



Full wwPDB EM Validation Report ⓘ

Oct 6, 2025 – 01:26 PM EDT

PDB ID : 8VFT / pdb_00008vft
EMDB ID : EMD-43189
Title : Translating 80S rabbit ribosome stalled by emetine with eEF2
Authors : Murray, J.; Shao, S.
Deposited on : 2023-12-22
Resolution : 3.30 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:

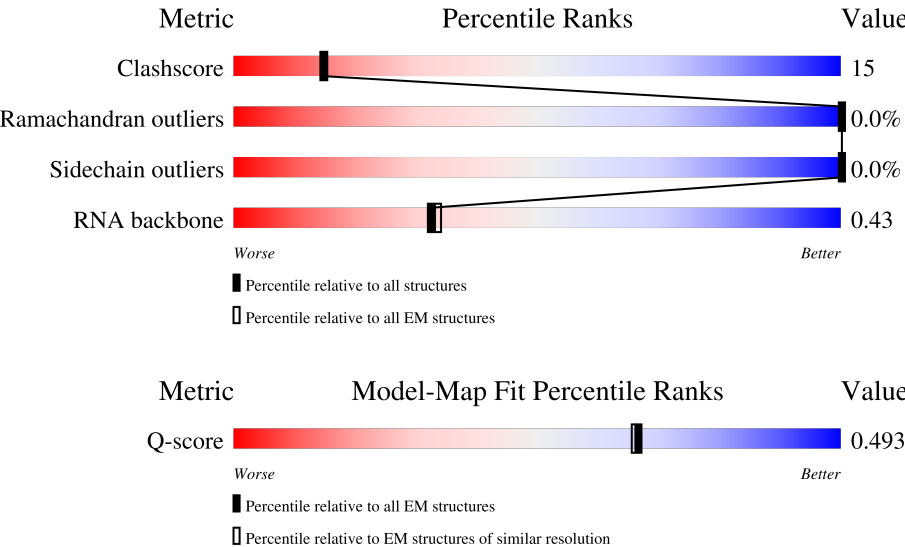
EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.46

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.30 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	15087 (2.80 - 3.80)

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

Mol	Chain	Length	Quality of chain
1	A	257	10% 67% 30% •
2	B	403	10% 64% 33% •
3	C	425	7% 56% 29% 15%

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Mol	Chain	Length	Quality of chain
4	D	297	
5	E	291	
6	F	247	
7	G	319	
8	H	192	
9	I	214	
10	J	178	
11	L	211	
12	M	218	
13	N	204	
14	O	203	
15	P	184	
16	Q	188	
17	R	196	
18	S	176	
19	T	160	
20	U	128	
21	V	140	
22	W	157	
23	X	156	
24	Y	145	
25	Z	136	
26	a	148	
27	b	245	
28	c	115	

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Mol	Chain	Length	Quality of chain
29	d	125	
30	e	135	
31	f	110	
32	g	117	
33	h	123	
34	i	105	
35	j	97	
36	k	70	
37	l	51	
38	m	93	
39	n	25	
40	o	106	
41	p	92	
42	r	137	
43	s	318	
44	t	165	
45	5	3543	
46	7	120	
47	8	156	
48	v	858	
49	9	1869	
50	AA	295	
51	BB	264	
52	CC	293	
53	DD	243	

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Mol	Chain	Length	Quality of chain
54	EE	263	
55	FF	204	
56	GG	249	
57	HH	194	
58	II	208	
59	JJ	194	
60	KK	165	
61	LL	158	
62	MM	132	
63	NN	151	
64	OO	168	
65	PP	145	
66	QQ	146	
67	RR	135	
68	SS	152	
69	TT	145	
70	UU	119	
71	VV	83	
72	WW	130	
73	XX	143	
74	YY	130	
75	ZZ	125	
76	aa	115	
77	bb	84	
78	cc	69	

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Mol	Chain	Length	Quality of chain
79	dd	56	25% 62% 36%
80	ee	133	13% 16% 8% 74%
81	ff	156	42% 33% 11% 56%
82	gg	317	89% 58% 40%
83	3	75	41% 49% 28% 21%
84	w	6	17% 33% 67%
85	2	76	62% 43% 49% 5%

2 Entry composition

There are 89 unique types of molecules in this entry. The entry contains 220911 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	247	Total	C	N	O	S	0	0
			1891	1185	388	312	6		

- Molecule 2 is a protein called uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	394	Total	C	N	O	S	0	0
			3148	2007	591	537	13		

- Molecule 3 is a protein called uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	362	Total	C	N	O	S	0	0
			2883	1812	577	480	14		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	378	LYS	-	insertion	UNP G1SVW5
C	379	VAL	-	insertion	UNP G1SVW5
C	380	LYS	-	insertion	UNP G1SVW5
C	381	LYS	-	insertion	UNP G1SVW5
C	382	PRO	-	insertion	UNP G1SVW5
C	383	ARG	-	insertion	UNP G1SVW5
C	384	ALA	-	insertion	UNP G1SVW5
C	385	VAL	-	insertion	UNP G1SVW5
C	386	GLY	-	insertion	UNP G1SVW5
C	387	ILE	-	insertion	UNP G1SVW5
C	388	LYS	-	insertion	UNP G1SVW5
C	389	GLN	-	insertion	UNP G1SVW5

- Molecule 4 is a protein called uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	289	Total	C	N	O	S	0	0
			2361	1495	431	421	14		

- Molecule 5 is a protein called eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	215	Total	C	N	O	S	0	0
			1726	1110	327	286	3		

- Molecule 6 is a protein called uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	225	Total	C	N	O	S	0	0
			1875	1205	358	303	9		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	61	ARG	GLY	conflict	UNP G1TUB1
F	93	ARG	GLY	conflict	UNP G1TUB1
F	131	MET	VAL	conflict	UNP G1TUB1
F	153	ILE	VAL	conflict	UNP G1TUB1

- Molecule 7 is a protein called eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	218	Total	C	N	O	S	0	0
			1768	1127	341	296	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	191	GLY	CYS	conflict	UNP G1STW0

- Molecule 8 is a protein called uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	190	Total	C	N	O	S	0	0
			1516	954	284	272	6		

- Molecule 9 is a protein called uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	208	Total	C	N	O	S	0	0
			1691	1072	327	279	13		

- Molecule 10 is a protein called uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	167	Total	C	N	O	S	0	0
			1336	846	249	235	6		

- Molecule 11 is a protein called eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	L	210	Total	C	N	O	S	0	0
			1702	1065	354	279	4		

There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L	46	ILE	-	insertion	UNP G1TPV0
L	47	ALA	-	insertion	UNP G1TPV0
L	48	PRO	-	insertion	UNP G1TPV0
L	49	ARG	-	insertion	UNP G1TPV0
L	50	PRO	-	insertion	UNP G1TPV0
L	51	ALA	-	insertion	UNP G1TPV0
L	52	ALA	-	insertion	UNP G1TPV0
L	53	GLY	-	insertion	UNP G1TPV0
L	54	PRO	-	insertion	UNP G1TPV0

- Molecule 12 is a protein called eL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	138	Total	C	N	O	S	0	0
			1137	727	221	182	7		

- Molecule 13 is a protein called eL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	N	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 14 is a protein called uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	O	198	Total	C	N	O	S	0	0
			1621	1046	317	253	5		

- Molecule 15 is a protein called uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	P	153	Total	C	N	O	S	0	0
			1242	777	241	215	9		

- Molecule 16 is a protein called eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Q	187	Total	C	N	O	S	0	0
			1515	946	315	250	4		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	4	ASP	ASN	conflict	UNP G1TFE0
Q	14	ARG	TRP	conflict	UNP G1TFE0
Q	53	MET	LEU	conflict	UNP G1TFE0
Q	58	ARG	TRP	conflict	UNP G1TFE0
Q	75	ARG	GLN	conflict	UNP G1TFE0
Q	80	ALA	PRO	conflict	UNP G1TFE0
Q	86	VAL	ILE	conflict	UNP G1TFE0
Q	104	ARG	HIS	conflict	UNP G1TFE0
Q	110	ARG	CYS	conflict	UNP G1TFE0
Q	137	VAL	GLY	conflict	UNP G1TFE0
Q	157	GLY	ARG	conflict	UNP G1TFE0
Q	181	ARG	TRP	conflict	UNP G1TFE0

- Molecule 17 is a protein called eL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	R	179	Total	C	N	O	S	0	0
			1502	930	327	236	9		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R	38	ARG	CYS	conflict	UNP G1TJR3
R	64	ARG	GLN	conflict	UNP G1TJR3

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Chain	Residue	Modelled	Actual	Comment	Reference
R	94	THR	LYS	conflict	UNP G1TJR3

- Molecule 18 is a protein called eL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	S	176	Total	C	N	O	S	0	0
			1462	930	285	236	11		

There are 23 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
S	1	MET	THR	conflict	UNP G1TTY7
S	18	PRO	-	insertion	UNP G1TTY7
S	19	THR	-	insertion	UNP G1TTY7
S	20	PRO	SER	conflict	UNP G1TTY7
S	22	CYS	SER	conflict	UNP G1TTY7
S	23	ARG	PRO	conflict	UNP G1TTY7
S	24	THR	ALA	conflict	UNP G1TTY7
S	49	SER	LEU	conflict	UNP G1TTY7
S	50	GLN	GLU	conflict	UNP G1TTY7
S	95	ARG	HIS	conflict	UNP G1TTY7
S	101	THR	ILE	conflict	UNP G1TTY7
S	102	THR	MET	conflict	UNP G1TTY7
S	104	GLY	SER	conflict	UNP G1TTY7
S	126	ILE	VAL	conflict	UNP G1TTY7
S	132	ILE	MET	conflict	UNP G1TTY7
S	135	SER	ALA	conflict	UNP G1TTY7
S	136	LYS	ARG	conflict	UNP G1TTY7
S	138	ARG	PRO	conflict	UNP G1TTY7
S	149	LYS	ARG	conflict	UNP G1TTY7
S	151	LYS	ARG	conflict	UNP G1TTY7
S	168	THR	TYR	conflict	UNP G1TTY7
S	169	THR	ALA	conflict	UNP G1TTY7
S	176	PHE	-	insertion	UNP G1TTY7

- Molecule 19 is a protein called eL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	T	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 20 is a protein called eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	U	98	Total	C	N	O	S	0	0
			800	514	139	145	2		

There are 11 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
U	18	LEU	VAL	conflict	UNP G1TSG1
U	32	GLY	ARG	conflict	UNP G1TSG1
U	36	ALA	GLU	conflict	UNP G1TSG1
U	39	PHE	SER	conflict	UNP G1TSG1
U	54	GLY	ARG	conflict	UNP G1TSG1
U	60	VAL	ALA	conflict	UNP G1TSG1
U	62	SER	THR	conflict	UNP G1TSG1
U	63	LEU	ILE	conflict	UNP G1TSG1
U	97	ARG	HIS	conflict	UNP G1TSG1
U	106	THR	SER	conflict	UNP G1TSG1
U	126	GLU	ASP	conflict	UNP G1TSG1

- Molecule 21 is a protein called uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	V	130	Total	C	N	O	S	0	0
			973	615	183	170	5		

- Molecule 22 is a protein called eL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	W	63	Total	C	N	O	S	0	0
			528	337	103	85	3		

- Molecule 23 is a protein called uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	X	116	Total	C	N	O	S	0	0
			949	606	178	164	1		

- Molecule 24 is a protein called uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Y	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 25 is a protein called eL27.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Z	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 26 is a protein called uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	a	147	Total	C	N	O	S	0	0
			1162	734	239	185	4		

- Molecule 27 is a protein called eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	b	75	Total	C	N	O	S	0	0
			609	378	130	98	3		

- Molecule 28 is a protein called eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	c	94	Total	C	N	O	S	0	0
			732	464	130	132	6		

- Molecule 29 is a protein called eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	d	100	Total	C	N	O	S	0	0
			833	530	163	138	2		

- Molecule 30 is a protein called eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	e	128	Total	C	N	O	S	0	0
			1053	667	216	165	5		

- Molecule 31 is a protein called eL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	f	109	Total	C	N	O	S	0	0
			876	555	174	143	4		

- Molecule 32 is a protein called eL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	g	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 33 is a protein called uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	h	122	Total	C	N	O	S	0	0
			1013	640	204	168	1		

- Molecule 34 is a protein called eL36.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	i	102	Total	C	N	O	S	0	0
			830	520	176	129	5		

- Molecule 35 is a protein called eL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	j	86	Total	C	N	O	S	0	0
			705	434	155	111	5		

- Molecule 36 is a protein called eL38.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	k	68	Total	C	N	O	S	0	0
			559	360	101	97	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
k	24	LYS	ASN	conflict	UNP G1U001

- Molecule 37 is a protein called eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	l	49	Total	C	N	O	S	0	0
			438	280	95	62	1		

- Molecule 38 is a protein called eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	m	51	Total	C	N	O	S	0	0
			421	260	89	66	6		

- Molecule 39 is a protein called eL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	n	23	Total	C	N	O	S	0	0
			222	134	61	25	2		

- Molecule 40 is a protein called eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	o	103	Total	C	N	O	S	0	0
			842	528	172	136	6		

- Molecule 41 is a protein called eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	p	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 42 is a protein called eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	r	125	Total	C	N	O	S	0	0
			1001	621	206	168	6		

- Molecule 43 is a protein called uL10.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	s	196	Total	C	N	O	S	0	0
			1507	959	263	276	9		

- Molecule 44 is a protein called uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	t	153	Total	C	N	O	S	0	0
			1160	722	218	217	3		

