Full wwPDB EM Validation Report ⓘ

Sep 18, 2025 – 05:07 PM EDT

PDB ID	:	9O17 / pdb_00009o17
EMDB ID	:	EMD-49998
Title	:	Cryo-EM structure of Methanosarcina acetivorans 70S ribosome
Authors	:	Ghosh, A.; Fordjour, G.N.R.; Armache, J.-P.; Ferry, J.G.; Murakami, K.S.; Bevilacqua, P.C.
Deposited on	:	2025-04-03
Resolution	:	2.92 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

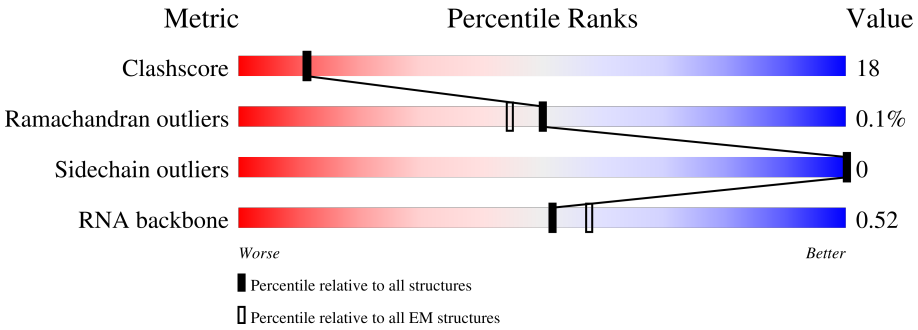
EMDB validation analysis	:	0.0.1.dev126
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance

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

The reported resolution of this entry is 2.92 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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% 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	1478	27% 27% 58% 14%
2	AB	247	69% 33% 44% 23%
3	AC	318	58% 25% 33% 42%
4	AD	203	54% 37% 53% 10%
5	AE	218	60% 37% 39% 23%
6	AF	235	65% 37% 62%
7	AG	209	73% 34% 61% 5%

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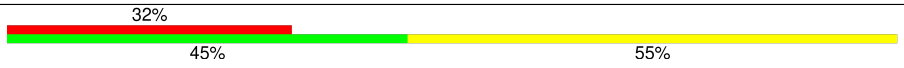
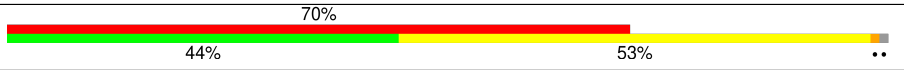
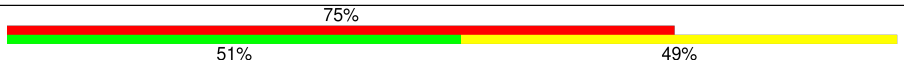
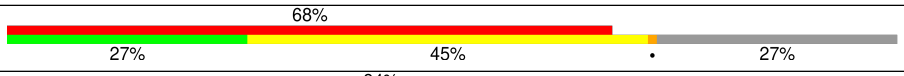
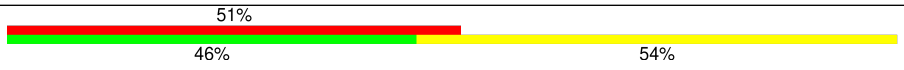
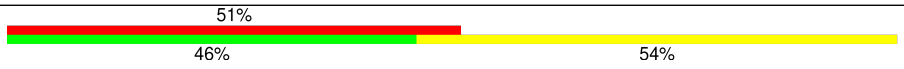
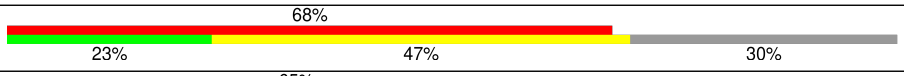
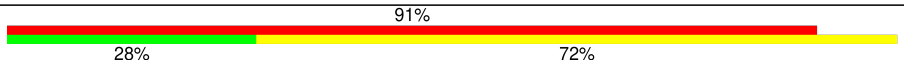
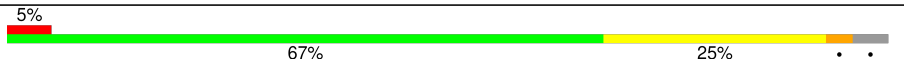
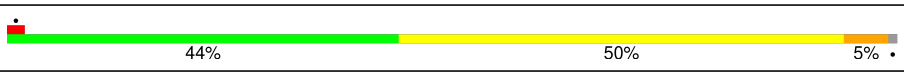
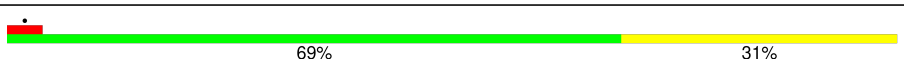
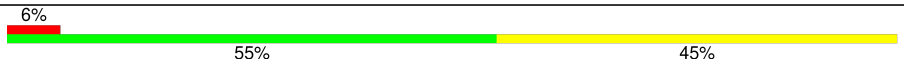
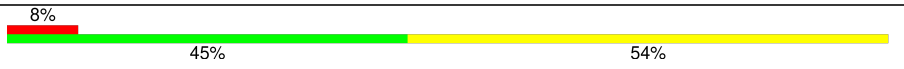
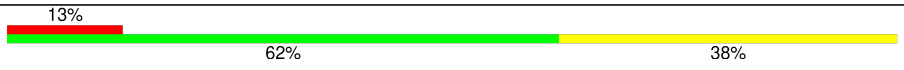
Mol	Chain	Length	Quality of chain
8	AI	189	
9	AJ	130	
10	AK	125	
11	AL	134	
12	AN	126	
13	AO	142	
14	AP	182	
15	AR	50	
16	AQ	152	
17	AS	109	
18	AU	136	
19	AV	149	
20	AW	101	
21	AX	62	
22	AY	76	
23	AH	136	
24	AM	102	
25	AT	64	
26	BA	2899	
27	BB	129	
28	BC	238	
29	BD	337	
30	BE	253	
31	BF	165	
32	BG	176	

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Mol	Chain	Length	Quality of chain
33	BH	120	15% 49% 47%
34	BI	173	10% 58% 34% 8%
35	BJ	143	58% 38%
36	BK	132	10% 56% 44%
37	BL	140	8% 65% 35%
38	BM	196	64% 36%
39	BN	174	9% 53% 47%
40	BO	126	6% 51% 49%
41	BP	151	7% 63% 37%
42	BQ	61	18% 49% 44% 7%
43	BR	97	65% 34%
44	BS	151	8% 60% 40%
45	BT	82	9% 59% 41%
46	BU	119	13% 53% 47%
47	BV	62	13% 48% 52%
48	BW	67	22% 52% 48%
49	BX	153	7% 59% 41%
50	BY	99	25% 52% 41% 7%
51	BZ	89	69% 28%
52	Ba	161	9% 47% 35% 18%
53	Bb	94	19% 66% 34%
54	Bc	56	64% 36%
55	Bd	51	8% 47% 53%
56	Be	52	10% 58% 27% 15%
57	Bf	92	12% 71% 29%

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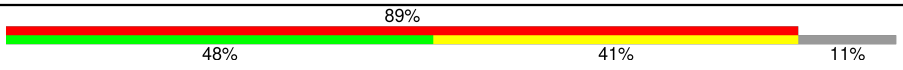
Mol	Chain	Length	Quality of chain
58	AZ	56	

2 Entry composition

There are 60 unique types of molecules in this entry. The entry contains 179267 atoms, of which 29860 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	1462	31324	13965	5707	10190	1462	0	0

- Molecule 2 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	AB	190	1492	944	262	281	5	0	0

- Molecule 3 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	AC	186	1425	898	256	262	9	0	0

- Molecule 4 is a protein called Small ribosomal subunit protein eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	AD	182	1454	912	262	272	8	0	0

- Molecule 5 is a protein called Small ribosomal subunit protein uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	AE	167	1351	851	253	242	5	0	0

- Molecule 6 is a protein called Small ribosomal subunit protein eS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	AF	234	1837	1154	333	345	5	0	0

- Molecule 7 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	AG	198	Total	C	N	O	S	0	0
			1506	954	269	276	7		

- Molecule 8 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AI	189	Total	C	N	O	S	0	0
			1479	928	274	273	4		

- Molecule 9 is a protein called Small ribosomal subunit protein uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AJ	129	Total	C	N	O	S	0	0
			981	628	166	183	4		

- Molecule 10 is a protein called Small ribosomal subunit protein eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AK	125	Total	C	N	O	S	0	0
			964	587	196	177	4		

- Molecule 11 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AL	132	Total	C	N	O	S	0	0
			993	617	185	187	4		

- Molecule 12 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AN	123	Total	C	N	O	S	0	0
			911	560	180	167	4		

- Molecule 13 is a protein called Small ribosomal subunit protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AO	142	Total	C	N	O	S	0	0
			1088	679	211	192	6		

- Molecule 14 is a protein called Small ribosomal subunit protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AP	132	Total	C	N	O	S	0	0
			1033	649	198	184	2		

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AP	-19	MET	-	initiating methionine	UNP Q8TRR2
AP	-18	ARG	-	expression tag	UNP Q8TRR2
AP	-17	ALA	-	expression tag	UNP Q8TRR2
AP	-16	ALA	-	expression tag	UNP Q8TRR2
AP	-15	PRO	-	expression tag	UNP Q8TRR2
AP	-14	GLU	-	expression tag	UNP Q8TRR2
AP	-13	PHE	-	expression tag	UNP Q8TRR2
AP	-12	SER	-	expression tag	UNP Q8TRR2
AP	-11	ALA	-	expression tag	UNP Q8TRR2
AP	-10	TYR	-	expression tag	UNP Q8TRR2
AP	-9	SER	-	expression tag	UNP Q8TRR2
AP	-8	LEU	-	expression tag	UNP Q8TRR2
AP	-7	ARG	-	expression tag	UNP Q8TRR2
AP	-6	VAL	-	expression tag	UNP Q8TRR2
AP	-5	PHE	-	expression tag	UNP Q8TRR2
AP	-4	ASP	-	expression tag	UNP Q8TRR2
AP	-3	ARG	-	expression tag	UNP Q8TRR2
AP	-2	GLY	-	expression tag	UNP Q8TRR2
AP	-1	TYR	-	expression tag	UNP Q8TRR2
AP	0	ARG	-	expression tag	UNP Q8TRR2

- Molecule 15 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AR	44	Total	C	N	O	S	0	0
			366	226	73	62	5		

- Molecule 16 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AQ	152	Total	C	N	O	S	0	0
			1226	777	223	220	6		

- Molecule 17 is a protein called Small ribosomal subunit protein uS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AS	109	Total	C	N	O	S	0	0
			849	533	152	156	8		

- Molecule 18 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AU	95	Total	C	N	O	S	0	0
			775	491	142	139	3		

- Molecule 19 is a protein called Small ribosomal subunit protein eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AV	149	Total	C	N	O	S	0	0
			1163	739	204	215	5		

- Molecule 20 is a protein called Small ribosomal subunit protein eS24.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AW	95	Total	C	N	O	S	0	0
			766	481	136	145	4		

- Molecule 21 is a protein called Small ribosomal subunit protein eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AX	60	Total	C	N	O	S	0	0
			468	288	85	91	4		

- Molecule 22 is a protein called Small ribosomal subunit protein eS28.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AY	63	Total	C	N	O	S	0	0
			471	289	90	88	4		

- Molecule 23 is a protein called Small ribosomal subunit protein eS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AH	124	Total	C	N	O	S	0	0
			930	591	168	167	4		

- Molecule 24 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AM	102	Total	C	N	O	S	0	0
			796	497	150	145	4		

- Molecule 25 is a protein called Small ribosomal subunit protein eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	AT	58	Total	C	N	O	S	0	0
			477	302	87	87	1		

- Molecule 26 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
26	BA	2776	Total	C	H	N	O	P	0	0
			89273	26520	29860	10811	19307	2775		

- Molecule 27 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	BB	128	Total	C	N	O	P	0	0
			2720	1214	481	897	128		

- Molecule 28 is a protein called Large ribosomal subunit protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	BC	238	Total	C	N	O	S	0	0
			1808	1129	350	321	8		

- Molecule 29 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	BD	337	Total	C	N	O	S	0	0
			2597	1639	474	476	8		

- Molecule 30 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	BE	252	Total	C	N	O	S	0	0
			1930	1208	368	353	1		

- Molecule 31 is a protein called Large ribosomal subunit protein uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	BF	165	Total	C	N	O	S	0	0
			1289	812	234	235	8		

- Molecule 32 is a protein called Large ribosomal subunit protein uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	BG	176	Total	C	N	O	S	0	0
			1371	876	235	254	6		

- Molecule 33 is a protein called Large ribosomal subunit protein eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	BH	115	Total	C	N	O	S	0	0
			857	541	144	170	2		

- Molecule 34 is a protein called Large ribosomal subunit protein uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	BI	159	Total	C	N	O	S	0	0
			1261	794	240	218	9		

- Molecule 35 is a protein called Large ribosomal subunit protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	BJ	138	Total	C	N	O	S	0	0
			1086	683	200	199	4		

- Molecule 36 is a protein called Large ribosomal subunit protein uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	BK	132	Total	C	N	O	S	0	0
			999	623	185	182	9		

- Molecule 37 is a protein called Large ribosomal subunit protein uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	BL	140	Total	C	N	O	S	0	0
			1058	643	204	205	6		

- Molecule 38 is a protein called Large ribosomal subunit protein eL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	BM	196	Total	C	N	O	S	0	0
			1593	986	329	273	5		

- Molecule 39 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	BN	174	Total	C	N	O	S	0	0
			1356	853	242	259	2		

- Molecule 40 is a protein called Large ribosomal subunit protein eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	BO	126	Total	C	N	O	S	0	0
			962	608	173	178	3		

- Molecule 41 is a protein called Large ribosomal subunit protein eL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	BP	151	Total	C	N	O	S	0	0
			1195	739	242	210	4		

- Molecule 42 is a protein called Large ribosomal subunit protein eL20.

Mol	Chain	Residues	Atoms				AltConf	Trace
42	BQ	57	Total	C	N	O	0	0
			457	289	79	89		

- Molecule 43 is a protein called Large ribosomal subunit protein eL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	BR	96	Total	C	N	O	S	0	0
			766	475	146	141	4		

- Molecule 44 is a protein called Large ribosomal subunit protein uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	BS	151	Total	C	N	O	S	0	0
			1169	729	218	212	10		

- Molecule 45 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	BT	82	Total	C	N	O	S	0	0
			656	418	108	122	8		

- Molecule 46 is a protein called Large ribosomal subunit protein uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	BU	119	Total	C	N	O	S	0	0
			910	564	170	169	7		

- Molecule 47 is a protein called Large ribosomal subunit protein eL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	BV	62	Total	C	N	O	S	0	0
			499	316	88	87	8		

- Molecule 48 is a protein called Large ribosomal subunit protein uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	BW	67	Total	C	N	O	S	0	0
			532	321	103	106	2		

- Molecule 49 is a protein called Large ribosomal subunit protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	BX	153	Total	C	N	O	S	0	0
			1237	779	230	222	6		

- Molecule 50 is a protein called Large ribosomal subunit protein eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	BY	92	Total	C	N	O	S	0	0
			658	415	108	131	4		

- Molecule 51 is a protein called Large ribosomal subunit protein eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	BZ	86	Total	C	N	O	S	0	0
			703	446	131	123	3		

- Molecule 52 is a protein called Large ribosomal subunit protein eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	Ba	132	Total	C	N	O	S	0	0
			1028	645	197	184	2		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ba	-2	MET	-	initiating methionine	UNP A0A832W8Z7
Ba	-1	ILE	-	expression tag	UNP A0A832W8Z7
Ba	0	MET	-	expression tag	UNP A0A832W8Z7

- Molecule 53 is a protein called Large ribosomal subunit protein eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	Bb	94	Total	C	N	O	S	0	0
			736	459	145	125	7		

- Molecule 54 is a protein called Large ribosomal subunit protein eL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	Bc	56	Total	C	N	O	S	0	0
			445	269	92	76	8		

- Molecule 55 is a protein called Large ribosomal subunit protein eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	Bd	51	Total	C	N	O	S	0	0
			439	272	101	64	2		

- Molecule 56 is a protein called Large ribosomal subunit protein eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	Be	44	Total	C	N	O	S	0	0
			353	215	74	59	5		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Be	-2	MET	-	initiating methionine	UNP Q8TJ19
Be	-1	THR	-	expression tag	UNP Q8TJ19
Be	0	LYS	-	expression tag	UNP Q8TJ19

- Molecule 57 is a protein called Large ribosomal subunit protein eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	Bf	92	Total	C	N	O	S	0	0
			760	480	151	122	7		

- Molecule 58 is a protein called Putative zinc finger domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	AZ	50	Total	C	N	O	S	0	0
			379	236	67	68	8		

- Molecule 59 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
59	AA	6	Total	Mg	0
			6	6	
59	AN	1	Total	Mg	0
			1	1	
59	AS	1	Total	Mg	0
			1	1	
59	BA	42	Total	Mg	0
			42	42	
59	Bc	1	Total	Mg	0
			1	1	

- Molecule 60 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
60	AG	1	Total	Zn	0
			1	1	
60	AR	1	Total	Zn	0
			1	1	
60	AS	1	Total	Zn	0
			1	1	
60	AX	1	Total	Zn	0
			1	1	
60	BV	1	Total	Zn	0
			1	1	
60	Bb	1	Total	Zn	0
			1	1	
60	Bc	1	Total	Zn	0
			1	1	
60	Be	1	Total	Zn	0
			1	1	

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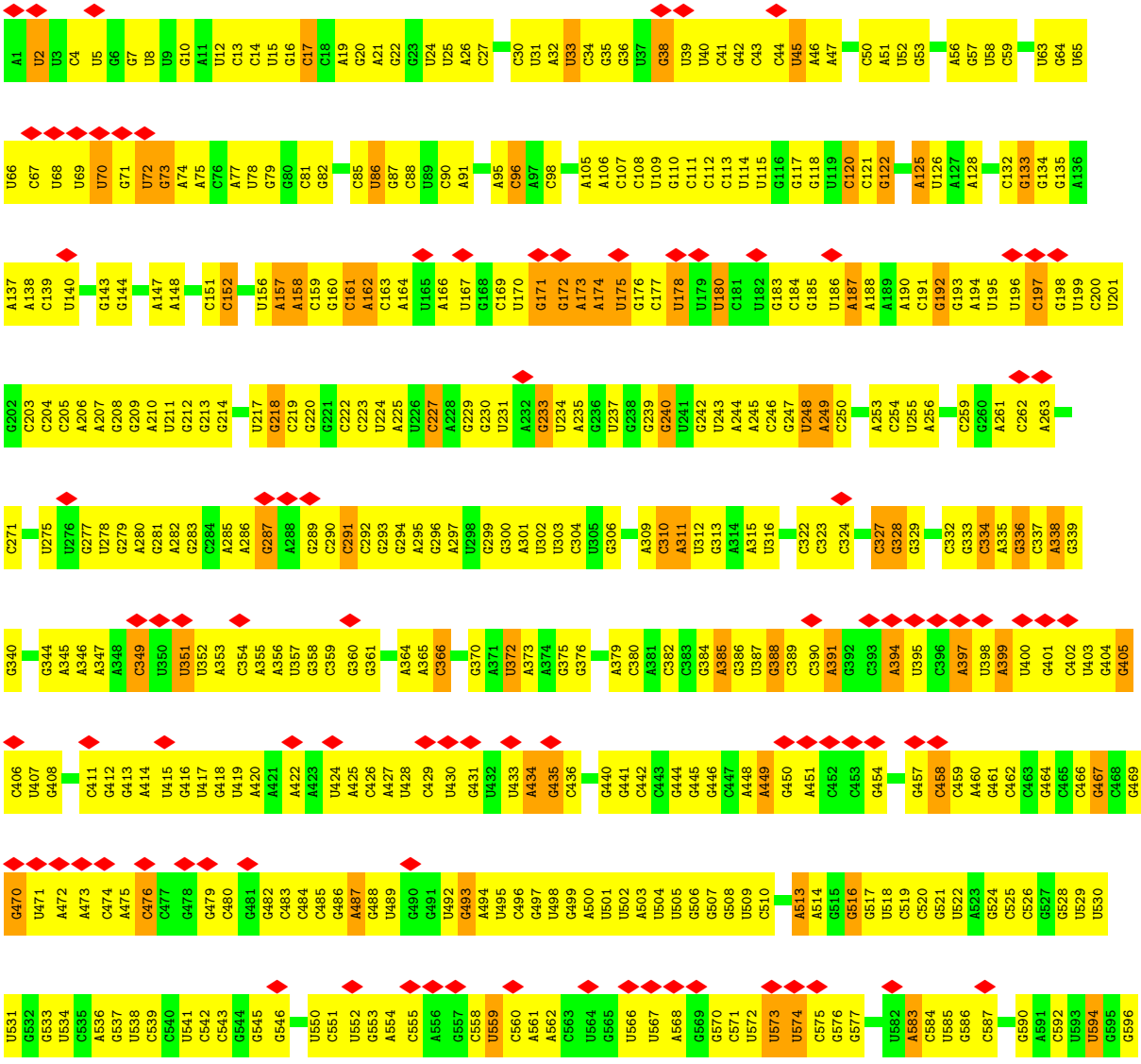
Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
60	Bf	1	1	1	0

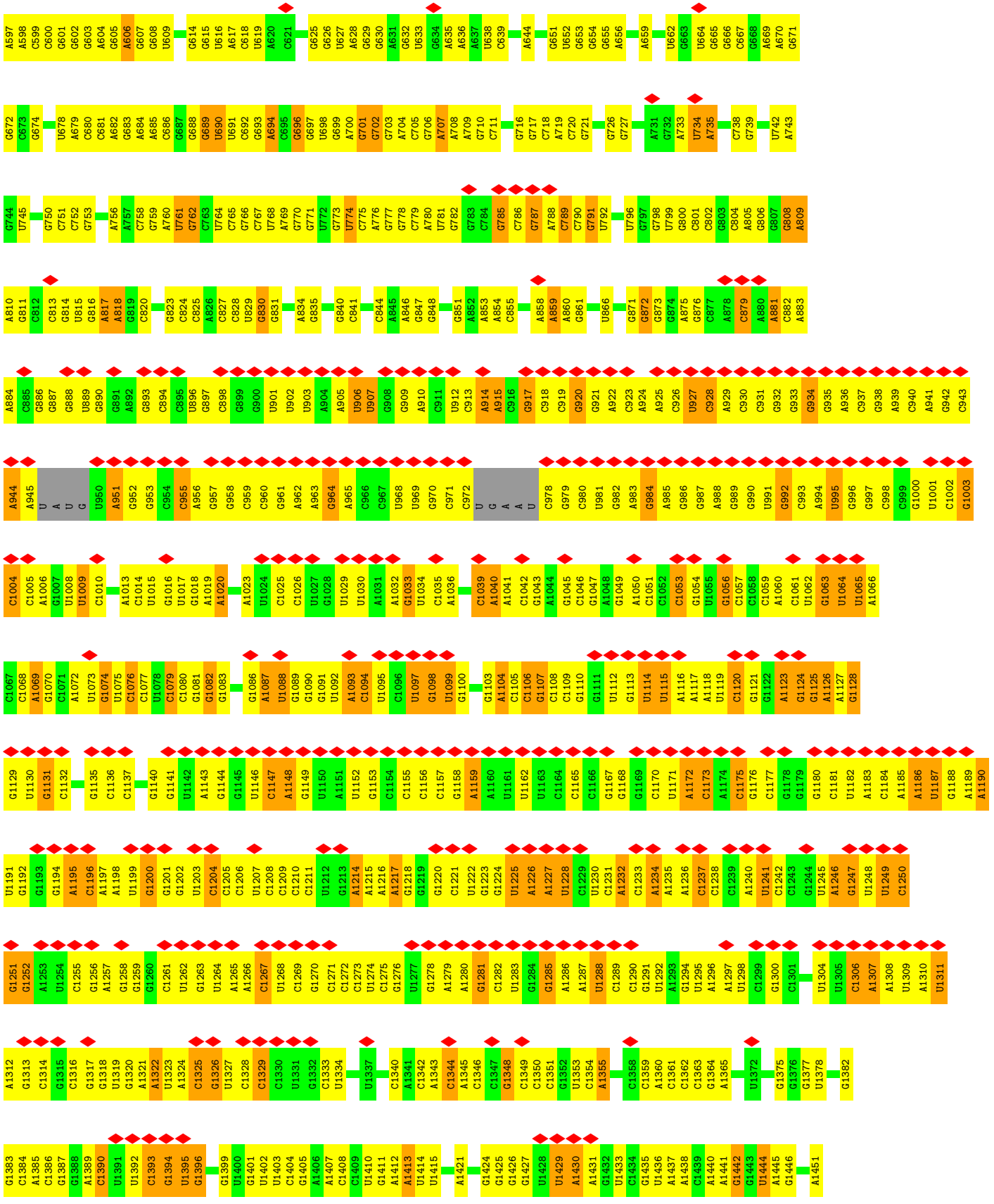
3 Residue-property plots (i)

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

Chain AA: 

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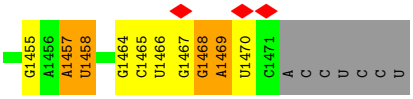
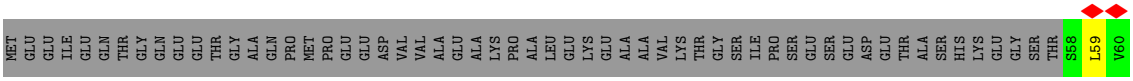
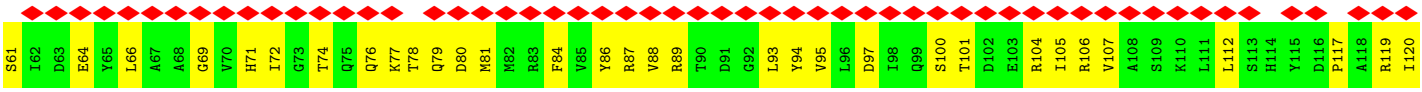
G614 G615 U616 A617 C618 U619 A620 C621
G625 G626 U627 A628 G629 G630 A631 G632 U633 G634 A635 A636 A637 U638 C639
A644
G651 U652 G653 G654 G655 A656
A659
U662 G663
U664 G665 G666 C667 G668 A669 A670 G671
G672 G673 G674
U678 A679 C680 C681 A682 G683 A684 A685 C686 G687 G688 G689 U690 U691 C692 G693 A694 C695 G696 G697 U698 G699 A700 G701 G702 G703 A704 C705 G706 A707 A708 A709 G710 C711
G716 G717 C718 A719 C720 G721
G726 G727
A731 G732 A733 U734 A735
C738 G739
U742 A743
G744 U745
G750 C751 C752 G753
A756 A757 C758 G759 A760 U761 G762 C763 U764 C765 G766 C767 U768 A769 G770 G771 U772 G773 U774 C775 A776 G777 G778 C779 A780 U781 G782 G783 C784 G785 C786 G787 A788 C789 G790 G791 U792
U796 G797 G798 U799 G800 C801 C802 G803 C804 A805 G806 G807 G808 A809
A810 G811 C812 C813 G814 U815 G816 A817 A818 G819 C820 G823 C824 C825 A826 C827 C828 U829 G830 G831 A834 G835 G840 C841 C844 A845 A846 G847 G848 G851 A852 A853 A854 C855 A858 A859 A860 G861 U866 G871 G872 G873 G874 A875 G876 C877 A878 C879 A880 A881 C882 A883
A884 C885 G886 G887 G888 U889 G890 G891 A892 G893 C894 C895 U896 G897 C898 G899 G900 U901 U902 U903 A904 A905 U906 U907 G908 G909 A910 C911 U912 C913 A914 A915 C916 G917 C918 C919 G920 G921 A922 C923 A924 A925 C926 U927 C928 A929 C930 C931 G932 G933 G934 G935 A936 C937 G938 A939 C940 A941 G942 C943
A944 A945 U A U G U950 A951 G952 G953 C954 C955 A956 G957 G958 C959 C960 G961 A962 A963 G964 A965 C966 C967 U968 U969 G970 C971 C972 U G A A U C978 G979 C980 U981 G982 A983 G984 A985 G986 G987 A988 G989 G990 U991 G992 C993 A994 U995 G996 G997 C998 C999 G1000 U1001 C1002 G1003
C1004 C1005 A1006 G1007 U1008 U1009 C1010 A1013 C1014 U1015 G1016 U1017 G1018 A1019 A1020 A1023 U1024 C1025 C1026 U1027 G1028 U1029 U1030 A1031 A1032 G1033 U1034 C1035 A1036 C1039 A1040 A1041 C1042 G1043 A1044 G1045 C1046 G1047 A1048 G1049 A1050 C1051 C1052 C1053 G1054 U1055 G1056 C1057 C1058 C1059 A1060 C1061 U1062 G1063 U1064 U1065 A1066
C1067 C1068 A1069 G1070 C1071 A1072 U1073 G1074 U1075 C1076 C1077 U1078 C1079 C1080 G1081 G1082 G1083 G1086 A1087 U1088 G1089 G1090 G1091 U1092 A1093 C1094 U1095 C1096 U1097 G1098 U1099 G1100 G1103 A1104 C1105 C1106 G1107 C1108 C1109 G1110 G1111 U1112 G1113 U1114 U1115 A1116 A1117 A1118 U1119 C1120 G1121 G1122 A1123 G1124 G1125 A1126 A1127 G1128
G1129 U1130 G1131 C1132 G1135 C1136 C1137 G1140 G1141 U1142 A1143 G1144 G1145 U1146 C1147 A1148 G1149 U1150 A1151 U1152 G1153 C1154 C1155 C1156 C1157 G1158 A1159 A1160 U1161 U1162 U1163 C1164 C1165 C1166 G1167 G1168 G1169 C1170 U1171 A1172 C1173 A1174 C1175 G1176 C1177 G1178 G1179 G1180 C1181 U1182 A1183 C1184 A1185 A1186 U1187 G1188 A1189 A1190
U1191 G1192 G1193 G1194 A1195 C1196 A1197 A1198 U1199 G1200 G1201 G1202 U1203 C1204 C1205 C1206 U1207 C1208 C1209 C1210 C1211 U1212 G1213 A1214 A1215 A1216 A1217 G1218 G1219 G1220 C1221 U1222 G1223 G1224 U1225 A1226 A1227 U1228 C1229 U1230 C1231 A1232 C1233 A1234 A1235 A1236 C1237 C1238 C1239 A1240 U1241 C1242 C1243 G1244 U1245 A1246 G1247 U1248 U1249 C1250
G1251 G1252 A1253 U1254 C1255 G1256 A1257 G1258 G1259 G1260 C1261 U1262 G1263 U1264 A1265 A1266 C1267 U1268 C1269 G1270 C1271 C1272 C1273 U1274 C1275 G1276 U1277 G1278 A1279 A1280 G1281 C1282 U1283 G1284 G1285 A1286 A1287 U1288 C1289 C1290 G1291 U1292 G1293 G1294 U1295 A1296 A1297 U1298 C1299 G1300 C1301 U1304 U1305 C1306 A1307 A1308 U1309 A1310 U1311
A1312 G1313 C1314 G1315 C1316 G1317 G1318 U1319 G1320 A1321 A1322 U1323 A1324 C1325 G1326 U1327 C1328 C1329 C1330 U1331 G1332 C1333 U1334 U1337 C1340 A1341 C1342 A1343 C1344 A1345 C1346 C1347 G1348 C1349 C1350 C1351 G1352 U1353 C1354 A1355 C1358 C1359 A1360 C1361 C1362 C1363 G1364 A1365 U1372 G1375 G1376 G1377 U1378 G1382
G1383 C1384 A1385 C1386 G1387 G1388 A1389 C1390 U1391 U1392 C1393 G1394 U1395 G1396 G1399 U1400 G1401 U1402 U1403 C1404 G1405 A1406 A1407 C1408 C1409 U1410 G1411 A1412 A1413 U1414 U1415 A1421 G1424 G1425 G1426 G1427 U1428 U1429 A1430 A1431 G1432 U1433 C1434 G1435 U1436 A1437 A1438 C1439 A1440 A1441 G1442 G1443 U1444 A1445 G1446 A1451

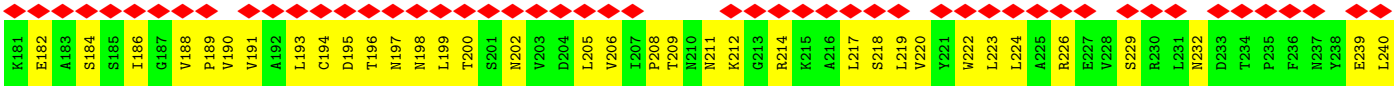


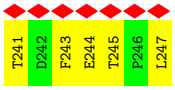
• Molecule 2: Small ribosomal subunit protein uS2

Chain AB:



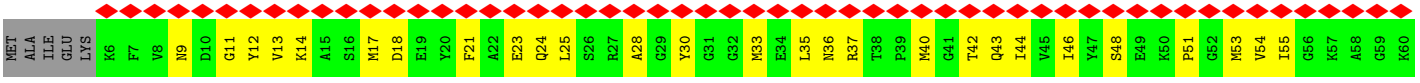


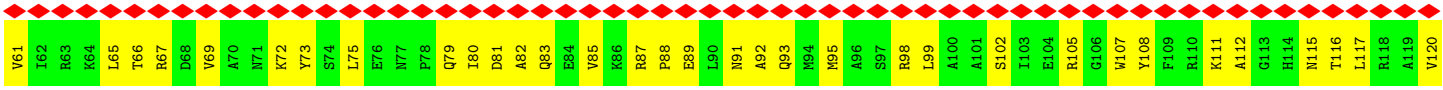


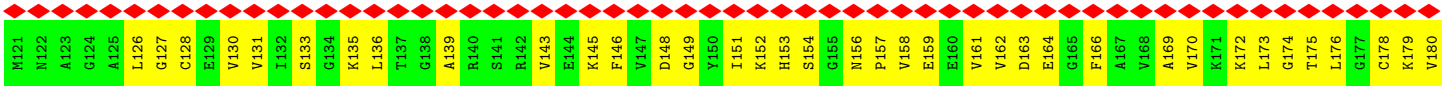


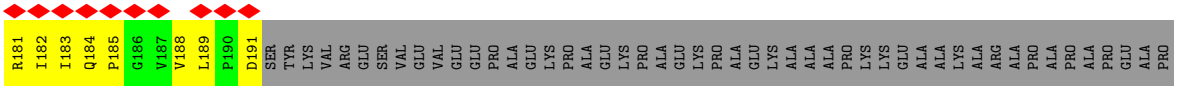
• Molecule 3: Small ribosomal subunit protein uS3

Chain AC:



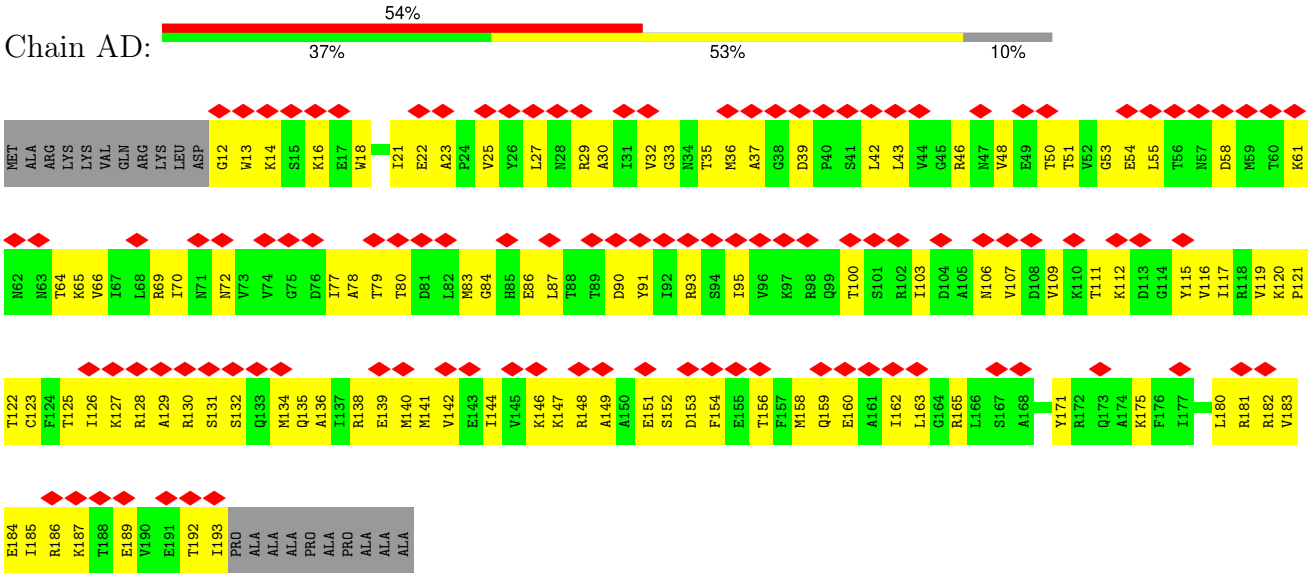






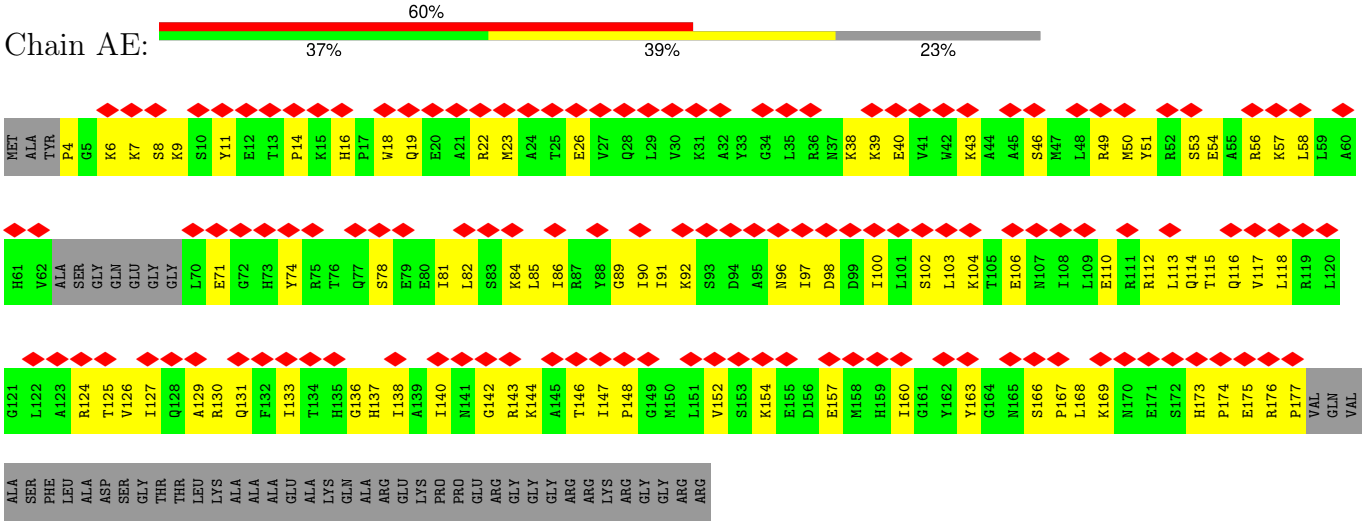
• Molecule 4: Small ribosomal subunit protein eS1

Chain AD:



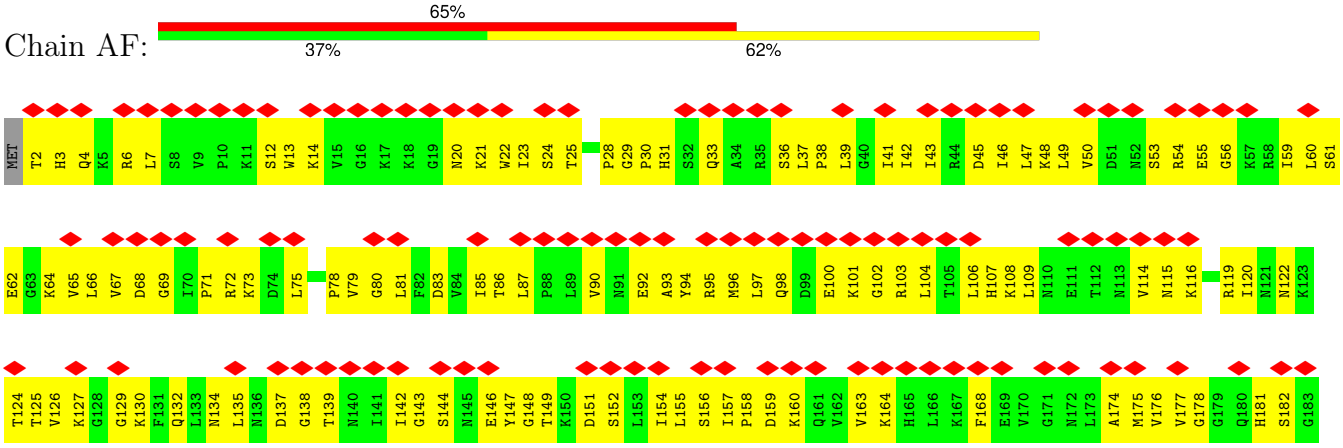
• Molecule 5: Small ribosomal subunit protein uS4

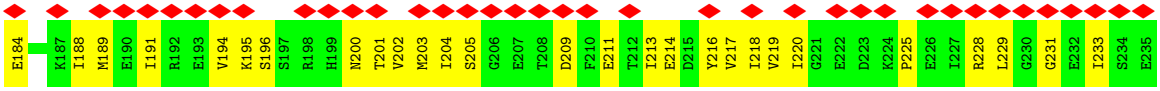
Chain AE:



• Molecule 6: Small ribosomal subunit protein eS4

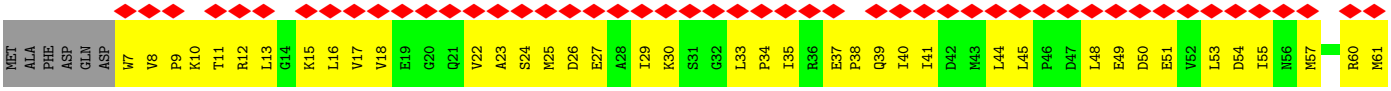
Chain AF:

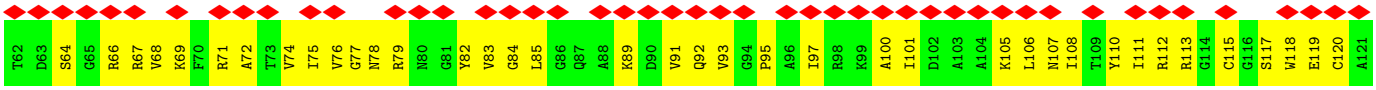


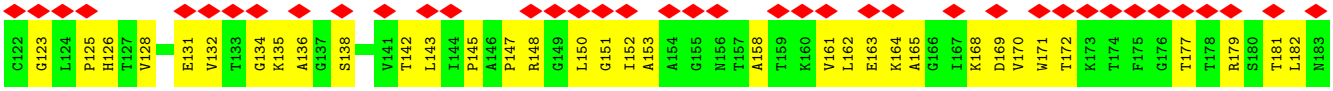


• Molecule 7: Small ribosomal subunit protein uS5

Chain AG:

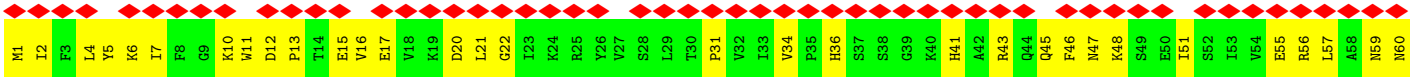


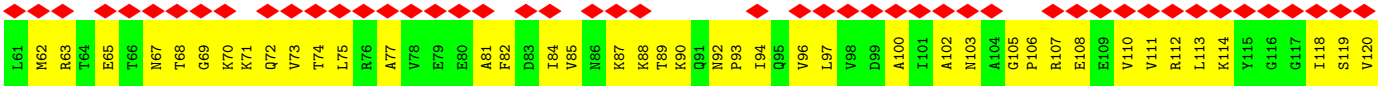


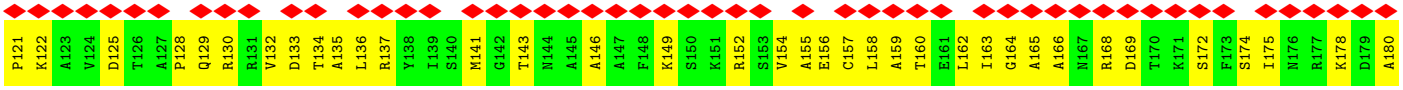


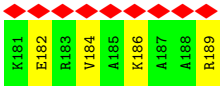
• Molecule 8: Small ribosomal subunit protein uS7

Chain AI:



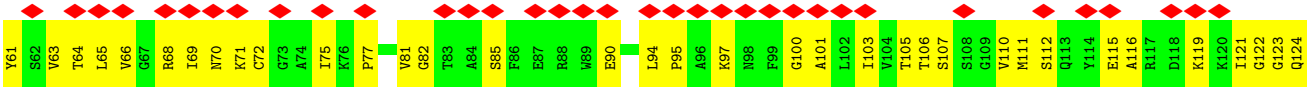


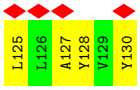




• Molecule 9: Small ribosomal subunit protein uS8

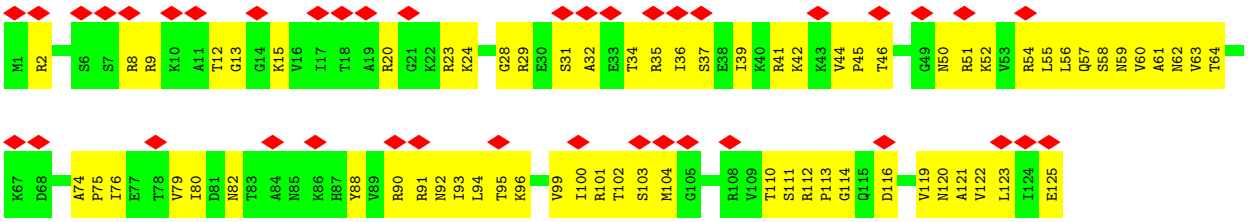
Chain AJ:





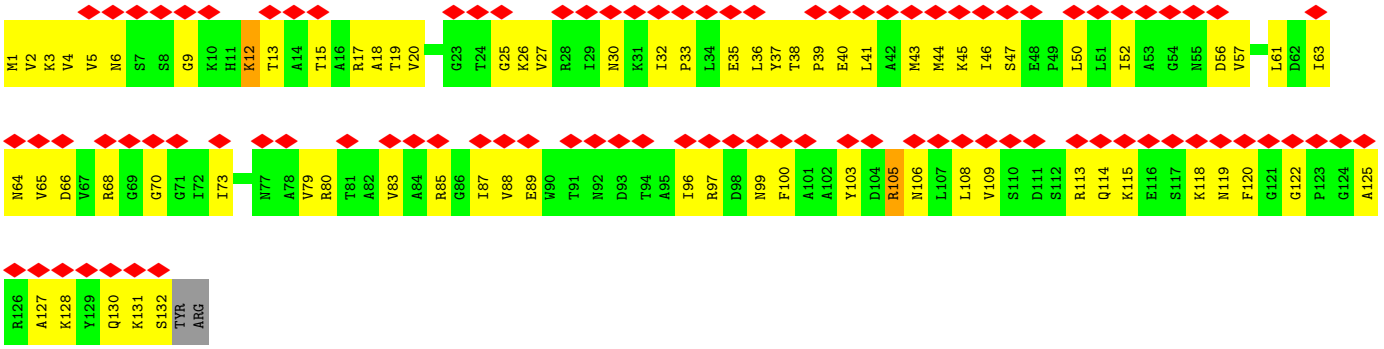
• Molecule 10: Small ribosomal subunit protein eS8

Chain AK:



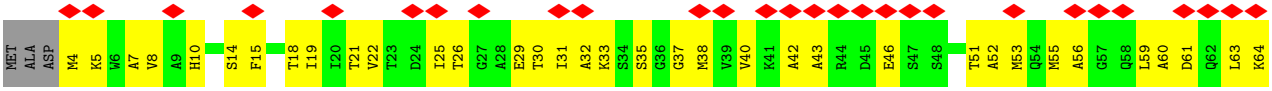
• Molecule 11: Small ribosomal subunit protein uS9

Chain AL:



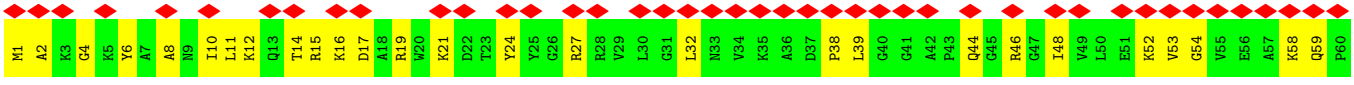
• Molecule 12: Small ribosomal subunit protein uS11

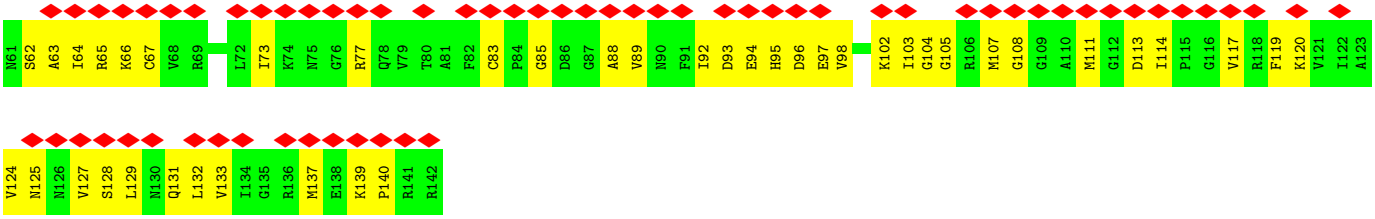
Chain AN:



• Molecule 13: Small ribosomal subunit protein uS12

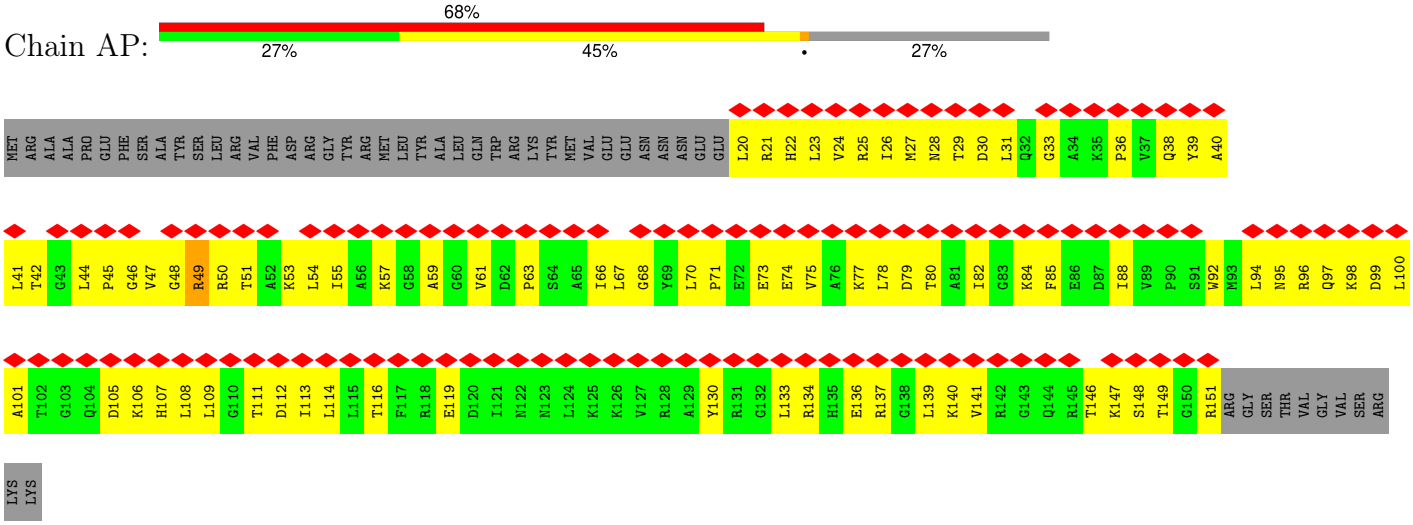
Chain AO:





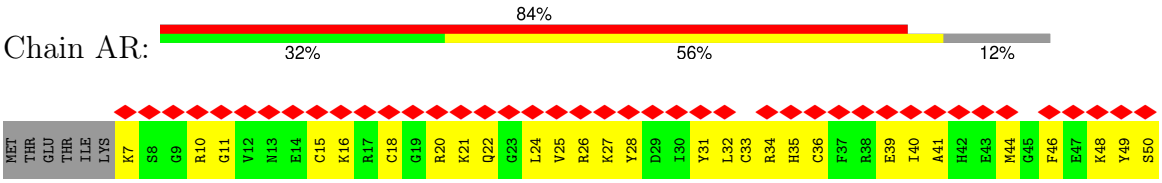
• Molecule 14: Small ribosomal subunit protein uS13

Chain AP:



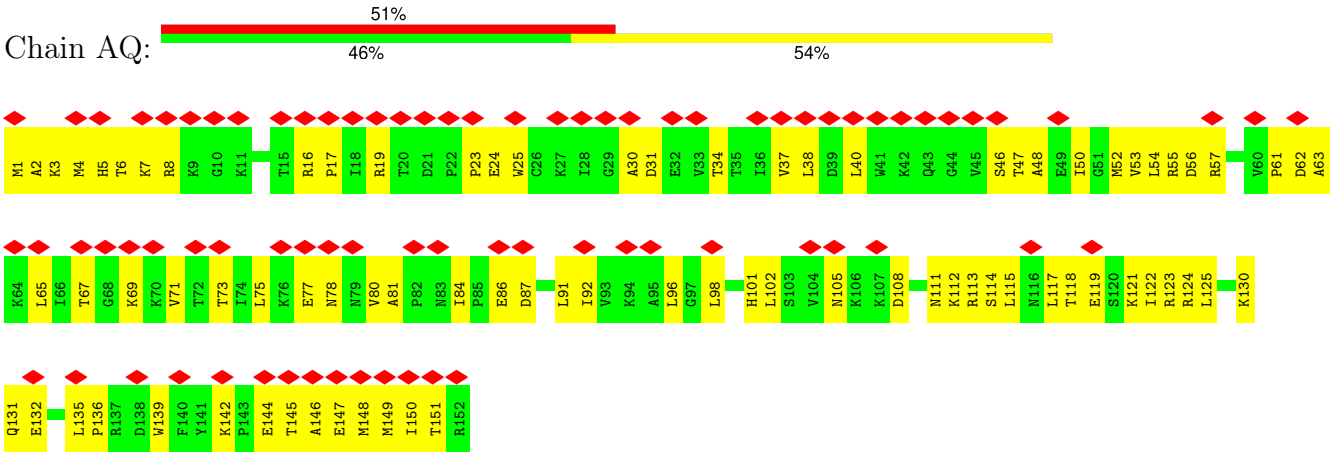
• Molecule 15: Small ribosomal subunit protein uS14

Chain AR:



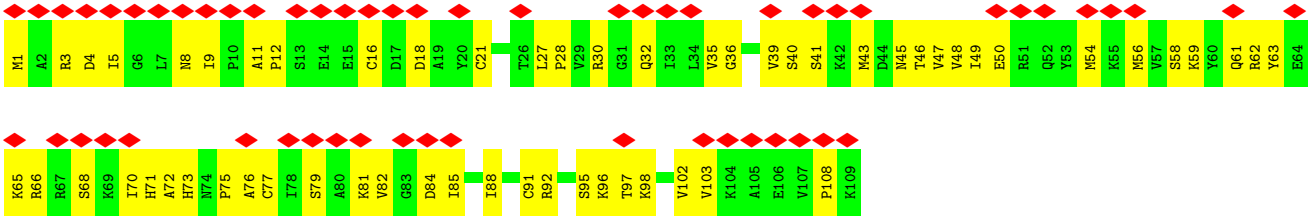
• Molecule 16: Small ribosomal subunit protein uS15

Chain AQ:

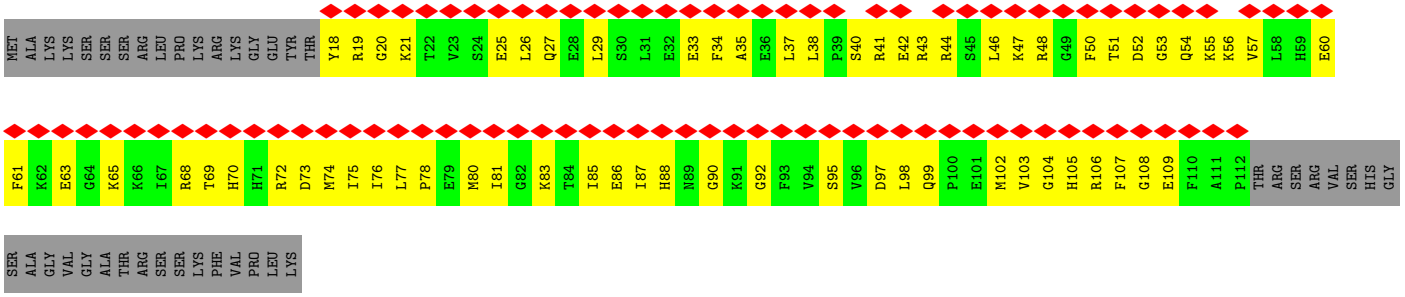


• Molecule 17: Small ribosomal subunit protein uS17A

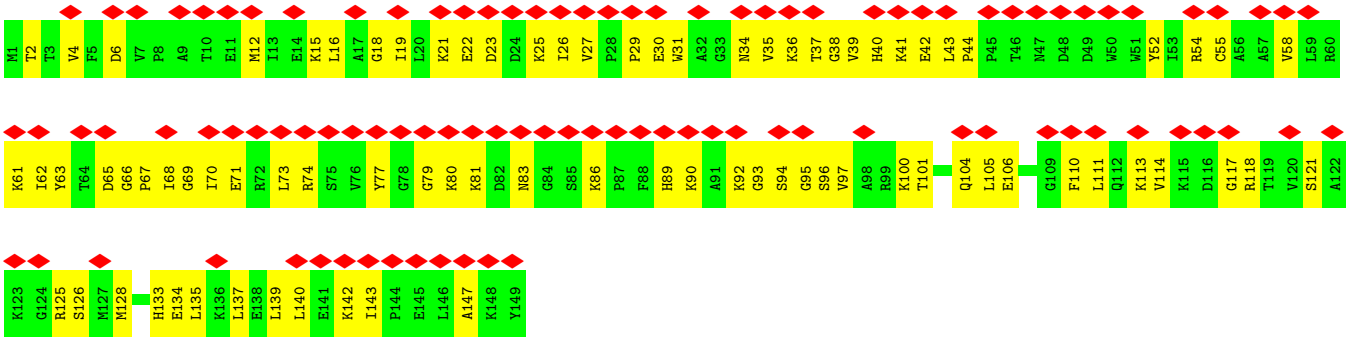
Chain AS:



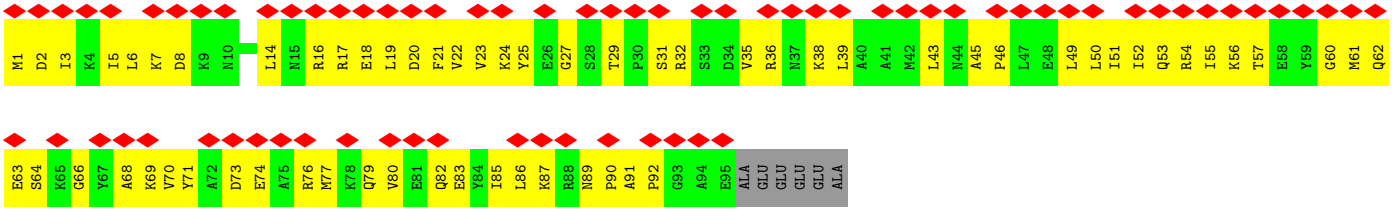
• Molecule 18: Small ribosomal subunit protein uS19



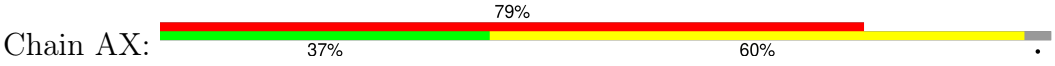
• Molecule 19: Small ribosomal subunit protein eS19

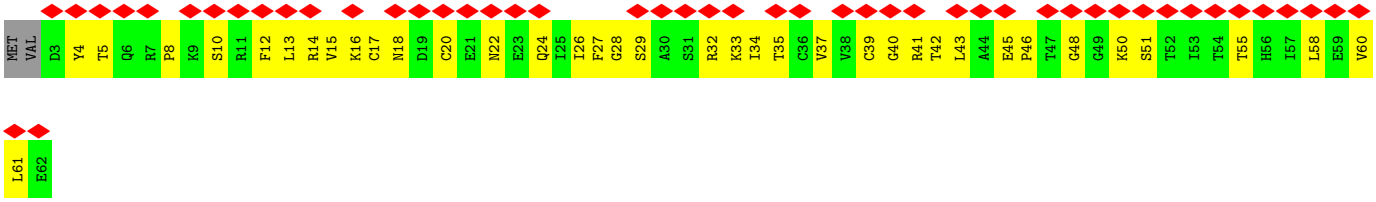


• Molecule 20: Small ribosomal subunit protein eS24

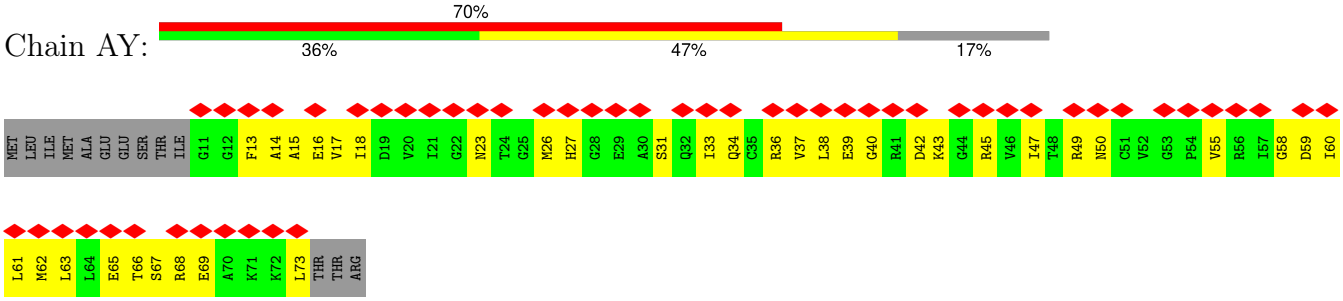


• Molecule 21: Small ribosomal subunit protein eS27

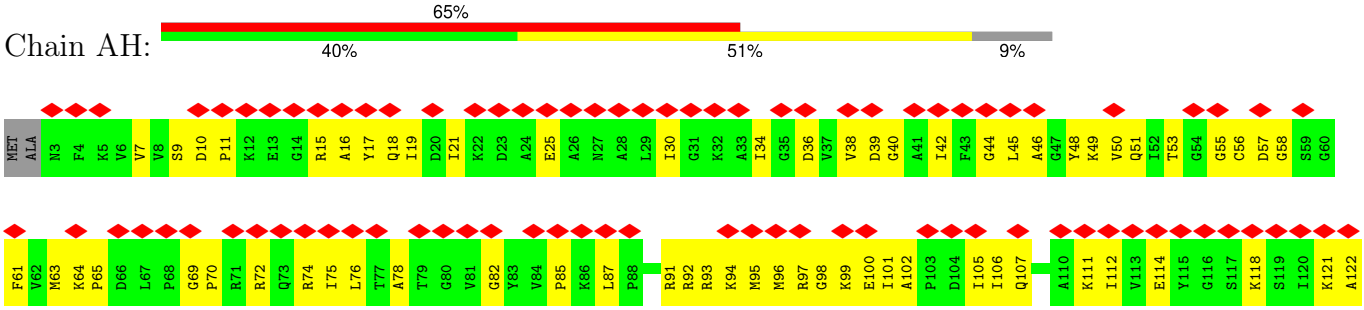




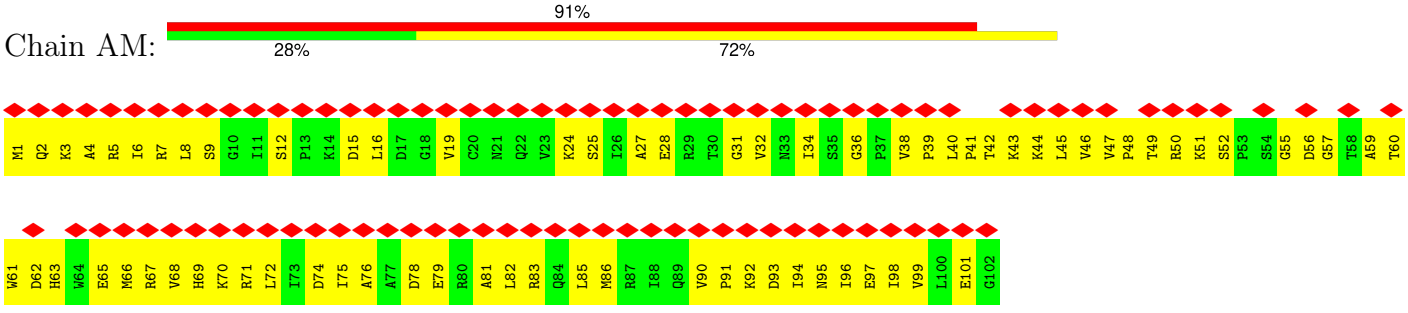
• Molecule 22: Small ribosomal subunit protein eS28



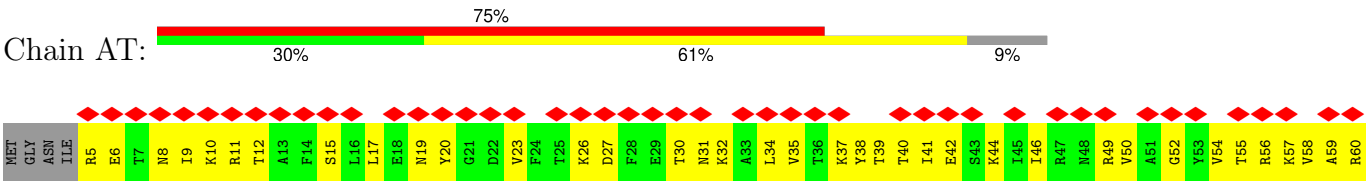
• Molecule 23: Small ribosomal subunit protein eS6



