U:H2'	22:BA:1134:G:C8	2.54	0.43
22:BA:1412:G:H21	22:BA:1414:A:H8	1.66	0.43
22:BA:1746:C:H5'	24:BC:60:G:H1'	2.01	0.43
22:BA:1810:C:H1'	22:BA:1812:A:C1'	2.48	0.43
22:BA:2031:A:C2	49:B2:7:ARG:HD2	2.53	0.43
22:BA:2077:C:N4	22:BA:2518:C:H1'	2.30	0.43
22:BA:2119:U:H2'	22:BA:2120:U:C6	2.53	0.43
22:BA:2443:A:H5''	22:BA:2444:C:OP2	2.18	0.43
22:BA:2460:U:H2'	22:BA:2461:A:H8	1.83	0.43
22:BA:2630:U:OP2	49:B2:1:MET:HB2	2.19	0.43
22:BA:2794:A:H5''	22:BA:2795:G:OP1	2.17	0.43
23:BB:104:U:H2'	23:BB:105:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:BC:4:G:H2'	24:BC:5:G:H8	1.84	0.43
26:BE:137:ILE:O	26:BE:190:GLN:HB2	2.19	0.43
26:BE:213:ARG:HB3	26:BE:214:PRO:HD2	1.99	0.43
26:BE:237:ILE:C	26:BE:239:ARG:H	2.22	0.43
28:BG:91:HIS:O	28:BG:95:LYS:HG3	2.18	0.43
28:BG:139:VAL:HG13	40:BS:1:MET:N	2.32	0.43
29:BH:117:ARG:NH2	48:B1:61:ALA:HB3	2.33	0.43
29:BH:121:LEU:C	29:BH:121:LEU:HD12	2.38	0.43
33:BL:201:GLU:O	33:BL:204:VAL:HG22	2.18	0.43
39:BR:174:ASN:HB2	39:BR:219:LEU:HD21	2.00	0.43
39:BR:222:LEU:HD23	39:BR:224:ASP:N	2.34	0.43
43:BV:162:VAL:HG22	43:BV:176:ILE:HD13	2.00	0.43
43:BV:164:THR:HG23	43:BV:172:LYS:HE3	1.98	0.43
43:BV:167:ARG:HH11	43:BV:167:ARG:HB2	1.82	0.43
49:B2:34:LEU:N	49:B2:36:LYS:HD3	2.33	0.43
1:AA:542:U:H3	1:AA:593:A:H61	1.66	0.43
1:AA:1119:G:H2'	1:AA:1120:C:C6	2.53	0.43
22:BA:48:A:O5'	22:BA:50:G:H5'	2.18	0.43
22:BA:698:C:H42	22:BA:798:C:C5'	2.31	0.43
22:BA:839:G:H3'	22:BA:839:G:N3	2.32	0.43
22:BA:1024:A:H2'	22:BA:1025:G:C8	2.54	0.43
22:BA:2016:G:OP2	37:BP:98:LYS:HD2	2.18	0.43
22:BA:2044:A:H4'	22:BA:2045:A:N7	2.34	0.43
22:BA:2079:C:H2'	22:BA:2080:U:C6	2.53	0.43
22:BA:2375:A:H2	35:BN:124:ARG:NH2	2.17	0.43
22:BA:2737:G:O2'	24:BC:47:G:H4'	2.19	0.43
24:BC:99:U:H2'	24:BC:100:G:H8	1.82	0.43
26:BE:61:ILE:O	26:BE:62:ASP:HB3	2.18	0.43
26:BE:219:VAL:HG22	26:BE:221:MET:H	1.82	0.43
29:BH:41:LEU:O	29:BH:42:GLU:HG2	2.18	0.43
32:BK:184:LEU:C	32:BK:186:ASP:H	2.22	0.43
33:BL:155:VAL:HB	33:BL:223:VAL:HG12	2.01	0.43
33:BL:176:HIS:CD2	33:BL:178:GLY:H	2.37	0.43
36:BO:120:ILE:H	36:BO:120:ILE:CD1	2.31	0.43
38:BQ:109:SER:HA	38:BQ:114:VAL:HG21	2.00	0.43
38:BQ:127:LEU:HD23	38:BQ:127:LEU:C	2.38	0.43
39:BR:148:ILE:HG21	39:BR:212:ARG:CZ	2.49	0.43
39:BR:185:ARG:HH22	39:BR:223:ARG:NH1	2.04	0.43
39:BR:224:ASP:O	39:BR:225:LYS:HG2	2.19	0.43
45:BX:90:PRO:HD2	45:BX:123:LEU:O	2.18	0.43
46:BY:81:THR:HB	46:BY:108:TYR:CD1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B2:13:LYS:HB3	49:B2:13:LYS:HZ2	1.82	0.43
1:AA:240:U:H2'	1:AA:241:A:H8	1.83	0.43
1:AA:449:C:H2'	1:AA:450:A:C8	2.54	0.43
1:AA:910:U:O2	1:AA:932:A:N7	2.52	0.43
1:AA:911:C:H2'	1:AA:912:G:H8	1.82	0.43
1:AA:1009:U:H2'	1:AA:1010:G:C8	2.54	0.43
1:AA:1276:C:H2'	1:AA:1277:A:H8	1.84	0.43
1:AA:1383:A:H2'	1:AA:1384:G:O4'	2.19	0.43
22:BA:84:G:N2	22:BA:96:C:N3	2.67	0.43
22:BA:225:U:H5''	22:BA:635:C:H5'	2.01	0.43
22:BA:327:C:H2'	22:BA:328:C:C6	2.54	0.43
22:BA:336:G:O2'	22:BA:337:U:H5'	2.18	0.43
22:BA:369:U:H2'	22:BA:370:A:O4'	2.19	0.43
22:BA:490:A:N6	22:BA:492:A:N6	2.66	0.43
22:BA:740:G:N3	22:BA:740:G:C2'	2.78	0.43
22:BA:762:G:H1'	42:BU:119:ARG:NE	2.32	0.43
22:BA:1296:A:H61	22:BA:1316:C:H2'	1.83	0.43
22:BA:1642:C:H4'	22:BA:1644:A:N3	2.33	0.43
22:BA:1870:U:H2'	22:BA:1871:U:C6	2.53	0.43
22:BA:2070:A:H61	22:BA:2629:A:N6	2.16	0.43
22:BA:2380:U:H2'	22:BA:2381:C:C6	2.53	0.43
22:BA:2400:G:OP2	52:B5:127:LYS:HE2	2.19	0.43
24:BC:4:G:H2'	24:BC:5:G:C8	2.53	0.43
31:BJ:71:LYS:HE3	31:BJ:71:LYS:CA	2.45	0.43
31:BJ:88:MET:HG2	31:BJ:93:LEU:HD21	2.00	0.43
32:BK:92:ALA:O	32:BK:96:GLY:HA3	2.18	0.43
34:BM:64:ARG:HE	34:BM:83:ALA:HB3	1.82	0.43
35:BN:83:ARG:HH11	35:BN:83:ARG:HG3	1.83	0.43
35:BN:122:LEU:C	35:BN:124:ARG:H	2.21	0.43
36:BO:2:LEU:HD22	36:BO:44:SER:N	2.33	0.43
36:BO:91:GLU:CD	36:BO:92:TYR:H	2.22	0.43
38:BQ:116:LYS:HB2	38:BQ:116:LYS:HZ2	1.82	0.43
41:BT:142:ILE:O	41:BT:218:ARG:HA	2.18	0.43
45:BX:106:LYS:HZ2	45:BX:131:PRO:HD2	1.83	0.43
50:B3:49:ARG:O	50:B3:61:HIS:HB2	2.18	0.43
52:B5:128:ARG:NH1	52:B5:132:LEU:HD21	2.34	0.43
53:B6:11:CYS:SG	53:B6:12:GLU:N	2.92	0.43
1:AA:155:A:H2'	1:AA:156:A:C8	2.53	0.43
1:AA:293:C:H2'	1:AA:294:U:C6	2.53	0.43
1:AA:465:G:O6	1:AA:479:U:H1'	2.19	0.43
1:AA:685:U:H2'	1:AA:686:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1199:A:H1'	1:AA:1318:C:O2'	2.18	0.43
4:AD:33:ARG:HB3	4:AD:34:ASN:H	1.64	0.43
22:BA:459:A:N6	22:BA:485:G:N3	2.66	0.43
22:BA:589:G:H4'	22:BA:2032:G:H5''	1.99	0.43
22:BA:816:G:OP2	22:BA:817:C:H5	2.02	0.43
22:BA:2089:U:H2'	22:BA:2091:A:OP1	2.19	0.43
22:BA:2138:G:C2'	22:BA:2139:A:H5'	2.45	0.43
22:BA:2142:G:H2'	22:BA:2143:C:C6	2.54	0.43
22:BA:2311:C:O2'	22:BA:2312:C:H5'	2.18	0.43
22:BA:2362:G:H5'	22:BA:2364:C:H5''	2.01	0.43
22:BA:2658:A:H2'	22:BA:2659:G:C8	2.53	0.43
22:BA:2722:C:H2'	22:BA:2723:A:O4'	2.18	0.43
24:BC:30:A:H2'	24:BC:31:U:C6	2.54	0.43
24:BC:66:U:H2'	24:BC:67:G:N7	2.33	0.43
26:BE:48:ARG:HG3	26:BE:48:ARG:O	2.18	0.43
26:BE:89:LEU:HD12	26:BE:98:ARG:O	2.18	0.43
28:BG:209:LEU:CD2	28:BG:211:ASP:H	2.29	0.43
33:BL:139:ASN:HA	40:BS:70:ARG:HB2	2.00	0.43
34:BM:47:ILE:HB	34:BM:50:THR:CG2	2.49	0.43
34:BM:93:PRO:HD2	34:BM:112:LYS:NZ	2.34	0.43
35:BN:126:LEU:H	35:BN:126:LEU:CD2	2.31	0.43
38:BQ:98:LYS:HG2	38:BQ:121:VAL:HG11	1.99	0.43
40:BS:3:ARG:HG3	40:BS:5:LYS:H	1.82	0.43
40:BS:44:VAL:CG2	41:BT:200:TYR:HB3	2.48	0.43
42:BU:35:ARG:HG3	42:BU:132:ILE:O	2.19	0.43
42:BU:58:TYR:CE1	42:BU:96:ALA:HA	2.53	0.43
45:BX:135:LYS:HB2	45:BX:135:LYS:HZ2	1.83	0.43
52:B5:113:ARG:HG2	52:B5:113:ARG:HH11	1.84	0.43
1:AA:126:G:O2'	1:AA:127:A:H5'	2.19	0.43
1:AA:180:A:C5	1:AA:192:C:H4'	2.54	0.43
1:AA:591:C:C5'	8:AH:31:ILE:HG13	2.49	0.43
1:AA:633:G:H2'	1:AA:634:G:H8	1.79	0.43
1:AA:909:U:H4'	1:AA:910:U:H5'	2.00	0.43
1:AA:1066:G:N2	1:AA:1128:A:H1'	2.33	0.43
1:AA:1325:U:H2'	1:AA:1326:U:C6	2.54	0.43
1:AA:1453:G:H5''	1:AA:1454:G:OP1	2.18	0.43
11:AK:128:ASN:HB3	21:AU:131:ARG:HH22	1.84	0.43
22:BA:221:C:H4'	22:BA:443:U:O2'	2.18	0.43
22:BA:914:A:H2'	22:BA:915:G:H8	1.83	0.43
22:BA:1442:C:H2'	22:BA:1443:G:C8	2.54	0.43
22:BA:1453:G:H2'	22:BA:1454:G:H8	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1878:C:O2'	22:BA:1879:U:O5'	2.37	0.43
22:BA:2308:U:H2'	22:BA:2309:U:C6	2.54	0.43
22:BA:2394:A:H2'	22:BA:2395:A:C8	2.54	0.43
22:BA:2598:G:H2'	22:BA:2627:C:H41	1.84	0.43
23:BB:23:G:H2'	23:BB:24:G:C8	2.54	0.43
24:BC:4:G:H5''	27:BF:105:LYS:HD2	2.01	0.43
24:BC:8:A:C1'	49:B2:28:ALA:HB2	2.49	0.43
25:BD:297:GLU:CD	25:BD:297:GLU:H	2.22	0.43
26:BE:92:TYR:HE2	26:BE:98:ARG:HG3	1.84	0.43
26:BE:239:ARG:HG2	26:BE:239:ARG:HH11	1.84	0.43
28:BG:107:GLU:HG3	28:BG:113:ARG:HH22	1.83	0.43
29:BH:141:GLY:HA3	29:BH:175:ALA:HB3	2.01	0.43
36:BO:109:VAL:HG23	36:BO:114:ALA:HB2	1.99	0.43
39:BR:150:GLN:HB3	39:BR:169:VAL:HB	2.00	0.43
40:BS:64:ARG:HE	40:BS:64:ARG:N	2.17	0.43
53:B6:7:VAL:HA	53:B6:35:GLN:NE2	2.34	0.43
1:AA:1078:C:H41	1:AA:1087:G:H2'	1.83	0.43
1:AA:1247:A:C5	1:AA:1249:U:H1'	2.53	0.43
4:AD:145:ILE:HG22	4:AD:147:LEU:H	1.83	0.43
22:BA:136:U:OP1	46:BY:151:LYS:HE2	2.19	0.43
22:BA:308:G:H1'	22:BA:349:A:N6	2.33	0.43
22:BA:326:A:H2'	22:BA:327:C:C6	2.53	0.43
22:BA:330:U:H1'	28:BG:218:LYS:NZ	2.31	0.43
22:BA:471:U:H2'	22:BA:472:A:O4'	2.19	0.43
22:BA:532:A:H2'	22:BA:533:G:C8	2.54	0.43
22:BA:1601:G:N2	26:BE:26:ASN:HB3	2.33	0.43
22:BA:1878:C:HO2'	22:BA:1879:U:H6	1.58	0.43
22:BA:2693:C:H2'	22:BA:2694:G:C8	2.53	0.43
22:BA:2791:C:H2'	22:BA:2792:C:C6	2.54	0.43
28:BG:54:PRO:C	28:BG:55:LEU:HD12	2.39	0.43
28:BG:206:LEU:HD12	28:BG:206:LEU:N	2.33	0.43
31:BJ:55:LYS:H	31:BJ:65:GLY:HA2	1.84	0.43
37:BP:127:LYS:O	37:BP:131:ARG:HG3	2.19	0.43
38:BQ:141:TYR:O	38:BQ:143:TYR:N	2.50	0.43
39:BR:151:ILE:O	39:BR:170:ILE:HG12	2.18	0.43
39:BR:155:VAL:O	39:BR:155:VAL:HG13	2.18	0.43
39:BR:195:VAL:HG23	39:BR:196:PHE:N	2.34	0.43
40:BS:35:ILE:HA	40:BS:38:GLN:HB3	2.01	0.43
49:B2:50:LYS:CE	49:B2:57:GLU:HB2	2.48	0.43
1:AA:94:C:H2'	1:AA:95:G:O4'	2.19	0.43
1:AA:133:A:H2'	1:AA:134:C:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:494:A:H4'	1:AA:496:G:H4'	2.01	0.43
1:AA:611:A:H5''	18:AR:57:LYS:HZ2	1.84	0.43
1:AA:838:A:H4'	1:AA:839:G:H4'	1.99	0.43
1:AA:1050:A:H61	2:AB:179:GLU:HB3	1.84	0.43
1:AA:1180:U:H5''	9:AI:193:GLN:O	2.19	0.43
1:AA:1294:A:H4'	1:AA:1295:G:O5'	2.19	0.43
1:AA:1400:C:H5''	1:AA:1401:A:OP2	2.19	0.43
1:AA:1402:A:C2'	1:AA:1403:G:H5'	2.49	0.43
4:AD:90:ARG:HH12	4:AD:108:ARG:HH22	1.66	0.43
22:BA:123:C:OP2	51:B4:115:ARG:HD3	2.19	0.43
22:BA:495:A:O2'	44:BW:111:VAL:HG21	2.19	0.43
22:BA:517:G:H5''	22:BA:520:C:O2'	2.19	0.43
22:BA:874:G:C2'	22:BA:875:C:H5'	2.48	0.43
22:BA:1447:G:N1	22:BA:1448:A:N6	2.67	0.43
22:BA:2073:A:C2'	22:BA:2520:A:H61	2.32	0.43
22:BA:2244:A:H4'	26:BE:257:LYS:HB2	2.01	0.43
26:BE:62:ASP:OD2	26:BE:98:ARG:HD2	2.18	0.43
27:BF:200:LYS:HZ3	33:BL:180:PRO:N	2.17	0.43
34:BM:3:GLN:CB	34:BM:4:PRO:HD2	2.37	0.43
35:BN:205:THR:HG23	35:BN:234:LYS:NZ	2.33	0.43
37:BP:168:LEU:CA	37:BP:173:PRO:HG2	2.49	0.43
38:BQ:43:THR:HG22	38:BQ:45:ARG:HD2	2.01	0.43
39:BR:183:ILE:CG2	39:BR:198:LEU:H	2.31	0.43
39:BR:196:PHE:O	39:BR:196:PHE:CD1	2.72	0.43
40:BS:74:VAL:HG23	40:BS:112:TYR:HE1	1.84	0.43
41:BT:219:ILE:CG2	41:BT:220:LYS:H	2.18	0.43
42:BU:140:THR:CG2	42:BU:141:HIS:H	2.22	0.43
43:BV:118:PRO:HD2	47:BZ:97:SER:OG	2.18	0.43
1:AA:98:U:H1'	1:AA:324:A:H1'	2.01	0.43
1:AA:285:C:O2'	1:AA:286:A:H5'	2.19	0.43
1:AA:336:U:O2	1:AA:336:U:H2'	2.18	0.43
1:AA:456:U:H1'	1:AA:457:A:N7	2.34	0.43
1:AA:685:U:H2'	1:AA:686:G:H8	1.84	0.43
1:AA:757:G:O2'	1:AA:758:C:H5'	2.19	0.43
1:AA:1078:C:C1'	1:AA:1094:A:H61	2.31	0.43
1:AA:1213:C:H2'	1:AA:1214:G:C8	2.54	0.43
1:AA:1246:C:H4'	1:AA:1247:A:C6	2.54	0.43
1:AA:1321:U:H2'	1:AA:1322:G:O4'	2.19	0.43
1:AA:1371:G:O2'	1:AA:1372:G:H5'	2.19	0.43
22:BA:297:U:H2'	22:BA:298:G:C8	2.54	0.43
22:BA:388:C:H2'	22:BA:389:A:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:529:G:H2'	22:BA:530:U:C6	2.54	0.43
22:BA:1165:G:H21	33:BL:207:MET:CE	2.32	0.43
22:BA:1226:U:H2'	28:BG:224:ARG:HH22	1.84	0.43
22:BA:1704:A:N1	22:BA:1712:A:N6	2.67	0.43
22:BA:2185:A:C2'	22:BA:2186:U:H5'	2.48	0.43
22:BA:2358:G:H2'	22:BA:2359:C:C6	2.53	0.43
22:BA:2378:C:C5'	52:B5:115:ALA:HB3	2.49	0.43
22:BA:2606:A:H2'	22:BA:2607:A:C8	2.54	0.43
24:BC:83:A:C2'	24:BC:84:A:H5''	2.48	0.43
25:BD:265:GLN:O	25:BD:269:GLU:HB2	2.18	0.43
26:BE:128:LEU:N	26:BE:128:LEU:HD12	2.33	0.43
28:BG:206:LEU:HD21	28:BG:243:GLU:OE1	2.19	0.43
30:BI:201:LYS:HA	30:BI:214:ARG:NH2	2.34	0.43
37:BP:110:LEU:HD13	37:BP:110:LEU:O	2.19	0.43
38:BQ:77:LEU:HD23	38:BQ:77:LEU:C	2.38	0.43
39:BR:192:VAL:CG1	39:BR:193:GLU:H	2.11	0.43
43:BV:113:GLN:O	43:BV:113:GLN:HG3	2.18	0.43
43:BV:191:ILE:H	43:BV:191:ILE:CD1	2.32	0.43
52:B5:126:THR:HG23	52:B5:126:THR:O	2.18	0.43
1:AA:250:A:H5''	1:AA:251:U:O5'	2.19	0.42
1:AA:262:U:H2'	1:AA:263:G:C8	2.54	0.42
1:AA:611:A:H5''	18:AR:57:LYS:NZ	2.33	0.42
1:AA:1198:A:H2	1:AA:1301:G:H21	1.67	0.42
1:AA:1236:A:N1	1:AA:1320:G:HI'	2.34	0.42
1:AA:1412:U:H2'	1:AA:1413:G:H8	1.84	0.42
12:AL:6:GLN:NE2	12:AL:12:ARG:HH22	2.16	0.42
22:BA:110:U:H2'	22:BA:111:U:O4'	2.19	0.42
22:BA:182:A:OP1	22:BA:182:A:H3'	2.19	0.42
22:BA:392:G:H4'	46:BY:93:HIS:O	2.18	0.42
22:BA:595:G:H3'	22:BA:1272:A:H61	1.83	0.42
22:BA:693:G:H5'	51:B4:122:SER:CB	2.46	0.42
22:BA:1196:A:H2'	22:BA:1197:A:O4'	2.18	0.42
22:BA:1435:U:H2'	22:BA:1436:U:C6	2.53	0.42
22:BA:1875:G:O6	22:BA:1889:G:H2'	2.19	0.42
22:BA:1968:G:N3	22:BA:2568:C:H5'	2.34	0.42
22:BA:2044:A:N3	22:BA:2516:C:H5''	2.34	0.42
22:BA:2475:G:N2	22:BA:2475:G:OP2	2.51	0.42
22:BA:2721:C:H2'	22:BA:2722:C:O4'	2.18	0.42
22:BA:2767:A:H5''	30:BI:46:ILE:CD1	2.49	0.42
23:BB:106:G:O2'	23:BB:107:C:H5'	2.19	0.42
24:BC:9:C:H2'	24:BC:10:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:BC:12:C:H3'	24:BC:14:A:N6	2.33	0.42
24:BC:44:C:H2'	24:BC:45:A:C8	2.53	0.42
26:BE:137:ILE:CG2	26:BE:138:HIS:H	2.20	0.42
29:BH:75:ILE:HG22	29:BH:155:GLU:HB2	2.00	0.42
37:BP:117:LEU:HD23	37:BP:137:VAL:HG11	2.01	0.42
38:BQ:81:VAL:HG13	38:BQ:122:ILE:HD11	2.00	0.42
42:BU:41:MET:SD	42:BU:72:ALA:HA	2.59	0.42
44:BW:142:GLU:O	44:BW:143:VAL:HB	2.19	0.42
45:BX:73:SER:HB3	45:BX:74:PRO:CA	2.49	0.42
46:BY:76:ARG:CG	46:BY:77:ILE:H	2.29	0.42
49:B2:51:ILE:O	49:B2:52:SER:HB2	2.18	0.42
1:AA:465:G:C6	1:AA:479:U:H1'	2.55	0.42
1:AA:497:C:H2'	1:AA:498:G:H8	1.84	0.42
1:AA:569:A:H2'	1:AA:570:A:C8	2.54	0.42
1:AA:749:U:H2'	1:AA:750:A:C8	2.54	0.42
1:AA:931:U:H4'	1:AA:932:A:C5'	2.49	0.42
6:AF:118:LYS:HB2	26:BE:163:LYS:HG2	1.42	0.42
22:BA:534:C:H2'	22:BA:535:U:C6	2.54	0.42
22:BA:622:G:H2'	22:BA:624:A:C8	2.54	0.42
22:BA:628:A:H1'	28:BG:233:SER:OG	2.18	0.42
22:BA:1068:G:H2'	22:BA:1069:U:C6	2.54	0.42
22:BA:1210:A:O3'	35:BN:106:ARG:HG2	2.19	0.42
22:BA:1211:G:H5''	35:BN:106:ARG:NH2	2.34	0.42
22:BA:1298:A:O2'	37:BP:113:LEU:HD21	2.19	0.42
22:BA:1333:U:H4'	22:BA:1334:U:C6	2.53	0.42
22:BA:1364:G:H1'	22:BA:1633:A:C2	2.54	0.42
22:BA:1825:A:H1'	22:BA:1827:G:C4	2.54	0.42
22:BA:1927:A:HO2'	22:BA:1928:C:P	2.40	0.42
22:BA:2331:G:H2'	22:BA:2332:G:C8	2.54	0.42
22:BA:2665:U:H2'	22:BA:2666:U:C6	2.54	0.42
22:BA:2678:G:H2'	22:BA:2679:A:O4'	2.19	0.42
22:BA:2790:C:H5'	27:BF:214:LYS:HZ2	1.84	0.42
24:BC:44:C:H2'	24:BC:45:A:H8	1.84	0.42
24:BC:76:G:H2'	24:BC:77:C:C6	2.54	0.42
25:BD:190:ALA:HB3	25:BD:228:LEU:HD13	2.01	0.42
26:BE:137:ILE:CG2	26:BE:138:HIS:N	2.75	0.42
27:BF:164:GLY:H	27:BF:167:LYS:CE	2.31	0.42
28:BG:161:LEU:HB2	28:BG:259:TYR:CE1	2.54	0.42
29:BH:61:ASN:ND2	29:BH:64:GLY:H	2.17	0.42
29:BH:113:SER:HB3	48:B1:62:LYS:C	2.39	0.42
31:BJ:80:LEU:HB3	31:BJ:81:PRO:CD	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:BJ:149:VAL:HG21	31:BJ:161:ASP:O	2.18	0.42
34:BM:69:LEU:HB3	34:BM:77:ILE:CG2	2.49	0.42
35:BN:146:VAL:HB	35:BN:164:LEU:HD11	2.01	0.42
36:BO:38:GLU:HA	36:BO:39:PRO:HD3	1.94	0.42
37:BP:189:THR:HG21	37:BP:201:TYR:CE2	2.54	0.42
38:BQ:84:ASP:C	38:BQ:85:SER:HG	2.21	0.42
39:BR:147:ASP:CB	39:BR:214:VAL:HA	2.48	0.42
46:BY:108:TYR:CE2	46:BY:123:ARG:HB3	2.54	0.42
47:BZ:89:LEU:HD23	47:BZ:89:LEU:C	2.39	0.42
1:AA:116:C:H2'	1:AA:117:U:O4'	2.19	0.42
1:AA:222:G:H22	1:AA:242:C:N4	2.17	0.42
1:AA:364:A:H5'	1:AA:431:C:O2'	2.18	0.42
1:AA:443:A:H4'	1:AA:444:A:C5'	2.50	0.42
1:AA:623:A:H2'	1:AA:624:A:O4'	2.19	0.42
1:AA:667:C:N4	18:AR:67:LYS:HZ3	2.18	0.42
1:AA:934:C:H2'	1:AA:935:A:C8	2.54	0.42
1:AA:1173:A:H1'	19:AS:78:LEU:HD13	2.00	0.42
1:AA:1457:G:H2'	1:AA:1458:C:C6	2.55	0.42
22:BA:15:G:H2'	22:BA:16:G:C8	2.54	0.42
22:BA:181:A:H62	22:BA:842:G:N2	2.17	0.42
22:BA:325:A:H2'	22:BA:326:A:H8	1.83	0.42
22:BA:407:C:H2'	22:BA:408:G:C8	2.54	0.42
22:BA:489:A:H2'	22:BA:490:A:C8	2.54	0.42
22:BA:533:G:H2'	22:BA:534:C:C6	2.53	0.42
22:BA:568:C:P	33:BL:212:ARG:HE	2.41	0.42
22:BA:812:G:O4'	28:BG:107:GLU:HB2	2.19	0.42
22:BA:967:C:H2'	22:BA:968:C:C6	2.54	0.42
22:BA:1225:G:C2'	22:BA:1226:U:H5''	2.49	0.42
22:BA:1462:G:H2'	22:BA:1463:U:C6	2.54	0.42
22:BA:1836:C:H2'	22:BA:1837:U:C6	2.55	0.42
22:BA:1972:C:H2'	22:BA:1973:G:H8	1.84	0.42
22:BA:2106:U:H4'	22:BA:2107:G:C8	2.55	0.42
22:BA:2381:C:H5''	45:BX:96:ARG:HD2	2.01	0.42
22:BA:2501:G:O2'	22:BA:2502:G:H5'	2.19	0.42
22:BA:2740:G:O2'	37:BP:92:HIS:HB2	2.20	0.42
26:BE:152:ARG:NH1	26:BE:152:ARG:HG2	2.35	0.42
29:BH:52:ASN:HA	29:BH:103:ALA:HA	2.02	0.42
30:BI:93:LEU:HD13	30:BI:93:LEU:C	2.39	0.42
30:BI:146:LEU:O	30:BI:158:MET:HG2	2.19	0.42
31:BJ:55:LYS:H	31:BJ:65:GLY:CA	2.33	0.42
31:BJ:183:HIS:C	31:BJ:185:ASP:H	2.22	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BM:7:HIS:O	34:BM:7:HIS:ND1	2.52	0.42
35:BN:152:GLU:CD	35:BN:195:LYS:HB2	2.40	0.42
36:BO:10:ARG:HH11	36:BO:10:ARG:HG3	1.85	0.42
36:BO:39:PRO:HA	36:BO:97:VAL:O	2.20	0.42
37:BP:203:GLU:OE1	49:B2:51:ILE:HD11	2.20	0.42
42:BU:111:LEU:HD23	42:BU:112:LYS:N	2.34	0.42
49:B2:32:PHE:CA	49:B2:36:LYS:HD2	2.49	0.42
50:B3:39:ARG:NE	50:B3:39:ARG:HA	2.34	0.42
1:AA:107:C:H5''	1:AA:282:C:O2'	2.19	0.42
1:AA:178:A:H5''	20:AT:155:LYS:HE3	2.01	0.42
1:AA:369:U:H2'	1:AA:370:G:H8	1.84	0.42
1:AA:436:U:H2'	1:AA:437:C:H6	1.84	0.42
1:AA:534:U:O2'	1:AA:535:G:H5'	2.18	0.42
1:AA:634:G:H21	1:AA:652:A:N6	2.17	0.42
1:AA:660:A:H5''	26:BE:161:ILE:C	2.33	0.42
1:AA:665:C:N4	1:AA:682:C:N4	2.67	0.42
1:AA:970:G:H2'	1:AA:971:G:C8	2.55	0.42
22:BA:409:U:H2'	22:BA:410:G:C8	2.55	0.42
22:BA:1159:G:H5'	33:BL:183:LEU:HD12	2.00	0.42
22:BA:1182:A:H5''	40:BS:55:ARG:NE	2.31	0.42
22:BA:1182:A:C5'	40:BS:55:ARG:HH21	2.30	0.42
22:BA:1260:G:O2'	22:BA:1261:A:H5'	2.19	0.42
22:BA:1318:C:H2'	22:BA:1319:C:C6	2.54	0.42
22:BA:1597:C:N4	26:BE:25:ARG:HH11	2.17	0.42
22:BA:1661:U:H2'	22:BA:1662:A:O4'	2.19	0.42
22:BA:1916:C:C4'	26:BE:238:GLY:HA3	2.48	0.42
22:BA:2091:A:H2'	22:BA:2092:C:C6	2.54	0.42
22:BA:2263:C:H2'	22:BA:2264:U:O4'	2.19	0.42
22:BA:2454:U:H2'	22:BA:2455:U:O4'	2.18	0.42
22:BA:2502:G:H2'	22:BA:2503:G:H8	1.84	0.42
22:BA:2564:U:H1'	22:BA:2583:A:N6	2.35	0.42
22:BA:2748:C:H5'	27:BF:218:LEU:HD23	2.02	0.42
22:BA:2768:A:H1'	30:BI:43:GLU:OE1	2.19	0.42
24:BC:43:U:H2'	24:BC:44:C:C6	2.54	0.42
25:BD:228:LEU:HB2	25:BD:250:LEU:O	2.18	0.42
27:BF:246:ILE:O	27:BF:246:ILE:HG23	2.19	0.42
28:BG:107:GLU:N	28:BG:107:GLU:OE1	2.52	0.42
30:BI:146:LEU:HD23	30:BI:146:LEU:C	2.39	0.42
31:BJ:51:LYS:HB3	31:BJ:88:MET:HE2	2.01	0.42
37:BP:168:LEU:HD12	37:BP:168:LEU:N	2.33	0.42
38:BQ:93:ALA:HB3	38:BQ:122:ILE:HB	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BR:224:ASP:O	39:BR:226:LEU:N	2.52	0.42
40:BS:50:ARG:HH12	41:BT:198:PHE:N	2.17	0.42
40:BS:95:LYS:H	40:BS:95:LYS:CD	2.32	0.42
42:BU:41:MET:HA	42:BU:71:ARG:HH21	1.85	0.42
46:BY:81:THR:OG1	46:BY:106:LEU:HD11	2.19	0.42
46:BY:86:ASN:OD1	46:BY:87:ARG:N	2.48	0.42
52:B5:125:ASN:O	52:B5:126:THR:O	2.37	0.42
1:AA:353:A:H2'	1:AA:354:A:O4'	2.19	0.42
1:AA:546:U:H4'	8:AH:90:TYR:CG	2.54	0.42
1:AA:678:A:H2'	1:AA:679:G:C5'	2.47	0.42
1:AA:706:G:H4'	1:AA:829:C:O4'	2.20	0.42
1:AA:1054:A:H2'	1:AA:1055:G:H8	1.85	0.42
1:AA:1332:C:C5	1:AA:1333:C:C4	3.08	0.42
4:AD:125:ILE:HA	4:AD:126:PRO:HD3	1.87	0.42
19:AS:64:ASP:CG	48:B1:89:HIS:HB3	2.30	0.42
22:BA:15:G:H5''	49:B2:14:ARG:HB2	2.02	0.42
22:BA:170:U:H4'	22:BA:203:A:H4'	2.00	0.42
22:BA:309:A:N3	22:BA:331:A:N6	2.68	0.42
22:BA:392:G:H2'	22:BA:393:G:H8	1.85	0.42
22:BA:490:A:N6	22:BA:492:A:H62	2.17	0.42
22:BA:1264:C:O2	35:BN:80:ARG:HB3	2.18	0.42
22:BA:1452:A:N6	22:BA:1595:C:N4	2.65	0.42
22:BA:1968:G:H5'	22:BA:2567:G:H21	1.85	0.42
22:BA:2232:G:H2'	22:BA:2233:G:H8	1.84	0.42
22:BA:2395:A:C2'	22:BA:2396:G:H5'	2.50	0.42
22:BA:2436:U:H2'	22:BA:2437:C:H6	1.84	0.42
22:BA:2598:G:H4'	22:BA:2599:G:N7	2.33	0.42
23:BB:97:G:H2'	23:BB:98:G:C8	2.55	0.42
24:BC:31:U:O5'	24:BC:31:U:H6	2.02	0.42
26:BE:85:ALA:CB	26:BE:153:ALA:HB3	2.49	0.42
26:BE:133:LEU:O	26:BE:160:LEU:HB2	2.19	0.42
26:BE:244:THR:O	26:BE:246:TRP:N	2.53	0.42
29:BH:110:LEU:H	29:BH:110:LEU:CD1	2.32	0.42
32:BK:82:LEU:HD11	32:BK:99:LEU:HD12	2.00	0.42
32:BK:144:PRO:HG2	32:BK:149:LEU:HD21	2.02	0.42
35:BN:78:ARG:HG3	35:BN:79:LYS:N	2.34	0.42
36:BO:23:ARG:CG	36:BO:98:LYS:HB2	2.49	0.42
38:BQ:131:ILE:HG22	38:BQ:133:LYS:HE3	2.02	0.42
39:BR:129:LYS:HB2	39:BR:129:LYS:HZ2	1.84	0.42
44:BW:136:LEU:CD1	44:BW:145:ASP:HB3	2.49	0.42
52:B5:128:ARG:HG2	52:B5:128:ARG:HH11	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:23:G:H4'	1:AA:834:G:C8	2.53	0.42
1:AA:209:G:C3'	1:AA:210:U:C5'	2.95	0.42
1:AA:214:A:N6	1:AA:252:G:H2'	2.33	0.42
1:AA:255:C:H2'	1:AA:256:A:H8	1.85	0.42
1:AA:649:U:P	1:AA:651:G:H5'	2.59	0.42
1:AA:765:C:O2'	1:AA:766:G:H5''	2.20	0.42
1:AA:910:U:H3	1:AA:932:A:N6	2.17	0.42
19:AS:63:THR:HG23	19:AS:65:ARG:H	1.85	0.42
22:BA:14:A:O2'	22:BA:15:G:H5'	2.20	0.42
22:BA:52:A:H62	22:BA:115:G:N2	2.16	0.42
22:BA:175:A:H2'	22:BA:176:A:C8	2.54	0.42
22:BA:321:G:H4'	22:BA:340:A:C5	2.54	0.42
22:BA:1932:A:H4'	22:BA:1933:A:C8	2.55	0.42
22:BA:2124:G:H22	25:BD:167:LYS:HA	1.84	0.42
22:BA:2244:A:H3'	22:BA:2245:U:C6	2.55	0.42
22:BA:2482:C:H4'	53:B6:5:SER:OG	2.20	0.42
22:BA:2590:C:OP1	22:BA:2591:G:H5''	2.19	0.42
22:BA:2751:A:H2'	22:BA:2752:G:H8	1.84	0.42
22:BA:2764:U:H2'	22:BA:2765:G:O4'	2.18	0.42
23:BB:90:G:OP2	36:BO:39:PRO:HD2	2.19	0.42
23:BB:112:C:H2'	23:BB:113:G:H8	1.85	0.42
23:BB:116:A:H2'	23:BB:117:G:C8	2.53	0.42
24:BC:52:A:O2'	37:BP:153:ARG:HD3	2.20	0.42
28:BG:173:PHE:CE1	28:BG:243:GLU:HB3	2.54	0.42
31:BJ:79:LEU:O	31:BJ:79:LEU:HD13	2.19	0.42
31:BJ:120:VAL:HG13	31:BJ:121:PHE:CD1	2.40	0.42
40:BS:40:ILE:HG13	40:BS:41:ARG:N	2.34	0.42
43:BV:111:VAL:HG11	43:BV:146:MET:CE	2.49	0.42
46:BY:81:THR:O	46:BY:81:THR:HG22	2.19	0.42
53:B6:19:ARG:HB2	53:B6:24:TYR:CD2	2.55	0.42
1:AA:18:U:H5'	5:AE:162:VAL:HG12	2.01	0.42
1:AA:81:U:H3'	1:AA:82:U:C6	2.55	0.42
1:AA:403:A:H2'	1:AA:404:C:O4'	2.19	0.42
1:AA:453:G:H5'	1:AA:482:G:H2'	2.01	0.42
22:BA:135:C:OP1	22:BA:1381:G:H5'	2.19	0.42
22:BA:575:C:H2'	22:BA:576:U:C6	2.54	0.42
22:BA:625:C:N4	28:BG:216:VAL:HG11	2.30	0.42
22:BA:695:G:C2'	22:BA:696:A:H5''	2.48	0.42
22:BA:811:A:C5'	22:BA:812:G:OP1	2.67	0.42
22:BA:1313:A:H2'	22:BA:1314:U:C6	2.54	0.42
22:BA:1482:C:H2'	22:BA:1483:G:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1555:G:N1	22:BA:1556:A:N6	2.68	0.42
22:BA:1822:A:N3	26:BE:42:ARG:NH1	2.67	0.42
22:BA:1871:U:H2'	22:BA:1872:G:H8	1.83	0.42
22:BA:1952:A:C2	22:BA:2607:A:H1'	2.54	0.42
22:BA:2001:G:H2'	22:BA:2002:C:C6	2.54	0.42
22:BA:2087:C:H5''	26:BE:224:VAL:HG22	2.02	0.42
22:BA:2439:C:H2'	22:BA:2441:C:C5	2.54	0.42
22:BA:2642:G:H2'	22:BA:2643:C:O4'	2.19	0.42
22:BA:2709:C:H2'	22:BA:2710:A:H8	1.84	0.42
23:BB:60:C:H2'	23:BB:61:U:C6	2.54	0.42
24:BC:33:A:C3'	24:BC:34:C:H5'	2.49	0.42
24:BC:84:A:H3'	24:BC:85:C:H5'	2.02	0.42
25:BD:197:LYS:HD2	25:BD:197:LYS:H	1.83	0.42
25:BD:326:ALA:O	25:BD:337:ARG:HA	2.19	0.42
26:BE:114:SER:HB2	26:BE:125:ALA:HB3	2.01	0.42
26:BE:152:ARG:CD	26:BE:154:ALA:HB3	2.50	0.42
27:BF:205:PRO:HG2	27:BF:206:GLY:H	1.84	0.42
28:BG:206:LEU:HD23	28:BG:243:GLU:HB2	2.01	0.42
28:BG:223:ILE:HG23	28:BG:226:LEU:HB3	2.02	0.42
29:BH:19:LEU:HD13	29:BH:19:LEU:C	2.39	0.42
29:BH:125:ARG:HG2	29:BH:125:ARG:HH11	1.84	0.42
30:BI:214:ARG:HH11	30:BI:214:ARG:CB	2.32	0.42
32:BK:177:ARG:HA	32:BK:196:MET:HG2	2.00	0.42
34:BM:24:ILE:HD13	34:BM:33:ALA:HB2	2.01	0.42
38:BQ:65:ARG:H	38:BQ:65:ARG:CD	2.33	0.42
38:BQ:81:VAL:HG21	38:BQ:126:CYS:SG	2.60	0.42
38:BQ:86:LYS:HB2	38:BQ:87:MET:HE2	2.01	0.42
39:BR:150:GLN:HA	39:BR:170:ILE:H	1.85	0.42
40:BS:88:ARG:NH1	40:BS:90:LEU:HD11	2.35	0.42
1:AA:243:C:H2'	1:AA:244:A:C8	2.55	0.42
1:AA:809:A:H2'	1:AA:810:G:O4'	2.20	0.42
1:AA:890:G:O2'	1:AA:891:G:H5'	2.20	0.42
2:AB:207:ASN:HD21	2:AB:210:ALA:N	2.06	0.42
19:AS:63:THR:OG1	48:B1:91:PHE:HB2	2.20	0.42
22:BA:47:G:N2	22:BA:161:G:H22	2.17	0.42
22:BA:543:A:H2'	22:BA:2035:A:N6	2.35	0.42
22:BA:641:C:H5''	22:BA:662:C:O2'	2.19	0.42
22:BA:810:G:H2'	22:BA:811:A:H8	1.83	0.42
22:BA:1043:C:H2'	22:BA:1044:C:C6	2.55	0.42
22:BA:1050:G:O5'	22:BA:1051:U:OP1	2.38	0.42
22:BA:1139:A:H4'	30:BI:45:ARG:NH2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1194:G:H2'	22:BA:1195:U:C6	2.55	0.42
22:BA:1203:C:H2'	22:BA:1204:A:O4'	2.20	0.42
22:BA:1263:G:H22	35:BN:79:LYS:HZ1	1.68	0.42
22:BA:1366:C:H1'	22:BA:1417:U:H3	1.85	0.42
22:BA:2427:G:H2'	22:BA:2428:A:O4'	2.20	0.42
22:BA:2805:C:H2'	22:BA:2806:U:C6	2.55	0.42
25:BD:248:ARG:HG3	25:BD:248:ARG:HH11	1.84	0.42
26:BE:85:ALA:HB1	26:BE:153:ALA:HB3	2.01	0.42
26:BE:221:MET:CA	26:BE:230:GLY:H	2.32	0.42
26:BE:241:SER:N	26:BE:242:PRO:HD3	2.35	0.42
27:BF:189:ILE:HG21	27:BF:202:LYS:CE	2.50	0.42
27:BF:227:LEU:H	27:BF:227:LEU:CD1	2.33	0.42
34:BM:64:ARG:HH11	39:BR:192:VAL:HG11	1.83	0.42
35:BN:178:ARG:HH11	35:BN:178:ARG:HG3	1.84	0.42
36:BO:133:ILE:HG12	36:BO:134:SER:N	2.35	0.42
42:BU:110:THR:HG21	42:BU:126:LEU:HD22	2.02	0.42
53:B6:27:CYS:SG	53:B6:29:SER:HB3	2.60	0.42
1:AA:711:A:H2'	1:AA:712:C:H6	1.85	0.42
1:AA:1254:A:H62	1:AA:1279:G:H1'	1.78	0.42
7:AG:10:LYS:HD3	7:AG:10:LYS:N	2.34	0.42
10:AJ:159:HIS:HB2	14:AN:98:SER:HB3	2.01	0.42
22:BA:94:A:O2'	47:BZ:103:LYS:HB3	2.20	0.42
22:BA:195:C:H2'	22:BA:196:A:C8	2.55	0.42
22:BA:478:A:H2'	22:BA:479:G:H5'	2.01	0.42
22:BA:614:G:H2'	22:BA:615:G:C8	2.55	0.42
22:BA:1044:C:H2'	22:BA:1045:G:C8	2.54	0.42
22:BA:1050:G:H4'	22:BA:1051:U:H6	1.82	0.42
22:BA:1297:C:H2'	22:BA:1298:A:C8	2.55	0.42
22:BA:1324:A:H2'	22:BA:1325:C:O4'	2.20	0.42
22:BA:1422:G:H2'	22:BA:1423:U:C6	2.55	0.42
22:BA:1429:C:H2'	22:BA:1430:C:C6	2.55	0.42
22:BA:1653:C:H6	22:BA:1653:C:O5'	2.02	0.42
22:BA:2064:C:H4'	27:BF:186:LEU:CD1	2.49	0.42
22:BA:2167:G:H2'	22:BA:2168:C:C6	2.54	0.42
23:BB:48:U:H2'	23:BB:49:U:C6	2.55	0.42
24:BC:4:G:H5''	27:BF:105:LYS:HZ2	1.85	0.42
24:BC:71:C:H2'	24:BC:72:U:O4'	2.19	0.42
29:BH:49:ILE:CD1	29:BH:115:LEU:HB2	2.49	0.42
31:BJ:146:GLN:C	31:BJ:148:LEU:H	2.22	0.42
33:BL:144:THR:O	33:BL:144:THR:HG23	2.19	0.42
34:BM:18:GLU:HG3	34:BM:18:GLU:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BN:201:GLY:O	35:BN:239:ALA:HB1	2.20	0.42
36:BO:37:LEU:HB2	36:BO:38:GLU:OE2	2.20	0.42
37:BP:168:LEU:HA	37:BP:173:PRO:HG2	2.00	0.42
38:BQ:123:ALA:O	38:BQ:125:ALA:N	2.53	0.42
39:BR:147:ASP:HB3	39:BR:214:VAL:HA	2.02	0.42
44:BW:77:VAL:HG22	44:BW:134:VAL:HG12	2.01	0.42
49:B2:19:ILE:HD12	49:B2:20:TRP:H	1.82	0.42
50:B3:12:ILE:HG13	50:B3:36:GLN:O	2.20	0.42
51:B4:117:ARG:HG2	51:B4:117:ARG:HH11	1.84	0.42
1:AA:298:A:H2'	1:AA:300:A:O4'	2.20	0.42
1:AA:533:G:H4'	17:AQ:91:ARG:NH2	2.35	0.42
1:AA:548:C:H2'	1:AA:549:G:C8	2.55	0.42
1:AA:1345:A:H1'	1:AA:1347:A:N3	2.35	0.42
1:AA:1468:A:C3'	1:AA:1469:G:H5'	2.50	0.42
8:AH:92:ASN:HD22	8:AH:94:GLN:H	1.67	0.42
22:BA:39:C:H2'	22:BA:40:C:C6	2.55	0.42
22:BA:642:G:H5''	52:B5:134:LYS:HZ3	1.84	0.42
22:BA:1122:U:H1'	22:BA:1125:U:C5	2.53	0.42
22:BA:1403:A:H4'	22:BA:1607:G:N2	2.34	0.42
22:BA:1480:A:H2'	22:BA:1481:U:C5	2.55	0.42
22:BA:1783:A:N7	26:BE:203:ARG:NH2	2.68	0.42
22:BA:1803:G:H2'	22:BA:1804:U:C6	2.55	0.42
22:BA:2101:G:H2'	22:BA:2102:G:C8	2.55	0.42
22:BA:2201:G:H2'	22:BA:2202:C:C6	2.54	0.42
22:BA:2306:G:N2	22:BA:2361:U:H4'	2.34	0.42
22:BA:2501:G:H5'	36:BO:45:ARG:HD3	2.02	0.42
22:BA:2591:G:O2'	27:BF:194:THR:HG21	2.20	0.42
22:BA:2691:G:H4'	34:BM:30:ARG:NH1	2.35	0.42
22:BA:2794:A:O2'	22:BA:2799:A:H4'	2.20	0.42
26:BE:55:LYS:HB2	26:BE:55:LYS:HZ3	1.84	0.42
26:BE:59:ARG:HD3	26:BE:60:LYS:O	2.20	0.42
26:BE:112:ILE:HA	26:BE:123:GLY:CA	2.45	0.42
26:BE:133:LEU:HG	26:BE:162:ALA:HA	2.01	0.42
26:BE:149:GLN:HB3	26:BE:150:LEU:HD23	2.01	0.42
30:BI:58:THR:HG22	30:BI:69:LYS:HB2	2.02	0.42
30:BI:83:VAL:HG11	30:BI:111:PHE:CE2	2.55	0.42
30:BI:114:LEU:HD12	30:BI:114:LEU:N	2.34	0.42
32:BK:144:PRO:CG	32:BK:149:LEU:HD21	2.50	0.42
35:BN:104:LYS:O	35:BN:109:PRO:HD2	2.20	0.42
40:BS:13:ARG:NH1	40:BS:13:ARG:CB	2.83	0.42
42:BU:132:ILE:HG12	42:BU:133:THR:N	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BX:110:ILE:H	45:BX:110:ILE:CD1	2.33	0.42
47:BZ:86:LYS:HB2	47:BZ:86:LYS:HZ2	1.83	0.42
48:B1:69:LEU:HD22	48:B1:69:LEU:H	1.85	0.42
49:B2:38:LEU:HD13	49:B2:39:SER:O	2.20	0.42
52:B5:113:ARG:HG3	52:B5:133:SER:O	2.20	0.42
1:AA:236:A:H5'	17:AQ:121:PRO:O	2.20	0.41
1:AA:838:A:H5''	1:AA:839:G:OP1	2.20	0.41
1:AA:867:A:H2'	1:AA:868:A:O4'	2.20	0.41
1:AA:1062:C:O2'	1:AA:1063:C:H5'	2.20	0.41
1:AA:1174:C:H4'	1:AA:1175:A:OP1	2.20	0.41
1:AA:1189:G:H2'	1:AA:1190:G:H8	1.85	0.41
1:AA:1480:A:H2'	1:AA:1481:U:O4'	2.21	0.41
18:AR:43:GLN:HB2	21:AU:115:ARG:HH12	1.85	0.41
22:BA:19:U:H2'	22:BA:20:A:H8	1.84	0.41
22:BA:84:G:O2'	22:BA:85:U:H5'	2.20	0.41
22:BA:567:C:O2'	33:BL:213:LEU:HD12	2.20	0.41
22:BA:640:G:H2'	22:BA:641:C:O4'	2.21	0.41
22:BA:690:U:H2'	22:BA:691:G:H8	1.84	0.41
22:BA:705:U:O2'	22:BA:1401:G:H5'	2.20	0.41
22:BA:889:G:H2'	22:BA:890:G:O4'	2.20	0.41
22:BA:1194:G:H1	22:BA:1203:C:H42	1.68	0.41
22:BA:1619:U:H3'	22:BA:1620:U:H5'	2.02	0.41
22:BA:1902:G:H3'	22:BA:1902:G:N3	2.35	0.41
22:BA:1924:G:N1	22:BA:1934:C:N4	2.68	0.41
22:BA:1938:C:H2'	22:BA:1939:C:C6	2.55	0.41
22:BA:2337:C:H5'	22:BA:2338:G:H5'	2.01	0.41
26:BE:221:MET:N	26:BE:221:MET:SD	2.93	0.41
27:BF:197:ARG:O	27:BF:199:TYR:N	2.53	0.41
27:BF:216:ARG:HH11	27:BF:216:ARG:HG3	1.84	0.41
28:BG:177:GLU:HG2	28:BG:178:PHE:N	2.34	0.41
29:BH:148:ARG:H	29:BH:148:ARG:CD	2.32	0.41
30:BI:201:LYS:HB2	30:BI:201:LYS:HZ2	1.84	0.41
31:BJ:179:GLU:HG3	31:BJ:179:GLU:O	2.20	0.41
32:BK:172:THR:OG1	32:BK:175:GLN:HG2	2.20	0.41
33:BL:188:PHE:CZ	33:BL:199:ILE:HD11	2.54	0.41
35:BN:205:THR:HA	35:BN:208:LYS:HB2	2.02	0.41
36:BO:11:LYS:HB2	36:BO:11:LYS:HZ2	1.84	0.41
36:BO:57:ASN:HD22	36:BO:57:ASN:H	1.68	0.41
36:BO:82:ARG:HH11	36:BO:82:ARG:HG3	1.85	0.41
38:BQ:83:ASP:CG	38:BQ:84:ASP:N	2.73	0.41
41:BT:154:ASP:H	41:BT:186:VAL:HG22	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BX:120:ILE:O	45:BX:120:ILE:HD13	2.20	0.41
47:BZ:114:VAL:HG13	47:BZ:117:MET:HE3	2.02	0.41
1:AA:8:G:H5'	1:AA:269:A:OP1	2.20	0.41
1:AA:59:C:O2'	1:AA:60:A:H5'	2.19	0.41
1:AA:70:G:H21	1:AA:84:C:N4	2.08	0.41
1:AA:510:G:H5''	1:AA:511:A:O5'	2.20	0.41
1:AA:768:U:OP1	1:AA:769:G:OP2	2.38	0.41
1:AA:872:A:H2'	1:AA:873:C:C6	2.55	0.41