- Molecule 45 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	5	3529	Total	C	N	O	P	0	0
			75712	33770	13864	24549	3529		

- Molecule 46 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	7	120	Total	C	N	O	P	0	0
			2558	1141	456	842	119		

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
7	2	U	N	conflict	GB X06789.1
7	36	C	N	conflict	GB X06789.1
7	102	U	N	conflict	GB X06789.1
7	112	U	N	conflict	GB X06789.1
7	114	U	N	conflict	GB X06789.1
7	119	U	C	conflict	GB X06789.1
7	120	U	N	conflict	GB X06789.1

- Molecule 47 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	8	156	Total	C	N	O	P	0	0
			3315	1481	585	1094	155		

- Molecule 48 is a protein called eEF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	v	835	Total	C	N	O	S	0	0
			6516	4144	1117	1211	44		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
v	847	GLY	-	insertion	UNP P55823

- Molecule 49 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	9	1698	Total	C	N	O	P	0	0
			36291	16217	6509	11868	1697		

- Molecule 50 is a protein called uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	AA	217	Total	C	N	O	S	0	0
			1710	1086	300	316	8		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AA	114	THR	ALA	conflict	UNP G1TLT8

- Molecule 51 is a protein called eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	BB	213	Total	C	N	O	S	0	0
			1729	1098	309	308	14		

- Molecule 52 is a protein called uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	CC	221	Total	C	N	O	S	0	0
			1716	1111	295	301	9		

- Molecule 53 is a protein called uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	DD	228	Total	C	N	O	S	0	0
			1768	1126	318	316	8		

- Molecule 54 is a protein called eS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	EE	262	Total	C	N	O	S	0	0
			2076	1324	386	358	8		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
EE	25	GLY	SER	conflict	UNP G1TK17
EE	51	ARG	LYS	conflict	UNP G1TK17
EE	78	THR	ALA	conflict	UNP G1TK17
EE	156	VAL	MET	conflict	UNP G1TK17

- Molecule 55 is a protein called uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	FF	185	Total	C	N	O	S	0	0
			1471	921	277	266	7		

- Molecule 56 is a protein called eS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	GG	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 57 is a protein called eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	HH	185	Total	C	N	O	S	0	0
			1488	952	271	264	1		

- Molecule 58 is a protein called eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	II	206	Total	C	N	O	S	0	0
			1686	1058	332	291	5		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
II	47	ARG	GLY	conflict	UNP G1TJW1

- Molecule 59 is a protein called uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	JJ	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 60 is a protein called eS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	KK	96	Total	C	N	O	S	0	0
			810	530	143	131	6		

- Molecule 61 is a protein called uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	LL	143	Total	C	N	O	S	0	0
			1175	749	222	198	6		

- Molecule 62 is a protein called eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	MM	117	Total	C	N	O	S	0	0
			908	570	161	169	8		

- Molecule 63 is a protein called uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	NN	149	Total	C	N	O	S	0	0
			1202	770	228	203	1		

- Molecule 64 is a protein called uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	OO	136	Total	C	N	O	S	0	0
			1016	621	199	190	6		

- Molecule 65 is a protein called uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	PP	117	Total	C	N	O	S	0	0
			975	622	181	165	7		

- Molecule 66 is a protein called uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	QQ	142	Total	C	N	O	S	0	0
			1128	717	213	195	3		

- Molecule 67 is a protein called eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	RR	132	Total	C	N	O	S	0	0
			1068	670	199	195	4		

- Molecule 68 is a protein called uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	SS	142	Total	C	N	O	S	0	0
			1172	736	236	199	1		

- Molecule 69 is a protein called eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	TT	141	Total	C	N	O	S	0	0
			1097	688	211	195	3		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
TT	119	GLY	TRP	conflict	UNP G1TN62

- Molecule 70 is a protein called uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	UU	100	Total	C	N	O	S	0	0
			795	498	152	141	4		

- Molecule 71 is a protein called eS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	VV	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
VV	3	ASN	SER	conflict	UNP G1TM82
VV	4	ASP	ASN	conflict	UNP G1TM82
VV	33	GLN	PRO	conflict	UNP G1TM82
VV	50	PHE	SER	conflict	UNP G1TM82
VV	75	ALA	SER	conflict	UNP G1TM82
VV	76	ASP	HIS	conflict	UNP G1TM82
VV	81	LYS	GLN	conflict	UNP G1TM82

- Molecule 72 is a protein called uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	WW	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 73 is a protein called uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	XX	138	Total	C	N	O	S	0	0
			1069	676	210	180	3		

- Molecule 74 is a protein called eS24.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	YY	124	Total	C	N	O	S	0	0
			1011	640	198	168	5		

- Molecule 75 is a protein called eS25.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	ZZ	75	Total	C	N	O	S	0	0
			598	382	111	104	1		

- Molecule 76 is a protein called eS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	aa	101	Total	C	N	O	S	0	0
			814	507	170	132	5		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
aa	28	ARG	CYS	conflict	UNP G1TFE8
aa	56	ALA	VAL	conflict	UNP G1TFE8
aa	109	ARG	PRO	conflict	UNP G1TFE8

- Molecule 77 is a protein called eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	bb	83	Total	C	N	O	S	0	0
			651	408	121	115	7		

- Molecule 78 is a protein called eS28.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	cc	62	Total	C	N	O	S	0	0
			488	297	97	92	2		

- Molecule 79 is a protein called uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	dd	55	Total	C	N	O	S	0	0
			459	286	94	74	5		

- Molecule 80 is a protein called eS30.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	ee	34	Total	C	N	O	S	0	0
			289	175	70	43	1		

- Molecule 81 is a protein called eS31.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	ff	68	Total	C	N	O	S	0	0
			555	351	103	94	7		

- Molecule 82 is a protein called RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	gg	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 83 is a RNA chain called E-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	3	74	Total	C	N	O	P	0	0
			1573	703	279	518	73		

- Molecule 84 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	w	6	Total	C	N	O	P	0	0
			120	54	12	48	6		

- Molecule 85 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	2	74	Total	C	N	O	P	0	0
			1577	705	286	513	73		

- Molecule 86 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
86	A	2	Total 2	Mg 2	0
86	I	2	Total 2	Mg 2	0
86	P	1	Total 1	Mg 1	0
86	V	1	Total 1	Mg 1	0
86	a	1	Total 1	Mg 1	0
86	e	1	Total 1	Mg 1	0
86	f	1	Total 1	Mg 1	0
86	g	1	Total 1	Mg 1	0
86	o	1	Total 1	Mg 1	0
86	5	198	Total 198	Mg 198	0
86	7	5	Total 5	Mg 5	0
86	8	1	Total 1	Mg 1	0
86	9	56	Total 56	Mg 56	0
86	QQ	1	Total 1	Mg 1	0
86	TT	1	Total 1	Mg 1	0
86	aa	1	Total 1	Mg 1	0
86	w	1	Total 1	Mg 1	0
86	2	1	Total 1	Mg 1	0

- Molecule 87 is ZINC ION (CCD ID: ZN) (formula: Zn).

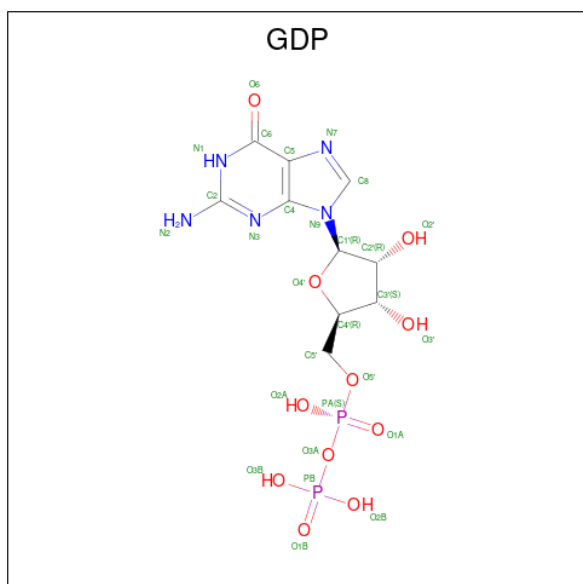
Mol	Chain	Residues	Atoms		AltConf
87	g	1	Total 1	Zn 1	0
87	j	1	Total 1	Zn 1	0

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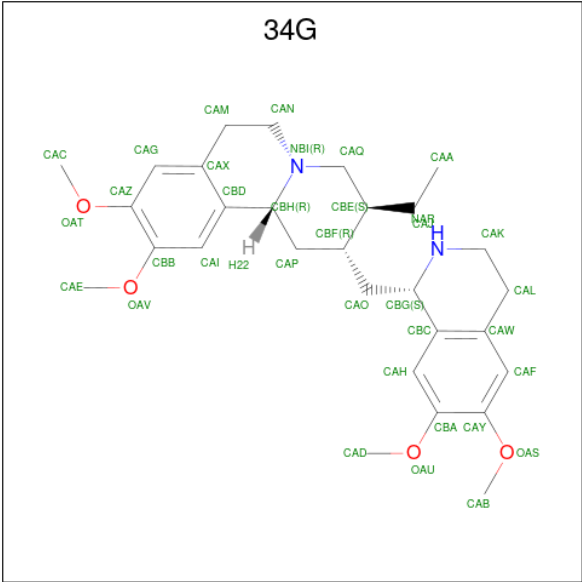
Mol	Chain	Residues	Atoms		AltConf
87	m	1	Total	Zn	0
			1	1	
87	o	1	Total	Zn	0
			1	1	
87	p	1	Total	Zn	0
			1	1	
87	aa	1	Total	Zn	0
			1	1	
87	dd	1	Total	Zn	0
			1	1	
87	ff	1	Total	Zn	0
			1	1	

- Molecule 88 is GUANOSINE-5'-DIPHOSPHATE (CCD ID: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$).



Mol	Chain	Residues	Atoms					AltConf
88	v	1	Total	C	N	O	P	0
			28	10	5	11	2	

- Molecule 89 is emetine (CCD ID: 34G) (formula: $C_{29}H_{40}N_2O_4$).