• Molecule 24: Small ribosomal subunit protein uS10

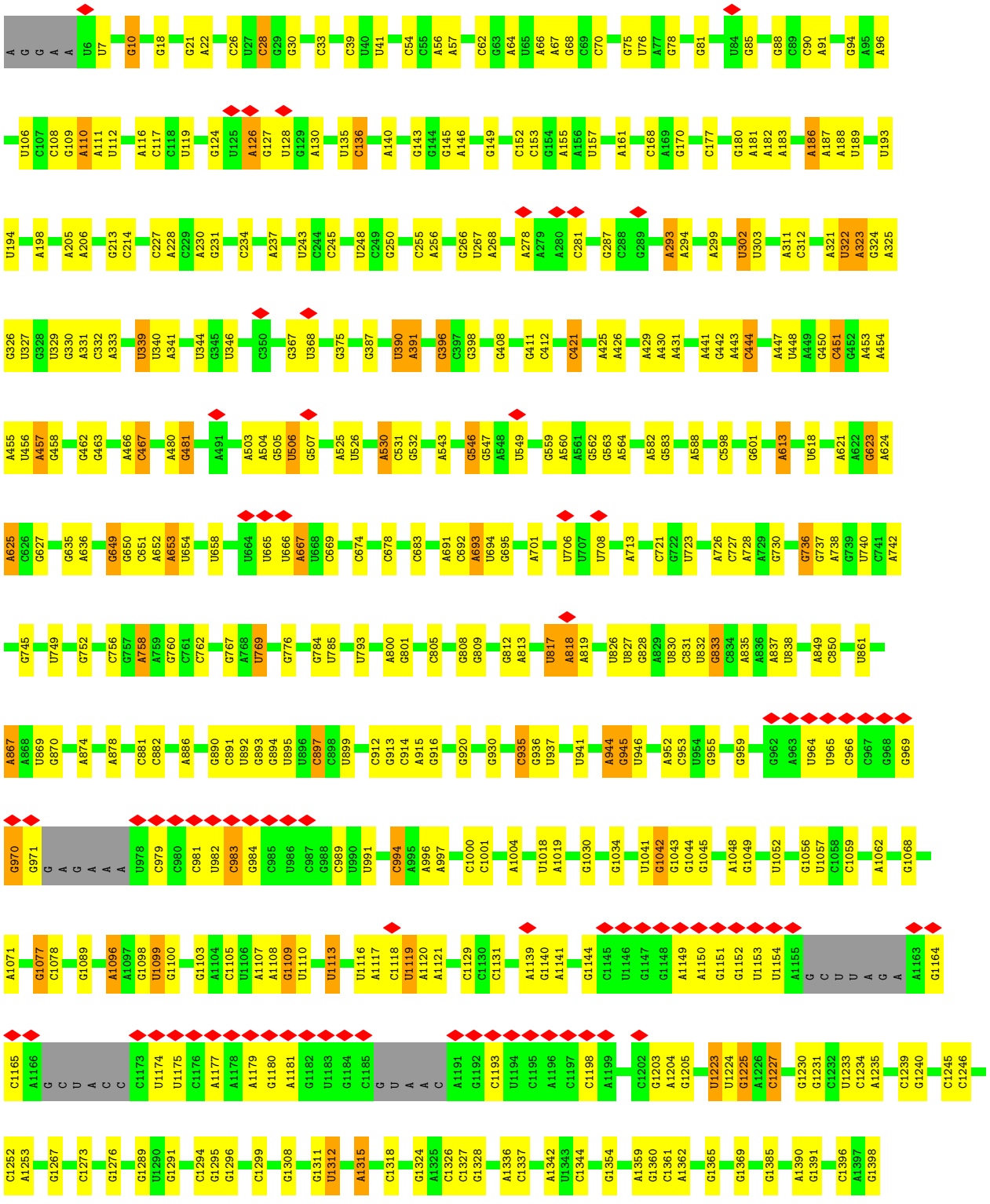


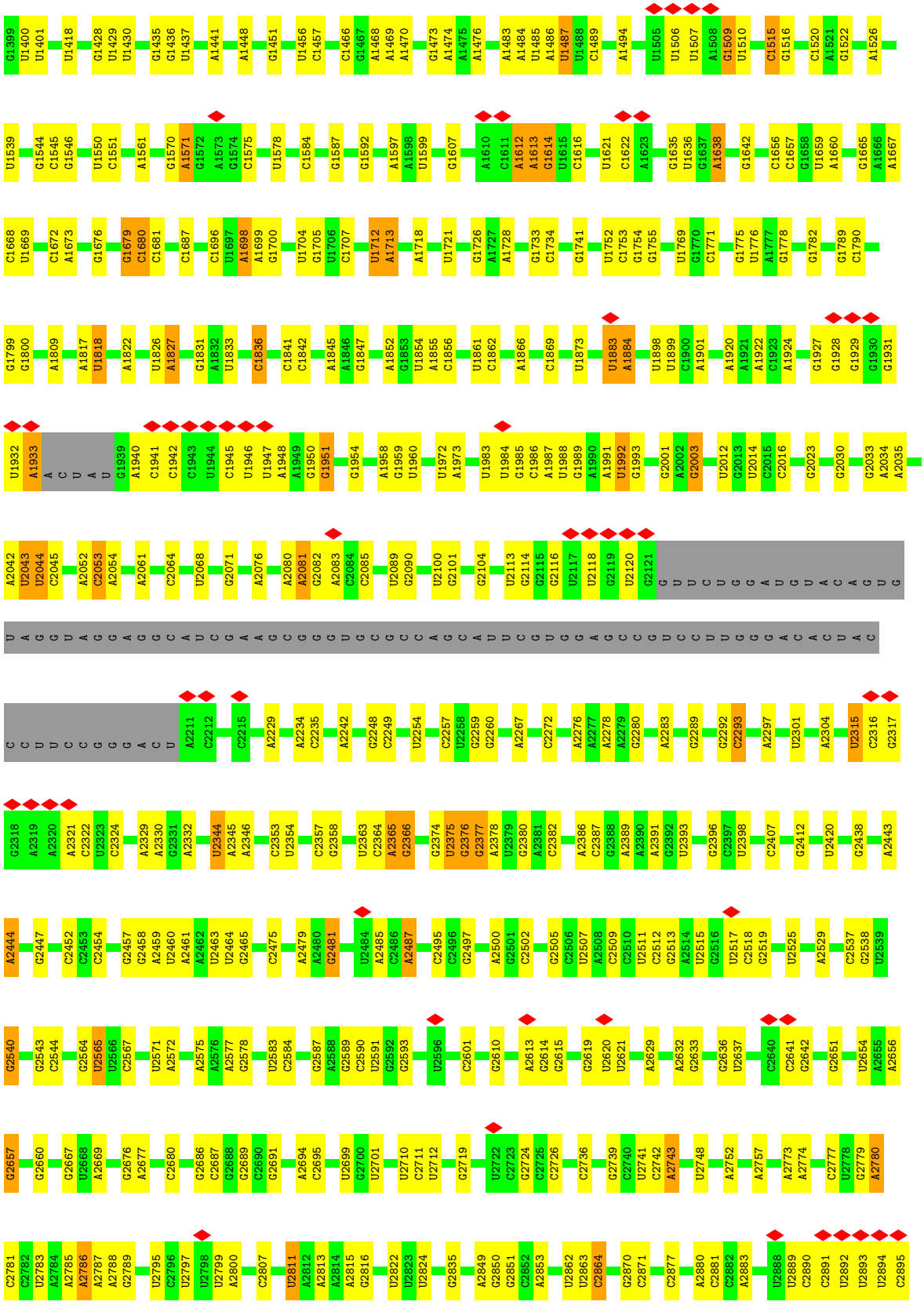
• Molecule 25: Small ribosomal subunit protein eS17

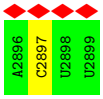


• Molecule 26: 23S rRNA

Chain BA:

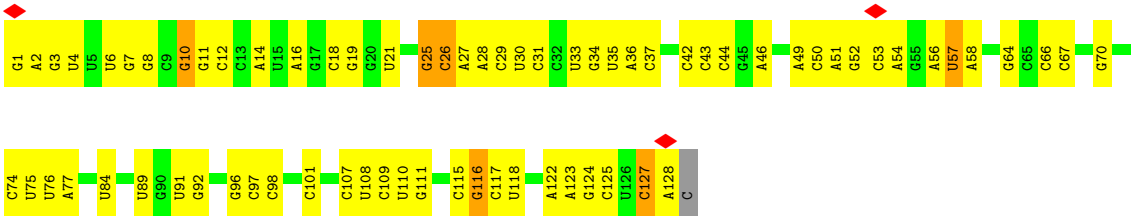






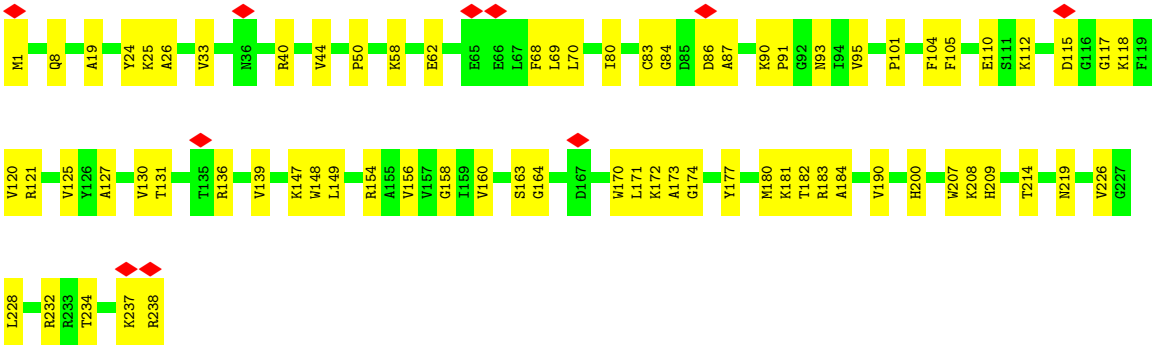
• Molecule 27: 5S rRNA

Chain BB:



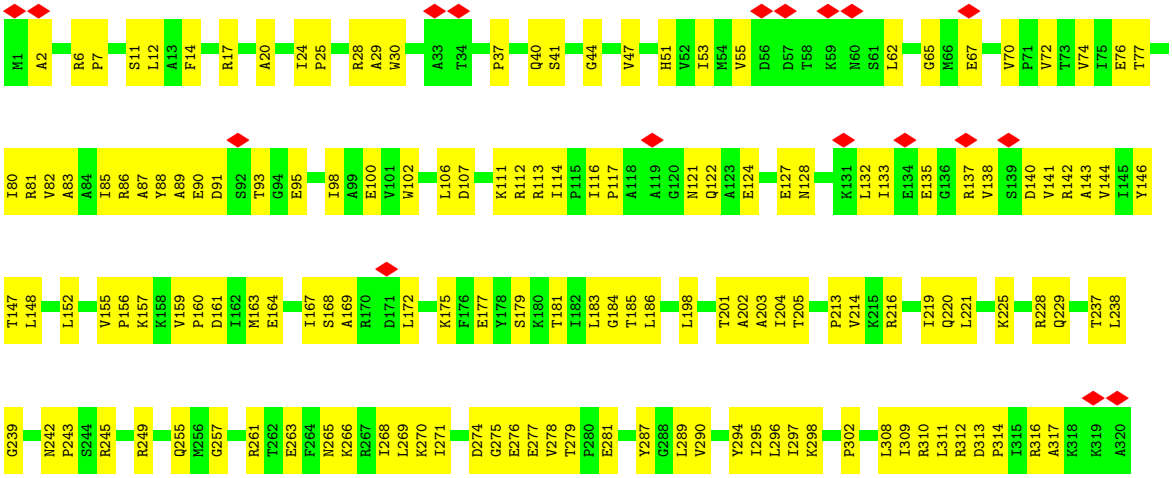
• Molecule 28: Large ribosomal subunit protein uL2

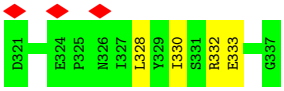
Chain BC:



• Molecule 29: Large ribosomal subunit protein uL3

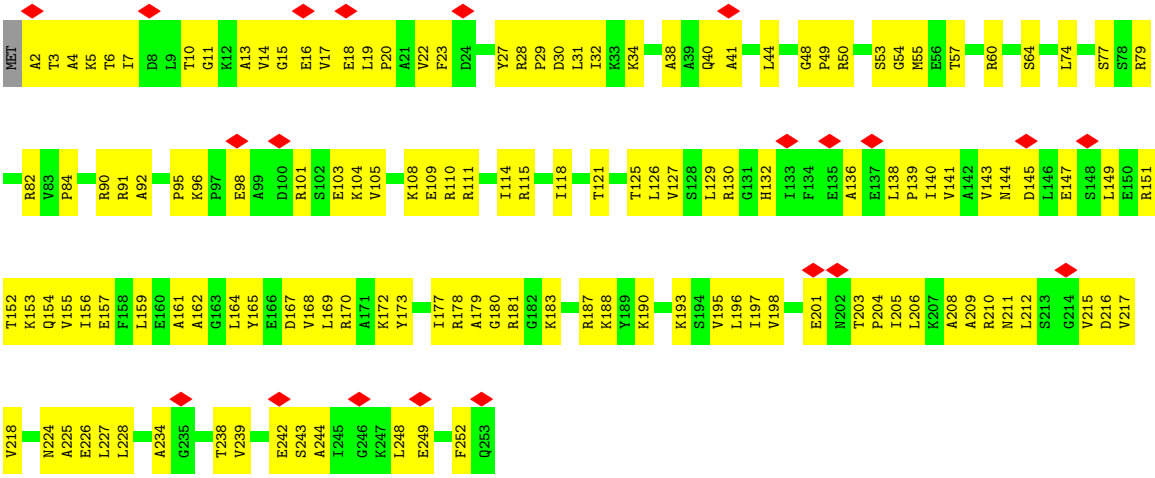
Chain BD:





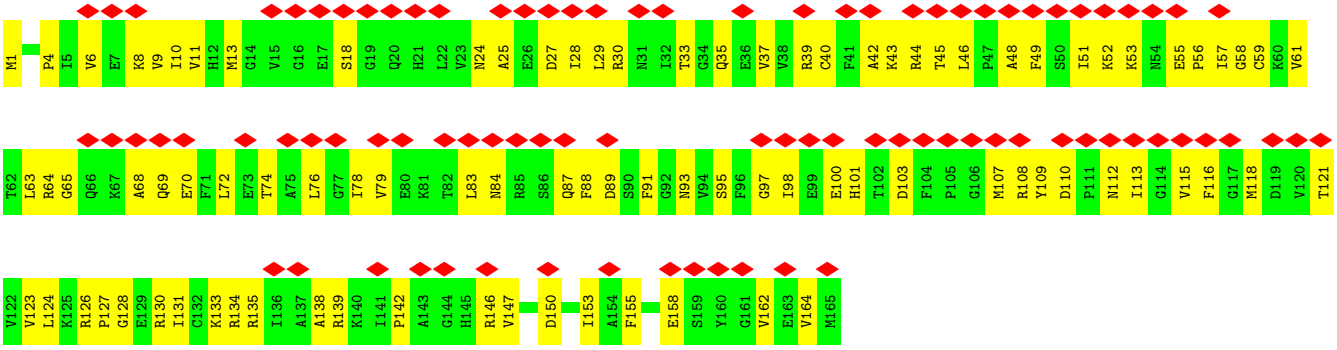
• Molecule 30: Large ribosomal subunit protein uL4

Chain BE:



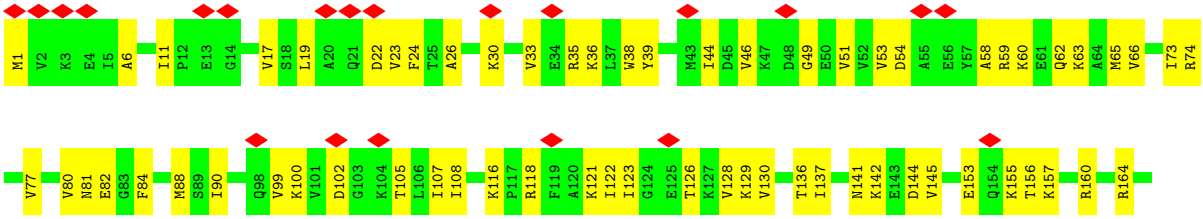
• Molecule 31: Large ribosomal subunit protein uL5

Chain BF:



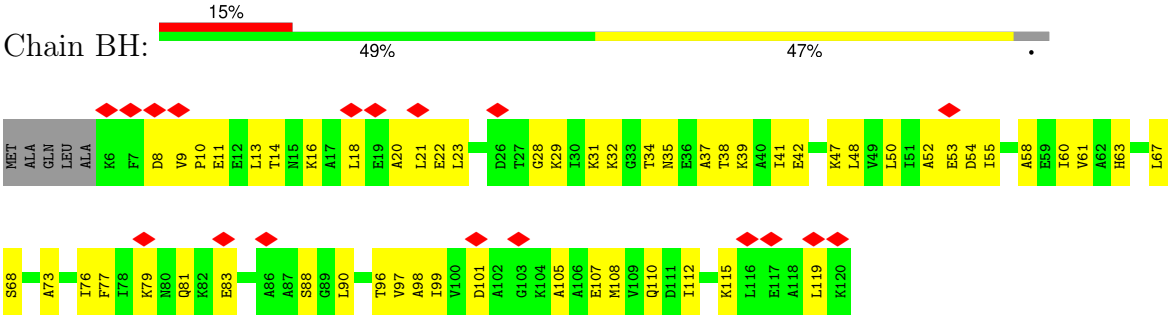
• Molecule 32: Large ribosomal subunit protein uL6

Chain BG:



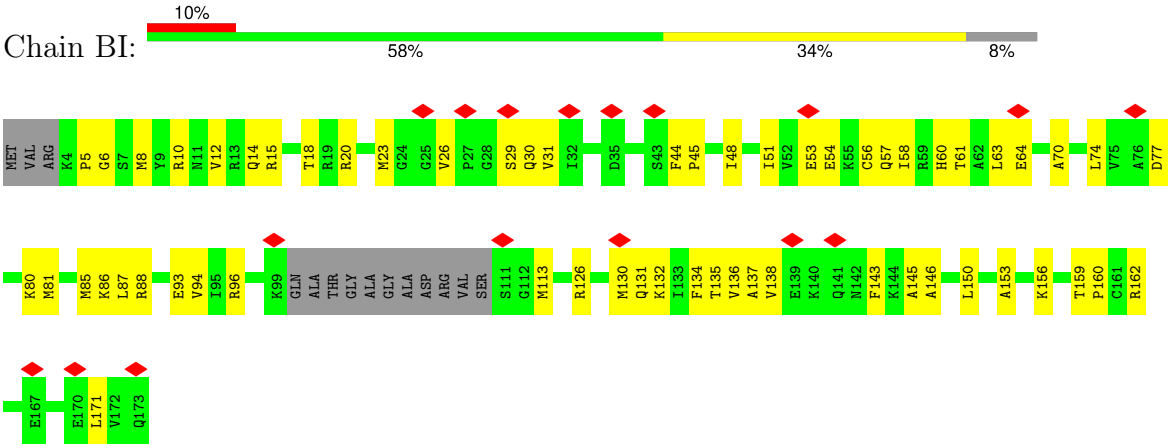
• Molecule 33: Large ribosomal subunit protein eL8

Chain BH:



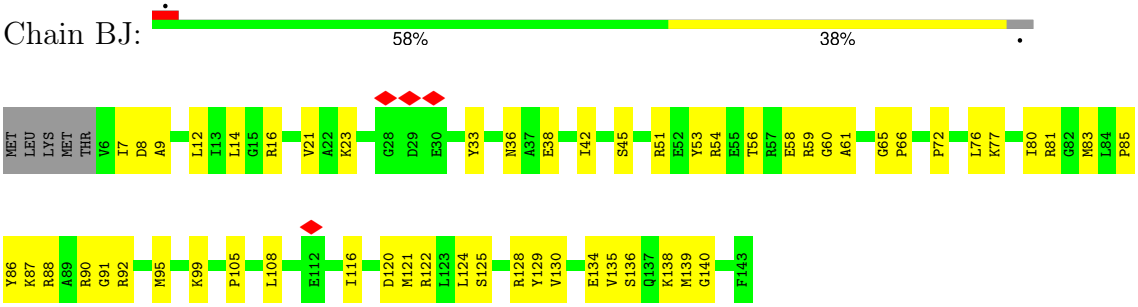
• Molecule 34: Large ribosomal subunit protein uL16

Chain BI:



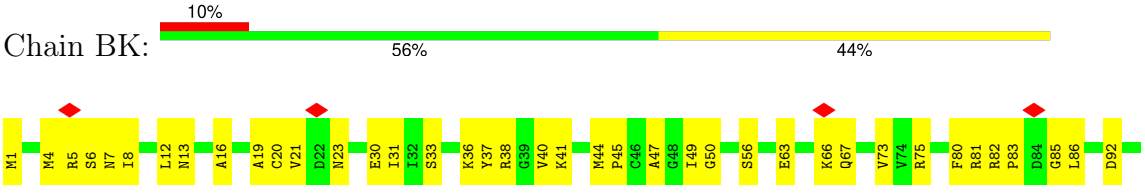
• Molecule 35: Large ribosomal subunit protein uL13

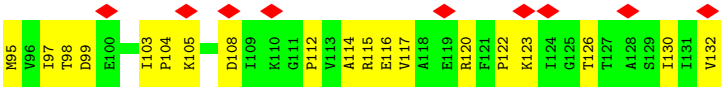
Chain BJ:



• Molecule 36: Large ribosomal subunit protein uL14

Chain BK:



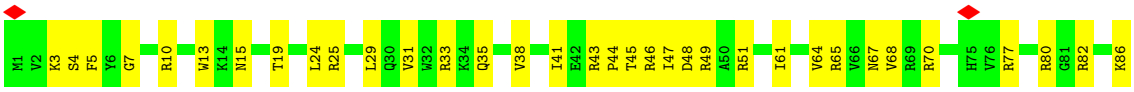


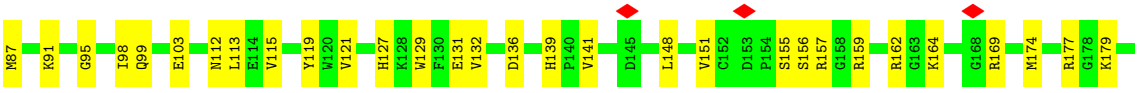
• Molecule 37: Large ribosomal subunit protein uL15

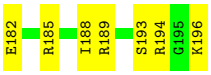
Chain BL:

• Molecule 38: Large ribosomal subunit protein eL15

Chain BM:

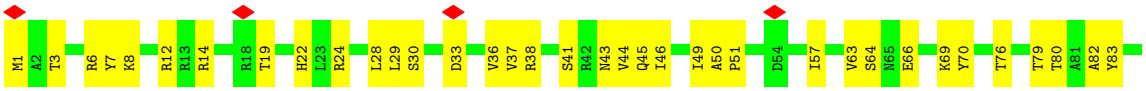


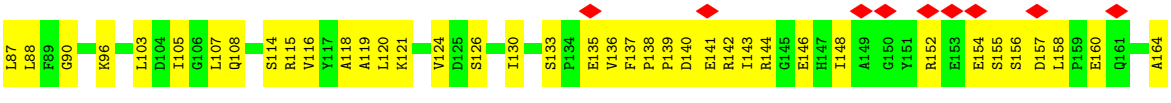




• Molecule 39: Large ribosomal subunit protein uL18

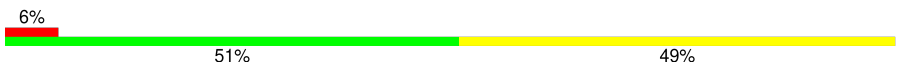
Chain BN:

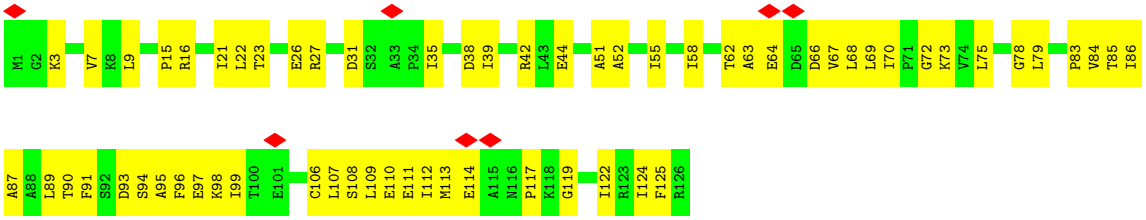




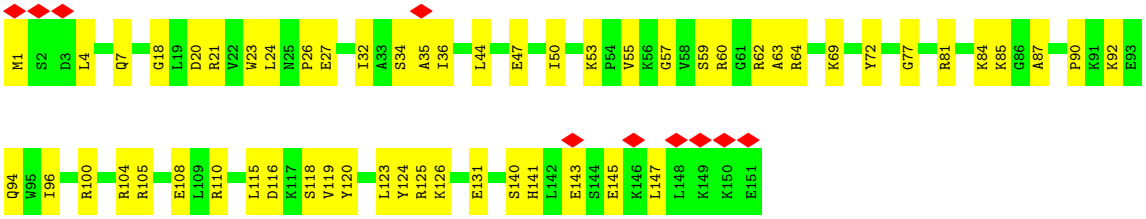
• Molecule 40: Large ribosomal subunit protein eL18

Chain BO:



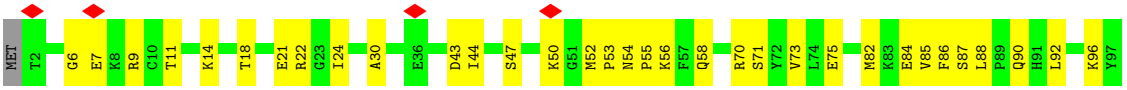


• Molecule 41: Large ribosomal subunit protein eL19

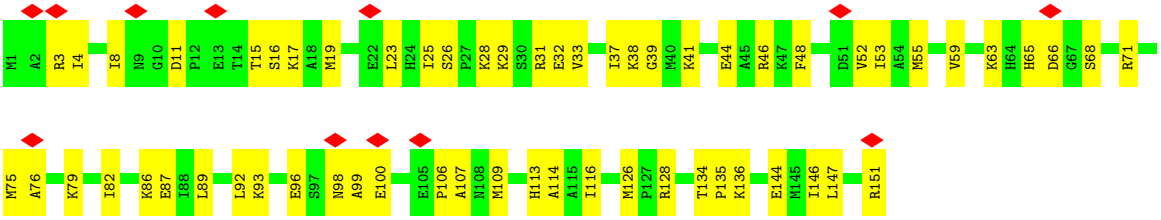


• Molecule 42: Large ribosomal subunit protein eL20

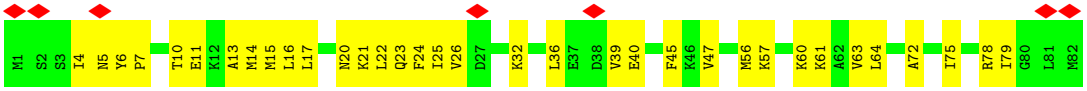
• Molecule 43: Large ribosomal subunit protein eL21



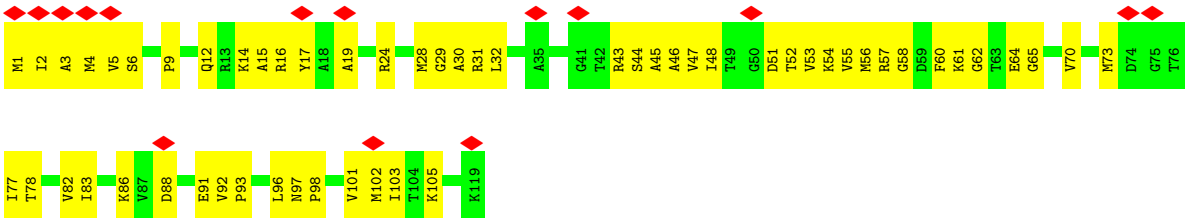
• Molecule 44: Large ribosomal subunit protein uL22



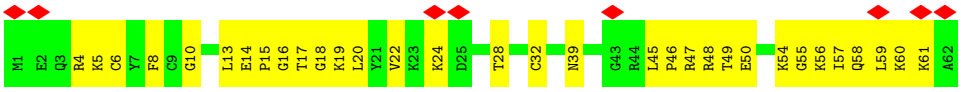
• Molecule 45: Large ribosomal subunit protein uL23



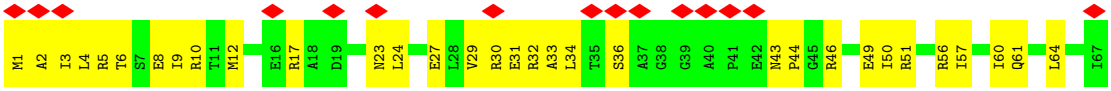
• Molecule 46: Large ribosomal subunit protein uL24



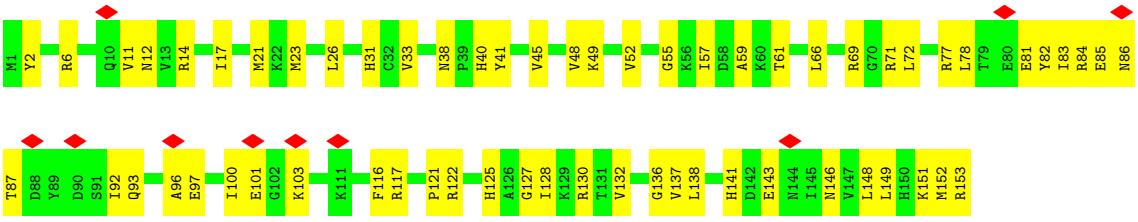
• Molecule 47: Large ribosomal subunit protein eL24



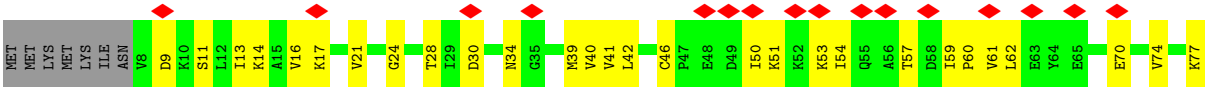
• Molecule 48: Large ribosomal subunit protein uL29

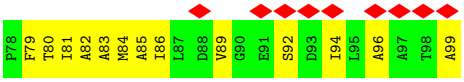


• Molecule 49: Large ribosomal subunit protein uL30



• Molecule 50: Large ribosomal subunit protein eL30



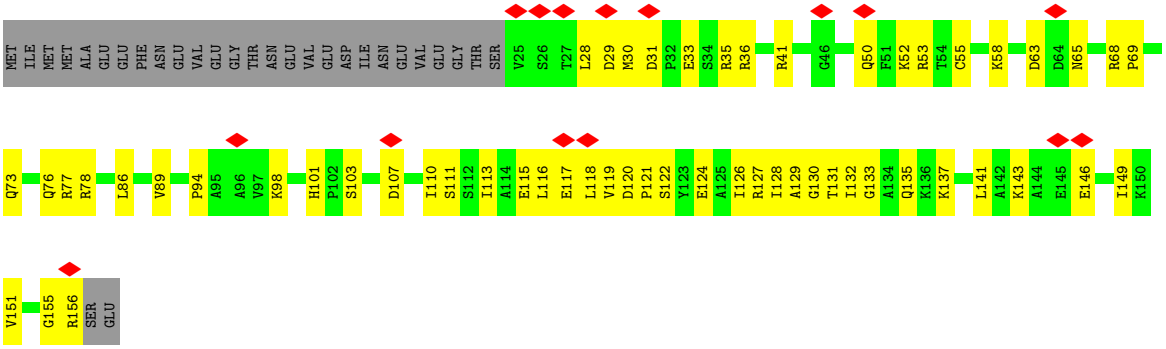


• Molecule 51: Large ribosomal subunit protein eL31

Chain BZ:

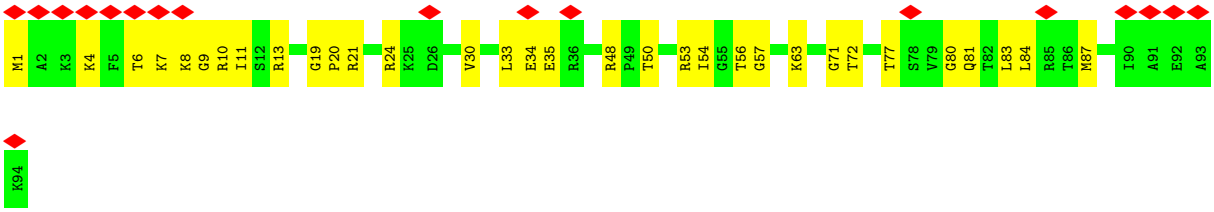
• Molecule 52: Large ribosomal subunit protein eL32

Chain Ba:



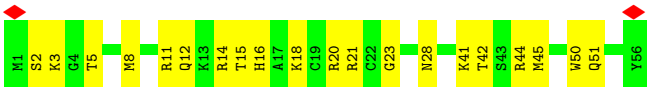
• Molecule 53: Large ribosomal subunit protein eL43

Chain Bb:



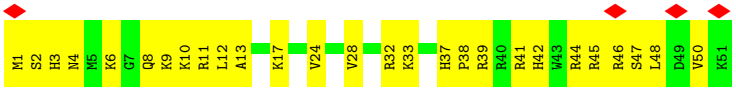
• Molecule 54: Large ribosomal subunit protein eL37

Chain Bc:

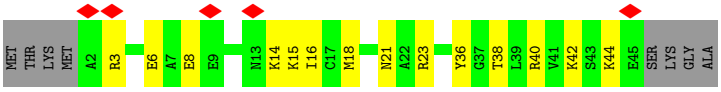


• Molecule 55: Large ribosomal subunit protein eL39

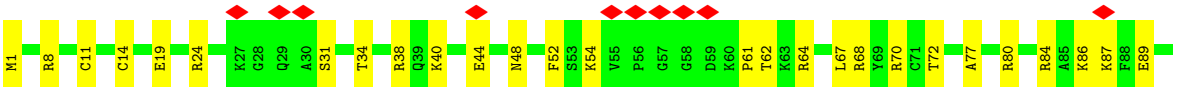
Chain Bd:



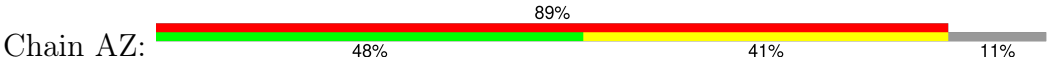
• Molecule 56: Large ribosomal subunit protein eL40

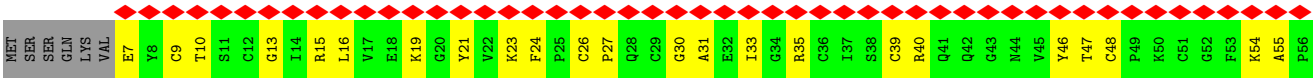


• Molecule 57: Large ribosomal subunit protein eL42



• Molecule 58: Putative zinc finger domain-containing protein





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	91385	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.256	Depositor
Minimum map value	-0.151	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.012	Depositor
Recommended contour level	0.046	Depositor
Map size (Å)	351.84, 351.84, 351.84	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.733, 0.733, 0.733	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.15	0/35052	0.25	0/54669
2	AB	0.13	0/1521	0.32	0/2068
3	AC	0.14	0/1447	0.35	0/1945
4	AD	0.15	0/1472	0.36	0/1985
5	AE	0.13	0/1375	0.33	0/1845
6	AF	0.14	0/1863	0.34	0/2504
7	AG	0.13	0/1531	0.32	0/2078
8	AI	0.16	0/1499	0.39	0/2017
9	AJ	0.16	0/997	0.38	0/1343
10	AK	0.17	0/972	0.35	0/1300
11	AL	0.19	0/1004	0.49	0/1352
12	AN	0.15	0/925	0.33	0/1244
13	AO	0.16	0/1102	0.34	0/1476
14	AP	0.14	0/1047	0.36	0/1407
15	AR	0.12	0/372	0.34	0/488
16	AQ	0.16	0/1247	0.31	0/1678
17	AS	0.16	0/864	0.35	0/1165
18	AU	0.12	0/790	0.33	0/1053
19	AV	0.13	0/1186	0.35	0/1596
20	AW	0.13	0/775	0.32	0/1038
21	AX	0.14	0/473	0.40	0/635
22	AY	0.13	0/473	0.32	0/632
23	AH	0.13	0/943	0.29	0/1266
24	AM	0.11	0/808	0.28	0/1090
25	AT	0.12	0/482	0.27	0/645
26	BA	0.29	0/66494	0.42	0/103680
27	BB	0.19	0/3037	0.29	0/4728
28	BC	0.26	0/1850	0.33	0/2497
29	BD	0.24	0/2646	0.33	0/3569
30	BE	0.22	0/1964	0.34	0/2654
31	BF	0.14	0/1310	0.30	0/1762
32	BG	0.16	0/1392	0.28	0/1870

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	BH	0.15	0/864	0.30	0/1161
34	BI	0.21	0/1284	0.30	0/1719
35	BJ	0.23	0/1101	0.34	0/1474
36	BK	0.23	0/1010	0.33	0/1355
37	BL	0.22	0/1071	0.35	0/1425
38	BM	0.26	0/1625	0.34	0/2176
39	BN	0.18	0/1382	0.31	0/1863
40	BO	0.19	0/975	0.33	0/1312
41	BP	0.22	0/1209	0.32	0/1602
42	BQ	0.18	0/464	0.34	0/614
43	BR	0.23	0/780	0.28	0/1042
44	BS	0.21	0/1189	0.35	0/1588
45	BT	0.18	0/664	0.32	0/884
46	BU	0.18	0/919	0.36	0/1227
47	BV	0.20	0/508	0.26	0/670
48	BW	0.17	0/534	0.31	0/716
49	BX	0.22	0/1259	0.30	0/1692
50	BY	0.15	0/663	0.28	0/897
51	BZ	0.22	0/715	0.30	0/960
52	Ba	0.23	0/1044	0.33	0/1397
53	Bb	0.21	0/749	0.35	0/997
54	Bc	0.31	0/452	0.38	0/593
55	Bd	0.25	0/448	0.37	0/595
56	Be	0.18	0/355	0.27	0/468
57	Bf	0.23	0/777	0.34	0/1029
58	AZ	0.11	0/387	0.29	0/518
All	All	0.23	0/161341	0.35	0/239253

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

Mol	Chain	#Chirality outliers	#Planarity outliers
9	AJ	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	AJ	28	ARG	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	31324	0	15792	1066	0
2	AB	1492	0	1500	109	0
3	AC	1425	0	1460	119	0
4	AD	1454	0	1504	114	0
5	AE	1351	0	1397	103	0
6	AF	1837	0	1912	170	0
7	AG	1506	0	1561	160	0
8	AI	1479	0	1548	126	0
9	AJ	981	0	1008	84	0
10	AK	964	0	1028	85	0
11	AL	993	0	1033	80	0
12	AN	911	0	937	61	0
13	AO	1088	0	1142	78	0
14	AP	1033	0	1089	107	0
15	AR	366	0	362	44	0
16	AQ	1226	0	1305	101	0
17	AS	849	0	877	60	0
18	AU	775	0	787	85	0
19	AV	1163	0	1197	85	0
20	AW	766	0	795	86	0
21	AX	468	0	472	56	0
22	AY	471	0	490	53	0
23	AH	930	0	983	69	0
24	AM	796	0	841	91	0
25	AT	477	0	501	44	0
26	BA	59413	29860	29955	448	0
27	BB	2720	0	1382	62	0
28	BC	1808	0	1842	73	0
29	BD	2597	0	2692	121	0
30	BE	1930	0	1989	117	0
31	BF	1289	0	1317	79	0
32	BG	1371	0	1426	57	0
33	BH	857	0	898	46	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
34	BI	1261	0	1300	45	0
35	BJ	1086	0	1135	47	0
36	BK	999	0	1059	55	0
37	BL	1058	0	1044	41	0
38	BM	1593	0	1637	56	0
39	BN	1356	0	1358	75	0
40	BO	962	0	1021	52	0
41	BP	1195	0	1277	56	0
42	BQ	457	0	463	23	0
43	BR	766	0	777	25	0
44	BS	1169	0	1211	56	0
45	BT	656	0	688	27	0
46	BU	910	0	972	58	0
47	BV	499	0	515	34	0
48	BW	532	0	547	31	0
49	BX	1237	0	1269	49	0
50	BY	658	0	696	41	0
51	BZ	703	0	735	19	0
52	Ba	1028	0	1079	54	0
53	Bb	736	0	771	34	0
54	Bc	445	0	455	21	0
55	Bd	439	0	479	26	0
56	Be	353	0	374	13	0
57	Bf	760	0	797	24	0
58	AZ	379	0	374	32	0
59	AA	6	0	0	0	0
59	AN	1	0	0	0	0
59	AS	1	0	0	0	0
59	BA	42	0	0	0	0
59	Bc	1	0	0	0	0
60	AG	1	0	0	0	0
60	AR	1	0	0	0	0
60	AS	1	0	0	0	0
60	AX	1	0	0	0	0
60	BV	1	0	0	0	0
60	Bb	1	0	0	0	0
60	Bc	1	0	0	0	0
60	Be	1	0	0	0	0
60	Bf	1	0	0	0	0
All	All	149407	29860	105055	4401	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 18.