1:AA:1163:G:O2'	1:AA:1164:C:H5'	2.20	0.41
11:AK:131:ARG:HA	11:AK:132:PRO:HD3	1.89	0.41
19:AS:6:LYS:HG2	19:AS:7:LYS:H	1.85	0.41
22:BA:639:A:O2'	22:BA:640:G:C8	2.73	0.41
22:BA:928:U:H2'	22:BA:929:A:C8	2.55	0.41
22:BA:1460:A:H2'	22:BA:1461:G:O4'	2.20	0.41
22:BA:2140:A:H62	25:BD:247:PRO:CB	2.33	0.41
24:BC:26:U:C4	24:BC:28:U:H4'	2.55	0.41
24:BC:55:G:H2'	24:BC:56:C:C6	2.54	0.41
25:BD:215:ILE:O	25:BD:219:LYS:HG2	2.20	0.41
25:BD:307:ILE:HD13	25:BD:340:ILE:HG22	2.02	0.41
26:BE:60:LYS:HD3	26:BE:80:ASP:OD2	2.21	0.41
28:BG:227:LYS:NZ	28:BG:238:ASP:HB3	2.35	0.41
30:BI:49:GLN:O	30:BI:51:ILE:HG12	2.20	0.41
30:BI:107:MET:HB3	30:BI:111:PHE:CE2	2.55	0.41
30:BI:171:ASN:OD1	30:BI:172:THR:HG23	2.20	0.41
33:BL:235:GLN:HA	33:BL:235:GLN:NE2	2.34	0.41
36:BO:1:MET:H3	36:BO:42:ILE:HG21	1.84	0.41
37:BP:110:LEU:HG	37:BP:136:TYR:CD2	2.56	0.41
37:BP:126:THR:HB	37:BP:198:PRO:HG2	2.02	0.41
38:BQ:77:LEU:O	38:BQ:95:THR:HG23	2.20	0.41
39:BR:212:ARG:HB2	39:BR:212:ARG:NH1	2.34	0.41
46:BY:122:LEU:HD22	46:BY:122:LEU:H	1.86	0.41
52:B5:105:THR:HG22	52:B5:109:LYS:O	2.20	0.41
1:AA:255:C:H2'	1:AA:256:A:C8	2.56	0.41
1:AA:329:U:H2'	1:AA:330:G:H8	1.86	0.41
1:AA:644:A:H1'	1:AA:734:G:O2'	2.21	0.41
1:AA:690:G:O2'	1:AA:691:G:H5'	2.20	0.41
1:AA:716:A:OP1	1:AA:752:U:H4'	2.21	0.41
1:AA:756:A:C2	26:BE:4:HIS:O	2.73	0.41
1:AA:775:U:C4	1:AA:819:U:H1'	2.55	0.41
1:AA:804:G:C2'	1:AA:805:U:H5'	2.50	0.41
1:AA:882:G:C6	1:AA:1334:G:N3	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:981:G:H3'	1:AA:981:G:N3	2.36	0.41
1:AA:1057:G:H5''	3:AC:4:LYS:NZ	2.36	0.41
1:AA:1091:G:H2'	1:AA:1092:G:C8	2.55	0.41
1:AA:1091:G:H2'	1:AA:1092:G:H8	1.85	0.41
1:AA:1204:U:H5''	3:AC:27:LYS:HZ1	1.84	0.41
1:AA:1297:A:H2'	1:AA:1298:A:O4'	2.20	0.41
1:AA:1361:U:H2'	1:AA:1362:A:H8	1.82	0.41
22:BA:237:G:H2'	22:BA:238:C:H6	1.85	0.41
22:BA:460:U:H5''	22:BA:461:A:OP2	2.20	0.41
22:BA:498:C:H2'	22:BA:499:C:C6	2.55	0.41
22:BA:584:A:N1	22:BA:2047:A:H4'	2.34	0.41
22:BA:619:A:H61	22:BA:631:G:H1'	1.85	0.41
22:BA:696:A:O2'	22:BA:698:C:H5	2.03	0.41
22:BA:748:C:H2'	22:BA:749:G:C8	2.56	0.41
22:BA:893:C:H2'	22:BA:894:G:H5'	2.01	0.41
22:BA:1155:A:O2'	22:BA:2534:C:H4'	2.19	0.41
22:BA:1364:G:H5'	22:BA:1634:C:OP1	2.20	0.41
22:BA:1481:U:C4'	22:BA:2719:G:H21	2.33	0.41
22:BA:1674:C:H5''	22:BA:2727:U:O2'	2.21	0.41
22:BA:2014:G:H2'	22:BA:2015:A:H8	1.84	0.41
22:BA:2244:A:C8	26:BE:258:ARG:HD2	2.56	0.41
22:BA:2360:U:C2'	22:BA:2361:U:H5'	2.50	0.41
22:BA:2540:G:H2'	22:BA:2541:G:H8	1.86	0.41
22:BA:2668:C:H2'	22:BA:2669:C:C6	2.55	0.41
27:BF:103:LEU:H	27:BF:103:LEU:CD1	2.33	0.41
28:BG:234:LEU:HD23	28:BG:234:LEU:C	2.41	0.41
31:BJ:50:ARG:O	31:BJ:51:LYS:HD2	2.20	0.41
31:BJ:89:THR:OG1	31:BJ:92:LEU:HD13	2.20	0.41
31:BJ:148:LEU:HD13	31:BJ:165:VAL:HG21	2.03	0.41
34:BM:36:GLY:HA2	34:BM:106:LEU:CD2	2.50	0.41
35:BN:147:ASN:HD21	35:BN:171:ARG:C	2.24	0.41
44:BW:157:LYS:HD2	44:BW:157:LYS:N	2.22	0.41
46:BY:76:ARG:HD3	46:BY:90:LYS:HE3	2.02	0.41
53:B6:7:VAL:HG23	53:B6:35:GLN:HE21	1.85	0.41
1:AA:157:U:H5	1:AA:181:G:HO2'	1.68	0.41
1:AA:449:C:H2'	1:AA:450:A:H8	1.85	0.41
1:AA:727:C:H2'	1:AA:728:G:O4'	2.20	0.41
1:AA:804:G:H4'	21:AU:149:LYS:HE3	2.03	0.41
1:AA:997:G:P	14:AN:3:ARG:HH11	2.43	0.41
1:AA:1083:U:H2'	1:AA:1085:G:H21	1.85	0.41
1:AA:1230:C:H2'	1:AA:1231:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1247:A:C6	1:AA:1249:U:H1'	2.56	0.41
1:AA:1262:C:H2'	1:AA:1263:U:C6	2.56	0.41
1:AA:1341:G:H21	1:AA:1451:A:C1'	2.27	0.41
1:AA:1343:A:N6	1:AA:1450:C:H4'	2.34	0.41
22:BA:209:G:H2'	22:BA:210:C:C6	2.55	0.41
22:BA:452:G:H2'	22:BA:453:U:C6	2.55	0.41
22:BA:609:G:H2'	22:BA:610:G:C8	2.55	0.41
22:BA:649:A:OP2	35:BN:206:SER:HB3	2.21	0.41
22:BA:816:G:N3	22:BA:842:G:H1'	2.35	0.41
22:BA:866:G:H2'	22:BA:867:G:C8	2.55	0.41
22:BA:1462:G:H4'	22:BA:1664:G:H5'	2.01	0.41
22:BA:1594:A:H2'	22:BA:1595:C:C6	2.55	0.41
22:BA:1672:U:H2'	22:BA:1673:A:C8	2.55	0.41
22:BA:1693:U:H2'	22:BA:1694:C:C6	2.56	0.41
22:BA:1702:G:N2	22:BA:2008:C:H42	2.08	0.41
22:BA:2000:G:H2'	22:BA:2001:G:H8	1.85	0.41
22:BA:2215:C:H2'	22:BA:2216:U:C6	2.55	0.41
22:BA:2709:C:H2'	22:BA:2710:A:C8	2.55	0.41
22:BA:2790:C:C4'	27:BF:214:LYS:HZ3	2.32	0.41
23:BB:57:A:H1'	29:BH:42:GLU:CB	2.50	0.41
24:BC:66:U:H2'	24:BC:67:G:C8	2.56	0.41
25:BD:227:LYS:HD3	25:BD:270:PHE:HD2	1.85	0.41
26:BE:152:ARG:HG2	26:BE:152:ARG:HH11	1.85	0.41
27:BF:172:LYS:HD3	27:BF:186:LEU:O	2.20	0.41
27:BF:218:LEU:HB3	27:BF:232:ILE:HD11	2.03	0.41
30:BI:113:THR:C	30:BI:115:THR:H	2.22	0.41
31:BJ:110:VAL:HA	31:BJ:113:GLU:HG2	2.01	0.41
34:BM:25:ILE:HG22	34:BM:38:VAL:O	2.21	0.41
36:BO:42:ILE:HA	36:BO:46:GLN:OE1	2.19	0.41
38:BQ:104:LEU:HD13	38:BQ:104:LEU:C	2.41	0.41
40:BS:85:LEU:HD12	40:BS:85:LEU:N	2.34	0.41
42:BU:102:LYS:HG3	42:BU:104:GLU:OE1	2.21	0.41
42:BU:115:LYS:HB2	42:BU:123:TYR:CE2	2.55	0.41
43:BV:127:ASN:HA	43:BV:131:GLU:HB2	2.02	0.41
44:BW:137:ILE:C	44:BW:137:ILE:HD12	2.41	0.41
45:BX:61:LYS:HD2	45:BX:61:LYS:C	2.41	0.41
46:BY:108:TYR:O	46:BY:109:LYS:HB2	2.20	0.41
49:B2:32:PHE:CB	49:B2:36:LYS:HD2	2.49	0.41
50:B3:10:LYS:HD3	50:B3:10:LYS:H	1.83	0.41
52:B5:113:ARG:HH12	52:B5:117:LYS:HB3	1.85	0.41
1:AA:174:A:H2'	1:AA:175:G:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:185:G:H2'	1:AA:185:G:N3	2.35	0.41
1:AA:337:U:O2'	1:AA:338:U:P	2.79	0.41
1:AA:1244:C:H4'	1:AA:1250:U:N3	2.35	0.41
1:AA:1266:A:H4'	19:AS:10:PHE:CD2	2.55	0.41
1:AA:1295:G:HO2'	1:AA:1296:U:H6	1.65	0.41
13:AM:108:ARG:NH2	29:BH:127:ARG:NH2	2.68	0.41
14:AN:49:SER:N	14:AN:50:PRO:HD2	2.35	0.41
22:BA:1113:A:H4'	22:BA:1133:U:H4'	2.01	0.41
22:BA:1284:U:H5''	49:B2:13:LYS:CD	2.46	0.41
22:BA:1597:C:H2'	22:BA:1598:C:O4'	2.20	0.41
22:BA:1800:C:O2'	26:BE:204:ALA:HB3	2.21	0.41
22:BA:2011:G:H2'	22:BA:2012:G:C8	2.55	0.41
22:BA:2024:G:H5''	42:BU:71:ARG:NH1	2.27	0.41
22:BA:2502:G:H2'	22:BA:2503:G:C8	2.55	0.41
22:BA:2560:G:H21	22:BA:2663:C:H5''	1.83	0.41
23:BB:40:U:O2	23:BB:43:C:H5''	2.20	0.41
26:BE:56:ARG:HG2	26:BE:56:ARG:HH11	1.85	0.41
27:BF:152:ASP:HB3	27:BF:216:ARG:HA	2.02	0.41
28:BG:84:VAL:HG23	28:BG:85:HIS:N	2.36	0.41
29:BH:51:VAL:HG12	29:BH:169:VAL:HG22	2.02	0.41
29:BH:122:ALA:O	29:BH:125:ARG:HB3	2.20	0.41
31:BJ:57:ASP:CG	31:BJ:63:LYS:HG2	2.39	0.41
33:BL:195:ILE:O	33:BL:195:ILE:HG22	2.21	0.41
34:BM:72:ASP:C	34:BM:74:GLY:H	2.24	0.41
35:BN:126:LEU:HB3	35:BN:127:PRO:HD2	2.02	0.41
37:BP:100:ASN:O	37:BP:101:ARG:HD2	2.20	0.41
39:BR:160:ARG:HH11	39:BR:160:ARG:HG2	1.86	0.41
40:BS:96:ILE:H	40:BS:96:ILE:HD12	1.84	0.41
46:BY:122:LEU:HD22	46:BY:122:LEU:N	2.36	0.41
48:B1:50:LYS:HB2	48:B1:53:LEU:HB2	2.02	0.41
49:B2:8:THR:O	49:B2:10:ILE:N	2.53	0.41
51:B4:116:LEU:HD13	51:B4:116:LEU:O	2.21	0.41
53:B6:25:VAL:O	53:B6:34:LYS:HA	2.21	0.41
1:AA:557:A:C5	1:AA:558:U:O2	2.74	0.41
1:AA:913:A:H1'	10:AJ:152:VAL:HG21	2.03	0.41
1:AA:1149:A:O2'	1:AA:1150:U:OP2	2.31	0.41
1:AA:1331:C:H1'	7:AG:79:ARG:HB3	2.03	0.41
22:BA:144:A:N6	46:BY:118:ARG:NH1	2.69	0.41
22:BA:222:C:H2'	22:BA:223:C:C6	2.56	0.41
22:BA:295:C:N3	22:BA:365:A:N1	2.68	0.41
22:BA:387:G:C6	22:BA:412:G:H1'	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:402:A:H4'	22:BA:424:A:H5'	2.01	0.41
22:BA:593:G:H2'	22:BA:594:C:O4'	2.20	0.41
22:BA:748:C:H2'	22:BA:749:G:H8	1.86	0.41
22:BA:1585:C:C2'	22:BA:1586:G:H5''	2.48	0.41
22:BA:1734:A:H5'	22:BA:1736:A:C5'	2.50	0.41
22:BA:1751:A:H2'	22:BA:1753:A:OP1	2.21	0.41
22:BA:2014:G:H2'	22:BA:2015:A:C8	2.56	0.41
22:BA:2243:C:H2'	26:BE:258:ARG:HG2	2.03	0.41
22:BA:2416:G:H2'	22:BA:2417:G:H8	1.86	0.41
22:BA:2570:G:H1'	22:BA:2599:G:C2	2.55	0.41
22:BA:2744:A:H2'	22:BA:2745:G:H5'	2.03	0.41
24:BC:24:U:H4'	24:BC:84:A:C5	2.56	0.41
25:BD:338:LEU:HD13	25:BD:339:ASN:C	2.41	0.41
26:BE:34:ARG:HH11	26:BE:34:ARG:HG2	1.86	0.41
26:BE:35:CYS:SG	26:BE:36:GLY:N	2.94	0.41
27:BF:111:LEU:HD23	27:BF:111:LEU:C	2.40	0.41
27:BF:164:GLY:O	27:BF:168:ARG:HG3	2.21	0.41
30:BI:61:LEU:HD23	30:BI:85:LEU:O	2.21	0.41
32:BK:69:LYS:HD3	32:BK:188:ASN:HA	2.02	0.41
35:BN:147:ASN:C	35:BN:148:LEU:HD12	2.40	0.41
36:BO:23:ARG:HG3	36:BO:23:ARG:HH11	1.85	0.41
37:BP:122:ARG:HH11	37:BP:122:ARG:HG3	1.86	0.41
40:BS:55:ARG:HA	40:BS:58:ARG:HD2	2.02	0.41
40:BS:108:ILE:O	40:BS:108:ILE:HG12	2.21	0.41
42:BU:50:ILE:HG21	42:BU:132:ILE:HD12	2.03	0.41
42:BU:62:LEU:HD12	42:BU:62:LEU:C	2.40	0.41
43:BV:131:GLU:OE1	43:BV:131:GLU:N	2.54	0.41
44:BW:71:VAL:O	44:BW:92:ILE:HB	2.20	0.41
48:B1:99:LEU:HD13	48:B1:99:LEU:C	2.41	0.41
49:B2:10:ILE:O	49:B2:11:TYR:HB3	2.20	0.41
1:AA:6:U:O2'	1:AA:7:G:C4	2.72	0.41
1:AA:14:U:H1'	1:AA:863:A:C8	2.56	0.41
1:AA:107:C:H2'	1:AA:108:G:C8	2.55	0.41
1:AA:344:A:OP2	1:AA:345:A:OP2	2.38	0.41
1:AA:679:G:C5'	1:AA:714:A:H4'	2.51	0.41
1:AA:964:A:O2'	1:AA:965:A:H5'	2.20	0.41
1:AA:1111:G:H2'	1:AA:1112:G:C8	2.56	0.41
5:AE:181:GLY:HA3	5:AE:259:MET:HB3	2.02	0.41
22:BA:534:C:H4'	22:BA:551:G:H21	1.86	0.41
22:BA:543:A:H4'	22:BA:544:G:C8	2.56	0.41
22:BA:646:G:H21	22:BA:652:C:P	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:687:A:H2	22:BA:2083:G:HO2'	1.66	0.41
22:BA:783:U:H5''	22:BA:1377:A:H5'	2.02	0.41
22:BA:885:G:H2'	22:BA:886:U:C6	2.55	0.41
22:BA:1156:G:N7	22:BA:2535:C:N4	2.68	0.41
22:BA:1878:C:O2'	22:BA:1879:U:C6	2.69	0.41
22:BA:1896:G:H2'	22:BA:1897:C:C6	2.55	0.41
22:BA:2302:C:H4'	22:BA:2305:A:H62	1.85	0.41
22:BA:2424:G:H2'	22:BA:2425:U:C6	2.55	0.41
22:BA:2651:C:H2'	22:BA:2652:A:C8	2.56	0.41
23:BB:16:G:H2'	23:BB:17:C:C6	2.56	0.41
23:BB:26:A:H1'	23:BB:118:G:O2'	2.21	0.41
23:BB:114:C:H2'	23:BB:115:C:C6	2.56	0.41
24:BC:69:A:O2'	24:BC:70:G:H5'	2.21	0.41
27:BF:132:GLY:HA2	27:BF:136:THR:OG1	2.20	0.41
27:BF:216:ARG:HH21	27:BF:251:ILE:HA	1.85	0.41
28:BG:173:PHE:HD1	28:BG:244:LYS:HD3	1.85	0.41
32:BK:94:PRO:HB2	32:BK:95:VAL:H	1.72	0.41
33:BL:123:ILE:HD11	33:BL:126:ARG:NE	2.33	0.41
36:BO:115:ARG:HH11	36:BO:115:ARG:HG2	1.85	0.41
38:BQ:60:GLU:OE1	45:BX:133:ARG:HA	2.20	0.41
39:BR:183:ILE:HG12	39:BR:184:ARG:N	2.36	0.41
39:BR:186:ILE:HG12	39:BR:196:PHE:O	2.20	0.41
40:BS:90:LEU:CD2	41:BT:171:TYR:HB3	2.51	0.41
41:BT:218:ARG:HH11	41:BT:218:ARG:HG3	1.85	0.41
42:BU:113:LYS:HD3	42:BU:115:LYS:HE3	2.03	0.41
44:BW:64:LEU:H	44:BW:64:LEU:CD1	2.34	0.41
50:B3:50:LYS:O	50:B3:50:LYS:HG2	2.20	0.41
1:AA:177:A:C2'	1:AA:178:A:H5'	2.51	0.41
1:AA:373:G:H2'	1:AA:374:C:C6	2.56	0.41
1:AA:931:U:H4'	1:AA:932:A:O5'	2.21	0.41
1:AA:1201:G:H3'	10:AJ:140:LYS:NZ	2.36	0.41
1:AA:1331:C:C5	1:AA:1332:C:C6	3.09	0.41
6:AF:118:LYS:HE3	26:BE:163:LYS:N	2.32	0.41
22:BA:133:A:H2'	22:BA:134:A:O4'	2.20	0.41
22:BA:164:A:C6	51:B4:124:ARG:HA	2.56	0.41
22:BA:319:G:O4'	22:BA:339:A:N1	2.53	0.41
22:BA:399:U:H5'	22:BA:400:G:C4	2.55	0.41
22:BA:633:A:H2'	22:BA:634:G:H5'	2.03	0.41
22:BA:811:A:H4'	22:BA:813:C:H5'	2.02	0.41
22:BA:1329:A:H2'	22:BA:1330:G:O4'	2.20	0.41
22:BA:1361:U:O2'	22:BA:1639:A:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1361:U:O4	43:BV:168:PRO:HD3	2.19	0.41
22:BA:1377:A:H2'	22:BA:1378:U:C6	2.56	0.41
22:BA:1609:U:H2'	22:BA:1610:C:C6	2.55	0.41
22:BA:1645:A:H1'	22:BA:1652:A:H5'	2.03	0.41
22:BA:1694:C:H2'	22:BA:1695:U:C6	2.55	0.41
22:BA:1696:C:O2'	22:BA:1697:U:H5'	2.21	0.41
22:BA:1857:A:N3	22:BA:1857:A:C2'	2.81	0.41
22:BA:1998:U:H2'	22:BA:1999:G:H8	1.85	0.41
22:BA:2043:G:H2'	22:BA:2045:A:OP1	2.20	0.41
22:BA:2411:C:O2'	22:BA:2412:C:H5'	2.21	0.41
22:BA:2492:C:C2'	22:BA:2493:A:H5'	2.51	0.41
22:BA:2752:G:H2'	22:BA:2753:C:O4'	2.20	0.41
22:BA:2759:A:H2'	22:BA:2760:C:O4'	2.21	0.41
22:BA:2790:C:H2'	22:BA:2791:C:C6	2.55	0.41
24:BC:67:G:H4'	24:BC:68:C:O3'	2.20	0.41
25:BD:219:LYS:HB3	25:BD:219:LYS:HZ2	1.85	0.41
25:BD:243:ARG:HH11	25:BD:243:ARG:HG3	1.86	0.41
26:BE:133:LEU:C	26:BE:133:LEU:HD23	2.40	0.41
27:BF:152:ASP:CB	27:BF:216:ARG:HA	2.51	0.41
30:BI:161:PRO:CG	30:BI:164:LEU:HD12	2.51	0.41
30:BI:198:GLU:HA	30:BI:199:PRO:HD3	1.87	0.41
31:BJ:83:GLY:C	31:BJ:84:LYS:HD2	2.41	0.41
33:BL:174:ARG:HH11	33:BL:174:ARG:HG2	1.86	0.41
33:BL:198:ARG:HG2	33:BL:198:ARG:HH11	1.85	0.41
34:BM:5:GLN:N	34:BM:21:CYS:HB3	2.35	0.41
36:BO:20:ILE:O	36:BO:20:ILE:HG12	2.19	0.41
36:BO:38:GLU:O	36:BO:127:ILE:HG21	2.21	0.41
38:BQ:57:LYS:O	38:BQ:58:LYS:C	2.59	0.41
38:BQ:68:LEU:HD13	38:BQ:81:VAL:HG12	2.03	0.41
38:BQ:146:ARG:HH21	38:BQ:148:LYS:HE3	1.86	0.41
39:BR:226:LEU:O	39:BR:229:LEU:HD22	2.21	0.41
40:BS:9:ILE:HD13	40:BS:12:ARG:HH12	1.85	0.41
42:BU:39:ILE:HG21	42:BU:41:MET:CE	2.44	0.41
42:BU:147:LYS:HD2	42:BU:147:LYS:O	2.21	0.41
46:BY:135:ASN:OD1	46:BY:137:LEU:HB2	2.21	0.41
49:B2:36:LYS:H	49:B2:36:LYS:CD	2.34	0.41
52:B5:98:SER:HB2	52:B5:102:PHE:CE2	2.56	0.41
1:AA:37:C:H2'	1:AA:38:U:O4'	2.21	0.41
1:AA:47:G:OP1	1:AA:278:U:H4'	2.21	0.41
1:AA:147:C:H2'	1:AA:148:G:O4'	2.21	0.41
1:AA:372:C:H2'	1:AA:373:G:H8	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:640:U:H5'	1:AA:745:C:H5''	2.01	0.41
1:AA:756:A:N3	26:BE:5:LEU:HA	2.33	0.41
1:AA:819:U:H4'	1:AA:821:A:OP2	2.21	0.41
1:AA:945:A:H2'	1:AA:946:U:C6	2.56	0.41
1:AA:1067:U:O2'	1:AA:1068:G:H5'	2.21	0.41
1:AA:1123:G:O2'	1:AA:1124:A:H5'	2.21	0.41
1:AA:1476:C:O2'	1:AA:1477:U:H5'	2.21	0.41
4:AD:114:ARG:HB3	4:AD:122:ILE:HD11	2.03	0.41
14:AN:92:LEU:HD12	14:AN:95:ALA:HB2	2.02	0.41
22:BA:20:A:H2'	22:BA:21:C:C6	2.56	0.41
22:BA:142:U:H2'	22:BA:143:G:O4'	2.21	0.41
22:BA:518:A:H5'	22:BA:520:C:C1'	2.50	0.41
22:BA:568:C:H5''	33:BL:210:LYS:CG	2.50	0.41
22:BA:671:C:H2'	22:BA:672:U:C6	2.56	0.41
22:BA:727:A:H3'	22:BA:728:A:H5''	2.03	0.41
22:BA:808:C:H2'	22:BA:809:A:C8	2.56	0.41
22:BA:1341:C:N4	22:BA:1351:C:OP2	2.54	0.41
22:BA:1479:U:H4'	22:BA:1480:A:O4'	2.21	0.41
22:BA:1564:G:N2	22:BA:1576:U:H1'	2.36	0.41
22:BA:1569:A:H3'	22:BA:1570:C:H5'	2.02	0.41
22:BA:1714:A:H2'	22:BA:1715:A:O4'	2.21	0.41
22:BA:1726:A:H62	22:BA:1733:G:N2	2.13	0.41
22:BA:1734:A:H5'	22:BA:1736:A:C4'	2.49	0.41
22:BA:1810:C:O2'	22:BA:1812:A:H5'	2.21	0.41
22:BA:1830:U:O2	26:BE:197:ASN:HB2	2.21	0.41
22:BA:1962:G:H2'	22:BA:1963:G:C8	2.56	0.41
22:BA:2013:A:H2'	22:BA:2014:G:C8	2.56	0.41
22:BA:2215:C:H4'	22:BA:2244:A:N1	2.36	0.41
22:BA:2226:A:H1'	22:BA:2228:C:H41	1.86	0.41
22:BA:2363:A:O4'	22:BA:2400:G:H1'	2.21	0.41
22:BA:2501:G:OP1	36:BO:45:ARG:HB2	2.20	0.41
22:BA:2571:U:H2'	22:BA:2572:U:C5	2.56	0.41
22:BA:2691:G:H4'	34:BM:30:ARG:HH11	1.86	0.41
22:BA:2765:G:H5''	30:BI:113:THR:HG21	2.02	0.41
23:BB:26:A:H2	23:BB:117:G:H21	1.68	0.41
23:BB:82:U:H2'	23:BB:83:A:C8	2.56	0.41
25:BD:151:LYS:HG3	25:BD:152:PHE:N	2.36	0.41
25:BD:165:ASP:OD1	25:BD:167:LYS:HB2	2.21	0.41
26:BE:48:ARG:HG3	26:BE:48:ARG:HH11	1.85	0.41
26:BE:58:TYR:HD2	26:BE:81:PRO:HD2	1.86	0.41
26:BE:104:ARG:CB	26:BE:191:VAL:HG11	2.43	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BF:189:ILE:HG22	27:BF:190:GLY:N	2.36	0.41
28:BG:80:ALA:O	28:BG:84:VAL:HG22	2.21	0.41
29:BH:63:LYS:HB3	29:BH:63:LYS:HZ2	1.85	0.41
30:BI:101:THR:HG23	30:BI:104:ALA:N	2.31	0.41
30:BI:201:LYS:HZ3	30:BI:201:LYS:HB2	1.86	0.41
33:BL:124:LEU:HD13	33:BL:124:LEU:C	2.41	0.41
33:BL:187:THR:CG2	33:BL:190:GLN:HG3	2.51	0.41
34:BM:78:ARG:H	39:BR:196:PHE:HD2	1.67	0.41
34:BM:98:ILE:HD13	34:BM:113:ILE:HG23	2.03	0.41
35:BN:127:PRO:CB	52:B5:118:GLN:HE21	2.32	0.41
36:BO:8:ARG:NH1	36:BO:8:ARG:CB	2.84	0.41
37:BP:168:LEU:H	37:BP:168:LEU:CD1	2.34	0.41
37:BP:172:VAL:N	37:BP:173:PRO:CD	2.84	0.41
37:BP:193:ARG:N	37:BP:193:ARG:CD	2.84	0.41
38:BQ:45:ARG:HH11	38:BQ:45:ARG:CB	2.34	0.41
38:BQ:45:ARG:HH11	38:BQ:45:ARG:HB2	1.84	0.41
38:BQ:45:ARG:H	38:BQ:45:ARG:NH1	2.09	0.41
39:BR:133:ALA:HA	39:BR:136:GLU:HG2	2.01	0.41
39:BR:144:ARG:HG2	39:BR:144:ARG:HH11	1.85	0.41
39:BR:174:ASN:HB2	39:BR:219:LEU:HG	2.03	0.41
39:BR:215:ARG:HH21	39:BR:216:LYS:NZ	2.19	0.41
42:BU:41:MET:CE	42:BU:75:PRO:HD2	2.50	0.41
42:BU:47:ARG:HH11	42:BU:47:ARG:HG3	1.86	0.41
44:BW:85:LYS:NZ	44:BW:103:ASP:HB3	2.35	0.41
45:BX:89:LYS:HG3	45:BX:89:LYS:O	2.21	0.41
45:BX:97:GLN:HG2	45:BX:123:LEU:HD11	2.03	0.41
46:BY:110:ARG:O	46:BY:111:ILE:HD13	2.21	0.41
48:B1:66:ASN:OD1	48:B1:69:LEU:HD21	2.20	0.41
50:B3:52:CYS:HA	50:B3:58:HIS:N	2.33	0.41
1:AA:99:G:H4'	1:AA:100:A:O5'	2.21	0.41
1:AA:218:G:O2'	1:AA:219:C:H5'	2.21	0.41
1:AA:284:A:H2'	1:AA:285:C:C6	2.56	0.41
1:AA:383:A:O2'	1:AA:384:G:O4'	2.38	0.41
1:AA:489:G:H2'	1:AA:490:A:H8	1.86	0.41
1:AA:1008:C:O2'	1:AA:1009:U:H5'	2.21	0.41
1:AA:1111:G:H2'	1:AA:1112:G:H8	1.85	0.41
1:AA:1250:U:H5'	13:AM:62:TYR:CE1	2.55	0.41
1:AA:1294:A:H4'	1:AA:1295:G:C5'	2.52	0.41
1:AA:1402:A:H3'	1:AA:1402:A:N3	2.36	0.41
2:AB:115:LEU:HD11	2:AB:155:ILE:O	2.20	0.41
19:AS:12:ALA:HB3	19:AS:15:LEU:HD23	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:42:G:H2'	22:BA:43:A:O4'	2.20	0.41
22:BA:227:G:N1	52:B5:93:LYS:HE3	2.36	0.41
22:BA:232:G:C5	22:BA:234:C:H1'	2.55	0.41
22:BA:293:G:H4'	22:BA:294:U:OP1	2.21	0.41
22:BA:495:A:H1'	44:BW:109:LYS:HB3	2.02	0.41
22:BA:757:U:OP1	22:BA:759:G:H5'	2.21	0.41
22:BA:1297:C:O2'	22:BA:1298:A:H5'	2.21	0.41
22:BA:1620:U:H2'	22:BA:1621:C:O4'	2.20	0.41
22:BA:2063:C:H2'	22:BA:2064:C:H6	1.86	0.41
22:BA:2137:G:C3'	22:BA:2138:G:H5''	2.50	0.41
22:BA:2436:U:O4	52:B5:119:HIS:ND1	2.54	0.41
22:BA:2651:C:H2'	22:BA:2652:A:H8	1.86	0.41
22:BA:2717:G:H1	22:BA:2724:C:H42	1.68	0.41
26:BE:106:ALA:HA	26:BE:110:ASP:OD1	2.20	0.41
26:BE:269:ARG:HH11	26:BE:269:ARG:HG3	1.86	0.41
28:BG:97:ARG:O	28:BG:97:ARG:HG3	2.21	0.41
28:BG:171:ASN:HD22	28:BG:173:PHE:HE2	1.69	0.41
31:BJ:53:ILE:HG13	31:BJ:88:MET:HB2	2.03	0.41
31:BJ:103:ILE:HG22	31:BJ:103:ILE:O	2.20	0.41
33:BL:171:LYS:HD3	33:BL:171:LYS:C	2.41	0.41
35:BN:80:ARG:HH11	35:BN:80:ARG:HG3	1.86	0.41
35:BN:83:ARG:H	35:BN:83:ARG:CD	2.24	0.41
38:BQ:65:ARG:HG2	38:BQ:67:ARG:HG3	2.03	0.41
39:BR:161:ARG:HH11	39:BR:161:ARG:HG2	1.85	0.41
39:BR:166:LYS:HG3	39:BR:167:GLY:N	2.36	0.41
39:BR:185:ARG:NH2	39:BR:223:ARG:HH12	2.06	0.41
39:BR:224:ASP:C	39:BR:226:LEU:H	2.24	0.41
42:BU:105:VAL:HG13	42:BU:130:CYS:HB2	2.02	0.41
43:BV:165:LEU:HD21	43:BV:175:TYR:CE1	2.56	0.41
44:BW:76:LYS:HE3	44:BW:137:ILE:HG12	2.03	0.41
44:BW:147:VAL:HG23	44:BW:155:VAL:O	2.20	0.41
46:BY:142:LYS:HD3	46:BY:142:LYS:N	2.23	0.41
47:BZ:102:PHE:C	47:BZ:103:LYS:HD2	2.41	0.41
1:AA:879:C:O5'	1:AA:879:C:H6	2.03	0.40
1:AA:880:C:H2'	1:AA:881:C:C5	2.56	0.40
1:AA:1312:A:O5'	1:AA:1313:U:OP1	2.39	0.40
1:AA:1401:A:OP2	1:AA:1401:A:C8	2.74	0.40
1:AA:1473:C:H2'	1:AA:1474:G:C8	2.56	0.40
15:AO:57:LEU:HD13	22:BA:726:G:C1'	2.30	0.40
20:AT:160:HIS:HB3	20:AT:161:LYS:H	1.70	0.40
22:BA:102:U:H2'	22:BA:103:C:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:544:G:H2'	22:BA:545:U:O4'	2.21	0.40
22:BA:547:G:H2'	22:BA:548:G:O4'	2.20	0.40
22:BA:781:G:H2'	22:BA:782:G:H8	1.86	0.40
22:BA:887:G:N1	22:BA:908:A:N6	2.69	0.40
22:BA:1056:A:H2	22:BA:2503:G:N3	2.19	0.40
22:BA:1141:C:H2'	22:BA:1142:G:H8	1.86	0.40
22:BA:1286:A:N6	22:BA:2028:A:OP2	2.53	0.40
22:BA:1369:G:H22	22:BA:1634:C:N4	2.19	0.40
22:BA:1474:A:N1	37:BP:163:GLN:HA	2.36	0.40
22:BA:1691:A:C2	22:BA:2063:C:H5''	2.56	0.40
22:BA:1902:G:N3	22:BA:1902:G:C2'	2.84	0.40
22:BA:2244:A:H3'	22:BA:2245:U:H6	1.86	0.40
22:BA:2317:G:H2'	22:BA:2318:C:C6	2.56	0.40
22:BA:2330:U:H2'	22:BA:2331:G:C8	2.56	0.40
22:BA:2363:A:N6	50:B3:49:ARG:NH2	2.69	0.40
22:BA:2582:A:H2'	22:BA:2583:A:C4'	2.49	0.40
22:BA:2764:U:H4'	30:BI:181:LYS:HB3	2.03	0.40
23:BB:20:A:H2'	23:BB:21:G:C8	2.56	0.40
26:BE:44:ILE:HG23	26:BE:45:ILE:N	2.35	0.40
26:BE:121:LYS:CG	26:BE:122:MET:H	2.32	0.40
28:BG:93:GLN:O	28:BG:96:ARG:HB3	2.20	0.40
28:BG:103:LEU:HD23	28:BG:139:VAL:CG2	2.51	0.40
28:BG:146:ARG:HB3	28:BG:146:ARG:HH11	1.86	0.40
30:BI:57:VAL:O	30:BI:57:VAL:HG13	2.21	0.40
31:BJ:50:ARG:HG2	31:BJ:50:ARG:HH11	1.87	0.40
31:BJ:139:ILE:HG13	31:BJ:171:ARG:NH2	2.27	0.40
33:BL:133:ILE:HD12	33:BL:139:ASN:OD1	2.20	0.40
34:BM:69:LEU:HD13	34:BM:69:LEU:C	2.41	0.40
35:BN:146:VAL:CG2	35:BN:147:ASN:N	2.84	0.40
35:BN:191:GLU:O	35:BN:191:GLU:HG2	2.21	0.40
36:BO:41:TRP:CB	36:BO:94:VAL:HG21	2.50	0.40
40:BS:9:ILE:HD13	40:BS:12:ARG:HH22	1.85	0.40
40:BS:13:ARG:CB	40:BS:13:ARG:HH11	2.34	0.40
40:BS:55:ARG:NH1	40:BS:55:ARG:CB	2.84	0.40
40:BS:88:ARG:HH11	40:BS:88:ARG:HG3	1.85	0.40
41:BT:208:ARG:CB	41:BT:208:ARG:HH11	2.34	0.40
44:BW:138:LEU:HG	44:BW:139:LYS:N	2.37	0.40
45:BX:115:THR:HG22	45:BX:116:ILE:N	2.36	0.40
53:B6:20:ARG:HH11	53:B6:20:ARG:HG2	1.87	0.40
53:B6:37:GLN:NE2	53:B6:38:GLY:H	2.19	0.40
1:AA:235:U:C5'	17:AQ:120:ARG:HH21	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:682:C:H4'	18:AR:67:LYS:NZ	2.35	0.40
1:AA:901:U:C5'	1:AA:921:C:N4	2.85	0.40
1:AA:943:A:H2'	1:AA:943:A:N3	2.36	0.40
1:AA:1363:U:H2'	1:AA:1364:G:C8	2.56	0.40
3:AC:1:MET:HB3	3:AC:2:GLY:H	1.71	0.40
22:BA:105:G:H2'	22:BA:106:G:C8	2.56	0.40
22:BA:316:G:N1	22:BA:319:G:OP2	2.48	0.40
22:BA:444:A:H2'	22:BA:445:C:C6	2.56	0.40
22:BA:553:G:H2'	22:BA:554:G:H8	1.86	0.40
22:BA:873:A:H2'	22:BA:874:G:C8	2.55	0.40
22:BA:1862:C:N4	22:BA:1902:G:N2	2.69	0.40
22:BA:2237:A:H2'	22:BA:2238:A:C8	2.55	0.40
22:BA:2381:C:H4'	45:BX:97:GLN:NE2	2.36	0.40
22:BA:2463:G:H2'	22:BA:2464:G:H5''	2.02	0.40
22:BA:2464:G:C1'	22:BA:2518:C:H5	2.35	0.40
22:BA:2496:U:H2'	22:BA:2497:C:O4'	2.22	0.40
22:BA:2698:C:H4'	22:BA:2699:U:C5	2.55	0.40
23:BB:94:U:H2'	23:BB:95:G:C8	2.56	0.40
24:BC:25:U:C5'	24:BC:27:A:H4'	2.51	0.40
24:BC:41:U:H2'	24:BC:42:G:C8	2.56	0.40
24:BC:42:G:H2'	24:BC:43:U:C6	2.55	0.40
25:BD:119:SER:HB2	25:BD:124:GLU:CD	2.41	0.40
26:BE:126:LEU:C	26:BE:126:LEU:HD23	2.42	0.40
26:BE:138:HIS:CD2	26:BE:187:THR:HB	2.56	0.40
29:BH:23:TYR:HA	29:BH:27:MET:HB3	2.03	0.40
32:BK:163:PRO:O	32:BK:164:GLN:HB2	2.22	0.40
39:BR:124:GLY:O	39:BR:125:ILE:HD12	2.21	0.40
40:BS:94:ARG:HG2	40:BS:97:LEU:H	1.86	0.40
41:BT:190:LEU:HD12	41:BT:191:LEU:HD23	2.03	0.40
42:BU:63:MET:O	42:BU:67:LEU:HD23	2.20	0.40
42:BU:70:TYR:OH	49:B2:23:LYS:HD2	2.21	0.40
42:BU:79:LEU:HD11	42:BU:134:ILE:HG12	2.03	0.40
44:BW:140:GLU:CD	44:BW:143:VAL:HG21	2.40	0.40
50:B3:20:ARG:HH11	50:B3:20:ARG:HG2	1.86	0.40
1:AA:33:A:OP1	1:AA:369:U:H1'	2.21	0.40
1:AA:129:G:H1	1:AA:161:C:H41	1.69	0.40
1:AA:359:G:H4'	1:AA:361:C:N4	2.35	0.40
1:AA:471:A:H61	12:AL:50:ARG:HH12	1.69	0.40
1:AA:667:C:O2'	18:AR:45:LYS:HB3	2.21	0.40
8:AH:66:ARG:HG2	8:AH:67:ARG:H	1.86	0.40
22:BA:40:C:H2'	22:BA:41:A:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:703:C:H4'	26:BE:38:GLY:HA2	2.02	0.40
22:BA:721:U:H2'	22:BA:722:G:H8	1.86	0.40
22:BA:782:G:O2'	22:BA:783:U:H5'	2.22	0.40
22:BA:1113:A:H4'	22:BA:1133:U:C4'	2.51	0.40
22:BA:1326:C:H2'	22:BA:1327:U:C6	2.56	0.40
22:BA:1333:U:H5'	22:BA:1334:U:OP1	2.21	0.40
22:BA:1496:A:H3'	22:BA:1497:A:H5'	2.04	0.40
22:BA:2244:A:C5'	26:BE:257:LYS:HE2	2.52	0.40
22:BA:2253:U:H2'	22:BA:2254:A:O4'	2.21	0.40
22:BA:2368:A:H62	52:B5:131:ARG:HD3	1.86	0.40
22:BA:2513:C:C2'	22:BA:2514:A:H5'	2.48	0.40
25:BD:234:MET:O	25:BD:238:VAL:HG23	2.21	0.40
26:BE:106:ALA:C	26:BE:108:ILE:H	2.25	0.40
26:BE:179:LEU:HD12	26:BE:179:LEU:N	2.36	0.40
27:BF:126:ARG:HH11	27:BF:126:ARG:HG2	1.86	0.40
28:BG:59:ASN:OD1	28:BG:60:PHE:N	2.55	0.40
28:BG:207:PHE:H	28:BG:242:ALA:HB1	1.86	0.40
29:BH:127:ARG:HH11	29:BH:127:ARG:HG2	1.86	0.40
30:BI:147:VAL:CG2	30:BI:155:PRO:HB2	2.51	0.40
33:BL:191:LEU:N	33:BL:191:LEU:HD12	2.36	0.40
35:BN:108:GLY:N	35:BN:109:PRO:CD	2.75	0.40
38:BQ:72:ARG:CZ	38:BQ:77:LEU:HD12	2.51	0.40
38:BQ:87:MET:HB2	38:BQ:88:HIS:H	1.72	0.40
46:BY:87:ARG:HG2	46:BY:88:ALA:N	2.37	0.40
46:BY:151:LYS:HG3	46:BY:151:LYS:OXT	2.22	0.40
51:B4:123:GLY:C	51:B4:125:ALA:H	2.24	0.40
1:AA:49:U:C4	1:AA:335:A:H2	2.39	0.40
1:AA:347:G:C5'	16:AP:5:ARG:HH11	2.32	0.40
1:AA:422:A:N6	1:AA:429:G:C8	2.90	0.40
1:AA:442:G:H8	1:AA:442:G:O5'	2.04	0.40
1:AA:706:G:H4'	1:AA:829:C:C4'	2.51	0.40
1:AA:867:A:H2'	1:AA:868:A:C8	2.56	0.40
1:AA:891:G:O2'	1:AA:892:U:H5'	2.21	0.40
1:AA:1204:U:P	3:AC:27:LYS:HZ1	2.45	0.40
1:AA:1253:G:N2	1:AA:1279:G:H2'	2.35	0.40
1:AA:1348:C:H5''	1:AA:1349:C:H5''	2.04	0.40
4:AD:9:PHE:HB3	4:AD:12:ILE:HD12	2.02	0.40
4:AD:90:ARG:HH22	4:AD:108:ARG:HH12	1.70	0.40
6:AF:70:VAL:HG13	6:AF:130:TYR:HE2	1.87	0.40
19:AS:61:TYR:OH	48:B1:91:PHE:CE1	2.60	0.40
22:BA:121:G:H1	22:BA:126:C:H42	1.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:188:U:N3	22:BA:189:A:N6	2.68	0.40
22:BA:601:U:H2'	22:BA:602:A:C8	2.57	0.40
22:BA:650:G:H2'	22:BA:651:U:H6	1.83	0.40
22:BA:811:A:C4'	22:BA:813:C:H5'	2.51	0.40
22:BA:1108:C:O2'	22:BA:1109:U:H5'	2.21	0.40
22:BA:1831:G:OP1	22:BA:1831:G:H3'	2.21	0.40
22:BA:1874:U:OP1	22:BA:2428:A:H5'	2.22	0.40
22:BA:1968:G:H2'	22:BA:1970:U:C4	2.56	0.40
22:BA:1974:A:H2'	22:BA:1975:C:C6	2.56	0.40
22:BA:2024:G:H5''	42:BU:71:ARG:CB	2.51	0.40
22:BA:2650:G:H4'	27:BF:105:LYS:HZ1	1.85	0.40
22:BA:2663:C:O2'	22:BA:2664:U:H5'	2.22	0.40
22:BA:2667:C:H2'	22:BA:2668:C:C6	2.57	0.40
22:BA:2668:C:H2'	22:BA:2669:C:H6	1.86	0.40
22:BA:2747:G:H2'	22:BA:2748:C:H6	1.87	0.40
22:BA:2760:C:H2'	22:BA:2761:U:H6	1.85	0.40
25:BD:116:ARG:HH11	25:BD:116:ARG:HG2	1.86	0.40
26:BE:146:ARG:HG2	26:BE:146:ARG:HH11	1.87	0.40
26:BE:222:ASN:ND2	26:BE:222:ASN:N	2.69	0.40
28:BG:86:ARG:HG3	28:BG:86:ARG:HH11	1.87	0.40
28:BG:152:MET:HB3	28:BG:157:ARG:NH2	2.37	0.40
29:BH:28:VAL:N	29:BH:29:PRO:CD	2.84	0.40
29:BH:47:VAL:HG22	29:BH:107:ARG:NH1	2.36	0.40
29:BH:148:ARG:HG3	29:BH:148:ARG:HH11	1.86	0.40
31:BJ:153:LYS:HD3	31:BJ:159:ASP:OD1	2.22	0.40
35:BN:130:ARG:HH22	52:B5:112:ARG:HG3	1.84	0.40
38:BQ:143:TYR:C	38:BQ:145:GLY:H	2.25	0.40
39:BR:219:LEU:HD23	39:BR:219:LEU:C	2.42	0.40
42:BU:113:LYS:NZ	42:BU:115:LYS:HE2	2.36	0.40
43:BV:117:SER:HA	43:BV:118:PRO:HD3	1.99	0.40
44:BW:147:VAL:HA	44:BW:156:ARG:HA	2.02	0.40
46:BY:122:LEU:CD1	46:BY:150:LYS:HE3	2.50	0.40
47:BZ:122:ARG:HH11	47:BZ:122:ARG:HG2	1.86	0.40
51:B4:115:ARG:HH11	51:B4:115:ARG:HG2	1.86	0.40
1:AA:206:C:H2'	1:AA:207:G:H8	1.87	0.40
1:AA:207:G:P	17:AQ:97:LYS:HZ3	2.45	0.40
1:AA:208:C:H2'	1:AA:209:G:C8	2.57	0.40
1:AA:244:A:H1'	17:AQ:73:ASP:OD2	2.22	0.40
1:AA:256:A:H2'	1:AA:257:G:C8	2.56	0.40
1:AA:511:A:H2'	1:AA:511:A:N3	2.36	0.40
1:AA:667:C:H3'	1:AA:668:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1274:U:H2'	1:AA:1275:G:H8	1.85	0.40
5:AE:217:MET:SD	5:AE:218:THR:N	2.94	0.40
5:AE:226:ARG:HG3	5:AE:239:ARG:HG2	2.03	0.40
6:AF:117:ASN:ND2	26:BE:162:ALA:HB1	2.37	0.40
16:AP:33:LEU:H	16:AP:33:LEU:HD13	1.86	0.40
21:AU:105:GLU:HA	21:AU:106:PRO:HD3	1.93	0.40
22:BA:83:A:H62	22:BA:98:G:H5''	1.84	0.40
22:BA:118:U:H1'	22:BA:133:A:N7	2.37	0.40
22:BA:210:C:H2'	22:BA:211:A:C8	2.56	0.40
22:BA:495:A:H2'	22:BA:496:C:O4'	2.21	0.40
22:BA:520:C:H2'	22:BA:521:A:H5'	2.03	0.40
22:BA:704:A:H2'	22:BA:705:U:C6	2.56	0.40
22:BA:1156:G:H2'	22:BA:2507:G:OP1	2.21	0.40
22:BA:1284:U:H2'	22:BA:1285:G:C8	2.57	0.40
22:BA:1680:G:O2'	22:BA:1681:G:H5'	2.22	0.40
22:BA:1877:C:H2'	22:BA:1878:C:C4'	2.51	0.40
22:BA:2100:U:H2'	22:BA:2101:G:C8	2.57	0.40
22:BA:2220:G:H2'	22:BA:2221:U:H6	1.85	0.40
22:BA:2278:C:H3'	45:BX:71:ARG:HE	1.87	0.40
22:BA:2302:C:OP2	50:B3:39:ARG:HD3	2.21	0.40
22:BA:2304:A:H61	22:BA:2361:U:H1'	1.86	0.40
22:BA:2645:U:O2'	22:BA:2799:A:H2'	2.20	0.40
22:BA:2803:C:H2'	22:BA:2804:U:C6	2.57	0.40
22:BA:2804:U:H2'	22:BA:2805:C:C6	2.57	0.40
26:BE:83:ARG:HG2	26:BE:83:ARG:HH11	1.86	0.40
27:BF:173:ARG:CB	27:BF:173:ARG:HH11	2.34	0.40
30:BI:192:ARG:NH2	30:BI:197:PRO:HD2	2.36	0.40
34:BM:19:LEU:O	34:BM:19:LEU:HD22	2.21	0.40
34:BM:38:VAL:HG11	34:BM:59:ARG:HH21	1.86	0.40
36:BO:77:ARG:HH11	36:BO:77:ARG:CB	2.34	0.40
38:BQ:64:GLU:HB3	38:BQ:65:ARG:NH2	2.36	0.40
39:BR:190:VAL:HB	39:BR:194:ILE:HD12	2.03	0.40
40:BS:43:LEU:CG	41:BT:200:TYR:HB2	2.48	0.40
40:BS:72:ARG:HH11	40:BS:72:ARG:HG2	1.86	0.40
44:BW:108:THR:OG1	44:BW:109:LYS:N	2.54	0.40
46:BY:79:PRO:CD	46:BY:106:LEU:HB3	2.49	0.40
46:BY:84:LYS:HE3	46:BY:122:LEU:HA	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	AB	229/231 (99%)	201 (88%)	25 (11%)	3 (1%)	12	48
3	AC	215/218 (99%)	179 (83%)	29 (14%)	7 (3%)	4	26
4	AD	197/201 (98%)	179 (91%)	17 (9%)	1 (0%)	29	69
5	AE	156/308 (51%)	138 (88%)	16 (10%)	2 (1%)	12	48
6	AF	105/168 (62%)	92 (88%)	10 (10%)	3 (3%)	4	29
7	AG	152/155 (98%)	136 (90%)	14 (9%)	2 (1%)	12	48
8	AH	132/134 (98%)	118 (89%)	13 (10%)	1 (1%)	19	60
9	AI	125/197 (64%)	110 (88%)	13 (10%)	2 (2%)	9	44
10	AJ	97/197 (49%)	85 (88%)	10 (10%)	2 (2%)	7	36
11	AK	116/140 (83%)	95 (82%)	16 (14%)	5 (4%)	2	22
12	AL	121/123 (98%)	99 (82%)	17 (14%)	5 (4%)	3	23
13	AM	97/145 (67%)	75 (77%)	15 (16%)	7 (7%)	1	14
14	AN	97/100 (97%)	83 (86%)	13 (13%)	1 (1%)	15	55
15	AO	83/90 (92%)	77 (93%)	6 (7%)	0	100	100
16	AP	78/88 (89%)	59 (76%)	12 (15%)	7 (9%)	1	11
17	AQ	81/142 (57%)	69 (85%)	11 (14%)	1 (1%)	13	50
18	AR	56/103 (54%)	51 (91%)	4 (7%)	1 (2%)	8	40
19	AS	90/92 (98%)	75 (83%)	12 (13%)	3 (3%)	4	26
20	AT	100/202 (50%)	93 (93%)	7 (7%)	0	100	100
21	AU	51/190 (27%)	37 (72%)	10 (20%)	4 (8%)	1	13
25	BD	225/352 (64%)	189 (84%)	33 (15%)	3 (1%)	12	48
26	BE	264/269 (98%)	126 (48%)	94 (36%)	44 (17%)	0	3
27	BF	152/259 (59%)	91 (60%)	32 (21%)	29 (19%)	0	2
28	BG	209/293 (71%)	159 (76%)	39 (19%)	11 (5%)	2	19
29	BH	173/220 (79%)	130 (75%)	32 (18%)	11 (6%)	1	16