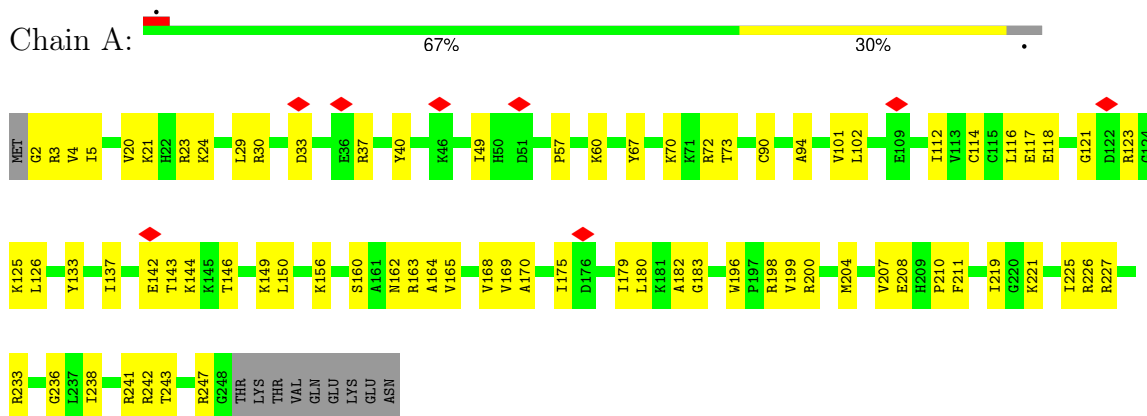


Mol	Chain	Residues	Atoms				AltConf
89	9	1	Total	C	N	O	0
			35	29	2	4	

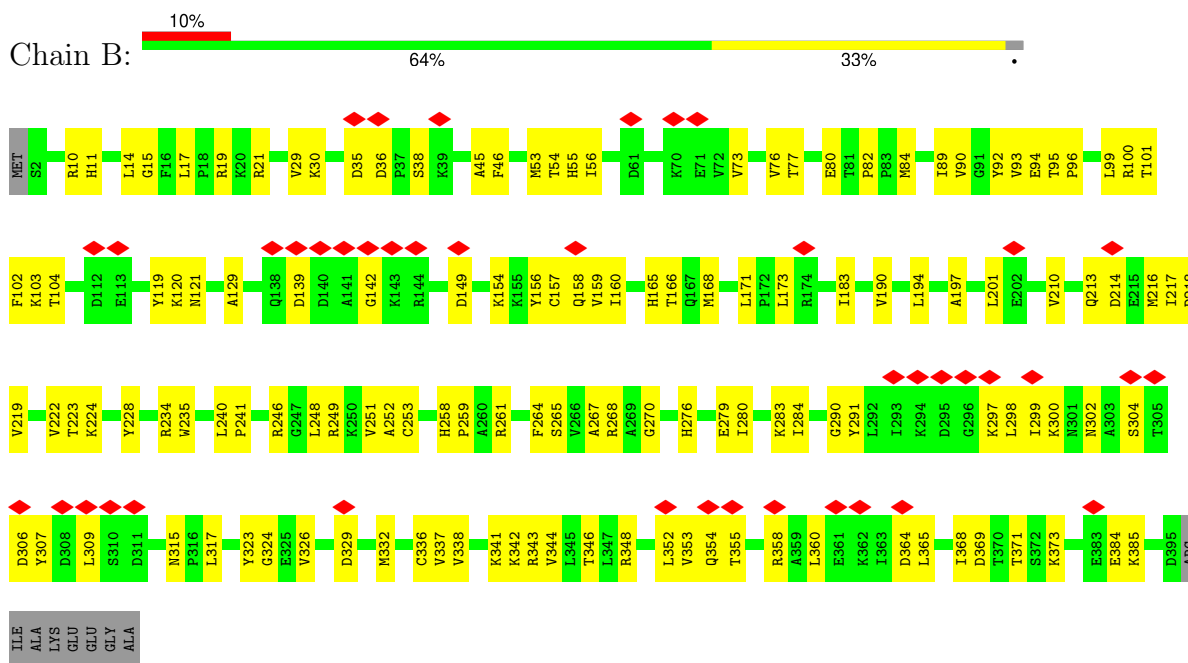
3 Residue-property plots

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

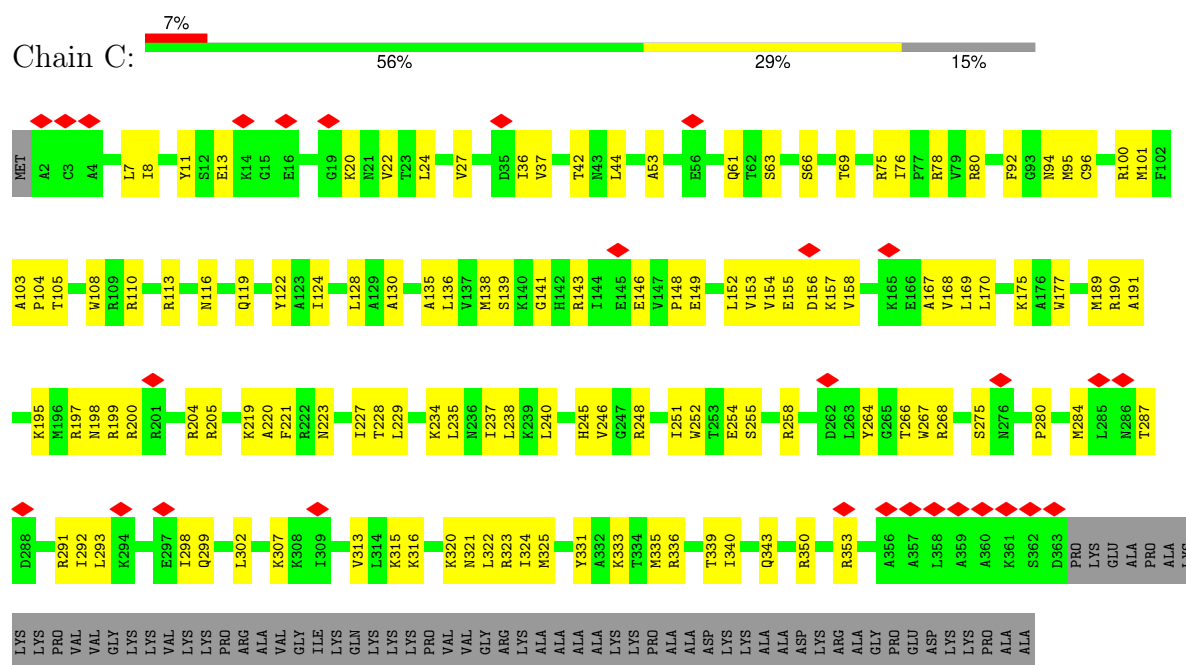
• Molecule 1: uL2



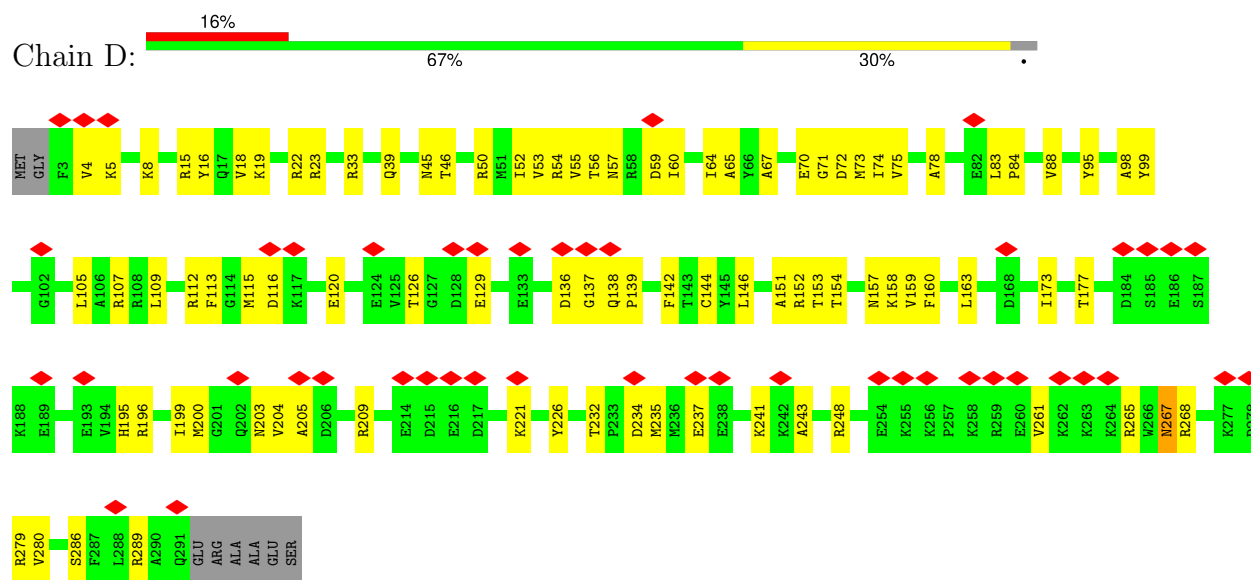
• Molecule 2: uL3



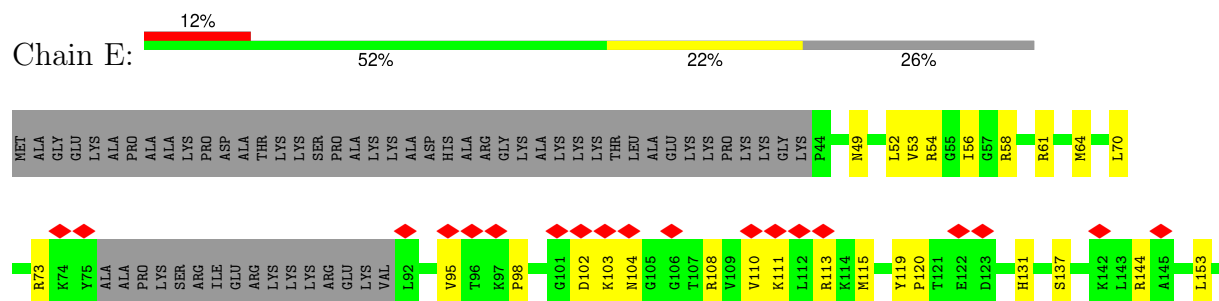
• Molecule 3: uL4

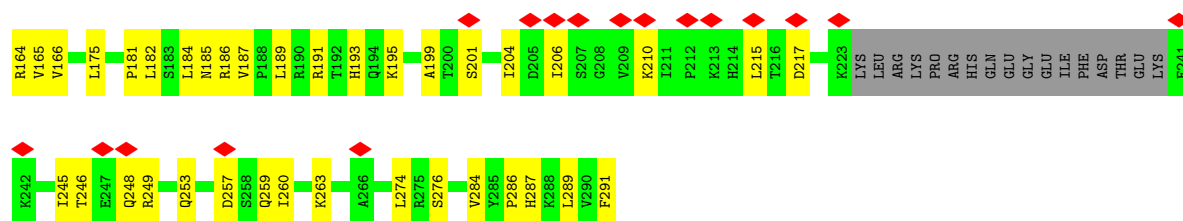


• Molecule 4: uL18

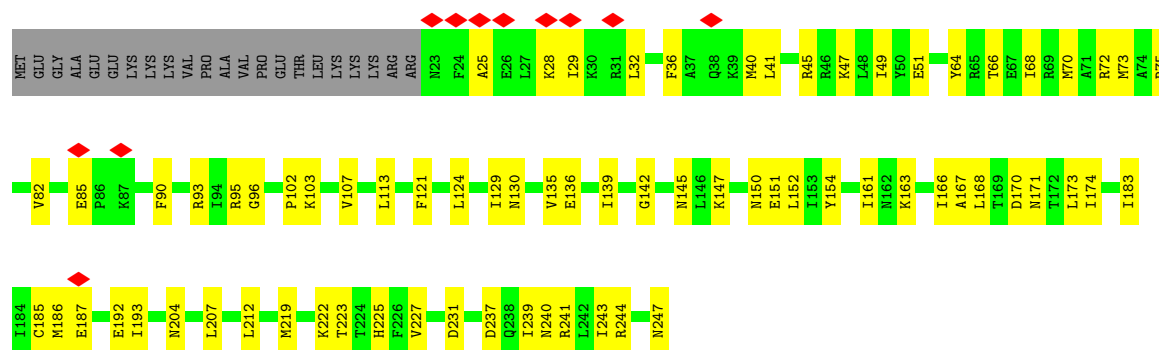


• Molecule 5: eL6

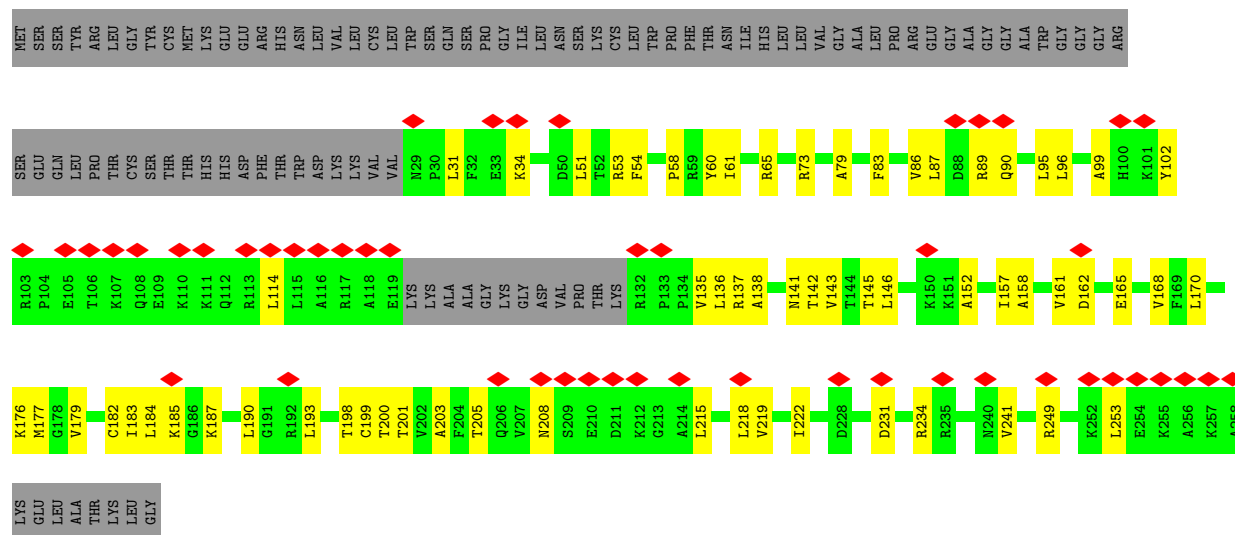




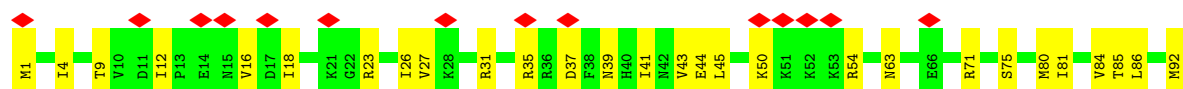
• Molecule 6: uL30

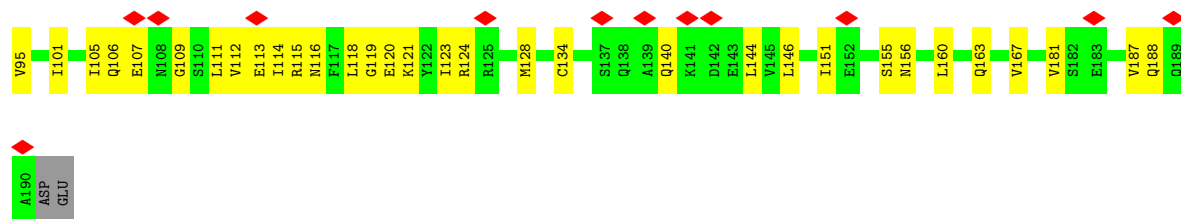


• Molecule 7: eL8

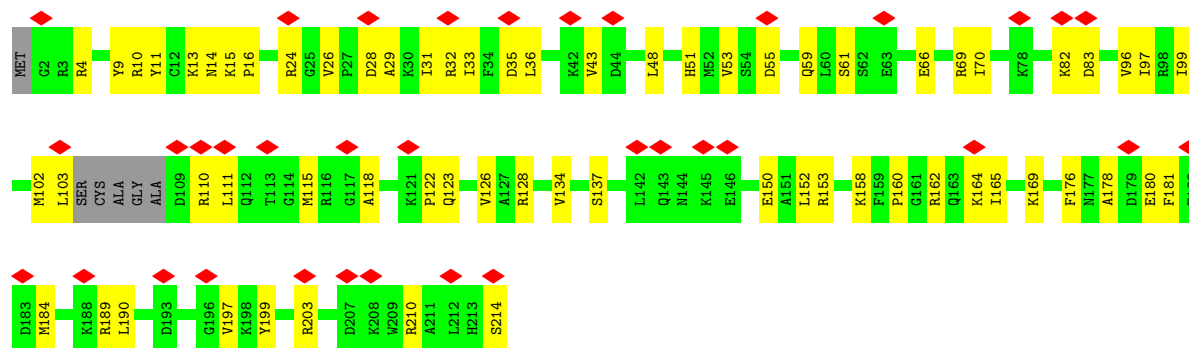


• Molecule 8: uL6