All (4401) 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)
7:AG:120:CYS:HB2	7:AG:147:PRO:HA	1.45	0.97
21:AX:20:CYS:HB3	21:AX:39:CYS:SG	2.05	0.97
9:AJ:27:VAL:HB	9:AJ:61:TYR:HB2	1.47	0.96
1:AA:1343:A:H4'	1:AA:1344:C:H5"	1.49	0.94
29:BD:25:PRO:HG2	29:BD:310:ARG:HG3	1.51	0.93
29:BD:138:VAL:HG12	29:BD:172:LEU:HD21	1.47	0.92
24:AM:15:ASP:HB2	24:AM:91:PRO:HG2	1.50	0.92
24:AM:19:VAL:HG21	24:AM:90:VAL:HG13	1.50	0.92
3:AC:126:LEU:HG	3:AC:185:PRO:HA	1.51	0.92
13:AO:103:ILE:HD12	13:AO:120:LYS:HD3	1.53	0.91
16:AQ:144:GLU:HG2	16:AQ:145:THR:HG23	1.51	0.91
2:AB:168:ILE:HB	2:AB:190:VAL:HG22	1.53	0.91
6:AF:155:LEU:HD12	6:AF:160:LYS:HB3	1.54	0.90
7:AG:50:ASP:HB3	7:AG:76:VAL:HG22	1.52	0.90
25:AT:9:ILE:HG23	25:AT:50:VAL:HG22	1.52	0.90
6:AF:46:ILE:HG21	6:AF:106:LEU:HD12	1.54	0.90
1:AA:1004:C:H4'	1:AA:1005:C:H5'	1.53	0.90
1:AA:1105:C:H4'	25:AT:49:ARG:HG2	1.51	0.90
49:BX:72:LEU:HD21	49:BX:78:LEU:HD13	1.51	0.89
4:AD:109:VAL:HG12	4:AD:146:LYS:HD3	1.54	0.89
1:AA:696:G:H5"	16:AQ:4:MET:HE1	1.52	0.89
17:AS:18:ASP:HB3	17:AS:21:CYS:HB2	1.52	0.89
1:AA:389:C:H5"	5:AE:127:ILE:HD12	1.53	0.89
19:AV:105:LEU:HB3	19:AV:111:LEU:HD13	1.51	0.89
41:BP:24:LEU:HD13	41:BP:32:ILE:HG21	1.54	0.89
37:BL:79:LEU:HD11	37:BL:99:LEU:HD21	1.53	0.89
7:AG:53:LEU:HD11	7:AG:75:ILE:HB	1.54	0.88
46:BU:3:ALA:HB3	46:BU:5:VAL:HG22	1.54	0.88
11:AL:105:ARG:HD3	11:AL:108:LEU:HB2	1.54	0.88
4:AD:35:THR:HG21	12:AN:26:THR:HG23	1.55	0.88
2:AB:202:ASN:HA	58:AZ:40:ARG:HG2	1.55	0.88
14:AP:38:GLN:HB3	14:AP:63:PRO:HB3	1.56	0.88
14:AP:101:ALA:HB2	18:AU:18:TYR:HB3	1.56	0.88
35:BJ:9:ALA:HA	35:BJ:12:LEU:HD12	1.53	0.88
20:AW:43:LEU:HD11	20:AW:70:VAL:HG21	1.54	0.88
24:AM:43:LYS:HB2	24:AM:68:VAL:HB	1.56	0.87
52:Ba:69:PRO:HB2	52:Ba:77:ARG:HB2	1.53	0.87
1:AA:85:C:HO2'	6:AF:2:THR:N	1.72	0.87
19:AV:137:LEU:HA	19:AV:140:LEU:HG	1.54	0.87
1:AA:242:G:H5'	10:AK:31:SER:HA	1.55	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BW:6:THR:HB	48:BW:56:ARG:HD3	1.57	0.86
1:AA:720:C:H5"	12:AN:121:LYS:HB2	1.58	0.86
12:AN:7:ALA:HB3	12:AN:71:ILE:HG22	1.58	0.85
9:AJ:31:SER:HB3	9:AJ:34:ILE:HG13	1.59	0.85
11:AL:17:ARG:HB3	11:AL:66:ASP:HB3	1.59	0.85
20:AW:14:LEU:HD11	20:AW:80:VAL:HG11	1.56	0.85
18:AU:50:PHE:HB2	18:AU:55:LYS:HD3	1.59	0.85
42:BQ:11:GLY:HA2	42:BQ:56:GLU:HG3	1.57	0.85
1:AA:1141:G:H1'	7:AG:64:SER:HB2	1.59	0.84
1:AA:231:U:H4'	10:AK:13:GLY:HA3	1.57	0.84
12:AN:73:ILE:HB	12:AN:107:ILE:HG23	1.57	0.84
8:AI:110:VAL:HG22	8:AI:121:PRO:HB2	1.59	0.84
51:BZ:21:VAL:HG21	51:BZ:29:ARG:HG2	1.58	0.84
50:BY:40:VAL:HG13	50:BY:59:ILE:HG21	1.60	0.84
6:AF:177:VAL:HG12	6:AF:216:TYR:HA	1.58	0.84
50:BY:28:THR:HG23	50:BY:85:ALA:HB2	1.59	0.84
12:AN:51:THR:HG22	12:AN:55:MET:HE2	1.59	0.84
15:AR:33:CYS:SG	15:AR:36:CYS:HB2	2.18	0.84
37:BL:16:THR:HG22	37:BL:18:LYS:H	1.43	0.84
10:AK:42:LYS:HE3	10:AK:56:LEU:HD11	1.61	0.83
14:AP:44:LEU:HD21	14:AP:109:LEU:HD21	1.60	0.83
31:BF:29:LEU:HD23	31:BF:37:VAL:HG21	1.60	0.83
6:AF:175:MET:HB2	6:AF:220:ILE:HD13	1.61	0.83
14:AP:23:LEU:HD12	14:AP:33:GLY:H	1.42	0.83
14:AP:100:LEU:HD13	18:AU:19:ARG:HG2	1.59	0.83
12:AN:61:ASP:HA	12:AN:64:LYS:HE2	1.62	0.82
8:AI:5:TYR:HB2	8:AI:31:PRO:HB2	1.62	0.82
26:BA:75:G:H21	26:BA:96:A:H62	1.27	0.82
7:AG:17:VAL:HG21	7:AG:40:ILE:HG23	1.60	0.82
39:BN:28:LEU:HD22	39:BN:51:PRO:HG3	1.61	0.82
4:AD:158:MET:HE2	4:AD:162:ILE:HD11	1.62	0.82
18:AU:72:ARG:HG2	18:AU:87:ILE:HD11	1.61	0.82
39:BN:37:VAL:HG22	39:BN:46:ILE:HG12	1.60	0.82
24:AM:34:ILE:HG13	24:AM:75:ILE:HG22	1.60	0.82
1:AA:1094:C:H1'	11:AL:4:VAL:HG23	1.62	0.81
11:AL:105:ARG:HB2	11:AL:108:LEU:HD23	1.63	0.81
12:AN:73:ILE:HG21	12:AN:94:ILE:HD11	1.63	0.81
34:BI:74:LEU:HD21	34:BI:146:ALA:HA	1.60	0.81
39:BN:36:VAL:HG21	39:BN:49:ILE:HD12	1.61	0.81
37:BL:67:VAL:HG12	37:BL:101:ILE:HG21	1.62	0.81
12:AN:18:THR:HG23	12:AN:55:MET:HE1	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:21:ILE:HG21	4:AD:32:VAL:HB	1.61	0.81
6:AF:126:VAL:HG23	6:AF:132:GLN:HB2	1.62	0.81
1:AA:1092:U:H4'	1:AA:1093:A:H5"	1.62	0.80
7:AG:112:ARG:HD3	58:AZ:15:ARG:HH22	1.44	0.80
33:BH:52:ALA:HB3	33:BH:55:ILE:HD11	1.63	0.80
10:AK:37:SER:HB2	10:AK:57:GLN:HB3	1.63	0.80
46:BU:70:VAL:HG22	46:BU:77:ILE:HG22	1.63	0.80
9:AJ:37:VAL:HG22	9:AJ:103:ILE:HG21	1.63	0.80
3:AC:81:ASP:HB2	3:AC:83:GLN:HE22	1.45	0.80
30:BE:22:VAL:HG23	30:BE:115:ARG:HG2	1.62	0.80
1:AA:373:A:H5'	6:AF:20:ASN:HD22	1.47	0.80
1:AA:458:C:H1'	13:AO:62:SER:HB3	1.62	0.80
5:AE:100:ILE:HG23	5:AE:103:LEU:HD12	1.62	0.80
52:Ba:121:PRO:HB3	52:Ba:149:ILE:HA	1.63	0.80
1:AA:853:A:H5"	13:AO:32:LEU:HD21	1.63	0.80
23:AH:49:LYS:HB2	23:AH:114:GLU:HB3	1.63	0.80
36:BK:8:ILE:HG21	36:BK:49:ILE:HB	1.64	0.80
11:AL:20:VAL:HG13	11:AL:63:ILE:HG13	1.63	0.80
24:AM:6:ILE:HD11	24:AM:75:ILE:HG12	1.63	0.80
3:AC:117:LEU:HD22	3:AC:146:PHE:HB3	1.63	0.79
8:AI:21:LEU:HD22	22:AY:60:ILE:HG21	1.64	0.79
10:AK:32:ALA:HB3	10:AK:54:ARG:HD2	1.63	0.79
23:AH:63:MET:HA	23:AH:97:ARG:HB2	1.64	0.79
1:AA:514:A:HO2'	1:AA:827:C:HO2'	1.28	0.79
5:AE:110:GLU:HA	5:AE:115:THR:HG21	1.65	0.79
6:AF:29:GLY:HA3	6:AF:78:PRO:HG2	1.61	0.79
1:AA:1321:A:H4'	8:AI:59:ASN:HB2	1.64	0.79
4:AD:43:LEU:HA	4:AD:46:ARG:HD3	1.63	0.79
39:BN:103:LEU:HB2	39:BN:130:ILE:HD11	1.63	0.79
16:AQ:102:LEU:HD13	16:AQ:112:LYS:HD2	1.63	0.79
16:AQ:57:ARG:HA	21:AX:34:ILE:HG23	1.64	0.79
26:BA:2353:C:HO2'	26:BA:2386:A:HO2'	1.25	0.79
44:BS:23:LEU:HD13	44:BS:87:GLU:HB3	1.65	0.79
40:BO:86:ILE:HD13	40:BO:99:ILE:HD13	1.62	0.79
52:Ba:121:PRO:HG3	52:Ba:149:ILE:HG12	1.64	0.79
19:AV:4:VAL:HG11	19:AV:128:MET:HE2	1.63	0.79
24:AM:7:ARG:HB2	24:AM:97:GLU:HB3	1.64	0.79
8:AI:87:LYS:HA	8:AI:90:LYS:HE3	1.63	0.78
30:BE:147:GLU:HB3	30:BE:203:THR:HG21	1.65	0.78
6:AF:69:GLY:HA3	6:AF:158:PRO:HB3	1.64	0.78
50:BY:14:LYS:HE3	50:BY:92:SER:HA	1.66	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AQ:96:LEU:HD11	16:AQ:147:GLU:HG2	1.65	0.78
1:AA:464:G:H4'	13:AO:105:GLY:HA2	1.65	0.78
1:AA:625:G:H21	12:AN:30:THR:HG21	1.47	0.78
6:AF:43:ILE:HD11	6:AF:49:LEU:HD12	1.64	0.78
30:BE:195:VAL:HB	30:BE:215:VAL:HG22	1.66	0.78
7:AG:117:SER:HB2	7:AG:120:CYS:HB3	1.64	0.78
1:AA:161:C:H42	1:AA:183:G:H1	1.33	0.77
7:AG:92:GLN:HB3	7:AG:95:PRO:HD2	1.64	0.77
29:BD:85:ILE:HD12	29:BD:179:SER:HB2	1.66	0.77
32:BG:90:ILE:HD13	32:BG:99:VAL:HG21	1.67	0.77
8:AI:112:ARG:HB3	22:AY:26:MET:HE1	1.67	0.77
14:AP:49:ARG:HE	19:AV:43:LEU:HD21	1.48	0.77
5:AE:113:LEU:HD13	5:AE:152:VAL:HG11	1.66	0.77
6:AF:90:VAL:HB	6:AF:92:GLU:HG3	1.66	0.77
16:AQ:23:PRO:HG3	16:AQ:61:PRO:HG2	1.67	0.77
5:AE:117:VAL:HG13	5:AE:129:ALA:HB1	1.65	0.77
3:AC:157:PRO:HA	3:AC:161:VAL:HB	1.67	0.77
9:AJ:111:MET:HE1	9:AJ:119:LYS:HG3	1.66	0.77
11:AL:17:ARG:HB2	11:AL:68:ARG:HH12	1.49	0.76
1:AA:115:U:H5"	6:AF:139:THR:HG22	1.68	0.76
36:BK:4:MET:HE1	36:BK:50:GLY:HA3	1.66	0.76
39:BN:64:SER:HB3	39:BN:76:THR:HB	1.65	0.76
24:AM:40:LEU:HD11	24:AM:72:LEU:HB2	1.67	0.76
5:AE:140:ILE:HB	5:AE:160:ILE:HD13	1.68	0.76
9:AJ:111:MET:HE3	9:AJ:116:ALA:HA	1.66	0.76
12:AN:19:ILE:HG12	12:AN:35:SER:HB2	1.68	0.76
21:AX:33:LYS:HD3	21:AX:45:GLU:HA	1.66	0.76
39:BN:43:ASN:HB2	39:BN:64:SER:HB2	1.66	0.76
36:BK:132:VAL:HG11	47:BV:22:VAL:HG21	1.67	0.76
31:BF:131:ILE:HG23	31:BF:134:ARG:HH21	1.50	0.75
6:AF:92:GLU:HA	6:AF:108:LYS:HE3	1.67	0.75
28:BC:105:PHE:HB2	53:Bb:83:LEU:HD12	1.68	0.75
15:AR:33:CYS:SG	15:AR:36:CYS:CB	2.74	0.75
20:AW:23:VAL:HB	20:AW:64:SER:HB2	1.68	0.75
1:AA:1063:G:H22	1:AA:1097:U:H1'	1.51	0.75
45:BT:4:ILE:HD13	45:BT:26:VAL:HG12	1.69	0.75
31:BF:8:LYS:HG2	31:BF:123:VAL:HG22	1.69	0.75
16:AQ:96:LEU:HD21	16:AQ:147:GLU:HG3	1.68	0.75
23:AH:118:LYS:HB2	23:AH:123:LEU:HD11	1.68	0.75
2:AB:59:LEU:HG	2:AB:106:ARG:HH21	1.52	0.74
20:AW:35:VAL:HG21	20:AW:55:ILE:HG21	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BV:46:PRO:HB2	47:BV:54:LYS:HD2	1.68	0.74
6:AF:191:ILE:HG12	6:AF:202:VAL:HG23	1.68	0.74
21:AX:35:THR:HA	21:AX:42:THR:HA	1.68	0.74
33:BH:23:LEU:HD23	33:BH:105:ALA:HB2	1.69	0.74
10:AK:110:THR:HG21	10:AK:122:VAL:HG23	1.69	0.74
18:AU:44:ARG:HA	18:AU:47:LYS:HE2	1.70	0.74
23:AH:45:LEU:HD21	23:AH:124:LEU:HG	1.69	0.74
6:AF:93:ALA:HB3	6:AF:109:LEU:HB2	1.69	0.74
12:AN:52:ALA:HA	12:AN:55:MET:HE3	1.69	0.74
6:AF:42:ILE:HD13	6:AF:46:ILE:HD13	1.69	0.74
17:AS:16:CYS:HB3	17:AS:77:CYS:HB3	1.69	0.74
7:AG:194:GLN:HA	7:AG:197:VAL:HG12	1.68	0.74
30:BE:140:ILE:HD13	30:BE:164:LEU:HD11	1.70	0.74
33:BH:41:ILE:HD13	33:BH:68:SER:HB2	1.69	0.74
44:BS:55:MET:HE2	44:BS:82:ILE:HD11	1.69	0.74
1:AA:938:G:H1'	1:AA:983:A:H61	1.53	0.73
2:AB:72:ILE:HG23	2:AB:93:LEU:HD13	1.69	0.73
39:BN:148:ILE:HD12	39:BN:156:SER:HA	1.68	0.73
19:AV:74:ARG:HH21	19:AV:92:LYS:HB3	1.54	0.73
28:BC:91:PRO:HD3	53:Bb:87:MET:HE1	1.68	0.73
30:BE:125:THR:O	30:BE:129:LEU:HB2	1.88	0.73
6:AF:38:PRO:HG2	6:AF:41:ILE:HD12	1.70	0.73
52:Ba:128:ILE:HD11	52:Ba:141:LEU:HD21	1.70	0.73
11:AL:15:THR:HB	11:AL:68:ARG:HB2	1.70	0.73
30:BE:32:ILE:HD13	30:BE:234:ALA:HB2	1.70	0.73
46:BU:47:VAL:HG22	46:BU:103:ILE:HD11	1.70	0.73
2:AB:104:ARG:HH21	2:AB:206:VAL:H	1.37	0.73
6:AF:39:LEU:HD22	6:AF:60:LEU:HD21	1.69	0.73
10:AK:46:THR:HG21	10:AK:52:LYS:HE2	1.68	0.73
6:AF:124:THR:HG23	6:AF:132:GLN:HB3	1.71	0.73
41:BP:4:LEU:HD22	41:BP:32:ILE:HG22	1.69	0.73
20:AW:46:PRO:HD2	20:AW:49:LEU:HB2	1.69	0.73
30:BE:156:ILE:HD12	30:BE:165:TYR:HE1	1.51	0.73
26:BA:2374:G:O2'	26:BA:2375:U:O4'	2.07	0.72
43:BR:54:ASN:HB3	43:BR:56:LYS:HG2	1.70	0.72
2:AB:211:ASN:HA	2:AB:217:LEU:HD21	1.72	0.72
20:AW:3:ILE:HD13	20:AW:23:VAL:HA	1.69	0.72
6:AF:12:SER:HB3	6:AF:104:LEU:HD23	1.70	0.72
21:AX:33:LYS:HZ3	21:AX:46:PRO:HD2	1.54	0.72
24:AM:7:ARG:HG2	24:AM:72:LEU:HD13	1.71	0.72
46:BU:83:ILE:HG22	46:BU:93:PRO:HA	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AL:32:ILE:HG21	11:AL:38:THR:H	1.54	0.72
20:AW:7:LYS:HB3	20:AW:20:ASP:HB2	1.71	0.72
20:AW:51:ILE:HG13	20:AW:89:ASN:HD22	1.53	0.72
9:AJ:53:ILE:HD13	21:AX:4:TYR:HB2	1.71	0.72
39:BN:103:LEU:HD22	39:BN:120:LEU:HD22	1.71	0.72
50:BY:28:THR:HG21	50:BY:83:ALA:HB1	1.69	0.72
2:AB:191:VAL:HG22	2:AB:205:LEU:HB2	1.71	0.72
6:AF:65:VAL:HG13	6:AF:87:LEU:HD21	1.72	0.72
12:AN:80:GLY:HA2	12:AN:114:PRO:HG3	1.70	0.72
22:AY:63:LEU:HB2	22:AY:66:THR:HG22	1.72	0.72
39:BN:141:GLU:HB2	39:BN:146:GLU:HG3	1.72	0.72
1:AA:1152:U:H4'	3:AC:175:THR:HG21	1.72	0.72
2:AB:97:ASP:HB3	2:AB:100:SER:HB2	1.70	0.72
4:AD:37:ALA:HB1	4:AD:42:LEU:HD22	1.71	0.72
29:BD:113:ARG:HG3	29:BD:114:ILE:HG23	1.72	0.72
1:AA:464:G:H5"	13:AO:111:MET:HG3	1.69	0.72
1:AA:921:G:H4'	1:AA:922:A:H5'	1.72	0.71
9:AJ:46:TYR:HB3	9:AJ:69:ILE:HG22	1.71	0.71
23:AH:34:ILE:H	23:AH:99:LYS:HB2	1.54	0.71
26:BA:75:G:N2	26:BA:96:A:H62	1.86	0.71
24:AM:51:LYS:HD2	24:AM:60:THR:HB	1.72	0.71
50:BY:51:LYS:HA	50:BY:54:ILE:HG12	1.71	0.71
10:AK:34:THR:HG21	10:AK:113:PRO:HB2	1.72	0.71
22:AY:38:LEU:HA	22:AY:43:LYS:HG2	1.72	0.71
31:BF:76:LEU:HD22	31:BF:162:VAL:HG21	1.71	0.71
43:BR:71:SER:HB3	43:BR:88:LEU:HD23	1.70	0.71
1:AA:1269:C:H4'	1:AA:1270:G:H5'	1.73	0.71
44:BS:25:ILE:HG21	44:BS:87:GLU:HG3	1.71	0.71
23:AH:78:ALA:HB2	23:AH:91:ARG:HG2	1.72	0.71
1:AA:275:U:H3	1:AA:286:A:H61	1.37	0.71
1:AA:503:A:HO2'	1:AA:506:G:HO2'	1.37	0.70
6:AF:220:ILE:HD12	6:AF:229:LEU:HD11	1.73	0.70
1:AA:88:C:H1'	1:AA:336:G:H5'	1.73	0.70
16:AQ:17:PRO:HB3	21:AX:8:PRO:HD3	1.73	0.70
10:AK:76:ILE:HG12	10:AK:100:ILE:HD12	1.73	0.70
12:AN:35:SER:H	12:AN:38:MET:HG3	1.55	0.70
19:AV:38:GLY:HA2	19:AV:94:SER:HB2	1.72	0.70
20:AW:32:ARG:HA	20:AW:55:ILE:HD11	1.74	0.70
7:AG:182:LEU:HD11	7:AG:186:LYS:HE3	1.74	0.70
50:BY:77:LYS:HG3	50:BY:81:ILE:HD11	1.74	0.70
3:AC:33:MET:HE1	3:AC:44:ILE:HD12	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AJ:18:GLU:HG3	9:AJ:69:ILE:HG13	1.73	0.70
26:BA:601:G:O2'	26:BA:1308:G:OP1	2.09	0.70
20:AW:14:LEU:HD22	20:AW:16:ARG:HD3	1.73	0.70
34:BI:70:ALA:HB2	34:BI:153:ALA:HB2	1.73	0.70
35:BJ:86:TYR:HA	35:BJ:91:GLY:HA3	1.74	0.70
23:AH:46:ALA:H	23:AH:123:LEU:HD13	1.57	0.69
24:AM:90:VAL:HG11	24:AM:96:ILE:HD11	1.74	0.69
50:BY:89:VAL:HG12	50:BY:92:SER:HB3	1.74	0.69
4:AD:160:GLU:HA	4:AD:165:ARG:HB2	1.74	0.69
27:BB:52:G:H21	27:BB:53:C:H41	1.40	0.69
6:AF:195:LYS:HE2	17:AS:5:ILE:HD13	1.74	0.69
26:BA:1578:U:OP2	41:BP:124:TYR:OH	2.11	0.69
45:BT:14:MET:HA	45:BT:17:LEU:HD13	1.74	0.69
20:AW:52:ILE:HA	20:AW:68:ALA:HA	1.74	0.69
1:AA:764:U:HO2'	9:AJ:2:VAL:N	1.90	0.69
17:AS:54:MET:HG2	17:AS:65:LYS:HG3	1.74	0.69
24:AM:43:LYS:HD3	24:AM:70:LYS:HE3	1.75	0.69
29:BD:271:ILE:HD13	29:BD:295:ILE:HG22	1.75	0.69
24:AM:50:ARG:HD2	24:AM:61:TRP:HE1	1.57	0.69
26:BA:1476:A:O2'	26:BA:1487:U:O2	2.11	0.69
7:AG:143:LEU:HD13	7:AG:170:VAL:HG11	1.75	0.69
57:Bf:11:CYS:HB3	57:Bf:14:CYS:SG	2.32	0.69
7:AG:38:PRO:HA	7:AG:106:LEU:HD21	1.76	0.68
26:BA:1044:G:OP1	34:BI:96:ARG:NH2	2.26	0.68
33:BH:20:ALA:HB2	33:BH:108:MET:HE2	1.76	0.68
1:AA:526:C:H5"	13:AO:4:GLY:HA3	1.74	0.68
14:AP:55:ILE:HD13	14:AP:88:ILE:HD11	1.73	0.68
6:AF:119:ARG:HD2	6:AF:218:ILE:HD12	1.75	0.68
24:AM:32:VAL:HG13	24:AM:76:ALA:HB3	1.75	0.68
32:BG:17:VAL:HG12	32:BG:26:ALA:HA	1.76	0.68
33:BH:9:VAL:HG12	33:BH:119:LEU:HD11	1.75	0.68
26:BA:2374:G:O2'	26:BA:2375:U:O5'	2.11	0.68
2:AB:105:ILE:HG12	2:AB:224:LEU:HD21	1.76	0.68
7:AG:75:ILE:HD12	7:AG:85:LEU:HA	1.74	0.68
10:AK:54:ARG:HD3	10:AK:114:GLY:HA2	1.76	0.68
17:AS:39:VAL:HB	17:AS:48:VAL:HG13	1.75	0.68
26:BA:453:A:N3	26:BA:457:A:O2'	2.26	0.68
44:BS:41:LYS:HB2	44:BS:44:GLU:HG2	1.75	0.68
40:BO:110:GLU:HA	40:BO:113:MET:HE2	1.76	0.68
1:AA:1050:A:H2'	1:AA:1051:C:H5'	1.74	0.68
7:AG:60:ARG:HB3	7:AG:67:ARG:HB2	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AJ:29:PRO:HB3	9:AJ:58:ALA:HB3	1.74	0.68
10:AK:63:VAL:HG12	10:AK:123:LEU:HB2	1.76	0.68
17:AS:1:MET:HE2	17:AS:1:MET:HA	1.76	0.68
46:BU:78:THR:HG21	46:BU:93:PRO:HB2	1.76	0.68
8:AI:112:ARG:HD2	8:AI:121:PRO:HB3	1.76	0.68
26:BA:2366:G:OP1	43:BR:9:ARG:NH2	2.27	0.67
30:BE:209:ALA:HA	30:BE:212:LEU:HD23	1.76	0.67
1:AA:1438:A:H5"	1:AA:1446:G:H5"	1.76	0.67
26:BA:683:C:O2	26:BA:723:U:O2'	2.11	0.67
26:BA:1734:C:O2	29:BD:228:ARG:NH2	2.24	0.67
3:AC:152:LYS:HE3	3:AC:157:PRO:HG2	1.75	0.67
12:AN:73:ILE:HG13	12:AN:94:ILE:HG12	1.76	0.67
26:BA:1204:A:O2'	32:BG:1:MET:N	2.28	0.67
26:BA:1240:G:OP1	42:BQ:49:LYS:NZ	2.27	0.67
49:BX:83:ILE:O	49:BX:87:THR:OG1	2.13	0.67
1:AA:197:C:H4'	1:AA:198:G:H5"	1.76	0.67
1:AA:920:G:OP2	15:AR:20:ARG:NH2	2.28	0.67
46:BU:58:GLY:O	46:BU:61:LYS:NZ	2.28	0.67
1:AA:1095:U:O2	11:AL:17:ARG:NH2	2.27	0.67
2:AB:135:MET:HG3	2:AB:243:PHE:HA	1.76	0.67
6:AF:23:ILE:HG22	6:AF:41:ILE:HD11	1.77	0.67
9:AJ:60:ILE:HD11	21:AX:4:TYR:HB3	1.77	0.67
16:AQ:150:ILE:HG12	50:BY:17:LYS:HE3	1.77	0.67
26:BA:124:G:N2	26:BA:126:A:O4'	2.27	0.67
26:BA:1836:C:OP2	28:BC:147:LYS:NZ	2.28	0.67
28:BC:130:VAL:HG12	28:BC:131:THR:HG23	1.76	0.67
1:AA:689:G:OP1	21:AX:10:SER:OG	2.13	0.67
26:BA:2686:G:O2'	36:BK:38:ARG:O	2.12	0.67
44:BS:128:ARG:HG3	44:BS:134:THR:HG23	1.74	0.67
47:BV:4:ARG:HB2	47:BV:13:LEU:HB2	1.77	0.67
57:Bf:87:LYS:HE2	57:Bf:89:GLU:HG2	1.77	0.67
1:AA:903:U:O2'	1:AA:905:A:N7	2.26	0.67
3:AC:158:VAL:HA	3:AC:162:VAL:HG22	1.76	0.67
4:AD:148:ARG:O	4:AD:152:SER:OG	2.13	0.67
8:AI:186:LYS:HE2	8:AI:189:ARG:HD3	1.75	0.67
16:AQ:5:HIS:HB2	16:AQ:117:LEU:HD13	1.76	0.67
26:BA:109:G:OP2	26:BA:111:A:O2'	2.11	0.67
26:BA:1483:A:O2'	26:BA:1484:A:O4'	2.13	0.67
22:AY:63:LEU:HD12	22:AY:66:THR:HG22	1.76	0.67
26:BA:2544:C:OP1	32:BG:160:ARG:NH2	2.28	0.67
48:BW:30:ARG:HE	48:BW:34:LEU:HD11	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BX:26:LEU:HD21	49:BX:33:VAL:HG22	1.77	0.67
1:AA:1259:G:OP1	18:AU:43:ARG:NH2	2.28	0.66
12:AN:8:VAL:HG11	12:AN:74:ARG:HD3	1.77	0.66
26:BA:1354:G:N7	44:BS:26:SER:OG	2.28	0.66
52:Ba:126:ILE:HD11	52:Ba:151:VAL:HG22	1.77	0.66
1:AA:171:G:N2	1:AA:174:A:OP2	2.29	0.66
1:AA:220:G:OP1	17:AS:66:ARG:NH1	2.28	0.66
52:Ba:155:GLY:O	52:Ba:156:ARG:NH1	2.28	0.66
1:AA:235:A:OP2	10:AK:8:ARG:NH1	2.28	0.66
8:AI:22:GLY:HA2	22:AY:60:ILE:HB	1.77	0.66
11:AL:88:VAL:HG21	11:AL:97:ARG:HD2	1.76	0.66
26:BA:2813:A:O2'	26:BA:2815:A:OP2	2.10	0.66
1:AA:1270:G:O6	18:AU:41:ARG:NH1	2.27	0.66
9:AJ:112:SER:OG	9:AJ:115:GLU:OE1	2.13	0.66
31:BF:6:VAL:HA	31:BF:124:LEU:HD13	1.77	0.66
34:BI:56:CYS:SG	34:BI:159:THR:OG1	2.52	0.66
1:AA:85:C:O2'	6:AF:2:THR:N	2.29	0.66
7:AG:113:ARG:NH2	7:AG:165:ALA:O	2.27	0.66
24:AM:39:PRO:HA	24:AM:71:ARG:HD3	1.78	0.66
26:BA:425:A:OP1	38:BM:49:ARG:NH2	2.28	0.66
32:BG:11:ILE:HD11	32:BG:51:VAL:HG23	1.77	0.66
1:AA:1235:A:O2'	19:AV:80:LYS:NZ	2.28	0.66
7:AG:55:ILE:HD11	7:AG:93:VAL:HG23	1.76	0.66
26:BA:2789:G:N7	35:BJ:77:LYS:NZ	2.44	0.66
1:AA:7:G:N7	7:AG:179:ARG:NH1	2.44	0.66
1:AA:953:G:N2	1:AA:972:C:O4'	2.29	0.66
2:AB:123:VAL:HG11	2:AB:179:VAL:HG11	1.78	0.66
20:AW:46:PRO:HG2	20:AW:49:LEU:HD12	1.78	0.66
26:BA:76:U:O2'	26:BA:94:G:N2	2.29	0.66
26:BA:186:A:OP1	38:BM:177:ARG:NH2	2.29	0.66
40:BO:119:GLY:HA2	40:BO:122:ILE:HD12	1.78	0.66
41:BP:119:VAL:HG21	41:BP:147:LEU:HD22	1.77	0.66
46:BU:31:ARG:NH1	46:BU:43:ARG:O	2.29	0.66
1:AA:504:U:OP1	13:AO:15:ARG:NH2	2.28	0.66
26:BA:444:C:OP1	30:BE:187:ARG:NH2	2.29	0.66
26:BA:1831:G:H21	28:BC:228:LEU:HD23	1.61	0.66
29:BD:263:GLU:HG3	29:BD:302:PRO:HD3	1.78	0.66
32:BG:137:ILE:HG22	32:BG:145:VAL:HG23	1.78	0.66
1:AA:767:C:H4'	9:AJ:13:THR:HG22	1.77	0.66
1:AA:994:A:O2'	3:AC:139:ALA:O	2.13	0.66
7:AG:48:LEU:HD22	7:AG:105:LYS:HD2	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:84:GLY:HA3	7:AG:108:ILE:HD13	1.78	0.66
29:BD:17:ARG:HB2	29:BD:216:ARG:HH21	1.60	0.66
1:AA:884:A:O2'	8:AI:130:ARG:NH1	2.29	0.66
1:AA:917:G:H4'	1:AA:918:C:H5"	1.78	0.66
1:AA:1051:C:O2'	3:AC:156:ASN:OD1	2.13	0.66
13:AO:58:LYS:H	13:AO:113:ASP:HB2	1.61	0.66
26:BA:1430:U:OP2	26:BA:1485:U:O2'	2.13	0.66
30:BE:205:ILE:HD12	30:BE:208:ALA:HB3	1.77	0.66
48:BW:9:ILE:HG22	48:BW:60:ILE:HG21	1.77	0.66
1:AA:135:G:N2	1:AA:138:A:OP2	2.29	0.65
1:AA:406:C:O2'	5:AE:173:HIS:NE2	2.29	0.65
1:AA:1209:C:H42	1:AA:1220:G:H1	1.44	0.65
1:AA:1215:A:N3	1:AA:1273:C:O2'	2.28	0.65
16:AQ:84:ILE:HD11	16:AQ:151:THR:HB	1.77	0.65
18:AU:88:HIS:ND1	18:AU:92:GLY:O	2.29	0.65
23:AH:70:PRO:HA	23:AH:100:GLU:HB2	1.78	0.65
31:BF:49:PHE:HB3	31:BF:51:ILE:HG23	1.77	0.65
39:BN:38:ARG:HA	39:BN:108:GLN:HE22	1.61	0.65
1:AA:233:G:N3	10:AK:8:ARG:NH2	2.45	0.65
1:AA:1036:A:H1'	1:AA:1117:A:H1'	1.77	0.65
26:BA:75:G:H21	26:BA:96:A:N6	1.95	0.65
26:BA:130:A:O2'	26:BA:1448:A:OP1	2.14	0.65
26:BA:627:G:O2'	26:BA:1342:A:OP1	2.14	0.65
29:BD:169:ALA:HB3	29:BD:175:LYS:HG3	1.78	0.65
1:AA:172:G:OP1	6:AF:196:SER:N	2.29	0.65
1:AA:785:G:O2'	1:AA:787:G:N7	2.30	0.65
1:AA:1445:A:N7	12:AN:125:ARG:NH1	2.43	0.65
6:AF:42:ILE:HA	6:AF:46:ILE:HD13	1.78	0.65
26:BA:1059:C:O2'	26:BA:1071:A:N3	2.29	0.65
26:BA:1456:U:O2	54:Bc:41:LYS:NZ	2.29	0.65
29:BD:6:ARG:HD2	29:BD:7:PRO:HD2	1.76	0.65
29:BD:314:PRO:HB2	29:BD:317:ALA:HB2	1.79	0.65
57:Bf:62:THR:HG22	57:Bf:86:LYS:HD3	1.78	0.65
1:AA:316:U:O2'	23:AH:93:ARG:NH2	2.29	0.65
1:AA:909:G:O2'	1:AA:1146:U:OP1	2.13	0.65
1:AA:1235:A:OP1	19:AV:90:LYS:NZ	2.29	0.65
4:AD:116:VAL:N	4:AD:192:THR:OG1	2.29	0.65
10:AK:2:ARG:N	10:AK:28:GLY:O	2.28	0.65
23:AH:118:LYS:HD2	23:AH:123:LEU:HD21	1.79	0.65
26:BA:693:A:O2'	37:BL:109:ARG:NH1	2.29	0.65
30:BE:206:LEU:HD23	30:BE:217:VAL:HG22	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BK:23:ASN:ND2	36:BK:108:ASP:OD1	2.30	0.65
52:Ba:111:SER:N	52:Ba:115:GLU:OE1	2.29	0.65
1:AA:630:G:H5"	12:AN:19:ILE:HD11	1.77	0.65
1:AA:1259:G:O5'	18:AU:40:SER:OG	2.13	0.65
1:AA:1265:A:O2'	18:AU:73:ASP:OD2	2.14	0.65
4:AD:32:VAL:HG13	4:AD:50:THR:HG21	1.78	0.65
5:AE:118:LEU:HD22	5:AE:126:VAL:HB	1.76	0.65
5:AE:173:HIS:HB3	5:AE:176:ARG:HB3	1.78	0.65
8:AI:100:ALA:HB2	8:AI:166:ALA:HB2	1.78	0.65
9:AJ:47:ILE:HD11	9:AJ:63:VAL:HG11	1.79	0.65
23:AH:40:GLY:O	23:AH:44:GLY:N	2.29	0.65
46:BU:55:VAL:HG22	46:BU:101:VAL:HG12	1.78	0.65
1:AA:1106:C:N4	1:AA:1120:C:OP2	2.29	0.65
8:AI:82:PHE:HD1	8:AI:93:PRO:HB2	1.62	0.65
8:AI:118:ILE:HG22	8:AI:120:VAL:HG23	1.78	0.65
26:BA:188:A:HO2'	26:BA:421:C:HO2'	1.45	0.65
26:BA:2591:U:OP1	29:BD:229:GLN:NE2	2.30	0.65
37:BL:96:LEU:HD12	37:BL:101:ILE:HB	1.79	0.65
1:AA:710:G:H4'	1:AA:1451:A:H4'	1.79	0.65
26:BA:293:A:N7	26:BA:346:U:O2'	2.29	0.65
31:BF:101:HIS:HB2	31:BF:107:MET:HE1	1.78	0.65
36:BK:99:ASP:OD1	36:BK:103:ILE:N	2.30	0.65
1:AA:666:G:OP1	1:AA:798:G:N2	2.30	0.65
1:AA:1105:C:O2'	25:AT:5:ARG:NH2	2.30	0.65
3:AC:48:SER:HB2	3:AC:51:PRO:HB3	1.78	0.65
9:AJ:101:ALA:HB1	9:AJ:112:SER:HB2	1.79	0.65
18:AU:63:GLU:OE1	18:AU:65:LYS:NZ	2.30	0.65
21:AX:33:LYS:HA	21:AX:46:PRO:HD3	1.79	0.65
22:AY:49:ARG:NH2	22:AY:68:ARG:O	2.29	0.65
26:BA:149:G:O2'	26:BA:182:A:N3	2.30	0.65
26:BA:530:A:N3	52:Ba:58:LYS:NZ	2.44	0.65
26:BA:2583:U:OP2	29:BD:242:ASN:ND2	2.28	0.65
27:BB:51:A:OP1	39:BN:79:THR:N	2.30	0.65
35:BJ:53:TYR:HA	35:BJ:56:THR:HG22	1.78	0.65
1:AA:1035:C:O2'	25:AT:10:LYS:NZ	2.29	0.65
4:AD:72:ASN:OD1	4:AD:79:THR:OG1	2.15	0.65
7:AG:118:TRP:HA	9:AJ:97:LYS:HE3	1.79	0.65
26:BA:340:U:O2'	46:BU:4:MET:SD	2.55	0.65
26:BA:2304:A:OP1	31:BF:135:ARG:NH1	2.30	0.65
1:AA:357:U:OP1	6:AF:53:SER:N	2.30	0.65
8:AI:71:LYS:HZ3	8:AI:75:LEU:HD11	1.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AP:24:VAL:HG11	14:AP:67:LEU:HD21	1.79	0.65
26:BA:149:G:OP2	38:BM:189:ARG:NH2	2.30	0.65
26:BA:560:A:O2'	49:BX:77:ARG:NH2	2.30	0.65
26:BA:881:C:OP1	30:BE:60:ARG:NH2	2.28	0.65
26:BA:2104:G:N2	28:BC:219:ASN:O	2.30	0.65
58:AZ:26:CYS:HB3	58:AZ:30:GLY:H	1.62	0.65
1:AA:279:G:N2	1:AA:282:A:OP2	2.30	0.64
4:AD:50:THR:O	4:AD:66:VAL:N	2.30	0.64
4:AD:103:ILE:HG13	4:AD:134:MET:HG2	1.80	0.64
6:AF:144:SER:OG	6:AF:146:GLU:OE1	2.14	0.64
19:AV:26:ILE:HD12	19:AV:104:GLN:HB3	1.79	0.64
26:BA:635:G:OP1	30:BE:91:ARG:NH1	2.29	0.64
27:BB:46:A:HO2'	31:BF:133:LYS:HZ2	1.45	0.64
32:BG:118:ARG:NH1	32:BG:155:LYS:O	2.29	0.64
1:AA:883:A:N6	1:AA:1292:U:O4	2.31	0.64
2:AB:172:ASP:OD1	2:AB:211:ASN:ND2	2.30	0.64
6:AF:100:GLU:OE2	6:AF:101:LYS:NZ	2.30	0.64
14:AP:42:THR:HG22	14:AP:49:ARG:H	1.62	0.64
26:BA:255:C:OP1	38:BM:43:ARG:NH2	2.29	0.64
1:AA:955:C:N4	1:AA:969:U:O2'	2.29	0.64
1:AA:1236:A:O2'	8:AI:70:LYS:NZ	2.31	0.64
7:AG:13:LEU:HD13	7:AG:35:ILE:HG12	1.79	0.64
26:BA:2042:A:O2'	26:BA:2044:U:OP2	2.16	0.64
31:BF:101:HIS:HD2	31:BF:116:PHE:HB2	1.61	0.64
36:BK:63:GLU:O	36:BK:67:GLN:NE2	2.30	0.64
1:AA:427:A:O2'	20:AW:27:GLY:O	2.15	0.64
7:AG:25:MET:HB3	7:AG:45:LEU:HD11	1.80	0.64
8:AI:112:ARG:HA	8:AI:121:PRO:HA	1.78	0.64
8:AI:189:ARG:NH2	22:AY:65:GLU:OE2	2.30	0.64
26:BA:546:G:OP2	52:Ba:127:ARG:NH2	2.30	0.64
26:BA:2001:G:O2'	26:BA:2003:G:OP2	2.14	0.64
53:Bb:50:THR:HG21	53:Bb:63:LYS:HG2	1.79	0.64
1:AA:27:C:O2'	13:AO:44:GLN:NE2	2.29	0.64
1:AA:1093:A:H5'	1:AA:1094:C:H5	1.62	0.64
7:AG:153:ALA:HB3	7:AG:171:TRP:HA	1.80	0.64
8:AI:1:MET:N	11:AL:52:ILE:O	2.30	0.64
26:BA:505:G:OP2	44:BS:3:ARG:NH2	2.30	0.64
26:BA:525:A:O2'	26:BA:2064:C:O2	2.12	0.64
26:BA:828:G:O2'	26:BA:1718:A:OP1	2.14	0.64
26:BA:2329:A:OP1	39:BN:7:TYR:OH	2.13	0.64
1:AA:118:G:H1	1:AA:203:C:H42	1.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:933:G:H1	1:AA:1165:C:H42	1.45	0.64
1:AA:1175:C:N4	14:AP:147:LYS:O	2.30	0.64
8:AI:164:GLY:HA2	8:AI:169:ASP:HB3	1.78	0.64
26:BA:559:G:O2'	26:BA:588:A:N6	2.31	0.64
57:Bf:1:MET:N	57:Bf:87:LYS:O	2.30	0.64
1:AA:210:A:O2'	6:AF:28:PRO:O	2.15	0.64
1:AA:1140:G:O2'	7:AG:64:SER:O	2.14	0.64
25:AT:41:ILE:HD13	25:AT:46:ILE:HG22	1.80	0.64
26:BA:2741:U:OP1	29:BD:265:ASN:ND2	2.31	0.64
27:BB:30:U:H2'	27:BB:31:C:H6	1.61	0.64
36:BK:82:ARG:NH2	36:BK:132:VAL:OXT	2.31	0.64
42:BQ:36:ASP:OD1	42:BQ:50:ARG:NH2	2.31	0.64
48:BW:1:MET:SD	48:BW:5:ARG:NH2	2.71	0.64
51:BZ:13:ILE:HD12	51:BZ:34:VAL:HG13	1.78	0.64
1:AA:576:G:H5"	17:AS:32:GLN:HE22	1.63	0.64
1:AA:697:G:N2	1:AA:823:G:O2'	2.31	0.64
1:AA:1234:A:N6	1:AA:1318:G:O4'	2.30	0.64
6:AF:122:ASN:O	6:AF:134:ASN:ND2	2.31	0.64
7:AG:83:VAL:HB	7:AG:165:ALA:HA	1.79	0.64
11:AL:47:SER:HB2	11:AL:50:LEU:HD11	1.80	0.64
26:BA:830:U:O2'	26:BA:833:G:O2'	2.15	0.64
26:BA:2301:U:O2'	26:BA:2387:C:O2	2.16	0.64
26:BA:2537:C:O2'	56:Be:21:ASN:O	2.15	0.64
40:BO:16:ARG:NH2	40:BO:89:LEU:O	2.31	0.64
49:BX:82:TYR:O	49:BX:86:ASN:ND2	2.28	0.64
1:AA:114:U:OP1	6:AF:72:ARG:NH2	2.30	0.64
13:AO:139:LYS:HD2	13:AO:140:PRO:HD2	1.80	0.64
23:AH:64:LYS:N	23:AH:97:ARG:O	2.30	0.64
30:BE:6:THR:N	30:BE:15:GLY:O	2.30	0.64
44:BS:106:PRO:HA	44:BS:109:MET:HG2	1.80	0.64
3:AC:191:ASP:O	25:AT:12:THR:OG1	2.15	0.64
5:AE:40:GLU:HA	5:AE:43:LYS:HE3	1.79	0.64
5:AE:118:LEU:HD13	5:AE:126:VAL:HA	1.80	0.64
38:BM:113:LEU:HD22	38:BM:136:ASP:HA	1.80	0.64
41:BP:145:GLU:HG3	41:BP:147:LEU:HG	1.79	0.64
2:AB:86:TYR:OH	2:AB:87:ARG:NH2	2.32	0.63
16:AQ:57:ARG:O	21:AX:24:GLN:NE2	2.31	0.63
25:AT:17:LEU:HD21	25:AT:54:VAL:HG13	1.80	0.63
26:BA:2461:A:N6	26:BA:2512:C:O2	2.30	0.63
29:BD:81:ARG:NH1	29:BD:184:GLY:O	2.30	0.63
37:BL:92:TYR:HB2	37:BL:114:LEU:HD23	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:603:G:O2'	1:AA:777:G:OP1	2.15	0.63
4:AD:182:ARG:NH2	4:AD:184:GLU:OE2	2.31	0.63
6:AF:225:PRO:HB3	6:AF:229:LEU:HD12	1.79	0.63
8:AI:84:ILE:HG23	8:AI:88:LYS:HE3	1.80	0.63
23:AH:17:TYR:HE1	23:AH:121:LYS:HE2	1.62	0.63
26:BA:186:A:N1	26:BA:230:A:O2'	2.29	0.63
26:BA:653:A:N7	26:BA:737:G:O2'	2.30	0.63
28:BC:163:SER:HB3	53:Bb:77:THR:HG21	1.79	0.63
31:BF:9:VAL:HG23	31:BF:68:ALA:HB1	1.80	0.63
46:BU:32:LEU:HG	46:BU:44:SER:HA	1.81	0.63
1:AA:69:U:O2'	1:AA:71:G:N2	2.31	0.63
1:AA:174:A:OP1	17:AS:3:ARG:NH1	2.28	0.63
1:AA:888:G:H1	1:AA:1288:U:H3	1.45	0.63
26:BA:324:G:O6	30:BE:172:LYS:NZ	2.30	0.63
26:BA:387:G:OP1	38:BM:194:ARG:NH1	2.31	0.63
35:BJ:120:ASP:OD2	35:BJ:122:ARG:NH1	2.31	0.63
52:Ba:141:LEU:HD21	52:Ba:151:VAL:HG11	1.79	0.63
1:AA:499:G:OP1	1:AA:499:G:N2	2.31	0.63
1:AA:504:U:O2'	17:AS:62:ARG:NH2	2.32	0.63
1:AA:1095:U:O2'	11:AL:6:ASN:OD1	2.16	0.63
1:AA:1107:G:OP2	25:AT:56:ARG:NH1	2.30	0.63
1:AA:1351:C:O2	1:AA:1457:A:O2'	2.15	0.63
2:AB:77:LYS:NZ	2:AB:78:THR:O	2.30	0.63
16:AQ:1:MET:SD	16:AQ:2:ALA:N	2.71	0.63
18:AU:76:ILE:HG22	18:AU:103:VAL:HG23	1.81	0.63
34:BI:54:GLU:HB2	34:BI:159:THR:HG23	1.79	0.63
1:AA:449:A:O2'	1:AA:482:G:O2'	2.15	0.63
4:AD:46:ARG:NH2	12:AN:26:THR:OG1	2.32	0.63
7:AG:29:ILE:O	58:AZ:21:TYR:OH	2.17	0.63
12:AN:98:ALA:HB2	12:AN:104:ILE:HD13	1.79	0.63
14:AP:70:LEU:HD11	14:AP:74:GLU:HB2	1.81	0.63
26:BA:1726:G:O2'	26:BA:2012:U:O4	2.14	0.63
1:AA:171:G:H2'	1:AA:172:G:H5'	1.80	0.63
1:AA:1128:G:OP1	8:AI:43:ARG:NH2	2.31	0.63
5:AE:19:GLN:HB3	5:AE:22:ARG:HE	1.63	0.63
18:AU:50:PHE:HB3	18:AU:54:GLN:HG3	1.80	0.63
23:AH:38:VAL:HG13	23:AH:42:ILE:HD12	1.80	0.63
23:AH:102:ALA:H	23:AH:105:ILE:HD12	1.62	0.63
26:BA:26:C:N4	26:BA:447:A:OP2	2.31	0.63
26:BA:1612:A:O2'	26:BA:1613:A:O4'	2.17	0.63
1:AA:689:G:O6	16:AQ:19:ARG:NH1	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:800:G:OP2	1:AA:816:G:N1	2.29	0.63
16:AQ:63:ALA:O	16:AQ:67:THR:OG1	2.17	0.63
26:BA:878:A:N6	28:BC:1:MET:O	2.32	0.63
26:BA:1004:A:N3	27:BB:84:U:O2'	2.29	0.63
26:BA:1920:A:OP2	28:BC:238:ARG:NH1	2.31	0.63
45:BT:47:VAL:HG21	45:BT:64:LEU:HD23	1.81	0.63
1:AA:386:G:OP1	5:AE:130:ARG:NE	2.31	0.63
1:AA:1176:G:OP2	14:AP:151:ARG:NH1	2.31	0.63
29:BD:40:GLN:HG2	29:BD:168:SER:HB2	1.80	0.63
31:BF:45:THR:HG22	31:BF:53:LYS:HE2	1.81	0.63
33:BH:68:SER:OG	33:BH:73:ALA:O	2.16	0.63
35:BJ:33:TYR:HD1	35:BJ:99:LYS:HB2	1.64	0.63
1:AA:52:U:H2'	1:AA:53:G:H8	1.64	0.63
10:AK:88:TYR:HB3	10:AK:93:ILE:HB	1.81	0.63
20:AW:74:GLU:HA	20:AW:77:MET:HE2	1.81	0.63
25:AT:27:ASP:HB3	25:AT:30:THR:HB	1.81	0.63
49:BX:101:GLU:OE1	49:BX:103:LYS:NZ	2.32	0.63
50:BY:39:MET:HE2	50:BY:86:ILE:HD13	1.79	0.63
1:AA:584:C:O2'	9:AJ:124:GLN:OE1	2.15	0.62
1:AA:1392:U:H5"	1:AA:1393:C:H5	1.64	0.62
2:AB:84:PHE:O	2:AB:97:ASP:N	2.31	0.62
14:AP:96:ARG:HG3	14:AP:99:ASP:HB2	1.80	0.62
26:BA:1669:U:O2'	54:Bc:8:MET:O	2.16	0.62
29:BD:44:GLY:HA3	29:BD:77:THR:HG22	1.81	0.62
29:BD:62:LEU:O	36:BK:5:ARG:NH1	2.32	0.62
29:BD:167:ILE:O	29:BD:175:LYS:NZ	2.31	0.62
1:AA:349:C:O4'	1:AA:376:G:N2	2.32	0.62
5:AE:53:SER:OG	5:AE:57:LYS:NZ	2.31	0.62
9:AJ:52:PHE:HE1	9:AJ:59:GLY:HA3	1.63	0.62
11:AL:43:MET:HA	11:AL:46:ILE:HG22	1.80	0.62
11:AL:105:ARG:HD2	11:AL:106:ASN:H	1.65	0.62
30:BE:50:ARG:HG2	30:BE:53:SER:HB3	1.79	0.62
31:BF:10:ILE:HB	31:BF:121:THR:HG23	1.81	0.62
49:BX:121:PRO:HG3	49:BX:125:HIS:HD2	1.64	0.62
1:AA:765:C:H5'	16:AQ:1:MET:HG2	1.80	0.62
1:AA:938:G:N2	1:AA:1158:G:O3'	2.31	0.62
1:AA:951:A:O2'	1:AA:978:C:OP1	2.18	0.62
1:AA:1295:U:H5"	11:AL:125:ALA:HB3	1.81	0.62
3:AC:46:ILE:HG13	3:AC:82:ALA:HA	1.82	0.62
5:AE:137:HIS:HE1	5:AE:167:PRO:HD2	1.64	0.62
18:AU:77:LEU:HB2	18:AU:80:MET:HB2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BH:16:LYS:HG2	33:BH:112:ILE:HD11	1.81	0.62
41:BP:20:ASP:O	41:BP:53:LYS:NZ	2.33	0.62
46:BU:86:LYS:HG3	46:BU:88:ASP:H	1.64	0.62
1:AA:457:G:N2	1:AA:469:G:O3'	2.30	0.62
1:AA:716:G:N2	1:AA:745:U:O4	2.33	0.62
1:AA:1262:U:O2'	1:AA:1307:A:O2'	2.17	0.62
19:AV:65:ASP:HB2	19:AV:68:ILE:HD11	1.80	0.62
31:BF:76:LEU:HA	31:BF:79:VAL:HG22	1.81	0.62
1:AA:1108:C:H41	1:AA:1129:G:H22	1.47	0.62
2:AB:130:GLN:HG2	2:AB:146:LEU:HD12	1.81	0.62
5:AE:85:LEU:O	5:AE:89:GLY:N	2.30	0.62
6:AF:174:ALA:HB1	6:AF:217:VAL:HG23	1.81	0.62
11:AL:32:ILE:HD13	11:AL:38:THR:HB	1.82	0.62
16:AQ:52:MET:SD	21:AX:32:ARG:NH1	2.72	0.62
19:AV:12:MET:HE2	19:AV:135:LEU:HD12	1.82	0.62
24:AM:25:SER:HA	24:AM:28:GLU:HG2	1.81	0.62
26:BA:758:A:N3	26:BA:2454:C:O2'	2.30	0.62
27:BB:25:G:H4'	27:BB:26:C:H5	1.63	0.62
1:AA:81:C:O2'	1:AA:361:G:OP1	2.16	0.62
7:AG:152:ILE:HD13	7:AG:162:LEU:HB2	1.81	0.62
25:AT:34:LEU:HA	25:AT:37:LYS:HG2	1.81	0.62
26:BA:398:G:OP2	38:BM:70:ARG:NH2	2.31	0.62
26:BA:2752:A:O2'	32:BG:157:LYS:NZ	2.32	0.62
27:BB:2:A:H2'	27:BB:3:G:H8	1.65	0.62
44:BS:65:HIS:O	44:BS:68:SER:OG	2.17	0.62
44:BS:68:SER:HB2	44:BS:79:LYS:HD3	1.81	0.62
1:AA:698:U:O2'	1:AA:824:C:O2	2.18	0.62
4:AD:122:THR:HB	4:AD:186:ARG:HH11	1.64	0.62
15:AR:15:CYS:HB2	15:AR:32:LEU:HA	1.81	0.62
21:AX:16:LYS:HD3	21:AX:58:LEU:HD21	1.81	0.62
43:BR:11:THR:HG21	43:BR:55:PRO:HG2	1.80	0.62
1:AA:278:U:O2'	1:AA:496:C:O2'	2.11	0.62
2:AB:137:SER:HB2	2:AB:144:ALA:HB2	1.81	0.62
10:AK:46:THR:OG1	10:AK:50:ASN:O	2.13	0.62
16:AQ:2:ALA:HB1	16:AQ:7:LYS:HA	1.80	0.62
16:AQ:19:ARG:HG2	16:AQ:65:LEU:HD13	1.82	0.62
26:BA:442:G:O2'	26:BA:444:C:OP2	2.15	0.62
26:BA:1398:G:OP1	54:Bc:14:ARG:NH1	2.29	0.62
27:BB:18:C:H4'	39:BN:1:MET:HA	1.81	0.62
1:AA:1035:C:O2'	1:AA:1117:A:O2'	2.17	0.62
18:AU:61:PHE:HZ	18:AU:85:ILE:HG22	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AX:14:ARG:HB2	21:AX:61:LEU:HD11	1.81	0.62
24:AM:8:LEU:HD23	24:AM:94:ILE:HG21	1.82	0.62
1:AA:1320:G:OP1	8:AI:36:HIS:NE2	2.29	0.62
3:AC:184:GLN:HG2	3:AC:185:PRO:HD2	1.82	0.62
5:AE:51:TYR:OH	5:AE:84:LYS:NZ	2.31	0.62
17:AS:35:VAL:HG12	17:AS:85:ILE:HD11	1.81	0.62
20:AW:73:ASP:OD2	20:AW:76:ARG:N	2.33	0.62
26:BA:109:G:OP1	54:Bc:20:ARG:NH1	2.33	0.62
26:BA:228:A:O2'	26:BA:430:A:N3	2.32	0.62
26:BA:969:G:N2	26:BA:983:C:O2	2.32	0.62
26:BA:1862:C:O2'	26:BA:1992:U:OP2	2.16	0.62
1:AA:417:U:H5'	20:AW:31:SER:HA	1.81	0.61
19:AV:37:THR:OG1	19:AV:54:ARG:NH2	2.30	0.61
26:BA:188:A:O2'	26:BA:421:C:O2'	2.15	0.61
29:BD:53:ILE:HG13	47:BV:15:PRO:HB2	1.82	0.61
33:BH:21:LEU:HD22	33:BH:97:VAL:HG21	1.82	0.61
40:BO:63:ALA:N	40:BO:66:ASP:OD2	2.33	0.61
1:AA:442:C:O2	1:AA:482:G:N2	2.28	0.61
1:AA:473:A:O2'	1:AA:475:A:OP2	2.14	0.61
1:AA:986:G:O2'	1:AA:1162:U:O2'	2.16	0.61
1:AA:1296:A:H5"	11:AL:127:ALA:HB2	1.81	0.61
3:AC:95:MET:HE3	3:AC:116:THR:HG23	1.82	0.61
17:AS:84:ASP:HA	17:AS:108:PRO:HD3	1.82	0.61
26:BA:2540:G:OP1	32:BG:164:ARG:NH1	2.33	0.61
57:Bf:64:ARG:HA	57:Bf:84:ARG:HA	1.82	0.61
1:AA:1441:A:OP1	1:AA:1469:A:O2'	2.17	0.61
26:BA:728:A:O2'	26:BA:2382:C:O2'	2.18	0.61
26:BA:1668:C:O2	54:Bc:12:GLN:NE2	2.32	0.61
26:BA:2113:U:OP2	38:BM:25:ARG:NH1	2.30	0.61
26:BA:2354:U:OP1	57:Bf:8:ARG:NH1	2.32	0.61
35:BJ:8:ASP:OD1	35:BJ:36:ASN:ND2	2.33	0.61
1:AA:180:U:OP2	6:AF:129:GLY:N	2.34	0.61
3:AC:131:VAL:HG12	3:AC:145:LYS:HA	1.82	0.61
4:AD:159:GLN:O	4:AD:163:LEU:HB2	2.00	0.61
18:AU:76:ILE:HG13	18:AU:107:PHE:HE1	1.64	0.61
20:AW:52:ILE:HG22	20:AW:68:ALA:HB2	1.82	0.61
35:BJ:85:PRO:HG3	35:BJ:90:ARG:HH21	1.65	0.61
39:BN:46:ILE:HD11	39:BN:119:ALA:HB1	1.81	0.61
1:AA:419:U:OP1	20:AW:54:ARG:NH1	2.33	0.61
5:AE:85:LEU:HD13	5:AE:90:ILE:HD11	1.81	0.61
13:AO:58:LYS:HB2	13:AO:113:ASP:HB2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AW:5:ILE:HG12	20:AW:21:PHE:HB3	1.81	0.61
2:AB:101:THR:HA	2:AB:208:PRO:HG2	1.83	0.61
6:AF:50:VAL:HG21	6:AF:56:GLY:HA2	1.81	0.61
6:AF:154:ILE:HG23	6:AF:163:VAL:HB	1.83	0.61
26:BA:808:G:OP1	41:BP:92:LYS:NZ	2.29	0.61
29:BD:41:SER:OG	29:BD:310:ARG:NH2	2.32	0.61
1:AA:1180:G:O2'	1:AA:1312:A:OP1	2.16	0.61
1:AA:1262:U:OP2	18:AU:44:ARG:NH2	2.31	0.61
16:AQ:131:GLN:NE2	16:AQ:132:GLU:OE2	2.30	0.61
26:BA:1873:U:O2'	26:BA:1948:A:N3	2.28	0.61
26:BA:2061:A:OP2	35:BJ:86:TYR:OH	2.15	0.61
49:BX:6:ARG:NH1	49:BX:26:LEU:O	2.32	0.61
1:AA:1023:A:H1'	1:AA:1042:C:H41	1.66	0.61
2:AB:69:GLY:HA2	2:AB:72:ILE:HD13	1.82	0.61
26:BA:835:A:OP1	26:BA:1672:C:N4	2.33	0.61
26:BA:1239:C:O2'	42:BQ:43:GLY:O	2.16	0.61
26:BA:1571:A:N1	26:BA:1584:C:O2'	2.33	0.61
1:AA:503:A:O2'	1:AA:506:G:O2'	2.14	0.61
2:AB:101:THR:OG1	2:AB:208:PRO:O	2.15	0.61
26:BA:861:U:O2	28:BC:1:MET:N	2.27	0.61
26:BA:2085:C:O2'	26:BA:2260:G:N2	2.34	0.61
31:BF:39:ARG:HA	31:BF:59:CYS:HA	1.83	0.61
35:BJ:134:GLU:OE2	35:BJ:138:LYS:NZ	2.34	0.61
50:BY:11:SER:HA	50:BY:14:LYS:HE2	1.81	0.61
1:AA:684:A:H4'	16:AQ:8:ARG:HH11	1.65	0.61
2:AB:78:THR:OG1	2:AB:80:ASP:OD1	2.14	0.61
30:BE:114:ILE:HG12	30:BE:225:ALA:HB2	1.83	0.61
1:AA:809:A:O2'	1:AA:1017:U:O4	2.17	0.60
1:AA:1276:G:H5"	14:AP:48:GLY:H	1.66	0.60
7:AG:75:ILE:HG12	7:AG:161:VAL:HG23	1.81	0.60
11:AL:118:LYS:HA	11:AL:125:ALA:HA	1.83	0.60
11:AL:122:GLY:HA3	11:AL:128:LYS:HA	1.83	0.60
14:AP:98:LYS:HE3	18:AU:37:LEU:HA	1.83	0.60
1:AA:890:G:N1	1:AA:1285:G:OP2	2.34	0.60
12:AN:32:ALA:HB1	12:AN:59:LEU:HD22	1.83	0.60
13:AO:125:ASN:OD1	13:AO:139:LYS:NZ	2.27	0.60
20:AW:51:ILE:HD11	20:AW:85:ILE:HG22	1.83	0.60
34:BI:12:VAL:HG22	34:BI:57:GLN:HG3	1.83	0.60
40:BO:67:VAL:HA	40:BO:85:THR:HG23	1.83	0.60
7:AG:77:GLY:HA2	7:AG:83:VAL:HA	1.81	0.60
26:BA:1741:G:N2	41:BP:81:ARG:O	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BA:2601:C:OP1	28:BC:208:LYS:NZ	2.32	0.60
29:BD:86:ARG:HG3	29:BD:100:GLU:HG2	1.82	0.60
32:BG:88:MET:HE2	32:BG:170:ILE:HG22	1.81	0.60
50:BY:41:VAL:HB	50:BY:84:MET:HB3	1.82	0.60
3:AC:126:LEU:HB2	3:AC:183:ILE:HG23	1.82	0.60
4:AD:103:ILE:HB	4:AD:123:CYS:HB2	1.83	0.60
26:BA:1052:U:O2'	26:BA:2283:A:N3	2.34	0.60
36:BK:115:ARG:N	36:BK:132:VAL:O	2.35	0.60
1:AA:352:U:O2'	1:AA:420:A:N1	2.33	0.60
16:AQ:77:GLU:OE1	16:AQ:78:ASN:ND2	2.35	0.60
19:AV:36:LYS:NZ	19:AV:41:LYS:O	2.30	0.60
25:AT:15:SER:O	25:AT:19:ASN:ND2	2.33	0.60
34:BI:138:VAL:HG11	34:BI:146:ALA:HB2	1.83	0.60
1:AA:666:G:OP2	1:AA:799:U:O2'	2.20	0.60
5:AE:19:GLN:H	5:AE:22:ARG:HH21	1.47	0.60
9:AJ:75:ILE:HG13	9:AJ:127:ALA:HA	1.83	0.60
29:BD:263:GLU:HB3	29:BD:266:LYS:HE2	1.82	0.60
1:AA:416:G:O2'	20:AW:29:THR:O	2.16	0.60
1:AA:430:U:H2'	1:AA:431:G:H8	1.65	0.60
1:AA:554:A:H5"	5:AE:84:LYS:HG3	1.84	0.60
21:AX:18:ASN:HB2	21:AX:55:THR:HG22	1.83	0.60
24:AM:9:SER:HB2	24:AM:70:LYS:HG2	1.82	0.60
26:BA:1108:A:OP2	35:BJ:128:ARG:NH2	2.29	0.60
26:BA:1398:G:O6	55:Bd:1:MET:N	2.33	0.60
45:BT:16:LEU:HB3	45:BT:21:LYS:HB2	1.84	0.60
46:BU:83:ILE:HD12	46:BU:91:GLU:HB3	1.83	0.60
2:AB:71:HIS:HB2	2:AB:95:VAL:HG13	1.81	0.60
13:AO:98:VAL:HG12	13:AO:124:VAL:HA	1.82	0.60
20:AW:17:ARG:HB2	20:AW:70:VAL:HB	1.83	0.60
21:AX:26:ILE:HG22	21:AX:34:ILE:HG21	1.83	0.60
23:AH:57:ASP:OD1	23:AH:97:ARG:NH1	2.34	0.60
26:BA:1922:A:O2'	28:BC:214:THR:OG1	2.14	0.60
39:BN:87:LEU:HD12	39:BN:126:SER:HB3	1.83	0.60
48:BW:17:ARG:HD2	48:BW:61:GLN:HG2	1.83	0.60
52:Ba:129:ALA:HB3	52:Ba:132:ILE:HG12	1.83	0.60
1:AA:235:A:O2'	17:AS:43:MET:SD	2.59	0.60
1:AA:614:G:O3'	4:AD:106:ASN:ND2	2.35	0.60
1:AA:1266:A:H3'	18:AU:106:ARG:HH12	1.66	0.60
6:AF:92:GLU:OE1	6:AF:94:TYR:OH	2.15	0.60
13:AO:38:PRO:HD2	13:AO:119:PHE:HZ	1.67	0.60
14:AP:61:VAL:HG21	14:AP:78:LEU:HD21	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:Ba:126:ILE:HG23	52:Ba:149:ILE:HG21	1.82	0.60
1:AA:233:G:H1'	10:AK:8:ARG:HH21	1.67	0.60
1:AA:809:A:OP1	7:AG:138:SER:OG	2.17	0.60
1:AA:889:U:H2'	1:AA:890:G:H5'	1.84	0.60
1:AA:1307:A:H2'	1:AA:1308:A:H8	1.67	0.60
26:BA:2301:U:OP1	26:BA:2393:U:O2'	2.16	0.60
6:AF:124:THR:O	6:AF:132:GLN:N	2.35	0.59
7:AG:143:LEU:HD23	7:AG:191:ALA:HB1	1.84	0.59
14:AP:55:ILE:HD11	14:AP:85:PHE:HD1	1.67	0.59
32:BG:22:ASP:HB2	32:BG:36:LYS:HE3	1.84	0.59
1:AA:1233:C:H2'	1:AA:1234:A:H4'	1.82	0.59
3:AC:188:VAL:HG12	3:AC:189:LEU:HD23	1.84	0.59
11:AL:130:GLN:NE2	11:AL:132:SER:O	2.32	0.59
23:AH:58:GLY:HA2	23:AH:106:ILE:HD12	1.84	0.59
9:AJ:82:GLY:N	9:AJ:85:SER:OG	2.32	0.59
36:BK:112:PRO:HA	36:BK:130:ILE:HG13	1.84	0.59
1:AA:1236:A:N6	1:AA:1237:C:O2	2.36	0.59
4:AD:39:ASP:OD1	4:AD:42:LEU:N	2.34	0.59
26:BA:1451:G:O2'	26:BA:1845:A:N3	2.34	0.59
26:BA:2344:U:OP2	39:BN:14:ARG:NE	2.35	0.59
30:BE:196:LEU:HD23	30:BE:238:THR:HG22	1.84	0.59
32:BG:122:ILE:HD12	32:BG:128:VAL:HG21	1.82	0.59
1:AA:172:G:H5"	17:AS:30:ARG:HH22	1.66	0.59
1:AA:943:C:H2'	1:AA:944:A:H8	1.66	0.59
8:AI:97:LEU:HD13	8:AI:162:LEU:HD21	1.83	0.59
11:AL:120:PHE:HD2	24:AM:59:ALA:HB1	1.67	0.59
13:AO:65:ARG:NH2	13:AO:113:ASP:OD2	2.35	0.59
14:AP:24:VAL:HG12	14:AP:33:GLY:HA2	1.85	0.59
15:AR:41:ALA:HA	15:AR:44:MET:HG2	1.84	0.59
17:AS:88:ILE:HG22	17:AS:102:VAL:HG12	1.83	0.59
24:AM:78:ASP:HB3	24:AM:81:ALA:HB3	1.84	0.59
26:BA:177:C:OP2	54:Bc:44:ARG:NH2	2.32	0.59
31:BF:44:ARG:HA	31:BF:53:LYS:HG2	1.85	0.59
31:BF:45:THR:OG1	31:BF:51:ILE:O	2.15	0.59
1:AA:1278:G:H4'	1:AA:1279:A:H5'	1.84	0.59
4:AD:112:LYS:HB2	4:AD:153:ASP:HB3	1.83	0.59
5:AE:46:SER:HA	5:AE:49:ARG:HG2	1.83	0.59
22:AY:42:ASP:HB3	22:AY:45:ARG:HD3	1.84	0.59
26:BA:701:A:O2'	40:BO:38:ASP:OD2	2.16	0.59
26:BA:1315:A:OP2	52:Ba:65:ASN:ND2	2.30	0.59
52:Ba:33:GLU:OE2	52:Ba:36:ARG:NH2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:681:C:H2'	1:AA:682:A:H8	1.67	0.59
1:AA:1103:G:O2'	1:AA:1126:A:N6	2.36	0.59
1:AA:1317:G:N7	11:AL:115:LYS:HE3	2.18	0.59
3:AC:108:TYR:O	3:AC:112:ALA:N	2.35	0.59
8:AI:20:ASP:HB2	8:AI:102:ALA:HB1	1.84	0.59
22:AY:38:LEU:HD12	22:AY:43:LYS:HE3	1.84	0.59
26:BA:205:A:OP2	26:BA:206:A:O2'	2.13	0.59
39:BN:170:PHE:O	39:BN:174:SER:OG	2.18	0.59
56:Be:14:LYS:HE3	56:Be:23:ARG:HD3	1.85	0.59
1:AA:1203:U:O2	1:AA:1204:C:N4	2.35	0.59
5:AE:136:GLY:HA3	5:AE:144:LYS:HE3	1.84	0.59
30:BE:118:ILE:HG13	30:BE:228:LEU:HD13	1.84	0.59
45:BT:56:MET:HE1	55:Bd:9:LYS:HG3	1.84	0.59
47:BV:4:ARG:O	47:BV:13:LEU:N	2.31	0.59
1:AA:353:A:N6	1:AA:370:G:OP2	2.35	0.59
1:AA:607:G:H5'	1:AA:667:C:H1'	1.84	0.59
1:AA:771:G:OP1	2:AB:79:GLN:N	2.36	0.59
26:BA:1354:G:O2'	26:BA:2033:G:O6	2.17	0.59
26:BA:2815:A:O2'	44:BS:71:ARG:NH2	2.36	0.59
57:Bf:11:CYS:CB	57:Bf:14:CYS:SG	2.89	0.59
26:BA:1515:C:O2'	26:BA:1638:A:OP1	2.13	0.59
26:BA:1776:U:OP1	41:BP:104:ARG:NH2	2.32	0.59
57:Bf:19:GLU:O	57:Bf:72:THR:OG1	2.15	0.59
1:AA:938:G:N2	1:AA:1158:G:O2'	2.36	0.58
1:AA:1049:G:O2'	25:AT:6:GLU:OE2	2.13	0.58
1:AA:1109:C:H2'	1:AA:1110:G:H8	1.68	0.58
10:AK:60:VAL:HA	10:AK:75:PRO:HA	1.85	0.58
14:AP:23:LEU:HA	14:AP:33:GLY:HA3	1.84	0.58
30:BE:159:LEU:HD13	30:BE:168:VAL:HG21	1.84	0.58
36:BK:1:MET:HE2	36:BK:36:LYS:HD2	1.85	0.58
1:AA:209:G:N2	6:AF:29:GLY:O	2.35	0.58
1:AA:1088:U:H2'	1:AA:1089:G:H8	1.68	0.58
7:AG:189:TYR:O	7:AG:193:ASN:ND2	2.31	0.58
1:AA:1312:A:H2'	1:AA:1313:G:H8	1.68	0.58
4:AD:119:VAL:HG12	4:AD:121:PRO:HD3	1.84	0.58
4:AD:131:SER:HA	4:AD:134:MET:HE3	1.84	0.58
20:AW:14:LEU:HG	20:AW:76:ARG:HH21	1.68	0.58
26:BA:1769:U:OP2	41:BP:69:LYS:NZ	2.36	0.58
42:BQ:9:VAL:HG11	42:BQ:38:THR:HG21	1.86	0.58
43:BR:14:LYS:NZ	43:BR:55:PRO:O	2.28	0.58
1:AA:302:U:H3	1:AA:315:A:H61	1.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:462:C:H41	13:AO:65:ARG:HH12	1.50	0.58
26:BA:882:C:O2'	54:Bc:50:TRP:O	2.15	0.58
1:AA:386:G:OP2	5:AE:130:ARG:NH2	2.33	0.58
2:AB:184:SER:HA	58:AZ:40:ARG:HH12	1.67	0.58
6:AF:30:PRO:HG2	6:AF:31:HIS:HD2	1.68	0.58
6:AF:80:GLY:N	6:AF:83:ASP:OD2	2.31	0.58
18:AU:34:PHE:HA	18:AU:37:LEU:HD12	1.83	0.58
19:AV:113:LYS:HA	19:AV:118:ARG:HG2	1.85	0.58
26:BA:1318:C:OP1	52:Ba:130:GLY:N	2.30	0.58
2:AB:239:GLU:OE1	2:AB:241:THR:OG1	2.18	0.58
3:AC:130:VAL:HB	3:AC:180:VAL:HG22	1.86	0.58
8:AI:107:ARG:NH2	22:AY:62:MET:SD	2.77	0.58
10:AK:80:ILE:N	10:AK:99:VAL:O	2.35	0.58
18:AU:60:GLU:OE1	18:AU:65:LYS:NZ	2.31	0.58
26:BA:526:U:OP2	26:BA:2788:A:N6	2.36	0.58
48:BW:3:ILE:HG12	48:BW:49:GLU:HG3	1.86	0.58
1:AA:1172:A:OP1	14:AP:146:THR:N	2.35	0.58
2:AB:87:ARG:HH22	2:AB:89:ARG:HH21	1.52	0.58
11:AL:12:LYS:HA	11:AL:114:GLN:HG3	1.86	0.58
1:AA:184:C:O2'	10:AK:62:ASN:OD1	2.16	0.58
1:AA:1126:A:H2'	1:AA:1127:A:H8	1.69	0.58
1:AA:1255:C:OP1	14:AP:141:VAL:N	2.33	0.58
7:AG:199:ARG:HD3	9:AJ:68:ARG:HA	1.85	0.58
26:BA:2667:G:O2'	26:BA:2676:G:O6	2.22	0.58
6:AF:139:THR:OG1	6:AF:159:ASP:O	2.21	0.58
21:AX:17:CYS:HB3	21:AX:22:ASN:H	1.69	0.58
26:BA:340:U:H4'	46:BU:4:MET:HB2	1.86	0.58
26:BA:1973:A:N3	26:BA:2571:U:O2'	2.30	0.58
38:BM:121:VAL:HG21	38:BM:131:GLU:HG3	1.84	0.58
1:AA:1241:U:H2'	1:AA:1242:C:H6	1.69	0.58
9:AJ:28:ARG:HB3	9:AJ:29:PRO:HD3	1.86	0.58
13:AO:98:VAL:HG12	13:AO:124:VAL:HG23	1.85	0.58
14:AP:108:LEU:HB2	14:AP:113:ILE:HG12	1.85	0.58
25:AT:34:LEU:O	25:AT:38:TYR:HB2	2.04	0.58
26:BA:916:G:O2'	37:BL:24:GLY:O	2.21	0.58
1:AA:50:C:H2'	1:AA:334:C:H41	1.68	0.57
1:AA:602:G:H1'	21:AX:48:GLY:HA3	1.85	0.57
1:AA:909:G:H21	24:AM:55:GLY:HA3	1.69	0.57
1:AA:1430:A:OP2	13:AO:59:GLN:NE2	2.31	0.57
4:AD:48:VAL:HG13	12:AN:25:ILE:HG22	1.86	0.57
5:AE:71:GLU:HB3	5:AE:74:TYR:HB2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:67:VAL:HG22	6:AF:85:ILE:HD12	1.86	0.57
8:AI:6:LYS:HA	8:AI:12:ASP:HA	1.86	0.57
12:AN:18:THR:CG2	12:AN:55:MET:HE1	2.34	0.57
19:AV:110:PHE:O	19:AV:121:SER:N	2.31	0.57
26:BA:2363:U:O2'	43:BR:84:GLU:O	2.20	0.57
1:AA:884:A:N3	1:AA:1323:U:O2'	2.33	0.57
1:AA:1006:A:N1	1:AA:1047:G:O2'	2.32	0.57
5:AE:130:ARG:HD2	5:AE:148:PRO:HB3	1.84	0.57
8:AI:16:VAL:HG21	8:AI:94:ILE:HG13	1.87	0.57
16:AQ:75:LEU:HA	16:AQ:80:VAL:HG23	1.85	0.57
28:BC:19:ALA:HB2	28:BC:184:ALA:HB2	1.87	0.57
29:BD:276:GLU:O	29:BD:332:ARG:NH1	2.37	0.57
32:BG:99:VAL:HG12	32:BG:130:VAL:HG11	1.85	0.57
39:BN:1:MET:HG3	39:BN:3:THR:HG22	1.85	0.57
26:BA:2864:C:O4'	47:BV:56:LYS:NZ	2.32	0.57
1:AA:244:A:OP2	10:AK:29:ARG:NH2	2.36	0.57
1:AA:1326:G:N2	22:AY:27:HIS:O	2.32	0.57
5:AE:176:ARG:NH1	5:AE:177:PRO:O	2.37	0.57
20:AW:35:VAL:HG21	20:AW:55:ILE:HD13	1.86	0.57
22:AY:47:ILE:HG23	22:AY:69:GLU:HB3	1.87	0.57
26:BA:1103:G:N2	42:BQ:44:SER:HB2	2.19	0.57
52:Ba:28:LEU:HD21	52:Ba:30:MET:HE3	1.86	0.57
54:Bc:21:ARG:HD2	54:Bc:45:MET:HE1	1.84	0.57
1:AA:390:C:O2'	5:AE:175:GLU:OE1	2.21	0.57
11:AL:1:MET:HG2	11:AL:2:VAL:HG23	1.87	0.57
16:AQ:130:LYS:NZ	16:AQ:136:PRO:O	2.29	0.57
21:AX:14:ARG:O	21:AX:58:LEU:N	2.33	0.57
26:BA:776:G:O2'	26:BA:1441:A:N3	2.36	0.57
30:BE:130:ARG:HH22	30:BE:193:LYS:HB2	1.70	0.57
31:BF:8:LYS:HE3	31:BF:10:ILE:HD11	1.86	0.57
33:BH:47:LYS:N	33:BH:99:ILE:O	2.38	0.57
1:AA:192:G:H1	1:AA:201:U:H3	1.51	0.57
1:AA:1126:A:H4'	11:AL:109:VAL:HG12	1.84	0.57
6:AF:24:SER:HB3	6:AF:41:ILE:HD11	1.86	0.57
6:AF:68:ASP:HB3	6:AF:160:LYS:HE2	1.85	0.57
6:AF:139:THR:OG1	6:AF:160:LYS:HB2	2.05	0.57
18:AU:76:ILE:HG23	18:AU:80:MET:HE2	1.86	0.57
26:BA:1048:A:H61	34:BI:113:MET:HE3	1.68	0.57
26:BA:1659:U:OP2	55:Bd:9:LYS:NZ	2.30	0.57
32:BG:19:LEU:HD13	32:BG:24:PHE:HD1	1.69	0.57
50:BY:16:VAL:HG23	50:BY:21:VAL:HG22	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:416:G:N3	20:AW:29:THR:OG1	2.37	0.57
26:BA:1550:U:O3'	26:BA:1614:G:O2'	2.23	0.57
26:BA:1951:G:O2'	26:BA:1989:G:O6	2.22	0.57
29:BD:155:VAL:HG12	29:BD:157:LYS:HG2	1.85	0.57
41:BP:141:HIS:O	41:BP:145:GLU:HG2	2.05	0.57
1:AA:134:G:H2'	1:AA:135:G:H5'	1.87	0.57
1:AA:1113:G:N1	1:AA:1116:A:OP2	2.37	0.57
1:AA:1198:A:H2'	1:AA:1199:U:H6	1.70	0.57
7:AG:147:PRO:HG2	7:AG:150:LEU:HD13	1.86	0.57
21:AX:39:CYS:SG	21:AX:40:GLY:N	2.76	0.57
24:AM:1:MET:HE1	24:AM:3:LYS:HE3	1.85	0.57
1:AA:98:C:OP1	1:AA:293:G:O2'	2.23	0.57
1:AA:259:C:H1'	10:AK:12:THR:HG22	1.87	0.57
1:AA:1035:C:H2'	1:AA:1036:A:C8	2.40	0.57
1:AA:1433:U:O2'	26:BA:1940:A:N1	2.28	0.57
23:AH:45:LEU:HB3	23:AH:48:TYR:HB2	1.86	0.57
26:BA:1687:C:OP1	41:BP:60:ARG:NH2	2.32	0.57
27:BB:2:A:H2'	27:BB:3:G:C8	2.40	0.57
48:BW:46:ARG:HE	48:BW:50:ILE:HD11	1.70	0.57
52:Ba:119:VAL:HG13	52:Ba:149:ILE:HD13	1.87	0.57
1:AA:309:A:O2'	1:AA:310:C:O4'	2.22	0.57
1:AA:387:U:OP1	1:AA:388:G:O2'	2.14	0.57
1:AA:524:G:N2	1:AA:824:C:O3'	2.38	0.57
1:AA:662:U:H5'	4:AD:128:ARG:HH21	1.69	0.57
13:AO:63:ALA:HB3	13:AO:65:ARG:HE	1.69	0.57
17:AS:5:ILE:H	17:AS:8:ASN:HB3	1.69	0.57
24:AM:99:VAL:HG12	24:AM:101:GLU:HG3	1.86	0.57
34:BI:70:ALA:HB3	34:BI:85:MET:HE1	1.86	0.57
35:BJ:14:LEU:HD22	35:BJ:42:ILE:HD11	1.87	0.57
55:Bd:12:LEU:HD23	55:Bd:50:VAL:HG11	1.86	0.57
7:AG:41:ILE:HD13	7:AG:106:LEU:HD23	1.87	0.56
7:AG:126:HIS:HA	7:AG:168:LYS:HZ3	1.70	0.56
11:AL:100:PHE:HA	11:AL:103:TYR:HE1	1.70	0.56
14:AP:44:LEU:HD12	14:AP:45:PRO:HD2	1.87	0.56
39:BN:70:TYR:HE1	39:BN:172:GLU:HG2	1.70	0.56
40:BO:35:ILE:HD12	40:BO:124:ILE:HD11	1.87	0.56
50:BY:50:ILE:HG22	50:BY:53:LYS:HB3	1.86	0.56
3:AC:11:GLY:HA2	3:AC:14:LYS:HG2	1.87	0.56
12:AN:104:ILE:HG21	12:AN:107:ILE:HD11	1.86	0.56
21:AX:15:VAL:HG11	21:AX:26:ILE:HD13	1.87	0.56
27:BB:31:C:OP1	31:BF:130:ARG:NE	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BG:26:ALA:HB1	32:BG:80:VAL:HG21	1.85	0.56
46:BU:54:LYS:HB2	46:BU:64:GLU:HG3	1.87	0.56
55:Bd:11:ARG:HB3	55:Bd:50:VAL:HG13	1.86	0.56
1:AA:781:U:H2'	1:AA:782:G:C8	2.40	0.56
1:AA:1297:A:N3	8:AI:68:THR:OG1	2.37	0.56
1:AA:1323:U:H5'	8:AI:133:ASP:OD2	2.05	0.56
2:AB:134:ARG:HB2	2:AB:146:LEU:HD13	1.85	0.56
3:AC:42:THR:HG21	3:AC:75:LEU:HD22	1.86	0.56
7:AG:55:ILE:HD12	7:AG:72:ALA:HB2	1.85	0.56
8:AI:88:LYS:HG3	8:AI:89:THR:HG23	1.85	0.56
24:AM:42:THR:HG21	24:AM:67:ARG:HB3	1.87	0.56
26:BA:467:C:OP1	54:Bc:51:GLN:NE2	2.38	0.56
26:BA:867:A:C8	28:BC:190:VAL:HG21	2.40	0.56
26:BA:1753:C:H1'	53:Bb:8:LYS:HD3	1.87	0.56
26:BA:2783:U:OP2	29:BD:28:ARG:NH2	2.38	0.56
30:BE:155:VAL:HG11	30:BE:209:ALA:HB2	1.87	0.56
33:BH:88:SER:HB3	33:BH:97:VAL:HG11	1.87	0.56
47:BV:20:LEU:HD11	47:BV:28:THR:HB	1.86	0.56
52:Ba:76:GLN:O	52:Ba:86:LEU:HD21	2.05	0.56
55:Bd:46:ARG:HD2	55:Bd:47:SER:O	2.06	0.56
1:AA:655:G:H2'	1:AA:656:A:C8	2.40	0.56
1:AA:884:A:O3'	8:AI:130:ARG:NH2	2.37	0.56
1:AA:1410:U:H2'	1:AA:1411:G:H8	1.70	0.56
9:AJ:23:SER:O	9:AJ:65:LEU:N	2.38	0.56
18:AU:86:GLU:OE2	18:AU:95:SER:OG	2.18	0.56
30:BE:28:ARG:NH2	30:BE:30:ASP:OD2	2.30	0.56
42:BQ:35:THR:HG23	42:BQ:55:ILE:HD12	1.86	0.56
58:AZ:35:ARG:NH2	58:AZ:39:CYS:O	2.31	0.56
1:AA:596:G:H5'	16:AQ:1:MET:HB3	1.86	0.56
1:AA:608:G:O2'	16:AQ:108:ASP:OD1	2.20	0.56
1:AA:1306:C:OP2	15:AR:10:ARG:NH1	2.39	0.56
3:AC:46:ILE:HG23	3:AC:80:ILE:HG21	1.87	0.56
7:AG:132:VAL:HG11	7:AG:195:VAL:HA	1.86	0.56
16:AQ:75:LEU:HD23	16:AQ:80:VAL:HG23	1.87	0.56
19:AV:134:GLU:HA	19:AV:137:LEU:HD12	1.87	0.56
26:BA:563:G:O6	26:BA:583:G:O2'	2.18	0.56
26:BA:1400:U:O4	55:Bd:2:SER:OG	2.23	0.56
1:AA:1404:C:H2'	1:AA:1405:G:O4'	2.06	0.56
2:AB:189:PRO:HG3	58:AZ:24:PHE:HB3	1.87	0.56
8:AI:106:PRO:HG3	8:AI:134:THR:HG21	1.88	0.56
25:AT:56:ARG:HD2	25:AT:60:ARG:HH11	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BA:2481:G:O6	26:BA:2487:A:O2'	2.24	0.56
27:BB:116:G:H2'	27:BB:117:C:C6	2.41	0.56
1:AA:513:A:N3	1:AA:828:C:O2'	2.34	0.56
1:AA:939:A:N6	1:AA:984:G:O4'	2.39	0.56
24:AM:16:LEU:HD13	24:AM:94:ILE:HG21	1.86	0.56
26:BA:2695:C:H4'	47:BV:17:THR:HG22	1.88	0.56
26:BA:2822:U:OP2	29:BD:112:ARG:NH1	2.34	0.56
36:BK:73:VAL:HA	36:BK:95:MET:HG2	1.88	0.56
1:AA:894:C:OP1	14:AP:149:THR:OG1	2.16	0.56
4:AD:126:ILE:HA	4:AD:181:ARG:HD3	1.88	0.56
6:AF:38:PRO:HD2	6:AF:41:ILE:HB	1.87	0.56
11:AL:40:GLU:O	11:AL:43:MET:HG2	2.05	0.56
26:BA:1833:U:OP1	28:BC:232:ARG:HD3	2.05	0.56
26:BA:2680:C:H4'	32:BG:116:LYS:HD2	1.87	0.56
27:BB:4:U:H3	27:BB:124:G:H22	1.54	0.56
1:AA:872:G:N2	1:AA:1470:U:OP1	2.39	0.56
1:AA:1201:G:H2'	1:AA:1202:G:O4'	2.06	0.56
1:AA:1436:U:O2	1:AA:1437:A:N6	2.32	0.56
4:AD:107:VAL:HG21	4:AD:142:VAL:HG13	1.88	0.56
6:AF:13:TRP:NE1	6:AF:36:SER:O	2.39	0.56
10:AK:54:ARG:NE	10:AK:114:GLY:O	2.37	0.56
29:BD:169:ALA:HB3	29:BD:175:LYS:CG	2.36	0.56
32:BG:46:VAL:HG12	32:BG:51:VAL:HG22	1.87	0.56
35:BJ:54:ARG:O	35:BJ:58:GLU:HG2	2.06	0.56
51:BZ:44:THR:HG21	51:BZ:83:VAL:HG21	1.87	0.56
1:AA:473:A:O2'	1:AA:476:C:N4	2.39	0.56
1:AA:768:U:H4'	9:AJ:20:ILE:HD11	1.88	0.56
4:AD:91:TYR:CE2	4:AD:95:ILE:HD11	2.41	0.56
5:AE:143:ARG:HG3	20:AW:61:MET:HE3	1.88	0.56
6:AF:66:LEU:HB2	6:AF:86:THR:HG23	1.87	0.56
7:AG:115:CYS:HB3	7:AG:123:GLY:H	1.70	0.56
19:AV:67:PRO:HB3	19:AV:114:VAL:HG11	1.87	0.56
1:AA:866:U:O2'	7:AG:61:MET:O	2.24	0.55
4:AD:51:THR:HA	4:AD:65:LYS:HA	1.88	0.55
12:AN:99:ARG:HD3	22:AY:45:ARG:HH22	1.71	0.55
18:AU:50:PHE:HB3	18:AU:54:GLN:CG	2.35	0.55
26:BA:33:C:O2'	26:BA:667:A:N1	2.34	0.55
26:BA:299:A:N1	26:BA:323:A:O2'	2.39	0.55
26:BA:426:A:OP2	38:BM:169:ARG:NH2	2.34	0.55
26:BA:480:A:O2'	46:BU:86:LYS:HA	2.05	0.55
26:BA:1790:C:N3	26:BA:2726:C:O2'	2.34	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BU:77:ILE:HD11	46:BU:101:VAL:HG11	1.86	0.55
54:Bc:15:THR:HG23	54:Bc:16:HIS:ND1	2.21	0.55
1:AA:2:U:H5'	1:AA:280:A:O4'	2.06	0.55
1:AA:1442:G:OP1	1:AA:1445:A:H4'	2.06	0.55
2:AB:140:LEU:HB3	2:AB:142:THR:HG23	1.87	0.55
2:AB:195:ASP:N	2:AB:198:ASN:OD1	2.39	0.55
7:AG:136:ALA:H	7:AG:187:ALA:HB2	1.71	0.55
9:AJ:40:VAL:O	9:AJ:44:LEU:HG	2.07	0.55
24:AM:51:LYS:N	24:AM:60:THR:O	2.29	0.55
26:BA:1752:U:O2'	26:BA:1754:G:N7	2.39	0.55
38:BM:68:VAL:HG11	38:BM:98:ILE:HG23	1.88	0.55
18:AU:51:THR:O	18:AU:55:LYS:HG2	2.06	0.55
26:BA:547:G:OP1	52:Ba:103:SER:HB3	2.06	0.55
52:Ba:73:GLN:HA	52:Ba:78:ARG:HH21	1.70	0.55
1:AA:114:U:O2'	6:AF:138:GLY:O	2.18	0.55
1:AA:161:C:H1'	10:AK:120:ASN:HB3	1.87	0.55
1:AA:1187:U:C5	8:AI:154:VAL:HG11	2.41	0.55
2:AB:186:ILE:HG23	7:AG:34:PRO:HD3	1.89	0.55
11:AL:46:ILE:HD12	11:AL:80:ARG:HB2	1.89	0.55
26:BA:636:A:N1	26:BA:894:G:O2'	2.36	0.55
30:BE:143:VAL:HA	30:BE:242:GLU:HG2	1.88	0.55
1:AA:74:A:H2'	1:AA:75:A:H8	1.70	0.55
8:AI:48:LYS:O	8:AI:51:ILE:HG22	2.06	0.55
18:AU:38:LEU:HD23	18:AU:42:GLU:HG2	1.89	0.55
20:AW:36:ARG:HH21	20:AW:90:PRO:HG2	1.72	0.55
25:AT:31:ASN:ND2	25:AT:55:THR:OG1	2.31	0.55
48:BW:43:ASN:ND2	48:BW:46:ARG:HB2	2.22	0.55
58:AZ:7:GLU:O	58:AZ:15:ARG:HA	2.06	0.55
3:AC:23:GLU:HG3	3:AC:24:GLN:HG3	1.87	0.55
7:AG:26:ASP:O	7:AG:30:LYS:HG2	2.07	0.55
7:AG:50:ASP:HB2	7:AG:74:VAL:HG22	1.87	0.55
1:AA:638:U:H2'	1:AA:639:C:H5'	1.87	0.55
1:AA:681:C:H2'	1:AA:682:A:C8	2.42	0.55
1:AA:1098:G:OP1	1:AA:1227:A:N6	2.39	0.55
1:AA:1148:A:H4'	1:AA:1149:G:H5"	1.88	0.55
19:AV:74:ARG:HB3	19:AV:92:LYS:HG2	1.87	0.55
26:BA:892:U:O2'	26:BA:2081:A:N1	2.40	0.55
26:BA:1224:U:O4	26:BA:2045:C:O2'	2.23	0.55
27:BB:3:G:H2'	27:BB:4:U:C6	2.42	0.55
29:BD:163:MET:HE1	29:BD:308:LEU:HD21	1.88	0.55