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	BI	180/223 (81%)	143 (79%)	30 (17%)	7 (4%)	3	23
31	BJ	146/197 (74%)	105 (72%)	33 (23%)	8 (6%)	2	19
32	BK	143/224 (64%)	115 (80%)	22 (15%)	6 (4%)	3	22
33	BL	123/250 (49%)	92 (75%)	24 (20%)	7 (6%)	1	18
34	BM	119/121 (98%)	96 (81%)	20 (17%)	3 (2%)	5	32
35	BN	174/257 (68%)	98 (56%)	48 (28%)	28 (16%)	0	3
36	BO	133/135 (98%)	93 (70%)	30 (23%)	10 (8%)	1	13
37	BP	114/205 (56%)	94 (82%)	16 (14%)	4 (4%)	3	25
38	BQ	120/161 (74%)	81 (68%)	23 (19%)	16 (13%)	0	5
39	BR	111/233 (48%)	66 (60%)	25 (22%)	20 (18%)	0	3
40	BS	117/119 (98%)	96 (82%)	12 (10%)	9 (8%)	1	13
41	BT	102/257 (40%)	62 (61%)	23 (22%)	17 (17%)	0	3
42	BU	120/199 (60%)	92 (77%)	20 (17%)	8 (7%)	1	15
43	BV	83/198 (42%)	63 (76%)	15 (18%)	5 (6%)	1	17
44	BW	108/191 (56%)	59 (55%)	34 (32%)	15 (14%)	0	4
45	BX	84/198 (42%)	52 (62%)	21 (25%)	11 (13%)	0	5
46	BY	74/151 (49%)	43 (58%)	20 (27%)	11 (15%)	0	3
47	BZ	63/173 (36%)	58 (92%)	5 (8%)	0	100	100
48	B1	70/144 (49%)	52 (74%)	14 (20%)	4 (6%)	1	18
49	B2	55/57 (96%)	32 (58%)	11 (20%)	12 (22%)	0	2
50	B3	63/66 (96%)	33 (52%)	23 (36%)	7 (11%)	0	7
51	B4	35/152 (23%)	28 (80%)	7 (20%)	0	100	100
52	B5	60/159 (38%)	39 (65%)	15 (25%)	6 (10%)	0	9
53	B6	36/104 (35%)	26 (72%)	6 (17%)	4 (11%)	0	7
All	All	5834/8791 (66%)	4464 (76%)	997 (17%)	373 (6%)	3	16