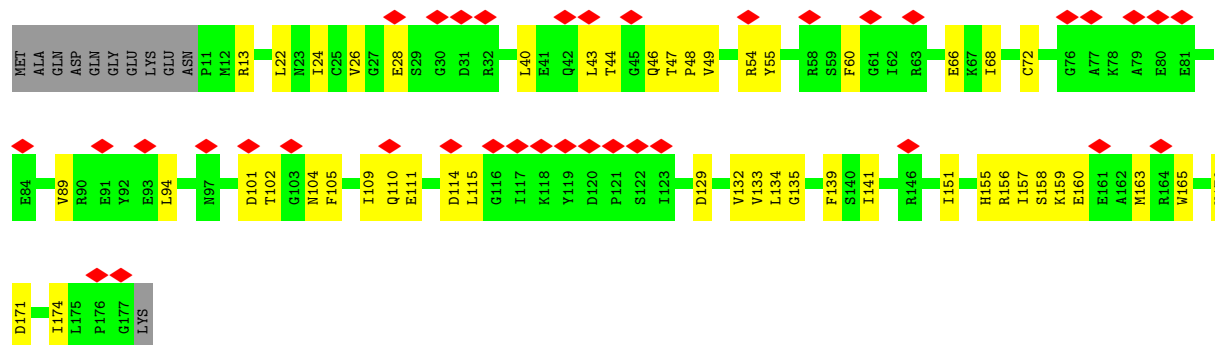




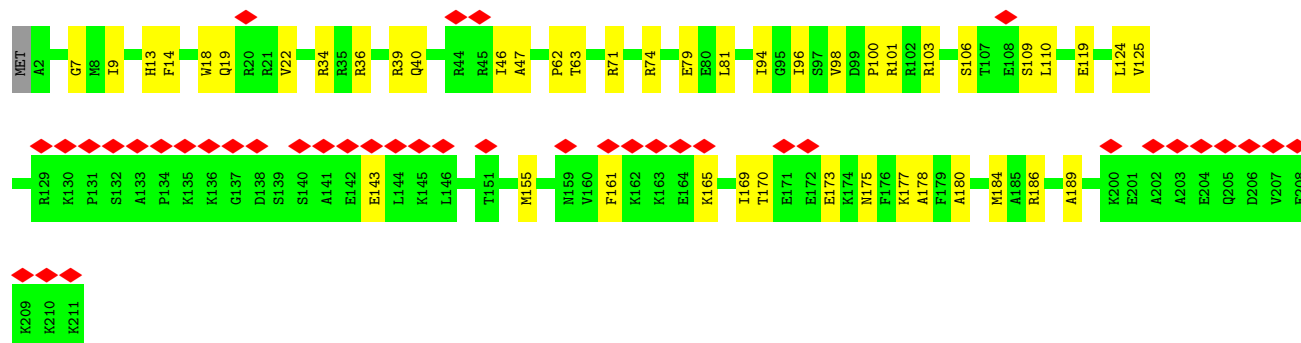
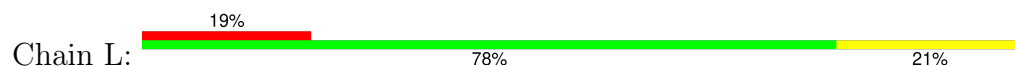
• Molecule 9: uL16



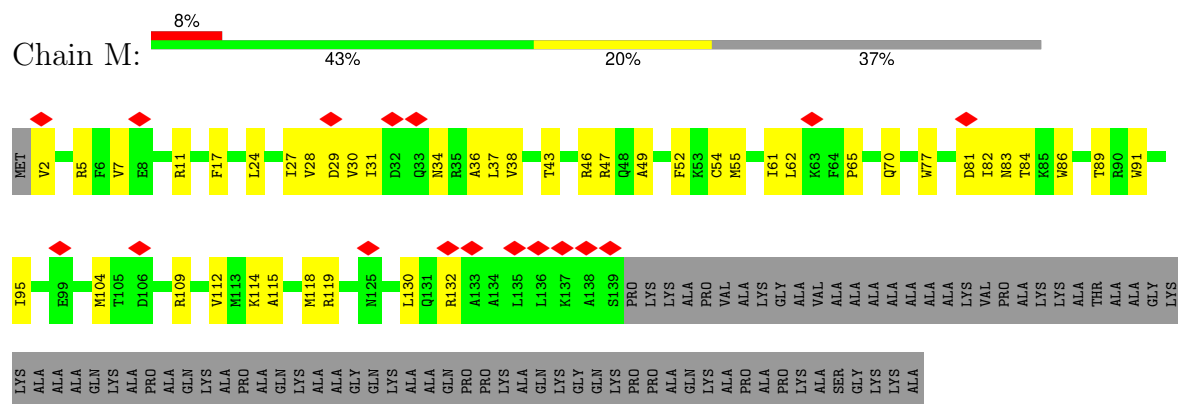
• Molecule 10: uL5



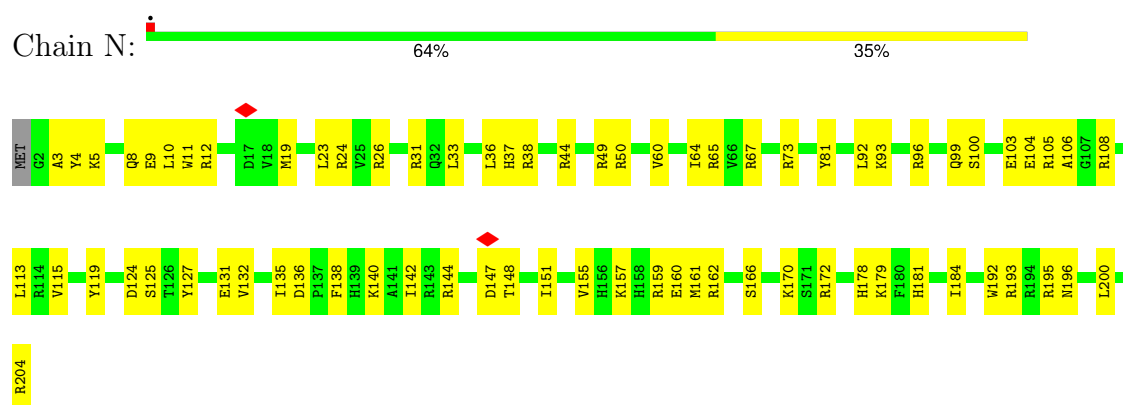
• Molecule 11: eL13



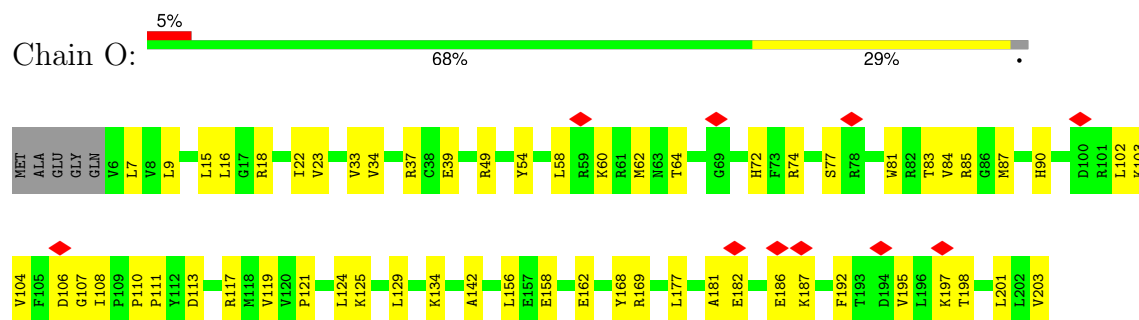
- Molecule 12: eL14



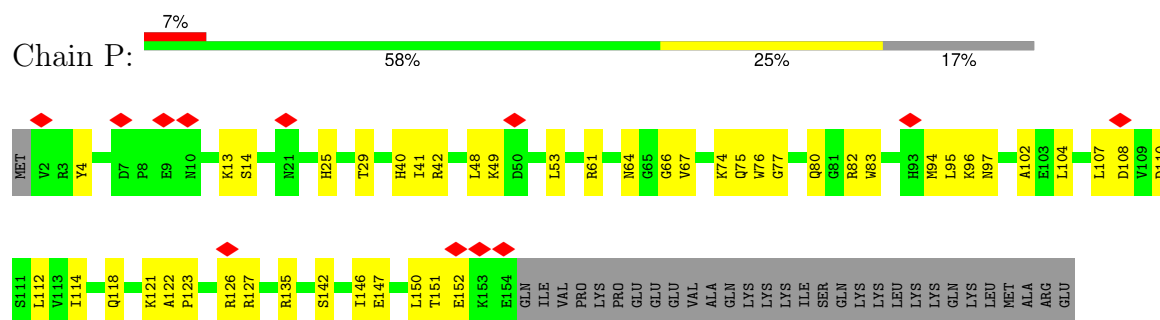
- Molecule 13: eL15



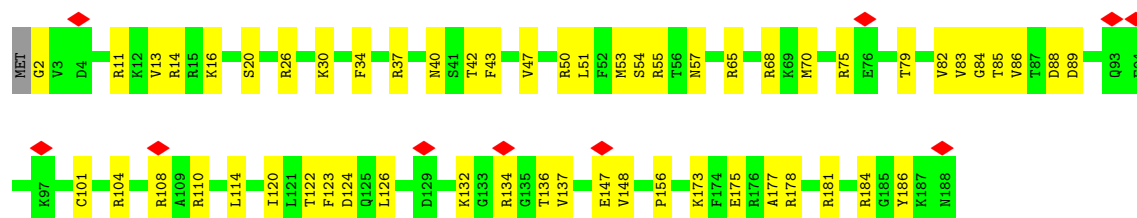
- Molecule 14: uL13



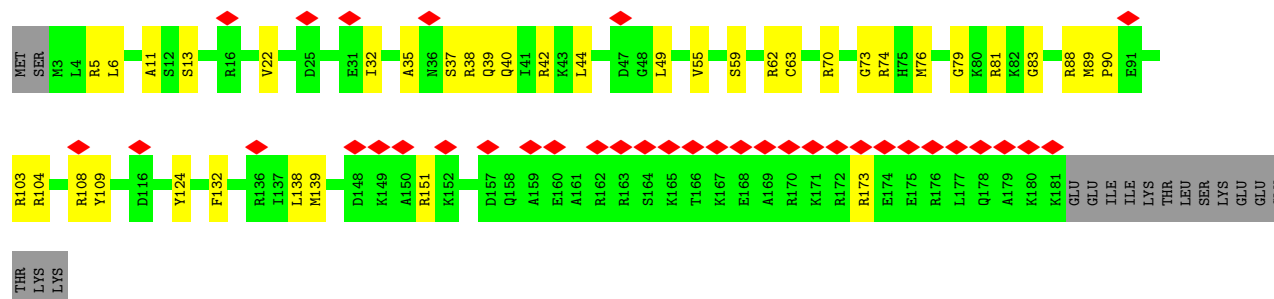
- Molecule 15: uL22



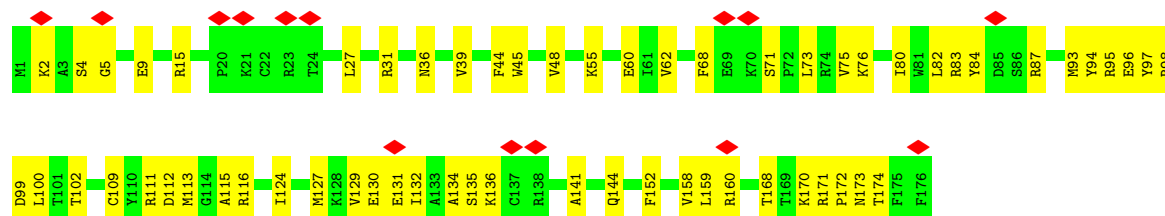
- Molecule 16: eL18



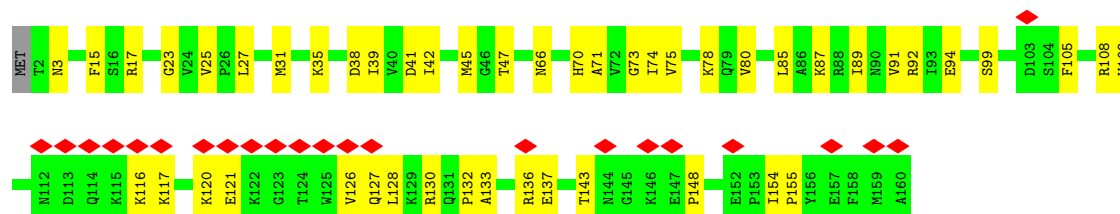
• Molecule 17: eL19



• Molecule 18: eL20



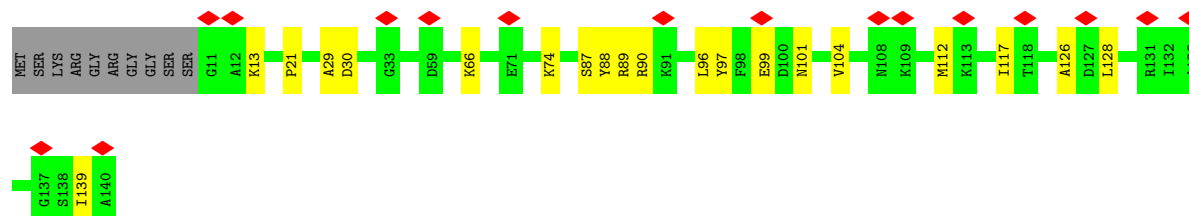
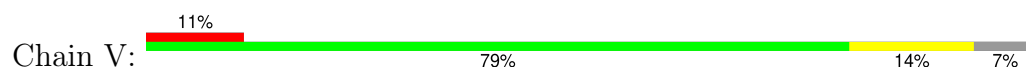
• Molecule 19: eL21