34:BI:29:SER:HB2	34:BI:31:VAL:HG12	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BL:71:GLU:O	37:BL:75:LEU:HG	2.06	0.55
44:BS:126:MET:HB2	44:BS:136:LYS:HD2	1.88	0.55
45:BT:10:THR:H	45:BT:13:ALA:HB3	1.71	0.55
47:BV:13:LEU:HD12	47:BV:18:GLY:HA3	1.88	0.55
50:BY:54:ILE:O	50:BY:57:THR:OG1	2.19	0.55
51:BZ:4:ASP:O	51:BZ:79:ALA:N	2.37	0.55
1:AA:51:A:OP2	1:AA:334:C:N4	2.39	0.55
1:AA:300:G:H2'	1:AA:301:A:C8	2.42	0.55
1:AA:633:U:O2'	1:AA:635:A:N7	2.29	0.55
1:AA:1014:C:H4'	1:AA:1040:A:H61	1.72	0.55
1:AA:1126:A:H5"	11:AL:108:LEU:CD1	2.37	0.55
5:AE:54:GLU:O	5:AE:58:LEU:HG	2.07	0.55
7:AG:113:ARG:HG3	7:AG:125:PRO:HB2	1.89	0.55
11:AL:57:VAL:O	11:AL:61:LEU:HG	2.07	0.55
16:AQ:19:ARG:NH2	16:AQ:23:PRO:HA	2.21	0.55
26:BA:621:A:O2'	26:BA:623:G:OP2	2.20	0.55
26:BA:1113:U:OP1	26:BA:1227:C:O2'	2.25	0.55
26:BA:1401:U:O4	45:BT:56:MET:HE3	2.06	0.55
44:BS:8:ILE:HD12	44:BS:113:HIS:ND1	2.22	0.55
52:Ba:121:PRO:HG3	52:Ba:149:ILE:CG1	2.36	0.55
1:AA:592:C:N4	1:AA:693:G:O2'	2.31	0.55
1:AA:995:U:H2'	1:AA:996:G:H8	1.71	0.55
1:AA:1207:U:H5'	1:AA:1231:C:H5'	1.88	0.55
9:AJ:30:ALA:N	9:AJ:59:GLY:O	2.27	0.55
14:AP:66:ILE:HG22	14:AP:68:GLY:H	1.72	0.55
14:AP:74:GLU:O	14:AP:78:LEU:HG	2.07	0.55
28:BC:158:GLY:HA2	53:Bb:83:LEU:CD1	2.37	0.55
30:BE:244:ALA:O	30:BE:248:LEU:HB2	2.07	0.55
1:AA:765:C:H2'	1:AA:766:G:C8	2.41	0.55
1:AA:886:G:OP1	8:AI:63:ARG:NE	2.39	0.55
5:AE:4:PRO:HG2	5:AE:6:LYS:HG2	1.89	0.55
7:AG:22:VAL:HG13	7:AG:27:GLU:HG3	1.89	0.55
9:AJ:52:PHE:HB2	9:AJ:61:TYR:HE1	1.72	0.55
15:AR:33:CYS:SG	15:AR:36:CYS:HB3	2.47	0.55
21:AX:20:CYS:CB	21:AX:39:CYS:SG	2.77	0.55
26:BA:145:G:N2	26:BA:180:G:O6	2.40	0.55
26:BA:1827:A:O3'	28:BC:170:TRP:HB2	2.07	0.55
53:Bb:7:LYS:O	53:Bb:10:ARG:NH1	2.39	0.55
56:Be:3:ARG:NE	56:Be:8:GLU:OE2	2.40	0.55
1:AA:901:U:H2'	1:AA:902:U:O4'	2.08	0.54
1:AA:937:C:H2'	1:AA:1159:A:N1	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1235:A:H5'	19:AV:90:LYS:HD2	1.88	0.54
4:AD:22:GLU:OE2	4:AD:29:ARG:NE	2.40	0.54
8:AI:77:ALA:HA	8:AI:155:ALA:HB2	1.89	0.54
14:AP:98:LYS:CE	18:AU:37:LEU:HA	2.37	0.54
26:BA:62:C:O2	26:BA:66:A:O2'	2.24	0.54
26:BA:2364:C:O2'	26:BA:2365:A:O4'	2.25	0.54
29:BD:6:ARG:HD3	36:BK:41:LYS:HB3	1.89	0.54
48:BW:9:ILE:O	48:BW:17:ARG:NH1	2.40	0.54
1:AA:135:G:H2'	1:AA:137:A:OP2	2.07	0.54
1:AA:599:C:H42	1:AA:688:G:H1	1.55	0.54
1:AA:1001:U:H2'	1:AA:1002:C:C6	2.42	0.54
1:AA:1196:C:H5	1:AA:1234:A:H5"	1.73	0.54
2:AB:211:ASN:O	2:AB:217:LEU:HD11	2.08	0.54
5:AE:81:ILE:O	5:AE:85:LEU:HG	2.07	0.54
6:AF:61:SER:HA	6:AF:73:LYS:HG3	1.89	0.54
8:AI:62:MET:HA	8:AI:67:ASN:HB3	1.88	0.54
16:AQ:56:ASP:HB3	21:AX:34:ILE:HG12	1.88	0.54
26:BA:562:G:OP1	49:BX:122:ARG:NH2	2.40	0.54
44:BS:38:LYS:HE2	44:BS:114:ALA:H	1.72	0.54
1:AA:546:G:H1'	1:AA:573:U:O4	2.07	0.54
1:AA:680:C:O2'	16:AQ:101:HIS:ND1	2.39	0.54
1:AA:688:G:O2'	16:AQ:55:ARG:NH1	2.41	0.54
1:AA:1265:A:OP1	18:AU:48:ARG:NE	2.39	0.54
3:AC:143:VAL:HG22	3:AC:145:LYS:HG3	1.89	0.54
4:AD:121:PRO:HB3	4:AD:185:ILE:HD12	1.88	0.54
6:AF:96:MET:HE3	6:AF:104:LEU:HD12	1.89	0.54
17:AS:4:ASP:HA	17:AS:8:ASN:HD22	1.72	0.54
27:BB:101:C:O2	49:BX:49:LYS:HE2	2.07	0.54
28:BC:139:VAL:HG21	28:BC:149:LEU:HD12	1.89	0.54
28:BC:228:LEU:HD13	28:BC:234:THR:HG22	1.90	0.54
1:AA:289:G:OP2	1:AA:289:G:N2	2.30	0.54
1:AA:907:U:OP2	1:AA:1170:C:O2'	2.16	0.54
1:AA:917:G:C8	1:AA:1312:A:H4'	2.43	0.54
1:AA:933:G:H2'	1:AA:934:G:O4'	2.07	0.54
3:AC:170:VAL:HA	3:AC:175:THR:HG22	1.88	0.54
7:AG:191:ALA:O	7:AG:195:VAL:HG23	2.08	0.54
13:AO:58:LYS:HB2	13:AO:113:ASP:CB	2.37	0.54
16:AQ:5:HIS:NE2	16:AQ:121:LYS:HG3	2.22	0.54
16:AQ:113:ARG:O	16:AQ:117:LEU:HG	2.08	0.54
21:AX:14:ARG:HG2	21:AX:58:LEU:HB2	1.90	0.54
26:BA:2034:A:O2'	44:BS:135:PRO:O	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BE:168:VAL:HG11	30:BE:212:LEU:HD12	1.88	0.54
41:BP:7:GLN:HG2	41:BP:32:ILE:O	2.08	0.54
43:BR:52:MET:HG2	43:BR:53:PRO:O	2.08	0.54
1:AA:485:C:OP1	5:AE:38:LYS:NZ	2.30	0.54
1:AA:520:C:H2'	1:AA:521:G:O4'	2.08	0.54
1:AA:1118:A:OP1	25:AT:5:ARG:N	2.40	0.54
3:AC:135:LYS:NZ	3:AC:173:LEU:O	2.38	0.54
24:AM:2:GLN:HG3	24:AM:101:GLU:O	2.07	0.54
26:BA:970:G:N3	26:BA:982:U:N3	2.55	0.54
26:BA:2016:C:O2	36:BK:13:ASN:ND2	2.41	0.54
30:BE:48:GLY:HA2	30:BE:95:PRO:HG2	1.90	0.54
30:BE:203:THR:OG1	30:BE:205:ILE:HG22	2.06	0.54
38:BM:121:VAL:HG21	38:BM:131:GLU:CG	2.38	0.54
39:BN:66:GLU:O	39:BN:69:LYS:HG2	2.08	0.54
40:BO:58:ILE:HD11	40:BO:70:ILE:HD11	1.88	0.54
41:BP:116:ASP:N	41:BP:116:ASP:OD1	2.40	0.54
1:AA:13:C:H2'	1:AA:14:C:O4'	2.08	0.54
1:AA:192:G:H2'	1:AA:193:G:C8	2.43	0.54
1:AA:525:C:H5"	13:AO:6:TYR:O	2.07	0.54
1:AA:573:U:O2	1:AA:574:U:H3'	2.08	0.54
1:AA:1126:A:H5"	11:AL:108:LEU:HD12	1.88	0.54
1:AA:1195:A:H2'	1:AA:1196:C:C4'	2.38	0.54
4:AD:16:LYS:HG3	4:AD:36:MET:HE1	1.88	0.54
4:AD:100:THR:HG23	4:AD:125:THR:H	1.72	0.54
7:AG:50:ASP:HB2	7:AG:74:VAL:CG2	2.37	0.54
8:AI:84:ILE:O	8:AI:88:LYS:HG2	2.08	0.54
33:BH:55:ILE:HG21	33:BH:60:ILE:HB	1.90	0.54
40:BO:35:ILE:O	40:BO:39:ILE:HG12	2.08	0.54
41:BP:23:TRP:HB2	41:BP:53:LYS:HG2	1.88	0.54
42:BQ:8:ILE:HD11	42:BQ:25:LYS:HE3	1.88	0.54
1:AA:115:U:H5'	6:AF:139:THR:HA	1.90	0.54
1:AA:337:C:O2'	1:AA:370:G:N3	2.40	0.54
1:AA:424:U:H2'	1:AA:425:A:O4'	2.08	0.54
1:AA:567:U:H2'	1:AA:568:A:C8	2.42	0.54
1:AA:1181:C:H1'	1:AA:1311:U:O2	2.07	0.54
1:AA:1263:G:N7	18:AU:48:ARG:NH1	2.55	0.54
2:AB:209:THR:OG1	2:AB:220:VAL:HG21	2.07	0.54
13:AO:46:ARG:HD3	13:AO:97:GLU:OE2	2.08	0.54
16:AQ:4:MET:HE2	16:AQ:124:ARG:HD3	1.90	0.54
25:AT:8:ASN:OD1	25:AT:11:ARG:NH1	2.31	0.54
28:BC:171:LEU:HD22	53:Bb:30:VAL:HG21	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:AZ:46:TYR:CZ	58:AZ:55:ALA:HB3	2.43	0.54
1:AA:484:C:H5"	5:AE:23:MET:HE1	1.89	0.54
1:AA:533:G:H2'	1:AA:534:U:C6	2.43	0.54
1:AA:553:G:H5"	5:AE:50:MET:SD	2.47	0.54
1:AA:840:G:H2'	1:AA:841:C:C6	2.43	0.54
1:AA:1197:A:H2'	1:AA:1198:A:C8	2.43	0.54
2:AB:61:SER:OG	2:AB:64:GLU:HG2	2.08	0.54
2:AB:164:GLU:HB3	7:AG:12:ARG:HD3	1.88	0.54
4:AD:103:ILE:CG1	4:AD:134:MET:HG2	2.38	0.54
7:AG:132:VAL:HG21	7:AG:195:VAL:HG22	1.90	0.54
8:AI:92:ASN:O	8:AI:96:VAL:HG23	2.08	0.54
10:AK:42:LYS:HG3	10:AK:44:VAL:HG13	1.88	0.54
16:AQ:46:SER:O	16:AQ:50:ILE:HG12	2.08	0.54
18:AU:76:ILE:HB	18:AU:104:GLY:H	1.73	0.54
23:AH:56:CYS:SG	23:AH:107:GLN:HB3	2.47	0.54
24:AM:4:ALA:N	24:AM:75:ILE:O	2.28	0.54
26:BA:785:U:H4'	41:BP:84:LYS:HE2	1.89	0.54
34:BI:130:MET:HA	34:BI:130:MET:HE2	1.89	0.54
35:BJ:60:GLY:HA3	35:BJ:66:PRO:HD2	1.89	0.54
46:BU:2:ILE:HG21	46:BU:12:GLN:HG2	1.89	0.54
1:AA:416:G:H2'	1:AA:417:U:C6	2.43	0.54
13:AO:105:GLY:HA3	13:AO:111:MET:HB2	1.90	0.54
16:AQ:149:MET:HE1	50:BY:74:VAL:HG13	1.89	0.54
17:AS:1:MET:HE1	17:AS:27:LEU:O	2.08	0.54
26:BA:462:G:OP2	55:Bd:46:ARG:HG3	2.08	0.54
26:BA:649:G:O2'	30:BE:31:LEU:HD21	2.08	0.54
39:BN:103:LEU:CB	39:BN:130:ILE:HD11	2.37	0.54
39:BN:139:PRO:HG2	39:BN:142:ARG:HB2	1.90	0.54
46:BU:51:ASP:HB2	46:BU:105:LYS:O	2.08	0.54
46:BU:56:MET:SD	46:BU:102:MET:HB2	2.47	0.54
1:AA:632:G:O2'	1:AA:738:C:H4'	2.09	0.54
1:AA:913:C:H3'	1:AA:914:A:H2'	1.90	0.54
1:AA:1296:A:H62	1:AA:1320:G:H21	1.56	0.54
7:AG:110:TYR:O	7:AG:196:ASN:ND2	2.40	0.54
13:AO:4:GLY:O	17:AS:62:ARG:HD3	2.08	0.54
13:AO:24:TYR:HE1	13:AO:107:MET:HE1	1.73	0.54
14:AP:137:ARG:HB3	14:AP:139:LEU:HD13	1.90	0.54
24:AM:9:SER:CB	24:AM:70:LYS:HG2	2.37	0.54
26:BA:463:G:N2	26:BA:466:A:OP2	2.30	0.54
26:BA:653:A:OP1	40:BO:94:SER:OG	2.17	0.54
26:BA:861:U:O3'	28:BC:1:MET:HE2	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BA:1296:G:HO2'	52:Ba:131:THR:HG1	1.56	0.54
28:BC:33:VAL:HG21	28:BC:83:CYS:SG	2.48	0.54
49:BX:132:VAL:HG23	49:BX:138:LEU:O	2.08	0.54
1:AA:133:G:H4'	23:AH:18:GLN:OE1	2.08	0.53
1:AA:493:G:OP1	13:AO:104:GLY:HA2	2.08	0.53
2:AB:164:GLU:OE1	7:AG:12:ARG:N	2.42	0.53
15:AR:7:LYS:HD2	15:AR:31:TYR:OH	2.07	0.53
16:AQ:19:ARG:HH21	16:AQ:23:PRO:HA	1.72	0.53
23:AH:9:SER:HA	23:AH:16:ALA:HA	1.90	0.53
29:BD:124:GLU:HA	29:BD:127:GLU:HG2	1.90	0.53
31:BF:4:PRO:O	31:BF:124:LEU:HD12	2.08	0.53
46:BU:53:VAL:HG12	46:BU:103:ILE:HA	1.89	0.53
1:AA:605:G:O2'	1:AA:607:G:OP2	2.18	0.53
1:AA:1201:G:OP2	15:AR:28:TYR:OH	2.18	0.53
1:AA:1202:G:O2'	1:AA:1205:C:O2'	2.15	0.53
2:AB:168:ILE:HG12	2:AB:188:VAL:CG1	2.38	0.53
3:AC:48:SER:OG	3:AC:54:VAL:HG21	2.08	0.53
4:AD:153:ASP:OD1	4:AD:156:THR:OG1	2.14	0.53
6:AF:220:ILE:HD12	6:AF:229:LEU:CD1	2.38	0.53
13:AO:124:VAL:O	13:AO:127:VAL:HG12	2.09	0.53
20:AW:2:ASP:HB3	20:AW:24:LYS:HB2	1.90	0.53
20:AW:51:ILE:O	20:AW:69:LYS:N	2.30	0.53
27:BB:26:C:H2'	27:BB:27:A:H8	1.72	0.53
40:BO:110:GLU:O	40:BO:114:GLU:HG2	2.08	0.53
50:BY:39:MET:HE1	50:BY:94:ILE:HG13	1.90	0.53
57:Bf:40:LYS:O	57:Bf:44:GLU:HG2	2.09	0.53
1:AA:427:A:H2'	1:AA:428:U:C6	2.43	0.53
1:AA:528:G:H2'	1:AA:529:U:C6	2.42	0.53
1:AA:698:U:H2'	1:AA:699:G:O4'	2.07	0.53
4:AD:22:GLU:HB2	4:AD:77:ILE:CG2	2.38	0.53
4:AD:84:GLY:HA2	4:AD:158:MET:HE1	1.91	0.53
6:AF:108:LYS:O	6:AF:231:GLY:HA3	2.09	0.53
11:AL:20:VAL:HG22	11:AL:63:ILE:HG23	1.91	0.53
19:AV:26:ILE:CD1	19:AV:104:GLN:HB3	2.38	0.53
26:BA:1109:G:N2	26:BA:1110:U:O4	2.42	0.53
26:BA:2242:A:OP2	38:BM:91:LYS:NZ	2.41	0.53
26:BA:2519:G:HO2'	26:BA:2565:U:HO2'	1.53	0.53
36:BK:5:ARG:O	36:BK:83:PRO:HG3	2.08	0.53
50:BY:41:VAL:HG22	50:BY:62:LEU:HD23	1.90	0.53
1:AA:106:A:OP2	17:AS:92:ARG:HD3	2.08	0.53
1:AA:158:A:N1	1:AA:186:U:O2'	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:519:C:H2'	1:AA:520:C:C6	2.44	0.53
1:AA:1182:U:H2'	1:AA:1183:A:C8	2.43	0.53
1:AA:1329:C:C4	22:AY:27:HIS:HB3	2.43	0.53
2:AB:143:ARG:HH11	2:AB:163:PHE:HD1	1.57	0.53
7:AG:101:ILE:HG22	7:AG:105:LYS:HZ2	1.73	0.53
8:AI:128:PRO:HD3	22:AY:61:LEU:HD21	1.89	0.53
25:AT:20:TYR:HB3	25:AT:23:VAL:CG2	2.37	0.53
26:BA:157:U:O4	26:BA:168:C:O2'	2.18	0.53
26:BA:895:U:OP2	37:BL:10:ARG:NH1	2.41	0.53
26:BA:1107:A:O3'	35:BJ:128:ARG:NH1	2.37	0.53
26:BA:2587:G:O2'	26:BA:2590:C:OP2	2.24	0.53
29:BD:29:ALA:O	29:BD:312:ARG:NH1	2.41	0.53
44:BS:48:PHE:HZ	44:BS:59:VAL:HG12	1.74	0.53
1:AA:233:G:H1'	10:AK:8:ARG:HE	1.74	0.53
1:AA:1123:A:H4'	1:AA:1124:G:N7	2.24	0.53
1:AA:1215:A:H4'	19:AV:39:VAL:HG22	1.89	0.53
1:AA:1322:A:H5'	8:AI:56:ARG:NE	2.24	0.53
2:AB:170:VAL:HG13	2:AB:176:ASP:HB2	1.90	0.53
23:AH:72:ARG:HG2	23:AH:97:ARG:CD	2.39	0.53
26:BA:2254:U:O2'	26:BA:2447:G:OP2	2.22	0.53
27:BB:30:U:H2'	27:BB:31:C:C6	2.44	0.53
29:BD:12:LEU:HD11	29:BD:249:ARG:HB3	1.90	0.53
34:BI:77:ASP:HB3	34:BI:145:ALA:HB1	1.91	0.53
36:BK:120:ARG:O	36:BK:122:PRO:HD3	2.09	0.53
38:BM:61:ILE:HD11	38:BM:148:LEU:HD11	1.91	0.53
52:Ba:128:ILE:HG21	52:Ba:137:LYS:HG3	1.89	0.53
1:AA:173:A:O3'	17:AS:1:MET:N	2.42	0.53
1:AA:237:U:OP1	17:AS:98:LYS:HE2	2.08	0.53
1:AA:970:G:H2'	1:AA:971:C:O4'	2.09	0.53
1:AA:1109:C:H2'	1:AA:1110:G:C8	2.44	0.53
1:AA:1290:C:OP1	11:AL:131:LYS:HD3	2.09	0.53
4:AD:87:LEU:HD12	4:AD:91:TYR:HD2	1.73	0.53
5:AE:102:SER:HB3	7:AG:148:ARG:NE	2.23	0.53
7:AG:69:LYS:HE3	7:AG:91:VAL:HG12	1.90	0.53
7:AG:126:HIS:HA	7:AG:168:LYS:NZ	2.24	0.53
8:AI:137:ARG:O	8:AI:141:MET:HG2	2.07	0.53
18:AU:68:ARG:HA	18:AU:86:GLU:HB2	1.90	0.53
29:BD:121:ASN:HA	29:BD:124:GLU:OE2	2.09	0.53
29:BD:201:THR:HG22	29:BD:311:LEU:HD23	1.89	0.53
58:AZ:47:THR:HG23	58:AZ:54:LYS:HG2	1.91	0.53
1:AA:283:G:N2	1:AA:497:G:OP1	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:390:C:OP1	5:AE:125:THR:OG1	2.13	0.53
1:AA:606:A:H1'	1:AA:674:G:O4'	2.09	0.53
1:AA:1207:U:O2'	1:AA:1223:G:N2	2.42	0.53
1:AA:1230:U:H2'	1:AA:1231:C:C6	2.44	0.53
2:AB:121:LEU:HD23	2:AB:168:ILE:HD12	1.90	0.53
6:AF:97:LEU:HD11	6:AF:229:LEU:O	2.09	0.53
7:AG:194:GLN:HA	7:AG:197:VAL:CG1	2.39	0.53
8:AI:57:LEU:HD13	8:AI:136:LEU:HD22	1.91	0.53
9:AJ:47:ILE:HD11	9:AJ:63:VAL:CG1	2.39	0.53
18:AU:69:THR:N	18:AU:86:GLU:O	2.39	0.53
36:BK:116:GLU:OE1	36:BK:116:GLU:N	2.41	0.53
37:BL:69:VAL:HG22	37:BL:106:GLY:HA2	1.90	0.53
41:BP:115:LEU:HD21	41:BP:123:LEU:HD12	1.89	0.53
47:BV:6:CYS:HB2	47:BV:32:CYS:HB3	1.89	0.53
1:AA:188:A:N3	1:AA:204:C:O2'	2.38	0.53
1:AA:659:A:C8	12:AN:115:HIS:HB3	2.43	0.53
3:AC:102:SER:HA	3:AC:105:ARG:HG2	1.90	0.53
7:AG:54:ASP:HB3	7:AG:181:THR:HG21	1.91	0.53
7:AG:113:ARG:HG3	7:AG:125:PRO:CB	2.39	0.53
13:AO:24:TYR:CE1	13:AO:107:MET:HE1	2.43	0.53
14:AP:23:LEU:HD23	31:BF:109:TYR:HE2	1.73	0.53
14:AP:148:SER:HA	14:AP:151:ARG:HE	1.74	0.53
26:BA:18:G:H5"	44:BS:4:ILE:HD12	1.90	0.53
26:BA:1121:A:N3	26:BA:2497:G:O2'	2.34	0.53
27:BB:53:C:H2'	27:BB:54:A:O4'	2.09	0.53
31:BF:9:VAL:HB	31:BF:63:LEU:HB2	1.90	0.53
45:BT:10:THR:O	45:BT:14:MET:HG2	2.09	0.53
48:BW:6:THR:O	48:BW:10:ARG:HG3	2.08	0.53
1:AA:909:G:H2'	1:AA:910:A:O4'	2.09	0.53
1:AA:1069:A:O4'	11:AL:4:VAL:HG11	2.08	0.53
1:AA:1198:A:H2'	1:AA:1199:U:C6	2.44	0.53
4:AD:132:SER:HA	4:AD:135:GLN:OE1	2.08	0.53
6:AF:43:ILE:HD12	6:AF:47:LEU:HD12	1.90	0.53
7:AG:158:ALA:HB2	7:AG:184:PHE:CZ	2.43	0.53
8:AI:48:LYS:CE	8:AI:129:GLN:HG3	2.39	0.53
19:AV:139:LEU:HD13	19:AV:142:LYS:HE3	1.91	0.53
20:AW:2:ASP:HA	20:AW:38:LYS:HE2	1.91	0.53
20:AW:14:LEU:HD22	20:AW:16:ARG:CD	2.39	0.53
21:AX:15:VAL:CG1	21:AX:43:LEU:HD13	2.39	0.53
24:AM:46:VAL:HG22	24:AM:65:GLU:HG2	1.91	0.53
26:BA:1698:A:O2'	41:BP:57:GLY:HA2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BA:1986:C:OP1	26:BA:1987:A:O2'	2.23	0.53
33:BH:10:PRO:HD3	33:BH:119:LEU:HD22	1.91	0.53
53:Bb:77:THR:O	53:Bb:81:GLN:HG2	2.09	0.53
1:AA:596:G:OP1	16:AQ:1:MET:N	2.30	0.53
1:AA:627:U:O4	1:AA:644:A:O2'	2.21	0.53
8:AI:85:VAL:HG13	8:AI:163:ILE:HD11	1.90	0.53
17:AS:58:SER:O	17:AS:61:GLN:NE2	2.30	0.53
26:BA:1253:A:OP1	49:BX:71:ARG:NH2	2.41	0.53
29:BD:37:PRO:HA	29:BD:168:SER:O	2.08	0.53
30:BE:144:ASN:ND2	30:BE:242:GLU:HB2	2.24	0.53
30:BE:201:GLU:O	30:BE:203:THR:HG23	2.08	0.53
31:BF:40:CYS:N	31:BF:58:GLY:O	2.42	0.53
38:BM:188:ILE:HG22	38:BM:193:SER:HA	1.90	0.53
1:AA:1061:C:H2'	1:AA:1062:U:O4'	2.09	0.52
1:AA:1103:G:H2'	1:AA:1127:A:H61	1.75	0.52
1:AA:1412:A:C2'	1:AA:1413:A:H5'	2.40	0.52
2:AB:173:PRO:HG3	2:AB:194:CYS:SG	2.48	0.52
3:AC:95:MET:HE2	3:AC:120:VAL:CG2	2.39	0.52
6:AF:36:SER:HA	6:AF:79:VAL:O	2.09	0.52
6:AF:67:VAL:HG22	6:AF:85:ILE:CD1	2.39	0.52
7:AG:11:THR:O	7:AG:15:LYS:HG2	2.08	0.52
7:AG:170:VAL:HG12	7:AG:172:THR:HG23	1.89	0.52
15:AR:34:ARG:NH2	24:AM:52:SER:O	2.29	0.52
24:AM:83:ARG:HD3	24:AM:86:MET:HE3	1.90	0.52
26:BA:937:U:O2'	49:BX:40:HIS:O	2.26	0.52
26:BA:2694:A:O2'	29:BD:51:HIS:ND1	2.32	0.52
41:BP:35:ALA:HB2	41:BP:44:LEU:HD12	1.91	0.52
46:BU:24:ARG:NH1	46:BU:73:MET:O	2.42	0.52
1:AA:553:G:H2'	1:AA:554:A:C8	2.44	0.52
1:AA:592:C:H41	1:AA:693:G:HO2'	1.52	0.52
1:AA:1025:C:H2'	1:AA:1026:C:C6	2.45	0.52
1:AA:1039:C:C4	1:AA:1041:A:H5'	2.44	0.52
1:AA:1203:U:O2'	1:AA:1225:U:N3	2.39	0.52
1:AA:1312:A:H2'	1:AA:1313:G:C8	2.44	0.52
2:AB:131:HIS:O	2:AB:135:MET:HG2	2.09	0.52
3:AC:152:LYS:HZ1	3:AC:157:PRO:HD2	1.74	0.52
6:AF:213:ILE:HG22	6:AF:216:TYR:HB2	1.90	0.52
7:AG:37:GLU:OE1	7:AG:38:PRO:HD2	2.10	0.52
10:AK:8:ARG:O	17:AS:96:LYS:NZ	2.31	0.52
15:AR:48:LYS:HE2	24:AM:62:ASP:HA	1.90	0.52
17:AS:36:GLY:O	17:AS:85:ILE:HD12	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AU:26:LEU:O	18:AU:78:PRO:HB3	2.09	0.52
25:AT:56:ARG:O	25:AT:60:ARG:HG3	2.09	0.52
26:BA:1841:C:O2'	28:BC:8:GLN:HA	2.09	0.52
26:BA:1866:A:O2'	53:Bb:24:ARG:HG2	2.10	0.52
27:BB:25:G:H4'	27:BB:26:C:C5	2.44	0.52
1:AA:323:C:H2'	1:AA:324:C:H6	1.73	0.52
1:AA:835:G:O2'	1:AA:851:G:O6	2.16	0.52
22:AY:15:ALA:HB2	22:AY:37:VAL:HA	1.91	0.52
26:BA:2575:A:OP1	26:BA:2660:G:O2'	2.22	0.52
27:BB:1:G:H1	27:BB:127:C:H1'	1.74	0.52
32:BG:137:ILE:CG2	32:BG:145:VAL:HG23	2.40	0.52
40:BO:39:ILE:HD12	40:BO:69:LEU:HD22	1.90	0.52
40:BO:78:GLY:O	40:BO:79:LEU:HD23	2.09	0.52
47:BV:45:LEU:HD12	47:BV:48:ARG:HD3	1.91	0.52
52:Ba:29:ASP:OD2	52:Ba:122:SER:HB2	2.09	0.52
1:AA:86:U:H2'	1:AA:87:G:H5'	1.92	0.52
1:AA:604:A:OP1	4:AD:132:SER:OG	2.14	0.52
1:AA:1235:A:N1	1:AA:1318:G:H1'	2.24	0.52
7:AG:23:ALA:N	7:AG:27:GLU:OE2	2.29	0.52
20:AW:17:ARG:CZ	20:AW:43:LEU:HD12	2.38	0.52
26:BA:506:U:O2'	55:Bd:32:ARG:HD2	2.10	0.52
33:BH:29:LYS:HB2	33:BH:101:ASP:HB3	1.92	0.52
51:BZ:27:ALA:O	51:BZ:31:VAL:HG23	2.10	0.52
1:AA:323:C:H2'	1:AA:324:C:C6	2.45	0.52
1:AA:460:A:OP1	13:AO:64:ILE:HB	2.10	0.52
1:AA:1029:U:H2'	1:AA:1030:U:C6	2.45	0.52
1:AA:1072:A:H2'	1:AA:1073:U:C6	2.45	0.52
4:AD:32:VAL:CG1	4:AD:50:THR:HG21	2.39	0.52
5:AE:133:ILE:O	5:AE:146:THR:HA	2.09	0.52
7:AG:50:ASP:OD1	7:AG:50:ASP:N	2.43	0.52
7:AG:161:VAL:CG1	7:AG:188:THR:HG21	2.40	0.52
14:AP:36:PRO:HB2	14:AP:38:GLN:OE1	2.09	0.52
14:AP:108:LEU:HB2	14:AP:113:ILE:CD1	2.39	0.52
26:BA:691:A:O2'	26:BA:721:C:O2'	2.27	0.52
26:BA:2712:U:OP2	41:BP:59:SER:HB3	2.10	0.52
27:BB:25:G:O6	27:BB:57:U:O2'	2.21	0.52
32:BG:100:LYS:NZ	32:BG:102:ASP:HB3	2.25	0.52
37:BL:124:SER:O	37:BL:128:LYS:HG3	2.10	0.52
58:AZ:9:CYS:SG	58:AZ:35:ARG:HA	2.50	0.52
58:AZ:10:THR:HG21	58:AZ:33:ILE:HG23	1.92	0.52
1:AA:214:G:H1'	1:AA:244:A:N1	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:467:G:O2'	1:AA:475:A:N1	2.33	0.52
1:AA:1107:G:OP2	25:AT:56:ARG:HG3	2.10	0.52
1:AA:1464:G:H2'	1:AA:1465:C:C6	2.44	0.52
2:AB:107:VAL:CG1	58:AZ:27:PRO:HB2	2.39	0.52
7:AG:12:ARG:HB2	7:AG:33:LEU:HD13	1.90	0.52
26:BA:1861:U:OP1	28:BC:200:HIS:NE2	2.34	0.52
28:BC:93:ASN:O	28:BC:156:VAL:HA	2.10	0.52
32:BG:105:THR:HG22	32:BG:121:LYS:HA	1.91	0.52
39:BN:157:ASP:HA	39:BN:160:GLU:OE2	2.10	0.52
41:BP:126:LYS:CD	41:BP:131:GLU:HG3	2.40	0.52
42:BQ:31:GLU:HG3	42:BQ:58:VAL:HG11	1.90	0.52
1:AA:132:C:O2'	23:AH:18:GLN:HB2	2.09	0.52
1:AA:407:U:H2'	1:AA:408:G:C8	2.45	0.52
1:AA:554:A:H2'	1:AA:555:C:C6	2.45	0.52
1:AA:651:G:H2'	1:AA:652:U:C6	2.45	0.52
1:AA:1126:A:H2'	1:AA:1127:A:C8	2.45	0.52
1:AA:1394:G:O2'	1:AA:1395:U:H5'	2.10	0.52
2:AB:240:LEU:O	2:AB:244:GLU:N	2.41	0.52
3:AC:25:LEU:HD22	3:AC:30:TYR:HD1	1.75	0.52
7:AG:202:VAL:HG22	9:AJ:68:ARG:NH2	2.25	0.52
8:AI:156:GLU:O	8:AI:160:THR:HG23	2.10	0.52
33:BH:34:THR:HG21	33:BH:60:ILE:O	2.10	0.52
37:BL:67:VAL:CG1	37:BL:101:ILE:HG21	2.38	0.52
55:Bd:6:LYS:O	55:Bd:10:LYS:HG3	2.10	0.52
1:AA:205:C:H2'	1:AA:206:A:C8	2.45	0.52
1:AA:560:C:H2'	1:AA:561:A:O4'	2.10	0.52
1:AA:1077:C:O2'	19:AV:2:THR:HG23	2.10	0.52
1:AA:1200:G:OP1	24:AM:44:LYS:HB2	2.09	0.52
1:AA:1289:C:H2'	1:AA:1290:C:C6	2.45	0.52
1:AA:1327:U:H1'	22:AY:27:HIS:HA	1.91	0.52
1:AA:1359:C:H2'	1:AA:1360:A:C8	2.45	0.52
4:AD:48:VAL:HG13	12:AN:25:ILE:CG2	2.40	0.52
8:AI:89:THR:HG21	8:AI:163:ILE:HD12	1.92	0.52
16:AQ:75:LEU:HA	16:AQ:80:VAL:CG2	2.40	0.52
17:AS:75:PRO:HD2	17:AS:102:VAL:HG22	1.92	0.52
18:AU:97:ASP:HB3	18:AU:99:GLN:HE22	1.75	0.52
22:AY:17:VAL:O	22:AY:58:GLY:N	2.32	0.52
26:BA:2543:G:O2'	26:BA:2669:A:N1	2.42	0.52
29:BD:25:PRO:HG3	29:BD:203:ALA:HA	1.92	0.52
29:BD:76:GLU:OE2	29:BD:152:LEU:HD22	2.09	0.52
30:BE:121:THR:O	30:BE:138:LEU:HD13	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BE:195:VAL:HB	30:BE:215:VAL:CG2	2.39	0.52
34:BI:44:PHE:HB2	34:BI:137:ALA:HB1	1.91	0.52
39:BN:44:VAL:HG11	39:BN:82:ALA:HA	1.92	0.52
40:BO:21:ILE:HD13	40:BO:44:GLU:HG2	1.91	0.52
49:BX:128:ILE:O	49:BX:138:LEU:HD11	2.10	0.52
1:AA:813:C:H2'	1:AA:814:G:O4'	2.10	0.52
3:AC:12:TYR:CE1	15:AR:16:LYS:HD3	2.45	0.52
5:AE:117:VAL:CG1	5:AE:129:ALA:HB1	2.37	0.52
19:AV:79:GLY:O	19:AV:90:LYS:HG3	2.10	0.52
23:AH:39:ASP:HA	23:AH:49:LYS:CD	2.40	0.52
26:BA:1754:G:P	53:Bb:9:GLY:HA2	2.50	0.52
28:BC:87:ALA:HB3	28:BC:95:VAL:HG12	1.91	0.52
30:BE:152:THR:O	30:BE:156:ILE:HG12	2.09	0.52
33:BH:63:HIS:CE1	38:BM:5:PHE:HB2	2.45	0.52
39:BN:45:GLN:HG3	39:BN:63:VAL:HG12	1.90	0.52
40:BO:109:LEU:HA	40:BO:112:ILE:HG22	1.91	0.52
49:BX:59:ALA:HA	49:BX:100:ILE:HG13	1.92	0.52
50:BY:46:CYS:SG	50:BY:51:LYS:HE2	2.50	0.52
51:BZ:13:ILE:CD1	51:BZ:34:VAL:HG13	2.40	0.52
55:Bd:13:ALA:O	55:Bd:17:LYS:HG2	2.09	0.52
1:AA:144:G:H5'	23:AH:11:PRO:HA	1.91	0.52
1:AA:896:U:H2'	1:AA:897:G:C8	2.45	0.52
1:AA:905:A:O2'	1:AA:930:C:H1'	2.10	0.52
1:AA:930:C:H42	1:AA:1168:G:H1	1.58	0.52
1:AA:1116:A:H5"	25:AT:60:ARG:HE	1.74	0.52
1:AA:1173:C:N4	14:AP:147:LYS:HE2	2.25	0.52
1:AA:1226:A:H4'	1:AA:1228:U:C5	2.45	0.52
1:AA:1249:U:O2'	1:AA:1250:C:H5'	2.10	0.52
2:AB:170:VAL:HG21	2:AB:180:LEU:CD2	2.40	0.52
3:AC:88:PRO:HG2	3:AC:89:GLU:OE1	2.09	0.52
5:AE:173:HIS:CE1	5:AE:175:GLU:HB2	2.44	0.52
11:AL:25:GLY:O	11:AL:27:VAL:HG23	2.10	0.52
13:AO:38:PRO:HB3	13:AO:77:ARG:HD3	1.92	0.52
18:AU:98:LEU:HG	18:AU:102:MET:SD	2.49	0.52
23:AH:74:ARG:O	23:AH:75:ILE:HD13	2.09	0.52
24:AM:34:ILE:HG13	24:AM:75:ILE:CG2	2.38	0.52
40:BO:3:LYS:O	40:BO:7:VAL:HG23	2.10	0.52
47:BV:13:LEU:HD11	47:BV:32:CYS:HA	1.92	0.52
47:BV:57:ILE:O	47:BV:61:LYS:HG3	2.08	0.52
48:BW:27:GLU:O	48:BW:31:GLU:HG2	2.10	0.52
1:AA:550:U:H2'	1:AA:551:C:H5'	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:808:G:OP1	7:AG:135:LYS:NZ	2.28	0.51
1:AA:961:G:H1'	18:AU:70:HIS:CG	2.46	0.51
1:AA:1054:G:OP1	24:AM:67:ARG:NH2	2.30	0.51
3:AC:163:ASP:OD1	3:AC:182:ILE:HB	2.10	0.51
7:AG:7:TRP:HZ2	7:AG:37:GLU:HG2	1.74	0.51
8:AI:6:LYS:HG2	8:AI:12:ASP:HB2	1.90	0.51
19:AV:2:THR:HG21	19:AV:133:HIS:HB2	1.93	0.51
21:AX:16:LYS:CD	21:AX:58:LEU:HD21	2.40	0.51
26:BA:339:U:O2'	46:BU:2:ILE:O	2.27	0.51
33:BH:60:ILE:HG22	33:BH:61:VAL:HG13	1.92	0.51
39:BN:22:HIS:CE1	43:BR:24:ILE:HD13	2.45	0.51
50:BY:53:LYS:O	50:BY:57:THR:HG23	2.10	0.51
57:Bf:62:THR:HG22	57:Bf:86:LYS:CD	2.40	0.51
1:AA:218:G:H2'	1:AA:219:C:O4'	2.10	0.51
1:AA:460:A:N1	1:AA:476:C:O2'	2.40	0.51
1:AA:1195:A:H2'	1:AA:1196:C:O4'	2.11	0.51
1:AA:1198:A:N3	1:AA:1316:C:O2'	2.36	0.51
1:AA:1226:A:H4'	1:AA:1228:U:H5	1.76	0.51
1:AA:1316:C:H2'	1:AA:1317:G:H8	1.76	0.51
6:AF:120:ILE:CG2	6:AF:149:THR:HA	2.40	0.51
6:AF:154:ILE:HG22	6:AF:164:LYS:O	2.10	0.51
14:AP:25:ARG:HG2	14:AP:30:ASP:CA	2.40	0.51
19:AV:40:HIS:ND1	19:AV:41:LYS:HG2	2.25	0.51
20:AW:71:TYR:CG	20:AW:77:MET:HG2	2.45	0.51
28:BC:118:LYS:O	28:BC:121:ARG:HD3	2.09	0.51
37:BL:102:GLU:HG2	37:BL:119:GLU:OE2	2.10	0.51
1:AA:40:U:OP1	1:AA:290:C:H5'	2.10	0.51
1:AA:666:G:H2'	1:AA:667:C:C6	2.45	0.51
3:AC:128:CYS:N	3:AC:151:ILE:HD11	2.26	0.51
6:AF:175:MET:O	6:AF:218:ILE:N	2.43	0.51
20:AW:51:ILE:HD11	20:AW:85:ILE:CG2	2.40	0.51
20:AW:54:ARG:O	20:AW:66:GLY:HA2	2.10	0.51
20:AW:82:GLN:O	20:AW:86:LEU:HG	2.10	0.51
22:AY:38:LEU:CD1	22:AY:43:LYS:HE3	2.41	0.51
26:BA:321:A:OP2	30:BE:151:ARG:NH2	2.44	0.51
34:BI:30:GLN:HG2	34:BI:60:HIS:CE1	2.45	0.51
38:BM:68:VAL:CG1	38:BM:98:ILE:HG23	2.41	0.51
55:Bd:24:VAL:O	55:Bd:28:VAL:HG23	2.10	0.51
1:AA:34:C:H2'	1:AA:35:G:H8	1.75	0.51
1:AA:68:U:O2'	1:AA:69:U:H2'	2.11	0.51
1:AA:248:U:H1'	1:AA:250:C:OP2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:333:G:OP2	1:AA:333:G:N2	2.29	0.51
1:AA:403:U:H2'	1:AA:404:G:C8	2.45	0.51
1:AA:566:U:H2'	1:AA:567:U:O4'	2.11	0.51
1:AA:678:U:H2'	1:AA:679:A:C8	2.45	0.51
1:AA:1403:U:H2'	1:AA:1404:C:C6	2.44	0.51
5:AE:112:ARG:NH1	5:AE:114:GLN:OE1	2.44	0.51
6:AF:188:ILE:HD13	6:AF:191:ILE:HD11	1.92	0.51
14:AP:71:PRO:HB2	14:AP:73:GLU:OE1	2.10	0.51
14:AP:134:ARG:HD2	14:AP:140:LYS:O	2.08	0.51
19:AV:137:LEU:HD23	19:AV:140:LEU:HD12	1.92	0.51
26:BA:769:U:H5	54:Bc:15:THR:HG22	1.74	0.51
28:BC:90:LYS:HA	53:Bb:87:MET:HE1	1.93	0.51
30:BE:74:LEU:HG	30:BE:79:ARG:O	2.11	0.51
30:BE:143:VAL:HA	30:BE:242:GLU:CG	2.41	0.51
33:BH:48:LEU:HD23	33:BH:99:ILE:HD12	1.92	0.51
34:BI:80:LYS:NZ	34:BI:81:MET:HE2	2.25	0.51
36:BK:50:GLY:HA2	36:BK:117:VAL:HG12	1.93	0.51
39:BN:164:ALA:HB1	39:BN:168:LYS:NZ	2.26	0.51
1:AA:22:G:H4'	5:AE:14:PRO:O	2.10	0.51
1:AA:1019:A:H5'	7:AG:71:ARG:HH11	1.76	0.51
10:AK:39:ILE:HD11	10:AK:41:ARG:NH2	2.26	0.51
16:AQ:47:THR:HG23	16:AQ:86:GLU:OE2	2.10	0.51
18:AU:106:ARG:HB2	18:AU:109:GLU:HG3	1.91	0.51
26:BA:1234:C:C5	35:BJ:125:SER:HB3	2.46	0.51
31:BF:13:MET:SD	31:BF:29:LEU:HB2	2.51	0.51
41:BP:90:PRO:O	41:BP:94:GLN:HG2	2.09	0.51
55:Bd:37:HIS:HD2	55:Bd:39:ARG:HB2	1.76	0.51
58:AZ:26:CYS:HB3	58:AZ:30:GLY:N	2.25	0.51
1:AA:171:G:H2'	1:AA:173:A:OP2	2.10	0.51
1:AA:485:C:O2'	1:AA:489:U:OP1	2.20	0.51
1:AA:571:C:H2'	1:AA:572:U:O4'	2.09	0.51
1:AA:615:G:H5"	4:AD:120:LYS:CE	2.40	0.51
1:AA:992:G:N7	1:AA:1147:C:H5"	2.25	0.51
1:AA:1015:U:H2'	1:AA:1016:G:O4'	2.11	0.51
13:AO:83:CYS:SG	13:AO:129:LEU:HD21	2.50	0.51
13:AO:102:LYS:O	13:AO:120:LYS:HE2	2.11	0.51
23:AH:72:ARG:HG2	23:AH:97:ARG:HD3	1.91	0.51
26:BA:1291:G:OP2	30:BE:178:ARG:NH2	2.43	0.51
30:BE:30:ASP:N	30:BE:30:ASP:OD1	2.43	0.51
30:BE:74:LEU:HD12	30:BE:77:SER:OG	2.11	0.51
31:BF:155:PHE:O	31:BF:158:GLU:HG3	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BH:107:GLU:O	33:BH:110:GLN:HG3	2.11	0.51
1:AA:285:A:OP1	13:AO:19:ARG:NH2	2.43	0.51
1:AA:345:A:H5"	13:AO:46:ARG:NH2	2.26	0.51
1:AA:809:A:H2'	1:AA:810:A:C8	2.46	0.51
1:AA:1088:U:H2'	1:AA:1089:G:C8	2.45	0.51
1:AA:1135:G:O2'	15:AR:48:LYS:HD3	2.11	0.51
3:AC:21:PHE:CE2	3:AC:65:LEU:HD23	2.45	0.51
4:AD:160:GLU:HG2	4:AD:165:ARG:HE	1.75	0.51
4:AD:189:GLU:OE1	4:AD:189:GLU:N	2.44	0.51
6:AF:81:LEU:HD22	6:AF:177:VAL:HG23	1.92	0.51
6:AF:156:SER:O	6:AF:160:LYS:HD3	2.11	0.51
10:AK:9:ARG:HE	10:AK:15:LYS:HA	1.75	0.51
10:AK:46:THR:HG21	10:AK:52:LYS:HG3	1.93	0.51
13:AO:46:ARG:O	13:AO:73:ILE:HG12	2.10	0.51
14:AP:73:GLU:O	14:AP:77:LYS:HG2	2.11	0.51
18:AU:56:LYS:O	18:AU:60:GLU:HG2	2.11	0.51
23:AH:69:GLY:O	23:AH:98:GLY:HA3	2.10	0.51
26:BA:1289:G:OP1	30:BE:181:ARG:N	2.35	0.51
26:BA:1520:C:H4'	41:BP:92:LYS:HE2	1.93	0.51
26:BA:2353:C:O2'	26:BA:2386:A:O2'	2.11	0.51
30:BE:178:ARG:HB3	30:BE:190:LYS:HB2	1.91	0.51
30:BE:198:VAL:HA	30:BE:218:VAL:O	2.10	0.51
32:BG:24:PHE:N	32:BG:35:ARG:O	2.43	0.51
58:AZ:9:CYS:HB3	58:AZ:13:GLY:H	1.76	0.51
1:AA:74:A:H2'	1:AA:75:A:C8	2.46	0.51
1:AA:147:A:H2'	1:AA:148:A:C8	2.46	0.51
1:AA:413:G:H2'	1:AA:414:A:C8	2.46	0.51
1:AA:1168:G:OP1	1:AA:1268:U:N3	2.44	0.51
1:AA:1235:A:H2'	1:AA:1236:A:O4'	2.09	0.51
1:AA:1266:A:H61	1:AA:1307:A:H2	1.59	0.51
1:AA:1321:A:H2'	1:AA:1322:A:C8	2.46	0.51
1:AA:1437:A:H2'	1:AA:1438:A:C8	2.46	0.51
6:AF:152:SER:HB2	6:AF:219:VAL:HB	1.93	0.51
10:AK:75:PRO:HD2	10:AK:103:SER:OG	2.11	0.51
13:AO:54:GLY:O	13:AO:64:ILE:HG23	2.11	0.51
26:BA:245:C:O4'	38:BM:141:VAL:HG22	2.10	0.51
26:BA:1898:U:O2'	26:BA:1901:A:N7	2.40	0.51
29:BD:141:VAL:HG23	29:BD:172:LEU:HD11	1.93	0.51
35:BJ:135:VAL:HG12	35:BJ:139:MET:HE2	1.93	0.51
1:AA:364:A:H2'	1:AA:365:A:H8	1.76	0.51
1:AA:669:A:OP2	16:AQ:8:ARG:NH2	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:893:G:H2'	1:AA:894:C:C6	2.46	0.51
1:AA:1355:A:H1'	26:BA:1933:A:C2	2.46	0.51
2:AB:129:GLY:HA2	2:AB:217:LEU:HD13	1.93	0.51
2:AB:219:LEU:O	2:AB:223:LEU:HG	2.11	0.51
4:AD:91:TYR:OH	4:AD:182:ARG:NH2	2.42	0.51
4:AD:135:GLN:O	4:AD:139:GLU:HG2	2.11	0.51
6:AF:37:LEU:O	6:AF:79:VAL:HG22	2.10	0.51
22:AY:42:ASP:HB3	22:AY:45:ARG:CD	2.41	0.51
23:AH:45:LEU:CB	23:AH:48:TYR:HB2	2.41	0.51
26:BA:767:G:OP1	54:Bc:28:ASN:ND2	2.43	0.51
27:BB:30:U:OP2	39:BN:41:SER:OG	2.17	0.51
28:BC:40:ARG:NH2	28:BC:80:ILE:HG21	2.24	0.51
31:BF:110:ASP:HB3	31:BF:113:ILE:HG12	1.91	0.51
36:BK:103:ILE:HD12	36:BK:123:LYS:HG3	1.91	0.51
54:Bc:18:LYS:NZ	54:Bc:23:GLY:O	2.28	0.51
1:AA:2:U:H2'	7:AG:171:TRP:HE3	1.75	0.51
1:AA:114:U:H4'	6:AF:138:GLY:N	2.25	0.51
1:AA:484:C:H2'	1:AA:485:C:C6	2.46	0.51
1:AA:898:C:H4'	1:AA:910:A:N1	2.26	0.51
1:AA:1316:C:H2'	1:AA:1317:G:C8	2.45	0.51
2:AB:222:TRP:CH2	2:AB:226:ARG:HD3	2.46	0.51
6:AF:24:SER:HB3	6:AF:41:ILE:CD1	2.41	0.51
6:AF:181:HIS:HA	6:AF:184:GLU:OE2	2.11	0.51
10:AK:96:LYS:HD2	10:AK:112:ARG:HG2	1.92	0.51
17:AS:40:SER:O	17:AS:48:VAL:HG12	2.11	0.51
18:AU:61:PHE:CZ	18:AU:85:ILE:HG22	2.45	0.51
20:AW:35:VAL:CG2	20:AW:55:ILE:HD13	2.40	0.51
22:AY:17:VAL:HG22	22:AY:33:ILE:HD12	1.92	0.51
26:BA:18:G:C5'	44:BS:4:ILE:HG23	2.41	0.51
26:BA:817:U:O2'	26:BA:818:A:OP1	2.21	0.51
26:BA:1522:G:OP1	41:BP:100:ARG:NH1	2.38	0.51
26:BA:2358:G:OP1	57:Bf:80:ARG:HD2	2.11	0.51
29:BD:85:ILE:CD1	29:BD:179:SER:HB2	2.37	0.51
30:BE:136:ALA:HB2	30:BE:162:ALA:O	2.10	0.51
38:BM:44:PRO:HB3	38:BM:119:TYR:OH	2.11	0.51
40:BO:93:ASP:O	40:BO:97:GLU:HG3	2.10	0.51
40:BO:107:LEU:HD12	40:BO:111:GLU:CB	2.41	0.51
43:BR:73:VAL:HG22	43:BR:86:PHE:CE1	2.46	0.51
1:AA:65:U:H2'	1:AA:66:U:C6	2.46	0.50
1:AA:932:G:H1'	18:AU:90:GLY:O	2.11	0.50
1:AA:1073:U:H2'	1:AA:1074:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:43:LEU:HA	4:AD:46:ARG:CD	2.38	0.50
5:AE:144:LYS:HD2	5:AE:163:TYR:CE2	2.46	0.50
6:AF:101:LYS:HB2	6:AF:103:ARG:HE	1.75	0.50
7:AG:7:TRP:CZ2	7:AG:37:GLU:HG2	2.46	0.50
12:AN:59:LEU:O	12:AN:63:LEU:HG	2.11	0.50
12:AN:94:ILE:HG21	12:AN:107:ILE:HD13	1.93	0.50
23:AH:64:LYS:HD2	23:AH:96:MET:HE2	1.93	0.50
24:AM:43:LYS:O	24:AM:68:VAL:N	2.43	0.50
26:BA:327:U:H5"	46:BU:9:PRO:HB3	1.93	0.50
26:BA:861:U:H1'	28:BC:1:MET:HB3	1.93	0.50
26:BA:2862:U:OP2	26:BA:2863:U:O2'	2.21	0.50
1:AA:36:G:O2'	1:AA:562:A:N1	2.35	0.50
1:AA:157:A:N6	1:AA:187:A:OP1	2.29	0.50
1:AA:278:U:H2'	1:AA:279:G:C8	2.46	0.50
1:AA:606:A:H3'	1:AA:666:G:H21	1.76	0.50
1:AA:1010:C:H42	1:AA:1043:G:H1	1.59	0.50
1:AA:1064:U:O2	1:AA:1065:U:O2'	2.16	0.50
1:AA:1203:U:H4'	1:AA:1204:C:O4'	2.11	0.50
1:AA:1273:C:H2'	1:AA:1274:U:C6	2.46	0.50
1:AA:1274:U:H2'	1:AA:1275:C:C6	2.47	0.50
1:AA:1308:A:H2'	1:AA:1309:U:O4'	2.11	0.50
1:AA:1346:C:O2	1:AA:1440:A:N6	2.43	0.50
2:AB:105:ILE:HG23	2:AB:224:LEU:HD13	1.94	0.50
4:AD:23:ALA:HB3	4:AD:30:ALA:N	2.26	0.50
6:AF:39:LEU:HD22	6:AF:60:LEU:CD2	2.40	0.50
8:AI:180:ALA:O	8:AI:184:VAL:HG23	2.11	0.50
16:AQ:5:HIS:CB	16:AQ:117:LEU:HD13	2.40	0.50
16:AQ:34:THR:O	16:AQ:38:LEU:HG	2.11	0.50
20:AW:52:ILE:HG22	20:AW:68:ALA:CB	2.40	0.50
22:AY:37:VAL:O	22:AY:43:LYS:HA	2.11	0.50
26:BA:623:G:O2'	26:BA:625:A:OP1	2.26	0.50
26:BA:1385:G:OP1	26:BA:2719:G:O2'	2.26	0.50
26:BA:1782:G:OP2	41:BP:81:ARG:NH1	2.45	0.50
26:BA:2444:A:C8	57:Bf:54:LYS:HE3	2.47	0.50
29:BD:17:ARG:HB2	29:BD:216:ARG:NH2	2.26	0.50
1:AA:492:U:O2'	13:AO:102:LYS:HB2	2.10	0.50
1:AA:583:A:C8	9:AJ:107:SER:HA	2.46	0.50
1:AA:992:G:C6	1:AA:1146:U:H2'	2.46	0.50
1:AA:1065:U:O2	1:AA:1228:U:H5'	2.10	0.50
1:AA:1079:C:C2	19:AV:147:ALA:HA	2.46	0.50
1:AA:1149:G:O4'	15:AR:20:ARG:NH1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1196:C:C5	1:AA:1234:A:H5”	2.46	0.50
1:AA:1201:G:N2	1:AA:1206:C:O2’	2.45	0.50
2:AB:176:ASP:O	2:AB:180:LEU:HG	2.11	0.50
3:AC:135:LYS:HE3	3:AC:174:GLY:HA3	1.93	0.50
5:AE:137:HIS:CE1	5:AE:167:PRO:HD2	2.46	0.50
6:AF:30:PRO:HG2	6:AF:31:HIS:CD2	2.45	0.50
6:AF:55:GLU:O	6:AF:59:ILE:HG12	2.10	0.50
9:AJ:75:ILE:CD1	9:AJ:125:LEU:HB3	2.41	0.50
12:AN:19:ILE:HG12	12:AN:35:SER:CB	2.40	0.50
15:AR:41:ALA:HB1	15:AR:46:PHE:HB2	1.92	0.50
21:AX:14:ARG:NH2	21:AX:61:LEU:HD21	2.26	0.50
26:BA:583:G:O6	49:BX:153:ARG:NH2	2.28	0.50
26:BA:713:A:H1’	40:BO:125:PHE:HA	1.94	0.50
26:BA:756:C:OP1	30:BE:90:ARG:NH2	2.38	0.50
27:BB:107:C:H2’	27:BB:108:U:O4’	2.11	0.50
29:BD:237:THR:HG22	29:BD:239:GLY:H	1.76	0.50
33:BH:53:GLU:OE1	33:BH:79:LYS:HA	2.11	0.50
1:AA:77:A:H2’	1:AA:78:U:C6	2.46	0.50
1:AA:790:C:H5”	4:AD:127:LYS:HD3	1.93	0.50
1:AA:961:G:H3’	1:AA:962:A:H8	1.76	0.50
1:AA:1009:U:OP1	7:AG:67:ARG:HD2	2.11	0.50
1:AA:1307:A:H2’	1:AA:1308:A:C8	2.46	0.50
4:AD:144:ILE:O	4:AD:148:ARG:HG2	2.10	0.50
11:AL:45:LYS:HZ2	11:AL:73:ILE:HG23	1.76	0.50
15:AR:34:ARG:HB2	24:AM:49:THR:CG2	2.42	0.50
16:AQ:150:ILE:HG12	50:BY:17:LYS:CE	2.40	0.50
26:BA:57:A:HO2’	55:Bd:37:HIS:CE1	2.29	0.50
26:BA:2743:A:N6	26:BA:2779:G:O2’	2.42	0.50
40:BO:31:ASP:OD2	40:BO:117:PRO:HB2	2.12	0.50
44:BS:46:ARG:NH1	44:BS:89:LEU:HD11	2.26	0.50
45:BT:75:ILE:O	45:BT:79:ILE:HG12	2.11	0.50
46:BU:78:THR:CG2	46:BU:93:PRO:HB2	2.40	0.50
50:BY:40:VAL:HG13	50:BY:59:ILE:CG2	2.39	0.50
1:AA:14:C:H2’	1:AA:15:U:C6	2.46	0.50
1:AA:43:C:H4’	1:AA:90:C:OP1	2.11	0.50
1:AA:717:G:N2	1:AA:743:A:OP2	2.44	0.50
2:AB:129:GLY:CA	2:AB:217:LEU:HD13	2.42	0.50
16:AQ:17:PRO:HB3	21:AX:8:PRO:CD	2.41	0.50
19:AV:61:LYS:O	19:AV:65:ASP:HB2	2.12	0.50
26:BA:2797:U:O2’	26:BA:2800:A:N3	2.39	0.50
27:BB:34:G:O2’	27:BB:35:U:H5’	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BD:140:ASP:OD1	29:BD:140:ASP:N	2.43	0.50
35:BJ:86:TYR:CE2	35:BJ:87:LYS:HE3	2.47	0.50
40:BO:58:ILE:HD11	40:BO:70:ILE:CD1	2.42	0.50
1:AA:16:G:H2'	1:AA:17:C:C6	2.46	0.50
1:AA:458:C:H2'	1:AA:470:G:C8	2.47	0.50
1:AA:605:G:H2'	1:AA:607:G:OP1	2.12	0.50
1:AA:1106:C:H41	1:AA:1119:U:H3'	1.76	0.50
2:AB:100:SER:O	2:AB:104:ARG:HG2	2.11	0.50
3:AC:33:MET:SD	3:AC:44:ILE:HG23	2.51	0.50
6:AF:93:ALA:CB	6:AF:109:LEU:HB2	2.40	0.50
7:AG:51:GLU:C	7:AG:74:VAL:HG23	2.36	0.50
7:AG:57:MET:HG2	7:AG:69:LYS:O	2.12	0.50
15:AR:15:CYS:HB2	15:AR:32:LEU:CA	2.41	0.50
18:AU:72:ARG:HB3	18:AU:108:GLY:HA3	1.92	0.50
19:AV:71:GLU:HG3	19:AV:92:LYS:NZ	2.26	0.50
24:AM:46:VAL:HG22	24:AM:65:GLU:HA	1.94	0.50
30:BE:180:GLY:O	30:BE:183:LYS:NZ	2.45	0.50
33:BH:83:GLU:OE1	33:BH:83:GLU:N	2.41	0.50
38:BM:148:LEU:O	38:BM:151:VAL:HG12	2.11	0.50
39:BN:148:ILE:HG22	39:BN:155:SER:HB3	1.93	0.50
40:BO:23:THR:O	40:BO:27:ARG:HG2	2.12	0.50
40:BO:107:LEU:HD12	40:BO:111:GLU:HB2	1.93	0.50
44:BS:39:GLY:O	44:BS:151:ARG:NH1	2.45	0.50
47:BV:46:PRO:CB	47:BV:54:LYS:HD2	2.41	0.50
1:AA:223:C:H2'	1:AA:224:U:O4'	2.11	0.50
1:AA:382:C:OP1	5:AE:9:LYS:HE3	2.12	0.50
1:AA:604:A:H5"	4:AD:130:ARG:HD2	1.93	0.50
1:AA:703:G:H2'	1:AA:704:A:C8	2.47	0.50
1:AA:942:G:H2'	1:AA:943:C:O4'	2.12	0.50
1:AA:1223:G:H2'	1:AA:1224:G:C8	2.46	0.50
6:AF:116:LYS:CB	6:AF:157:ILE:HD11	2.41	0.50
6:AF:203:MET:HE3	6:AF:209:ASP:OD1	2.12	0.50
8:AI:114:LYS:CD	8:AI:119:SER:HA	2.42	0.50
9:AJ:81:VAL:N	9:AJ:123:GLY:O	2.41	0.50
15:AR:32:LEU:CD1	15:AR:40:ILE:HD11	2.41	0.50
18:AU:85:ILE:HG12	18:AU:98:LEU:HD11	1.93	0.50
20:AW:21:PHE:CZ	20:AW:66:GLY:HA3	2.46	0.50
27:BB:4:U:H3	27:BB:124:G:H1	1.60	0.50
27:BB:14:A:O2'	27:BB:16:A:H2'	2.11	0.50
28:BC:91:PRO:HD3	53:Bb:87:MET:CE	2.39	0.50
28:BC:101:PRO:HD2	28:BC:104:PHE:CD2	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BC:110:GLU:HB3	28:BC:115:ASP:HB3	1.93	0.50
29:BD:275:GLY:HA3	29:BD:290:VAL:O	2.12	0.50
30:BE:5:LYS:HB3	30:BE:13:ALA:HB1	1.94	0.50
30:BE:20:PRO:HD2	30:BE:23:PHE:CD1	2.47	0.50
36:BK:81:ARG:HH21	36:BK:85:GLY:HA2	1.76	0.50
43:BR:30:ALA:HB2	43:BR:90:GLN:HG3	1.94	0.50
44:BS:16:SER:OG	44:BS:99:ALA:N	2.45	0.50
1:AA:34:C:H2'	1:AA:35:G:C8	2.46	0.50
1:AA:96:C:N4	1:AA:217:U:O2'	2.35	0.50
1:AA:254:C:H2'	1:AA:255:U:C6	2.47	0.50
1:AA:283:G:H5'	17:AS:59:LYS:HB2	1.94	0.50
1:AA:286:A:H2'	1:AA:287:G:C4'	2.41	0.50
1:AA:690:U:O2'	16:AQ:48:ALA:O	2.17	0.50
1:AA:926:C:H42	15:AR:10:ARG:HG2	1.77	0.50
1:AA:935:G:H5"	1:AA:965:A:O2'	2.11	0.50
1:AA:1218:G:OP1	1:AA:1261:C:H4'	2.11	0.50
1:AA:1468:G:H2'	1:AA:1469:A:C8	2.46	0.50
4:AD:125:THR:OG1	4:AD:127:LYS:O	2.22	0.50
5:AE:140:ILE:HB	5:AE:160:ILE:CD1	2.40	0.50
6:AF:12:SER:HB3	6:AF:104:LEU:CD2	2.39	0.50
8:AI:5:TYR:OH	11:AL:52:ILE:HG12	2.12	0.50
14:AP:55:ILE:HD11	14:AP:85:PHE:CD1	2.45	0.50
16:AQ:148:MET:SD	16:AQ:151:THR:HA	2.51	0.50
20:AW:17:ARG:HD3	20:AW:70:VAL:HG11	1.94	0.50
22:AY:18:ILE:HG22	22:AY:34:GLN:O	2.12	0.50
25:AT:35:VAL:O	25:AT:39:THR:HG22	2.12	0.50
26:BA:1056:G:O2'	49:BX:14:ARG:HG2	2.12	0.50
29:BD:277:GLU:OE1	29:BD:294:TYR:OH	2.19	0.50
30:BE:40:GLN:HG3	30:BE:226:GLU:OE2	2.11	0.50
41:BP:24:LEU:HD22	41:BP:50:ILE:HG12	1.94	0.50
46:BU:86:LYS:HG3	46:BU:88:ASP:N	2.25	0.50
47:BV:13:LEU:CD1	47:BV:32:CYS:HA	2.42	0.50
47:BV:49:THR:O	47:BV:55:GLY:HA3	2.12	0.50
48:BW:60:ILE:O	48:BW:64:LEU:HG	2.11	0.50
1:AA:1322:A:H5'	8:AI:56:ARG:CZ	2.42	0.50
2:AB:157:PRO:HA	2:AB:162:PHE:CD1	2.47	0.50
3:AC:157:PRO:O	3:AC:162:VAL:HG22	2.11	0.50
5:AE:56:ARG:HD3	7:AG:147:PRO:HG3	1.94	0.50
5:AE:58:LEU:HB2	5:AE:97:ILE:HD11	1.94	0.50
6:AF:96:MET:HE1	6:AF:104:LEU:HB3	1.94	0.50
9:AJ:75:ILE:HD13	9:AJ:125:LEU:HB3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AM:50:ARG:NH2	24:AM:57:GLY:O	2.45	0.50
26:BA:481:G:O2'	26:BA:506:U:O4	2.21	0.50
26:BA:2495:C:O2'	34:BI:156:LYS:O	2.26	0.50
27:BB:116:G:O6	39:BN:12:ARG:HD3	2.12	0.50
30:BE:156:ILE:HG23	30:BE:165:TYR:CE1	2.46	0.50
37:BL:85:ALA:CB	37:BL:94:ILE:HG12	2.42	0.50
49:BX:148:LEU:HA	49:BX:151:LYS:HG2	1.94	0.50
55:Bd:4:ASN:HB3	55:Bd:8:GLN:HB2	1.92	0.50
1:AA:113:C:H2'	1:AA:114:U:C6	2.47	0.49
1:AA:413:G:N2	1:AA:430:U:H1'	2.27	0.49
1:AA:567:U:H2'	1:AA:568:A:H8	1.77	0.49
6:AF:4:GLN:NE2	6:AF:23:ILE:O	2.44	0.49
6:AF:116:LYS:O	6:AF:155:LEU:HD23	2.11	0.49
7:AG:79:ARG:HG2	7:AG:163:GLU:O	2.12	0.49
8:AI:12:ASP:HB3	8:AI:15:GLU:OE2	2.12	0.49
10:AK:37:SER:O	10:AK:59:ASN:ND2	2.45	0.49
12:AN:61:ASP:HA	12:AN:64:LYS:CE	2.39	0.49
14:AP:21:ARG:HB2	14:AP:68:GLY:HA2	1.93	0.49
14:AP:47:VAL:HG13	14:AP:51:THR:OG1	2.11	0.49
20:AW:76:ARG:NH1	20:AW:79:GLN:OE1	2.45	0.49
23:AH:75:ILE:O	23:AH:93:ARG:HA	2.12	0.49
24:AM:39:PRO:HA	24:AM:71:ARG:CD	2.41	0.49
26:BA:2030:G:H4'	44:BS:55:MET:HE1	1.94	0.49
26:BA:2811:U:O4	29:BD:156:PRO:HD2	2.12	0.49
30:BE:11:GLY:HA3	30:BE:161:ALA:HB1	1.93	0.49
32:BG:99:VAL:HA	32:BG:107:ILE:O	2.12	0.49
42:BQ:8:ILE:HD13	42:BQ:25:LYS:HA	1.93	0.49
45:BT:24:PHE:CD2	45:BT:64:LEU:HD13	2.47	0.49
48:BW:8:GLU:O	48:BW:12:MET:HG3	2.12	0.49
49:BX:31:HIS:CE1	49:BX:117:ARG:HG2	2.47	0.49
56:Be:14:LYS:CE	56:Be:23:ARG:HD3	2.42	0.49
1:AA:359:C:H2'	1:AA:360:G:C8	2.47	0.49
1:AA:872:G:H2'	1:AA:873:G:O4'	2.13	0.49
1:AA:1103:G:OP1	25:AT:32:LYS:NZ	2.43	0.49
1:AA:1136:C:O2	3:AC:154:SER:HB3	2.11	0.49
3:AC:191:ASP:OD2	25:AT:46:ILE:HD13	2.13	0.49
7:AG:37:GLU:HB3	7:AG:40:ILE:CD1	2.42	0.49
13:AO:127:VAL:HG21	13:AO:137:MET:HG2	1.92	0.49
14:AP:55:ILE:HA	14:AP:88:ILE:CD1	2.41	0.49
15:AR:25:VAL:N	15:AR:32:LEU:O	2.36	0.49
19:AV:139:LEU:HB3	19:AV:142:LYS:HG3	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AW:32:ARG:HB3	20:AW:52:ILE:HD11	1.93	0.49
20:AW:45:ALA:CB	20:AW:50:LEU:HB2	2.41	0.49
21:AX:28:GLY:O	21:AX:51:SER:OG	2.17	0.49
26:BA:396:G:OP1	38:BM:98:ILE:HG13	2.12	0.49
26:BA:1043:G:O3'	34:BI:15:ARG:NH1	2.44	0.49
28:BC:24:TYR:HA	28:BC:50:PRO:HG2	1.94	0.49
28:BC:40:ARG:O	28:BC:62:GLU:HG2	2.11	0.49
30:BE:167:ASP:OD1	30:BE:170:ARG:HD3	2.12	0.49
33:BH:29:LYS:H	33:BH:101:ASP:HB3	1.77	0.49
34:BI:6:GLY:O	34:BI:10:ARG:HB2	2.12	0.49
39:BN:79:THR:HG23	39:BN:118:ALA:HB2	1.94	0.49
40:BO:58:ILE:O	40:BO:62:THR:OG1	2.14	0.49
44:BS:75:MET:HG2	44:BS:76:ALA:O	2.11	0.49
49:BX:2:TYR:HA	49:BX:55:GLY:O	2.11	0.49
1:AA:63:U:C1'	1:AA:148:A:H1'	2.42	0.49
1:AA:372:U:H5'	6:AF:22:TRP:CH2	2.47	0.49
1:AA:1240:A:C5	1:AA:1241:U:H1'	2.47	0.49
1:AA:1342:C:H1'	1:AA:1346:C:H41	1.77	0.49
1:AA:1362:C:H2'	1:AA:1363:C:C6	2.47	0.49
2:AB:112:LEU:HD11	2:AB:169:ILE:HD11	1.93	0.49
4:AD:116:VAL:HB	4:AD:192:THR:HG23	1.93	0.49
6:AF:158:PRO:O	6:AF:160:LYS:HG2	2.12	0.49
7:AG:55:ILE:CD1	7:AG:72:ALA:HB2	2.42	0.49
8:AI:17:GLU:N	8:AI:17:GLU:OE1	2.45	0.49
9:AJ:16:ASN:O	9:AJ:20:ILE:HG13	2.11	0.49
17:AS:49:ILE:HG22	17:AS:70:ILE:O	2.12	0.49
26:BA:2572:A:O2'	36:BK:33:SER:OG	2.24	0.49
28:BC:177:TYR:O	28:BC:181:LYS:HG2	2.11	0.49
29:BD:333:GLU:OE1	47:BV:14:GLU:HG3	2.12	0.49
30:BE:20:PRO:HD2	30:BE:23:PHE:CE1	2.48	0.49
30:BE:96:LYS:HB3	30:BE:98:GLU:OE1	2.12	0.49
36:BK:37:TYR:CE2	36:BK:45:PRO:HA	2.47	0.49
44:BS:46:ARG:HH22	44:BS:93:LYS:HB2	1.77	0.49
48:BW:57:ILE:O	48:BW:61:GLN:HG3	2.12	0.49
1:AA:218:G:OP1	17:AS:70:ILE:HD12	2.12	0.49
1:AA:233:G:H1'	10:AK:8:ARG:NH2	2.26	0.49
1:AA:1103:G:OP2	25:AT:44:LYS:NZ	2.29	0.49
1:AA:1123:A:H2'	1:AA:1125:G:C5	2.46	0.49
1:AA:1203:U:H5"	1:AA:1205:C:H1'	1.95	0.49
2:AB:59:LEU:HD11	2:AB:106:ARG:HE	1.77	0.49
4:AD:112:LYS:HB2	4:AD:153:ASP:HA	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AJ:70:ASN:ND2	9:AJ:130:TYR:O	2.46	0.49
10:AK:63:VAL:CG1	10:AK:123:LEU:HB2	2.42	0.49
14:AP:25:ARG:HG2	14:AP:30:ASP:HA	1.93	0.49
16:AQ:119:GLU:O	16:AQ:123:ARG:HG3	2.12	0.49
20:AW:32:ARG:HA	20:AW:55:ILE:CD1	2.40	0.49
20:AW:73:ASP:O	20:AW:77:MET:HG3	2.12	0.49
26:BA:108:C:O2'	54:Bc:20:ARG:HB3	2.12	0.49
29:BD:47:VAL:HG22	29:BD:287:TYR:CZ	2.46	0.49
30:BE:54:GLY:O	30:BE:82:ARG:HA	2.12	0.49
30:BE:55:MET:HG3	30:BE:90:ARG:HB3	1.94	0.49
45:BT:11:GLU:O	45:BT:15:MET:HG3	2.12	0.49
47:BV:5:LYS:NZ	47:BV:10:GLY:O	2.31	0.49
1:AA:311:A:O2'	1:AA:313:G:OP2	2.29	0.49
1:AA:440:G:O2'	1:AA:489:U:O2'	2.28	0.49
1:AA:905:A:O2'	1:AA:930:C:O2	2.16	0.49
1:AA:1106:C:N4	1:AA:1119:U:H3'	2.27	0.49
4:AD:112:LYS:HB2	4:AD:153:ASP:CB	2.41	0.49
5:AE:113:LEU:HD13	5:AE:152:VAL:CG1	2.38	0.49
6:AF:100:GLU:HA	6:AF:182:SER:O	2.12	0.49
9:AJ:53:ILE:HG23	9:AJ:60:ILE:HG13	1.93	0.49
9:AJ:66:VAL:HG13	9:AJ:68:ARG:HG2	1.94	0.49
13:AO:48:ILE:HA	13:AO:96:ASP:O	2.12	0.49
14:AP:20:LEU:CD2	14:AP:22:HIS:HB2	2.43	0.49
14:AP:55:ILE:HA	14:AP:88:ILE:HD12	1.94	0.49
15:AR:24:LEU:HD11	15:AR:26:ARG:HE	1.77	0.49
18:AU:20:GLY:HA3	18:AU:37:LEU:HD22	1.93	0.49
18:AU:72:ARG:NH2	18:AU:108:GLY:O	2.45	0.49
26:BA:769:U:C5	54:Bc:15:THR:HG22	2.48	0.49
26:BA:784:G:H4'	41:BP:87:ALA:HB2	1.94	0.49
26:BA:897:C:H41	37:BL:4:LYS:HG2	1.76	0.49
26:BA:1826:U:O2'	28:BC:173:ALA:HB2	2.12	0.49
30:BE:29:PRO:HD2	40:BO:15:PRO:HG2	1.93	0.49
45:BT:45:PHE:HE2	45:BT:78:ARG:HH12	1.60	0.49
58:AZ:47:THR:HG21	58:AZ:54:LYS:HE2	1.93	0.49
1:AA:64:G:O2'	1:AA:128:A:N1	2.37	0.49
1:AA:243:U:OP2	10:AK:54:ARG:NH2	2.45	0.49
1:AA:259:C:C1'	10:AK:12:THR:HG22	2.42	0.49
1:AA:733:A:O2'	1:AA:735:A:N7	2.32	0.49
1:AA:997:G:OP1	3:AC:133:SER:HB2	2.12	0.49
7:AG:17:VAL:HG12	7:AG:44:LEU:HD21	1.93	0.49
8:AI:81:ALA:CB	8:AI:158:LEU:HD23	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AI:186:LYS:O	8:AI:189:ARG:HG2	2.12	0.49
18:AU:61:PHE:O	18:AU:83:LYS:NZ	2.44	0.49
25:AT:8:ASN:HA	25:AT:11:ARG:NH1	2.28	0.49
26:BA:451:C:H4'	30:BE:50:ARG:HD2	1.94	0.49
26:BA:1077:G:C8	49:BX:11:VAL:HG22	2.47	0.49
26:BA:1311:G:H5"	52:Ba:98:LYS:HG3	1.94	0.49
27:BB:49:A:H2'	27:BB:50:C:C6	2.48	0.49
27:BB:50:C:OP1	39:BN:115:ARG:N	2.38	0.49
29:BD:128:ASN:O	29:BD:132:LEU:HG	2.12	0.49
29:BD:135:GLU:OE2	29:BD:137:ARG:HD3	2.11	0.49
32:BG:123:ILE:O	32:BG:126:THR:OG1	2.17	0.49
33:BH:54:ASP:OD2	33:BH:81:GLN:HG2	2.12	0.49
36:BK:98:THR:O	36:BK:105:LYS:NZ	2.46	0.49
40:BO:38:ASP:O	40:BO:42:ARG:HG3	2.13	0.49
40:BO:91:PHE:CE2	40:BO:106:CYS:HB3	2.48	0.49
50:BY:70:GLU:O	50:BY:74:VAL:HG23	2.13	0.49
1:AA:2:U:H2'	7:AG:171:TRP:CE3	2.47	0.49
1:AA:399:A:H2'	1:AA:400:U:N1	2.28	0.49
1:AA:765:C:C5'	16:AQ:1:MET:HG2	2.43	0.49
1:AA:1076:C:H4'	19:AV:126:SER:HB3	1.94	0.49
1:AA:1251:G:H2'	1:AA:1252:G:N2	2.27	0.49
3:AC:17:MET:HE1	3:AC:73:TYR:CD1	2.47	0.49
3:AC:179:LYS:O	3:AC:181:ARG:HD2	2.12	0.49
7:AG:134:GLY:O	7:AG:187:ALA:HB1	2.12	0.49
8:AI:100:ALA:HA	8:AI:165:ALA:O	2.12	0.49
11:AL:100:PHE:HA	11:AL:103:TYR:CE1	2.48	0.49
13:AO:52:LYS:HD2	13:AO:89:VAL:HG23	1.95	0.49
26:BA:153:C:OP1	38:BM:95:GLY:N	2.40	0.49
26:BA:1855:A:H5"	28:BC:125:VAL:HG11	1.93	0.49
28:BC:44:VAL:HG22	28:BC:58:LYS:O	2.13	0.49
29:BD:314:PRO:CB	29:BD:317:ALA:HB2	2.41	0.49
34:BI:31:VAL:HA	34:BI:64:GLU:OE1	2.12	0.49
34:BI:48:ILE:HG21	34:BI:143:PHE:HE1	1.77	0.49
34:BI:51:ILE:HG22	34:BI:132:LYS:HG2	1.94	0.49
36:BK:114:ALA:O	36:BK:117:VAL:HG22	2.13	0.49
41:BP:60:ARG:O	41:BP:64:ARG:HG3	2.11	0.49
44:BS:41:LYS:NZ	44:BS:107:ALA:O	2.46	0.49
1:AA:521:G:N1	1:AA:700:A:OP2	2.30	0.49
1:AA:616:U:H2'	1:AA:617:A:C8	2.47	0.49
1:AA:1114:U:H1'	1:AA:1115:U:C5	2.47	0.49
6:AF:174:ALA:HB1	6:AF:217:VAL:CG2	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AJ:9:ASN:O	9:AJ:13:THR:HG23	2.13	0.49
9:AJ:103:ILE:N	9:AJ:127:ALA:O	2.46	0.49
19:AV:37:THR:HG1	19:AV:54:ARG:HH21	1.53	0.49
24:AM:9:SER:HA	24:AM:69:HIS:O	2.13	0.49
26:BA:563:G:O2'	26:BA:564:A:O4'	2.26	0.49
26:BA:1657:C:H5"	55:Bd:6:LYS:HD2	1.94	0.49
26:BA:1721:U:O2'	26:BA:2699:U:OP1	2.30	0.49
27:BB:7:G:H2'	27:BB:8:G:C8	2.47	0.49
28:BC:86:ASP:OD1	28:BC:86:ASP:N	2.45	0.49
29:BD:24:ILE:HG23	29:BD:308:LEU:HD23	1.94	0.49
31:BF:42:ALA:HB2	31:BF:57:ILE:CG1	2.43	0.49
33:BH:107:GLU:OE1	33:BH:107:GLU:N	2.40	0.49
38:BM:157:ARG:O	38:BM:162:ARG:NH1	2.45	0.49
44:BS:53:ILE:HA	44:BS:82:ILE:CD1	2.43	0.49
46:BU:60:PHE:CD1	46:BU:82:VAL:HG13	2.48	0.49
1:AA:162:A:H1'	10:AK:64:THR:HG21	1.94	0.49
1:AA:246:C:H2'	1:AA:247:G:O4'	2.12	0.49
1:AA:407:U:H1'	5:AE:131:GLN:HE22	1.77	0.49
1:AA:690:U:O5'	16:AQ:55:ARG:NH1	2.42	0.49
1:AA:1190:A:H61	1:AA:1241:U:H3	1.61	0.49
1:AA:1258:G:H2'	1:AA:1259:G:C8	2.48	0.49
4:AD:111:THR:HA	4:AD:149:ALA:O	2.12	0.49
6:AF:3:HIS:HB3	6:AF:22:TRP:CD1	2.48	0.49
7:AG:128:VAL:HG12	7:AG:145:PRO:HA	1.95	0.49
8:AI:6:LYS:HE2	8:AI:12:ASP:N	2.28	0.49
8:AI:82:PHE:CD1	8:AI:93:PRO:HB2	2.45	0.49
10:AK:37:SER:HB2	10:AK:57:GLN:CB	2.39	0.49
18:AU:52:ASP:O	18:AU:56:LYS:HG3	2.13	0.49
26:BA:833:G:OP1	44:BS:128:ARG:NH2	2.44	0.49
26:BA:1842:C:OP1	28:BC:8:GLN:NE2	2.42	0.49
26:BA:2412:G:O2'	57:Bf:77:ALA:O	2.31	0.49
26:BA:2822:U:O2'	26:BA:2881:C:OP1	2.14	0.49
29:BD:203:ALA:HB2	29:BD:309:ILE:HD13	1.95	0.49
30:BE:140:ILE:CD1	30:BE:164:LEU:HD11	2.41	0.49
34:BI:45:PRO:HB2	34:BI:171:LEU:CD2	2.43	0.49
44:BS:31:ARG:HB2	44:BS:116:ILE:HD13	1.94	0.49
52:Ba:132:ILE:HG22	52:Ba:137:LYS:HB2	1.93	0.49
55:Bd:41:ARG:CZ	55:Bd:48:LEU:HD21	2.42	0.49
56:Be:15:LYS:O	56:Be:16:ILE:HD13	2.13	0.49
1:AA:450:G:O2'	1:AA:474:C:H1'	2.12	0.49
1:AA:484:C:H2'	1:AA:485:C:H6	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:943:C:H2'	1:AA:944:A:C8	2.47	0.49
2:AB:69:GLY:HA2	2:AB:72:ILE:CD1	2.42	0.49
2:AB:152:GLY:O	2:AB:156:ASN:HB2	2.12	0.49
3:AC:72:LYS:HE2	3:AC:73:TYR:OH	2.12	0.49
3:AC:188:VAL:O	3:AC:189:LEU:HD22	2.12	0.49
6:AF:119:ARG:HA	6:AF:152:SER:HA	1.94	0.49
8:AI:57:LEU:HD22	8:AI:97:LEU:HD21	1.93	0.49
9:AJ:90:GLU:O	9:AJ:94:LEU:HB2	2.13	0.49
10:AK:39:ILE:HA	10:AK:57:GLN:O	2.12	0.49
12:AN:60:ALA:O	12:AN:64:LYS:HG3	2.12	0.49
13:AO:16:LYS:NZ	13:AO:17:ASP:OD1	2.46	0.49
14:AP:23:LEU:HD23	31:BF:109:TYR:CE2	2.46	0.49
21:AX:33:LYS:CA	21:AX:46:PRO:HD3	2.41	0.49
23:AH:30:ILE:HA	23:AH:101:ILE:HG22	1.95	0.49
25:AT:57:LYS:O	25:AT:61:MET:HB2	2.13	0.49
26:BA:54:C:OP2	48:BW:51:ARG:NH2	2.30	0.49
26:BA:892:U:OP2	37:BL:21:ARG:NH1	2.41	0.49
26:BA:994:C:OP1	34:BI:131:GLN:NE2	2.44	0.49
29:BD:81:ARG:HA	29:BD:185:THR:O	2.13	0.49
50:BY:9:ASP:OD1	50:BY:9:ASP:N	2.46	0.49
53:Bb:50:THR:HG21	53:Bb:63:LYS:CG	2.41	0.49
1:AA:594:U:O2	9:AJ:57:LYS:HG2	2.13	0.48
1:AA:846:A:C5	1:AA:847:G:H1'	2.48	0.48
1:AA:979:G:H2'	1:AA:980:C:O4'	2.12	0.48
1:AA:1080:C:O2	11:AL:26:LYS:NZ	2.38	0.48
2:AB:81:MET:HE2	2:AB:195:ASP:O	2.13	0.48
3:AC:120:VAL:HG11	3:AC:182:ILE:HD12	1.94	0.48
8:AI:22:GLY:CA	22:AY:60:ILE:HB	2.41	0.48
10:AK:36:ILE:HA	10:AK:58:SER:O	2.13	0.48
11:AL:4:VAL:HA	11:AL:18:ALA:O	2.12	0.48
12:AN:5:LYS:HB3	12:AN:68:ILE:HG13	1.95	0.48
14:AP:53:LYS:O	14:AP:57:LYS:HG3	2.13	0.48
17:AS:9:ILE:HG21	17:AS:103:VAL:HG12	1.94	0.48
19:AV:31:TRP:HZ3	19:AV:97:VAL:HG22	1.77	0.48
26:BA:88:G:H1'	48:BW:44:PRO:HG2	1.93	0.48
26:BA:1474:A:OP1	26:BA:1642:G:O2'	2.30	0.48
26:BA:2259:G:O2'	26:BA:2507:U:OP1	2.13	0.48
26:BA:2500:A:N3	26:BA:2502:C:N4	2.57	0.48
28:BC:70:LEU:HD21	28:BC:160:VAL:HG13	1.95	0.48
31:BF:28:ILE:HD11	31:BF:116:PHE:HD2	1.78	0.48
32:BG:11:ILE:HB	32:BG:49:GLY:HA2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BM:31:VAL:O	38:BM:35:GLN:HG3	2.13	0.48
41:BP:34:SER:O	41:BP:36:ILE:HG13	2.13	0.48
50:BY:77:LYS:HB3	50:BY:79:PHE:CZ	2.48	0.48
1:AA:390:C:H1'	1:AA:405:G:N2	2.29	0.48
1:AA:537:G:H2'	1:AA:538:U:H5'	1.93	0.48
1:AA:615:G:H5"	4:AD:120:LYS:HE2	1.96	0.48
1:AA:691:U:O2'	16:AQ:47:THR:OG1	2.29	0.48
1:AA:1131:G:H2'	1:AA:1132:C:H5'	1.95	0.48
1:AA:1200:G:H1	1:AA:1231:C:H42	1.62	0.48
1:AA:1393:C:H4'	1:AA:1394:G:N3	2.28	0.48
2:AB:170:VAL:HG21	2:AB:180:LEU:HD21	1.95	0.48
7:AG:131:GLU:HB3	9:AJ:95:PRO:CB	2.43	0.48
8:AI:111:VAL:HG13	8:AI:113:LEU:CD1	2.44	0.48
8:AI:114:LYS:HD3	8:AI:119:SER:HA	1.95	0.48
11:AL:3:LYS:HE2	11:AL:20:VAL:HB	1.94	0.48
14:AP:61:VAL:CG2	14:AP:78:LEU:HD21	2.43	0.48
16:AQ:149:MET:CE	50:BY:13:ILE:HD11	2.43	0.48
17:AS:54:MET:CG	17:AS:65:LYS:HG3	2.41	0.48
17:AS:81:LYS:N	17:AS:84:ASP:OD2	2.43	0.48
20:AW:19:LEU:HD21	20:AW:43:LEU:CD1	2.42	0.48
22:AY:16:GLU:OE2	22:AY:36:ARG:HB3	2.13	0.48
26:BA:1131:C:O2'	42:BQ:21:LYS:O	2.30	0.48
26:BA:1712:U:O2'	26:BA:1713:A:O5'	2.31	0.48
26:BA:2322:C:OP1	31:BF:43:LYS:N	2.32	0.48
26:BA:2391:A:HO2'	39:BN:30:SER:HG	1.53	0.48
30:BE:105:VAL:CG2	30:BE:109:GLU:HG3	2.43	0.48
30:BE:178:ARG:HG2	30:BE:188:LYS:O	2.13	0.48
31:BF:27:ASP:HA	31:BF:30:ARG:NH1	2.28	0.48
38:BM:156:SER:O	38:BM:159:ARG:HG3	2.14	0.48
40:BO:87:ALA:HA	40:BO:107:LEU:O	2.13	0.48
42:BQ:5:LYS:HB2	42:BQ:28:SER:O	2.13	0.48
43:BR:44:ILE:HD11	43:BR:53:PRO:HG2	1.95	0.48
44:BS:19:MET:HE1	44:BS:144:GLU:HG2	1.94	0.48
50:BY:28:THR:HG23	50:BY:85:ALA:CB	2.38	0.48
1:AA:58:U:H2'	1:AA:59:C:C6	2.48	0.48
1:AA:110:G:H2'	1:AA:111:C:O4'	2.13	0.48
1:AA:296:G:OP2	10:AK:23:ARG:NH2	2.30	0.48
1:AA:464:G:H5"	13:AO:111:MET:CG	2.41	0.48
1:AA:494:A:H2'	1:AA:495:U:O4'	2.13	0.48
1:AA:502:U:O4	1:AA:829:U:O2'	2.18	0.48
1:AA:1224:G:O2'	1:AA:1226:A:N3	2.30	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1276:G:H4'	14:AP:46:GLY:O	2.14	0.48
1:AA:1320:G:P	11:AL:73:ILE:HG13	2.53	0.48
2:AB:195:ASP:OD2	2:AB:212:LYS:NZ	2.30	0.48
6:AF:42:ILE:HA	6:AF:46:ILE:CD1	2.42	0.48
7:AG:199:ARG:NH1	9:AJ:18:GLU:OE2	2.46	0.48
8:AI:70:LYS:O	8:AI:74:THR:HG23	2.13	0.48
9:AJ:46:TYR:HB3	9:AJ:69:ILE:CG2	2.41	0.48
13:AO:139:LYS:HE3	13:AO:140:PRO:O	2.12	0.48
18:AU:41:ARG:NH2	18:AU:44:ARG:HD3	2.29	0.48
20:AW:3:ILE:HB	20:AW:38:LYS:HE3	1.96	0.48
20:AW:51:ILE:HG23	20:AW:69:LYS:HB2	1.96	0.48
23:AH:46:ALA:N	23:AH:123:LEU:HD13	2.27	0.48
26:BA:1096:A:N3	26:BA:1246:C:O2'	2.44	0.48
26:BA:1753:C:H3'	53:Bb:11:ILE:HB	1.95	0.48
28:BC:136:ARG:HB3	28:BC:148:TRP:CE3	2.47	0.48
30:BE:19:LEU:HD11	30:BE:139:PRO:HG3	1.96	0.48
32:BG:46:VAL:HG12	32:BG:51:VAL:CG2	2.44	0.48
34:BI:53:GLU:HG2	34:BI:160:PRO:O	2.13	0.48
38:BM:47:ILE:O	38:BM:51:ARG:HG3	2.12	0.48
44:BS:48:PHE:O	44:BS:52:VAL:HG23	2.14	0.48
45:BT:23:GLN:HG3	45:BT:63:VAL:HG22	1.94	0.48
49:BX:96:ALA:O	49:BX:100:ILE:HG12	2.13	0.48
50:BY:50:ILE:O	50:BY:54:ILE:HG23	2.13	0.48
1:AA:194:A:H2'	1:AA:195:U:C6	2.49	0.48
1:AA:225:A:C2	1:AA:227:C:H2'	2.48	0.48
1:AA:242:G:N7	10:AK:112:ARG:NH2	2.47	0.48
1:AA:529:U:H5"	9:AJ:31:SER:HB2	1.94	0.48
1:AA:1063:G:H5'	24:AM:38:VAL:HG21	1.96	0.48
2:AB:117:PRO:O	2:AB:142:THR:HG22	2.13	0.48
2:AB:194:CYS:HB3	2:AB:198:ASN:HB2	1.96	0.48
5:AE:85:LEU:HD22	5:AE:90:ILE:HD11	1.95	0.48
6:AF:115:ASN:CG	6:AF:163:VAL:HG21	2.38	0.48
8:AI:12:ASP:HB3	8:AI:15:GLU:CD	2.39	0.48
10:AK:76:ILE:HD11	10:AK:119:VAL:HG11	1.95	0.48
11:AL:33:PRO:HG2	19:AV:6:ASP:HA	1.95	0.48
22:AY:14:ALA:HB3	22:AY:39:GLU:CB	2.43	0.48
24:AM:1:MET:CE	24:AM:3:LYS:HE3	2.42	0.48
26:BA:391:A:O2'	26:BA:411:G:N3	2.44	0.48
26:BA:2538:G:OP1	56:Be:42:LYS:NZ	2.29	0.48
27:BB:7:G:H2'	27:BB:8:G:H8	1.79	0.48
29:BD:55:VAL:HG13	29:BD:65:GLY:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BY:11:SER:OG	50:BY:94:ILE:HD13	2.13	0.48
52:Ba:31:ASP:N	52:Ba:31:ASP:OD1	2.47	0.48
1:AA:358:G:H5'	6:AF:24:SER:HA	1.95	0.48
1:AA:774:U:H2'	1:AA:775:C:C6	2.48	0.48
1:AA:1148:A:H4'	1:AA:1149:G:C5'	2.44	0.48
1:AA:1216:A:OP1	19:AV:74:ARG:NH2	2.39	0.48
1:AA:1238:C:O2'	11:AL:41:LEU:HD13	2.12	0.48
2:AB:171:THR:O	2:AB:193:LEU:HB3	2.14	0.48
3:AC:188:VAL:HG12	3:AC:189:LEU:CD2	2.43	0.48
5:AE:51:TYR:CE1	5:AE:81:ILE:HD11	2.49	0.48
5:AE:91:ILE:HD13	5:AE:100:ILE:HD13	1.95	0.48
6:AF:31:HIS:ND1	6:AF:80:GLY:HA3	2.28	0.48
7:AG:119:GLU:OE1	7:AG:119:GLU:N	2.46	0.48