All (373) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	AC	88	ARG
3	AC	89	PRO
3	AC	202	THR
5	AE	218	THR
6	AF	155	VAL

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Mol	Chain	Res	Type
11	AK	26	PRO
11	AK	135	LYS
13	AM	131	VAL
16	AP	21	ALA
16	AP	65	GLU
25	BD	152	PHE
26	BE	85	ALA
26	BE	87	ILE
26	BE	90	ILE
26	BE	100	ILE
26	BE	103	PRO
26	BE	122	MET
26	BE	138	HIS
26	BE	173	PRO
27	BF	116	ILE
27	BF	248	PRO
30	BI	54	PRO
31	BJ	78	PHE
32	BK	94	PRO
35	BN	94	ALA
35	BN	183	PRO
37	BP	196	ASN
38	BQ	58	LYS
39	BR	149	VAL
39	BR	172	ARG
39	BR	183	ILE
39	BR	196	PHE
39	BR	217	ALA
39	BR	220	TYR
40	BS	72	ARG
40	BS	76	TYR
40	BS	89	GLN
41	BT	136	VAL
41	BT	176	ILE
41	BT	221	ILE
42	BU	35	ARG
42	BU	140	THR
44	BW	69	VAL
44	BW	129	ILE
45	BX	103	HIS
45	BX	108	VAL
45	BX	120	ILE