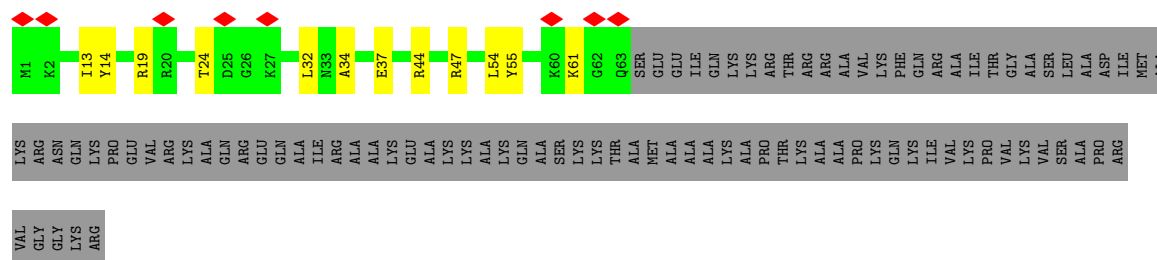
• Molecule 20: eL22



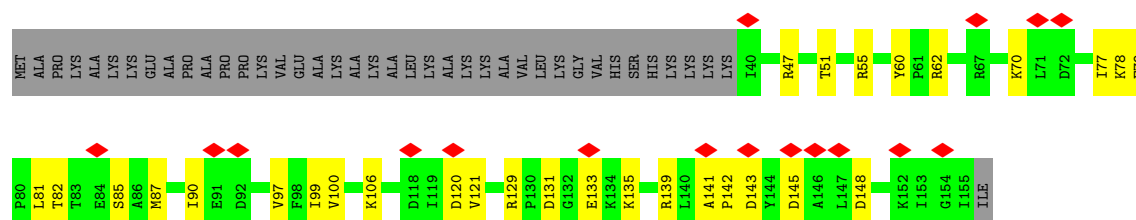
- Molecule 21: uL14



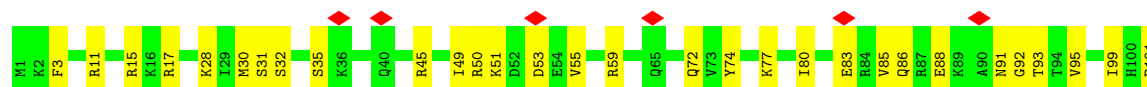
- Molecule 22: eL24

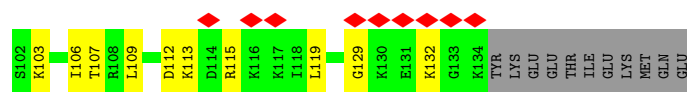


- Molecule 23: uL23

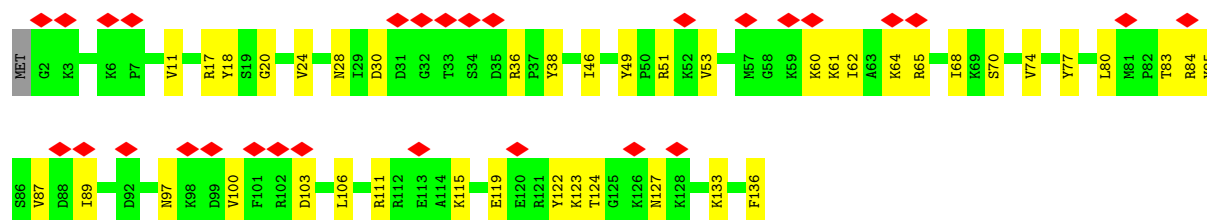


- Molecule 24: uL24

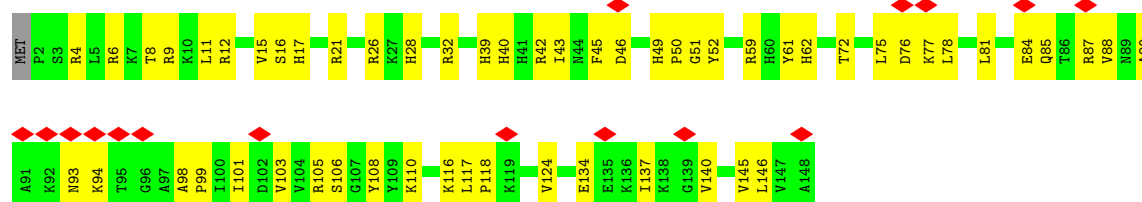




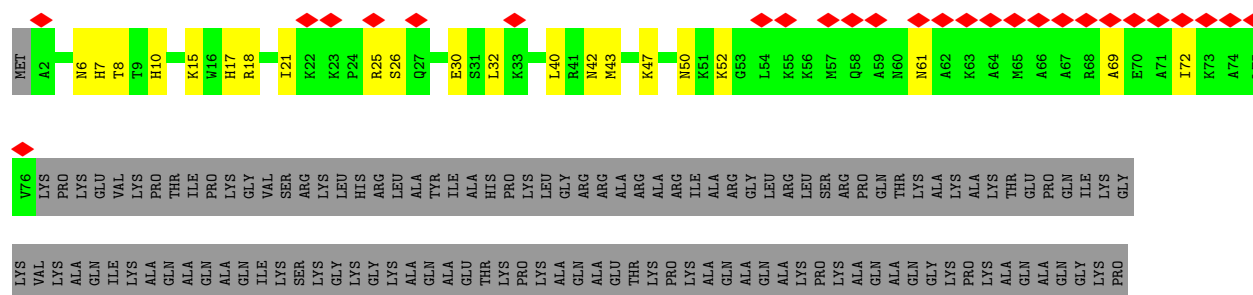
• Molecule 25: eL27



• Molecule 26: uL15

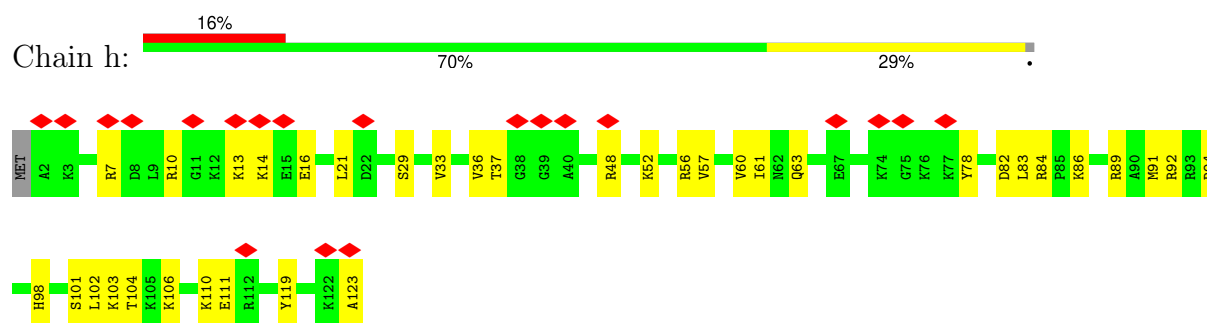


• Molecule 27: eL29

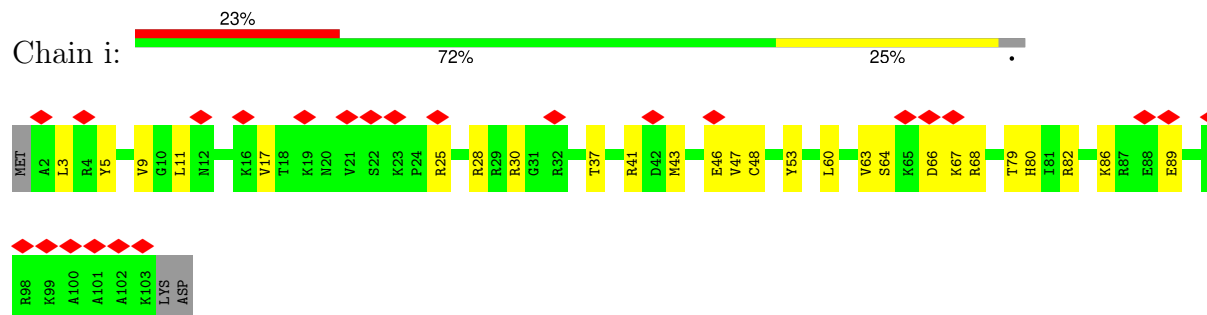


• Molecule 28: eL30

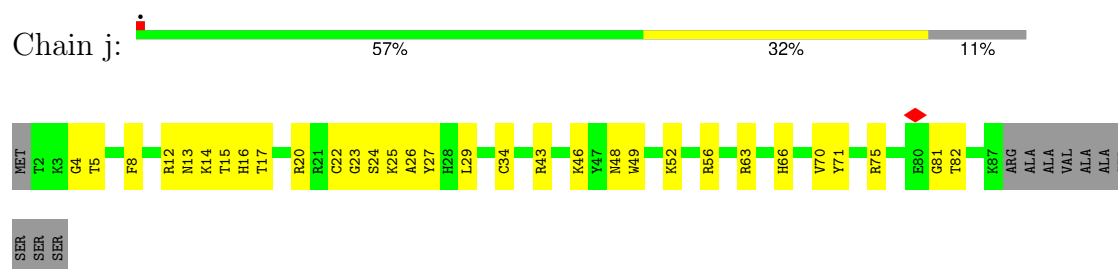




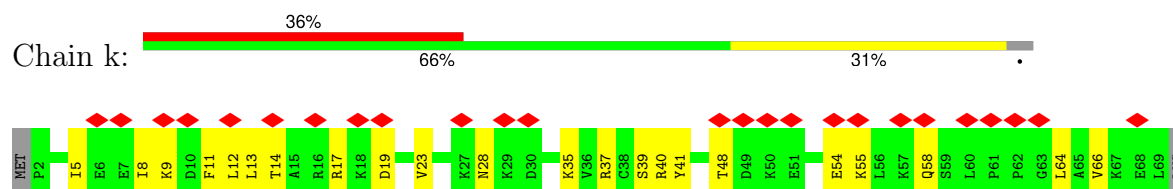
- Molecule 34: eL36



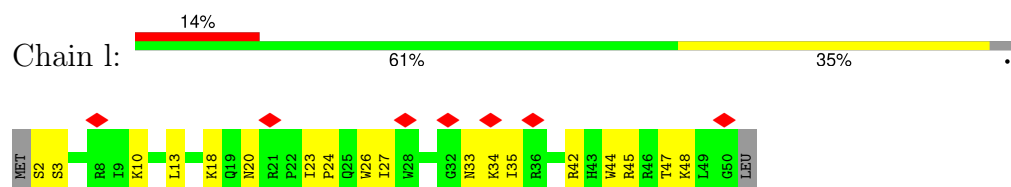
- Molecule 35: eL37



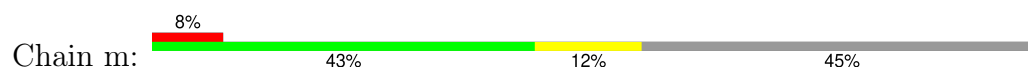