8:AI:146:ALA:HB3	8:AI:157:CYS:HB3	1.95	0.48
16:AQ:53:VAL:O	16:AQ:57:ARG:HG2	2.13	0.48
17:AS:75:PRO:HD2	17:AS:102:VAL:CG2	2.43	0.48
21:AX:24:GLN:NE2	21:AX:37:VAL:HG23	2.27	0.48
22:AY:14:ALA:HB3	22:AY:39:GLU:HB2	1.95	0.48
26:BA:18:G:H5'	44:BS:4:ILE:HG23	1.95	0.48
26:BA:1398:G:N7	55:Bd:2:SER:HB3	2.29	0.48
42:BQ:8:ILE:HD11	42:BQ:25:LYS:CE	2.44	0.48
44:BS:106:PRO:HA	44:BS:109:MET:CG	2.44	0.48
48:BW:46:ARG:NE	48:BW:50:ILE:HD11	2.28	0.48
58:AZ:33:ILE:HD11	58:AZ:48:CYS:HB2	1.95	0.48
1:AA:125:A:H61	1:AA:148:A:H62	1.61	0.48
1:AA:625:G:H4'	12:AN:29:GLU:CD	2.38	0.48
1:AA:922:A:N1	1:AA:1310:A:H5'	2.29	0.48
1:AA:961:G:H3'	1:AA:962:A:C8	2.48	0.48
1:AA:1167:G:H21	18:AU:90:GLY:HA2	1.79	0.48
3:AC:179:LYS:HD2	3:AC:181:ARG:HH12	1.78	0.48
5:AE:19:GLN:HB3	5:AE:22:ARG:HB3	1.96	0.48
9:AJ:106:THR:HG23	9:AJ:122:GLY:O	2.14	0.48
16:AQ:62:ASP:HB3	16:AQ:65:LEU:HG	1.96	0.48
16:AQ:92:ILE:O	16:AQ:96:LEU:HG	2.14	0.48
20:AW:54:ARG:HD3	20:AW:56:LYS:HE2	1.95	0.48
24:AM:93:ASP:O	24:AM:94:ILE:HD13	2.12	0.48
27:BB:10:G:OP2	39:BN:19:THR:OG1	2.32	0.48
29:BD:270:LYS:HB3	29:BD:296:LEU:HD12	1.96	0.48
30:BE:156:ILE:CD1	30:BE:212:LEU:HD11	2.43	0.48
33:BH:21:LEU:CD2	33:BH:97:VAL:HG21	2.42	0.48
44:BS:92:LEU:HG	44:BS:96:GLU:OE2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:52:U:H2'	1:AA:53:G:C8	2.46	0.48
1:AA:407:U:H4'	5:AE:137:HIS:CE1	2.48	0.48
1:AA:560:C:C2	5:AE:147:ILE:HG21	2.49	0.48
1:AA:984:G:H2'	1:AA:985:A:C8	2.49	0.48
1:AA:985:A:H2'	1:AA:986:G:O4'	2.14	0.48
1:AA:1098:G:O4'	24:AM:39:PRO:HB2	2.14	0.48
1:AA:1319:U:O2'	8:AI:69:GLY:O	2.30	0.48
3:AC:180:VAL:HG12	3:AC:182:ILE:HD11	1.96	0.48
6:AF:116:LYS:HB2	6:AF:157:ILE:HD11	1.96	0.48
6:AF:189:MET:SD	6:AF:205:SER:HB3	2.54	0.48
7:AG:49:GLU:OE2	7:AG:79:ARG:HG3	2.14	0.48
8:AI:71:LYS:NZ	8:AI:75:LEU:HD11	2.28	0.48
9:AJ:15:LYS:NZ	9:AJ:71:LYS:HB2	2.29	0.48
19:AV:63:TYR:HE1	19:AV:125:ARG:HG3	1.78	0.48
21:AX:14:ARG:HH21	21:AX:61:LEU:HD21	1.79	0.48
24:AM:16:LEU:HD21	24:AM:71:ARG:HG3	1.96	0.48
26:BA:1546:G:OP1	41:BP:64:ARG:NH1	2.46	0.48
26:BA:1699:A:H5"	41:BP:55:VAL:HG22	1.95	0.48
37:BL:35:CYS:HB2	37:BL:49:TYR:CE2	2.49	0.48
39:BN:43:ASN:HA	39:BN:76:THR:O	2.13	0.48
39:BN:152:ARG:HB3	39:BN:154:GLU:OE1	2.12	0.48
40:BO:21:ILE:HD13	40:BO:44:GLU:CG	2.44	0.48
45:BT:79:ILE:O	48:BW:30:ARG:HD3	2.13	0.48
49:BX:130:ARG:O	49:BX:136:GLY:HA3	2.13	0.48
52:Ba:126:ILE:CG1	52:Ba:151:VAL:HG22	2.44	0.48
57:Bf:31:SER:HB3	57:Bf:34:THR:HG23	1.95	0.48
58:AZ:10:THR:OG1	58:AZ:46:TYR:HB2	2.13	0.48
1:AA:12:U:H2'	1:AA:13:C:C6	2.48	0.48
1:AA:738:C:O2'	1:AA:739:G:H5'	2.14	0.48
1:AA:742:U:O2'	28:BC:238:ARG:O	2.23	0.48
1:AA:1241:U:H2'	1:AA:1242:C:C6	2.48	0.48
3:AC:181:ARG:O	3:AC:182:ILE:HD13	2.14	0.48
4:AD:53:GLY:HA2	4:AD:58:ASP:OD1	2.13	0.48
6:AF:6:ARG:N	6:AF:21:LYS:O	2.46	0.48
6:AF:143:GLY:HA3	6:AF:147:TYR:CD2	2.49	0.48
11:AL:39:PRO:O	11:AL:41:LEU:HD23	2.13	0.48
11:AL:87:ILE:HG22	11:AL:96:ILE:HD12	1.95	0.48
17:AS:27:LEU:HD21	17:AS:91:CYS:CB	2.44	0.48
23:AH:38:VAL:CG1	23:AH:42:ILE:HD12	2.43	0.48
26:BA:143:G:O3'	54:Bc:44:ARG:HA	2.13	0.48
26:BA:2249:C:H5"	28:BC:1:MET:HG2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BA:2344:U:N3	39:BN:107:LEU:HD21	2.28	0.48
29:BD:133:ILE:HG12	29:BD:138:VAL:HG11	1.96	0.48
46:BU:28:MET:HE2	46:BU:70:VAL:HG13	1.96	0.48
1:AA:197:C:H4'	1:AA:198:G:C5'	2.42	0.48
1:AA:212:G:H2'	1:AA:213:G:O4'	2.13	0.48
1:AA:497:G:H2'	1:AA:498:U:O4'	2.14	0.48
1:AA:935:G:H2'	1:AA:936:A:C8	2.49	0.48
1:AA:1361:C:H2'	1:AA:1362:C:C6	2.49	0.48
3:AC:48:SER:N	3:AC:83:GLN:O	2.29	0.48
3:AC:117:LEU:HD22	3:AC:146:PHE:CB	2.39	0.48
7:AG:132:VAL:HG21	7:AG:195:VAL:CG2	2.44	0.48
9:AJ:11:LEU:HB3	9:AJ:72:CYS:O	2.14	0.48
10:AK:125:GLU:OE1	10:AK:125:GLU:N	2.45	0.48
13:AO:52:LYS:HD3	13:AO:93:ASP:HA	1.95	0.48
14:AP:147:LYS:O	14:AP:151:ARG:NH2	2.44	0.48
16:AQ:19:ARG:NH2	16:AQ:24:GLU:OE1	2.47	0.48
16:AQ:69:LYS:HD2	16:AQ:73:THR:HG22	1.95	0.48
22:AY:36:ARG:HG2	22:AY:38:LEU:HD21	1.96	0.48
24:AM:42:THR:CG2	24:AM:67:ARG:HB3	2.43	0.48
26:BA:1312:U:C4	52:Ba:89:VAL:HG12	2.49	0.48
26:BA:1728:A:H2'	36:BK:44:MET:HE2	1.96	0.48
26:BA:2100:U:O2'	57:Bf:48:ASN:ND2	2.33	0.48
30:BE:41:ALA:HA	30:BE:44:LEU:CD1	2.43	0.48
30:BE:132:HIS:ND1	30:BE:167:ASP:OD2	2.37	0.48
31:BF:6:VAL:HB	31:BF:69:GLN:HE22	1.79	0.48
31:BF:10:ILE:HB	31:BF:121:THR:CG2	2.42	0.48
31:BF:83:LEU:O	31:BF:164:VAL:HA	2.14	0.48
41:BP:105:ARG:O	41:BP:108:GLU:HG2	2.14	0.48
47:BV:50:GLU:HG3	47:BV:59:LEU:HD12	1.96	0.48
53:Bb:30:VAL:O	53:Bb:34:GLU:HG2	2.14	0.48
1:AA:67:C:H2'	1:AA:68:U:O4'	2.13	0.48
1:AA:531:U:OP2	9:AJ:32:LYS:NZ	2.44	0.48
1:AA:1030:U:H2'	1:AA:1032:A:OP2	2.14	0.48
1:AA:1210:C:H2'	1:AA:1211:C:C6	2.48	0.48
1:AA:1275:C:H2'	1:AA:1276:G:C8	2.49	0.48
2:AB:72:ILE:CG2	2:AB:93:LEU:HD13	2.41	0.48
3:AC:152:LYS:NZ	3:AC:154:SER:O	2.45	0.48
4:AD:25:VAL:HG12	4:AD:29:ARG:HH11	1.79	0.48
6:AF:68:ASP:OD2	6:AF:116:LYS:HD2	2.13	0.48
6:AF:174:ALA:HB3	6:AF:204:ILE:HD12	1.95	0.48
8:AI:48:LYS:HE3	8:AI:129:GLN:HG3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AK:42:LYS:HE3	10:AK:56:LEU:CD1	2.37	0.48
12:AN:22:VAL:HG11	12:AN:63:LEU:HD21	1.96	0.48
24:AM:6:ILE:O	24:AM:72:LEU:HD12	2.13	0.48
26:BA:1700:G:OP1	41:BP:18:GLY:N	2.46	0.48
26:BA:2444:A:N9	57:Bf:54:LYS:HG2	2.28	0.48
29:BD:225:LYS:O	29:BD:229:GLN:HG2	2.14	0.48
32:BG:84:PHE:CE1	32:BG:142:LYS:HD2	2.49	0.48
39:BN:121:LYS:HD3	39:BN:143:ILE:HD11	1.96	0.48
41:BP:123:LEU:HD21	41:BP:147:LEU:CD1	2.44	0.48
45:BT:6:TYR:HE2	48:BW:36:SER:HB2	1.78	0.48
45:BT:36:LEU:O	45:BT:40:GLU:HG3	2.14	0.48
49:BX:122:ARG:NH2	49:BX:153:ARG:OXT	2.47	0.48
1:AA:175:U:O4	17:AS:1:MET:HE3	2.14	0.47
1:AA:175:U:N3	17:AS:28:PRO:HB3	2.29	0.47
1:AA:1020:A:OP2	7:AG:89:LYS:NZ	2.46	0.47
1:AA:1191:U:H2'	1:AA:1192:G:O4'	2.13	0.47
1:AA:1208:C:H5'	1:AA:1230:U:C5'	2.44	0.47
1:AA:1386:C:H2'	1:AA:1387:G:C8	2.49	0.47
2:AB:193:LEU:HD21	2:AB:209:THR:HG23	1.95	0.47
4:AD:46:ARG:O	4:AD:70:ILE:HG12	2.14	0.47
7:AG:8:VAL:O	7:AG:10:LYS:NZ	2.36	0.47
7:AG:37:GLU:HG3	7:AG:39:GLN:H	1.79	0.47
8:AI:21:LEU:HD23	22:AY:60:ILE:HG13	1.97	0.47
9:AJ:119:LYS:HB3	9:AJ:121:ILE:HG22	1.96	0.47
11:AL:19:THR:O	11:AL:64:ASN:N	2.28	0.47
19:AV:12:MET:O	19:AV:16:LEU:HG	2.14	0.47
19:AV:21:LYS:HA	19:AV:52:TYR:CE2	2.48	0.47
21:AX:12:PHE:O	21:AX:60:VAL:HG13	2.14	0.47
23:AH:85:PRO:HB2	23:AH:87:LEU:O	2.14	0.47
26:BA:914:C:O2'	26:BA:2257:C:OP1	2.32	0.47
26:BA:1099:U:O4	35:BJ:16:ARG:HA	2.14	0.47
29:BD:203:ALA:CB	29:BD:309:ILE:HD13	2.44	0.47
30:BE:55:MET:HG2	30:BE:90:ARG:HD3	1.96	0.47
31:BF:1:MET:HG2	31:BF:127:PRO:HB2	1.96	0.47
39:BN:88:LEU:HD13	39:BN:169:ILE:HD11	1.96	0.47
39:BN:121:LYS:HD3	39:BN:143:ILE:CD1	2.44	0.47
39:BN:138:PRO:HG2	39:BN:143:ILE:HD11	1.96	0.47
46:BU:16:ARG:HG2	46:BU:17:TYR:CD1	2.48	0.47
47:BV:58:GLN:HA	47:BV:61:LYS:HD2	1.96	0.47
53:Bb:6:THR:HG23	53:Bb:9:GLY:H	1.79	0.47
1:AA:177:C:C2	1:AA:178:U:H1'	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:192:G:H2'	1:AA:193:G:H8	1.79	0.47
1:AA:685:A:OP1	16:AQ:3:LYS:NZ	2.29	0.47
1:AA:778:G:H2'	1:AA:779:C:O4'	2.13	0.47
1:AA:1063:G:O2'	1:AA:1064:U:H2'	2.14	0.47
2:AB:194:CYS:SG	2:AB:206:VAL:HG13	2.54	0.47
4:AD:122:THR:HB	4:AD:186:ARG:NH1	2.28	0.47
6:AF:75:LEU:H	6:AF:75:LEU:HD23	1.80	0.47
7:AG:101:ILE:HG22	7:AG:105:LYS:NZ	2.28	0.47
13:AO:114:ILE:CG2	13:AO:117:VAL:HB	2.44	0.47
17:AS:49:ILE:CG2	17:AS:70:ILE:HB	2.45	0.47
26:BA:312:C:OP1	46:BU:57:ARG:NE	2.40	0.47
26:BA:1109:G:OP1	35:BJ:51:ARG:NH2	2.47	0.47
27:BB:16:A:OP2	27:BB:70:G:N2	2.31	0.47
32:BG:22:ASP:HB3	32:BG:38:TRP:HB2	1.96	0.47
38:BM:45:THR:OG1	38:BM:131:GLU:OE2	2.15	0.47
38:BM:136:ASP:OD2	38:BM:139:HIS:HB2	2.14	0.47
40:BO:68:LEU:HD13	40:BO:84:VAL:HG13	1.96	0.47
41:BP:77:GLY:O	41:BP:81:ARG:HG3	2.13	0.47
49:BX:21:MET:HE3	49:BX:26:LEU:HB2	1.97	0.47
49:BX:127:GLY:O	49:BX:137:VAL:HG12	2.14	0.47
52:Ba:101:HIS:HB2	52:Ba:107:ASP:OD1	2.13	0.47
52:Ba:126:ILE:CD1	52:Ba:151:VAL:HG22	2.43	0.47
58:AZ:26:CYS:N	58:AZ:31:ALA:O	2.47	0.47
1:AA:618:C:H2'	1:AA:619:U:O4'	2.15	0.47
1:AA:997:G:H2'	1:AA:998:C:C6	2.48	0.47
1:AA:997:G:H5"	3:AC:179:LYS:HE3	1.95	0.47
3:AC:85:VAL:HG21	3:AC:91:ASN:HB2	1.96	0.47
4:AD:51:THR:OG1	4:AD:54:GLU:HG2	2.15	0.47
13:AO:38:PRO:HA	13:AO:77:ARG:HD3	1.96	0.47
14:AP:59:ALA:HB1	14:AP:78:LEU:HD23	1.96	0.47
21:AX:18:ASN:HB3	21:AX:41:ARG:NH1	2.29	0.47
23:AH:55:GLY:HA3	23:AH:63:MET:SD	2.54	0.47
29:BD:278:VAL:HG12	29:BD:330:ILE:HG21	1.96	0.47
31:BF:40:CYS:O	31:BF:56:PRO:HA	2.14	0.47
37:BL:82:GLU:OE1	37:BL:84:LEU:HG	2.14	0.47
52:Ba:41:ARG:HB2	52:Ba:94:PRO:HD2	1.96	0.47
52:Ba:50:GLN:OE1	52:Ba:52:LYS:HE3	2.14	0.47
1:AA:283:G:H5'	17:AS:59:LYS:HD2	1.95	0.47
1:AA:805:A:H2'	1:AA:806:G:H5'	1.96	0.47
1:AA:1186:A:H5"	8:AI:154:VAL:H	1.79	0.47
1:AA:1318:G:H2'	1:AA:1319:U:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:130:GLN:CG	2:AB:146:LEU:HD12	2.44	0.47
3:AC:126:LEU:HB2	3:AC:183:ILE:CG2	2.44	0.47
7:AG:161:VAL:HG13	7:AG:188:THR:HG21	1.95	0.47
13:AO:27:ARG:HG3	13:AO:32:LEU:HB2	1.97	0.47
19:AV:23:ASP:HB3	19:AV:25:LYS:NZ	2.29	0.47
19:AV:69:GLY:O	19:AV:73:LEU:HG	2.14	0.47
20:AW:23:VAL:O	20:AW:63:GLU:HA	2.13	0.47
24:AM:40:LEU:HB2	24:AM:70:LYS:C	2.40	0.47
25:AT:40:THR:HG22	25:AT:42:GLU:OE2	2.14	0.47
29:BD:87:ALA:O	29:BD:98:ILE:HG22	2.14	0.47
29:BD:177:GLU:O	29:BD:181:THR:HG23	2.15	0.47
29:BD:201:THR:HG22	29:BD:311:LEU:CD2	2.44	0.47
29:BD:274:ASP:OD2	29:BD:276:GLU:HB2	2.14	0.47
37:BL:96:LEU:HB2	37:BL:118:SER:HB2	1.96	0.47
44:BS:48:PHE:CZ	44:BS:59:VAL:HG12	2.49	0.47
44:BS:82:ILE:O	44:BS:86:LYS:HG3	2.14	0.47
56:Be:36:TYR:CE2	56:Be:38:THR:HB	2.49	0.47
1:AA:70:U:H4'	1:AA:71:G:O4'	2.13	0.47
1:AA:248:U:O2'	10:AK:8:ARG:NH1	2.48	0.47
1:AA:292:C:H2'	1:AA:293:G:C8	2.50	0.47
1:AA:632:G:O2'	1:AA:633:U:H5'	2.13	0.47
1:AA:903:U:O2	1:AA:906:U:H5"	2.15	0.47
1:AA:938:G:H2'	1:AA:940:C:H41	1.79	0.47
1:AA:1089:G:H2'	1:AA:1090:G:O4'	2.15	0.47
1:AA:1190:A:H5"	19:AV:41:LYS:NZ	2.30	0.47
1:AA:1272:C:H2'	1:AA:1273:C:C6	2.50	0.47
1:AA:1327:U:O2'	22:AY:26:MET:O	2.22	0.47
3:AC:44:ILE:HB	3:AC:80:ILE:HG13	1.96	0.47
3:AC:92:ALA:HB2	3:AC:182:ILE:HG13	1.94	0.47
6:AF:176:VAL:HA	6:AF:216:TYR:O	2.15	0.47
8:AI:46:PHE:HA	8:AI:129:GLN:HE22	1.79	0.47
10:AK:32:ALA:HB3	10:AK:54:ARG:CD	2.41	0.47
19:AV:40:HIS:CE1	19:AV:41:LYS:HG2	2.50	0.47
25:AT:56:ARG:HD2	25:AT:60:ARG:HD3	1.97	0.47
26:BA:1045:G:N7	34:BI:14:GLN:NE2	2.63	0.47
27:BB:18:C:H2'	27:BB:19:G:O4'	2.14	0.47
36:BK:12:LEU:HD23	36:BK:31:ILE:HD11	1.97	0.47
39:BN:135:GLU:N	39:BN:135:GLU:OE1	2.46	0.47
39:BN:140:ASP:O	39:BN:144:ARG:HG3	2.13	0.47
49:BX:143:GLU:O	49:BX:146:ASN:ND2	2.44	0.47
54:Bc:2:SER:OG	54:Bc:3:LYS:N	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:12:U:H2'	1:AA:13:C:H6	1.80	0.47
1:AA:415:U:H2'	1:AA:416:G:C8	2.49	0.47
1:AA:601:G:H2'	1:AA:602:G:C8	2.49	0.47
1:AA:1063:G:H5'	24:AM:38:VAL:CG2	2.45	0.47
1:AA:1321:A:C4'	8:AI:59:ASN:HB2	2.38	0.47
1:AA:1355:A:H1'	26:BA:1933:A:N1	2.29	0.47
1:AA:1385:A:OP1	10:AK:42:LYS:NZ	2.34	0.47
3:AC:131:VAL:CG2	3:AC:179:LYS:HB2	2.44	0.47
3:AC:162:VAL:HG12	3:AC:183:ILE:CG1	2.45	0.47
5:AE:56:ARG:CD	7:AG:147:PRO:HG3	2.45	0.47
6:AF:143:GLY:HA3	6:AF:147:TYR:CE2	2.50	0.47
14:AP:133:LEU:HA	14:AP:136:GLU:HG3	1.97	0.47
15:AR:35:HIS:O	15:AR:39:GLU:HG3	2.15	0.47
16:AQ:87:ASP:N	16:AQ:87:ASP:OD1	2.44	0.47
19:AV:18:GLY:O	19:AV:22:GLU:HG3	2.14	0.47
20:AW:14:LEU:HD22	20:AW:16:ARG:CG	2.45	0.47
26:BA:2461:A:N6	26:BA:2512:C:C2	2.83	0.47
29:BD:91:ASP:OD1	29:BD:93:THR:N	2.41	0.47
33:BH:23:LEU:CD2	33:BH:105:ALA:HB2	2.42	0.47
33:BH:28:GLY:HA3	33:BH:101:ASP:O	2.14	0.47
39:BN:152:ARG:HB3	39:BN:154:GLU:CD	2.40	0.47
44:BS:113:HIS:HB3	44:BS:146:ILE:HB	1.97	0.47
46:BU:30:ALA:HB1	46:BU:101:VAL:O	2.14	0.47
50:BY:54:ILE:HA	50:BY:57:THR:HG23	1.96	0.47
56:Be:18:MET:HB2	56:Be:36:TYR:CE2	2.50	0.47
1:AA:120:C:H3'	1:AA:120:C:OP2	2.14	0.47
1:AA:170:U:N3	1:AA:171:G:N3	2.62	0.47
1:AA:387:U:H5"	1:AA:388:G:H1'	1.97	0.47
1:AA:576:G:H2'	1:AA:577:G:O4'	2.15	0.47
1:AA:720:C:H2'	1:AA:721:G:O4'	2.14	0.47
1:AA:798:G:H2'	1:AA:799:U:O4'	2.15	0.47
1:AA:800:G:H2'	1:AA:801:C:C6	2.50	0.47
1:AA:941:A:H2'	1:AA:942:G:C8	2.50	0.47
1:AA:1066:A:H5'	1:AA:1227:A:O2'	2.15	0.47
1:AA:1190:A:H5'	19:AV:41:LYS:HD2	1.95	0.47
1:AA:1209:C:OP1	19:AV:69:GLY:HA3	2.14	0.47
4:AD:117:ILE:HD11	4:AD:154:PHE:CE1	2.50	0.47
5:AE:163:TYR:O	5:AE:169:LYS:HB2	2.15	0.47
5:AE:173:HIS:HD2	5:AE:174:PRO:HD2	1.79	0.47
6:AF:31:HIS:NE2	6:AF:137:ASP:OD2	2.46	0.47
6:AF:124:THR:N	6:AF:132:GLN:O	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AJ:52:PHE:CE1	9:AJ:59:GLY:HA3	2.48	0.47
10:AK:63:VAL:HA	10:AK:121:ALA:O	2.14	0.47
13:AO:83:CYS:SG	13:AO:88:ALA:HB1	2.55	0.47
13:AO:94:GLU:HG2	13:AO:95:HIS:ND1	2.29	0.47
14:AP:25:ARG:HA	14:AP:30:ASP:HA	1.96	0.47
18:AU:53:GLY:O	18:AU:57:VAL:HG23	2.14	0.47
18:AU:76:ILE:HG12	18:AU:102:MET:SD	2.54	0.47
18:AU:77:LEU:HB2	18:AU:80:MET:CB	2.45	0.47
19:AV:106:GLU:HG2	19:AV:111:LEU:O	2.15	0.47
20:AW:52:ILE:CD1	20:AW:55:ILE:HD11	2.45	0.47
24:AM:12:SER:O	24:AM:94:ILE:HD11	2.14	0.47
25:AT:26:LYS:CE	25:AT:62:LYS:HD2	2.45	0.47
26:BA:805:C:H5	53:Bb:4:LYS:HE3	1.80	0.47
26:BA:1105:C:OP1	32:BG:59:ARG:NH1	2.47	0.47
28:BC:90:LYS:HE2	28:BC:93:ASN:ND2	2.28	0.47
29:BD:72:VAL:HG12	29:BD:269:LEU:HD12	1.97	0.47
29:BD:142:ARG:HD2	29:BD:164:GLU:OE1	2.15	0.47
30:BE:147:GLU:HB3	30:BE:203:THR:CG2	2.42	0.47
30:BE:206:LEU:O	30:BE:210:ARG:HB2	2.14	0.47
31:BF:65:GLY:O	31:BF:69:GLN:HG2	2.15	0.47
34:BI:26:VAL:HG22	34:BI:94:VAL:HG11	1.95	0.47
44:BS:17:LYS:O	44:BS:98:ASN:ND2	2.42	0.47
45:BT:7:PRO:HD2	48:BW:33:ALA:HB2	1.95	0.47
47:BV:57:ILE:HG22	47:BV:61:LYS:HE3	1.95	0.47
49:BX:38:ASN:OD1	49:BX:41:TYR:HB2	2.14	0.47
49:BX:93:GLN:O	49:BX:97:GLU:HG3	2.15	0.47
50:BY:96:ALA:HA	50:BY:99:ALA:OXT	2.15	0.47
58:AZ:10:THR:CG2	58:AZ:33:ILE:HG23	2.44	0.47
1:AA:40:U:H4'	1:AA:289:G:C8	2.50	0.47
1:AA:359:C:OP1	6:AF:25:THR:HB	2.14	0.47
1:AA:600:C:N3	1:AA:688:G:N2	2.63	0.47
1:AA:804:C:OP2	1:AA:814:G:N1	2.29	0.47
1:AA:981:U:H2'	1:AA:982:G:C8	2.50	0.47
1:AA:1063:G:H1'	1:AA:1064:U:C5	2.50	0.47
3:AC:152:LYS:NZ	3:AC:157:PRO:HD2	2.30	0.47
6:AF:2:THR:O	6:AF:25:THR:HG21	2.15	0.47
7:AG:49:GLU:OE1	7:AG:78:ASN:HA	2.15	0.47
8:AI:46:PHE:HB3	8:AI:129:GLN:OE1	2.14	0.47
19:AV:101:THR:O	19:AV:105:LEU:HG	2.15	0.47
24:AM:16:LEU:HD21	24:AM:71:ARG:CG	2.45	0.47
26:BA:805:C:C5	53:Bb:4:LYS:HE3	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BA:1676:G:N2	54:Bc:5:THR:O	2.47	0.47
26:BA:2525:U:H5'	29:BD:249:ARG:HD3	1.97	0.47
27:BB:31:C:O3'	31:BF:128:GLY:HA2	2.14	0.47
31:BF:142:PRO:O	31:BF:146:ARG:HG3	2.15	0.47
31:BF:150:ASP:HA	31:BF:153:ILE:HG12	1.97	0.47
33:BH:18:LEU:O	33:BH:22:GLU:HG2	2.15	0.47
36:BK:92:ASP:CG	47:BV:24:LYS:HE3	2.40	0.47
37:BL:97:GLU:OE2	37:BL:139:ALA:HB3	2.15	0.47
44:BS:68:SER:CB	44:BS:79:LYS:HD3	2.45	0.47
50:BY:80:THR:HG21	53:Bb:48:ARG:HD3	1.97	0.47
1:AA:78:U:O2'	1:AA:148:A:N1	2.32	0.47
1:AA:234:U:OP2	10:AK:8:ARG:HG3	2.15	0.47
1:AA:356:A:H2	6:AF:20:ASN:HD21	1.63	0.47
1:AA:939:A:H61	1:AA:983:A:H2'	1.78	0.47
1:AA:1090:G:H2'	1:AA:1091:G:C8	2.49	0.47
1:AA:1128:G:H5'	8:AI:43:ARG:NH2	2.29	0.47
1:AA:1238:C:H5'	8:AI:72:GLN:OE1	2.15	0.47
5:AE:137:HIS:ND1	5:AE:166:SER:HB2	2.29	0.47
6:AF:107:HIS:CE1	6:AF:233:ILE:HD13	2.50	0.47
7:AG:132:VAL:HG23	7:AG:143:LEU:HB2	1.97	0.47
13:AO:103:ILE:HA	13:AO:120:LYS:HD3	1.97	0.47
16:AQ:2:ALA:CB	16:AQ:7:LYS:HE3	2.45	0.47
26:BA:293:A:O2'	26:BA:294:A:O4'	2.12	0.47
26:BA:692:C:O2'	26:BA:736:G:O4'	2.32	0.47
26:BA:1230:G:N3	35:BJ:83:MET:HE2	2.29	0.47
26:BA:2567:C:OP1	29:BD:2:ALA:HB2	2.15	0.47
36:BK:20:CYS:SG	36:BK:97:ILE:HG12	2.55	0.47
36:BK:73:VAL:HB	36:BK:95:MET:HG2	1.97	0.47
36:BK:103:ILE:CD1	36:BK:123:LYS:HG3	2.44	0.47
39:BN:50:ALA:O	39:BN:57:ILE:HG12	2.15	0.47
41:BP:27:GLU:N	41:BP:27:GLU:OE1	2.47	0.47
44:BS:109:MET:HB3	44:BS:147:LEU:HB3	1.96	0.47
48:BW:9:ILE:HD13	48:BW:57:ILE:HG12	1.96	0.47
1:AA:30:C:H2'	1:AA:31:U:O4'	2.14	0.47
1:AA:40:U:H4'	1:AA:289:G:H8	1.80	0.47
1:AA:504:U:H2'	1:AA:505:U:H5'	1.97	0.47
1:AA:566:U:H5"	6:AF:14:LYS:NZ	2.29	0.47
1:AA:776:A:H61	1:AA:796:U:H3	1.63	0.47
2:AB:214:ARG:HB2	2:AB:245:THR:HG21	1.95	0.47
7:AG:54:ASP:O	7:AG:72:ALA:HA	2.14	0.47
7:AG:151:GLY:O	7:AG:169:ASP:HA	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:202:VAL:HG22	9:AJ:68:ARG:CZ	2.44	0.47
12:AN:80:GLY:HA2	12:AN:114:PRO:CG	2.41	0.47
13:AO:114:ILE:HG22	13:AO:117:VAL:HB	1.97	0.47
14:AP:41:LEU:HD13	14:AP:82:ILE:HD13	1.97	0.47
14:AP:95:ASN:OD1	14:AP:107:HIS:HA	2.15	0.47
23:AH:101:ILE:HA	23:AH:105:ILE:HD12	1.97	0.47
26:BA:329:U:O2	26:BA:333:A:N7	2.48	0.47
26:BA:2321:A:C2	31:BF:48:ALA:HB3	2.50	0.47
26:BA:2657:G:OP2	29:BD:316:ARG:NH2	2.29	0.47
29:BD:90:GLU:OE1	29:BD:95:GLU:HG2	2.15	0.47
32:BG:73:ILE:O	32:BG:77:VAL:HG13	2.14	0.47
35:BJ:85:PRO:HG3	35:BJ:90:ARG:NH2	2.30	0.47
41:BP:35:ALA:HB2	41:BP:44:LEU:CD1	2.44	0.47
46:BU:2:ILE:CG2	46:BU:12:GLN:HG2	2.45	0.47
52:Ba:113:ILE:HD12	52:Ba:116:LEU:HD12	1.97	0.47
1:AA:211:U:OP1	6:AF:33:GLN:HB3	2.14	0.46
1:AA:234:U:H5"	10:AK:8:ARG:CZ	2.45	0.46
1:AA:243:U:OP1	10:AK:29:ARG:HB2	2.15	0.46
1:AA:332:C:O2'	1:AA:333:G:H5'	2.16	0.46
1:AA:390:C:OP2	5:AE:127:ILE:HD11	2.15	0.46
1:AA:689:G:H4'	16:AQ:16:ARG:HG2	1.97	0.46
1:AA:1018:G:H2'	1:AA:1019:A:C8	2.49	0.46
1:AA:1049:G:H2'	1:AA:1050:A:O4'	2.15	0.46
1:AA:1296:A:H2'	1:AA:1297:A:O4'	2.15	0.46
3:AC:11:GLY:HA2	3:AC:14:LYS:HE3	1.96	0.46
3:AC:72:LYS:HE2	3:AC:73:TYR:CZ	2.50	0.46
3:AC:99:LEU:HD23	3:AC:178:CYS:SG	2.56	0.46
20:AW:74:GLU:OE1	20:AW:74:GLU:N	2.44	0.46
21:AX:33:LYS:NZ	21:AX:46:PRO:HD2	2.27	0.46
24:AM:81:ALA:O	24:AM:85:LEU:HG	2.16	0.46
26:BA:2711:C:OP2	41:BP:62:ARG:HD2	2.15	0.46
27:BB:96:G:H2'	27:BB:97:C:O4'	2.16	0.46
29:BD:81:ARG:HB3	29:BD:146:TYR:CE1	2.50	0.46
29:BD:107:ASP:OD2	29:BD:148:LEU:HD21	2.15	0.46
29:BD:255:GLN:NE2	29:BD:257:GLY:O	2.43	0.46
29:BD:279:THR:HG21	29:BD:289:LEU:CB	2.46	0.46
31:BF:89:ASP:HB2	31:BF:93:ASN:O	2.14	0.46
32:BG:44:ILE:HG13	32:BG:53:VAL:HG12	1.97	0.46
32:BG:62:GLN:O	32:BG:66:VAL:HG13	2.15	0.46
36:BK:122:PRO:O	36:BK:126:THR:HG23	2.14	0.46
1:AA:299:G:H2'	1:AA:300:G:H5'	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:530:U:OP1	9:AJ:32:LYS:HG3	2.15	0.46
1:AA:693:G:O2'	1:AA:694:A:OP2	2.30	0.46
1:AA:997:G:H5"	3:AC:179:LYS:NZ	2.29	0.46
2:AB:107:VAL:HG12	58:AZ:27:PRO:HB2	1.96	0.46
6:AF:191:ILE:HG12	6:AF:202:VAL:CG2	2.43	0.46
7:AG:25:MET:HG2	7:AG:45:LEU:HD11	1.96	0.46
7:AG:117:SER:HA	7:AG:145:PRO:HB2	1.97	0.46
7:AG:134:GLY:HA3	7:AG:191:ALA:HB2	1.97	0.46
13:AO:98:VAL:CG1	13:AO:124:VAL:HG23	2.45	0.46
15:AR:48:LYS:NZ	15:AR:50:SER:OXT	2.48	0.46
18:AU:33:GLU:O	18:AU:37:LEU:HG	2.15	0.46
19:AV:134:GLU:O	19:AV:137:LEU:HB2	2.14	0.46
22:AY:16:GLU:HA	22:AY:59:ASP:O	2.16	0.46
23:AH:34:ILE:HG21	23:AH:65:PRO:HB3	1.96	0.46
24:AM:43:LYS:CB	24:AM:68:VAL:HB	2.38	0.46
26:BA:935:C:N3	49:BX:23:MET:HE2	2.30	0.46
26:BA:1336:A:N1	30:BE:49:PRO:HG3	2.30	0.46
26:BA:1854:U:H2'	28:BC:121:ARG:HB2	1.96	0.46
29:BD:276:GLU:OE1	29:BD:276:GLU:N	2.49	0.46
30:BE:110:ARG:O	30:BE:114:ILE:HG13	2.14	0.46
34:BI:87:LEU:HB2	34:BI:134:PHE:CE1	2.51	0.46
42:BQ:35:THR:HG23	42:BQ:55:ILE:CD1	2.46	0.46
49:BX:83:ILE:HG13	49:BX:92:ILE:HG12	1.95	0.46
1:AA:157:A:N6	1:AA:186:U:H2'	2.30	0.46
1:AA:538:U:H2'	1:AA:539:C:H6	1.80	0.46
1:AA:541:U:O2'	1:AA:542:C:H5'	2.14	0.46
1:AA:912:U:H2'	1:AA:913:C:O4'	2.16	0.46
1:AA:941:A:H2'	1:AA:942:G:H8	1.80	0.46
4:AD:37:ALA:HB3	4:AD:43:LEU:HD11	1.98	0.46
5:AE:22:ARG:O	5:AE:26:GLU:HG3	2.15	0.46
6:AF:201:THR:HB	6:AF:211:GLU:OE2	2.16	0.46
10:AK:45:PRO:HA	10:AK:51:ARG:HA	1.98	0.46
11:AL:85:ARG:O	11:AL:89:GLU:HG3	2.15	0.46
14:AP:38:GLN:HB3	14:AP:63:PRO:CB	2.36	0.46
14:AP:111:THR:O	14:AP:114:LEU:HG	2.15	0.46
23:AH:25:GLU:HG2	23:AH:42:ILE:O	2.15	0.46
23:AH:56:CYS:O	23:AH:105:ILE:HG23	2.15	0.46
24:AM:79:GLU:HA	24:AM:82:LEU:HG	1.96	0.46
26:BA:2035:A:H5'	44:BS:134:THR:HB	1.97	0.46
30:BE:127:VAL:O	30:BE:132:HIS:HB2	2.15	0.46
30:BE:196:LEU:HA	30:BE:216:ASP:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:BF:18:SER:OG	31:BF:55:GLU:OE2	2.12	0.46
32:BG:33:VAL:HG23	32:BG:80:VAL:HG12	1.98	0.46
32:BG:142:LYS:HA	32:BG:145:VAL:HG12	1.98	0.46
37:BL:96:LEU:CD1	37:BL:101:ILE:HB	2.45	0.46
50:BY:39:MET:HB2	50:BY:60:PRO:O	2.15	0.46
52:Ba:120:ASP:OD1	52:Ba:120:ASP:N	2.46	0.46
52:Ba:143:LYS:O	52:Ba:146:GLU:HG3	2.16	0.46
53:Bb:53:ARG:O	53:Bb:54:ILE:HD13	2.15	0.46
1:AA:627:U:H4'	12:AN:33:LYS:HE2	1.96	0.46
1:AA:938:G:H1'	1:AA:983:A:N6	2.26	0.46
1:AA:1014:C:H4'	1:AA:1040:A:N6	2.29	0.46
1:AA:1236:A:H5'	19:AV:80:LYS:NZ	2.31	0.46
1:AA:1247:G:C8	1:AA:1282:C:H1'	2.51	0.46
1:AA:1294:G:N2	1:AA:1321:A:OP2	2.32	0.46
3:AC:158:VAL:HA	3:AC:162:VAL:CG2	2.43	0.46
5:AE:54:GLU:HA	5:AE:57:LYS:HE2	1.97	0.46
7:AG:158:ALA:HA	7:AG:161:VAL:HG12	1.96	0.46
16:AQ:57:ARG:HH12	21:AX:35:THR:HG23	1.81	0.46
18:AU:21:LYS:HB3	18:AU:25:GLU:OE2	2.15	0.46
25:AT:6:GLU:O	25:AT:10:LYS:HG3	2.15	0.46
26:BA:340:U:C5'	46:BU:3:ALA:HA	2.45	0.46
28:BC:68:PHE:O	28:BC:69:LEU:HD23	2.15	0.46
29:BD:270:LYS:HD3	29:BD:296:LEU:HD12	1.96	0.46
29:BD:279:THR:HG21	29:BD:289:LEU:HB2	1.97	0.46
32:BG:19:LEU:HD21	32:BG:44:ILE:HB	1.97	0.46
32:BG:58:ALA:O	32:BG:63:LYS:NZ	2.49	0.46
34:BI:60:HIS:CE1	34:BI:61:THR:HG23	2.50	0.46
35:BJ:81:ARG:CG	35:BJ:95:MET:HE2	2.45	0.46
39:BN:114:SER:OG	39:BN:115:ARG:N	2.49	0.46
46:BU:97:ASN:ND2	46:BU:98:PRO:HD2	2.30	0.46
50:BY:42:LEU:HD13	50:BY:61:VAL:HG13	1.97	0.46
55:Bd:42:HIS:HB3	55:Bd:45:ARG:HD3	1.96	0.46
1:AA:21:A:O2'	5:AE:16:HIS:HA	2.16	0.46
1:AA:172:G:H5'	1:AA:173:A:OP2	2.16	0.46
1:AA:407:U:H4'	5:AE:137:HIS:NE2	2.30	0.46
1:AA:572:U:OP1	1:AA:573:U:H5"	2.15	0.46
1:AA:625:G:H4'	12:AN:29:GLU:OE1	2.16	0.46
1:AA:1040:A:H4'	1:AA:1041:A:C4'	2.45	0.46
1:AA:1392:U:H5"	1:AA:1393:C:C5	2.48	0.46
2:AB:104:ARG:HG3	2:AB:208:PRO:HD3	1.97	0.46
4:AD:21:ILE:HG21	4:AD:33:GLY:H	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AI:65:GLU:O	8:AI:68:THR:HG22	2.15	0.46
8:AI:168:ARG:NH1	8:AI:168:ARG:HB2	2.31	0.46
11:AL:33:PRO:CG	19:AV:6:ASP:HA	2.46	0.46
18:AU:106:ARG:N	18:AU:109:GLU:OE2	2.37	0.46
22:AY:14:ALA:CB	22:AY:62:MET:HA	2.45	0.46
24:AM:5:ARG:HG3	24:AM:74:ASP:OD1	2.15	0.46
26:BA:183:A:OP1	38:BM:164:LYS:NZ	2.34	0.46
26:BA:2280:G:OP1	43:BR:14:LYS:HE3	2.16	0.46
27:BB:33:U:H2'	27:BB:34:G:H8	1.80	0.46
33:BH:41:ILE:HG21	33:BH:67:LEU:HG	1.98	0.46
35:BJ:121:MET:HE1	35:BJ:129:TYR:CZ	2.50	0.46
42:BQ:27:GLU:O	42:BQ:37:LYS:HE3	2.15	0.46
46:BU:55:VAL:HG21	46:BU:96:LEU:HD12	1.98	0.46
48:BW:3:ILE:CG1	48:BW:49:GLU:HG3	2.46	0.46
48:BW:23:ASN:O	48:BW:27:GLU:HG2	2.14	0.46
52:Ba:30:MET:SD	52:Ba:35:ARG:HD2	2.56	0.46
53:Bb:6:THR:HG23	53:Bb:9:GLY:N	2.31	0.46
1:AA:604:A:H5"	4:AD:130:ARG:CD	2.46	0.46
1:AA:626:G:O2'	1:AA:627:U:H5'	2.15	0.46
1:AA:879:C:C5	1:AA:1291:G:H2'	2.50	0.46
1:AA:1104:A:O4'	1:AA:1128:G:N1	2.49	0.46
1:AA:1264:U:H2'	1:AA:1265:A:C8	2.50	0.46
2:AB:178:GLN:O	2:AB:182:GLU:HG2	2.15	0.46
2:AB:199:LEU:HD12	2:AB:200:THR:H	1.81	0.46
4:AD:138:ARG:O	4:AD:142:VAL:HG23	2.15	0.46
5:AE:39:LYS:HE3	5:AE:39:LYS:HB2	1.74	0.46
5:AE:136:GLY:HA3	5:AE:144:LYS:CE	2.46	0.46
6:AF:61:SER:HA	6:AF:73:LYS:CG	2.46	0.46
7:AG:13:LEU:HD12	7:AG:34:PRO:O	2.15	0.46
10:AK:29:ARG:NH2	10:AK:46:THR:HG22	2.30	0.46
14:AP:70:LEU:HD11	14:AP:74:GLU:CB	2.45	0.46
16:AQ:75:LEU:HD22	16:AQ:80:VAL:O	2.15	0.46
18:AU:26:LEU:HA	18:AU:29:LEU:CD1	2.45	0.46
26:BA:91:A:P	48:BW:2:ALA:HB2	2.55	0.46
26:BA:1327:C:N4	30:BE:177:ILE:O	2.49	0.46
27:BB:117:C:H2'	27:BB:118:U:O4'	2.16	0.46
28:BC:158:GLY:HA2	53:Bb:83:LEU:HD13	1.97	0.46
37:BL:66:ILE:HG22	37:BL:103:LYS:HB3	1.98	0.46
37:BL:118:SER:OG	37:BL:119:GLU:N	2.48	0.46
42:BQ:26:ILE:HG23	42:BQ:37:LYS:HD2	1.98	0.46
58:AZ:35:ARG:NH2	58:AZ:40:ARG:HA	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:125:A:H3'	1:AA:126:U:H6	1.80	0.46
1:AA:327:C:H1'	1:AA:328:G:C2	2.50	0.46
1:AA:384:G:H4'	1:AA:560:C:N3	2.31	0.46
1:AA:389:C:H5"	5:AE:127:ILE:CD1	2.37	0.46
1:AA:486:G:O2'	1:AA:488:G:H4'	2.16	0.46
1:AA:662:U:H5'	4:AD:128:ARG:NH2	2.29	0.46
1:AA:699:G:H4'	1:AA:825:C:H4'	1.98	0.46
3:AC:69:VAL:HG13	3:AC:75:LEU:HD12	1.97	0.46
4:AD:13:TRP:HB3	4:AD:14:LYS:NZ	2.31	0.46
4:AD:90:ASP:OD1	4:AD:90:ASP:N	2.43	0.46
5:AE:96:ASN:HB2	5:AE:98:ASP:OD1	2.16	0.46
5:AE:137:HIS:O	5:AE:138:ILE:HD13	2.16	0.46
6:AF:59:ILE:HG23	6:AF:64:LYS:CD	2.46	0.46
6:AF:101:LYS:HD2	6:AF:103:ARG:NH2	2.31	0.46
6:AF:178:GLY:HA3	6:AF:216:TYR:CZ	2.51	0.46
6:AF:205:SER:HB2	6:AF:209:ASP:CG	2.41	0.46
7:AG:38:PRO:CA	7:AG:106:LEU:HD21	2.43	0.46
7:AG:49:GLU:HG3	7:AG:79:ARG:NH1	2.30	0.46
8:AI:159:ALA:O	8:AI:163:ILE:HG12	2.15	0.46
10:AK:36:ILE:HD13	10:AK:92:ASN:HB3	1.97	0.46
12:AN:10:HIS:HB2	12:AN:21:THR:HG22	1.97	0.46
12:AN:31:ILE:CG2	12:AN:66:LYS:HG3	2.45	0.46
12:AN:73:ILE:HG21	12:AN:94:ILE:CD1	2.40	0.46
15:AR:32:LEU:HD11	15:AR:40:ILE:HD11	1.97	0.46
18:AU:106:ARG:HB2	18:AU:109:GLU:CG	2.45	0.46
20:AW:53:GLN:HE22	20:AW:85:ILE:HD11	1.81	0.46
23:AH:58:GLY:HA2	23:AH:106:ILE:CD1	2.46	0.46
26:BA:1960:U:OP1	26:BA:2615:G:O2'	2.12	0.46
26:BA:2781:C:OP1	29:BD:312:ARG:NH2	2.33	0.46
28:BC:110:GLU:OE2	28:BC:154:ARG:HD3	2.15	0.46
29:BD:147:THR:O	29:BD:160:PRO:HB3	2.16	0.46
32:BG:30:LYS:HE3	32:BG:82:GLU:O	2.14	0.46
35:BJ:60:GLY:CA	35:BJ:66:PRO:HD2	2.46	0.46
35:BJ:105:PRO:HG2	35:BJ:108:LEU:HD12	1.98	0.46
39:BN:164:ALA:O	39:BN:167:GLU:HG3	2.16	0.46
44:BS:29:LYS:O	44:BS:33:VAL:HG23	2.15	0.46
46:BU:86:LYS:HD3	46:BU:88:ASP:OD2	2.16	0.46
51:BZ:58:HIS:HA	51:BZ:61:GLU:HG3	1.98	0.46
1:AA:33:U:H5	1:AA:487:A:H8	1.64	0.46
1:AA:44:C:H5"	1:AA:45:U:OP2	2.16	0.46
1:AA:112:C:O2'	1:AA:113:C:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:518:U:H2'	1:AA:519:C:O4'	2.15	0.46
1:AA:573:U:H4'	1:AA:574:U:C6	2.50	0.46
1:AA:686:C:OP1	1:AA:796:U:O2'	2.23	0.46
1:AA:768:U:H3'	1:AA:815:U:O4	2.15	0.46
1:AA:886:G:O2'	1:AA:887:G:H5'	2.15	0.46
1:AA:1008:U:H2'	1:AA:1009:U:O4'	2.15	0.46
2:AB:119:ARG:NH2	2:AB:164:GLU:O	2.49	0.46
2:AB:176:ASP:HB3	2:AB:179:VAL:CG2	2.45	0.46
4:AD:125:THR:HG21	4:AD:129:ALA:HB2	1.97	0.46
5:AE:124:ARG:CG	5:AE:177:PRO:HG3	2.46	0.46
8:AI:106:PRO:HG3	8:AI:134:THR:CG2	2.46	0.46
12:AN:75:VAL:HG21	12:AN:90:ALA:CB	2.46	0.46
26:BA:30:G:N3	26:BA:450:G:O2'	2.49	0.46
26:BA:152:C:OP1	38:BM:196:LYS:HE3	2.15	0.46
26:BA:480:A:O3'	46:BU:86:LYS:HB2	2.16	0.46
26:BA:1223:U:C2	29:BD:243:PRO:HB3	2.50	0.46
30:BE:149:LEU:HB2	30:BE:154:GLN:OE1	2.16	0.46
30:BE:153:LYS:O	30:BE:157:GLU:HG3	2.15	0.46
36:BK:81:ARG:NH2	36:BK:85:GLY:HA2	2.30	0.46
38:BM:179:LYS:HA	38:BM:182:GLU:OE2	2.16	0.46
42:BQ:9:VAL:O	42:BQ:23:THR:HA	2.16	0.46
42:BQ:31:GLU:HG3	42:BQ:58:VAL:CG1	2.45	0.46
44:BS:28:LYS:O	44:BS:32:GLU:HG2	2.16	0.46
51:BZ:44:THR:HG21	51:BZ:83:VAL:CG2	2.46	0.46
1:AA:121:C:H2'	1:AA:122:G:O4'	2.16	0.46
1:AA:554:A:H2'	1:AA:555:C:H6	1.81	0.46
1:AA:653:G:H2'	1:AA:654:G:H8	1.81	0.46
1:AA:893:G:H2'	1:AA:894:C:H6	1.80	0.46
1:AA:1155:C:H2'	1:AA:1156:C:O4'	2.16	0.46
6:AF:109:LEU:HD22	6:AF:114:VAL:HG11	1.97	0.46
6:AF:177:VAL:CG1	6:AF:216:TYR:HA	2.38	0.46
9:AJ:71:LYS:HE2	9:AJ:130:TYR:OH	2.15	0.46
12:AN:19:ILE:HA	12:AN:35:SER:HA	1.98	0.46
13:AO:58:LYS:HD3	13:AO:113:ASP:HA	1.98	0.46
14:AP:108:LEU:HD12	14:AP:113:ILE:HD13	1.96	0.46
18:AU:72:ARG:O	18:AU:108:GLY:N	2.48	0.46
21:AX:32:ARG:N	21:AX:46:PRO:HB3	2.31	0.46
26:BA:140:A:N3	38:BM:112:ASN:HB3	2.31	0.46
26:BA:1883:U:O2'	26:BA:1884:A:N7	2.41	0.46
30:BE:144:ASN:OD1	30:BE:243:SER:N	2.44	0.46
39:BN:1:MET:HG3	39:BN:3:THR:CG2	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BN:88:LEU:HA	39:BN:169:ILE:HD11	1.98	0.46
40:BO:22:LEU:O	40:BO:26:GLU:HG2	2.16	0.46
46:BU:44:SER:OG	46:BU:45:ALA:N	2.49	0.46
1:AA:200:C:H2'	1:AA:201:U:O4'	2.16	0.46
1:AA:429:C:H2'	1:AA:430:U:O4'	2.16	0.46
1:AA:682:A:H4'	16:AQ:114:SER:OG	2.16	0.46
1:AA:764:U:OP1	16:AQ:7:LYS:HB3	2.15	0.46
1:AA:830:G:O2'	1:AA:831:G:H5'	2.15	0.46
1:AA:1349:C:H2'	1:AA:1350:C:O4'	2.16	0.46
7:AG:17:VAL:CG1	7:AG:44:LEU:HD21	2.46	0.46
8:AI:178:LYS:O	8:AI:182:GLU:HG3	2.16	0.46
8:AI:178:LYS:NZ	8:AI:182:GLU:OE2	2.31	0.46
9:AJ:111:MET:HE3	9:AJ:116:ALA:CA	2.42	0.46
11:AL:57:VAL:HG12	11:AL:61:LEU:HD11	1.98	0.46
12:AN:92:ALA:HA	12:AN:95:ARG:HG2	1.97	0.46
14:AP:108:LEU:HB3	14:AP:112:ASP:CG	2.41	0.46
14:AP:136:GLU:OE2	14:AP:137:ARG:HG3	2.16	0.46
14:AP:148:SER:HA	14:AP:151:ARG:HH21	1.81	0.46
24:AM:27:ALA:O	24:AM:31:GLY:N	2.49	0.46
26:BA:1042:G:O2'	26:BA:2276:A:OP2	2.22	0.46
26:BA:2324:C:H5'	31:BF:10:ILE:HG21	1.97	0.46
29:BD:24:ILE:HG23	29:BD:308:LEU:CD2	2.46	0.46
30:BE:3:THR:HB	30:BE:18:GLU:OE1	2.16	0.46
36:BK:4:MET:HE3	36:BK:120:ARG:NE	2.31	0.46
36:BK:98:THR:HA	36:BK:104:PRO:HA	1.98	0.46
40:BO:68:LEU:HD22	40:BO:84:VAL:HG11	1.97	0.46
1:AA:554:A:H5"	5:AE:84:LYS:CG	2.47	0.45
1:AA:558:C:H5'	1:AA:559:U:OP2	2.15	0.45
1:AA:804:C:H2'	1:AA:805:A:O4'	2.16	0.45
1:AA:995:U:H2'	1:AA:996:G:C8	2.50	0.45
1:AA:1006:A:O2'	1:AA:1047:G:N2	2.49	0.45
1:AA:1068:C:H5"	11:AL:66:ASP:OD2	2.16	0.45
1:AA:1099:U:OP1	24:AM:69:HIS:HB3	2.15	0.45
1:AA:1231:C:H5"	1:AA:1232:A:OP2	2.16	0.45
1:AA:1394:G:OP2	1:AA:1394:G:N2	2.40	0.45
1:AA:1412:A:H2'	1:AA:1413:A:H5'	1.99	0.45
1:AA:1444:U:O2'	1:AA:1445:A:H5'	2.16	0.45
2:AB:152:GLY:O	2:AB:159:ILE:HG21	2.16	0.45
3:AC:111:LYS:HE3	3:AC:115:ASN:OD1	2.16	0.45
3:AC:143:VAL:HG21	3:AC:145:LYS:HE3	1.99	0.45
5:AE:118:LEU:HD13	5:AE:126:VAL:CA	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:156:SER:O	6:AF:160:LYS:HA	2.15	0.45
14:AP:112:ASP:N	14:AP:112:ASP:OD1	2.48	0.45
16:AQ:91:LEU:HD22	16:AQ:118:THR:HG23	1.97	0.45
18:AU:99:GLN:O	18:AU:102:MET:HG3	2.16	0.45
23:AH:125:GLY:O	23:AH:126:LEU:HD23	2.15	0.45
26:BA:749:U:OP1	37:BL:26:ARG:HD2	2.15	0.45
28:BC:180:MET:HE2	28:BC:180:MET:HA	1.99	0.45
31:BF:9:VAL:CG2	31:BF:68:ALA:HB1	2.46	0.45
36:BK:73:VAL:CB	36:BK:95:MET:HG2	2.46	0.45
54:Bc:42:THR:HG23	54:Bc:44:ARG:O	2.16	0.45
57:Bf:68:ARG:HG3	57:Bf:77:ALA:HB1	1.98	0.45
1:AA:249:A:OP2	17:AS:96:LYS:HD3	2.16	0.45
1:AA:250:C:H1'	10:AK:2:ARG:HH12	1.81	0.45
1:AA:488:G:H2'	1:AA:489:U:O4'	2.16	0.45
1:AA:653:G:H2'	1:AA:654:G:C8	2.51	0.45
2:AB:164:GLU:OE1	7:AG:12:ARG:HG3	2.16	0.45
6:AF:205:SER:HB2	6:AF:209:ASP:OD1	2.16	0.45
8:AI:111:VAL:O	8:AI:122:LYS:N	2.42	0.45
11:AL:30:ASN:HB2	11:AL:65:VAL:HB	1.98	0.45
16:AQ:71:VAL:O	16:AQ:75:LEU:HG	2.16	0.45
18:AU:44:ARG:HA	18:AU:47:LYS:HB3	1.98	0.45
18:AU:76:ILE:HD13	18:AU:102:MET:O	2.17	0.45
20:AW:60:GLY:O	20:AW:62:GLN:NE2	2.49	0.45
23:AH:70:PRO:O	23:AH:97:ARG:NH2	2.47	0.45
25:AT:27:ASP:OD1	25:AT:30:THR:N	2.37	0.45
26:BA:742:A:O2'	30:BE:104:LYS:O	2.29	0.45
26:BA:1587:G:C6	50:BY:24:GLY:HA3	2.50	0.45
26:BA:2033:G:H4'	44:BS:136:LYS:HE3	1.97	0.45
29:BD:198:LEU:O	29:BD:314:PRO:HD3	2.16	0.45
35:BJ:88:ARG:O	35:BJ:92:ARG:HG3	2.17	0.45
37:BL:79:LEU:HD12	37:BL:84:LEU:HB2	1.98	0.45
38:BM:3:LYS:HG2	38:BM:4:SER:O	2.16	0.45
40:BO:9:LEU:HD11	40:BO:22:LEU:HD21	1.98	0.45
51:BZ:44:THR:HB	51:BZ:77:LYS:NZ	2.32	0.45
53:Bb:13:ARG:HG2	53:Bb:35:GLU:OE2	2.16	0.45
1:AA:172:G:H3'	1:AA:173:A:O4'	2.17	0.45
1:AA:1214:A:H1'	14:AP:92:TRP:CH2	2.51	0.45
2:AB:120:ILE:HG23	2:AB:167:VAL:HG13	1.98	0.45
3:AC:105:ARG:CZ	3:AC:107:TRP:HB2	2.46	0.45
4:AD:138:ARG:HA	4:AD:141:MET:HE2	1.98	0.45
5:AE:82:LEU:O	5:AE:86:ILE:HG12	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:109:LEU:HD23	6:AF:228:ARG:HB2	1.98	0.45
10:AK:79:VAL:HG22	10:AK:94:LEU:HD23	1.99	0.45
12:AN:14:SER:OG	12:AN:15:PHE:N	2.50	0.45
12:AN:43:ALA:HA	12:AN:46:GLU:HG3	1.99	0.45
12:AN:53:MET:HE1	22:AY:67:SER:OG	2.15	0.45
25:AT:56:ARG:CD	25:AT:60:ARG:HD3	2.46	0.45
26:BA:227:C:O2	26:BA:431:A:O2'	2.24	0.45
26:BA:2691:G:H5"	29:BD:205:THR:HG21	1.98	0.45
26:BA:2795:U:H4'	29:BD:117:PRO:HB3	1.98	0.45
27:BB:56:A:H1'	31:BF:1:MET:HE1	1.98	0.45
31:BF:11:VAL:HG11	31:BF:29:LEU:HD11	1.99	0.45
32:BG:23:VAL:CG1	32:BG:36:LYS:HD3	2.47	0.45
33:BH:11:GLU:O	33:BH:14:THR:OG1	2.30	0.45
36:BK:7:ASN:O	36:BK:80:PHE:HB2	2.16	0.45
58:AZ:16:LEU:HB3	58:AZ:21:TYR:CB	2.47	0.45
58:AZ:16:LEU:HB3	58:AZ:21:TYR:CG	2.50	0.45
1:AA:177:C:H2'	1:AA:178:U:H4'	1.98	0.45
1:AA:192:G:H3'	1:AA:192:G:OP2	2.17	0.45
1:AA:418:G:OP1	20:AW:54:ARG:HA	2.15	0.45
1:AA:538:U:H2'	1:AA:539:C:C6	2.51	0.45
1:AA:1116:A:H5"	25:AT:60:ARG:NE	2.31	0.45
1:AA:1170:C:O5'	1:AA:1171:U:H5"	2.16	0.45
1:AA:1240:A:H3'	1:AA:1241:U:C4'	2.46	0.45
1:AA:1353:U:H2'	1:AA:1354:C:O4'	2.16	0.45
1:AA:1393:C:H4'	1:AA:1394:G:C4	2.51	0.45
2:AB:122:VAL:O	2:AB:144:ALA:HA	2.17	0.45
3:AC:95:MET:HE1	3:AC:98:ARG:CZ	2.46	0.45
4:AD:27:LEU:HD13	4:AD:55:LEU:HD23	1.98	0.45
4:AD:64:THR:HG22	4:AD:87:LEU:HD13	1.99	0.45
10:AK:104:MET:HG3	10:AK:123:LEU:HD22	1.98	0.45
12:AN:56:ALA:HB3	12:AN:96:ALA:HB3	1.97	0.45
14:AP:108:LEU:HB2	14:AP:113:ILE:CG1	2.45	0.45
19:AV:67:PRO:CB	19:AV:114:VAL:HG11	2.47	0.45
30:BE:57:THR:CG2	30:BE:82:ARG:HB2	2.47	0.45
33:BH:55:ILE:HG13	33:BH:61:VAL:CG2	2.47	0.45
41:BP:126:LYS:HD2	41:BP:131:GLU:HG3	1.97	0.45
47:BV:56:LYS:O	47:BV:60:LYS:HG2	2.15	0.45
47:BV:58:GLN:HA	47:BV:61:LYS:CD	2.47	0.45
52:Ba:129:ALA:HB3	52:Ba:132:ILE:CG1	2.47	0.45
1:AA:441:G:H2'	1:AA:442:C:O4'	2.16	0.45
1:AA:609:U:O2'	16:AQ:105:ASN:HB3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:753:G:OP1	1:AA:848:G:H1'	2.17	0.45
1:AA:1002:C:H5"	1:AA:1003:G:OP2	2.17	0.45
1:AA:1426:G:H2'	1:AA:1427:G:O4'	2.16	0.45
3:AC:13:VAL:O	3:AC:17:MET:HG2	2.16	0.45
3:AC:117:LEU:HD21	3:AC:148:ASP:OD1	2.16	0.45
5:AE:104:LYS:HB3	5:AE:106:GLU:OE1	2.17	0.45
5:AE:104:LYS:HB3	5:AE:104:LYS:HE3	1.78	0.45
7:AG:35:ILE:CG2	7:AG:41:ILE:HD11	2.46	0.45
7:AG:142:THR:O	7:AG:172:THR:HG22	2.17	0.45
9:AJ:18:GLU:HG3	9:AJ:69:ILE:CG1	2.44	0.45
13:AO:127:VAL:CG2	13:AO:137:MET:HG2	2.47	0.45
14:AP:26:ILE:HG23	14:AP:79:ASP:OD1	2.16	0.45
14:AP:66:ILE:HG22	14:AP:68:GLY:N	2.31	0.45
14:AP:101:ALA:N	18:AU:18:TYR:O	2.49	0.45
26:BA:78:G:OP1	46:BU:48:ILE:HA	2.16	0.45
30:BE:149:LEU:HD13	30:BE:154:GLN:HB2	1.99	0.45
31:BF:70:GLU:O	31:BF:74:THR:HG23	2.16	0.45
31:BF:131:ILE:HD12	31:BF:134:ARG:NH2	2.32	0.45
32:BG:88:MET:HE2	32:BG:170:ILE:CG2	2.45	0.45
38:BM:113:LEU:HD22	38:BM:136:ASP:CA	2.46	0.45
41:BP:84:LYS:HE3	41:BP:84:LYS:HB3	1.85	0.45
44:BS:126:MET:CE	44:BS:136:LYS:HB3	2.47	0.45
45:BT:24:PHE:CE2	45:BT:64:LEU:HD13	2.50	0.45
52:Ba:73:GLN:HA	52:Ba:78:ARG:NH2	2.32	0.45
1:AA:98:C:OP1	1:AA:294:G:H5'	2.17	0.45
1:AA:366:C:OP1	6:AF:54:ARG:NH2	2.50	0.45
1:AA:444:G:H4'	1:AA:474:C:N3	2.32	0.45
1:AA:484:C:H5"	5:AE:23:MET:CE	2.47	0.45
1:AA:961:G:H2'	1:AA:962:A:O4'	2.17	0.45
1:AA:1087:A:H3'	1:AA:1088:U:H5"	1.97	0.45
1:AA:1123:A:H4'	1:AA:1124:G:C8	2.52	0.45
2:AB:184:SER:HA	58:AZ:40:ARG:NH1	2.31	0.45
3:AC:13:VAL:HG12	3:AC:17:MET:HE2	1.98	0.45
3:AC:169:ALA:O	3:AC:175:THR:HA	2.16	0.45
4:AD:122:THR:O	4:AD:183:VAL:HG13	2.17	0.45
22:AY:31:SER:OG	22:AY:55:VAL:HG21	2.17	0.45
24:AM:5:ARG:O	24:AM:98:ILE:HA	2.17	0.45
26:BA:769:U:O2	54:Bc:11:ARG:HA	2.17	0.45
26:BA:812:G:C5	28:BC:172:LYS:HG3	2.51	0.45
29:BD:85:ILE:HG12	29:BD:183:LEU:HD13	1.98	0.45
30:BE:218:VAL:HG11	30:BE:227:LEU:HD11	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:BF:78:ILE:HG23	31:BF:103:ASP:HB3	1.99	0.45
32:BG:84:PHE:CE2	32:BG:142:LYS:HB2	2.52	0.45
33:BH:13:LEU:HD13	33:BH:115:LYS:HD2	1.98	0.45
36:BK:40:VAL:HG22	36:BK:41:LYS:H	1.82	0.45
41:BP:60:ARG:HG2	41:BP:63:ALA:HB3	1.99	0.45
48:BW:32:ARG:HH21	48:BW:51:ARG:HD3	1.81	0.45
1:AA:597:A:H2'	1:AA:598:A:H8	1.82	0.45
6:AF:48:LYS:HA	6:AF:48:LYS:HD2	1.73	0.45
14:AP:71:PRO:HG2	14:AP:74:GLU:OE2	2.16	0.45
15:AR:16:LYS:HB2	15:AR:32:LEU:HD23	1.98	0.45
15:AR:27:LYS:HD3	24:AM:47:VAL:HG23	1.98	0.45
18:AU:97:ASP:OD1	18:AU:98:LEU:N	2.50	0.45
23:AH:34:ILE:HG23	23:AH:53:THR:HA	1.97	0.45
25:AT:54:VAL:O	25:AT:58:VAL:HG23	2.17	0.45
26:BA:652:A:O2'	26:BA:738:A:N1	2.47	0.45
26:BA:1224:U:O2'	26:BA:1225:G:O5'	2.32	0.45
28:BC:112:LYS:O	28:BC:115:ASP:HB2	2.17	0.45
29:BD:213:PRO:HB2	29:BD:219:ILE:HD13	1.98	0.45
31:BF:83:LEU:CD1	31:BF:87:GLN:HG3	2.47	0.45
35:BJ:61:ALA:N	35:BJ:65:GLY:HA3	2.32	0.45
35:BJ:130:VAL:HB	35:BJ:134:GLU:OE1	2.17	0.45
40:BO:73:LYS:HA	40:BO:90:THR:O	2.17	0.45
45:BT:57:LYS:O	55:Bd:17:LYS:NZ	2.33	0.45
49:BX:148:LEU:O	49:BX:152:MET:HG3	2.16	0.45
50:BY:16:VAL:HG23	50:BY:21:VAL:CG2	2.47	0.45
1:AA:208:G:O2'	6:AF:134:ASN:OD1	2.19	0.45
1:AA:234:U:H5"	10:AK:8:ARG:NE	2.32	0.45
1:AA:586:G:O2'	1:AA:587:C:H5'	2.17	0.45
1:AA:655:G:H2'	1:AA:656:A:H8	1.82	0.45
1:AA:1289:C:O2'	11:AL:130:GLN:HG2	2.16	0.45
1:AA:1329:C:N4	22:AY:27:HIS:HB3	2.31	0.45
1:AA:1407:A:H2'	1:AA:1408:C:C6	2.52	0.45
1:AA:1437:A:H1'	1:AA:1458:U:H5'	1.99	0.45
2:AB:229:SER:HA	2:AB:232:ASN:OD1	2.16	0.45
3:AC:130:VAL:CB	3:AC:180:VAL:HG22	2.45	0.45
6:AF:168:PHE:HB3	6:AF:219:VAL:CG1	2.47	0.45
7:AG:74:VAL:HG12	7:AG:100:ALA:HB1	1.98	0.45
9:AJ:29:PRO:HA	9:AJ:59:GLY:O	2.17	0.45
9:AJ:105:THR:HA	9:AJ:110:VAL:HG22	1.99	0.45
14:AP:92:TRP:HZ2	19:AV:35:VAL:HG22	1.81	0.45
15:AR:27:LYS:HD3	24:AM:47:VAL:CG2	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AS:46:THR:HA	17:AS:72:ALA:O	2.17	0.45
18:AU:74:MET:O	18:AU:106:ARG:HA	2.16	0.45
26:BA:1113:U:N3	26:BA:1119:U:OP1	2.50	0.45
26:BA:1396:C:OP2	55:Bd:1:MET:HB2	2.16	0.45
26:BA:2633:G:O2'	26:BA:2816:G:N7	2.49	0.45
28:BC:25:LYS:HG2	28:BC:50:PRO:HD2	1.98	0.45
32:BG:142:LYS:HG3	32:BG:176:ALA:HB1	1.98	0.45
34:BI:57:GLN:OE1	34:BI:126:ARG:NH2	2.50	0.45
38:BM:29:LEU:O	38:BM:33:ARG:HG3	2.16	0.45
43:BR:87:SER:HB3	43:BR:92:LEU:HD21	1.98	0.45
45:BT:20:ASN:O	45:BT:72:ALA:HB2	2.16	0.45
46:BU:52:THR:HA	46:BU:65:GLY:O	2.17	0.45
49:BX:81:GLU:O	49:BX:85:GLU:HG2	2.17	0.45
1:AA:286:A:H2'	1:AA:287:G:H4'	1.98	0.45
1:AA:385:A:H5'	5:AE:148:PRO:CG	2.46	0.45
1:AA:397:A:H1'	1:AA:398:U:C4	2.52	0.45
1:AA:472:A:H61	3:AC:135:LYS:HZ3	1.65	0.45
1:AA:951:A:H2'	1:AA:952:G:C8	2.52	0.45
2:AB:66:LEU:HA	2:AB:71:HIS:ND1	2.31	0.45
2:AB:143:ARG:NH2	2:AB:161:GLY:HA2	2.32	0.45
5:AE:46:SER:HA	5:AE:49:ARG:CG	2.47	0.45
5:AE:110:GLU:OE2	5:AE:116:GLN:NE2	2.50	0.45
5:AE:130:ARG:HE	5:AE:148:PRO:HG3	1.81	0.45
6:AF:42:ILE:HD13	6:AF:46:ILE:CD1	2.43	0.45
6:AF:71:PRO:O	6:AF:73:LYS:HD2	2.17	0.45
7:AG:45:LEU:O	7:AG:48:LEU:HD23	2.17	0.45
7:AG:126:HIS:HB2	7:AG:168:LYS:HD2	1.98	0.45
8:AI:152:ARG:HH22	8:AI:160:THR:HG21	1.82	0.45
10:AK:63:VAL:CG2	10:AK:102:THR:HG21	2.46	0.45
11:AL:9:GLY:HA2	11:AL:109:VAL:HG23	1.99	0.45
11:AL:56:ASP:N	11:AL:56:ASP:OD1	2.50	0.45
13:AO:132:LEU:HD23	13:AO:137:MET:O	2.16	0.45
16:AQ:17:PRO:HB3	21:AX:8:PRO:HG3	1.97	0.45
23:AH:39:ASP:HA	23:AH:49:LYS:HE3	1.98	0.45
26:BA:41:U:O2'	26:BA:110:A:N1	2.49	0.45
26:BA:669:C:O2'	30:BE:224:ASN:HB3	2.16	0.45
26:BA:2081:A:H5"	30:BE:64:SER:HB2	1.99	0.45
31:BF:24:ASN:O	31:BF:28:ILE:HG23	2.16	0.45
38:BM:3:LYS:HD2	38:BM:7:GLY:HA3	1.98	0.45
38:BM:41:ILE:HG21	38:BM:65:ARG:NH1	2.32	0.45
41:BP:92:LYS:O	41:BP:96:ILE:HG13	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BU:86:LYS:HB2	46:BU:86:LYS:HE3	1.66	0.45
57:Bf:24:ARG:HD2	57:Bf:67:LEU:HD23	1.99	0.45
1:AA:303:U:H2'	1:AA:304:C:C6	2.51	0.45
1:AA:526:C:O2'	1:AA:823:G:H4'	2.17	0.45
1:AA:913:C:H5"	1:AA:914:A:OP2	2.16	0.45
1:AA:956:A:H2'	1:AA:957:G:O4'	2.17	0.45
1:AA:988:A:N1	15:AR:22:GLN:NE2	2.60	0.45
1:AA:1107:G:H5"	25:AT:52:GLY:O	2.16	0.45
1:AA:1291:G:O2'	1:AA:1292:U:H5'	2.16	0.45
1:AA:1348:G:H2'	1:AA:1349:C:O4'	2.17	0.45
1:AA:1364:G:O2'	1:AA:1421:A:N6	2.49	0.45
5:AE:58:LEU:HD13	5:AE:78:SER:CB	2.47	0.45
6:AF:68:ASP:HB3	6:AF:160:LYS:CE	2.47	0.45
8:AI:108:GLU:OE2	8:AI:186:LYS:HE3	2.17	0.45
10:AK:91:ARG:HB2	10:AK:93:ILE:HG12	1.98	0.45
14:AP:100:LEU:HB3	14:AP:101:ALA:H	1.51	0.45
21:AX:14:ARG:HG2	21:AX:58:LEU:HD12	2.00	0.45
22:AY:38:LEU:CA	22:AY:43:LYS:HG2	2.44	0.45
25:AT:26:LYS:NZ	25:AT:59:ALA:HA	2.32	0.45
26:BA:237:A:OP1	38:BM:4:SER:HB3	2.16	0.45
26:BA:1429:U:OP2	45:BT:61:LYS:NZ	2.43	0.45
26:BA:1436:G:OP2	26:BA:1473:G:N2	2.49	0.45
26:BA:1852:A:C2	28:BC:26:ALA:HA	2.52	0.45
29:BD:76:GLU:OE1	29:BD:287:TYR:OH	2.20	0.45
30:BE:41:ALA:HB1	30:BE:101:ARG:O	2.17	0.45
31:BF:63:LEU:C	31:BF:68:ALA:HB2	2.41	0.45
34:BI:20:ARG:HA	34:BI:23:MET:HG2	1.98	0.45
39:BN:80:THR:HG22	39:BN:143:ILE:O	2.17	0.45
40:BO:52:ALA:HA	40:BO:73:LYS:O	2.17	0.45
45:BT:22:LEU:HD23	45:BT:24:PHE:CZ	2.52	0.45
1:AA:32:A:O2'	1:AA:487:A:N7	2.47	0.44
1:AA:243:U:OP1	10:AK:29:ARG:NE	2.40	0.44
1:AA:277:G:N2	1:AA:496:C:H4'	2.32	0.44
1:AA:596:G:O2'	16:AQ:4:MET:SD	2.73	0.44
1:AA:1013:A:H2'	1:AA:1014:C:O4'	2.17	0.44
1:AA:1069:A:H1'	1:AA:1093:A:H62	1.81	0.44
1:AA:1220:G:H2'	1:AA:1221:C:O4'	2.17	0.44
1:AA:1227:A:OP2	24:AM:43:LYS:NZ	2.45	0.44
2:AB:107:VAL:HG13	58:AZ:27:PRO:O	2.17	0.44
2:AB:209:THR:HG21	2:AB:220:VAL:HG11	1.99	0.44
5:AE:124:ARG:HG3	5:AE:177:PRO:HG3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:62:GLU:OE1	6:AF:64:LYS:NZ	2.42	0.44
8:AI:1:MET:HA	11:AL:99:ASN:ND2	2.31	0.44
9:AJ:95:PRO:HG3	9:AJ:130:TYR:CD2	2.52	0.44
18:AU:69:THR:HG21	18:AU:107:PHE:CD2	2.51	0.44
20:AW:83:GLU:HA	20:AW:86:LEU:HD12	1.98	0.44
23:AH:63:MET:SD	23:AH:105:ILE:HD13	2.56	0.44
26:BA:302:U:C5	46:BU:56:MET:HE3	2.51	0.44
26:BA:793:U:O2'	41:BP:131:GLU:OE2	2.30	0.44
26:BA:891:C:OP1	26:BA:915:A:O2'	2.25	0.44
26:BA:941:U:O3'	43:BR:96:LYS:NZ	2.37	0.44
26:BA:1855:A:OP1	28:BC:125:VAL:HG21	2.17	0.44
30:BE:34:LYS:HB3	30:BE:34:LYS:HE2	1.80	0.44
30:BE:84:PRO:HB3	30:BE:92:ALA:HB2	1.99	0.44
30:BE:206:LEU:HD23	30:BE:217:VAL:CG2	2.47	0.44
31:BF:8:LYS:HG2	31:BF:123:VAL:CG2	2.42	0.44
32:BG:84:PHE:CZ	32:BG:142:LYS:HB2	2.52	0.44
33:BH:35:ASN:O	33:BH:39:LYS:HG2	2.17	0.44
35:BJ:72:PRO:HG3	35:BJ:136:SER:HB2	1.99	0.44
49:BX:17:ILE:O	49:BX:21:MET:HG2	2.18	0.44
50:BY:42:LEU:HA	50:BY:82:ALA:O	2.18	0.44
1:AA:45:U:H2'	1:AA:46:A:H2'	2.00	0.44
1:AA:160:G:H4'	10:AK:116:ASP:CG	2.41	0.44
1:AA:338:A:H5'	1:AA:349:C:C5	2.52	0.44
1:AA:780:A:H2'	1:AA:781:U:O4'	2.17	0.44
1:AA:829:U:OP2	13:AO:21:LYS:HD3	2.16	0.44
1:AA:997:G:P	3:AC:133:SER:HB2	2.57	0.44
1:AA:1009:U:H2'	1:AA:1010:C:C6	2.51	0.44
1:AA:1019:A:H5"	7:AG:89:LYS:HZ3	1.82	0.44
1:AA:1173:C:OP1	14:AP:139:LEU:HD21	2.17	0.44
3:AC:25:LEU:HD22	3:AC:30:TYR:CD1	2.51	0.44
3:AC:37:ARG:HB3	24:AM:92:LYS:HE3	1.99	0.44
3:AC:44:ILE:O	3:AC:80:ILE:HA	2.17	0.44
3:AC:46:ILE:CG1	3:AC:82:ALA:HA	2.45	0.44
4:AD:13:TRP:HB3	4:AD:14:LYS:HZ2	1.81	0.44
4:AD:184:GLU:O	4:AD:185:ILE:HD13	2.17	0.44
4:AD:187:LYS:HB3	4:AD:189:GLU:OE1	2.18	0.44
6:AF:100:GLU:OE1	6:AF:100:GLU:N	2.48	0.44
16:AQ:40:LEU:HD13	16:AQ:53:VAL:HG11	1.97	0.44
18:AU:27:GLN:HG3	18:AU:78:PRO:O	2.18	0.44
20:AW:17:ARG:HD3	20:AW:70:VAL:CG1	2.47	0.44
26:BA:650:G:H1'	30:BE:109:GLU:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BB:49:A:H2'	27:BB:50:C:H6	1.82	0.44
29:BD:25:PRO:HG3	29:BD:202:ALA:O	2.17	0.44
29:BD:72:VAL:HG21	29:BD:296:LEU:HD22	1.99	0.44
31:BF:45:THR:HG22	31:BF:53:LYS:CE	2.45	0.44
32:BG:108:ILE:HD13	32:BG:156:THR:CG2	2.47	0.44
35:BJ:121:MET:HE1	35:BJ:129:TYR:CE2	2.52	0.44
40:BO:67:VAL:HA	40:BO:85:THR:CG2	2.46	0.44
41:BP:24:LEU:HB3	41:BP:32:ILE:HD13	1.99	0.44
44:BS:25:ILE:CG2	44:BS:87:GLU:HG3	2.45	0.44
1:AA:19:A:O2'	1:AA:20:G:H5'	2.18	0.44
1:AA:113:C:O2'	6:AF:30:PRO:HB3	2.17	0.44
1:AA:344:G:H2'	1:AA:346:A:OP2	2.18	0.44
1:AA:718:C:H2'	1:AA:719:A:O4'	2.16	0.44
1:AA:1063:G:N2	1:AA:1097:U:H1'	2.28	0.44
1:AA:1176:G:H2'	1:AA:1177:C:O4'	2.17	0.44
1:AA:1321:A:H2'	1:AA:1322:A:H8	1.82	0.44
1:AA:1355:A:H2	1:AA:1430:A:H62	1.65	0.44
1:AA:1395:U:H3'	1:AA:1396:G:H5'	2.00	0.44
2:AB:214:ARG:NH2	2:AB:247:LEU:HD23	2.32	0.44
6:AF:33:GLN:O	6:AF:33:GLN:NE2	2.41	0.44
6:AF:65:VAL:HG13	6:AF:87:LEU:CD2	2.46	0.44
10:AK:46:THR:CG2	10:AK:52:LYS:HG3	2.47	0.44
11:AL:36:LEU:HD12	19:AV:6:ASP:O	2.17	0.44
12:AN:37:GLY:HA2	12:AN:40:VAL:O	2.17	0.44
12:AN:94:ILE:HD13	12:AN:107:ILE:HG21	1.98	0.44
14:AP:137:ARG:CB	14:AP:139:LEU:HD13	2.47	0.44
17:AS:73:HIS:O	17:AS:102:VAL:HG22	2.18	0.44
19:AV:15:LYS:O	19:AV:19:ILE:HG13	2.17	0.44
20:AW:8:ASP:HA	20:AW:18:GLU:O	2.17	0.44
20:AW:36:ARG:HG2	20:AW:52:ILE:HG23	2.00	0.44
23:AH:57:ASP:OD2	23:AH:61:PHE:HB2	2.18	0.44
26:BA:1369:G:H21	41:BP:1:MET:HE3	1.81	0.44
26:BA:1539:U:O2	26:BA:1544:G:N2	2.40	0.44
28:BC:172:LYS:HG2	28:BC:174:GLY:H	1.81	0.44
29:BD:82:VAL:HG13	29:BD:143:ALA:HB1	1.98	0.44
30:BE:41:ALA:HA	30:BE:44:LEU:HD12	1.99	0.44
36:BK:4:MET:HE3	36:BK:120:ARG:HD2	1.99	0.44
39:BN:90:GLY:HA3	39:BN:126:SER:OG	2.17	0.44
40:BO:51:ALA:O	40:BO:72:GLY:HA3	2.17	0.44
52:Ba:120:ASP:HA	52:Ba:121:PRO:HD3	1.85	0.44
1:AA:394:A:H2'	1:AA:395:U:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:428:U:H2'	1:AA:429:C:O4'	2.18	0.44
1:AA:1256:G:H21	14:AP:95:ASN:HB2	1.83	0.44
2:AB:140:LEU:CB	2:AB:142:THR:HG23	2.47	0.44
2:AB:176:ASP:HB3	2:AB:179:VAL:HG22	1.99	0.44
5:AE:7:LYS:HG3	5:AE:8:SER:O	2.17	0.44
7:AG:35:ILE:HG22	7:AG:41:ILE:HD11	2.00	0.44
7:AG:112:ARG:HD3	58:AZ:15:ARG:NH2	2.23	0.44
8:AI:103:ASN:ND2	8:AI:175:ILE:HD11	2.33	0.44
11:AL:43:MET:O	11:AL:46:ILE:HG22	2.18	0.44
14:AP:80:THR:O	14:AP:84:LYS:HG3	2.18	0.44
16:AQ:144:GLU:N	16:AQ:144:GLU:OE1	2.50	0.44
17:AS:73:HIS:HA	17:AS:98:LYS:NZ	2.33	0.44
20:AW:52:ILE:HD12	20:AW:55:ILE:HD11	1.99	0.44
22:AY:63:LEU:CD1	22:AY:66:THR:HG22	2.47	0.44
23:AH:64:LYS:HD2	23:AH:96:MET:CE	2.48	0.44
26:BA:812:G:OP1	53:Bb:21:ARG:NH2	2.37	0.44
27:BB:3:G:H2'	27:BB:4:U:H6	1.80	0.44
29:BD:106:LEU:HD22	29:BD:146:TYR:OH	2.18	0.44
29:BD:313:ASP:N	29:BD:313:ASP:OD1	2.49	0.44
31:BF:133:LYS:HB2	31:BF:133:LYS:HE3	1.75	0.44
32:BG:81:ASN:HB3	32:BG:82:GLU:OE1	2.18	0.44
34:BI:44:PHE:CB	34:BI:137:ALA:HB1	2.48	0.44
34:BI:51:ILE:HG12	34:BI:162:ARG:O	2.16	0.44
37:BL:73:ASP:OD1	37:BL:112:LYS:HG2	2.17	0.44
38:BM:41:ILE:HG21	38:BM:65:ARG:HH12	1.82	0.44
44:BS:33:VAL:O	44:BS:37:ILE:HG23	2.18	0.44
55:Bd:33:LYS:HB2	55:Bd:33:LYS:HE3	1.70	0.44
1:AA:306:G:O6	10:AK:24:LYS:NZ	2.50	0.44
1:AA:503:A:H61	1:AA:829:U:H3	1.66	0.44
1:AA:708:A:H2'	1:AA:709:A:C8	2.52	0.44
1:AA:768:U:H4'	9:AJ:20:ILE:CD1	2.47	0.44
1:AA:924:A:H1'	1:AA:1269:C:O2	2.16	0.44
1:AA:1149:G:H4'	15:AR:20:ARG:HD2	1.98	0.44
1:AA:1216:A:C5	1:AA:1217:A:H1'	2.52	0.44
1:AA:1270:G:H2'	1:AA:1271:C:C6	2.53	0.44
4:AD:13:TRP:HZ3	12:AN:31:ILE:HD12	1.83	0.44
4:AD:13:TRP:CZ3	12:AN:31:ILE:HD12	2.52	0.44
8:AI:164:GLY:HA2	8:AI:169:ASP:CB	2.45	0.44
9:AJ:77:PRO:HD3	17:AS:62:ARG:HH12	1.82	0.44
12:AN:42:ALA:O	12:AN:46:GLU:HG3	2.17	0.44
14:AP:31:LEU:HD13	14:AP:40:ALA:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AP:71:PRO:HG2	14:AP:74:GLU:CD	2.43	0.44
17:AS:97:THR:O	17:AS:98:LYS:HG3	2.17	0.44
24:AM:38:VAL:HB	24:AM:72:LEU:O	2.17	0.44
31:BF:72:LEU:O	31:BF:76:LEU:HG	2.17	0.44
33:BH:8:ASP:OD1	33:BH:8:ASP:N	2.51	0.44
37:BL:11:THR:HG21	37:BL:15:GLY:O	2.17	0.44
50:BY:30:ASP:O	50:BY:34:ASN:ND2	2.50	0.44
1:AA:171:G:O2'	1:AA:173:A:N7	2.45	0.44
1:AA:964:G:H1	1:AA:969:U:H3	1.65	0.44
1:AA:992:G:OP1	1:AA:993:C:H2'	2.18	0.44
1:AA:1081:G:C5	1:AA:1082:G:H1'	2.52	0.44
1:AA:1340:C:H1'	1:AA:1440:A:H5"	1.98	0.44
4:AD:64:THR:HG22	4:AD:87:LEU:HD22	1.98	0.44
6:AF:168:PHE:HB3	6:AF:219:VAL:CG2	2.48	0.44
9:AJ:15:LYS:HZ3	9:AJ:71:LYS:HB2	1.82	0.44
9:AJ:55:ASP:CG	21:AX:5:THR:HA	2.43	0.44
12:AN:4:MET:HE3	12:AN:5:LYS:N	2.33	0.44
14:AP:25:ARG:CZ	14:AP:28:ASN:HA	2.48	0.44
18:AU:29:LEU:HD13	18:AU:37:LEU:HD11	2.00	0.44
21:AX:27:PHE:HE2	21:AX:29:SER:HB2	1.82	0.44
22:AY:40:GLY:O	22:AY:43:LYS:HG3	2.17	0.44
26:BA:1294:C:OP2	30:BE:170:ARG:NH2	2.47	0.44
26:BA:2689:G:H4'	29:BD:11:SER:HB2	1.99	0.44
32:BG:142:LYS:HE3	32:BG:176:ALA:HB3	1.98	0.44
33:BH:31:LYS:HB2	33:BH:98:ALA:HB3	2.00	0.44
34:BI:48:ILE:CD1	34:BI:150:LEU:HD12	2.48	0.44
44:BS:126:MET:HE2	44:BS:136:LYS:HD2	2.00	0.44
1:AA:56:A:H4'	1:AA:57:G:O5'	2.18	0.44
1:AA:185:G:C6	1:AA:186:U:H1'	2.52	0.44
1:AA:411:C:N4	1:AA:412:G:O6	2.51	0.44
1:AA:774:U:H2'	1:AA:775:C:H6	1.82	0.44
1:AA:1099:U:O5'	24:AM:71:ARG:NH2	2.49	0.44
1:AA:1192:G:H21	1:AA:1240:A:H62	1.65	0.44
1:AA:1328:C:H1'	1:AA:1329:C:H5	1.81	0.44
3:AC:18:ASP:HB2	3:AC:33:MET:SD	2.58	0.44
4:AD:91:TYR:O	4:AD:95:ILE:HG13	2.18	0.44
7:AG:40:ILE:O	7:AG:44:LEU:HG	2.17	0.44
8:AI:132:VAL:O	8:AI:136:LEU:HG	2.18	0.44
8:AI:186:LYS:HE2	8:AI:186:LYS:HA	2.00	0.44
9:AJ:71:LYS:HE3	9:AJ:128:TYR:OH	2.18	0.44
16:AQ:142:LYS:HE2	16:AQ:146:ALA:CB	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AW:74:GLU:CA	20:AW:77:MET:HE2	2.47	0.44
26:BA:936:G:C8	49:BX:23:MET:HE1	2.52	0.44
30:BE:96:LYS:HB3	30:BE:98:GLU:CD	2.43	0.44
32:BG:74:ARG:HA	32:BG:77:VAL:HG22	1.99	0.44
33:BH:34:THR:HA	33:BH:96:THR:CG2	2.48	0.44
35:BJ:60:GLY:HA3	35:BJ:65:GLY:HA3	2.00	0.44
53:Bb:56:THR:HG23	53:Bb:72:THR:HG23	1.99	0.44
1:AA:364:A:H2'	1:AA:365:A:C8	2.51	0.44
1:AA:399:A:H2'	1:AA:400:U:C6	2.52	0.44
1:AA:416:G:H2'	1:AA:417:U:H6	1.82	0.44
1:AA:521:G:O6	1:AA:699:G:H3'	2.18	0.44
1:AA:567:U:OP1	6:AF:103:ARG:NH2	2.51	0.44
1:AA:1304:U:C5'	15:AR:27:LYS:HD2	2.48	0.44
5:AE:85:LEU:HD22	5:AE:90:ILE:CD1	2.48	0.44
8:AI:56:ARG:HA	8:AI:59:ASN:ND2	2.33	0.44
8:AI:186:LYS:CE	8:AI:189:ARG:HD3	2.46	0.44
11:AL:13:THR:HG22	11:AL:15:THR:HG23	2.00	0.44
11:AL:85:ARG:HA	11:AL:88:VAL:HG12	2.00	0.44
13:AO:8:ALA:O	13:AO:12:LYS:HG3	2.17	0.44
23:AH:10:ASP:N	23:AH:15:ARG:O	2.43	0.44
23:AH:74:ARG:HE	23:AH:95:MET:HE3	1.83	0.44
24:AM:5:ARG:HD3	24:AM:72:LEU:HD11	1.98	0.44
24:AM:97:GLU:O	24:AM:98:ILE:HD13	2.18	0.44
26:BA:155:A:OP1	38:BM:86:LYS:HB3	2.18	0.44
26:BA:1233:U:OP1	35:BJ:124:LEU:HD21	2.18	0.44
26:BA:2807:C:O2	26:BA:2880:A:O2'	2.36	0.44
29:BD:67:GLU:OE1	29:BD:328:LEU:HD12	2.17	0.44
31:BF:42:ALA:HB2	31:BF:57:ILE:HG13	1.99	0.44
35:BJ:7:ILE:HD12	35:BJ:21:VAL:HG22	1.99	0.44
35:BJ:23:LYS:HD2	35:BJ:23:LYS:HA	1.72	0.44
38:BM:10:ARG:N	38:BM:48:ASP:OD2	2.51	0.44
40:BO:108:SER:OG	40:BO:111:GLU:HG3	2.17	0.44
44:BS:11:ASP:O	44:BS:15:THR:OG1	2.27	0.44
1:AA:169:C:O3'	6:AF:149:THR:HG21	2.18	0.44
1:AA:224:U:H2'	1:AA:227:C:H5	1.83	0.44
1:AA:552:U:O2'	1:AA:553:G:H5'	2.18	0.44
1:AA:703:G:H5'	26:BA:800:A:C2	2.53	0.44
1:AA:742:U:H4'	28:BC:238:ARG:OXT	2.18	0.44
1:AA:790:C:H5"	4:AD:127:LYS:NZ	2.33	0.44
1:AA:1135:G:H4'	15:AR:48:LYS:NZ	2.33	0.44
1:AA:1318:G:P	11:AL:12:LYS:HG2	2.58	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:37:ARG:H	24:AM:92:LYS:HZ2	1.65	0.44
3:AC:92:ALA:HB2	3:AC:182:ILE:CG1	2.48	0.44
4:AD:21:ILE:HD12	4:AD:78:ALA:O	2.18	0.44
4:AD:115:TYR:CE2	4:AD:193:ILE:HA	2.53	0.44
8:AI:165:ALA:HB2	8:AI:174:SER:OG	2.18	0.44
9:AJ:53:ILE:HG23	9:AJ:60:ILE:CG1	2.48	0.44
13:AO:10:ILE:O	13:AO:14:THR:HG23	2.18	0.44
16:AQ:75:LEU:HB3	16:AQ:81:ALA:HB2	2.00	0.44
16:AQ:135:LEU:HD13	16:AQ:139:TRP:CZ3	2.52	0.44
19:AV:66:GLY:O	19:AV:68:ILE:HG13	2.18	0.44
20:AW:5:ILE:HG12	20:AW:21:PHE:CB	2.46	0.44
20:AW:6:LEU:HD13	20:AW:22:VAL:HG23	1.99	0.44
20:AW:19:LEU:HB2	20:AW:68:ALA:C	2.43	0.44
20:AW:32:ARG:O	20:AW:36:ARG:HG3	2.18	0.44
22:AY:42:ASP:O	22:AY:45:ARG:HD3	2.18	0.44
22:AY:73:LEU:H	22:AY:73:LEU:HD23	1.83	0.44
26:BA:441:A:P	46:BU:6:SER:HA	2.58	0.44
27:BB:29:C:H2'	27:BB:30:U:C6	2.53	0.44
29:BD:83:ALA:N	29:BD:144:VAL:O	2.50	0.44
30:BE:4:ALA:N	30:BE:17:VAL:O	2.35	0.44
30:BE:74:LEU:HD11	30:BE:79:ARG:HE	1.83	0.44
32:BG:39:TYR:CE2	32:BG:65:MET:HG3	2.53	0.44
33:BH:41:ILE:CD1	33:BH:68:SER:HB2	2.43	0.44
39:BN:120:LEU:O	39:BN:124:VAL:HG23	2.18	0.44