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Mol	Chain	Res	Type
45	BX	131	PRO
46	BY	79	PRO
46	BY	108	TYR
49	B2	48	VAL
50	B3	64	ILE
52	B5	126	THR
53	B6	3	VAL
2	AB	98	LYS
2	AB	168	VAL
2	AB	231	SER
3	AC	15	THR
7	AG	16	PRO
8	AH	20	ARG
13	AM	116	GLU
13	AM	117	ILE
14	AN	90	CYS
19	AS	28	LYS
26	BE	42	ARG
26	BE	48	ARG
26	BE	49	HIS
26	BE	75	VAL
26	BE	123	GLY
26	BE	132	PRO
26	BE	137	ILE
26	BE	146	ARG
26	BE	150	LEU
26	BE	245	PRO
26	BE	266	ILE
27	BF	112	GLU
27	BF	143	GLU
27	BF	144	LEU
27	BF	195	PRO
27	BF	205	PRO
28	BG	106	ALA
28	BG	140	ILE
28	BG	153	ASN
29	BH	41	LEU
30	BI	53	VAL
32	BK	99	LEU
33	BL	172	LEU
33	BL	173	TYR
35	BN	75	PRO

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Mol	Chain	Res	Type
35	BN	92	GLN
35	BN	95	SER
35	BN	109	PRO
35	BN	121	PRO
35	BN	145	ASN
35	BN	166	THR
35	BN	179	GLU
35	BN	188	ALA
35	BN	232	VAL
35	BN	239	ALA
35	BN	240	GLU
36	BO	11	LYS
36	BO	22	TYR
36	BO	78	PRO
36	BO	81	THR
37	BP	170	ALA
37	BP	171	GLU
38	BQ	57	LYS
38	BQ	83	ASP
38	BQ	85	SER
38	BQ	105	ASP
39	BR	195	VAL
39	BR	225	LYS
40	BS	88	ARG
41	BT	166	THR
41	BT	220	LYS
42	BU	31	GLU
42	BU	120	GLY
42	BU	125	ILE
43	BV	169	ASP
44	BW	88	GLU
44	BW	101	ILE
44	BW	143	VAL
44	BW	162	ILE
45	BX	80	VAL
46	BY	83	LYS
46	BY	91	VAL
48	B1	77	LYS
48	B1	83	ASP
48	B1	86	SER
49	B2	31	ALA
52	B5	106	GLY

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Mol	Chain	Res	Type
3	AC	105	CYS
3	AC	169	ASP
9	AI	79	LYS
11	AK	129	GLY
12	AL	11	THR
12	AL	17	ASN
13	AM	118	ARG
13	AM	121	ARG
16	AP	17	TYR
19	AS	42	PRO
21	AU	120	ARG
26	BE	21	LYS
26	BE	34	ARG
26	BE	40	ASN
26	BE	54	HIS
26	BE	69	ASP
26	BE	88	CYS
26	BE	91	HIS
26	BE	121	LYS
26	BE	170	LEU
26	BE	193	ASN
26	BE	233	GLY
26	BE	265	PHE
27	BF	118	PRO
27	BF	127	LEU
27	BF	133	PHE
27	BF	135	VAL
27	BF	146	LYS
27	BF	171	PHE
27	BF	228	ASN
28	BG	129	GLN
29	BH	26	LYS
29	BH	134	PRO
30	BI	55	SER
31	BJ	157	GLN
31	BJ	158	LYS
32	BK	89	ALA
33	BL	184	LYS
34	BM	5	GLN
35	BN	100	MET
35	BN	164	LEU
36	BO	59	ARG

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Mol	Chain	Res	Type
36	BO	92	TYR
38	BQ	143	TYR
39	BR	159	LYS
40	BS	2	THR
40	BS	71	GLU
40	BS	73	GLY
41	BT	188	GLU
42	BU	117	ARG
43	BV	181	GLU
44	BW	70	LYS
44	BW	94	LYS
44	BW	99	VAL
44	BW	138	LEU
45	BX	85	ASP
45	BX	105	GLY
46	BY	96	HIS
46	BY	126	THR
48	B1	56	GLU
49	B2	9	SER
49	B2	25	TYR
49	B2	26	TRP
49	B2	34	LEU
49	B2	38	LEU
49	B2	50	LYS
50	B3	6	ASP
50	B3	45	ARG
50	B3	58	HIS
52	B5	105	THR
52	B5	118	GLN
53	B6	8	LYS
5	AE	303	MET
7	AG	19	ARG
13	AM	57	HIS
16	AP	5	ARG
18	AR	41	SER
19	AS	26	ALA
21	AU	104	ASN
21	AU	128	LYS
26	BE	25	ARG
26	BE	47	ALA
26	BE	61	ILE
26	BE	82	ASN