- Molecule 36: eL38

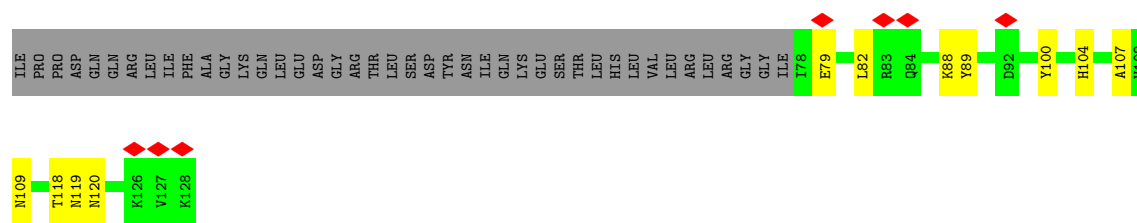


- Molecule 37: eL39



- Molecule 38: eL40

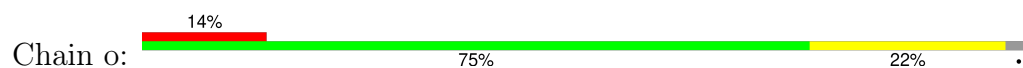




- Molecule 39: eL41



- Molecule 40: eL42



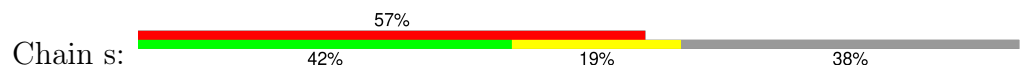
- Molecule 41: eL43

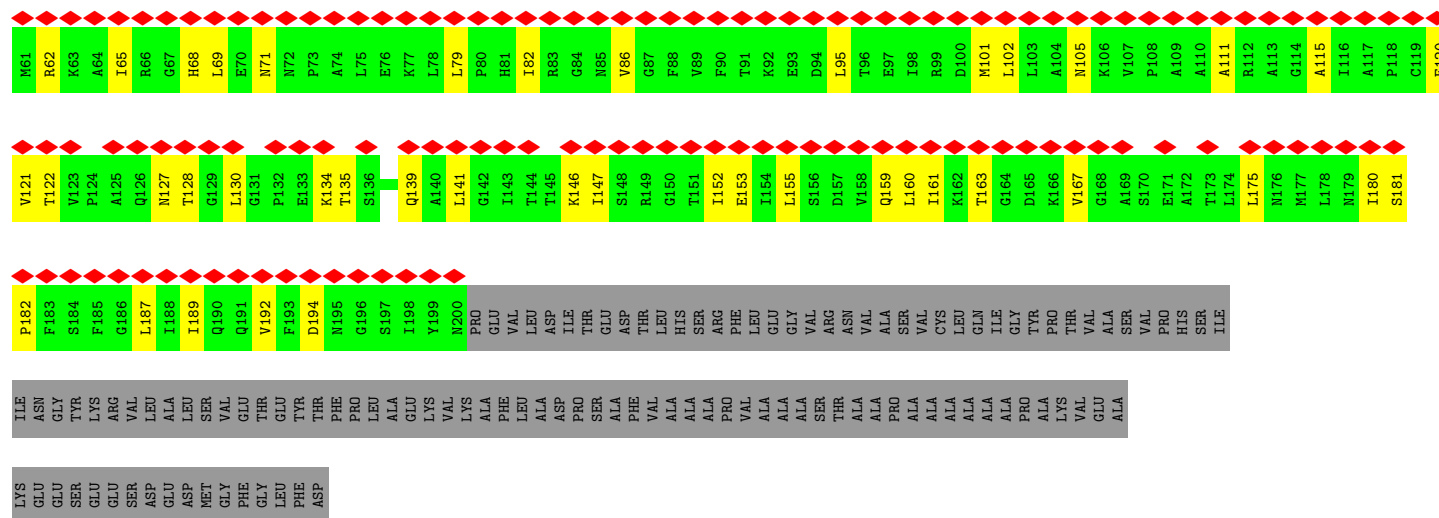


- Molecule 42: eL28

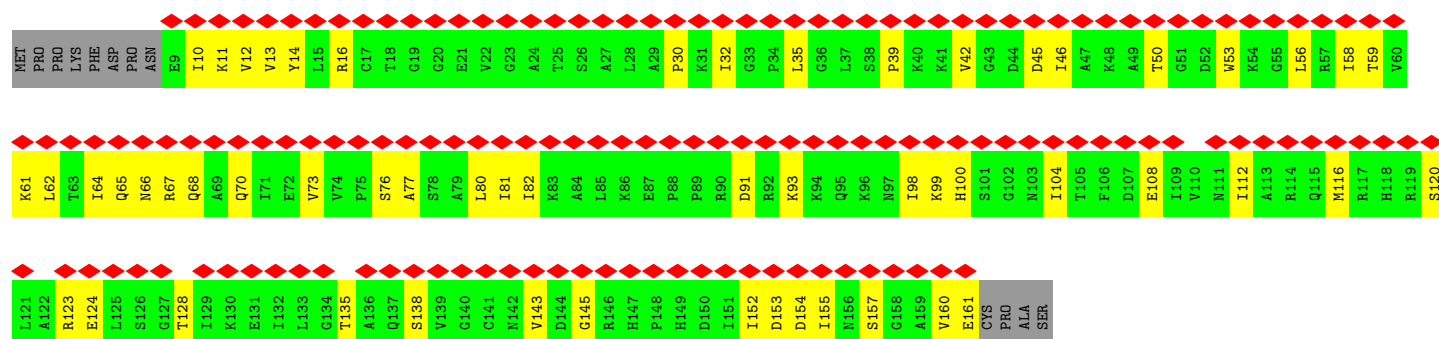
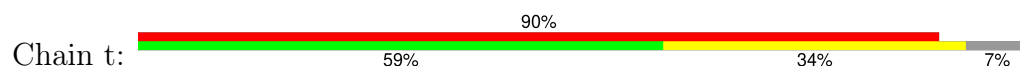


- Molecule 43: uL10

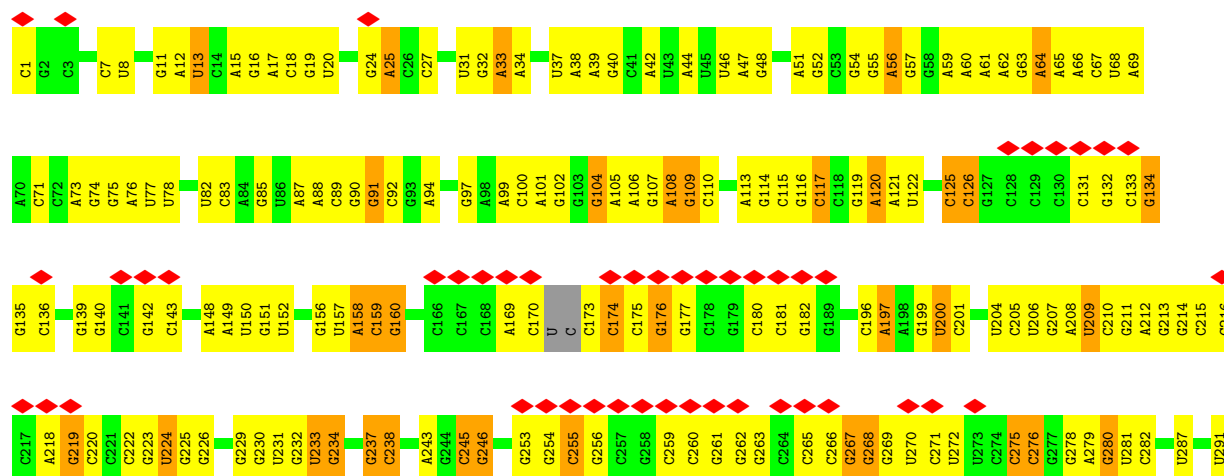
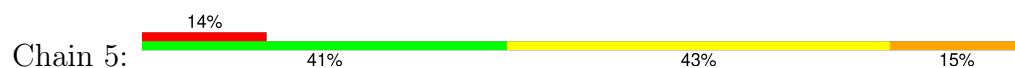




• Molecule 44: uL11

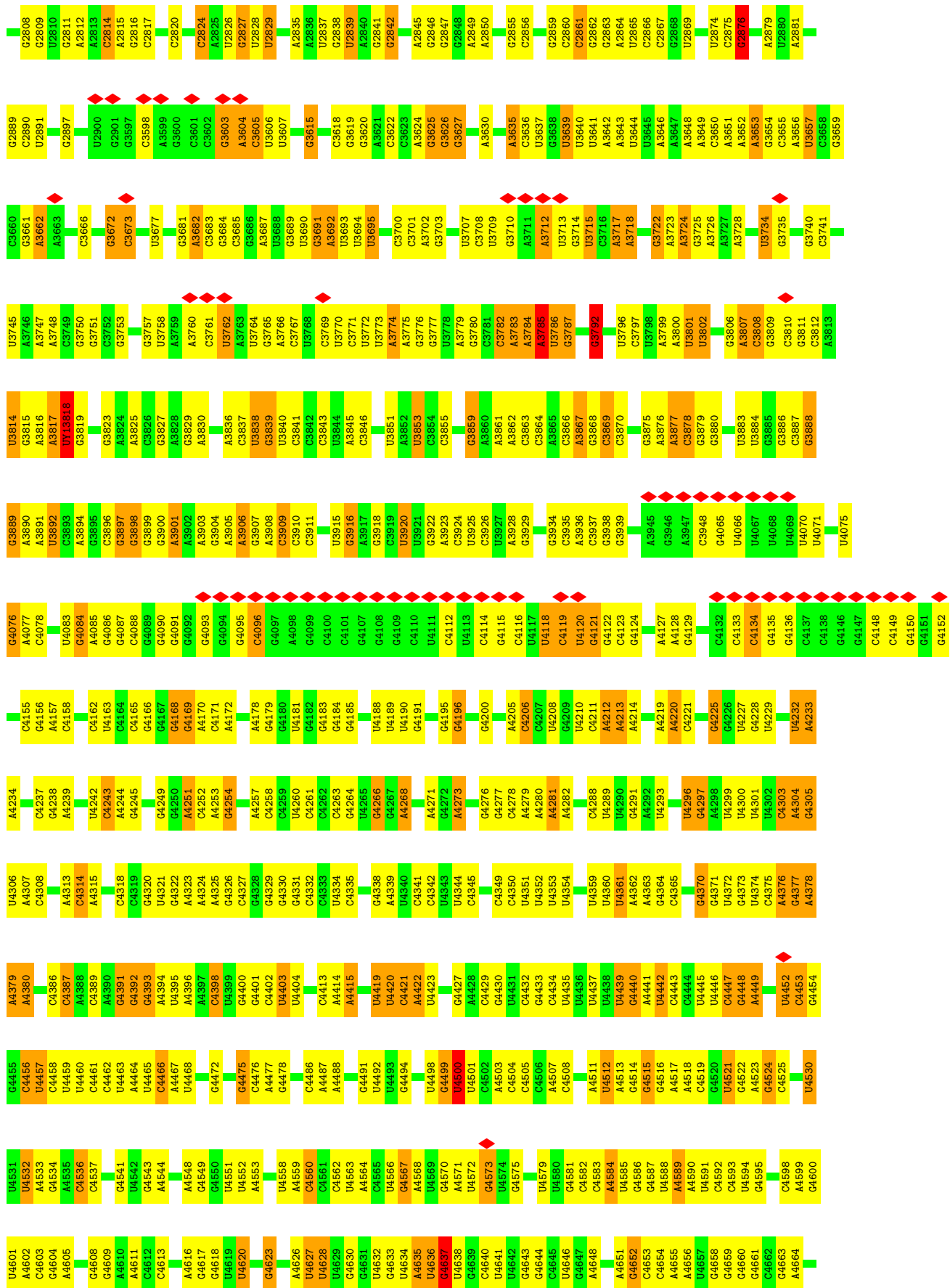


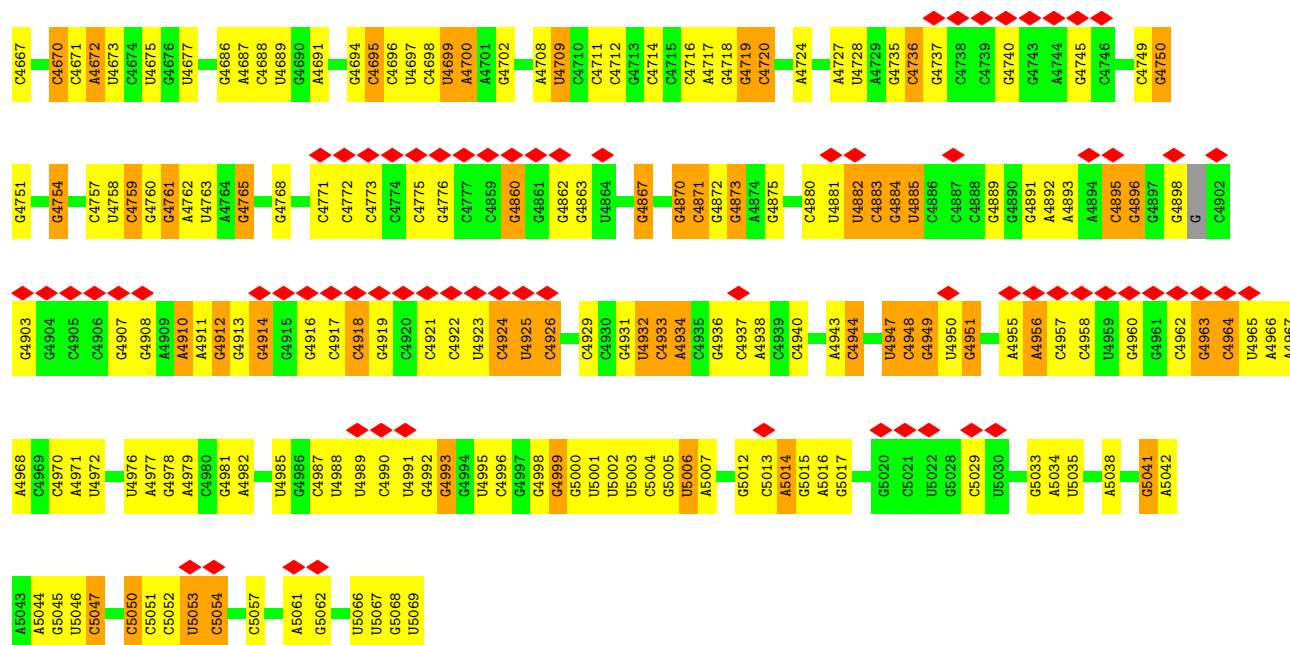
• Molecule 45: 28S rRNA



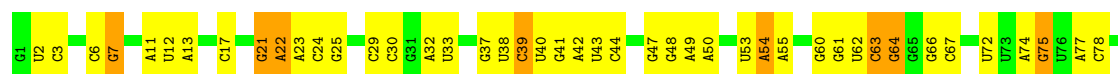




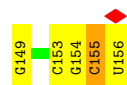
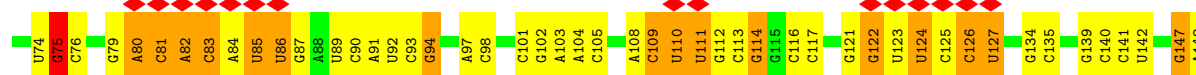