45:BT:6:TYR:HA	48:BW:29:VAL:HG13	1.99	0.44
49:BX:41:TYR:O	49:BX:45:VAL:HG23	2.17	0.44
51:BZ:23:ALA:O	51:BZ:65:GLU:HA	2.18	0.44
52:Ba:113:ILE:HD11	52:Ba:143:LYS:HD3	2.00	0.44
1:AA:132:C:O2	23:AH:7:VAL:HG11	2.18	0.43
1:AA:140:U:H5"	23:AH:82:GLY:O	2.18	0.43
1:AA:461:G:OP2	13:AO:66:LYS:NZ	2.49	0.43
1:AA:930:C:H2'	1:AA:931:C:O4'	2.18	0.43
1:AA:1062:U:O2'	24:AM:39:PRO:HD2	2.18	0.43
1:AA:1082:G:H2'	1:AA:1083:G:H8	1.83	0.43
1:AA:1246:A:O2'	1:AA:1247:G:H4'	2.18	0.43
2:AB:101:THR:OG1	2:AB:208:PRO:HG2	2.18	0.43
3:AC:9:ASN:O	3:AC:13:VAL:HG13	2.17	0.43
3:AC:127:GLY:HA2	3:AC:149:GLY:HA3	2.00	0.43
4:AD:48:VAL:HG22	12:AN:26:THR:HG22	2.00	0.43
7:AG:132:VAL:CG2	7:AG:143:LEU:HB2	2.48	0.43
10:AK:61:ALA:HB2	10:AK:76:ILE:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AL:5:VAL:H	11:AL:18:ALA:HB3	1.83	0.43
16:AQ:50:ILE:O	16:AQ:54:LEU:HG	2.18	0.43
16:AQ:91:LEU:HB3	16:AQ:122:ILE:HG12	2.00	0.43
17:AS:56:MET:HB2	17:AS:63:TYR:CE1	2.53	0.43
18:AU:42:GLU:HB3	18:AU:75:ILE:HD13	2.00	0.43
19:AV:83:ASN:HB2	19:AV:86:LYS:HB2	1.99	0.43
26:BA:503:A:O2'	44:BS:3:ARG:NH2	2.51	0.43
26:BA:1018:U:OP1	26:BA:1019:A:O2'	2.33	0.43
26:BA:1089:G:OP1	27:BB:89:U:O2'	2.27	0.43
26:BA:1129:C:OP1	32:BG:60:LYS:HG3	2.17	0.43
29:BD:30:TRP:HZ3	29:BD:41:SER:HB2	1.83	0.43
36:BK:49:ILE:HD11	36:BK:75:ARG:C	2.43	0.43
40:BO:69:LEU:HA	40:BO:87:ALA:O	2.18	0.43
51:BZ:7:LYS:HE3	51:BZ:42:MET:SD	2.58	0.43
51:BZ:8:GLU:HG2	51:BZ:76:VAL:HG12	1.99	0.43
52:Ba:126:ILE:HG23	52:Ba:149:ILE:CG2	2.47	0.43
57:Bf:70:ARG:HA	57:Bf:77:ALA:HA	1.99	0.43
1:AA:171:G:C2	1:AA:173:A:H5"	2.53	0.43
1:AA:242:G:H1'	10:AK:2:ARG:NH2	2.34	0.43
1:AA:339:G:O2'	1:AA:340:G:H5'	2.19	0.43
1:AA:351:U:O2'	1:AA:352:U:H5'	2.18	0.43
1:AA:524:G:H2'	1:AA:525:C:O4'	2.18	0.43
1:AA:751:C:O2'	1:AA:752:C:H5'	2.18	0.43
1:AA:1194:G:H2'	1:AA:1195:A:N9	2.33	0.43
1:AA:1273:C:OP1	19:AV:81:LYS:NZ	2.30	0.43
1:AA:1289:C:O2'	11:AL:130:GLN:HA	2.18	0.43
4:AD:21:ILE:CG2	4:AD:33:GLY:H	2.31	0.43
4:AD:171:TYR:O	4:AD:175:LYS:HB3	2.18	0.43
7:AG:151:GLY:N	7:AG:169:ASP:OD1	2.31	0.43
9:AJ:95:PRO:HG3	9:AJ:130:TYR:CE2	2.53	0.43
10:AK:80:ILE:HD11	10:AK:101:ARG:HB2	1.99	0.43
14:AP:26:ILE:HG22	14:AP:27:MET:HG2	2.00	0.43
14:AP:55:ILE:HG13	14:AP:82:ILE:CD1	2.48	0.43
17:AS:27:LEU:HD21	17:AS:91:CYS:HB3	2.00	0.43
18:AU:34:PHE:O	18:AU:37:LEU:HB2	2.18	0.43
19:AV:106:GLU:CD	19:AV:118:ARG:HD3	2.42	0.43
26:BA:170:G:H2'	38:BM:193:SER:HB2	1.99	0.43
26:BA:214:C:OP2	26:BA:2407:C:O2'	2.32	0.43
26:BA:1696:C:O2	26:BA:2710:U:O2'	2.35	0.43
26:BA:2687:C:H4'	36:BK:40:VAL:HB	1.99	0.43
29:BD:113:ARG:HB2	29:BD:159:VAL:CG2	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:BF:138:ALA:O	31:BF:139:ARG:HD2	2.17	0.43
37:BL:70:GLY:O	37:BL:74:GLU:HG3	2.18	0.43
38:BM:155:SER:O	38:BM:162:ARG:NH2	2.51	0.43
39:BN:83:TYR:CD1	39:BN:143:ILE:HD13	2.54	0.43
46:BU:47:VAL:HG22	46:BU:103:ILE:CD1	2.43	0.43
55:Bd:37:HIS:CD2	55:Bd:39:ARG:HB2	2.53	0.43
1:AA:63:U:H2'	1:AA:64:G:C8	2.53	0.43
1:AA:115:U:O4'	6:AF:135:LEU:HD11	2.17	0.43
1:AA:559:U:C2	5:AE:147:ILE:HD11	2.53	0.43
1:AA:692:C:H2'	1:AA:693:G:O4'	2.18	0.43
1:AA:854:A:H2'	1:AA:855:C:O4'	2.18	0.43
1:AA:1081:G:C6	1:AA:1082:G:H1'	2.53	0.43
1:AA:1153:G:H4'	3:AC:172:LYS:O	2.19	0.43
1:AA:1183:A:H2'	1:AA:1184:C:C5	2.54	0.43
1:AA:1465:C:O2'	1:AA:1466:U:H5'	2.18	0.43
4:AD:51:THR:O	4:AD:55:LEU:HD13	2.18	0.43
9:AJ:71:LYS:HE3	9:AJ:128:TYR:CE2	2.53	0.43
10:AK:74:ALA:HB1	10:AK:103:SER:OG	2.18	0.43
13:AO:85:GLY:O	13:AO:88:ALA:HB2	2.17	0.43
14:AP:92:TRP:CZ2	19:AV:35:VAL:HG22	2.54	0.43
19:AV:137:LEU:HD23	19:AV:140:LEU:CD1	2.48	0.43
20:AW:25:TYR:OH	20:AW:57:THR:HG21	2.17	0.43
23:AH:19:ILE:HG22	23:AH:21:ILE:HG12	2.00	0.43
26:BA:444:C:O2'	26:BA:1336:A:N7	2.51	0.43
26:BA:1775:G:N2	26:BA:1778:G:OP2	2.45	0.43
30:BE:203:THR:HB	30:BE:204:PRO:HD2	2.00	0.43
35:BJ:33:TYR:HA	35:BJ:99:LYS:O	2.18	0.43
39:BN:29:LEU:HD13	43:BR:70:ARG:NH1	2.33	0.43
39:BN:155:SER:O	39:BN:158:LEU:HD23	2.18	0.43
48:BW:4:LEU:HD12	48:BW:4:LEU:O	2.19	0.43
1:AA:50:C:H2'	1:AA:334:C:N4	2.31	0.43
1:AA:82:G:O2'	1:AA:360:G:O2'	2.13	0.43
1:AA:135:G:O2'	1:AA:137:A:N7	2.39	0.43
1:AA:172:G:OP2	6:AF:195:LYS:HE3	2.18	0.43
1:AA:334:C:H4'	1:AA:336:G:OP1	2.19	0.43
1:AA:403:U:H2'	1:AA:404:G:H8	1.83	0.43
1:AA:487:A:H4'	1:AA:488:G:O5'	2.18	0.43
1:AA:779:C:OP1	21:AX:50:LYS:HG2	2.18	0.43
1:AA:955:C:C6	1:AA:970:G:H1'	2.54	0.43
1:AA:1056:G:H1'	11:AL:113:ARG:NH2	2.33	0.43
1:AA:1259:G:H3'	18:AU:40:SER:OG	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1382:G:O2'	1:AA:1383:G:H5'	2.18	0.43
2:AB:168:ILE:HG12	2:AB:188:VAL:HG11	1.99	0.43
4:AD:12:GLY:O	4:AD:16:LYS:HG2	2.18	0.43
9:AJ:20:ILE:HB	9:AJ:22:LYS:HG3	1.99	0.43
10:AK:111:SER:HB2	10:AK:116:ASP:OD2	2.18	0.43
12:AN:70:GLY:HA2	12:AN:103:ARG:O	2.18	0.43
20:AW:19:LEU:HD11	20:AW:43:LEU:HD13	2.00	0.43
20:AW:45:ALA:HB1	20:AW:50:LEU:HB2	1.99	0.43
22:AY:33:ILE:HG12	22:AY:49:ARG:O	2.19	0.43
24:AM:50:ARG:HD2	24:AM:61:TRP:NE1	2.29	0.43
26:BA:322:U:OP2	30:BE:152:THR:HG22	2.17	0.43
26:BA:651:C:H4'	30:BE:108:LYS:HD3	1.99	0.43
26:BA:1712:U:OP2	51:BZ:20:LYS:HD3	2.18	0.43
26:BA:1771:C:OP2	41:BP:72:TYR:OH	2.32	0.43
31:BF:45:THR:O	31:BF:46:LEU:HD23	2.19	0.43
31:BF:88:PHE:CZ	31:BF:153:ILE:HG22	2.54	0.43
35:BJ:81:ARG:HG3	35:BJ:95:MET:HE2	2.00	0.43
36:BK:132:VAL:HG11	47:BV:22:VAL:CG2	2.41	0.43
38:BM:15:ASN:O	38:BM:19:THR:HG23	2.19	0.43
39:BN:33:ASP:OD1	39:BN:50:ALA:HB2	2.19	0.43
40:BO:96:PHE:HE1	40:BO:106:CYS:HB2	1.83	0.43
42:BQ:32:LYS:HE2	42:BQ:32:LYS:HB2	1.88	0.43
45:BT:39:VAL:HG11	45:BT:64:LEU:HD22	1.99	0.43
49:BX:48:VAL:O	49:BX:52:VAL:HG22	2.18	0.43
1:AA:10:G:O2'	7:AG:66:ARG:HD3	2.18	0.43
1:AA:705:C:H2'	1:AA:706:G:O4'	2.17	0.43
1:AA:721:G:N1	1:AA:742:U:OP2	2.27	0.43
1:AA:810:A:O2'	1:AA:811:G:H5'	2.18	0.43
1:AA:952:G:H2'	1:AA:953:G:O4'	2.17	0.43
1:AA:1125:G:N2	1:AA:1128:G:N7	2.55	0.43
1:AA:1317:G:C8	11:AL:115:LYS:HE3	2.52	0.43
3:AC:25:LEU:O	3:AC:25:LEU:HD23	2.19	0.43
4:AD:22:GLU:OE1	4:AD:79:THR:HG22	2.19	0.43
6:AF:4:GLN:O	6:AF:22:TRP:HA	2.18	0.43
6:AF:130:LYS:HB3	6:AF:142:ILE:HG21	2.00	0.43
7:AG:8:VAL:HB	7:AG:10:LYS:NZ	2.34	0.43
7:AG:111:ILE:HA	7:AG:196:ASN:ND2	2.34	0.43
12:AN:94:ILE:HG21	12:AN:107:ILE:CD1	2.48	0.43
14:AP:100:LEU:HD22	18:AU:19:ARG:NH1	2.34	0.43
15:AR:16:LYS:HB2	15:AR:32:LEU:CD2	2.48	0.43
16:AQ:6:THR:HG21	16:AQ:8:ARG:NH1	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AQ:142:LYS:HE2	16:AQ:146:ALA:HB2	2.01	0.43
17:AS:95:SER:OG	17:AS:98:LYS:HD3	2.18	0.43
21:AX:18:ASN:HB2	21:AX:55:THR:CG2	2.48	0.43
23:AH:76:LEU:HA	23:AH:92:ARG:O	2.18	0.43
26:BA:28:C:H4'	46:BU:14:LYS:HB2	1.99	0.43
26:BA:325:A:N3	46:BU:4:MET:HG3	2.34	0.43
26:BA:2376:G:O2'	26:BA:2377:G:O5'	2.25	0.43
26:BA:2629:A:O2'	29:BD:245:ARG:HB2	2.18	0.43
26:BA:2637:U:H3	26:BA:2786:A:H62	1.67	0.43
28:BC:50:PRO:O	28:BC:183:ARG:NH1	2.52	0.43
31:BF:98:ILE:HD11	31:BF:118:MET:HE2	2.00	0.43
31:BF:100:GLU:HG2	31:BF:115:VAL:HG21	2.00	0.43
31:BF:110:ASP:OD2	31:BF:112:ASN:HB2	2.18	0.43
38:BM:67:ASN:OD1	38:BM:127:HIS:HB3	2.19	0.43
41:BP:126:LYS:HD3	41:BP:131:GLU:HG3	2.00	0.43
50:BY:9:ASP:O	50:BY:13:ILE:HG13	2.17	0.43
1:AA:767:C:C4'	9:AJ:13:THR:HG22	2.45	0.43
1:AA:914:A:C5	1:AA:1001:U:H4'	2.54	0.43
1:AA:915:A:H4'	24:AM:56:ASP:OD1	2.18	0.43
1:AA:964:G:OP1	1:AA:964:G:H3'	2.17	0.43
1:AA:1267:C:H2'	1:AA:1268:U:O4'	2.18	0.43
5:AE:26:GLU:OE1	5:AE:38:LYS:NZ	2.41	0.43
7:AG:13:LEU:O	7:AG:17:VAL:HG13	2.18	0.43
9:AJ:53:ILE:CD1	21:AX:4:TYR:HB2	2.46	0.43
10:AK:82:ASN:ND2	10:AK:95:THR:OG1	2.52	0.43
11:AL:32:ILE:CG2	11:AL:37:TYR:HA	2.49	0.43
14:AP:50:ARG:HH21	19:AV:35:VAL:HA	1.83	0.43
20:AW:14:LEU:O	20:AW:14:LEU:HD23	2.19	0.43
22:AY:63:LEU:HB2	22:AY:66:THR:CG2	2.47	0.43
26:BA:340:U:H5'	46:BU:3:ALA:HA	1.99	0.43
26:BA:1311:G:H4'	52:Ba:98:LYS:HE3	2.00	0.43
28:BC:83:CYS:SG	28:BC:84:GLY:N	2.92	0.43
30:BE:20:PRO:HB3	30:BE:249:GLU:OE1	2.18	0.43
30:BE:111:ARG:HD3	30:BE:252:PHE:O	2.19	0.43
31:BF:13:MET:HE2	31:BF:25:ALA:HB1	1.99	0.43
32:BG:153:GLU:OE1	32:BG:172:ILE:HG13	2.19	0.43
32:BG:164:ARG:CD	56:Be:44:LYS:HA	2.48	0.43
34:BI:23:MET:SD	34:BI:94:VAL:HG21	2.58	0.43
46:BU:15:ALA:O	46:BU:19:ALA:HB2	2.19	0.43
46:BU:28:MET:HA	46:BU:98:PRO:HG3	2.00	0.43
49:BX:137:VAL:O	49:BX:141:HIS:NE2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1035:C:H2'	1:AA:1036:A:H8	1.81	0.43
1:AA:1086:G:H4'	1:AA:1087:A:C8	2.54	0.43
1:AA:1263:G:H2'	1:AA:1265:A:OP2	2.18	0.43
1:AA:1325:C:O2'	8:AI:45:GLN:HG2	2.19	0.43
2:AB:74:THR:HG21	2:AB:197:ASN:ND2	2.33	0.43
2:AB:131:HIS:CD2	2:AB:245:THR:HA	2.54	0.43
4:AD:37:ALA:CB	4:AD:42:LEU:HD22	2.46	0.43
6:AF:132:GLN:HG3	6:AF:134:ASN:H	1.84	0.43
6:AF:156:SER:O	6:AF:157:ILE:HD13	2.19	0.43
7:AG:192:LEU:HD23	7:AG:192:LEU:HA	1.87	0.43
8:AI:21:LEU:CD2	22:AY:60:ILE:HG13	2.49	0.43
9:AJ:52:PHE:CZ	9:AJ:54:ASP:HB3	2.53	0.43
13:AO:1:MET:HA	13:AO:11:LEU:CD2	2.49	0.43
14:AP:46:GLY:O	14:AP:107:HIS:NE2	2.51	0.43
14:AP:133:LEU:HA	14:AP:136:GLU:CG	2.49	0.43
16:AQ:30:ALA:O	16:AQ:34:THR:HG22	2.19	0.43
16:AQ:56:ASP:O	21:AX:34:ILE:HD13	2.18	0.43
19:AV:81:LYS:HB3	19:AV:89:HIS:O	2.19	0.43
20:AW:57:THR:OG1	20:AW:64:SER:OG	2.15	0.43
23:AH:45:LEU:HD22	23:AH:123:LEU:HB2	2.00	0.43
23:AH:49:LYS:HB2	23:AH:114:GLU:CB	2.43	0.43
24:AM:79:GLU:O	24:AM:82:LEU:HG	2.17	0.43
25:AT:57:LYS:HA	25:AT:60:ARG:NH1	2.33	0.43
26:BA:893:G:OP2	37:BL:18:LYS:HE2	2.19	0.43
26:BA:2293:C:OP1	57:Bf:61:PRO:HB2	2.18	0.43
26:BA:2344:U:C2	39:BN:107:LEU:HD21	2.53	0.43
27:BB:6:U:O2'	27:BB:7:G:H5'	2.19	0.43
27:BB:31:C:H5'	31:BF:131:ILE:HD11	2.00	0.43
29:BD:281:GLU:OE1	29:BD:333:GLU:HA	2.19	0.43
33:BH:14:THR:O	33:BH:18:LEU:HD23	2.19	0.43
42:BQ:29:GLN:HB2	42:BQ:33:ASN:HD22	1.84	0.43
46:BU:29:GLY:HA2	46:BU:46:ALA:HA	1.99	0.43
51:BZ:36:GLY:O	51:BZ:40:ARG:HG2	2.18	0.43
55:Bd:37:HIS:HB2	55:Bd:38:PRO:HD2	2.01	0.43
1:AA:40:U:O2'	1:AA:41:C:H5'	2.19	0.43
1:AA:72:U:H4'	1:AA:73:G:OP2	2.19	0.43
1:AA:143:G:O2'	1:AA:144:G:H5'	2.19	0.43
1:AA:151:C:H2'	1:AA:152:C:C6	2.54	0.43
1:AA:173:A:H4'	17:AS:3:ARG:HB2	2.00	0.43
1:AA:1039:C:H5"	2:AB:148:ARG:HE	1.83	0.43
1:AA:1247:G:H1	8:AI:149:LYS:HA	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1402:U:H2'	1:AA:1403:U:C6	2.54	0.43
3:AC:18:ASP:OD2	3:AC:33:MET:HB3	2.19	0.43
3:AC:120:VAL:HG11	3:AC:182:ILE:CD1	2.48	0.43
4:AD:16:LYS:HD3	4:AD:36:MET:SD	2.58	0.43
6:AF:98:GLN:HA	6:AF:103:ARG:O	2.19	0.43
8:AI:137:ARG:HG3	8:AI:141:MET:HE2	2.00	0.43
9:AJ:100:GLY:HA3	9:AJ:130:TYR:HB3	2.00	0.43
11:AL:47:SER:HA	11:AL:50:LEU:HD21	2.01	0.43
14:AP:29:THR:HG22	14:AP:31:LEU:HD23	2.00	0.43
17:AS:43:MET:HE3	17:AS:46:THR:CG2	2.49	0.43
22:AY:16:GLU:CB	22:AY:60:ILE:HD13	2.49	0.43
24:AM:48:PRO:HB2	24:AM:61:TRP:CE3	2.54	0.43
25:AT:31:ASN:O	25:AT:35:VAL:HG23	2.19	0.43
26:BA:21:G:O2'	26:BA:22:A:OP2	2.36	0.43
26:BA:1252:C:OP1	49:BX:117:ARG:HB3	2.19	0.43
26:BA:1754:G:OP2	53:Bb:9:GLY:HA2	2.19	0.43
27:BB:122:A:H2'	27:BB:123:A:C8	2.54	0.43
29:BD:14:PHE:O	29:BD:17:ARG:HG2	2.19	0.43
29:BD:70:VAL:CG1	29:BD:298:LYS:HG3	2.49	0.43
30:BE:151:ARG:HE	30:BE:151:ARG:HB3	1.63	0.43
40:BO:64:GLU:OE1	40:BO:83:PRO:HD2	2.18	0.43
40:BO:119:GLY:HA2	40:BO:122:ILE:CD1	2.46	0.43
41:BP:26:PRO:HG2	41:BP:27:GLU:OE1	2.18	0.43
47:BV:13:LEU:CD1	47:BV:18:GLY:HA3	2.48	0.43
47:BV:47:ARG:HB2	47:BV:58:GLN:NE2	2.34	0.43
1:AA:134:G:C2'	1:AA:135:G:H5'	2.49	0.43
1:AA:175:U:C4	17:AS:28:PRO:HB3	2.54	0.43
1:AA:301:A:O2'	1:AA:1405:G:H4'	2.19	0.43
1:AA:322:C:O2'	1:AA:323:C:H5'	2.19	0.43
1:AA:345:A:H2'	1:AA:346:A:O4'	2.18	0.43
1:AA:358:G:O2'	1:AA:359:C:H5'	2.18	0.43
1:AA:684:A:H2'	1:AA:685:A:C8	2.53	0.43
1:AA:1006:A:H3'	1:AA:1033:G:P	2.59	0.43
1:AA:1064:U:O4'	24:AM:72:LEU:HD23	2.19	0.43
1:AA:1156:C:H2'	1:AA:1157:C:C6	2.53	0.43
3:AC:28:ALA:HB1	3:AC:54:VAL:HG23	2.01	0.43
3:AC:87:ARG:CD	3:AC:88:PRO:HD2	2.48	0.43
4:AD:117:ILE:HD11	4:AD:154:PHE:CD1	2.54	0.43
4:AD:160:GLU:O	4:AD:165:ARG:N	2.52	0.43
7:AG:13:LEU:CD1	7:AG:35:ILE:HG12	2.47	0.43
7:AG:84:GLY:CA	7:AG:108:ILE:HD13	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AO:39:LEU:HD22	13:AO:44:GLN:O	2.18	0.43
16:AQ:37:VAL:CG2	16:AQ:54:LEU:HD11	2.48	0.43
21:AX:15:VAL:HG11	21:AX:43:LEU:HD13	2.00	0.43
23:AH:25:GLU:HG3	23:AH:42:ILE:HA	2.00	0.43
24:AM:42:THR:HG23	24:AM:68:VAL:C	2.43	0.43
26:BA:613:A:O2'	52:Ba:55:CYS:SG	2.76	0.43
26:BA:2023:G:OP1	51:BZ:22:PRO:HA	2.18	0.43
26:BA:2835:G:H4'	29:BD:281:GLU:HB3	1.99	0.43
30:BE:22:VAL:HG23	30:BE:115:ARG:CG	2.43	0.43
30:BE:193:LYS:HA	30:BE:193:LYS:HD2	1.87	0.43
33:BH:53:GLU:OE2	33:BH:77:PHE:HB3	2.18	0.43
44:BS:8:ILE:HD12	44:BS:113:HIS:CE1	2.54	0.43
46:BU:32:LEU:CD2	46:BU:103:ILE:HD12	2.48	0.43
1:AA:151:C:H2'	1:AA:152:C:H6	1.84	0.43
1:AA:385:A:H5'	5:AE:148:PRO:HG2	2.01	0.43
1:AA:440:G:H1	1:AA:484:C:H42	1.67	0.43
1:AA:633:U:H1'	1:AA:636:A:N7	2.34	0.43
1:AA:770:G:H2'	1:AA:771:G:C8	2.54	0.43
1:AA:825:C:OP2	13:AO:2:ALA:HB2	2.19	0.43
1:AA:1141:G:C1'	7:AG:64:SER:HB2	2.38	0.43
1:AA:1424:G:H2'	1:AA:1425:G:C8	2.54	0.43
6:AF:148:GLY:N	6:AF:151:ASP:OD2	2.49	0.43
6:AF:168:PHE:HB3	6:AF:219:VAL:HG11	2.01	0.43
8:AI:57:LEU:CD1	8:AI:136:LEU:HD22	2.49	0.43
13:AO:83:CYS:SG	13:AO:92:ILE:HD13	2.58	0.43
16:AQ:118:THR:O	16:AQ:122:ILE:HG13	2.19	0.43
23:AH:36:ASP:O	23:AH:51:GLN:HA	2.19	0.43
24:AM:7:ARG:C	24:AM:8:LEU:HD12	2.43	0.43
24:AM:50:ARG:HG3	24:AM:60:THR:O	2.19	0.43
26:BA:323:A:OP2	30:BE:211:ASN:HB2	2.19	0.43
26:BA:1299:C:N3	52:Ba:135:GLN:HG3	2.33	0.43
28:BC:110:GLU:HG2	28:BC:117:GLY:N	2.33	0.43
32:BG:44:ILE:CG1	32:BG:53:VAL:HG12	2.48	0.43
33:BH:37:ALA:O	33:BH:41:ILE:HG13	2.19	0.43
36:BK:19:ALA:O	36:BK:21:VAL:HG13	2.19	0.43
39:BN:83:TYR:HE2	39:BN:166:LYS:HE2	1.84	0.43
40:BO:55:ILE:HG13	40:BO:98:LYS:HD2	1.99	0.43
46:BU:77:ILE:HD11	46:BU:101:VAL:CG1	2.49	0.43
1:AA:360:G:H2'	1:AA:361:G:H5'	2.01	0.42
1:AA:721:G:OP1	12:AN:121:LYS:HG3	2.19	0.42
1:AA:759:G:O2'	1:AA:760:A:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:817:A:O2'	1:AA:818:A:H3'	2.19	0.42
1:AA:1197:A:H1'	1:AA:1317:G:O2'	2.19	0.42
2:AB:77:LYS:HA	2:AB:196:THR:O	2.18	0.42
3:AC:136:LEU:H	3:AC:136:LEU:HD23	1.84	0.42
6:AF:83:ASP:O	6:AF:95:ARG:HA	2.19	0.42
11:AL:47:SER:HA	11:AL:50:LEU:CD2	2.49	0.42
14:AP:99:ASP:HB3	14:AP:106:LYS:NZ	2.34	0.42
14:AP:108:LEU:HB2	14:AP:113:ILE:HD11	2.01	0.42
14:AP:134:ARG:NH1	14:AP:139:LEU:HD23	2.33	0.42
18:AU:106:ARG:O	18:AU:109:GLU:HG3	2.18	0.42
20:AW:49:LEU:HD22	20:AW:71:TYR:O	2.19	0.42
20:AW:51:ILE:HG13	20:AW:89:ASN:ND2	2.30	0.42
20:AW:83:GLU:O	20:AW:87:LYS:HG2	2.19	0.42
24:AM:8:LEU:HD23	24:AM:94:ILE:CG2	2.48	0.42
25:AT:20:TYR:HB3	25:AT:23:VAL:HG22	2.00	0.42
26:BA:189:U:OP2	26:BA:408:G:N2	2.46	0.42
28:BC:237:LYS:HD3	28:BC:237:LYS:HA	1.86	0.42
33:BH:55:ILE:CG2	33:BH:60:ILE:HB	2.49	0.42
40:BO:68:LEU:HD13	40:BO:84:VAL:CG1	2.49	0.42
43:BR:53:PRO:HB3	43:BR:85:VAL:CG1	2.49	0.42
46:BU:55:VAL:HB	46:BU:60:PHE:O	2.19	0.42
46:BU:60:PHE:CG	46:BU:82:VAL:HG22	2.54	0.42
51:BZ:39:VAL:HG13	51:BZ:44:THR:O	2.19	0.42
52:Ba:110:ILE:CG1	52:Ba:126:ILE:HB	2.49	0.42
1:AA:303:U:H4'	1:AA:1383:G:H5'	2.02	0.42
1:AA:583:A:H2'	1:AA:584:C:O4'	2.19	0.42
1:AA:691:U:O4'	16:AQ:48:ALA:HA	2.19	0.42
1:AA:711:C:O2'	1:AA:844:C:N3	2.50	0.42
1:AA:905:A:H2'	1:AA:906:U:O4'	2.19	0.42
1:AA:927:U:H3'	1:AA:928:C:C6	2.54	0.42
1:AA:957:G:O2'	1:AA:958:G:H5'	2.19	0.42
1:AA:1045:G:H2'	1:AA:1046:C:C6	2.54	0.42
1:AA:1272:C:O2'	1:AA:1273:C:H5'	2.19	0.42
4:AD:180:LEU:HD23	4:AD:183:VAL:HG22	2.01	0.42
7:AG:15:LYS:HA	7:AG:18:VAL:HG12	2.00	0.42
7:AG:111:ILE:CD1	7:AG:192:LEU:HD22	2.48	0.42
8:AI:6:LYS:NZ	8:AI:10:LYS:O	2.32	0.42
13:AO:54:GLY:HA2	13:AO:66:LYS:HA	2.00	0.42
16:AQ:31:ASP:HA	16:AQ:34:THR:HG22	2.01	0.42
16:AQ:102:LEU:HD12	16:AQ:115:LEU:HD22	2.02	0.42
16:AQ:130:LYS:NZ	16:AQ:139:TRP:O	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AV:74:ARG:HD2	19:AV:95:GLY:N	2.34	0.42
26:BA:1754:G:C8	53:Bb:20:PRO:HA	2.54	0.42
26:BA:2691:G:H5'	29:BD:261:ARG:HG3	2.00	0.42
29:BD:47:VAL:HB	29:BD:74:VAL:HG13	2.00	0.42
29:BD:102:TRP:O	29:BD:122:GLN:NE2	2.40	0.42
30:BE:143:VAL:HG13	30:BE:145:ASP:OD1	2.18	0.42
31:BF:84:ASN:OD1	31:BF:87:GLN:HG2	2.18	0.42
32:BG:129:LYS:HB2	32:BG:136:THR:CG2	2.49	0.42
35:BJ:38:GLU:OE1	35:BJ:38:GLU:N	2.51	0.42
35:BJ:45:SER:HB3	35:BJ:128:ARG:NH2	2.35	0.42
44:BS:96:GLU:O	44:BS:100:GLU:HG3	2.19	0.42
44:BS:128:ARG:HG3	44:BS:134:THR:CG2	2.47	0.42
46:BU:53:VAL:O	46:BU:64:GLU:HA	2.20	0.42
1:AA:109:U:H5"	1:AA:110:G:OP1	2.19	0.42
1:AA:173:A:H5'	17:AS:3:ARG:HG3	2.00	0.42
1:AA:962:A:H2'	1:AA:963:A:O4'	2.19	0.42
1:AA:1053:C:H4'	15:AR:49:TYR:CZ	2.54	0.42
1:AA:1297:A:H2'	1:AA:1298:U:O4'	2.20	0.42
1:AA:1399:G:H4'	47:BV:47:ARG:CZ	2.49	0.42
3:AC:93:GLN:OE1	3:AC:93:GLN:N	2.50	0.42
3:AC:157:PRO:HA	3:AC:161:VAL:CB	2.44	0.42
5:AE:18:TRP:HA	5:AE:23:MET:SD	2.59	0.42
6:AF:168:PHE:CD1	6:AF:219:VAL:HG21	2.54	0.42
7:AG:17:VAL:HG11	7:AG:40:ILE:CG2	2.49	0.42
11:AL:32:ILE:HG22	11:AL:37:TYR:HA	2.01	0.42
11:AL:35:GLU:OE1	19:AV:143:ILE:HG12	2.19	0.42
19:AV:36:LYS:HA	19:AV:44:PRO:HA	2.01	0.42
22:AY:16:GLU:HB3	22:AY:60:ILE:HD13	2.00	0.42
26:BA:480:A:OP1	46:BU:92:VAL:HG11	2.19	0.42
26:BA:944:A:O2'	26:BA:2278:A:N3	2.44	0.42
29:BD:146:TYR:HA	29:BD:161:ASP:O	2.19	0.42
33:BH:38:THR:O	33:BH:42:GLU:HG3	2.19	0.42
37:BL:77:SER:O	37:BL:80:VAL:HG22	2.19	0.42
38:BM:77:ARG:NH2	38:BM:87:MET:HE2	2.35	0.42
49:BX:57:ILE:HG13	49:BX:146:ASN:OD1	2.20	0.42
1:AA:63:U:H1'	1:AA:148:A:H1'	2.02	0.42
1:AA:98:C:H5"	1:AA:293:G:O2'	2.19	0.42
1:AA:458:C:H4'	1:AA:459:C:H5"	2.01	0.42
1:AA:614:G:O2'	1:AA:615:G:H5'	2.18	0.42
1:AA:918:C:H2'	1:AA:919:C:C6	2.54	0.42
1:AA:1267:C:H5'	18:AU:106:ARG:HG3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1333:C:H2'	1:AA:1334:U:C6	2.54	0.42
2:AB:78:THR:OG1	2:AB:81:MET:HG2	2.19	0.42
3:AC:156:ASN:HB2	3:AC:157:PRO:HD3	2.00	0.42
3:AC:164:GLU:OE2	3:AC:166:PHE:HB2	2.19	0.42
5:AE:100:ILE:O	5:AE:103:LEU:HB2	2.19	0.42
8:AI:2:ILE:HG23	8:AI:5:TYR:CE2	2.54	0.42
9:AJ:54:ASP:OD1	9:AJ:54:ASP:N	2.51	0.42
16:AQ:17:PRO:HB3	21:AX:8:PRO:CG	2.50	0.42
26:BA:1679:G:O3'	26:BA:1680:C:H4'	2.20	0.42
30:BE:149:LEU:HD12	30:BE:149:LEU:O	2.20	0.42
33:BH:50:LEU:HG	33:BH:76:ILE:CG2	2.49	0.42
34:BI:20:ARG:NH2	34:BI:26:VAL:HB	2.34	0.42
40:BO:35:ILE:CD1	40:BO:124:ILE:HD11	2.49	0.42
41:BP:23:TRP:HB2	41:BP:53:LYS:CG	2.48	0.42
43:BR:43:ASP:HA	43:BR:58:GLN:HE22	1.84	0.42
48:BW:24:LEU:HD12	48:BW:57:ILE:HD12	2.02	0.42
49:BX:81:GLU:O	49:BX:84:ARG:HG2	2.20	0.42
1:AA:585:U:H2'	1:AA:586:G:C8	2.54	0.42
1:AA:683:G:H2'	1:AA:684:A:O4'	2.18	0.42
1:AA:761:U:H4'	1:AA:762:G:OP2	2.20	0.42
2:AB:218:SER:HB3	2:AB:244:GLU:HA	2.01	0.42
4:AD:147:LYS:O	4:AD:151:GLU:HB2	2.19	0.42
7:AG:83:VAL:HG21	7:AG:165:ALA:HB2	2.02	0.42
10:AK:34:THR:OG1	10:AK:94:LEU:HB2	2.19	0.42
11:AL:35:GLU:HG3	11:AL:36:LEU:HG	2.01	0.42
11:AL:79:VAL:O	11:AL:83:VAL:HG23	2.20	0.42
12:AN:91:GLN:O	12:AN:95:ARG:HG2	2.20	0.42
13:AO:129:LEU:O	13:AO:133:VAL:HG23	2.20	0.42
14:AP:116:THR:O	14:AP:119:GLU:HG3	2.19	0.42
23:AH:70:PRO:CA	23:AH:100:GLU:HB2	2.47	0.42
23:AH:122:ALA:HA	23:AH:126:LEU:O	2.20	0.42
26:BA:2344:U:H3	39:BN:107:LEU:HD21	1.84	0.42
27:BB:123:A:H2'	27:BB:124:G:O4'	2.20	0.42
30:BE:2:ALA:O	30:BE:19:LEU:N	2.51	0.42
32:BG:141:ASN:HB3	32:BG:144:ASP:HB2	2.00	0.42
33:BH:58:ALA:HB3	38:BM:24:LEU:CD1	2.49	0.42
36:BK:56:SER:HA	36:BK:67:GLN:O	2.18	0.42
38:BM:99:GLN:O	38:BM:103:GLU:HG3	2.20	0.42
42:BQ:13:PHE:O	42:BQ:19:TRP:HA	2.19	0.42
53:Bb:57:GLY:HA2	53:Bb:71:GLY:O	2.19	0.42
1:AA:230:G:N2	10:AK:12:THR:O	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:300:G:H2'	1:AA:301:A:H8	1.85	0.42
1:AA:671:G:N2	1:AA:706:G:H5"	2.35	0.42
1:AA:988:A:H4'	1:AA:989:G:H5"	2.02	0.42
1:AA:996:G:H3'	1:AA:997:G:C8	2.55	0.42
1:AA:1016:G:N2	1:AA:1019:A:OP2	2.35	0.42
1:AA:1113:G:H3'	1:AA:1114:U:H5"	2.01	0.42
1:AA:1295:U:H5"	11:AL:125:ALA:CB	2.48	0.42
1:AA:1377:G:H2'	1:AA:1378:U:C6	2.55	0.42
2:AB:71:HIS:HB2	2:AB:95:VAL:CG1	2.48	0.42
2:AB:218:SER:CB	2:AB:244:GLU:HA	2.49	0.42
4:AD:90:ASP:HA	4:AD:93:ARG:HG2	2.00	0.42
4:AD:186:ARG:HG3	4:AD:187:LYS:HG2	2.00	0.42
10:AK:55:LEU:HD21	10:AK:58:SER:HB2	2.02	0.42
12:AN:84:ARG:HE	12:AN:84:ARG:HB2	1.56	0.42
14:AP:94:LEU:HD12	14:AP:105:ASP:HB3	2.02	0.42
15:AR:34:ARG:NH1	24:AM:50:ARG:O	2.53	0.42
16:AQ:3:LYS:HB2	16:AQ:6:THR:O	2.19	0.42
19:AV:74:ARG:HE	19:AV:92:LYS:HG2	1.84	0.42
20:AW:1:MET:HG2	20:AW:25:TYR:HA	2.01	0.42
26:BA:1057:U:O2'	49:BX:12:ASN:HA	2.19	0.42
26:BA:1612:A:O2'	26:BA:1613:A:O5'	2.37	0.42
26:BA:2053:C:OP1	26:BA:2465:G:O2'	2.32	0.42
26:BA:2391:A:O2'	39:BN:30:SER:OG	2.13	0.42
26:BA:2444:A:C4	57:Bf:54:LYS:HG2	2.54	0.42
27:BB:18:C:C4'	39:BN:1:MET:HA	2.49	0.42
29:BD:89:ALA:HB2	29:BD:98:ILE:HD12	2.01	0.42
29:BD:268:ILE:HG12	29:BD:297:ILE:HD13	2.02	0.42
32:BG:128:VAL:O	32:BG:129:LYS:HD3	2.20	0.42
34:BI:58:ILE:HG22	34:BI:63:LEU:HG	2.01	0.42
34:BI:86:LYS:O	34:BI:134:PHE:HA	2.20	0.42
35:BJ:76:LEU:O	35:BJ:80:ILE:HG13	2.19	0.42
38:BM:82:ARG:HB2	38:BM:87:MET:SD	2.60	0.42
58:AZ:47:THR:CG2	58:AZ:54:LYS:HE2	2.49	0.42
1:AA:291:C:H4'	6:AF:7:LEU:HB2	2.00	0.42
1:AA:293:G:O2'	1:AA:294:G:H5'	2.20	0.42
1:AA:509:U:H4'	1:AA:514:A:C6	2.55	0.42
1:AA:801:C:H2'	1:AA:802:C:H6	1.85	0.42
1:AA:960:C:O2'	1:AA:963:A:N6	2.45	0.42
1:AA:1257:A:H2'	1:AA:1258:G:H5'	2.02	0.42
1:AA:1285:G:H2'	1:AA:1286:A:C8	2.54	0.42
1:AA:1395:U:C3'	1:AA:1396:G:H5'	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:95:MET:CE	3:AC:116:THR:HG23	2.49	0.42
4:AD:86:GLU:HA	4:AD:186:ARG:O	2.20	0.42
5:AE:110:GLU:HA	5:AE:115:THR:CG2	2.41	0.42
6:AF:119:ARG:HD2	6:AF:218:ILE:HG23	2.00	0.42
6:AF:156:SER:OG	6:AF:157:ILE:N	2.53	0.42
7:AG:24:SER:O	7:AG:27:GLU:HG2	2.20	0.42
8:AI:6:LYS:HE2	8:AI:12:ASP:H	1.84	0.42
8:AI:20:ASP:HB2	8:AI:102:ALA:CB	2.49	0.42
8:AI:85:VAL:O	8:AI:89:THR:OG1	2.23	0.42
14:AP:44:LEU:CD2	14:AP:109:LEU:HD11	2.49	0.42
16:AQ:4:MET:HG3	16:AQ:124:ARG:NH1	2.35	0.42
16:AQ:25:TRP:CE3	21:AX:61:LEU:HD22	2.54	0.42
16:AQ:75:LEU:CD2	16:AQ:80:VAL:HG23	2.49	0.42
18:AU:69:THR:HG21	18:AU:107:PHE:CE2	2.55	0.42
19:AV:23:ASP:HB3	19:AV:25:LYS:HZ3	1.85	0.42
21:AX:33:LYS:HB2	21:AX:33:LYS:HE2	1.79	0.42
23:AH:118:LYS:HB2	23:AH:123:LEU:CD1	2.43	0.42
24:AM:45:LEU:N	24:AM:66:MET:O	2.52	0.42
26:BA:2346:A:N6	43:BR:47:SER:O	2.53	0.42
29:BD:20:ALA:CB	29:BD:204:ILE:HD12	2.50	0.42
46:BU:1:MET:O	46:BU:2:ILE:HG13	2.18	0.42
55:Bd:44:ARG:O	55:Bd:45:ARG:HG3	2.20	0.42
1:AA:510:C:O2'	1:AA:760:A:H2'	2.20	0.42
1:AA:733:A:H4'	1:AA:734:U:H5'	2.02	0.42
1:AA:765:C:OP1	16:AQ:1:MET:HA	2.20	0.42
1:AA:896:U:H2'	1:AA:897:G:H8	1.84	0.42
1:AA:992:G:O6	1:AA:1146:U:H2'	2.20	0.42
1:AA:1090:G:H2'	1:AA:1091:G:H8	1.83	0.42
1:AA:1223:G:H2'	1:AA:1224:G:H8	1.83	0.42
4:AD:121:PRO:HB2	4:AD:141:MET:SD	2.60	0.42
4:AD:160:GLU:CA	4:AD:165:ARG:HB2	2.47	0.42
6:AF:125:THR:HA	6:AF:130:LYS:O	2.20	0.42
13:AO:1:MET:HA	13:AO:11:LEU:HD21	2.01	0.42
14:AP:133:LEU:O	14:AP:136:GLU:HG3	2.19	0.42
16:AQ:121:LYS:O	16:AQ:125:LEU:HD23	2.20	0.42
16:AQ:149:MET:HE3	50:BY:13:ILE:HD11	2.02	0.42
18:AU:81:ILE:HD12	18:AU:98:LEU:HB3	2.01	0.42
22:AY:14:ALA:O	22:AY:37:VAL:HG13	2.19	0.42
23:AH:17:TYR:CE1	23:AH:121:LYS:HG2	2.55	0.42
23:AH:45:LEU:CD2	23:AH:124:LEU:HG	2.45	0.42
24:AM:36:GLY:O	24:AM:38:VAL:HG23	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BA:70:C:OP1	48:BW:56:ARG:NE	2.53	0.42
26:BA:1469:A:C6	55:Bd:3:HIS:HB3	2.54	0.42
28:BC:200:HIS:CE1	28:BC:226:VAL:HG21	2.55	0.42
29:BD:111:LYS:HB2	29:BD:116:ILE:HD11	2.02	0.42
32:BG:6:ALA:HB2	32:BG:54:ASP:OD1	2.19	0.42
37:BL:86:GLU:OE2	37:BL:88:LYS:NZ	2.47	0.42
38:BM:95:GLY:HA3	38:BM:196:LYS:NZ	2.35	0.42
40:BO:39:ILE:CD1	40:BO:69:LEU:HD22	2.50	0.42
40:BO:91:PHE:CZ	40:BO:106:CYS:HB3	2.55	0.42
47:BV:8:PHE:CZ	47:BV:39:ASN:HB3	2.55	0.42
1:AA:434:A:H4'	1:AA:435:G:O5'	2.20	0.42
1:AA:963:A:N1	1:AA:965:A:H1'	2.34	0.42
1:AA:1215:A:O2'	1:AA:1273:C:H4'	2.19	0.42
1:AA:1236:A:OP1	19:AV:80:LYS:HD2	2.20	0.42
1:AA:1441:A:H5'	1:AA:1469:A:H1'	2.02	0.42
2:AB:156:ASN:O	2:AB:159:ILE:HG22	2.20	0.42
2:AB:164:GLU:OE2	7:AG:11:THR:HB	2.20	0.42
5:AE:142:GLY:O	20:AW:61:MET:HB3	2.19	0.42
6:AF:115:ASN:OD1	6:AF:163:VAL:HG21	2.20	0.42
7:AG:38:PRO:HG2	7:AG:39:GLN:OE1	2.19	0.42
7:AG:74:VAL:HG12	7:AG:100:ALA:CB	2.50	0.42
8:AI:13:PRO:HA	8:AI:94:ILE:CD1	2.49	0.42
8:AI:55:GLU:O	8:AI:59:ASN:ND2	2.53	0.42
8:AI:70:LYS:HB3	8:AI:73:VAL:HG12	2.00	0.42
11:AL:13:THR:HB	11:AL:70:GLY:HA2	2.01	0.42
14:AP:25:ARG:HD2	14:AP:26:ILE:N	2.35	0.42
19:AV:27:VAL:O	19:AV:29:PRO:HD3	2.20	0.42
19:AV:74:ARG:HB3	19:AV:93:GLY:H	1.85	0.42
20:AW:3:ILE:HD11	20:AW:23:VAL:HG13	2.02	0.42
28:BC:110:GLU:HG2	28:BC:117:GLY:H	1.85	0.42
28:BC:207:TRP:CZ3	28:BC:209:HIS:HB3	2.55	0.42
30:BE:27:TYR:OH	30:BE:126:LEU:HD22	2.20	0.42
36:BK:16:ALA:O	36:BK:30:GLU:HA	2.19	0.42
36:BK:73:VAL:CA	36:BK:95:MET:HG2	2.48	0.42
45:BT:5:ASN:HB2	45:BT:25:ILE:O	2.20	0.42
51:BZ:23:ALA:O	51:BZ:26:ARG:HG3	2.20	0.42
52:Ba:132:ILE:HG22	52:Ba:133:GLY:O	2.19	0.42
1:AA:88:C:O2	1:AA:335:A:O2'	2.38	0.42
1:AA:701:G:H5"	1:AA:702:G:N7	2.35	0.42
1:AA:1004:C:N4	1:AA:1137:C:H1'	2.35	0.42
1:AA:1108:C:OP1	25:AT:56:ARG:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1197:A:O2'	1:AA:1317:G:H4'	2.20	0.42
3:AC:53:MET:O	3:AC:61:VAL:HG21	2.19	0.42
5:AE:91:ILE:HG23	5:AE:92:LYS:O	2.20	0.42
8:AI:56:ARG:HA	8:AI:59:ASN:HD21	1.85	0.42
9:AJ:33:ASN:O	9:AJ:37:VAL:HG23	2.20	0.42
13:AO:53:VAL:O	13:AO:67:CYS:N	2.39	0.42
13:AO:111:MET:HE3	13:AO:111:MET:HB3	1.95	0.42
14:AP:130:TYR:HB2	18:AU:109:GLU:O	2.20	0.42
15:AR:24:LEU:HD23	15:AR:24:LEU:H	1.83	0.42
15:AR:34:ARG:HB2	24:AM:49:THR:HG23	2.02	0.42
20:AW:35:VAL:O	20:AW:39:LEU:HD23	2.19	0.42
24:AM:16:LEU:CD1	24:AM:94:ILE:HG21	2.48	0.42
26:BA:678:C:O2'	26:BA:740:U:OP1	2.38	0.42
26:BA:793:U:O4	53:Bb:1:MET:N	2.53	0.42
26:BA:2068:U:OP1	44:BS:66:ASP:HA	2.20	0.42
27:BB:1:G:O2'	27:BB:2:A:H5'	2.20	0.42
27:BB:66:C:O2'	27:BB:67:C:H5'	2.19	0.42
29:BD:88:TYR:HB2	29:BD:140:ASP:OD1	2.20	0.42
30:BE:7:ILE:HG12	30:BE:141:VAL:O	2.19	0.42
31:BF:43:LYS:O	31:BF:44:ARG:HG3	2.19	0.42
32:BG:22:ASP:CB	32:BG:36:LYS:HE3	2.50	0.42
34:BI:136:VAL:CG2	34:BI:150:LEU:HD11	2.50	0.42
37:BL:68:ASN:CG	37:BL:107:SER:HB3	2.45	0.42
49:BX:61:THR:OG1	49:BX:146:ASN:HB3	2.19	0.42
1:AA:108:C:H5'	1:AA:244:A:O2'	2.20	0.41
1:AA:157:A:H1'	1:AA:187:A:C2	2.55	0.41
1:AA:206:A:H2'	1:AA:207:A:C8	2.55	0.41
1:AA:295:A:H5"	10:AK:20:ARG:HG3	2.02	0.41
1:AA:827:C:H2'	1:AA:828:C:C6	2.55	0.41
1:AA:927:U:OP2	1:AA:928:C:H3'	2.19	0.41
1:AA:1112:U:H2'	1:AA:1113:G:O4'	2.20	0.41
1:AA:1297:A:O2'	8:AI:68:THR:HG21	2.20	0.41
7:AG:85:LEU:CD1	7:AG:186:LYS:HA	2.50	0.41
9:AJ:34:ILE:O	9:AJ:38:LEU:HG	2.20	0.41
9:AJ:49:ASP:HB3	9:AJ:64:THR:HB	2.02	0.41
13:AO:10:ILE:H	13:AO:10:ILE:HD12	1.84	0.41
18:AU:52:ASP:CG	18:AU:56:LYS:HE3	2.45	0.41
19:AV:29:PRO:O	19:AV:31:TRP:N	2.53	0.41
20:AW:25:TYR:CZ	20:AW:29:THR:HG22	2.55	0.41
24:AM:48:PRO:HB3	24:AM:63:HIS:ND1	2.35	0.41
26:BA:10:G:OP1	44:BS:63:LYS:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BA:390:U:OP2	57:Bf:38:ARG:NE	2.47	0.41
26:BA:692:C:OP2	37:BL:107:SER:HA	2.20	0.41
26:BA:892:U:OP1	37:BL:18:LYS:NZ	2.48	0.41
27:BB:74:C:H2'	27:BB:75:U:O4'	2.20	0.41
28:BC:90:LYS:HE2	28:BC:93:ASN:HD21	1.85	0.41
34:BI:5:PRO:HD2	34:BI:8:MET:SD	2.60	0.41
35:BJ:77:LYS:HE2	35:BJ:95:MET:HE3	2.01	0.41
37:BL:69:VAL:CG2	37:BL:106:GLY:HA2	2.50	0.41
39:BN:8:LYS:HE2	43:BR:22:ARG:O	2.19	0.41
53:Bb:80:GLY:O	53:Bb:84:LEU:HG	2.18	0.41
1:AA:445:G:N2	1:AA:466:C:H1'	2.35	0.41
1:AA:997:G:H5"	3:AC:179:LYS:CE	2.51	0.41
1:AA:1008:U:H3	1:AA:1045:G:H1	1.69	0.41
1:AA:1258:G:H5'	14:AP:97:GLN:O	2.19	0.41
1:AA:1287:A:H5"	1:AA:1288:U:OP2	2.20	0.41
2:AB:149:PHE:CZ	2:AB:179:VAL:HG12	2.55	0.41
3:AC:51:PRO:O	3:AC:55:ILE:HG13	2.20	0.41
6:AF:175:MET:HB3	6:AF:220:ILE:HG21	2.02	0.41
7:AG:37:GLU:HB3	7:AG:40:ILE:HG13	2.02	0.41
7:AG:57:MET:SD	7:AG:68:VAL:HG13	2.60	0.41
9:AJ:75:ILE:HG13	9:AJ:127:ALA:CA	2.50	0.41
14:AP:71:PRO:HG2	14:AP:74:GLU:OE1	2.19	0.41
25:AT:26:LYS:HE2	25:AT:62:LYS:HD2	2.01	0.41
26:BA:941:U:O2'	43:BR:96:LYS:NZ	2.50	0.41
26:BA:1636:U:P	28:BC:182:THR:HG21	2.60	0.41
26:BA:2457:G:N2	26:BA:2460:U:O2	2.40	0.41
27:BB:21:U:H3	27:BB:64:G:H22	1.67	0.41
27:BB:33:U:H2'	27:BB:34:G:C8	2.53	0.41
28:BC:19:ALA:CB	28:BC:184:ALA:HB2	2.49	0.41
28:BC:90:LYS:HB3	28:BC:93:ASN:ND2	2.36	0.41
29:BD:163:MET:HB2	29:BD:310:ARG:NH1	2.35	0.41
43:BR:18:THR:OG1	43:BR:21:GLU:HG2	2.20	0.41
1:AA:357:U:P	6:AF:53:SER:H	2.43	0.41
1:AA:416:G:H21	20:AW:29:THR:HG21	1.85	0.41
1:AA:425:A:H2'	1:AA:426:C:H5'	2.02	0.41
1:AA:482:G:O2'	1:AA:483:C:H5'	2.20	0.41
1:AA:502:U:H4'	1:AA:503:A:O5'	2.21	0.41
1:AA:927:U:H5'	15:AR:21:LYS:HB2	2.02	0.41
1:AA:1094:C:H2'	1:AA:1095:U:O4'	2.20	0.41
1:AA:1202:G:H2'	1:AA:1224:G:N2	2.36	0.41
2:AB:76:GLN:OE1	2:AB:76:GLN:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:88:VAL:HG13	2:AB:94:TYR:CE1	2.54	0.41
2:AB:131:HIS:HB3	2:AB:132:PRO:HD3	2.01	0.41
3:AC:46:ILE:HG23	3:AC:80:ILE:CG2	2.48	0.41
3:AC:81:ASP:OD1	3:AC:81:ASP:N	2.52	0.41
3:AC:130:VAL:HG13	3:AC:146:PHE:CD1	2.55	0.41
4:AD:120:LYS:HD2	4:AD:187:LYS:HB2	2.02	0.41
6:AF:157:ILE:HD13	6:AF:160:LYS:HD3	2.03	0.41
8:AI:5:TYR:O	8:AI:13:PRO:HD2	2.19	0.41
10:AK:35:ARG:HG2	10:AK:93:ILE:HD13	2.02	0.41
13:AO:103:ILE:HD13	13:AO:120:LYS:HB3	2.02	0.41
15:AR:41:ALA:HB1	15:AR:46:PHE:CB	2.50	0.41
17:AS:11:ALA:HA	17:AS:12:PRO:HD3	1.93	0.41
17:AS:41:SER:HB3	17:AS:47:VAL:HG12	2.02	0.41
17:AS:41:SER:OG	17:AS:82:VAL:HG22	2.21	0.41
18:AU:35:ALA:CB	18:AU:46:LEU:HD21	2.49	0.41
23:AH:10:ASP:HA	23:AH:112:ILE:HD12	2.02	0.41
26:BA:886:A:C8	30:BE:55:MET:HE1	2.54	0.41
26:BA:953:C:O2'	39:BN:6:ARG:NH1	2.53	0.41
26:BA:1107:A:O2'	35:BJ:128:ARG:NH1	2.53	0.41
26:BA:1225:G:C5	35:BJ:59:ARG:HD3	2.55	0.41
27:BB:109:C:O2'	27:BB:110:U:H5'	2.20	0.41
30:BE:5:LYS:HE2	30:BE:16:GLU:OE2	2.20	0.41
34:BI:10:ARG:NH2	34:BI:54:GLU:OE1	2.28	0.41
38:BM:174:MET:HE2	38:BM:185:ARG:HA	2.02	0.41
39:BN:148:ILE:CD1	39:BN:156:SER:HA	2.43	0.41
41:BP:110:ARG:HD3	41:BP:120:TYR:CD2	2.55	0.41
52:Ba:119:VAL:HG23	52:Ba:124:GLU:OE1	2.21	0.41
1:AA:15:U:OP2	7:AG:177:THR:OG1	2.23	0.41
1:AA:26:A:H2'	1:AA:27:C:C6	2.56	0.41
1:AA:391:A:H4'	5:AE:124:ARG:NH1	2.36	0.41
1:AA:406:C:H4'	5:AE:173:HIS:CD2	2.55	0.41
1:AA:860:A:H2'	1:AA:861:G:H5'	2.01	0.41
1:AA:1113:G:H3'	1:AA:1114:U:C5'	2.50	0.41
3:AC:156:ASN:O	3:AC:159:GLU:HB3	2.21	0.41
6:AF:97:LEU:HD12	6:AF:107:HIS:CG	2.55	0.41
6:AF:168:PHE:HB3	6:AF:219:VAL:HG21	2.02	0.41
7:AG:12:ARG:CZ	7:AG:33:LEU:HD21	2.50	0.41
8:AI:16:VAL:HG21	8:AI:94:ILE:CG1	2.50	0.41
8:AI:125:ASP:OD2	22:AY:61:LEU:HB3	2.20	0.41
8:AI:143:THR:HG21	8:AI:158:LEU:HB2	2.02	0.41
8:AI:152:ARG:HB3	8:AI:156:GLU:OE1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AR:11:GLY:HA2	15:AR:26:ARG:HH22	1.85	0.41
16:AQ:5:HIS:CD2	16:AQ:117:LEU:HB3	2.56	0.41
22:AY:36:ARG:HG2	22:AY:38:LEU:CD2	2.50	0.41
26:BA:1856:C:H5	28:BC:164:GLY:H	1.68	0.41
29:BD:80:ILE:O	29:BD:186:LEU:HA	2.21	0.41
31:BF:91:PHE:O	31:BF:147:VAL:HG23	2.20	0.41
31:BF:95:SER:OG	31:BF:121:THR:HB	2.20	0.41
36:BK:8:ILE:CG2	36:BK:49:ILE:HB	2.44	0.41
37:BL:80:VAL:HA	37:BL:85:ALA:O	2.20	0.41
39:BN:24:ARG:O	39:BN:28:LEU:HG	2.21	0.41
40:BO:75:LEU:C	40:BO:95:ALA:HB2	2.46	0.41
45:BT:26:VAL:CG2	45:BT:60:LYS:HG2	2.50	0.41
57:Bf:40:LYS:HB2	57:Bf:52:PHE:CE1	2.55	0.41
1:AA:428:U:C4’	20:AW:27:GLY:HA2	2.50	0.41
1:AA:944:A:H3’	1:AA:945:A:C8	2.55	0.41
2:AB:168:ILE:O	2:AB:190:VAL:HA	2.19	0.41
6:AF:98:GLN:NE2	6:AF:102:GLY:HA2	2.36	0.41
8:AI:5:TYR:HB2	8:AI:31:PRO:CB	2.42	0.41
10:AK:90:ARG:HE	10:AK:91:ARG:HH12	1.68	0.41
14:AP:45:PRO:O	14:AP:109:LEU:HG	2.20	0.41
14:AP:54:LEU:HD21	19:AV:34:ASN:HB3	2.02	0.41
17:AS:45:ASN:HB3	17:AS:73:HIS:CE1	2.55	0.41
19:AV:96:SER:O	19:AV:100:LYS:HG2	2.21	0.41
21:AX:15:VAL:HG13	21:AX:43:LEU:HD13	2.02	0.41
26:BA:1789:G:OP2	47:BV:48:ARG:NH2	2.53	0.41
28:BC:105:PHE:HB2	53:Bb:83:LEU:CD1	2.46	0.41
31:BF:33:THR:HG21	31:BF:61:VAL:HG11	2.01	0.41
46:BU:30:ALA:HB2	46:BU:98:PRO:O	2.20	0.41
1:AA:137:A:H2’	1:AA:138:A:O4’	2.20	0.41
1:AA:280:A:H2’	1:AA:281:G:O4’	2.20	0.41
1:AA:820:C:O2’	9:AJ:15:LYS:HD2	2.20	0.41
1:AA:992:G:H4’	1:AA:993:C:O5’	2.20	0.41
1:AA:1068:C:H2’	1:AA:1086:G:C5	2.56	0.41
1:AA:1086:G:H4’	1:AA:1087:A:N7	2.36	0.41
1:AA:1343:A:H2	7:AG:61:MET:HG3	1.86	0.41
2:AB:120:ILE:HG23	2:AB:167:VAL:CG1	2.51	0.41
3:AC:42:THR:HG21	3:AC:75:LEU:CD2	2.49	0.41
13:AO:103:ILE:CD1	13:AO:120:LYS:HB3	2.50	0.41
16:AQ:149:MET:CE	50:BY:74:VAL:HA	2.51	0.41
17:AS:50:GLU:HA	17:AS:68:SER:O	2.19	0.41
18:AU:85:ILE:HD12	18:AU:107:PHE:CD2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AM:8:LEU:HB3	24:AM:94:ILE:HG21	2.02	0.41
26:BA:895:U:O4	37:BL:17:HIS:HB2	2.20	0.41
26:BA:1253:A:OP2	49:BX:117:ARG:NH1	2.50	0.41
26:BA:2654:U:H3	26:BA:2780:A:H62	1.69	0.41
29:BD:47:VAL:HG22	29:BD:287:TYR:CE2	2.56	0.41
31:BF:6:VAL:HG22	31:BF:124:LEU:HD11	2.02	0.41
36:BK:85:GLY:HA3	47:BV:16:GLY:HA2	2.03	0.41
36:BK:86:LEU:HD21	47:BV:20:LEU:HB2	2.02	0.41
38:BM:127:HIS:HB2	38:BM:129:TRP:CH2	2.55	0.41
39:BN:141:GLU:HB2	39:BN:146:GLU:CG	2.47	0.41
43:BR:7:GLU:HG3	43:BR:54:ASN:OD1	2.21	0.41
49:BX:66:LEU:HD23	49:BX:116:PHE:CE2	2.55	0.41
52:Ba:141:LEU:HA	52:Ba:141:LEU:HD23	1.85	0.41
1:AA:58:U:H2'	1:AA:59:C:H6	1.85	0.41
1:AA:242:G:H1'	10:AK:2:ARG:HH21	1.85	0.41
1:AA:242:G:C5'	10:AK:31:SER:HA	2.39	0.41
1:AA:406:C:H4'	5:AE:173:HIS:HD2	1.85	0.41
1:AA:479:G:H2'	1:AA:480:C:C6	2.55	0.41
1:AA:516:G:H3'	1:AA:516:G:OP2	2.20	0.41
1:AA:526:C:H5"	13:AO:4:GLY:CA	2.49	0.41
1:AA:573:U:O2'	1:AA:574:U:H5"	2.21	0.41
1:AA:583:A:N7	9:AJ:107:SER:HA	2.35	0.41
1:AA:774:U:O2'	1:AA:775:C:H5'	2.21	0.41
2:AB:117:PRO:HA	2:AB:120:ILE:HG12	2.01	0.41
3:AC:43:GLN:HA	3:AC:79:GLN:NE2	2.35	0.41
4:AD:18:TRP:CG	4:AD:36:MET:HB3	2.56	0.41
4:AD:39:ASP:CG	4:AD:42:LEU:HB2	2.46	0.41
6:AF:59:ILE:HG23	6:AF:64:LYS:HD2	2.03	0.41
6:AF:213:ILE:HG13	6:AF:214:GLU:OE1	2.20	0.41
7:AG:199:ARG:HD3	9:AJ:68:ARG:CA	2.50	0.41
8:AI:164:GLY:HA3	8:AI:172:SER:HB3	2.02	0.41
13:AO:103:ILE:HD12	13:AO:120:LYS:CD	2.38	0.41
13:AO:128:SER:OG	13:AO:131:GLN:HB2	2.19	0.41
14:AP:70:LEU:HD23	14:AP:75:VAL:HG22	2.03	0.41
14:AP:108:LEU:HD22	14:AP:112:ASP:OD2	2.21	0.41
15:AR:24:LEU:HA	15:AR:33:CYS:HA	2.03	0.41
17:AS:43:MET:HE1	17:AS:71:HIS:CE1	2.56	0.41
26:BA:90:C:OP1	48:BW:2:ALA:HA	2.21	0.41
26:BA:1526:A:N6	26:BA:1621:U:O2'	2.53	0.41
26:BA:1817:A:N7	54:Bc:2:SER:OG	2.42	0.41
26:BA:2071:G:N2	29:BD:238:LEU:HD13	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BA:2389:A:O4'	39:BN:136:VAL:HG11	2.19	0.41
26:BA:2538:G:H4'	56:Be:16:ILE:HG21	2.03	0.41
26:BA:2777:C:O2'	35:BJ:140:GLY:HA2	2.20	0.41
38:BM:13:TRP:CE2	38:BM:46:ARG:HG2	2.55	0.41
49:BX:125:HIS:HE1	49:BX:128:ILE:HG23	1.85	0.41
1:AA:78:U:H2'	1:AA:79:G:O4'	2.20	0.41
1:AA:158:A:H2'	1:AA:159:C:H5'	2.03	0.41
1:AA:233:G:H1'	10:AK:8:ARG:NE	2.35	0.41
1:AA:248:U:O2'	10:AK:8:ARG:HD3	2.20	0.41
1:AA:604:A:H5"	4:AD:130:ARG:NE	2.36	0.41
1:AA:765:C:H2'	1:AA:766:G:H8	1.83	0.41
1:AA:1000:G:H5'	24:AM:60:THR:HG21	2.02	0.41
1:AA:1321:A:H5"	8:AI:59:ASN:HB2	2.03	0.41
4:AD:136:ALA:HB1	4:AD:140:MET:HE1	2.03	0.41
4:AD:186:ARG:O	4:AD:187:LYS:HD3	2.20	0.41
5:AE:154:LYS:NZ	5:AE:157:GLU:OE1	2.31	0.41
8:AI:5:TYR:CD2	8:AI:31:PRO:HB2	2.55	0.41
12:AN:7:ALA:O	12:AN:71:ILE:HA	2.21	0.41
14:AP:38:GLN:HG2	14:AP:39:TYR:CD1	2.56	0.41
15:AR:20:ARG:HH12	15:AR:35:HIS:CE1	2.39	0.41
16:AQ:98:LEU:HD11	16:AQ:111:ASN:HB3	2.03	0.41
20:AW:36:ARG:NH2	20:AW:90:PRO:HG2	2.34	0.41
21:AX:14:ARG:HB2	21:AX:61:LEU:CD1	2.49	0.41
23:AH:102:ALA:N	23:AH:105:ILE:HD12	2.32	0.41
25:AT:5:ARG:HB3	25:AT:6:GLU:H	1.71	0.41
26:BA:135:U:O2'	26:BA:136:C:OP1	2.29	0.41
26:BA:1656:C:P	45:BT:32:LYS:HG3	2.61	0.41
26:BA:2043:U:O2'	26:BA:2629:A:OP1	2.39	0.41
26:BA:2315:U:OP1	31:BF:97:GLY:HA3	2.21	0.41
27:BB:110:U:H2'	27:BB:111:G:C8	2.56	0.41
30:BE:10:THR:O	30:BE:161:ALA:HB1	2.20	0.41
31:BF:131:ILE:HG23	31:BF:134:ARG:NH2	2.27	0.41
35:BJ:72:PRO:HG3	35:BJ:136:SER:CB	2.51	0.41
37:BL:104:VAL:O	37:BL:105:LEU:HD23	2.21	0.41
1:AA:5:U:O2'	1:AA:446:G:O3'	2.32	0.41
1:AA:231:U:H4'	10:AK:13:GLY:CA	2.39	0.41
1:AA:253:A:H2'	1:AA:254:C:O4'	2.21	0.41
1:AA:542:C:O2'	1:AA:543:C:H5'	2.21	0.41
1:AA:633:U:H2'	1:AA:635:A:OP2	2.20	0.41
1:AA:697:G:H2'	1:AA:698:U:O4'	2.21	0.41
1:AA:766:G:H2'	1:AA:767:C:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:887:G:H2'	1:AA:888:G:O4'	2.21	0.41
1:AA:990:G:H2'	1:AA:991:U:C6	2.56	0.41
1:AA:992:G:H4'	1:AA:993:C:H5"	2.03	0.41
1:AA:1227:A:N7	24:AM:41:PRO:HD3	2.36	0.41
1:AA:1390:C:O2'	23:AH:99:LYS:NZ	2.49	0.41
3:AC:66:THR:OG1	3:AC:67:ARG:HD3	2.21	0.41
3:AC:153:HIS:O	3:AC:158:VAL:HG11	2.21	0.41
4:AD:107:VAL:CG1	4:AD:146:LYS:HE2	2.51	0.41
6:AF:127:LYS:HE2	6:AF:127:LYS:HB3	1.94	0.41
6:AF:174:ALA:HB2	6:AF:188:ILE:HG13	2.03	0.41
7:AG:25:MET:CG	7:AG:45:LEU:HD11	2.50	0.41
7:AG:26:ASP:OD1	7:AG:26:ASP:N	2.53	0.41
7:AG:128:VAL:HG11	7:AG:143:LEU:O	2.20	0.41
7:AG:192:LEU:O	7:AG:195:VAL:HB	2.21	0.41
11:AL:119:ASN:OD1	11:AL:120:PHE:N	2.54	0.41
12:AN:64:LYS:HB2	12:AN:64:LYS:HE3	1.82	0.41
13:AO:38:PRO:CB	13:AO:77:ARG:HD3	2.51	0.41
16:AQ:50:ILE:O	16:AQ:53:VAL:HG12	2.21	0.41
18:AU:34:PHE:CD1	18:AU:37:LEU:HD12	2.56	0.41
19:AV:114:VAL:HG12	19:AV:118:ARG:HA	2.02	0.41
20:AW:5:ILE:HA	20:AW:21:PHE:CB	2.50	0.41
20:AW:69:LYS:HB2	20:AW:69:LYS:HE2	1.92	0.41
20:AW:91:ALA:HB1	20:AW:92:PRO:HD2	2.03	0.41
21:AX:16:LYS:CE	21:AX:58:LEU:HD21	2.50	0.41
21:AX:33:LYS:HG3	21:AX:42:THR:HG23	2.03	0.41
22:AY:13:PHE:HB2	22:AY:66:THR:HG21	2.02	0.41
23:AH:50:VAL:HG13	23:AH:111:LYS:O	2.21	0.41
24:AM:8:LEU:HG	24:AM:95:ASN:O	2.20	0.41
26:BA:762:C:OP2	38:BM:80:ARG:NH1	2.51	0.41
26:BA:1428:G:N2	26:BA:1660:A:N3	2.67	0.41
27:BB:37:C:H2'	39:BN:142:ARG:HH12	1.86	0.41
27:BB:43:C:O2'	31:BF:35:GLN:HG2	2.20	0.41
27:BB:116:G:H2'	27:BB:117:C:H6	1.84	0.41
30:BE:38:ALA:HA	30:BE:103:GLU:HB2	2.03	0.41
30:BE:197:ILE:HA	30:BE:239:VAL:O	2.21	0.41
34:BI:12:VAL:CG2	34:BI:57:GLN:HG3	2.50	0.41
36:BK:4:MET:SD	36:BK:116:GLU:HB3	2.61	0.41
36:BK:97:ILE:HG22	36:BK:105:LYS:HG2	2.01	0.41
39:BN:44:VAL:HG12	39:BN:64:SER:OG	2.20	0.41
39:BN:64:SER:CB	39:BN:76:THR:HB	2.43	0.41
39:BN:120:LEU:HG	39:BN:137:PHE:HE1	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BR:75:GLU:OE2	43:BR:82:MET:HB3	2.21	0.41
49:BX:57:ILE:HA	49:BX:146:ASN:OD1	2.20	0.41
49:BX:69:ARG:HD3	49:BX:69:ARG:HA	1.92	0.41
52:Ba:117:GLU:O	52:Ba:118:LEU:HD23	2.21	0.41
56:Be:18:MET:HG3	56:Be:38:THR:HG22	2.03	0.41
56:Be:18:MET:HE2	56:Be:40:ARG:HB3	2.02	0.41
58:AZ:21:TYR:CE1	58:AZ:23:LYS:HE3	2.56	0.41
58:AZ:46:TYR:CE1	58:AZ:55:ALA:HB3	2.56	0.41
1:AA:24:U:H2'	1:AA:25:U:C6	2.56	0.41
1:AA:239:G:H2'	1:AA:240:G:O4'	2.20	0.41
1:AA:303:U:O4	1:AA:310:C:O2'	2.16	0.41
1:AA:418:G:OP2	20:AW:32:ARG:NE	2.54	0.41
1:AA:680:C:O2'	1:AA:681:C:H5'	2.20	0.41
1:AA:775:C:O2'	1:AA:776:A:H5'	2.20	0.41
1:AA:991:U:O4	1:AA:1147:C:H2'	2.21	0.41
2:AB:220:VAL:O	2:AB:224:LEU:HD23	2.21	0.41
4:AD:53:GLY:N	4:AD:61:LYS:O	2.54	0.41
5:AE:168:LEU:HD11	5:AE:173:HIS:ND1	2.36	0.41
6:AF:194:VAL:O	6:AF:200:ASN:ND2	2.43	0.41
7:AG:25:MET:CB	7:AG:45:LEU:HD11	2.48	0.41
7:AG:82:TYR:CE2	7:AG:110:TYR:HB2	2.56	0.41
7:AG:118:TRP:HA	9:AJ:97:LYS:HB2	2.03	0.41
8:AI:7:ILE:N	8:AI:11:TRP:O	2.30	0.41
8:AI:105:GLY:HA2	8:AI:135:ALA:HB2	2.03	0.41
8:AI:152:ARG:NH2	8:AI:160:THR:HG21	2.37	0.41
11:AL:37:TYR:O	11:AL:40:GLU:HG2	2.21	0.41
14:AP:116:THR:HA	14:AP:119:GLU:CG	2.51	0.41
18:AU:19:ARG:NH2	18:AU:37:LEU:O	2.30	0.41
18:AU:26:LEU:HA	18:AU:29:LEU:HG	2.03	0.41
18:AU:38:LEU:HD23	18:AU:42:GLU:CB	2.51	0.41
19:AV:4:VAL:HG11	19:AV:128:MET:CE	2.42	0.41
19:AV:42:GLU:C	19:AV:43:LEU:HD12	2.46	0.41
24:AM:24:LYS:HG3	24:AM:34:ILE:HD13	2.03	0.41
26:BA:899:U:OP2	52:Ba:68:ARG:HD3	2.21	0.41
27:BB:11:G:O2'	27:BB:12:C:H5'	2.21	0.41
27:BB:91:U:O2'	27:BB:92:G:H5'	2.21	0.41
29:BD:220:GLN:HG2	29:BD:221:LEU:O	2.21	0.41
29:BD:295:ILE:HD11	29:BD:311:LEU:HD11	2.03	0.41
30:BE:149:LEU:HD11	30:BE:155:VAL:HG22	2.03	0.41
37:BL:96:LEU:HG	37:BL:118:SER:HB2	2.03	0.41
39:BN:120:LEU:CD1	39:BN:130:ILE:HD13	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BO:108:SER:O	40:BO:112:ILE:HG22	2.20	0.41
41:BP:125:ARG:HA	41:BP:125:ARG:HD3	1.68	0.41
42:BQ:32:LYS:NZ	42:BQ:33:ASN:OD1	2.54	0.41
44:BS:19:MET:CE	44:BS:144:GLU:HG2	2.51	0.41
53:Bb:33:LEU:HD12	53:Bb:33:LEU:HA	1.83	0.41
1:AA:114:U:H2'	1:AA:115:U:C6	2.55	0.40
1:AA:255:U:O4	1:AA:256:A:N6	2.54	0.40
1:AA:390:C:H1'	1:AA:405:G:H22	1.85	0.40
1:AA:726:G:O2'	1:AA:727:G:H5'	2.19	0.40
1:AA:775:C:H1'	1:AA:798:G:N2	2.36	0.40
1:AA:789:C:H2'	1:AA:790:C:C6	2.56	0.40
1:AA:1069:A:C1'	1:AA:1093:A:H62	2.34	0.40
1:AA:1235:A:H5'	19:AV:90:LYS:CD	2.49	0.40
1:AA:1280:A:H2'	1:AA:1281:G:C5'	2.51	0.40
1:AA:1314:C:H5"	11:AL:120:PHE:CB	2.51	0.40
1:AA:1319:U:H2'	1:AA:1320:G:O4'	2.22	0.40
1:AA:1322:A:H4'	8:AI:60:ASN:HD21	1.86	0.40
3:AC:169:ALA:N	3:AC:176:LEU:O	2.55	0.40
4:AD:22:GLU:O	4:AD:80:THR:HG22	2.21	0.40
5:AE:11:TYR:HA	5:AE:46:SER:OG	2.21	0.40
6:AF:38:PRO:HG2	6:AF:41:ILE:CD1	2.46	0.40
6:AF:41:ILE:HG23	6:AF:45:ASP:OD2	2.21	0.40
6:AF:98:GLN:HE21	6:AF:102:GLY:HA2	1.86	0.40
7:AG:7:TRP:CH2	7:AG:9:PRO:HB3	2.57	0.40
7:AG:97:ILE:O	7:AG:101:ILE:HG13	2.21	0.40
8:AI:34:VAL:HB	11:AL:44:MET:HG2	2.03	0.40
8:AI:41:HIS:HA	8:AI:47:ASN:HB2	2.02	0.40
14:AP:98:LYS:HZ1	18:AU:37:LEU:HA	1.85	0.40
14:AP:134:ARG:HH11	14:AP:139:LEU:HB3	1.86	0.40
15:AR:15:CYS:SG	15:AR:18:CYS:HB2	2.61	0.40
19:AV:55:CYS:SG	19:AV:101:THR:HG22	2.61	0.40
19:AV:58:VAL:HG22	19:AV:77:TYR:OH	2.21	0.40
21:AX:24:GLN:CD	21:AX:37:VAL:HG23	2.47	0.40
26:BA:1327:C:C5	30:BE:179:ALA:HB2	2.56	0.40
26:BA:1754:G:O2'	53:Bb:19:GLY:HA2	2.21	0.40
26:BA:2272:C:P	43:BR:6:GLY:HA3	2.61	0.40
34:BI:54:GLU:HB2	34:BI:159:THR:CG2	2.48	0.40
34:BI:88:ARG:NE	34:BI:135:THR:OG1	2.45	0.40
39:BN:105:ILE:HG22	39:BN:116:VAL:HG11	2.03	0.40
43:BR:50:LYS:HE3	43:BR:50:LYS:HB3	1.90	0.40
44:BS:31:ARG:HB2	44:BS:116:ILE:CD1	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:Be:6:GLU:OE1	56:Be:6:GLU:N	2.43	0.40
1:AA:519:C:H2'	1:AA:520:C:H6	1.87	0.40
1:AA:684:A:O2'	16:AQ:8:ARG:HD2	2.20	0.40
1:AA:719:A:H2'	1:AA:720:C:O4'	2.21	0.40
1:AA:791:G:H2'	1:AA:792:U:C6	2.55	0.40
1:AA:1215:A:H2'	1:AA:1216:A:C8	2.56	0.40
1:AA:1414:U:H2'	1:AA:1415:U:C6	2.56	0.40
3:AC:35:LEU:HG	24:AM:92:LYS:NZ	2.37	0.40
4:AD:69:ARG:HD3	4:AD:83:MET:HE3	2.03	0.40
5:AE:102:SER:HB3	7:AG:148:ARG:CD	2.51	0.40
7:AG:13:LEU:HD21	7:AG:33:LEU:HB2	2.03	0.40
7:AG:126:HIS:CB	7:AG:168:LYS:HD2	2.51	0.40
7:AG:198:VAL:O	7:AG:200:LEU:HD12	2.21	0.40
14:AP:25:ARG:NH1	14:AP:28:ASN:HA	2.37	0.40
14:AP:99:ASP:HB3	14:AP:106:LYS:HZ1	1.87	0.40
15:AR:26:ARG:HG2	15:AR:31:TYR:CE2	2.57	0.40
17:AS:18:ASP:HB3	17:AS:21:CYS:CB	2.37	0.40
18:AU:81:ILE:CD1	18:AU:98:LEU:HB3	2.51	0.40
19:AV:62:ILE:HD13	19:AV:68:ILE:HG13	2.03	0.40
19:AV:117:GLY:O	19:AV:118:ARG:HG3	2.21	0.40
22:AY:14:ALA:HB3	22:AY:39:GLU:CG	2.51	0.40
24:AM:51:LYS:HB2	24:AM:60:THR:HB	2.04	0.40
25:AT:46:ILE:O	25:AT:50:VAL:HG23	2.21	0.40
26:BA:897:C:N4	37:BL:4:LYS:HG2	2.35	0.40
27:BB:44:C:O2	31:BF:64:ARG:NE	2.47	0.40
28:BC:105:PHE:HA	28:BC:127:ALA:O	2.22	0.40
28:BC:120:VAL:HG21	28:BC:127:ALA:HB2	2.03	0.40
31:BF:126:ARG:HG3	31:BF:147:VAL:HG13	2.01	0.40
32:BG:11:ILE:HD11	32:BG:51:VAL:CG2	2.49	0.40
33:BH:32:LYS:HD2	33:BH:90:LEU:HD23	2.03	0.40
36:BK:6:SER:HB3	36:BK:81:ARG:O	2.21	0.40
38:BM:115:VAL:HG13	38:BM:132:VAL:CG1	2.51	0.40
39:BN:96:LYS:HE2	39:BN:96:LYS:HB2	1.97	0.40
41:BP:44:LEU:HD23	41:BP:47:GLU:OE2	2.21	0.40
48:BW:60:ILE:HD13	48:BW:60:ILE:HA	1.88	0.40
49:BX:57:ILE:HD12	49:BX:149:LEU:CD1	2.51	0.40
51:BZ:4:ASP:OD1	51:BZ:4:ASP:N	2.53	0.40
52:Ba:53:ARG:HB2	52:Ba:65:ASN:O	2.21	0.40
52:Ba:63:ASP:HB2	52:Ba:65:ASN:OD1	2.21	0.40
1:AA:140:U:O3'	23:AH:82:GLY:HA2	2.20	0.40
1:AA:234:U:H3'	10:AK:8:ARG:NH2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:244:A:H2'	1:AA:245:A:O4'	2.21	0.40
1:AA:493:G:OP1	13:AO:108:GLY:HA2	2.22	0.40
1:AA:550:U:H3	1:AA:570:G:H22	1.70	0.40
1:AA:671:G:O2'	1:AA:707:A:O4'	2.30	0.40
1:AA:875:A:O2'	1:AA:876:G:H5'	2.21	0.40
1:AA:881:A:O2'	1:AA:882:C:H5'	2.21	0.40
1:AA:987:G:O4'	1:AA:1162:U:H4'	2.21	0.40
1:AA:1208:C:O2	1:AA:1222:U:H1'	2.21	0.40
1:AA:1384:C:H42	1:AA:1401:G:H1	1.70	0.40
3:AC:40:MET:HE3	3:AC:40:MET:HB3	1.98	0.40
3:AC:157:PRO:CA	3:AC:161:VAL:HB	2.45	0.40
4:AD:27:LEU:CD1	4:AD:55:LEU:HD23	2.52	0.40
5:AE:51:TYR:CE1	5:AE:85:LEU:HD21	2.57	0.40
5:AE:136:GLY:HA3	5:AE:144:LYS:NZ	2.36	0.40
6:AF:109:LEU:CD2	6:AF:228:ARG:HB2	2.52	0.40
10:AK:110:THR:CG2	10:AK:122:VAL:HG23	2.47	0.40
11:AL:118:LYS:CA	11:AL:125:ALA:HA	2.50	0.40
17:AS:76:ALA:O	17:AS:79:SER:OG	2.34	0.40
18:AU:76:ILE:HD12	18:AU:105:HIS:O	2.21	0.40
19:AV:83:ASN:CB	19:AV:86:LYS:HB2	2.51	0.40
22:AY:23:ASN:HA	22:AY:31:SER:HA	2.03	0.40
22:AY:31:SER:O	22:AY:50:ASN:HA	2.21	0.40
26:BA:256:A:N6	33:BH:90:LEU:HD11	2.36	0.40
26:BA:1575:C:OP1	41:BP:118:SER:HA	2.21	0.40
26:BA:2511:U:O2'	26:BA:2515:U:OP1	2.35	0.40
26:BA:2739:G:O2'	29:BD:266:LYS:NZ	2.53	0.40
29:BD:214:VAL:HA	29:BD:219:ILE:HG12	2.04	0.40
30:BE:169:LEU:HD23	30:BE:169:LEU:HA	1.92	0.40
30:BE:169:LEU:HD22	30:BE:173:TYR:CE2	2.56	0.40
35:BJ:7:ILE:HD13	35:BJ:116:ILE:HD11	2.03	0.40
36:BK:12:LEU:O	36:BK:47:ALA:N	2.41	0.40
39:BN:133:SER:O	39:BN:136:VAL:HG22	2.21	0.40
41:BP:85:LYS:O	41:BP:85:LYS:HD2	2.20	0.40
50:BY:89:VAL:CG1	50:BY:92:SER:HB3	2.49	0.40
57:Bf:87:LYS:HE2	57:Bf:89:GLU:CG	2.47	0.40
1:AA:208:G:O2'	1:AA:209:G:H5'	2.21	0.40
1:AA:504:U:H5'	13:AO:11:LEU:HD22	2.03	0.40
1:AA:669:A:H2'	1:AA:670:A:C8	2.57	0.40
1:AA:981:U:H2'	1:AA:982:G:H8	1.85	0.40
1:AA:1077:C:HO2'	19:AV:2:THR:HG23	1.87	0.40
2:AB:222:TRP:CZ3	2:AB:226:ARG:HD3	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:149:GLY:O	3:AC:151:ILE:HD12	2.21	0.40
7:AG:49:GLU:HG2	7:AG:164:LYS:CD	2.51	0.40
7:AG:111:ILE:HD12	7:AG:192:LEU:HD22	2.03	0.40
8:AI:4:LEU:HG	8:AI:12:ASP:OD2	2.20	0.40
8:AI:13:PRO:HA	8:AI:94:ILE:HD11	2.03	0.40
9:AJ:36:ASN:O	9:AJ:40:VAL:HG12	2.21	0.40
9:AJ:105:THR:CG2	9:AJ:124:GLN:HB2	2.51	0.40
21:AX:13:LEU:CD2	21:AX:60:VAL:HG22	2.52	0.40
21:AX:17:CYS:HB3	21:AX:22:ASN:N	2.36	0.40
23:AH:94:LYS:HB3	23:AH:94:LYS:HE2	1.75	0.40
26:BA:1509:G:O2'	26:BA:1510:U:O5'	2.39	0.40
26:BA:1972:U:OP2	36:BK:66:LYS:HE3	2.20	0.40
26:BA:2695:C:C5'	47:BV:17:THR:HG22	2.52	0.40
27:BB:27:A:C2'	27:BB:28:A:H5'	2.52	0.40
30:BE:6:THR:O	30:BE:14:VAL:N	2.38	0.40
31:BF:108:ARG:HD3	31:BF:109:TYR:H	1.85	0.40
34:BI:18:THR:HG22	34:BI:93:GLU:HA	2.04	0.40
35:BJ:61:ALA:H	35:BJ:65:GLY:HA3	1.86	0.40
37:BL:119:GLU:N	37:BL:119:GLU:OE1	2.52	0.40
40:BO:67:VAL:HG11	40:BO:122:ILE:HG12	2.04	0.40
40:BO:94:SER:O	40:BO:98:LYS:HG3	2.22	0.40
41:BP:140:SER:HA	41:BP:143:GLU:HG3	2.04	0.40
51:BZ:21:VAL:CG2	51:BZ:29:ARG:HG2	2.41	0.40
52:Ba:132:ILE:CG2	52:Ba:137:LYS:HB2	2.51	0.40
1:AA:38:G:OP2	1:AA:38:G:H2'	2.22	0.40
1:AA:858:A:H4'	1:AA:859:A:H4'	2.03	0.40
1:AA:1070:G:O6	1:AA:1091:G:H1'	2.22	0.40
1:AA:1194:G:H2'	1:AA:1195:A:C4	2.56	0.40
1:AA:1210:C:OP2	19:AV:70:ILE:HG13	2.21	0.40
1:AA:1258:G:H2'	1:AA:1259:G:H8	1.85	0.40
1:AA:1276:G:H5"	14:AP:48:GLY:N	2.35	0.40
1:AA:1429:U:C3'	1:AA:1430:A:H5"	2.52	0.40
2:AB:240:LEU:HG	2:AB:244:GLU:HG2	2.02	0.40
3:AC:17:MET:HE1	3:AC:73:TYR:CE1	2.57	0.40
3:AC:36:ASN:O	3:AC:43:GLN:HB3	2.21	0.40
5:AE:58:LEU:HD13	5:AE:78:SER:HA	2.04	0.40
5:AE:91:ILE:HD12	5:AE:91:ILE:HA	1.97	0.40
7:AG:12:ARG:O	7:AG:16:LEU:HG	2.21	0.40
7:AG:107:ASN:HA	58:AZ:19:LYS:NZ	2.36	0.40
8:AI:81:ALA:O	8:AI:85:VAL:HG23	2.21	0.40
9:AJ:40:VAL:CG1	9:AJ:103:ILE:HD12	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AR:20:ARG:C	15:AR:21:LYS:HD2	2.47	0.40
16:AQ:84:ILE:HD11	16:AQ:151:THR:CB	2.48	0.40
26:BA:945:G:N2	26:BA:946:U:O4	2.30	0.40
26:BA:1103:G:H4'	42:BQ:37:LYS:HG3	2.03	0.40
26:BA:1818:U:O2	26:BA:2619:G:O2'	2.28	0.40
27:BB:76:U:H2'	27:BB:77:A:C8	2.57	0.40
31:BF:52:LYS:HD2	31:BF:53:LYS:H	1.87	0.40
32:BG:17:VAL:HG12	32:BG:26:ALA:CA	2.49	0.40
33:BH:108:MET:O	33:BH:112:ILE:HG13	2.22	0.40
34:BI:29:SER:HB2	34:BI:60:HIS:HB2	2.04	0.40
36:BK:86:LEU:HD11	47:BV:19:LYS:C	2.46	0.40
38:BM:38:VAL:HG13	38:BM:64:VAL:HG11	2.04	0.40
41:BP:21:ARG:O	41:BP:53:LYS:HG3	2.20	0.40
46:BU:54:LYS:HD2	46:BU:62:GLY:HA2	2.03	0.40
58:AZ:33:ILE:HD11	58:AZ:48:CYS:CB	2.51	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	188/247 (76%)	183 (97%)	5 (3%)	0	100	100
3	AC	184/318 (58%)	167 (91%)	17 (9%)	0	100	100
4	AD	180/203 (89%)	174 (97%)	6 (3%)	0	100	100
5	AE	163/218 (75%)	154 (94%)	9 (6%)	0	100	100
6	AF	232/235 (99%)	205 (88%)	27 (12%)	0	100	100
7	AG	196/209 (94%)	184 (94%)	12 (6%)	0	100	100
8	AI	187/189 (99%)	168 (90%)	19 (10%)	0	100	100
9	AJ	127/130 (98%)	118 (93%)	9 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	AK	123/125 (98%)	109 (89%)	14 (11%)	0	100	100
11	AL	130/134 (97%)	110 (85%)	18 (14%)	2 (2%)	8	28
12	AN	121/126 (96%)	111 (92%)	9 (7%)	1 (1%)	16	44
13	AO	140/142 (99%)	130 (93%)	10 (7%)	0	100	100
14	AP	130/182 (71%)	120 (92%)	9 (7%)	1 (1%)	16	44
15	AR	42/50 (84%)	38 (90%)	4 (10%)	0	100	100
16	AQ	150/152 (99%)	143 (95%)	7 (5%)	0	100	100
17	AS	107/109 (98%)	93 (87%)	14 (13%)	0	100	100
18	AU	93/136 (68%)	86 (92%)	7 (8%)	0	100	100
19	AV	147/149 (99%)	132 (90%)	14 (10%)	1 (1%)	19	47
20	AW	93/101 (92%)	84 (90%)	9 (10%)	0	100	100
21	AX	58/62 (94%)	52 (90%)	6 (10%)	0	100	100
22	AY	61/76 (80%)	52 (85%)	9 (15%)	0	100	100
23	AH	122/136 (90%)	114 (93%)	8 (7%)	0	100	100
24	AM	100/102 (98%)	96 (96%)	4 (4%)	0	100	100
25	AT	56/64 (88%)	54 (96%)	2 (4%)	0	100	100
28	BC	236/238 (99%)	228 (97%)	8 (3%)	0	100	100
29	BD	335/337 (99%)	318 (95%)	17 (5%)	0	100	100
30	BE	250/253 (99%)	234 (94%)	16 (6%)	0	100	100
31	BF	163/165 (99%)	157 (96%)	6 (4%)	0	100	100
32	BG	174/176 (99%)	170 (98%)	4 (2%)	0	100	100
33	BH	113/120 (94%)	111 (98%)	2 (2%)	0	100	100
34	BI	155/173 (90%)	148 (96%)	7 (4%)	0	100	100
35	BJ	136/143 (95%)	127 (93%)	9 (7%)	0	100	100
36	BK	130/132 (98%)	127 (98%)	3 (2%)	0	100	100
37	BL	138/140 (99%)	130 (94%)	8 (6%)	0	100	100
38	BM	194/196 (99%)	187 (96%)	7 (4%)	0	100	100
39	BN	172/174 (99%)	168 (98%)	4 (2%)	0	100	100
40	BO	124/126 (98%)	119 (96%)	5 (4%)	0	100	100
41	BP	149/151 (99%)	146 (98%)	3 (2%)	0	100	100
42	BQ	55/61 (90%)	53 (96%)	2 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	BR	94/97 (97%)	90 (96%)	4 (4%)	0	100	100
44	BS	149/151 (99%)	140 (94%)	9 (6%)	0	100	100
45	BT	80/82 (98%)	78 (98%)	2 (2%)	0	100	100
46	BU	117/119 (98%)	110 (94%)	7 (6%)	0	100	100
47	BV	60/62 (97%)	59 (98%)	1 (2%)	0	100	100
48	BW	65/67 (97%)	63 (97%)	2 (3%)	0	100	100
49	BX	151/153 (99%)	146 (97%)	5 (3%)	0	100	100
50	BY	90/99 (91%)	86 (96%)	4 (4%)	0	100	100
51	BZ	84/89 (94%)	83 (99%)	1 (1%)	0	100	100
52	Ba	130/161 (81%)	126 (97%)	4 (3%)	0	100	100
53	Bb	92/94 (98%)	86 (94%)	6 (6%)	0	100	100
54	Bc	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
55	Bd	49/51 (96%)	46 (94%)	3 (6%)	0	100	100
56	Be	42/52 (81%)	38 (90%)	4 (10%)	0	100	100
57	Bf	90/92 (98%)	86 (96%)	4 (4%)	0	100	100
58	AZ	48/56 (86%)	46 (96%)	2 (4%)	0	100	100
All	All	7049/7661 (92%)	6635 (94%)	409 (6%)	5 (0%)	50	76