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Mol	Chain	Res	Type
26	BE	169	THR
26	BE	207	LYS
26	BE	250	ALA
27	BF	102	LYS
27	BF	113	LYS
27	BF	198	VAL
27	BF	199	TYR
27	BF	214	LYS
27	BF	218	LEU
27	BF	226	GLN
27	BF	244	LEU
28	BG	75	ALA
28	BG	204	LYS
28	BG	226	LEU
29	BH	39	ASN
29	BH	130	GLN
29	BH	137	PHE
30	BI	194	TRP
31	BJ	122	GLN
31	BJ	137	LYS
33	BL	170	GLN
33	BL	171	LYS
35	BN	72	GLY
35	BN	152	GLU
35	BN	203	PHE
35	BN	204	SER
36	BO	24	GLY
37	BP	96	VAL
38	BQ	49	THR
38	BQ	75	LYS
38	BQ	124	SER
38	BQ	144	HIS
39	BR	141	PRO
39	BR	145	THR
39	BR	161	ARG
39	BR	224	ASP
40	BS	3	ARG
40	BS	5	LYS
41	BT	165	GLY
41	BT	213	ARG
41	BT	214	GLN
42	BU	141	HIS

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Mol	Chain	Res	Type
43	BV	143	ASP
44	BW	120	GLY
45	BX	69	ASN
45	BX	82	ILE
46	BY	124	LEU
46	BY	143	LYS
49	B2	5	LYS
49	B2	11	TYR
49	B2	39	SER
50	B3	43	PRO
52	B5	93	LYS
52	B5	139	ASP
3	AC	26	PRO
4	AD	3	ARG
6	AF	73	PRO
10	AJ	128	ASN
11	AK	48	GLY
12	AL	42	PRO
12	AL	112	GLN
13	AM	83	ASN
16	AP	36	VAL
16	AP	48	LEU
17	AQ	132	PRO
21	AU	105	GLU
25	BD	132	LYS
26	BE	106	ALA
26	BE	112	ILE
27	BF	128	GLN
27	BF	188	SER
27	BF	240	PRO
29	BH	38	SER
29	BH	80	PRO
30	BI	161	PRO
31	BJ	55	LYS
31	BJ	145	ALA
32	BK	96	GLY
33	BL	163	VAL
34	BM	48	PRO
35	BN	89	ALA
35	BN	135	GLY
35	BN	184	LEU
35	BN	202	ALA

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Mol	Chain	Res	Type
36	BO	21	SER
36	BO	89	SER
38	BQ	73	SER
38	BQ	87	MET
38	BQ	142	PRO
39	BR	147	ASP
39	BR	180	THR
39	BR	185	ARG
39	BR	222	LEU
39	BR	226	LEU
41	BT	145	GLN
41	BT	169	SER
41	BT	219	ILE
42	BU	128	PRO
43	BV	168	PRO
43	BV	183	ASN
44	BW	93	HIS
44	BW	116	GLU
44	BW	126	GLU
45	BX	121	ASP
46	BY	81	THR
46	BY	138	ASP
46	BY	141	ALA
50	B3	35	THR
50	B3	40	HIS
53	B6	7	VAL
53	B6	16	THR
6	AF	94	GLY
11	AK	101	GLY
12	AL	89	ASP
27	BF	158	ILE
27	BF	229	ILE
28	BG	202	ALA
29	BH	25	GLU
30	BI	50	PRO
31	BJ	168	PRO
32	BK	76	VAL
35	BN	118	GLY
36	BO	133	ILE
39	BR	192	VAL
41	BT	131	SER
41	BT	223	GLY

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Mol	Chain	Res	Type
44	BW	158	VAL
49	B2	16	ARG
26	BE	18	VAL
26	BE	107	ILE
26	BE	244	THR
27	BF	241	GLY
28	BG	117	PRO
28	BG	145	PRO
35	BN	76	GLY
35	BN	162	VAL
38	BQ	59	VAL
38	BQ	109	SER
41	BT	196	ILE
25	BD	273	GLY
30	BI	202	GLY
33	BL	211	GLY
35	BN	108	GLY
39	BR	124	GLY
45	BX	95	VAL
9	AI	76	GLY
27	BF	192	GLY
28	BG	231	PRO
29	BH	162	GLY
32	BK	122	GLY
34	BM	26	GLY
38	BQ	130	GLY
10	AJ	134	PRO
16	AP	42	ILE
41	BT	135	ILE
26	BE	95	GLY
29	BH	24	ILE
41	BT	175	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	AB	196/196 (100%)	177 (90%)	19 (10%)	8	27
3	AC	187/188 (100%)	177 (95%)	10 (5%)	22	47
4	AD	178/180 (99%)	167 (94%)	11 (6%)	18	43
5	AE	121/255 (48%)	118 (98%)	3 (2%)	47	68
6	AF	95/144 (66%)	84 (88%)	11 (12%)	5	21
7	AG	125/126 (99%)	113 (90%)	12 (10%)	8	27
8	AH	117/117 (100%)	105 (90%)	12 (10%)	7	25
9	AI	101/159 (64%)	93 (92%)	8 (8%)	12	35
10	AJ	91/178 (51%)	79 (87%)	12 (13%)	4	18
11	AK	92/110 (84%)	86 (94%)	6 (6%)	17	42
12	AL	106/106 (100%)	98 (92%)	8 (8%)	13	38
13	AM	90/126 (71%)	80 (89%)	10 (11%)	6	22
14	AN	89/90 (99%)	77 (86%)	12 (14%)	4	17
15	AO	80/85 (94%)	75 (94%)	5 (6%)	18	43
16	AP	71/79 (90%)	58 (82%)	13 (18%)	1	10
17	AQ	72/125 (58%)	67 (93%)	5 (7%)	15	40
18	AR	54/98 (55%)	49 (91%)	5 (9%)	9	28
19	AS	81/81 (100%)	74 (91%)	7 (9%)	10	32
20	AT	80/163 (49%)	72 (90%)	8 (10%)	7	26
21	AU	49/170 (29%)	46 (94%)	3 (6%)	18	44
25	BD	190/297 (64%)	181 (95%)	9 (5%)	26	51
26	BE	212/214 (99%)	205 (97%)	7 (3%)	38	61
27	BF	127/217 (58%)	123 (97%)	4 (3%)	40	62
28	BG	177/254 (70%)	172 (97%)	5 (3%)	43	65
29	BH	148/183 (81%)	139 (94%)	9 (6%)	18	44
30	BI	156/192 (81%)	152 (97%)	4 (3%)	46	66
31	BJ	128/171 (75%)	125 (98%)	3 (2%)	50	70
32	BK	114/189 (60%)	109 (96%)	5 (4%)	28	53
33	BL	104/213 (49%)	101 (97%)	3 (3%)	42	64
34	BM	101/101 (100%)	94 (93%)	7 (7%)	15	40
35	BN	136/203 (67%)	126 (93%)	10 (7%)	13	38
36	BO	108/108 (100%)	100 (93%)	8 (7%)	13	38

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	BP	97/177 (55%)	92 (95%)	5 (5%)	23	48
38	BQ	103/135 (76%)	94 (91%)	9 (9%)	10	31
39	BR	100/207 (48%)	89 (89%)	11 (11%)	6	22
40	BS	106/106 (100%)	101 (95%)	5 (5%)	26	51
41	BT	90/224 (40%)	86 (96%)	4 (4%)	28	53
42	BU	108/176 (61%)	104 (96%)	4 (4%)	34	58
43	BV	74/171 (43%)	72 (97%)	2 (3%)	44	65
44	BW	98/171 (57%)	88 (90%)	10 (10%)	7	25
45	BX	68/167 (41%)	62 (91%)	6 (9%)	10	31
46	BY	66/133 (50%)	63 (96%)	3 (4%)	27	52
47	BZ	61/149 (41%)	55 (90%)	6 (10%)	8	26
48	B1	62/126 (49%)	61 (98%)	1 (2%)	62	79
49	B2	50/50 (100%)	46 (92%)	4 (8%)	12	35
50	B3	59/60 (98%)	55 (93%)	4 (7%)	16	41
51	B4	31/125 (25%)	29 (94%)	2 (6%)	17	42
52	B5	53/140 (38%)	50 (94%)	3 (6%)	20	45
53	B6	36/87 (41%)	36 (100%)	0	100	100
All	All	5038/7522 (67%)	4705 (93%)	333 (7%)	20	41

All (333) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	AB	10	LEU
2	AB	30	ARG
2	AB	45	ILE
2	AB	46	ASN
2	AB	54	LEU
2	AB	97	ASN
2	AB	100	TRP
2	AB	106	THR
2	AB	115	LEU
2	AB	136	ARG
2	AB	161	LEU
2	AB	173	GLU
2	AB	177	LEU
2	AB	190	LEU

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Mol	Chain	Res	Type
2	AB	196	ASN
2	AB	199	LEU
2	AB	209	ASP
2	AB	216	LEU
2	AB	221	LEU
3	AC	11	ARG
3	AC	33	LEU
3	AC	86	GLU
3	AC	110	LEU
3	AC	131	ILE
3	AC	160	ILE
3	AC	163	GLN
3	AC	167	ARG
3	AC	187	GLN
3	AC	194	ASP
4	AD	47	ARG
4	AD	51	LYS
4	AD	56	PHE
4	AD	63	ARG
4	AD	94	ILE
4	AD	95	LEU
4	AD	110	LEU
4	AD	147	LEU
4	AD	157	ARG
4	AD	188	ILE
4	AD	199	ARG
5	AE	193	LYS
5	AE	286	VAL
5	AE	290	ARG
6	AF	71	LEU
6	AF	75	MET
6	AF	87	TYR
6	AF	90	LEU
6	AF	91	LEU
6	AF	97	MET
6	AF	115	ARG
6	AF	129	ILE
6	AF	131	LEU
6	AF	132	LEU
6	AF	164	ARG
7	AG	10	LYS
7	AG	18	TYR

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Mol	Chain	Res	Type
7	AG	20	ASN
7	AG	30	ILE
7	AG	38	LEU
7	AG	59	LEU
7	AG	79	ARG
7	AG	104	LEU
7	AG	138	LYS
7	AG	140	GLU
7	AG	144	MET
7	AG	155	ARG
8	AH	29	THR
8	AH	31	ILE
8	AH	61	LEU
8	AH	63	LEU
8	AH	64	ARG
8	AH	79	LEU
8	AH	81	ARG
8	AH	89	ILE
8	AH	98	ARG
8	AH	107	ILE
8	AH	108	LEU
8	AH	114	ILE
9	AI	113	GLN
9	AI	125	GLU
9	AI	139	LEU
9	AI	148	LEU
9	AI	179	GLU
9	AI	180	ARG
9	AI	185	LEU
9	AI	196	LYS
10	AJ	109	TRP
10	AJ	110	VAL
10	AJ	115	ASP
10	AJ	137	LEU
10	AJ	140	LYS
10	AJ	146	VAL
10	AJ	147	LEU
10	AJ	157	ARG
10	AJ	175	THR
10	AJ	177	GLN
10	AJ	188	PRO
10	AJ	196	LYS

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Mol	Chain	Res	Type
11	AK	25	ILE
11	AK	66	ARG
11	AK	93	VAL
11	AK	118	PHE
11	AK	127	HIS
11	AK	137	ARG
12	AL	4	ILE
12	AL	5	LYS
12	AL	7	LEU
12	AL	12	ARG
12	AL	16	ARG
12	AL	72	HIS
12	AL	80	VAL
12	AL	121	LYS
13	AM	61	GLU
13	AM	94	GLU
13	AM	105	ARG
13	AM	108	ARG
13	AM	121	ARG
13	AM	123	ILE
13	AM	129	LEU
13	AM	136	THR
13	AM	137	LYS
13	AM	143	LEU
14	AN	8	GLN
14	AN	16	LEU
14	AN	23	ILE
14	AN	31	ILE
14	AN	32	ARG
14	AN	43	ILE
14	AN	47	LEU
14	AN	68	ARG
14	AN	70	ARG
14	AN	85	GLU
14	AN	88	HIS
14	AN	97	ARG
15	AO	7	ILE
15	AO	16	GLU
15	AO	42	LEU
15	AO	57	LEU
15	AO	67	LEU
16	AP	3	LYS

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Mol	Chain	Res	Type
16	AP	6	LEU
16	AP	19	ILE
16	AP	24	VAL
16	AP	25	ARG
16	AP	27	ARG
16	AP	28	ARG
16	AP	29	GLU
16	AP	33	LEU
16	AP	42	ILE
16	AP	43	LYS
16	AP	59	LYS
16	AP	68	TYR
17	AQ	64	GLN
17	AQ	90	LYS
17	AQ	109	LYS
17	AQ	122	ILE
17	AQ	140	LYS
18	AR	32	ASN
18	AR	47	LEU
18	AR	56	LEU
18	AR	63	THR
18	AR	68	GLN
19	AS	3	ARG
19	AS	5	LEU
19	AS	6	LYS
19	AS	27	GLU
19	AS	42	PRO
19	AS	55	ARG
19	AS	78	LEU
20	AT	85	LYS
20	AT	86	LYS
20	AT	93	ARG
20	AT	125	LEU
20	AT	143	ILE
20	AT	156	VAL
20	AT	161	LYS
20	AT	176	LYS
21	AU	100	VAL
21	AU	134	GLU
21	AU	149	LYS
25	BD	118	ARG
25	BD	129	ARG

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Mol	Chain	Res	Type
25	BD	131	ILE
25	BD	189	ILE
25	BD	213	GLU
25	BD	284	ILE
25	BD	314	LYS
25	BD	319	LYS
25	BD	336	ILE
26	BE	25	ARG
26	BE	55	LYS
26	BE	59	ARG
26	BE	152	ARG
26	BE	213	ARG
26	BE	221	MET
26	BE	234	ARG
27	BF	105	LYS
27	BF	143	GLU
27	BF	202	LYS
27	BF	203	LYS
28	BG	67	GLU
28	BG	107	GLU
28	BG	113	ARG
28	BG	146	ARG
28	BG	214	GLU
29	BH	24	ILE
29	BH	32	LYS
29	BH	34	GLU
29	BH	69	ILE
29	BH	100	LEU
29	BH	148	ARG
29	BH	149	GLU
29	BH	157	LYS
29	BH	176	LYS
30	BI	49	GLN
30	BI	54	PRO
30	BI	64	GLN
30	BI	216	GLU
31	BJ	71	LYS
31	BJ	84	LYS
31	BJ	162	LYS
32	BK	72	LYS
32	BK	99	LEU
32	BK	105	ASN

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Mol	Chain	Res	Type
32	BK	111	LYS
32	BK	167	LYS
33	BL	194	ARG
33	BL	197	GLU
33	BL	228	GLU
34	BM	19	LEU
34	BM	23	ARG
34	BM	35	ILE
34	BM	53	GLU
34	BM	70	LYS
34	BM	76	ILE
34	BM	109	LYS
35	BN	79	LYS
35	BN	80	ARG
35	BN	83	ARG
35	BN	103	GLN
35	BN	106	ARG
35	BN	120	MET
35	BN	122	LEU
35	BN	125	ARG
35	BN	168	LYS
35	BN	186	ILE
36	BO	23	ARG
36	BO	57	ASN
36	BO	63	LYS
36	BO	68	ILE
36	BO	77	ARG
36	BO	80	GLU
36	BO	91	GLU
36	BO	92	TYR
37	BP	91	ARG
37	BP	95	LYS
37	BP	159	ILE
37	BP	186	ILE
37	BP	193	ARG
38	BQ	45	ARG
38	BQ	46	GLU
38	BQ	55	ILE
38	BQ	56	ARG
38	BQ	65	ARG
38	BQ	87	MET
38	BQ	116	LYS

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Mol	Chain	Res	Type
38	BQ	131	ILE
38	BQ	157	LYS
39	BR	122	ILE
39	BR	126	LEU
39	BR	129	LYS
39	BR	144	ARG
39	BR	148	ILE
39	BR	160	ARG
39	BR	172	ARG
39	BR	173	GLN
39	BR	178	HIS
39	BR	216	LYS
39	BR	225	LYS
40	BS	15	LYS
40	BS	31	LEU
40	BS	35	ILE
40	BS	66	ASN
40	BS	88	ARG
41	BT	132	ARG
41	BT	172	ILE
41	BT	198	PHE
41	BT	204	LYS
42	BU	35	ARG
42	BU	91	LYS
42	BU	104	GLU
42	BU	147	LYS
43	BV	131	GLU
43	BV	161	LYS
44	BW	94	LYS
44	BW	101	ILE
44	BW	107	LYS
44	BW	109	LYS
44	BW	123	ILE
44	BW	126	GLU
44	BW	129	ILE
44	BW	136	LEU
44	BW	150	LYS
44	BW	157	LYS
45	BX	61	LYS
45	BX	68	LYS
45	BX	71	ARG
45	BX	81	LYS

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Mol	Chain	Res	Type
45	BX	110	ILE
45	BX	120	ILE
46	BY	83	LYS
46	BY	106	LEU
46	BY	142	LYS
47	BZ	69	GLU
47	BZ	73	LYS
47	BZ	86	LYS
47	BZ	99	ARG
47	BZ	124	ARG
47	BZ	126	ILE
48	B1	88	ASN
49	B2	20	TRP
49	B2	22	LYS
49	B2	36	LYS
49	B2	42	ASN
50	B3	10	LYS
50	B3	21	LYS
50	B3	50	LYS
50	B3	65	LYS
51	B4	105	ARG
51	B4	128	LYS
52	B5	124	LYS
52	B5	128	ARG
52	B5	129	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (115) such sidechains are listed below:

Mol	Chain	Res	Type
2	AB	9	ASN
2	AB	46	ASN
2	AB	125	GLN
2	AB	144	GLN
2	AB	196	ASN
2	AB	207	ASN
3	AC	6	ASN
3	AC	16	GLN
3	AC	66	GLN
3	AC	125	ASN
3	AC	134	GLN
3	AC	163	GLN
3	AC	187	GLN

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Mol	Chain	Res	Type
4	AD	109	GLN
4	AD	113	HIS
4	AD	119	ASN
4	AD	142	GLN
5	AE	225	HIS
5	AE	264	ASN
6	AF	117	ASN
7	AG	20	ASN
8	AH	92	ASN
11	AK	86	GLN
11	AK	127	HIS
12	AL	6	GLN
12	AL	111	GLN
13	AM	134	GLN
14	AN	8	GLN
15	AO	39	HIS
15	AO	50	GLN
15	AO	71	ASN
16	AP	13	GLN
18	AR	43	GLN
19	AS	86	ASN
21	AU	104	ASN
21	AU	112	ASN
25	BD	146	GLN
25	BD	163	ASN
25	BD	265	GLN
25	BD	313	ASN
26	BE	26	ASN
26	BE	84	ASN
26	BE	190	GLN
26	BE	264	ASN
27	BF	121	HIS
27	BF	163	GLN
28	BG	215	ASN
28	BG	257	GLN
29	BH	52	ASN
29	BH	60	GLN
29	BH	61	ASN
29	BH	70	ASN
29	BH	130	GLN
29	BH	140	HIS
30	BI	49	GLN

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Mol	Chain	Res	Type
30	BI	56	ASN
30	BI	64	GLN
30	BI	117	ASN
30	BI	159	GLN
30	BI	186	GLN
31	BJ	66	GLN
31	BJ	86	GLN
31	BJ	183	HIS
31	BJ	197	ASN
32	BK	105	ASN
32	BK	205	ASN
33	BL	219	ASN
33	BL	231	HIS
33	BL	234	GLN
33	BL	235	GLN
34	BM	5	GLN
34	BM	29	ASN
34	BM	89	GLN
35	BN	70	ASN
35	BN	147	ASN
35	BN	157	GLN
36	BO	35	GLN
36	BO	57	ASN
37	BP	100	ASN
37	BP	116	GLN
37	BP	166	HIS
38	BQ	80	GLN
38	BQ	97	GLN
39	BR	178	HIS
40	BS	66	ASN
40	BS	77	ASN
40	BS	83	HIS
40	BS	89	GLN
40	BS	93	ASN
40	BS	104	ASN
41	BT	153	ASN
41	BT	209	ASN
42	BU	90	ASN
43	BV	179	ASN
44	BW	93	HIS
44	BW	96	ASN
44	BW	105	ASN

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Mol	Chain	Res	Type
44	BW	121	GLN
44	BW	133	ASN
45	BX	107	ASN
46	BY	89	ASN
46	BY	102	GLN
47	BZ	79	GLN
48	B1	88	ASN
48	B1	89	HIS
49	B2	42	ASN
49	B2	53	ASN
49	B2	54	GLN
50	B3	38	ASN
50	B3	40	HIS
51	B4	112	HIS
52	B5	118	GLN
52	B5	137	GLN
53	B6	35	GLN
53	B6	37	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1477/1491 (99%)	245 (16%)	51 (3%)
22	BA	2726/2810 (97%)	387 (14%)	12 (0%)
23	BB	116/117 (99%)	12 (10%)	0
24	BC	102/103 (99%)	14 (13%)	0
All	All	4421/4521 (97%)	658 (14%)	63 (1%)

All (658) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	9	A
1	AA	10	G
1	AA	14	U
1	AA	15	C
1	AA	32	G
1	AA	33	A
1	AA	40	G
1	AA	48	C
1	AA	49	U
1	AA	52	A

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Mol	Chain	Res	Type
1	AA	53	C
1	AA	56	A
1	AA	62	G
1	AA	66	G
1	AA	67	A
1	AA	72	A
1	AA	79	G
1	AA	92	G
1	AA	94	C
1	AA	100	A
1	AA	104	A
1	AA	105	C
1	AA	114	A
1	AA	135	A
1	AA	158	A
1	AA	166	G
1	AA	167	G
1	AA	180	A
1	AA	181	G
1	AA	186	A
1	AA	210	U
1	AA	211	C
1	AA	214	A
1	AA	215	U
1	AA	216	U
1	AA	218	G
1	AA	221	A
1	AA	223	U
1	AA	229	A
1	AA	237	G
1	AA	246	G
1	AA	251	U
1	AA	252	G
1	AA	260	G
1	AA	277	A
1	AA	287	C
1	AA	299	C
1	AA	300	A
1	AA	301	C
1	AA	303	G
1	AA	316	C
1	AA	317	G

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Mol	Chain	Res	Type
1	AA	323	C
1	AA	325	G
1	AA	338	U
1	AA	339	U
1	AA	344	A
1	AA	360	A
1	AA	368	A
1	AA	369	U
1	AA	377	G
1	AA	379	A
1	AA	382	C
1	AA	383	A
1	AA	384	G
1	AA	385	A
1	AA	392	A
1	AA	393	C
1	AA	394	G
1	AA	399	G
1	AA	400	U
1	AA	401	G
1	AA	406	U
1	AA	422	A
1	AA	423	A
1	AA	426	A
1	AA	427	A
1	AA	433	G
1	AA	441	G
1	AA	444	A
1	AA	445	U
1	AA	448	G
1	AA	456	U
1	AA	457	A
1	AA	466	C
1	AA	475	G
1	AA	479	U
1	AA	480	A
1	AA	481	A
1	AA	484	C
1	AA	496	G
1	AA	508	A
1	AA	509	U
1	AA	511	A

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Mol	Chain	Res	Type
1	AA	512	U
1	AA	514	G
1	AA	515	G
1	AA	520	A
1	AA	521	A
1	AA	523	G
1	AA	524	C
1	AA	525	G
1	AA	544	A
1	AA	581	G
1	AA	613	G
1	AA	636	G
1	AA	648	G
1	AA	649	U
1	AA	651	G
1	AA	672	G
1	AA	696	C
1	AA	702	C
1	AA	703	A
1	AA	725	A
1	AA	729	A
1	AA	741	U
1	AA	760	G
1	AA	763	A
1	AA	764	A
1	AA	765	C
1	AA	766	G
1	AA	768	U
1	AA	769	G
1	AA	776	A
1	AA	788	U
1	AA	789	A
1	AA	790	U
1	AA	791	C
1	AA	792	G
1	AA	793	A
1	AA	806	U
1	AA	820	U
1	AA	834	G
1	AA	838	A
1	AA	839	G
1	AA	856	A

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Mol	Chain	Res	Type
1	AA	863	A
1	AA	875	G
1	AA	876	G
1	AA	883	C
1	AA	884	A
1	AA	894	G
1	AA	910	U
1	AA	917	A
1	AA	918	A
1	AA	921	C
1	AA	923	A
1	AA	924	A
1	AA	925	G
1	AA	926	A
1	AA	927	A
1	AA	931	U
1	AA	932	A
1	AA	941	U
1	AA	953	A
1	AA	958	U
1	AA	971	G
1	AA	981	G
1	AA	998	U
1	AA	999	G
1	AA	1003	C
1	AA	1013	G
1	AA	1014	U
1	AA	1015	C
1	AA	1017	G
1	AA	1034	U
1	AA	1035	U
1	AA	1043	G
1	AA	1050	A
1	AA	1051	A
1	AA	1067	U
1	AA	1083	U
1	AA	1085	G
1	AA	1086	A
1	AA	1087	G
1	AA	1088	U
1	AA	1094	A
1	AA	1106	C

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Mol	Chain	Res	Type
1	AA	1107	U
1	AA	1108	G
1	AA	1116	U
1	AA	1117	A
1	AA	1129	G
1	AA	1130	G
1	AA	1131	U
1	AA	1132	G
1	AA	1144	A
1	AA	1145	A
1	AA	1149	A
1	AA	1150	U
1	AA	1160	U
1	AA	1162	U
1	AA	1163	G
1	AA	1172	G
1	AA	1173	A
1	AA	1174	C
1	AA	1175	A
1	AA	1188	U
1	AA	1189	G
1	AA	1204	U
1	AA	1205	C
1	AA	1206	G
1	AA	1226	U
1	AA	1229	C
1	AA	1230	C
1	AA	1233	A
1	AA	1234	A
1	AA	1247	A
1	AA	1248	G
1	AA	1250	U
1	AA	1253	G
1	AA	1265	C
1	AA	1270	C
1	AA	1271	G
1	AA	1283	C
1	AA	1285	G
1	AA	1294	A
1	AA	1295	G
1	AA	1310	C
1	AA	1311	A

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Mol	Chain	Res	Type
1	AA	1312	A
1	AA	1313	U
1	AA	1314	A
1	AA	1327	C
1	AA	1330	U
1	AA	1332	C
1	AA	1347	A
1	AA	1349	C
1	AA	1350	G
1	AA	1381	G
1	AA	1395	A
1	AA	1400	C
1	AA	1401	A
1	AA	1402	A
1	AA	1442	A
1	AA	1448	A
1	AA	1451	A
1	AA	1454	G
1	AA	1455	U
1	AA	1456	A
1	AA	1466	G
1	AA	1469	G
1	AA	1478	G
1	AA	1479	G
1	AA	1483	A
22	BA	33	A
22	BA	34	G
22	BA	48	A
22	BA	49	G
22	BA	50	G
22	BA	71	A
22	BA	73	U
22	BA	90	A
22	BA	91	A
22	BA	99	A
22	BA	116	A
22	BA	117	A
22	BA	118	U
22	BA	119	A
22	BA	123	C
22	BA	131	C
22	BA	132	G

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Mol	Chain	Res	Type
22	BA	144	A
22	BA	146	U
22	BA	147	C
22	BA	164	A
22	BA	166	A
22	BA	181	A
22	BA	189	A
22	BA	190	G
22	BA	201	A
22	BA	208	A
22	BA	226	A
22	BA	227	G
22	BA	233	G
22	BA	234	C
22	BA	235	G
22	BA	240	A
22	BA	250	A
22	BA	294	U
22	BA	311	U
22	BA	320	U
22	BA	331	A
22	BA	332	G
22	BA	333	A
22	BA	338	G
22	BA	339	A
22	BA	355	A
22	BA	386	A
22	BA	398	G
22	BA	417	A
22	BA	418	G
22	BA	423	G
22	BA	424	A
22	BA	436	G
22	BA	455	A
22	BA	456	C
22	BA	460	U
22	BA	463	C
22	BA	467	G
22	BA	468	U
22	BA	469	A
22	BA	470	G
22	BA	491	A

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Mol	Chain	Res	Type
22	BA	492	A
22	BA	493	G
22	BA	503	C
22	BA	504	G
22	BA	515	U
22	BA	516	A
22	BA	519	A
22	BA	520	C
22	BA	523	G
22	BA	538	C
22	BA	541	G
22	BA	542	C
22	BA	543	A
22	BA	544	G
22	BA	555	A
22	BA	557	C
22	BA	558	A
22	BA	573	G
22	BA	585	A
22	BA	624	A
22	BA	625	C
22	BA	626	C
22	BA	633	A
22	BA	639	A
22	BA	640	G
22	BA	649	A
22	BA	657	U
22	BA	658	A
22	BA	665	U
22	BA	667	G
22	BA	682	C
22	BA	696	A
22	BA	697	U
22	BA	728	A
22	BA	730	C
22	BA	741	U
22	BA	758	U
22	BA	776	G
22	BA	786	G
22	BA	787	G
22	BA	792	A
22	BA	794	A

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Mol	Chain	Res	Type
22	BA	795	U
22	BA	796	G
22	BA	811	A
22	BA	812	G
22	BA	816	G
22	BA	817	C
22	BA	823	C
22	BA	830	A
22	BA	838	U
22	BA	839	G
22	BA	841	G
22	BA	856	U
22	BA	857	G
22	BA	882	U
22	BA	888	C
22	BA	906	C
22	BA	907	C
22	BA	919	A
22	BA	921	C
22	BA	960	A
22	BA	961	G
22	BA	962	G
22	BA	969	A
22	BA	973	A
22	BA	974	G
22	BA	987	A
22	BA	989	G
22	BA	1001	A
22	BA	1010	C
22	BA	1011	A
22	BA	1019	U
22	BA	1023	C
22	BA	1036	U
22	BA	1039	A
22	BA	1040	U
22	BA	1041	G
22	BA	1049	A
22	BA	1050	G
22	BA	1051	U
22	BA	1053	A
22	BA	1054	U
22	BA	1061	G

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Mol	Chain	Res	Type
22	BA	1073	G
22	BA	1074	A
22	BA	1075	G
22	BA	1088	U
22	BA	1089	U
22	BA	1098	A
22	BA	1099	G
22	BA	1116	A
22	BA	1154	A
22	BA	1155	A
22	BA	1156	G
22	BA	1157	A
22	BA	1159	G
22	BA	1162	C
22	BA	1163	G
22	BA	1183	A
22	BA	1196	A
22	BA	1202	A
22	BA	1232	A
22	BA	1234	A
22	BA	1235	A
22	BA	1241	U
22	BA	1242	G
22	BA	1273	G
22	BA	1274	A
22	BA	1277	G
22	BA	1286	A
22	BA	1287	G
22	BA	1292	G
22	BA	1293	C
22	BA	1296	A
22	BA	1308	A
22	BA	1333	U
22	BA	1334	U
22	BA	1342	A
22	BA	1346	U
22	BA	1350	U
22	BA	1363	A
22	BA	1364	G
22	BA	1386	A
22	BA	1404	C
22	BA	1406	A

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Mol	Chain	Res	Type
22	BA	1417	U
22	BA	1419	C
22	BA	1437	G
22	BA	1440	C
22	BA	1441	C
22	BA	1442	C
22	BA	1448	A
22	BA	1474	A
22	BA	1475	U
22	BA	1495	C
22	BA	1497	A
22	BA	1498	G
22	BA	1531	A
22	BA	1536	A
22	BA	1543	G
22	BA	1545	G
22	BA	1556	A
22	BA	1558	U
22	BA	1569	A
22	BA	1570	C
22	BA	1571	G
22	BA	1586	G
22	BA	1592	A
22	BA	1593	U
22	BA	1594	A
22	BA	1601	G
22	BA	1603	A
22	BA	1615	G
22	BA	1620	U
22	BA	1628	A
22	BA	1629	G
22	BA	1639	A
22	BA	1653	C
22	BA	1654	A
22	BA	1670	A
22	BA	1671	A
22	BA	1676	U
22	BA	1684	C
22	BA	1690	A
22	BA	1705	A
22	BA	1710	G
22	BA	1730	C

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Mol	Chain	Res	Type
22	BA	1731	G
22	BA	1734	A
22	BA	1735	G
22	BA	1736	A
22	BA	1743	G
22	BA	1749	U
22	BA	1751	A
22	BA	1753	A
22	BA	1767	U
22	BA	1768	G
22	BA	1773	G
22	BA	1774	G
22	BA	1783	A
22	BA	1790	A
22	BA	1791	C
22	BA	1795	A
22	BA	1825	A
22	BA	1826	U
22	BA	1830	U
22	BA	1831	G
22	BA	1849	A
22	BA	1876	A
22	BA	1879	U
22	BA	1882	U
22	BA	1885	C
22	BA	1915	A
22	BA	1920	G
22	BA	1927	A
22	BA	1928	C
22	BA	1933	A
22	BA	1944	G
22	BA	1951	A
22	BA	1952	A
22	BA	1954	U
22	BA	1957	U
22	BA	1958	U
22	BA	1969	U
22	BA	1970	U
22	BA	1977	C
22	BA	1978	G
22	BA	1979	C
22	BA	1980	A

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Mol	Chain	Res	Type
22	BA	1981	C
22	BA	1985	A
22	BA	1986	G
22	BA	1995	A
22	BA	2007	U
22	BA	2010	C
22	BA	2037	G
22	BA	2044	A
22	BA	2046	G
22	BA	2047	A
22	BA	2057	C
22	BA	2066	G
22	BA	2069	C
22	BA	2070	A
22	BA	2074	A
22	BA	2075	G
22	BA	2076	A
22	BA	2082	U
22	BA	2083	G
22	BA	2106	U
22	BA	2118	U
22	BA	2125	C
22	BA	2130	C
22	BA	2138	G
22	BA	2139	A
22	BA	2141	G
22	BA	2146	A
22	BA	2147	G
22	BA	2148	A
22	BA	2149	A
22	BA	2157	U
22	BA	2158	U
22	BA	2159	C
22	BA	2160	C
22	BA	2161	G
22	BA	2172	A
22	BA	2174	C
22	BA	2193	C
22	BA	2212	A
22	BA	2213	A
22	BA	2225	G
22	BA	2226	A

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Mol	Chain	Res	Type
22	BA	2227	C
22	BA	2228	C
22	BA	2229	U
22	BA	2243	C
22	BA	2255	G
22	BA	2256	A
22	BA	2267	G
22	BA	2268	G
22	BA	2276	G
22	BA	2283	A
22	BA	2284	A
22	BA	2293	G
22	BA	2300	U
22	BA	2303	A
22	BA	2304	A
22	BA	2314	C
22	BA	2322	A
22	BA	2324	G
22	BA	2336	U
22	BA	2337	C
22	BA	2338	G
22	BA	2351	G
22	BA	2352	A
22	BA	2354	G
22	BA	2363	A
22	BA	2364	C
22	BA	2400	G
22	BA	2402	C
22	BA	2419	G
22	BA	2420	C
22	BA	2440	U
22	BA	2441	C
22	BA	2443	A
22	BA	2446	G
22	BA	2447	A
22	BA	2452	A
22	BA	2457	C
22	BA	2458	U
22	BA	2464	G
22	BA	2465	A
22	BA	2466	U
22	BA	2493	A

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Mol	Chain	Res	Type
22	BA	2508	U
22	BA	2515	C
22	BA	2519	G
22	BA	2520	A
22	BA	2522	G
22	BA	2523	U
22	BA	2546	G
22	BA	2560	G
22	BA	2571	U
22	BA	2584	G
22	BA	2589	A
22	BA	2599	G
22	BA	2602	U
22	BA	2620	G
22	BA	2626	U
22	BA	2630	U
22	BA	2646	U
22	BA	2663	C
22	BA	2672	G
22	BA	2699	U
22	BA	2707	A
22	BA	2729	A
22	BA	2730	A
22	BA	2731	C
22	BA	2744	A
22	BA	2762	G
22	BA	2768	A
22	BA	2769	G
22	BA	2770	C
22	BA	2775	A
22	BA	2783	A
22	BA	2795	G
22	BA	2799	A
22	BA	2809	U
23	BB	13	U
23	BB	14	A
23	BB	15	G
23	BB	16	G
23	BB	25	A
23	BB	35	A
23	BB	41	C
23	BB	42	C

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Mol	Chain	Res	Type
23	BB	57	A
23	BB	66	U
23	BB	100	A
23	BB	110	G
24	BC	13	G
24	BC	27	A
24	BC	28	U
24	BC	32	U
24	BC	33	A
24	BC	35	G
24	BC	36	A
24	BC	37	U
24	BC	68	C
24	BC	73	G
24	BC	81	C
24	BC	84	A
24	BC	94	A
24	BC	95	G

All (63) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	8	G
1	AA	48	C
1	AA	52	A
1	AA	61	A
1	AA	99	G
1	AA	180	A
1	AA	214	A
1	AA	217	A
1	AA	245	A
1	AA	250	A
1	AA	299	C
1	AA	337	U
1	AA	343	C
1	AA	383	A
1	AA	399	G
1	AA	400	U
1	AA	432	G
1	AA	443	A
1	AA	447	A
1	AA	456	U

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Mol	Chain	Res	Type
1	AA	479	U
1	AA	514	G
1	AA	523	G
1	AA	543	A
1	AA	635	A
1	AA	765	C
1	AA	768	U
1	AA	838	A
1	AA	862	A
1	AA	883	C
1	AA	909	U
1	AA	924	A
1	AA	931	U
1	AA	998	U
1	AA	1013	G
1	AA	1014	U
1	AA	1016	A
1	AA	1034	U
1	AA	1087	G
1	AA	1093	A
1	AA	1105	A
1	AA	1107	U
1	AA	1116	U
1	AA	1130	G
1	AA	1149	A
1	AA	1174	C
1	AA	1249	U
1	AA	1270	C
1	AA	1294	A
1	AA	1312	A
1	AA	1447	U
22	BA	117	A
22	BA	200	G
22	BA	293	G
22	BA	625	C
22	BA	639	A
22	BA	1231	G
22	BA	1286	A
22	BA	1878	C
22	BA	1927	A
22	BA	2299	G
22	BA	2442	A

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Mol	Chain	Res	Type
22	BA	2774	U

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

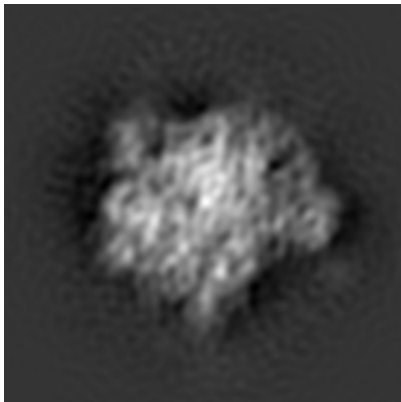
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-1417. These allow visual inspection of the internal detail of the map and identification of artifacts.

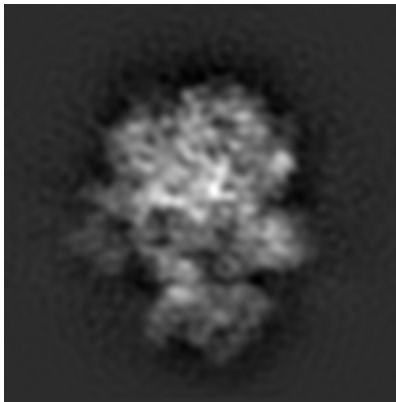
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

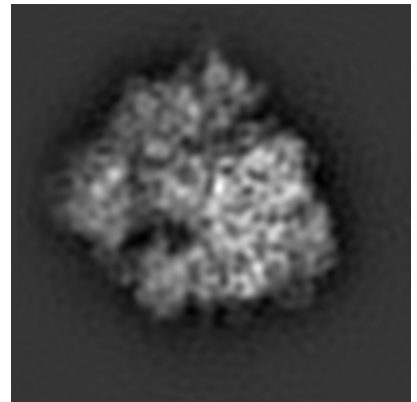
6.1.1 Primary map



X



Y

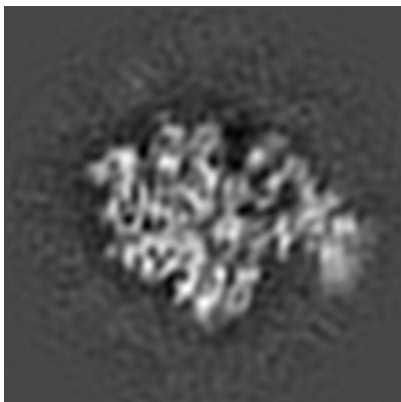


Z

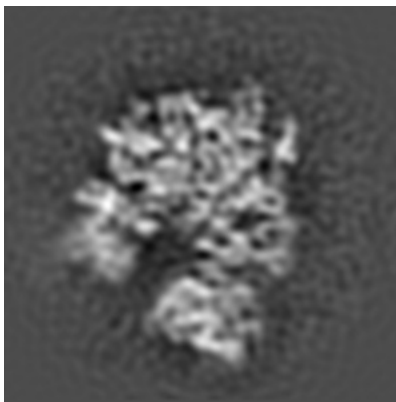
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

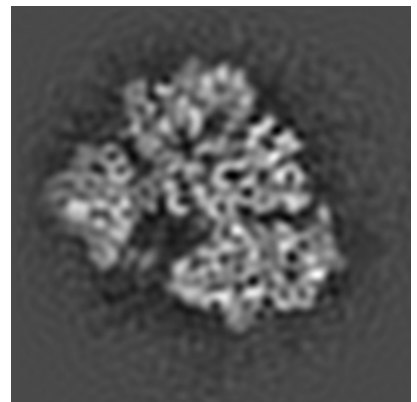
6.2.1 Primary map



X Index: 65



Y Index: 65

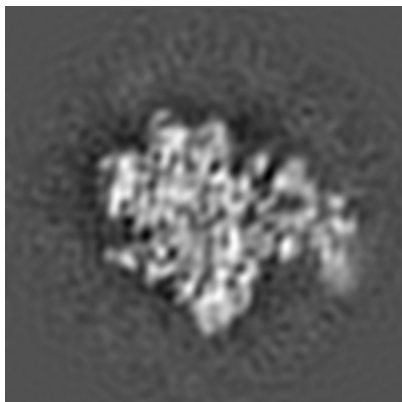


Z Index: 65

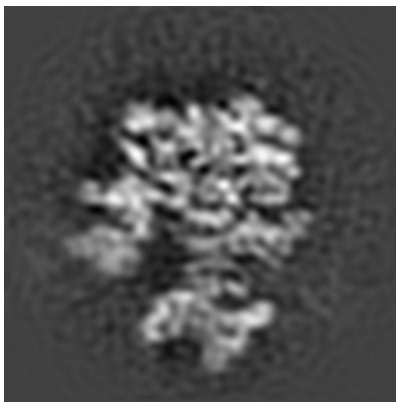
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

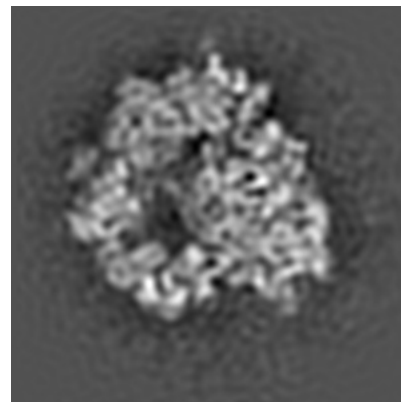
6.3.1 Primary map



X Index: 67



Y Index: 69

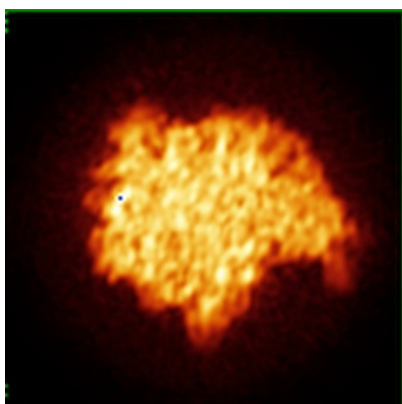


Z Index: 59

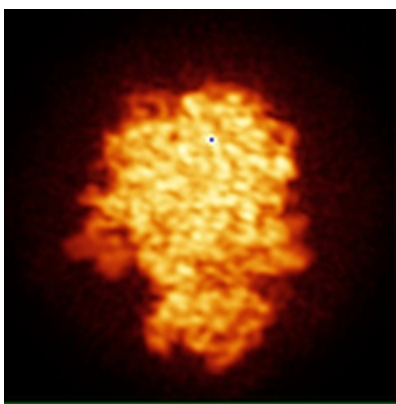
The images above show the largest variance slices of the map in three orthogonal directions.