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	AL	105	ARG
19	AV	30	GLU
11	AL	12	LYS
14	AP	49	ARG
12	AN	124	ARG

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	166/212 (78%)	166 (100%)	0	100	100
3	AC	149/250 (60%)	149 (100%)	0	100	100
4	AD	160/173 (92%)	160 (100%)	0	100	100
5	AE	145/178 (82%)	145 (100%)	0	100	100
6	AF	208/209 (100%)	208 (100%)	0	100	100
7	AG	161/170 (95%)	161 (100%)	0	100	100
8	AI	159/159 (100%)	159 (100%)	0	100	100
9	AJ	104/105 (99%)	104 (100%)	0	100	100
10	AK	105/105 (100%)	105 (100%)	0	100	100
11	AL	105/107 (98%)	105 (100%)	0	100	100
12	AN	92/94 (98%)	92 (100%)	0	100	100
13	AO	112/112 (100%)	112 (100%)	0	100	100
14	AP	108/151 (72%)	108 (100%)	0	100	100
15	AR	38/44 (86%)	38 (100%)	0	100	100
16	AQ	138/138 (100%)	138 (100%)	0	100	100
17	AS	96/96 (100%)	96 (100%)	0	100	100
18	AU	84/118 (71%)	84 (100%)	0	100	100
19	AV	123/123 (100%)	123 (100%)	0	100	100
20	AW	83/87 (95%)	83 (100%)	0	100	100
21	AX	54/56 (96%)	54 (100%)	0	100	100
22	AY	50/62 (81%)	50 (100%)	0	100	100
23	AH	96/103 (93%)	96 (100%)	0	100	100
24	AM	89/89 (100%)	89 (100%)	0	100	100
25	AT	52/57 (91%)	52 (100%)	0	100	100
28	BC	188/188 (100%)	188 (100%)	0	100	100
29	BD	277/277 (100%)	277 (100%)	0	100	100
30	BE	197/198 (100%)	197 (100%)	0	100	100
31	BF	140/140 (100%)	140 (100%)	0	100	100
32	BG	148/148 (100%)	148 (100%)	0	100	100
33	BH	88/91 (97%)	88 (100%)	0	100	100
34	BI	132/141 (94%)	132 (100%)	0	100	100
35	BJ	114/119 (96%)	114 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	BK	109/109 (100%)	109 (100%)	0	100	100
37	BL	108/108 (100%)	108 (100%)	0	100	100
38	BM	166/166 (100%)	166 (100%)	0	100	100
39	BN	143/143 (100%)	143 (100%)	0	100	100
40	BO	104/104 (100%)	104 (100%)	0	100	100
41	BP	123/123 (100%)	123 (100%)	0	100	100
42	BQ	50/54 (93%)	50 (100%)	0	100	100
43	BR	85/86 (99%)	85 (100%)	0	100	100
44	BS	124/124 (100%)	124 (100%)	0	100	100
45	BT	73/73 (100%)	73 (100%)	0	100	100
46	BU	100/100 (100%)	100 (100%)	0	100	100
47	BV	54/54 (100%)	54 (100%)	0	100	100
48	BW	57/57 (100%)	57 (100%)	0	100	100
49	BX	134/134 (100%)	134 (100%)	0	100	100
50	BY	71/78 (91%)	71 (100%)	0	100	100
51	BZ	76/78 (97%)	76 (100%)	0	100	100
52	Ba	109/135 (81%)	109 (100%)	0	100	100
53	Bb	76/76 (100%)	76 (100%)	0	100	100
54	Bc	49/49 (100%)	49 (100%)	0	100	100
55	Bd	48/48 (100%)	48 (100%)	0	100	100
56	Be	37/43 (86%)	37 (100%)	0	100	100
57	Bf	82/82 (100%)	82 (100%)	0	100	100
58	AZ	42/48 (88%)	42 (100%)	0	100	100
All	All	5981/6372 (94%)	5981 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (27) such sidechains are listed below:

Mol	Chain	Res	Type
5	AE	107	ASN
6	AF	20	ASN
6	AF	121	ASN
8	AI	95	GLN

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Mol	Chain	Res	Type
12	AN	54	GLN
13	AO	78	GLN
19	AV	83	ASN
20	AW	89	ASN
28	BC	9	ASN
28	BC	196	ASN
29	BD	220	GLN
29	BD	229	GLN
29	BD	286	ASN
32	BG	154	GLN
34	BI	33	HIS
36	BK	78	GLN
38	BM	127	HIS
38	BM	138	HIS
39	BN	108	GLN
46	BU	68	GLN
46	BU	97	ASN
47	BV	3	GLN
49	BX	30	ASN
49	BX	134	GLN
52	Ba	44	GLN
55	Bd	16	HIS
57	Bf	18	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1459/1478 (98%)	304 (20%)	4 (0%)
26	BA	2769/2899 (95%)	424 (15%)	6 (0%)
27	BB	127/129 (98%)	13 (10%)	0
All	All	4355/4506 (96%)	741 (17%)	10 (0%)

All (741) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	2	U
1	AA	4	C
1	AA	8	U
1	AA	17	C
1	AA	33	U
1	AA	38	G

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Mol	Chain	Res	Type
1	AA	39	U
1	AA	42	G
1	AA	45	U
1	AA	47	A
1	AA	70	U
1	AA	72	U
1	AA	73	G
1	AA	86	U
1	AA	91	A
1	AA	95	A
1	AA	96	C
1	AA	105	A
1	AA	107	C
1	AA	117	G
1	AA	120	C
1	AA	122	G
1	AA	125	A
1	AA	133	G
1	AA	139	C
1	AA	152	C
1	AA	156	U
1	AA	157	A
1	AA	158	A
1	AA	161	C
1	AA	162	A
1	AA	163	C
1	AA	164	A
1	AA	166	A
1	AA	167	U
1	AA	171	G
1	AA	172	G
1	AA	173	A
1	AA	174	A
1	AA	175	U
1	AA	176	G
1	AA	178	U
1	AA	180	U
1	AA	187	A
1	AA	190	A
1	AA	191	C
1	AA	192	G
1	AA	196	U

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Mol	Chain	Res	Type
1	AA	197	C
1	AA	199	U
1	AA	218	G
1	AA	222	C
1	AA	227	C
1	AA	229	G
1	AA	233	G
1	AA	240	G
1	AA	248	U
1	AA	249	A
1	AA	261	A
1	AA	262	C
1	AA	263	A
1	AA	271	C
1	AA	287	G
1	AA	291	C
1	AA	297	A
1	AA	310	C
1	AA	311	A
1	AA	312	U
1	AA	327	C
1	AA	328	G
1	AA	329	G
1	AA	334	C
1	AA	336	G
1	AA	338	A
1	AA	347	A
1	AA	349	C
1	AA	351	U
1	AA	354	C
1	AA	355	A
1	AA	366	C
1	AA	372	U
1	AA	375	G
1	AA	379	A
1	AA	380	C
1	AA	385	A
1	AA	388	G
1	AA	391	A
1	AA	394	A
1	AA	397	A
1	AA	399	A

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Mol	Chain	Res	Type
1	AA	401	G
1	AA	402	C
1	AA	405	G
1	AA	422	A
1	AA	433	U
1	AA	434	A
1	AA	435	G
1	AA	436	C
1	AA	448	A
1	AA	449	A
1	AA	451	A
1	AA	454	G
1	AA	458	C
1	AA	467	G
1	AA	470	G
1	AA	471	U
1	AA	476	C
1	AA	487	A
1	AA	493	G
1	AA	500	A
1	AA	501	U
1	AA	507	G
1	AA	508	G
1	AA	513	A
1	AA	516	G
1	AA	517	G
1	AA	522	U
1	AA	536	A
1	AA	545	G
1	AA	559	U
1	AA	573	U
1	AA	574	U
1	AA	575	C
1	AA	583	A
1	AA	590	G
1	AA	594	U
1	AA	606	A
1	AA	629	G
1	AA	664	U
1	AA	665	G
1	AA	672	G
1	AA	689	G

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Mol	Chain	Res	Type
1	AA	690	U
1	AA	694	A
1	AA	696	G
1	AA	701	G
1	AA	702	G
1	AA	707	A
1	AA	734	U
1	AA	735	A
1	AA	750	G
1	AA	756	A
1	AA	758	C
1	AA	761	U
1	AA	762	G
1	AA	769	A
1	AA	773	G
1	AA	774	U
1	AA	785	G
1	AA	786	C
1	AA	787	G
1	AA	788	A
1	AA	789	C
1	AA	791	G
1	AA	808	G
1	AA	809	A
1	AA	817	A
1	AA	818	A
1	AA	830	G
1	AA	834	A
1	AA	859	A
1	AA	871	G
1	AA	872	G
1	AA	879	C
1	AA	881	A
1	AA	906	U
1	AA	907	U
1	AA	914	A
1	AA	915	A
1	AA	917	G
1	AA	920	G
1	AA	923	C
1	AA	925	A
1	AA	927	U

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Mol	Chain	Res	Type
1	AA	928	C
1	AA	929	A
1	AA	934	G
1	AA	944	A
1	AA	951	A
1	AA	955	C
1	AA	959	C
1	AA	964	G
1	AA	968	U
1	AA	984	G
1	AA	992	G
1	AA	995	U
1	AA	1003	G
1	AA	1004	C
1	AA	1009	U
1	AA	1020	A
1	AA	1033	G
1	AA	1034	U
1	AA	1039	C
1	AA	1040	A
1	AA	1053	C
1	AA	1056	G
1	AA	1057	C
1	AA	1059	C
1	AA	1060	A
1	AA	1063	G
1	AA	1064	U
1	AA	1065	U
1	AA	1069	A
1	AA	1074	G
1	AA	1075	U
1	AA	1076	C
1	AA	1079	C
1	AA	1082	G
1	AA	1087	A
1	AA	1088	U
1	AA	1093	A
1	AA	1094	C
1	AA	1098	G
1	AA	1099	U
1	AA	1100	G
1	AA	1104	A

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Mol	Chain	Res	Type
1	AA	1106	C
1	AA	1107	G
1	AA	1114	U
1	AA	1115	U
1	AA	1120	C
1	AA	1121	G
1	AA	1123	A
1	AA	1124	G
1	AA	1125	G
1	AA	1126	A
1	AA	1128	G
1	AA	1130	U
1	AA	1131	G
1	AA	1143	A
1	AA	1144	G
1	AA	1147	C
1	AA	1148	A
1	AA	1159	A
1	AA	1172	A
1	AA	1173	C
1	AA	1175	C
1	AA	1185	A
1	AA	1186	A
1	AA	1187	U
1	AA	1188	G
1	AA	1189	A
1	AA	1190	A
1	AA	1195	A
1	AA	1196	C
1	AA	1200	G
1	AA	1204	C
1	AA	1214	A
1	AA	1217	A
1	AA	1225	U
1	AA	1226	A
1	AA	1227	A
1	AA	1228	U
1	AA	1232	A
1	AA	1234	A
1	AA	1237	C
1	AA	1241	U
1	AA	1245	U

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Mol	Chain	Res	Type
1	AA	1246	A
1	AA	1247	G
1	AA	1248	U
1	AA	1249	U
1	AA	1250	C
1	AA	1251	G
1	AA	1252	G
1	AA	1267	C
1	AA	1281	G
1	AA	1283	U
1	AA	1285	G
1	AA	1288	U
1	AA	1300	G
1	AA	1306	C
1	AA	1307	A
1	AA	1311	U
1	AA	1322	A
1	AA	1324	A
1	AA	1325	C
1	AA	1326	G
1	AA	1329	C
1	AA	1344	C
1	AA	1345	A
1	AA	1348	G
1	AA	1355	A
1	AA	1365	A
1	AA	1375	G
1	AA	1389	A
1	AA	1390	C
1	AA	1393	C
1	AA	1394	G
1	AA	1395	U
1	AA	1396	G
1	AA	1413	A
1	AA	1429	U
1	AA	1430	A
1	AA	1431	A
1	AA	1435	G
1	AA	1442	G
1	AA	1444	U
1	AA	1455	G
1	AA	1457	A

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Mol	Chain	Res	Type
1	AA	1458	U
1	AA	1467	G
1	AA	1468	G
1	AA	1469	A
26	BA	7	U
26	BA	10	G
26	BA	28	C
26	BA	39	C
26	BA	56	A
26	BA	64	A
26	BA	67	A
26	BA	68	G
26	BA	81	G
26	BA	85	G
26	BA	106	U
26	BA	110	A
26	BA	112	U
26	BA	116	A
26	BA	117	C
26	BA	119	U
26	BA	126	A
26	BA	127	G
26	BA	128	U
26	BA	136	C
26	BA	146	A
26	BA	161	A
26	BA	181	A
26	BA	186	A
26	BA	187	A
26	BA	193	U
26	BA	194	U
26	BA	198	A
26	BA	213	G
26	BA	231	G
26	BA	234	C
26	BA	243	U
26	BA	248	U
26	BA	250	G
26	BA	266	G
26	BA	267	U
26	BA	268	A
26	BA	278	A

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Mol	Chain	Res	Type
26	BA	281	C
26	BA	287	G
26	BA	293	A
26	BA	302	U
26	BA	303	U
26	BA	311	A
26	BA	322	U
26	BA	323	A
26	BA	326	G
26	BA	330	G
26	BA	331	A
26	BA	332	C
26	BA	339	U
26	BA	341	A
26	BA	344	U
26	BA	367	G
26	BA	368	U
26	BA	375	G
26	BA	390	U
26	BA	391	A
26	BA	396	G
26	BA	412	C
26	BA	421	C
26	BA	429	A
26	BA	443	A
26	BA	444	C
26	BA	448	U
26	BA	451	C
26	BA	454	A
26	BA	455	A
26	BA	456	U
26	BA	457	A
26	BA	458	G
26	BA	467	C
26	BA	481	G
26	BA	504	A
26	BA	506	U
26	BA	507	G
26	BA	530	A
26	BA	531	C
26	BA	532	G
26	BA	543	A

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Mol	Chain	Res	Type
26	BA	546	G
26	BA	549	U
26	BA	582	A
26	BA	598	C
26	BA	613	A
26	BA	618	U
26	BA	623	G
26	BA	624	A
26	BA	625	A
26	BA	649	G
26	BA	653	A
26	BA	654	U
26	BA	658	U
26	BA	665	U
26	BA	666	U
26	BA	667	A
26	BA	674	C
26	BA	693	A
26	BA	694	U
26	BA	695	G
26	BA	706	U
26	BA	708	U
26	BA	726	A
26	BA	727	C
26	BA	730	G
26	BA	736	G
26	BA	745	G
26	BA	752	G
26	BA	758	A
26	BA	760	G
26	BA	769	U
26	BA	801	G
26	BA	809	G
26	BA	813	A
26	BA	817	U
26	BA	818	A
26	BA	819	A
26	BA	827	U
26	BA	831	C
26	BA	832	U
26	BA	833	G
26	BA	837	A

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Mol	Chain	Res	Type
26	BA	838	U
26	BA	849	A
26	BA	850	C
26	BA	867	A
26	BA	869	U
26	BA	870	G
26	BA	874	A
26	BA	890	G
26	BA	897	C
26	BA	912	C
26	BA	913	G
26	BA	920	G
26	BA	930	G
26	BA	935	C
26	BA	944	A
26	BA	945	G
26	BA	952	A
26	BA	955	G
26	BA	959	G
26	BA	964	U
26	BA	965	U
26	BA	966	C
26	BA	970	G
26	BA	971	G
26	BA	979	C
26	BA	981	C
26	BA	983	C
26	BA	984	G
26	BA	989	C
26	BA	991	U
26	BA	994	C
26	BA	996	A
26	BA	997	A
26	BA	1000	C
26	BA	1001	C
26	BA	1030	G
26	BA	1034	G
26	BA	1041	U
26	BA	1042	G
26	BA	1049	G
26	BA	1062	A
26	BA	1068	G

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Mol	Chain	Res	Type
26	BA	1077	G
26	BA	1078	C
26	BA	1096	A
26	BA	1098	G
26	BA	1099	U
26	BA	1100	G
26	BA	1109	G
26	BA	1113	U
26	BA	1116	U
26	BA	1117	A
26	BA	1118	C
26	BA	1119	U
26	BA	1120	A
26	BA	1139	A
26	BA	1140	G
26	BA	1141	A
26	BA	1144	G
26	BA	1149	A
26	BA	1150	A
26	BA	1151	G
26	BA	1152	G
26	BA	1153	U
26	BA	1154	U
26	BA	1164	G
26	BA	1165	C
26	BA	1174	U
26	BA	1175	U
26	BA	1177	A
26	BA	1179	A
26	BA	1180	G
26	BA	1181	A
26	BA	1193	C
26	BA	1198	C
26	BA	1203	G
26	BA	1205	G
26	BA	1223	U
26	BA	1225	G
26	BA	1227	C
26	BA	1231	G
26	BA	1235	A
26	BA	1245	C
26	BA	1267	G

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Mol	Chain	Res	Type
26	BA	1273	C
26	BA	1276	G
26	BA	1295	G
26	BA	1312	U
26	BA	1315	A
26	BA	1324	G
26	BA	1326	C
26	BA	1328	G
26	BA	1337	C
26	BA	1344	C
26	BA	1359	A
26	BA	1360	G
26	BA	1361	C
26	BA	1362	A
26	BA	1365	G
26	BA	1390	A
26	BA	1391	G
26	BA	1418	U
26	BA	1435	G
26	BA	1437	U
26	BA	1457	C
26	BA	1466	C
26	BA	1468	A
26	BA	1470	A
26	BA	1486	A
26	BA	1487	U
26	BA	1489	C
26	BA	1494	A
26	BA	1506	U
26	BA	1507	U
26	BA	1509	G
26	BA	1515	C
26	BA	1516	G
26	BA	1545	C
26	BA	1551	C
26	BA	1561	A
26	BA	1570	G
26	BA	1571	A
26	BA	1592	G
26	BA	1597	A
26	BA	1599	U
26	BA	1607	G

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Mol	Chain	Res	Type
26	BA	1612	A
26	BA	1613	A
26	BA	1614	G
26	BA	1616	C
26	BA	1622	C
26	BA	1635	G
26	BA	1638	A
26	BA	1665	G
26	BA	1667	A
26	BA	1673	A
26	BA	1679	G
26	BA	1680	C
26	BA	1681	C
26	BA	1698	A
26	BA	1704	U
26	BA	1705	G
26	BA	1707	C
26	BA	1712	U
26	BA	1713	A
26	BA	1733	G
26	BA	1755	G
26	BA	1799	G
26	BA	1800	G
26	BA	1809	A
26	BA	1818	U
26	BA	1822	A
26	BA	1827	A
26	BA	1836	C
26	BA	1847	G
26	BA	1869	C
26	BA	1883	U
26	BA	1884	A
26	BA	1899	U
26	BA	1924	A
26	BA	1927	G
26	BA	1928	G
26	BA	1929	G
26	BA	1931	G
26	BA	1932	U
26	BA	1933	A
26	BA	1941	C
26	BA	1942	C

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Mol	Chain	Res	Type
26	BA	1945	C
26	BA	1946	U
26	BA	1947	U
26	BA	1950	G
26	BA	1951	G
26	BA	1954	G
26	BA	1958	A
26	BA	1959	G
26	BA	1983	U
26	BA	1984	U
26	BA	1985	G
26	BA	1988	U
26	BA	1991	A
26	BA	1992	U
26	BA	1993	G
26	BA	2003	G
26	BA	2014	U
26	BA	2043	U
26	BA	2044	U
26	BA	2052	A
26	BA	2053	C
26	BA	2054	A
26	BA	2076	A
26	BA	2080	A
26	BA	2081	A
26	BA	2082	G
26	BA	2083	A
26	BA	2089	U
26	BA	2090	G
26	BA	2101	G
26	BA	2114	G
26	BA	2116	G
26	BA	2118	U
26	BA	2120	U
26	BA	2229	A
26	BA	2234	A
26	BA	2235	C
26	BA	2248	G
26	BA	2267	A
26	BA	2289	G
26	BA	2292	G
26	BA	2293	C

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Mol	Chain	Res	Type
26	BA	2297	A
26	BA	2315	U
26	BA	2316	C
26	BA	2317	G
26	BA	2330	A
26	BA	2332	A
26	BA	2344	U
26	BA	2345	A
26	BA	2357	C
26	BA	2365	A
26	BA	2366	G
26	BA	2375	U
26	BA	2376	G
26	BA	2377	G
26	BA	2378	A
26	BA	2380	G
26	BA	2396	G
26	BA	2398	U
26	BA	2420	U
26	BA	2438	G
26	BA	2443	A
26	BA	2444	A
26	BA	2452	C
26	BA	2458	G
26	BA	2459	A
26	BA	2463	U
26	BA	2464	U
26	BA	2475	C
26	BA	2479	A
26	BA	2481	G
26	BA	2485	A
26	BA	2487	A
26	BA	2505	G
26	BA	2509	C
26	BA	2513	G
26	BA	2517	U
26	BA	2518	C
26	BA	2529	A
26	BA	2540	G
26	BA	2564	G
26	BA	2565	U
26	BA	2577	A

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Mol	Chain	Res	Type
26	BA	2578	G
26	BA	2584	C
26	BA	2589	G
26	BA	2593	G
26	BA	2610	G
26	BA	2613	A
26	BA	2614	G
26	BA	2620	U
26	BA	2621	U
26	BA	2632	A
26	BA	2636	G
26	BA	2641	C
26	BA	2642	G
26	BA	2651	G
26	BA	2656	A
26	BA	2657	G
26	BA	2677	A
26	BA	2701	U
26	BA	2724	G
26	BA	2736	C
26	BA	2742	C
26	BA	2743	A
26	BA	2748	U
26	BA	2757	A
26	BA	2773	A
26	BA	2774	A
26	BA	2780	A
26	BA	2785	A
26	BA	2786	A
26	BA	2787	A
26	BA	2799	U
26	BA	2811	U
26	BA	2824	U
26	BA	2849	A
26	BA	2850	G
26	BA	2851	G
26	BA	2853	A
26	BA	2864	C
26	BA	2870	G
26	BA	2871	C
26	BA	2877	C
26	BA	2883	A

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Mol	Chain	Res	Type
26	BA	2889	U
26	BA	2890	C
26	BA	2891	C
26	BA	2892	U
26	BA	2893	U
26	BA	2894	U
26	BA	2895	C
26	BA	2897	C
27	BB	10	G
27	BB	25	G
27	BB	26	C
27	BB	36	A
27	BB	42	C
27	BB	57	U
27	BB	58	A
27	BB	98	C
27	BB	115	C
27	BB	116	G
27	BB	125	C
27	BB	127	C
27	BB	128	A

All (10) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	628	A
1	AA	1063	G
1	AA	1097	U
1	AA	1187	U
26	BA	817	U
26	BA	826	U
26	BA	837	A
26	BA	869	U
26	BA	1932	U
26	BA	1984	U

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 60 ligands modelled in this entry, 60 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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.

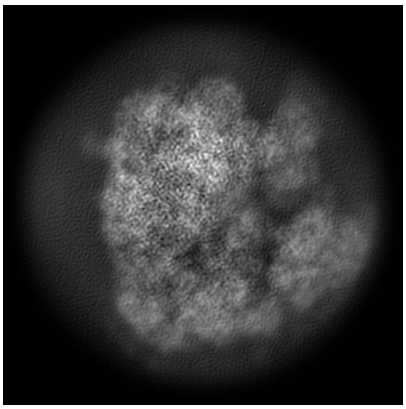
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-49998. These allow visual inspection of the internal detail of the map and identification of artifacts.

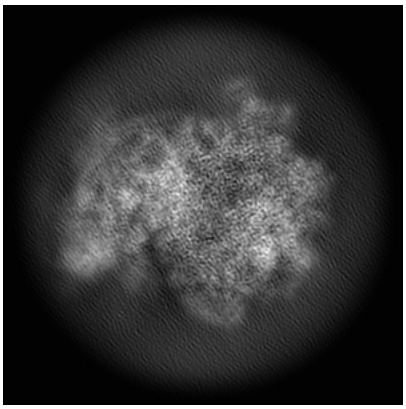
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

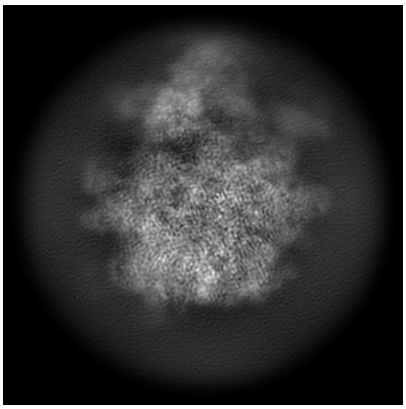
6.1.1 Primary map



X

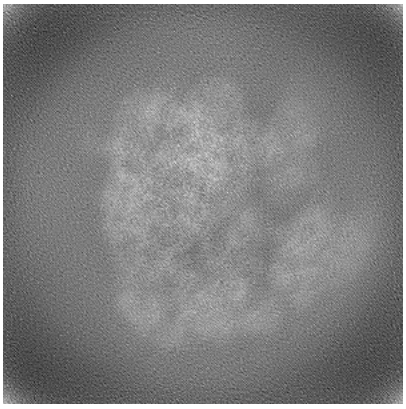


Y

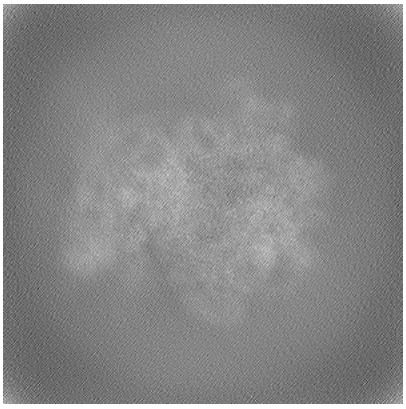


Z

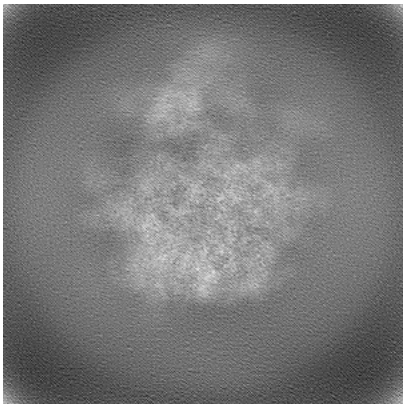
6.1.2 Raw map



X



Y

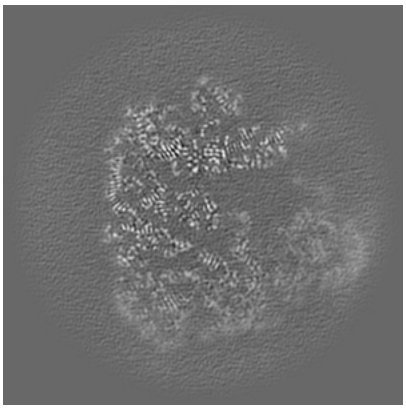


Z

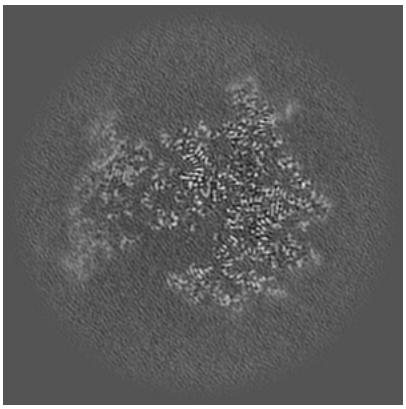
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

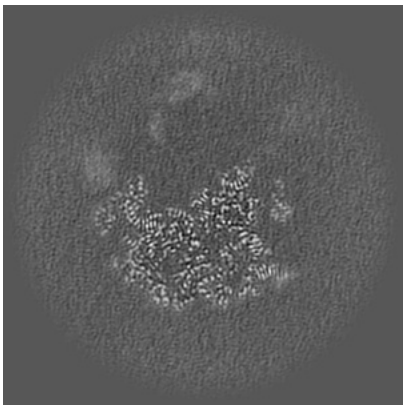
6.2.1 Primary map



X Index: 240

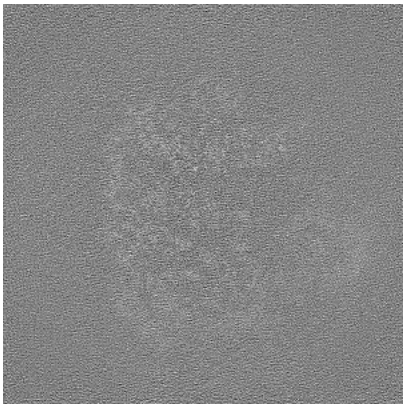


Y Index: 240

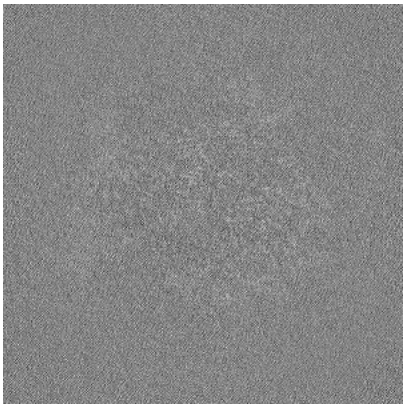


Z Index: 240

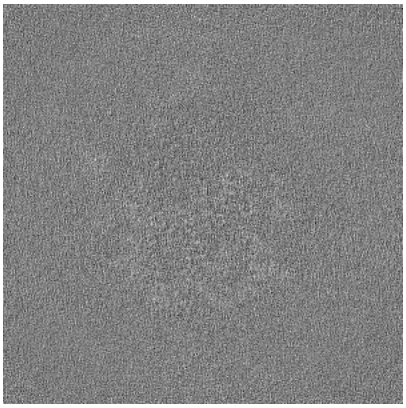
6.2.2 Raw map



X Index: 240



Y Index: 240

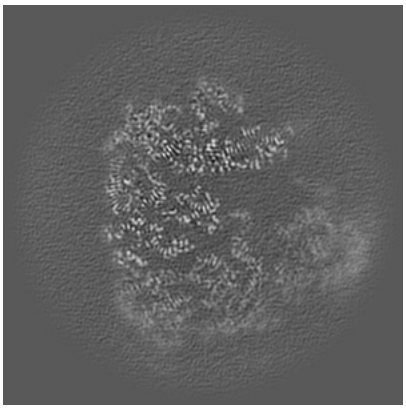


Z Index: 240

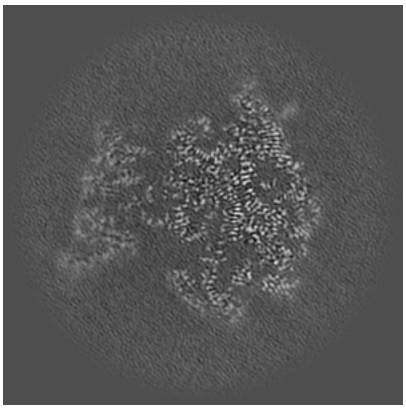
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

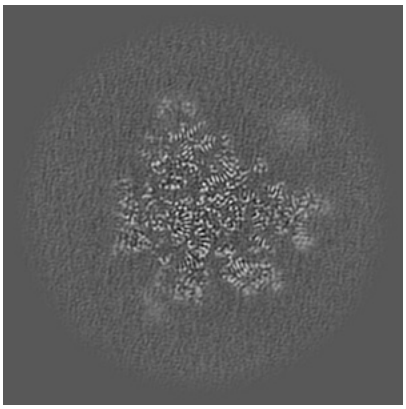
6.3.1 Primary map



X Index: 242

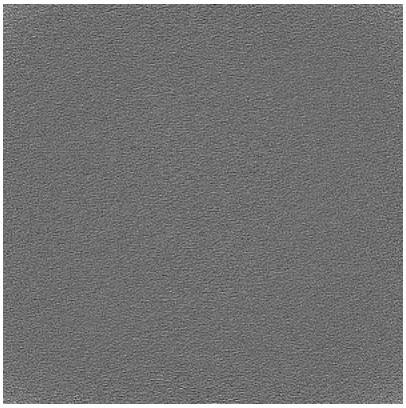


Y Index: 231

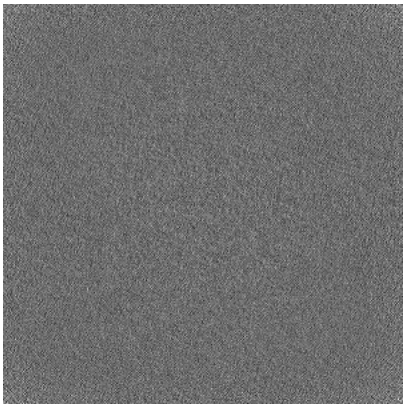


Z Index: 299

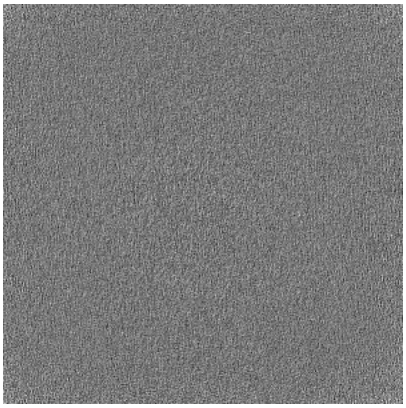
6.3.2 Raw map



X Index: 0



Y Index: 0

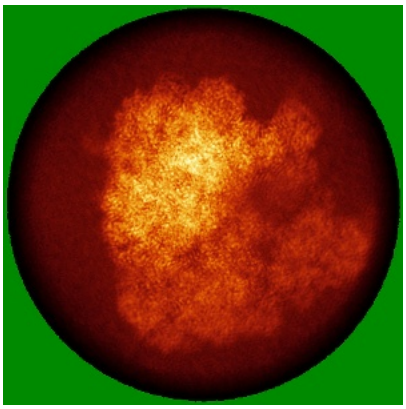


Z Index: 0

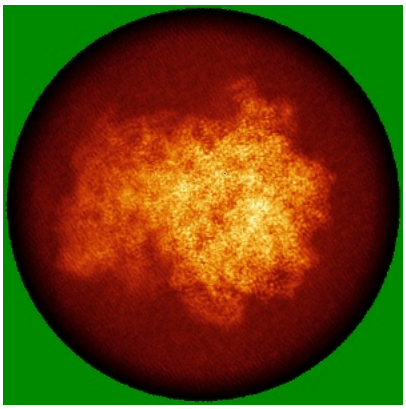
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

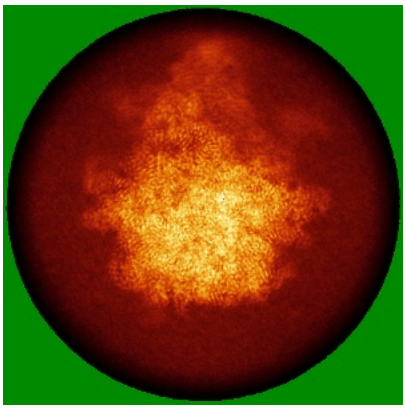
6.4.1 Primary map



X

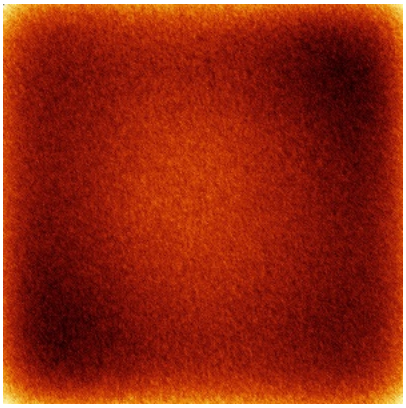


Y

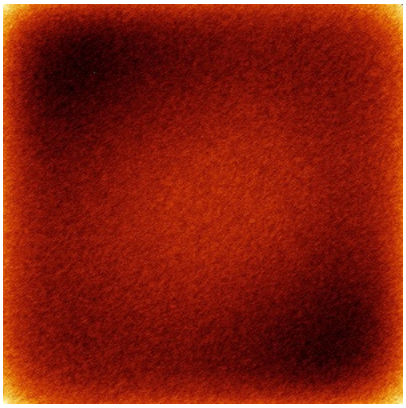


Z

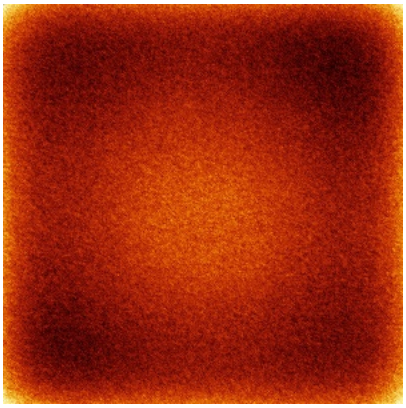
6.4.2 Raw map



X



Y



Z

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

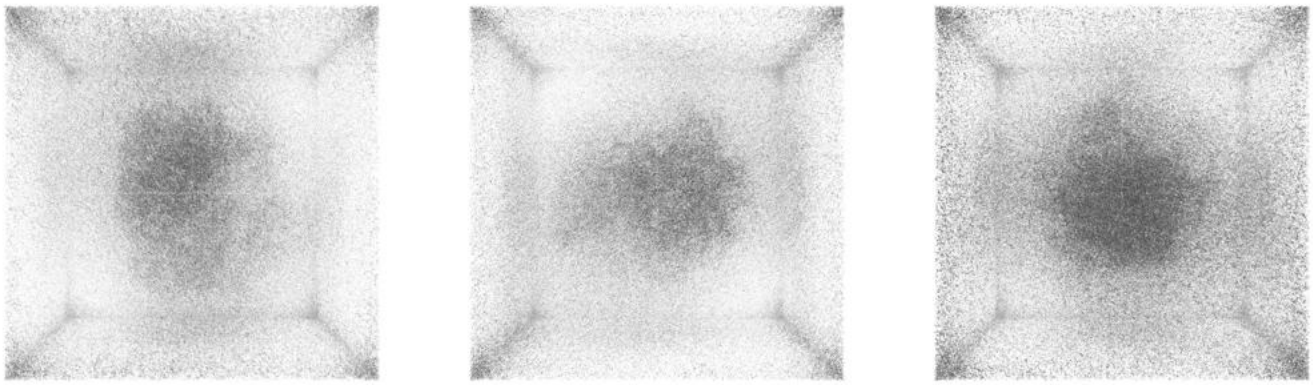
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.046. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

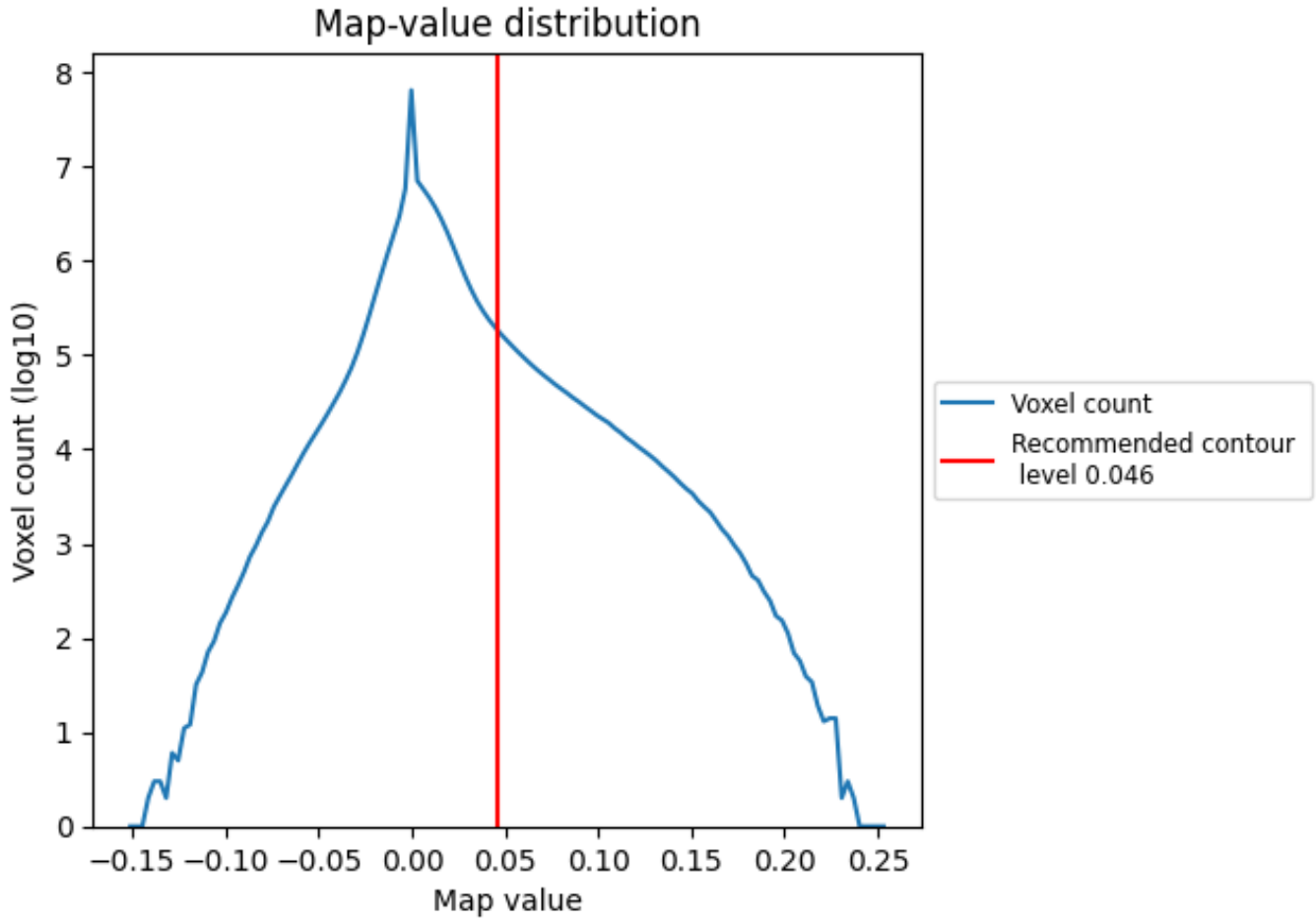
6.6 Mask visualisation (i)

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

7 Map analysis

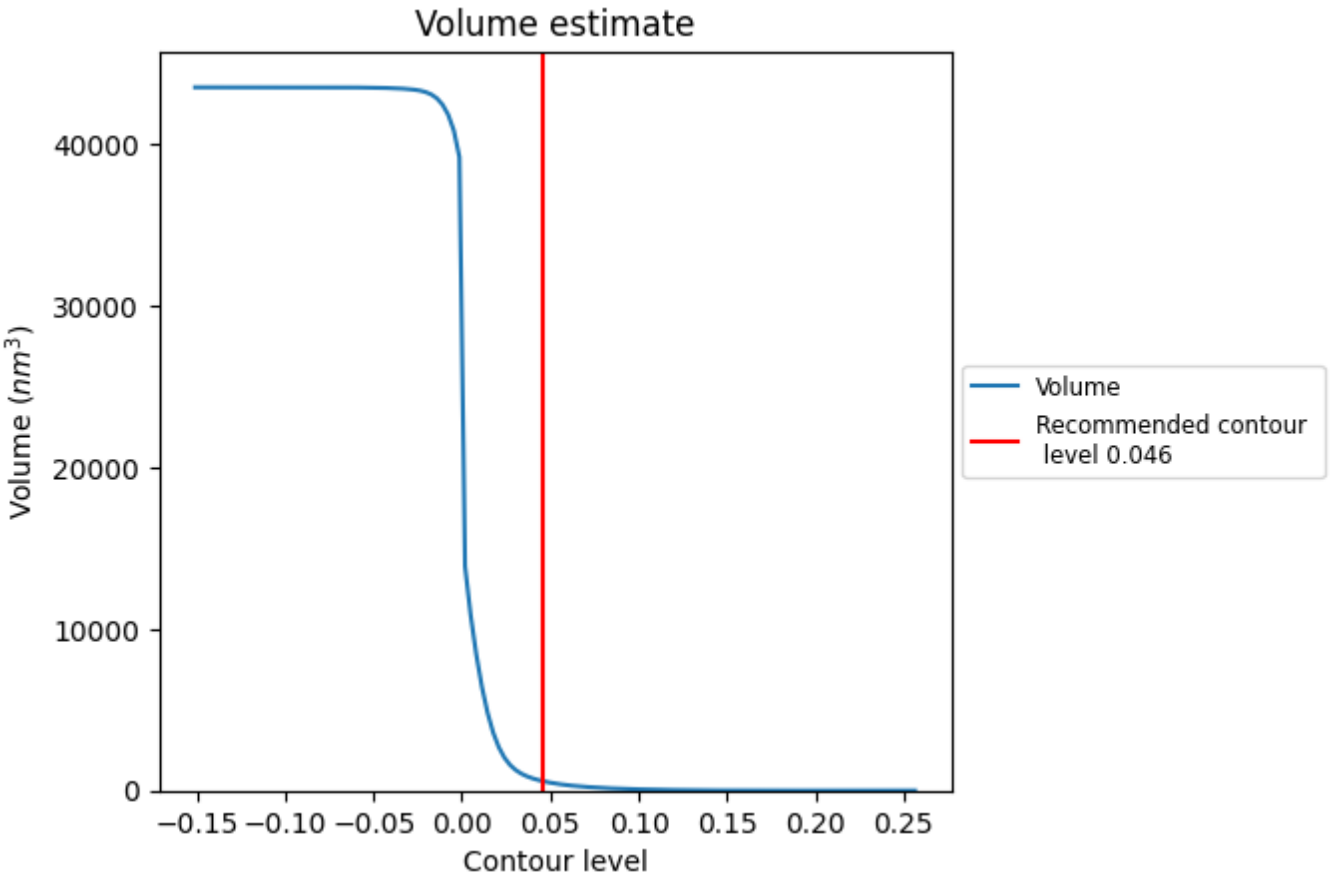
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

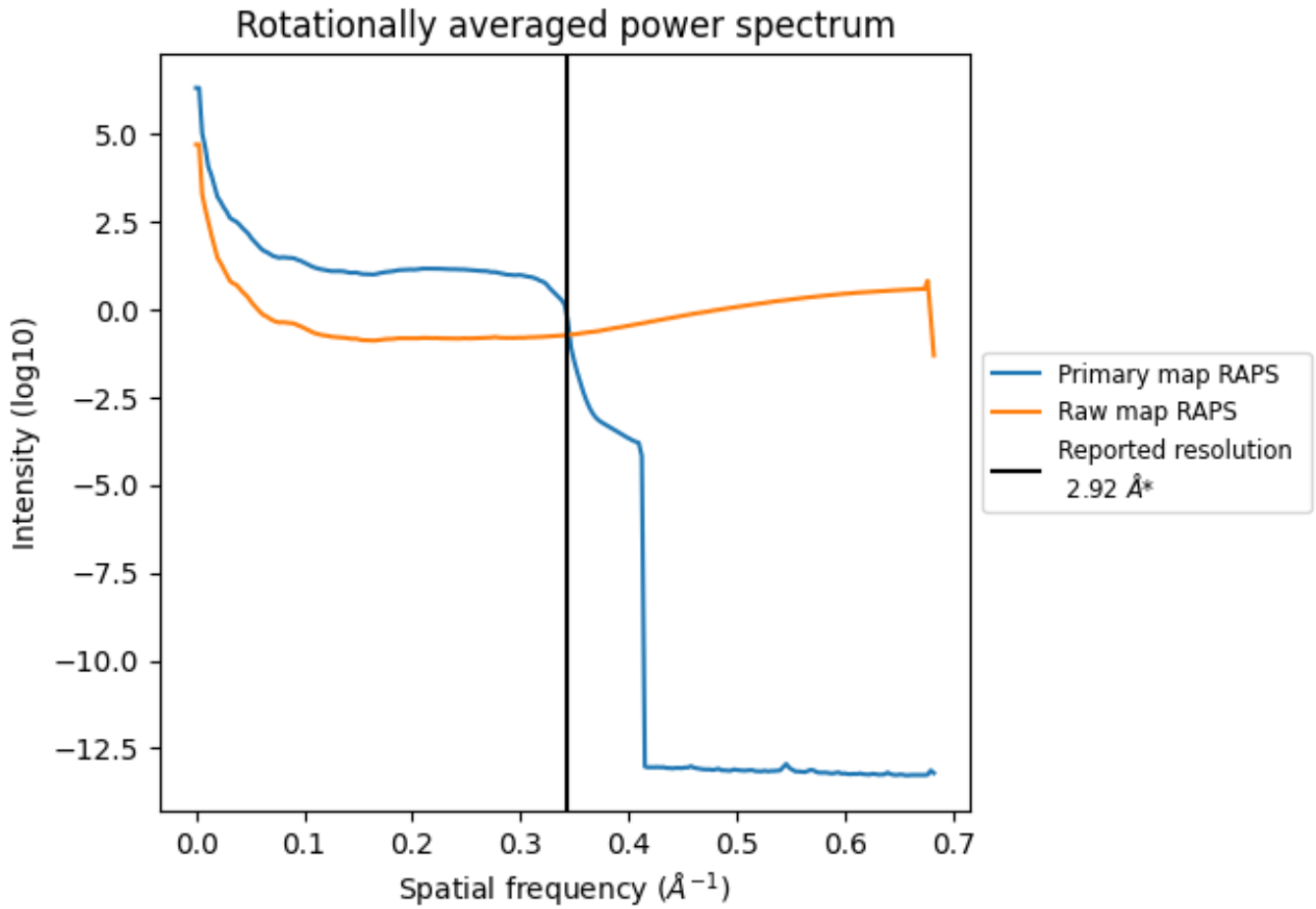
7.2 Volume estimate



The volume at the recommended contour level is 578 nm^3; this corresponds to an approximate mass of 522 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)

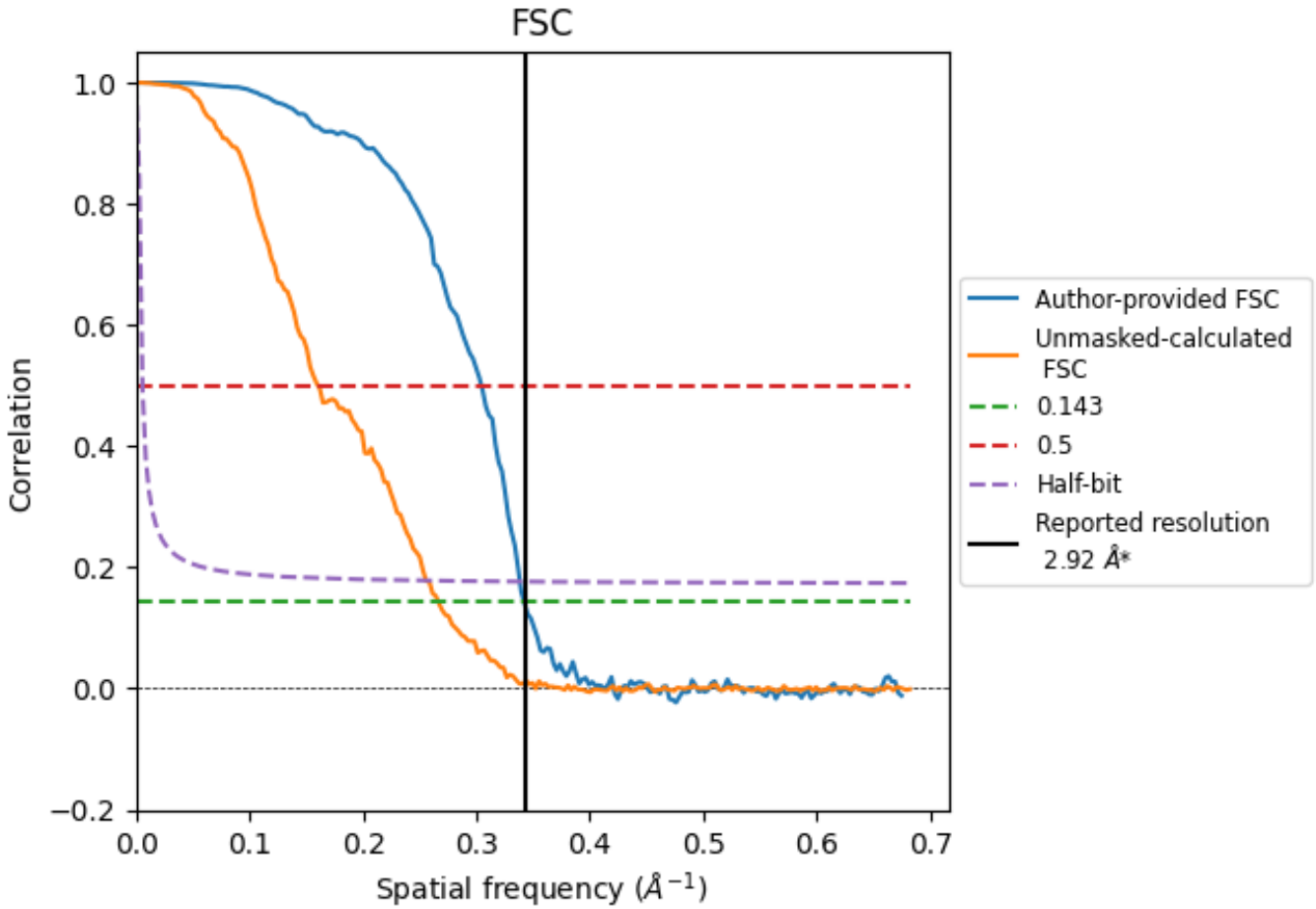


*Reported resolution corresponds to spatial frequency of 0.342 $Å^{-1}$

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.342 Å^{-1}

8.2 Resolution estimates (i)

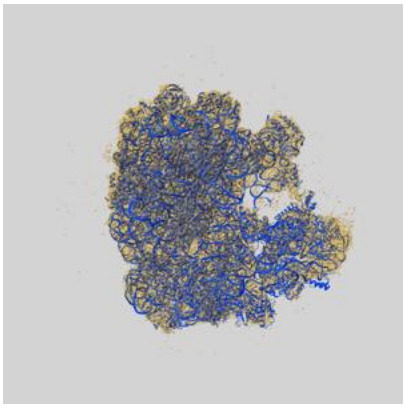
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.92	-	-
Author-provided FSC curve	2.92	3.28	2.95
Unmasked-calculated*	3.75	6.24	3.91

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.75 differs from the reported value 2.92 by more than 10 %

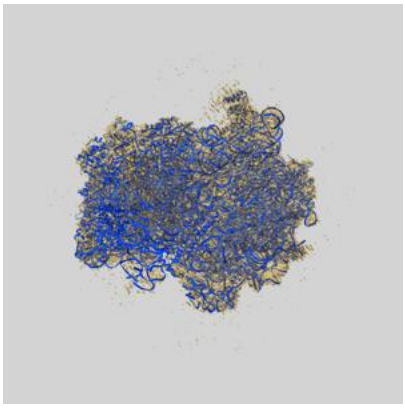
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-49998 and PDB model 9O17. Per-residue inclusion information can be found in section 3 on page 17.

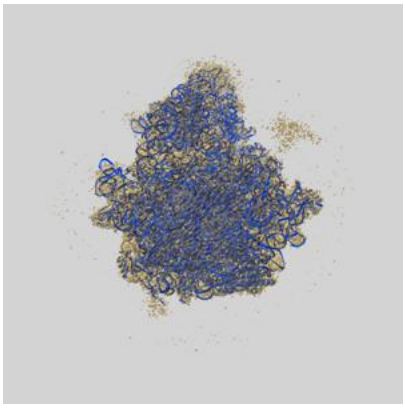
9.1 Map-model overlay



X



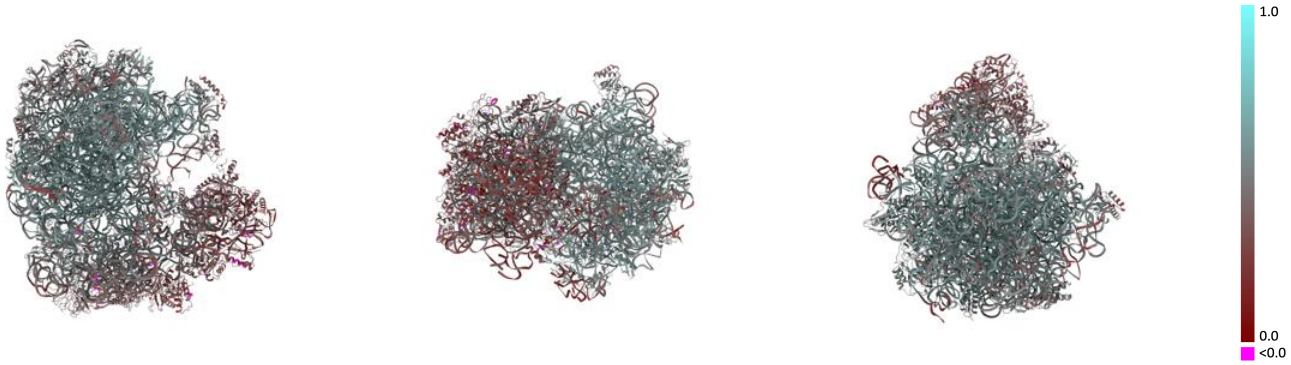
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.046 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.

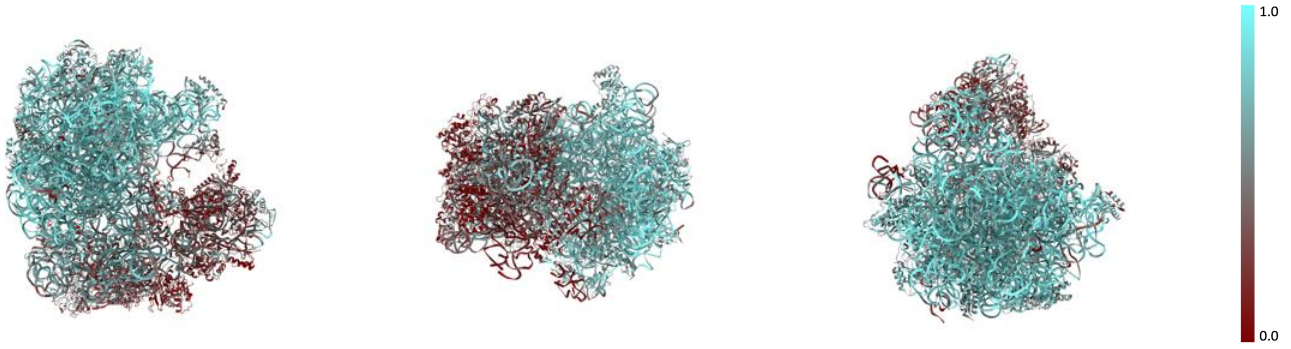
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

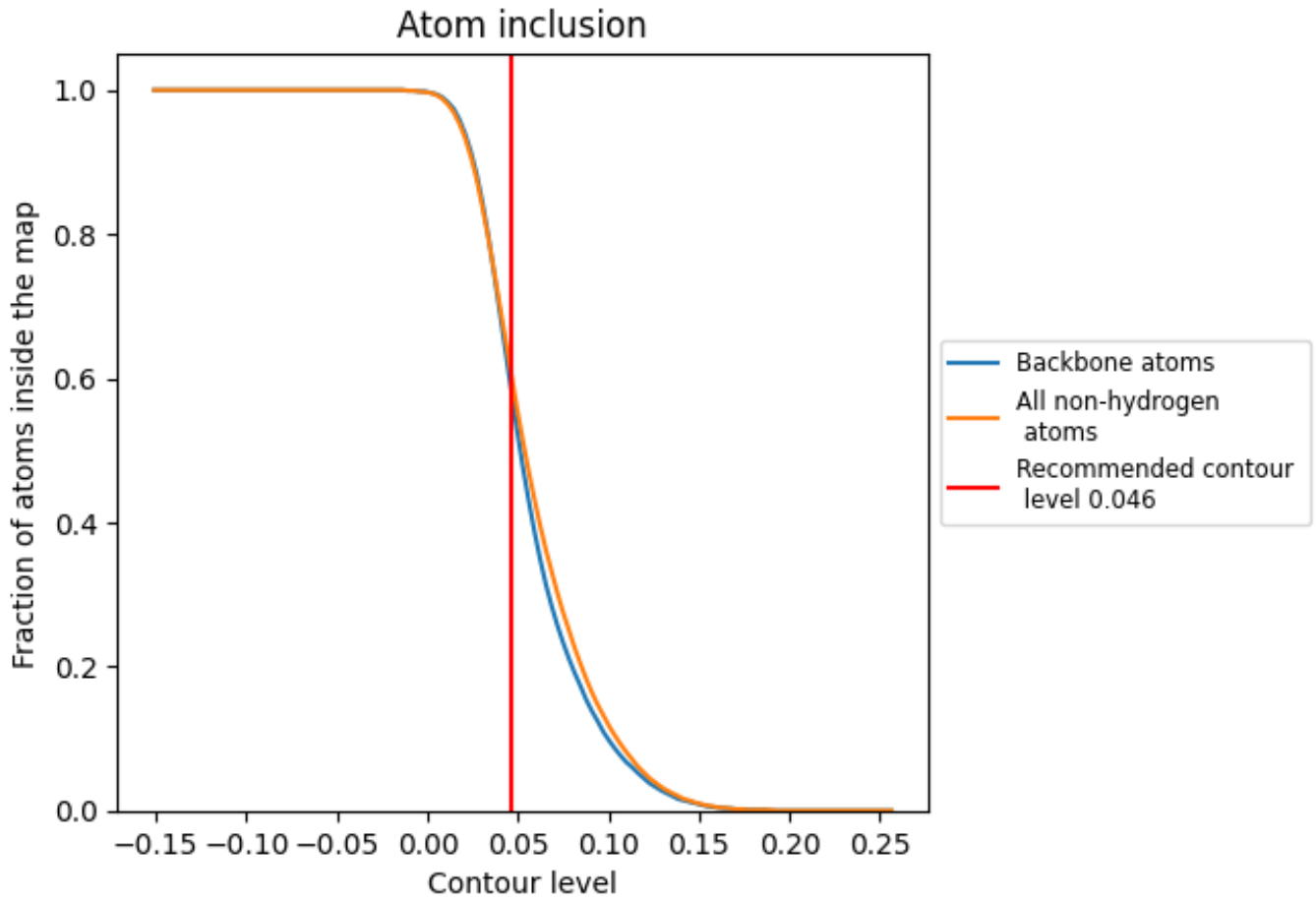
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.046).

9.4 Atom inclusion (i)



At the recommended contour level, 58% of all backbone atoms, 61% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.046) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6090	0.4870
AA	0.5390	0.4340
AB	0.1810	0.3070
AC	0.0270	0.2910
AD	0.3400	0.4010
AE	0.2570	0.3420
AF	0.3430	0.3760
AG	0.2750	0.3640
AH	0.2990	0.4110
AI	0.2170	0.3360
AJ	0.3830	0.3900
AK	0.4860	0.4770
AL	0.2690	0.2830
AM	0.0800	0.2550
AN	0.3680	0.4470
AO	0.2740	0.4550
AP	0.1400	0.3260
AQ	0.3890	0.4190
AR	0.0910	0.3490
AS	0.4110	0.4610
AT	0.2080	0.3030
AU	0.0780	0.2530
AV	0.3450	0.2710
AW	0.2640	0.3030
AX	0.2530	0.3590
AY	0.2030	0.3460
AZ	0.0510	0.2900
BA	0.8310	0.5490
BB	0.8250	0.4990
BC	0.7420	0.5760
BD	0.7510	0.5630
BE	0.7060	0.5040
BF	0.4010	0.4120
BG	0.6260	0.5050
BH	0.6070	0.4680

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Chain	Atom inclusion	Q-score
BI	0.6580	0.5550
BJ	0.7300	0.5460
BK	0.6390	0.5630
BL	0.7140	0.5410
BM	0.7560	0.5700
BN	0.7020	0.4900
BO	0.7040	0.5120
BP	0.7110	0.5430
BQ	0.6050	0.5410
BR	0.7430	0.5680
BS	0.6700	0.5280
BT	0.6770	0.5120
BU	0.6380	0.4530
BV	0.6370	0.5560
BW	0.5540	0.4290
BX	0.7340	0.5350
BY	0.5530	0.4610
BZ	0.7340	0.5530
Ba	0.7070	0.5170
Bb	0.6260	0.5310
Bc	0.8120	0.5750
Bd	0.7470	0.5500
Be	0.6310	0.5440
Bf	0.7090	0.5730