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

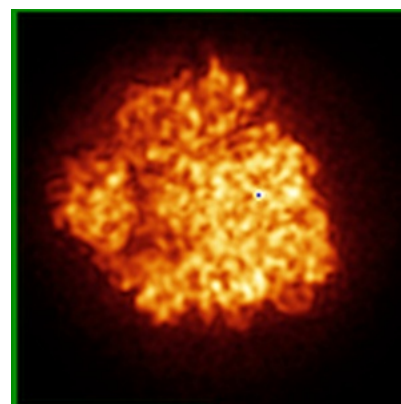
6.4.1 Primary map



X



Y

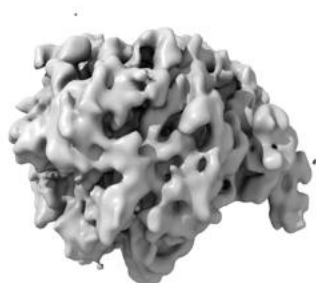


Z

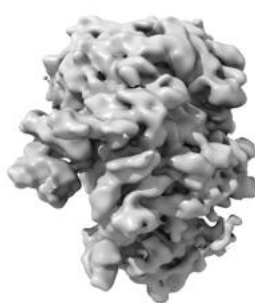
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

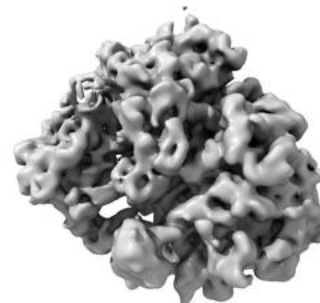
6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 49.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

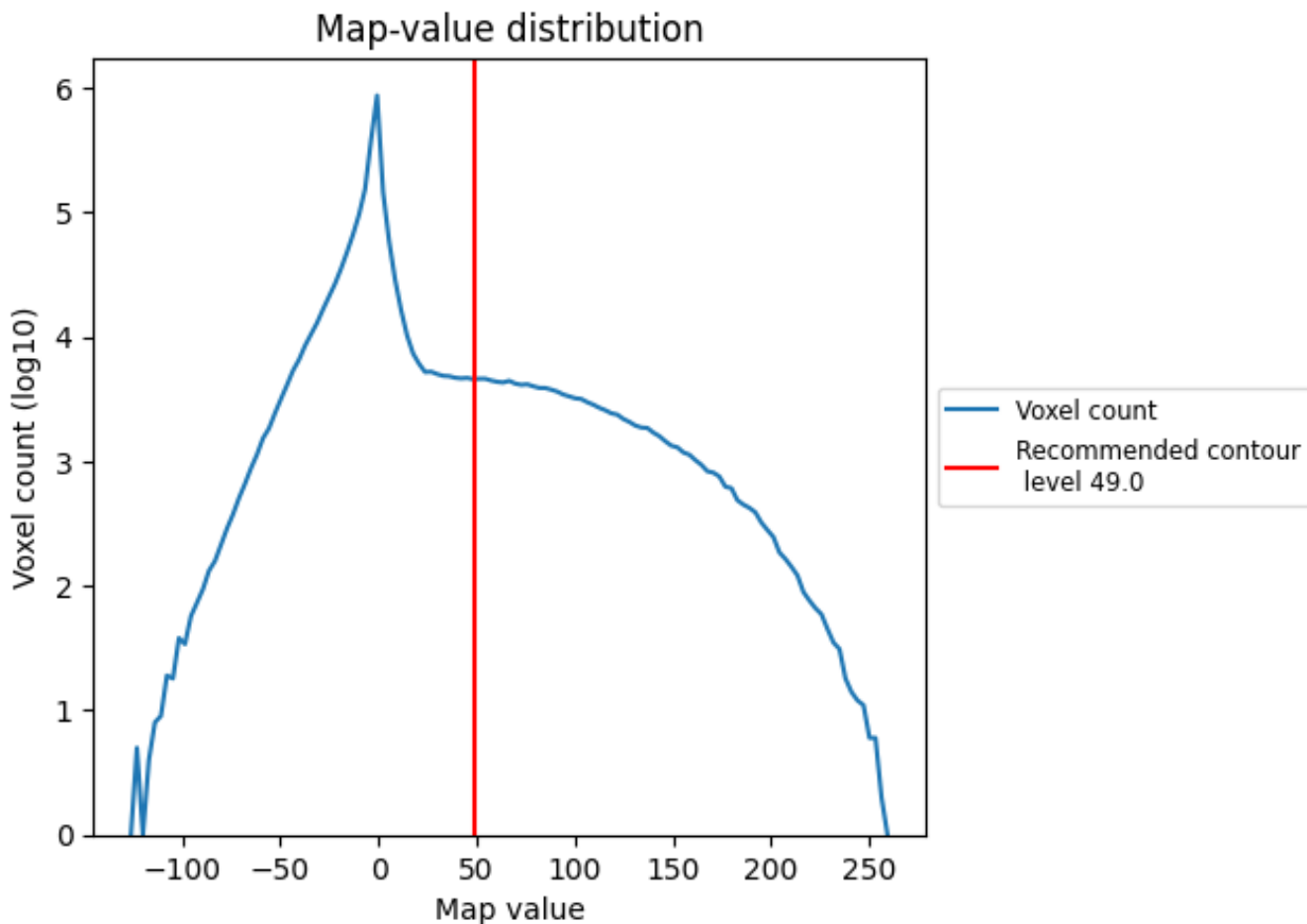
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

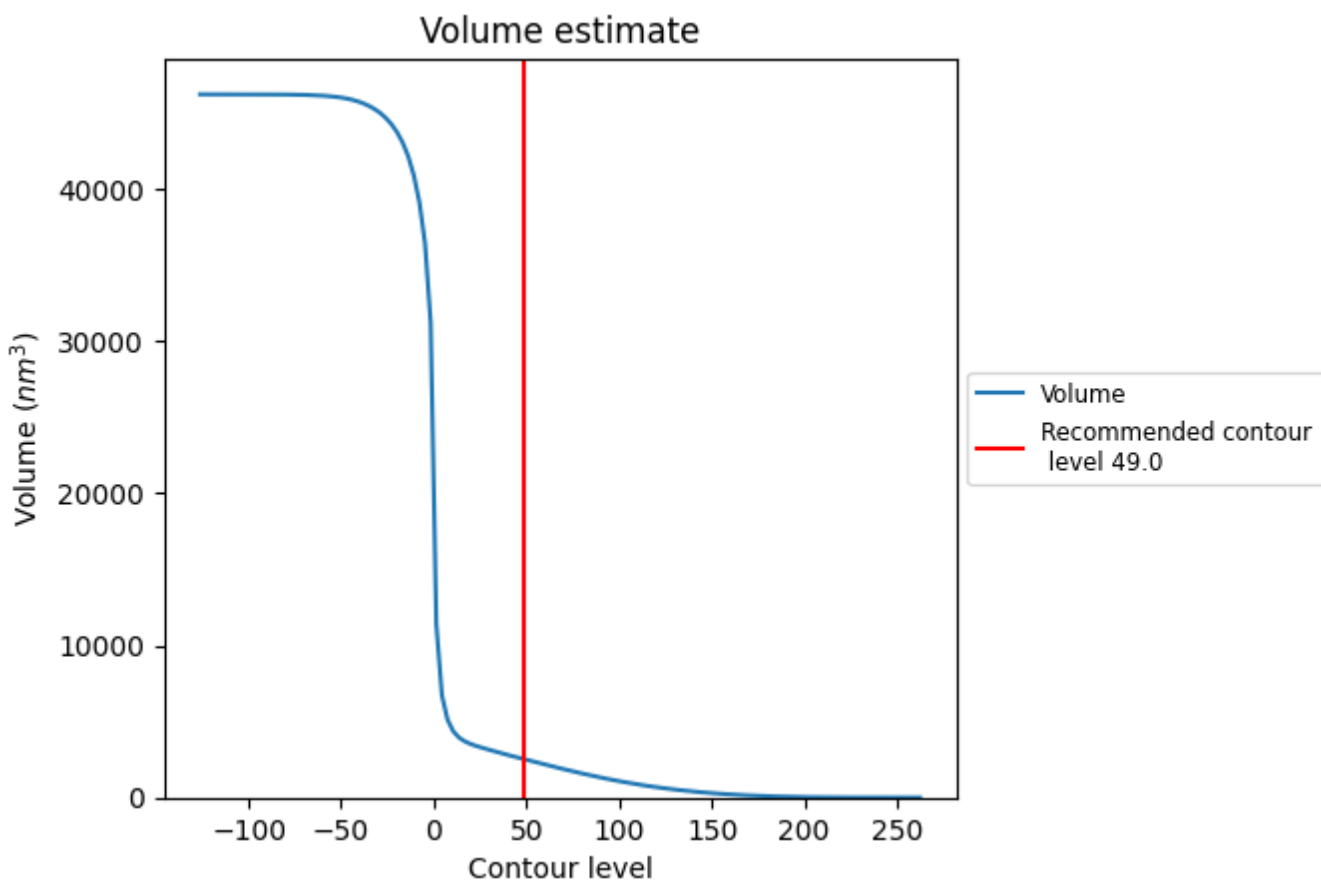
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

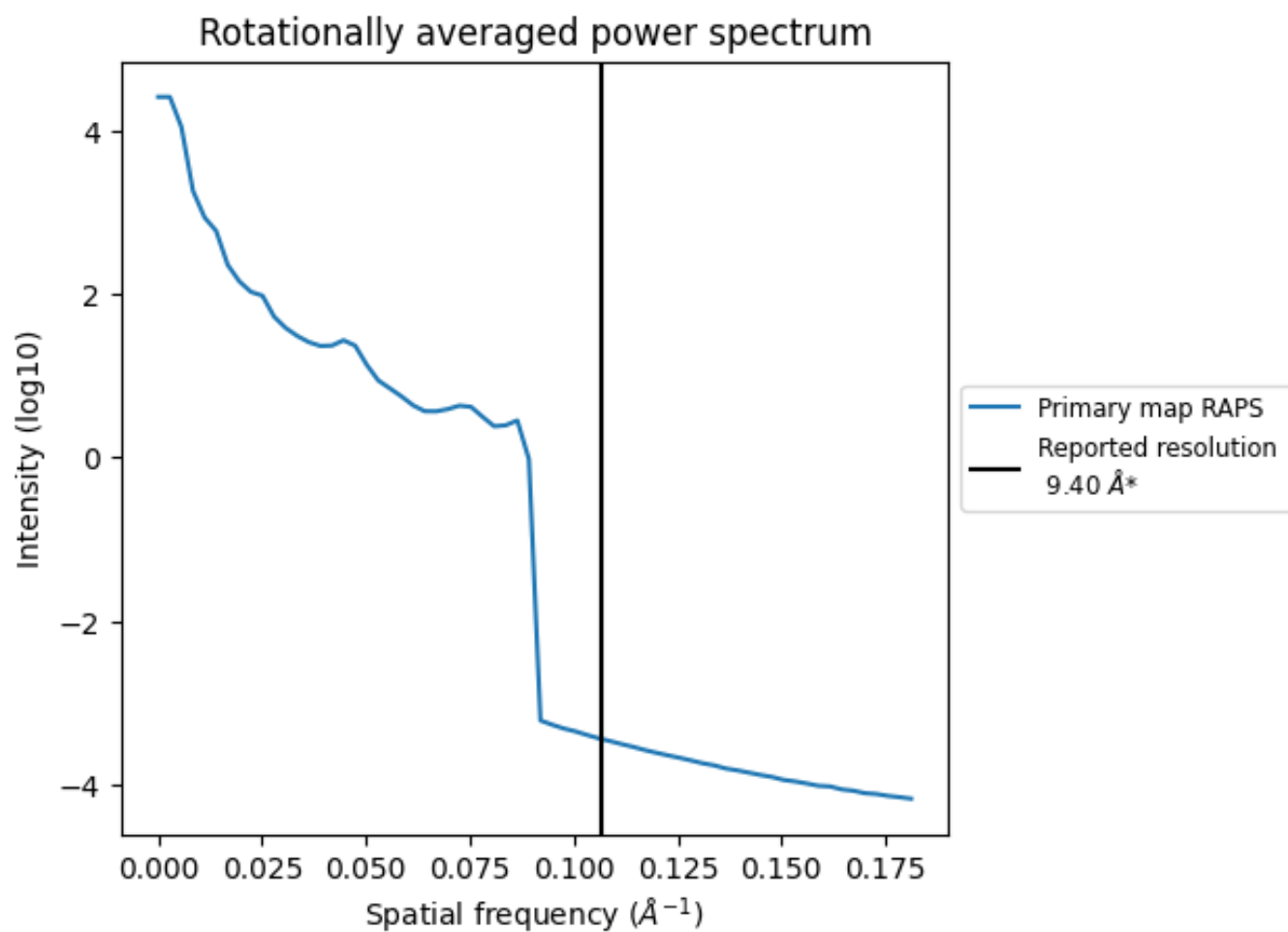
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2510 nm³; this corresponds to an approximate mass of 2268 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.106\AA^{-1}

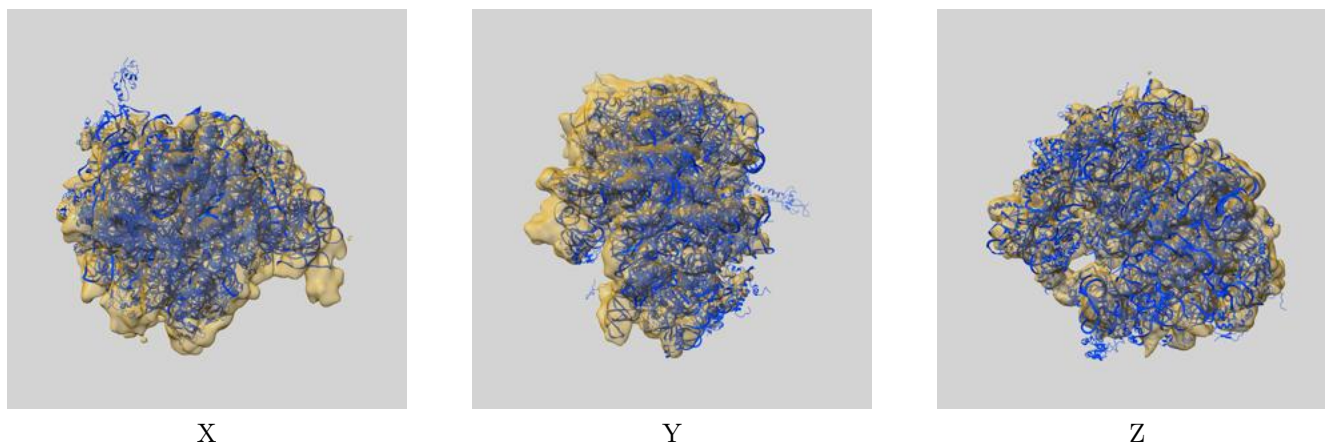
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

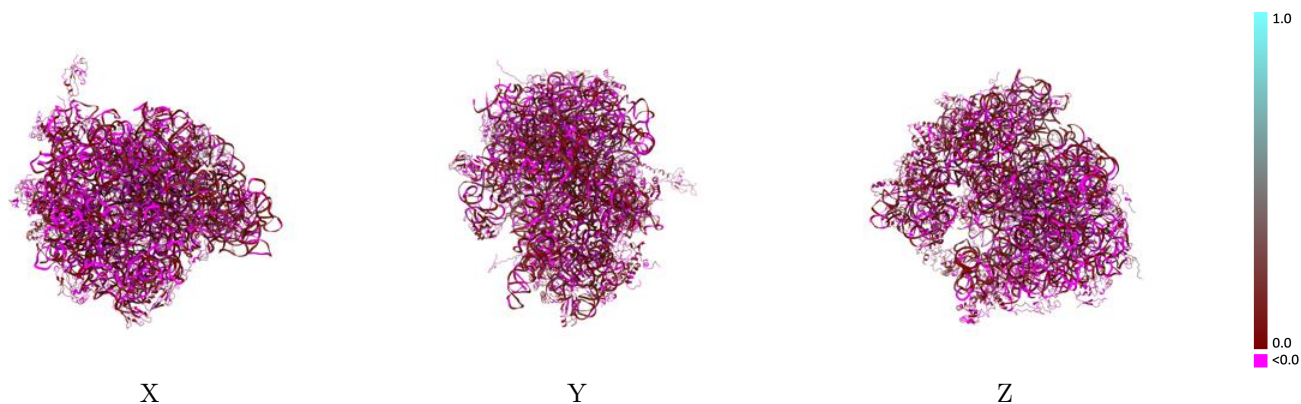
This section contains information regarding the fit between EMDB map EMD-1417 and PDB model 4V61. Per-residue inclusion information can be found in section 3 on page 14.

9.1 Map-model overlay [i](#)



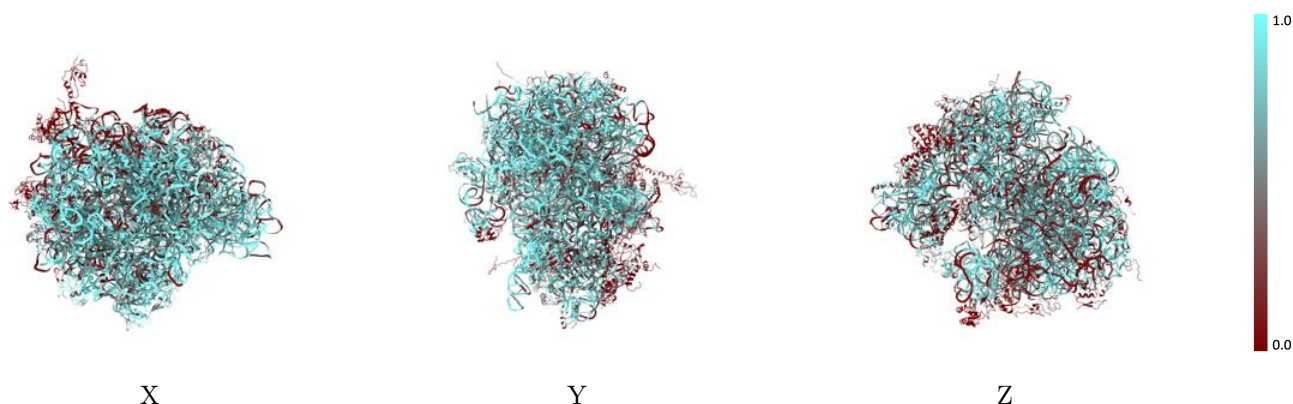
The images above show the 3D surface view of the map at the recommended contour level 49.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



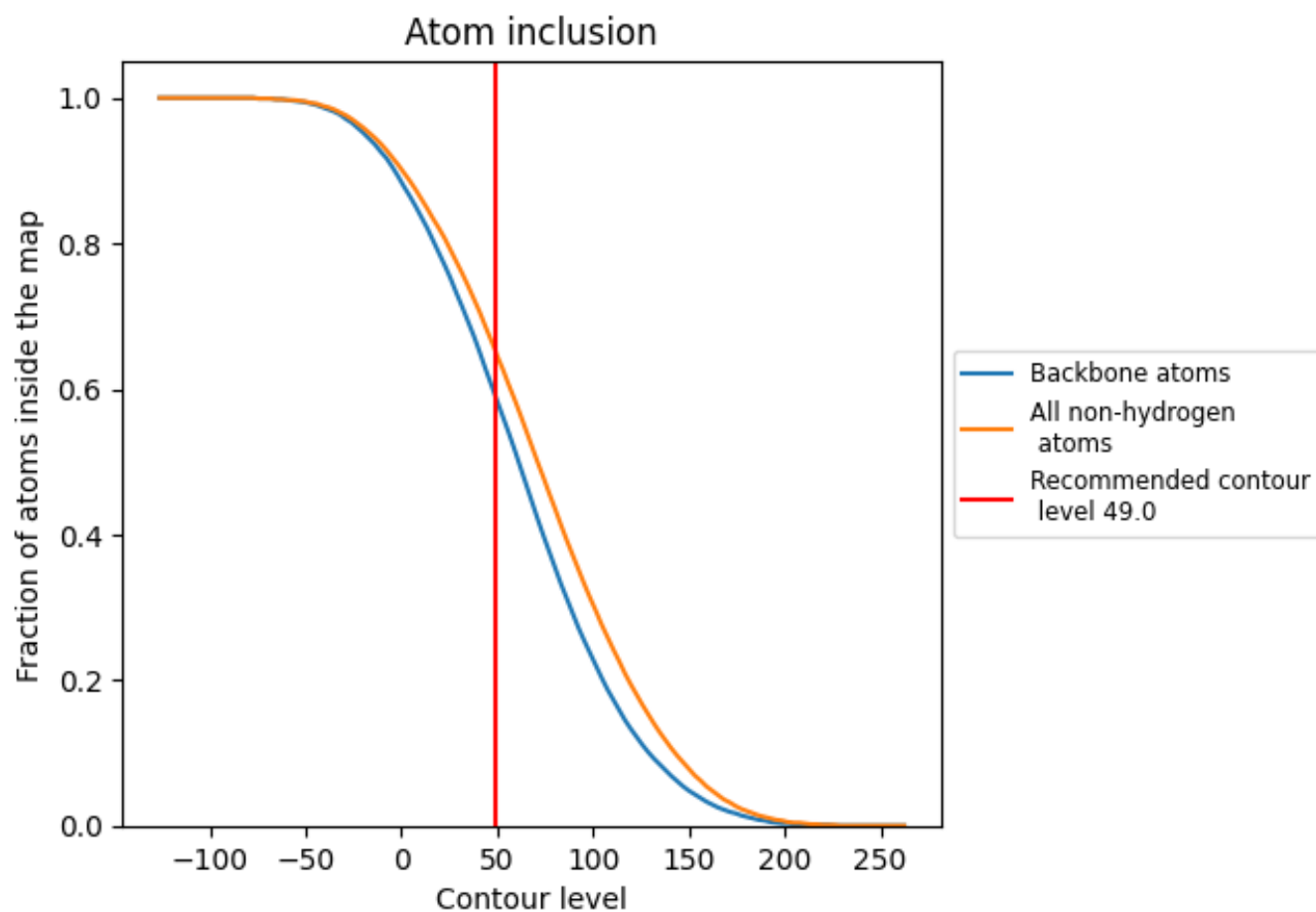
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (49.0).

9.4 Atom inclusion [i](#)



At the recommended contour level, 59% of all backbone atoms, 65% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary







































The table lists the average atom inclusion at the recommended contour level (49.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6530	0.0350
AA	0.7460	0.0630
AB	0.1170	0.0450
AC	0.5420	0.0510
AD	0.5020	0.0540
AE	0.4820	0.0260
AF	0.4760	0.0370
AG	0.2700	0.0190
AH	0.4940	0.0320
AI	0.6570	0.0510
AJ	0.6830	0.0540
AK	0.5540	0.0570
AL	0.2680	0.0020
AM	0.5630	0.0270
AN	0.8320	0.0120
AO	0.5550	0.0390
AP	0.5110	-0.0080
AQ	0.5610	0.0200
AR	0.5340	0.0340
AS	0.6530	0.0090
AT	0.6180	0.0120
AU	0.3350	0.0590
B1	0.2240	0.0370
B2	0.4750	-0.0230
B3	0.3570	0.0340
B4	0.5840	-0.0360
B5	0.7240	-0.0040
B6	0.7890	-0.0010
BA	0.6890	0.0290
BB	0.8210	0.0610
BC	0.7840	0.0570
BD	0.2430	0.0060
BE	0.5130	0.0080
BF	0.8060	-0.0090
BG	0.4020	-0.0250



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Chain	Atom inclusion	Q-score
BH	 0.7930	 0.0580
BI	 0.7140	 0.0320
BJ	 0.0570	 0.0110
BK	 0.4330	 0.0400
BL	 0.7780	 0.0080
BM	 0.5550	 0.0170
BN	 0.4500	 -0.0160
BO	 0.4370	 0.0060
BP	 0.8040	 0.0160
BQ	 0.7100	 0.0330
BR	 0.6310	 0.0140
BS	 0.7650	 -0.0110
BT	 0.6650	 0.0260
BU	 0.6310	 0.0280
BV	 0.5620	 0.0170
BW	 0.6060	 -0.0010
BX	 0.5460	 0.0070
BY	 0.6510	 0.0000
BZ	 0.5870	 0.0340