• Molecule 46: 5S rRNA



• Molecule 47: 5.8S rRNA



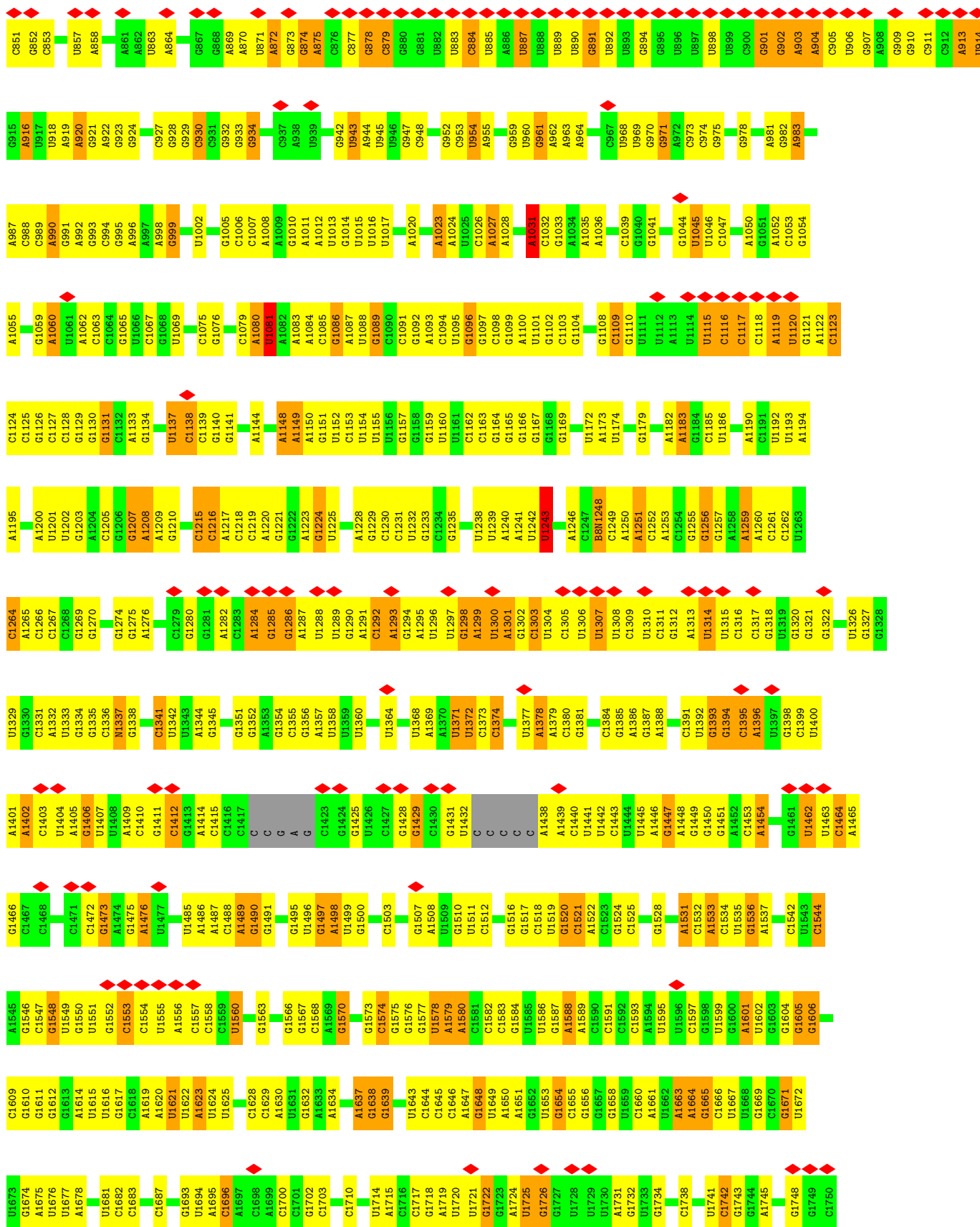
• Molecule 48: eEF2

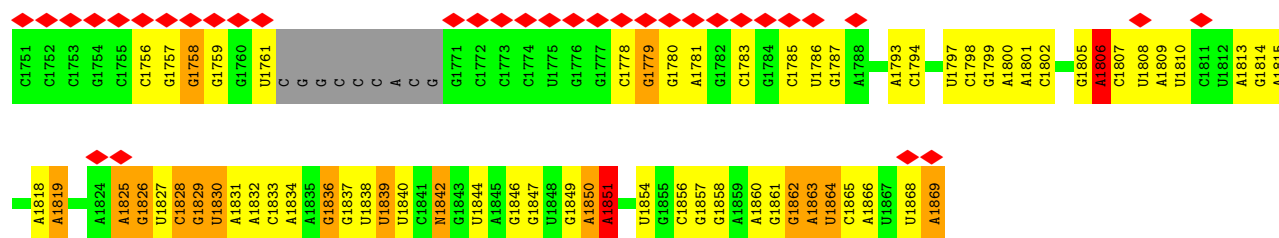


Q811	C812	V813	F814	D815	H816	W817	Q818	I819	L820	P821	G822	D823	P824	F825	D826	N827	S828	S829	R830	P831	S832	Q833	V834	V835	A836	E837	T838	R839	K840	R841	F842	G843	V844	K845	E846	G847	I848	P849	A850	L851	D852	N853	F854	L855	D856	K857	L858													
I749	Q750	C751	F752	E753	Q754	V755	V756	Q757	G758	V759	Y760	L763	N764	P765	K766	R767	V770	F771	E772	E773	S774	T775	V776	A777	G778	T779	F780	M781	F782	V783	V784	K785	L786	V787	L788	P789	V790	N791	E792	S793	V794	F795	F796	T797	A798	D799	L800	R801	S802	N803	T804	G805	G806	Q807	A808	F809	P810			
F683	Q684	W685	K688	E689	G690	A691	L692	C693	E694	F695	N696	R697	P698	R701	F702	D703	V704	H705	D706	V707	T708	L709	H710	A711	D712	E715	R716	G717	G718	I721	T722	F723	L724	R727	C728	L729	Y730	V733	L734	T735	F736	F737	R738	R739	L740	M741	E742	F743	I744	T745	L746	V747	E748							
I617	D618	K619	G620	E621	R625	Q626	E627	L628	K629	Q630	R633	Y634	L635	A636	E637	K638	V639	E640	W641	D642	V643	A644	E645	A646	R647	R648	I649	W650	C651	D655	G656	P659	N660	I661	L662	T663	D664	L665	T666	K667	G668	V669	Q670	F671	L672	H673	E674	L675	K676	D677	S678	V679	W680	A681	G682					
T556	C557	L558	K559	D560	L561	E562	E563	D564	H565	A566	C567	I568	P569	I570	K571	K572	S573	D574	P575	V576	V577	S578	V579	R580	E581	T582	V583	S584	E585	S586	S587	N588	V589	L590	C591	L592	S595	P596	N597	K598	H599	N600	R601	L602	V603	M604	K605	A606	R607	F608	P609	P610	D611	L612	L613	A614	E615	D616		
V496	M497	K498	P499	S500	V501	S502	P503	V504	V505	R506	V507	A508	V509	E510	A511	R512	N513	P514	A515	D516	L517	P518	K519	L520	V521	E522	G523	L524	K525	R526	L527	A528	K529	S530	D531	P532	P536	M533	V534	Q535	C536	T537	L538	E539	E540	S541	G542	E543	H544	L545	T546	F547	G548	A549	G550	E551	L552	H553	L554	E555
P436	Q437	K438	K439	E440	D441	L442	Y443	L444	K445	P446	L447	Q448	R449	T450	L451	L452	M453	M454	G455	R456	Y457	V458	E459	P460	L461	E462	D463	V464	P465	C466	Q467	N468	L469	V470	G471	L472	V473	G474	V475	D476	F478	L479	V480	K481	T482	O483	T484	L485	T486	T487	F488	E489	H490	A491	H492	N493	M494	R495		
P376	P377	D378	D379	E380	A381	A382	G383	G384	L385	K386	S387	C388	K389	P390	K391	G392	P393	L394	K395	K396	Y397	L398	S399	K400	N401	V402	P403	T404	D406	K407	G408	R409	F410	Y411	A412	F413	G414	R415	V416	F417	S418	G419	L420	V421	S422	T423	G424	L425	K426	V427	R428	L429	M430	G431	P432	N433	T435			
L315	L316	E317	K318	L319	D320	L321	K322	L323	D324	S325	E326	D327	K328	D329	K330	E331	G332	K333	P334	L335	L336	K337	A338	V339	K340	R341	R342	W343	A346	G347	D348	A349	L350	L351	Q352	K353	L354	T355	L356	K357	L358	P359	S360	P361	V362	T363	A364	Q365	K366	Y367	R368	C369	E370	L371	L372	E374	G375			
V253	E254	D255	M256	K257	K258	K259	L260	W261	G262	D263	R264	V265	F266	D267	P268	A269	N270	G271	K272	F273	S274	K275	S276	A277	T278	Y279	P280	E281	G282	K283	K284	L285	T288	F289	C290	Q291	L292	L293	L294	D295	P296	L297	V300	F301	D302	A303	L304	K305	K306	F307	K308	K309	E310	E311	T312	A313	K314			
G124	A125	L126	V127	V128	V129	D130	C131	V132	S133	G134	V135	C136	V137	Q138	T139	E140	L143	R144	Q145	A146	T147	A148	E149	R150	I151	K152	V153	L154	L155	M156	M157	D161	R162	A163	L164	L165	Q168	L169	E170	P171	I172	E173	L174	Y175	Q176	T177	F178	Q179	R180	E183	N184	V187	I188	I189						
S190	T191	Y192	G193	E194	G195	E196	S197	G198	P199	M200	G201	N202	I203	M204	T205	D206	P207	V208	L209	E210	T211	V212	G213	F214	G215	G220	W221	S279	V222	F223	T224	L225	K226	Q227	F228	A229	E230	M231	T232	V233	A234	K235	F236	A237	A238	K239	G240	E241	G242	Q243	L244	G245	P246	E247	E248	R249	A250	K251	K252	
GLN	GLU	R66	C67	I68	T69	I70	K71	S72	T73	A74	I75	S76	L77	F78	Y79	E80	L81	S82	E83	N84	D85	L86	N87	F88	I89	K90	Q91	S92	K93	D94	G95	A96	G97	F98	L99	I100	N101	L102	I103	D104	S105	P106	G107	ARG	ALA	GLY	GLU	THR	ARG	PHE	THR	ASP	THR	ARG	LYS	ASP	GLU			
MET	VAL	ASN	F4	T5	V6	D7	Q8	I9	S10	A11	I12	M13	D14	K15	K16	A17	N18	I19	R20	N21	M22	S23	V24	I25	A26	H27	V28	D29	H30	G31	T36	D37	S38	L39	V40	C41	K42	A43	G44	I45	ALA	ALA	ALA	ALA	GLY	GLU	THR	ARG	PHE	THR	ASP	THR	ARG	LYS	ASP	GLU				

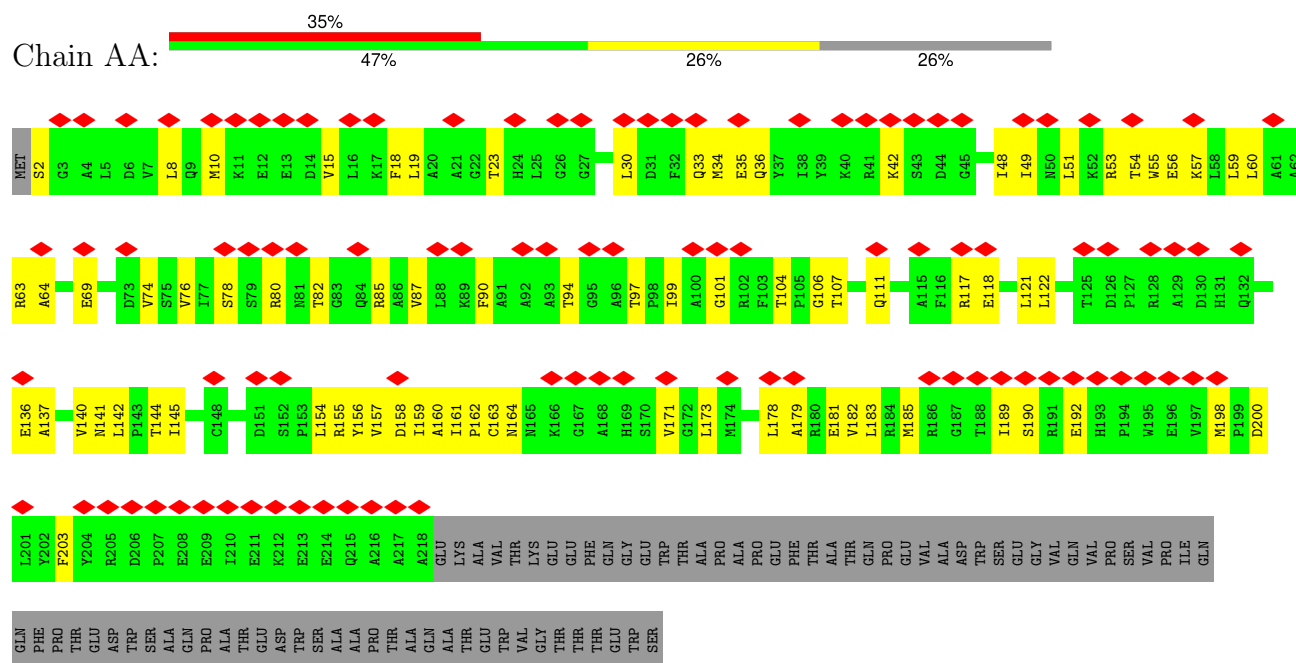
Chain 9:



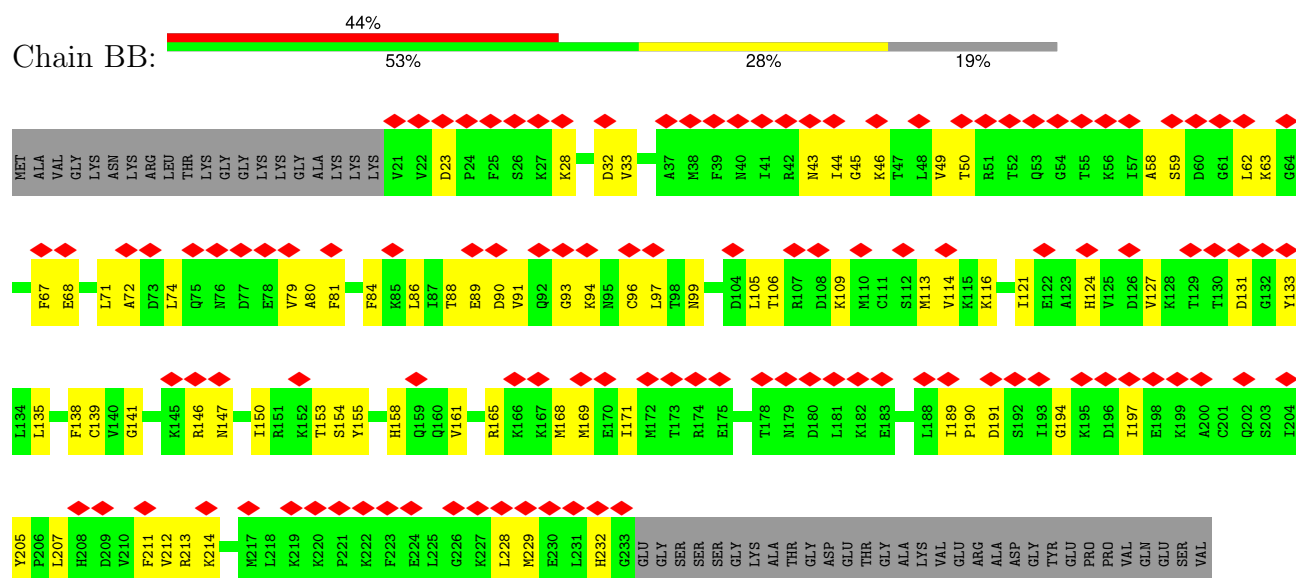




• Molecule 50: uS2



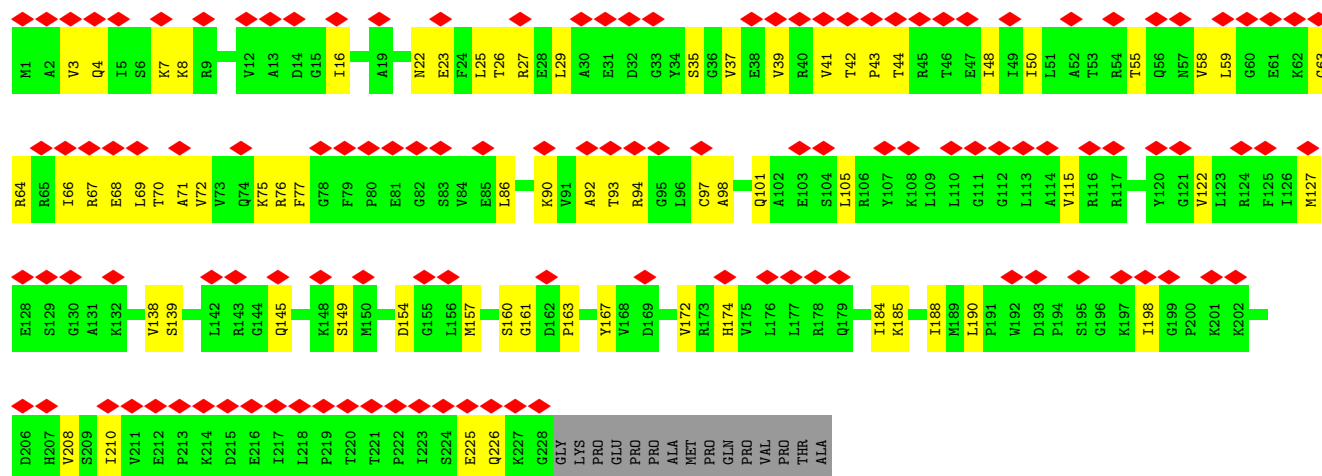
• Molecule 51: eS1



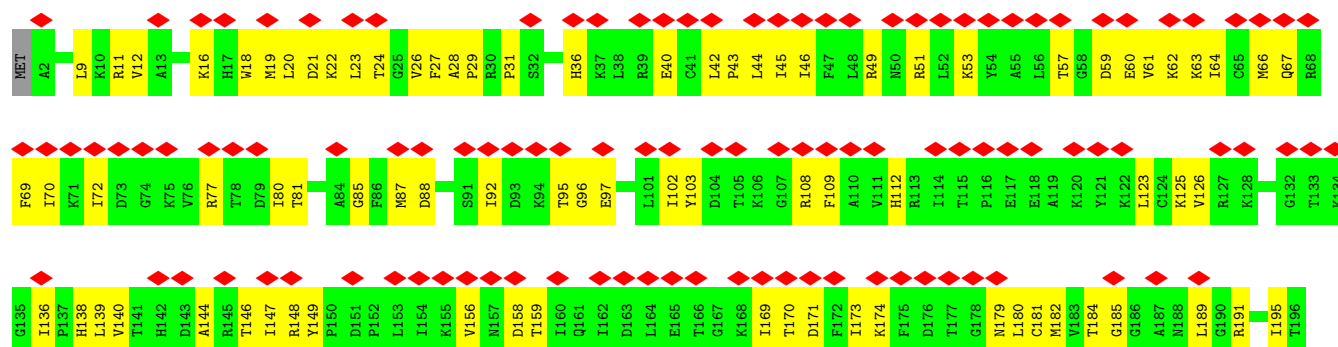
• Molecule 52: uS5



- Molecule 53: uS3

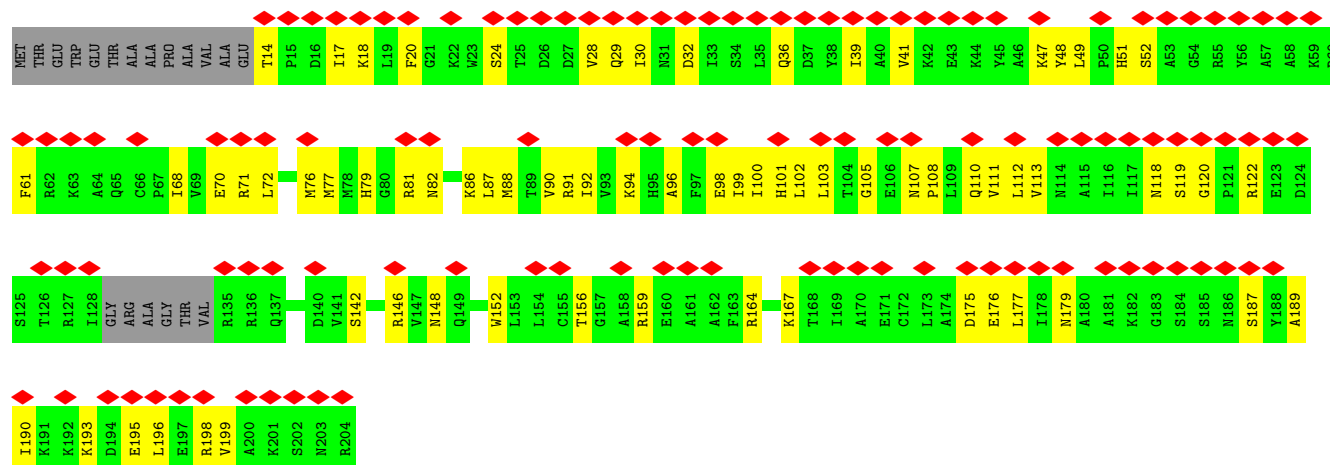


- Molecule 54: eS4

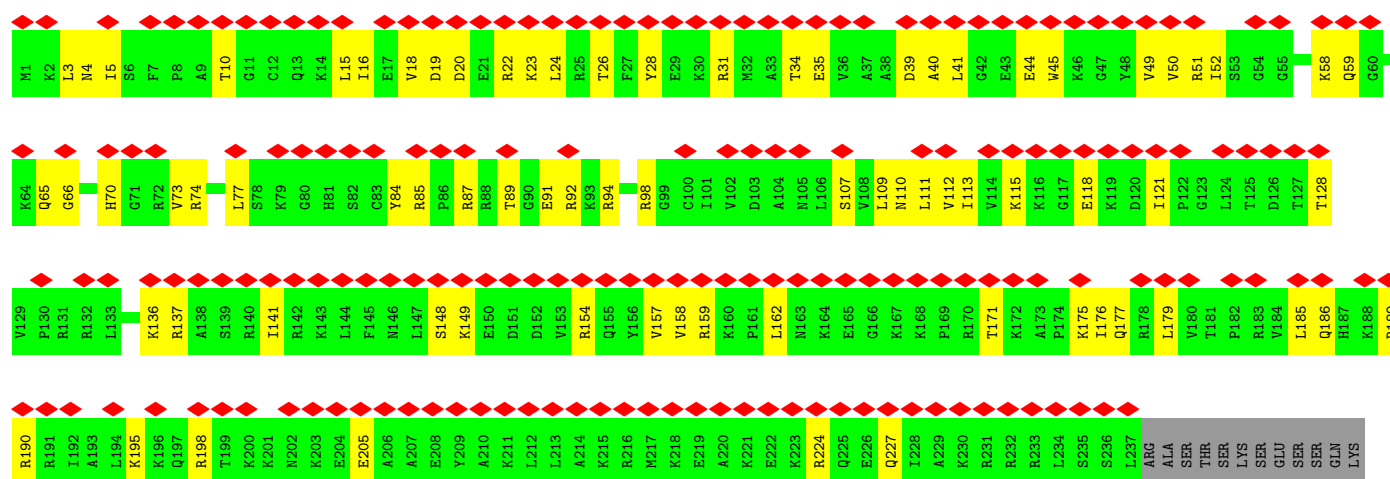
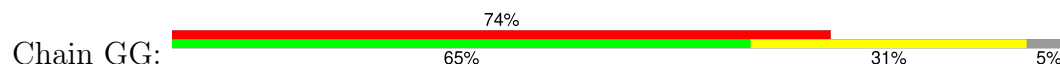




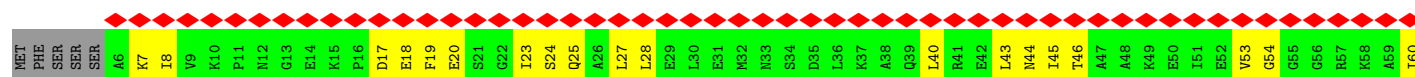
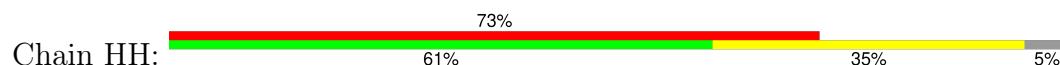
• Molecule 55: uS7



• Molecule 56: eS6

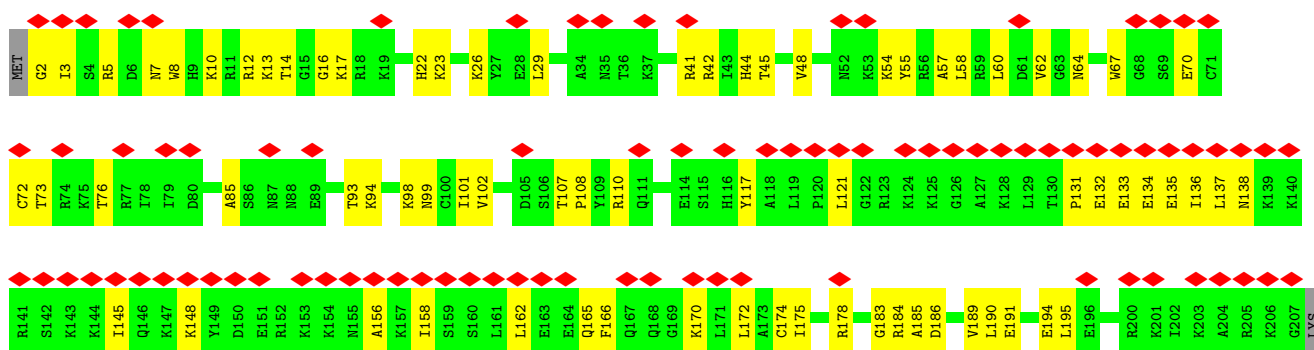
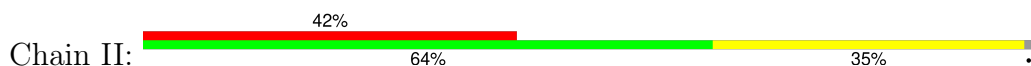


• Molecule 57: eS7

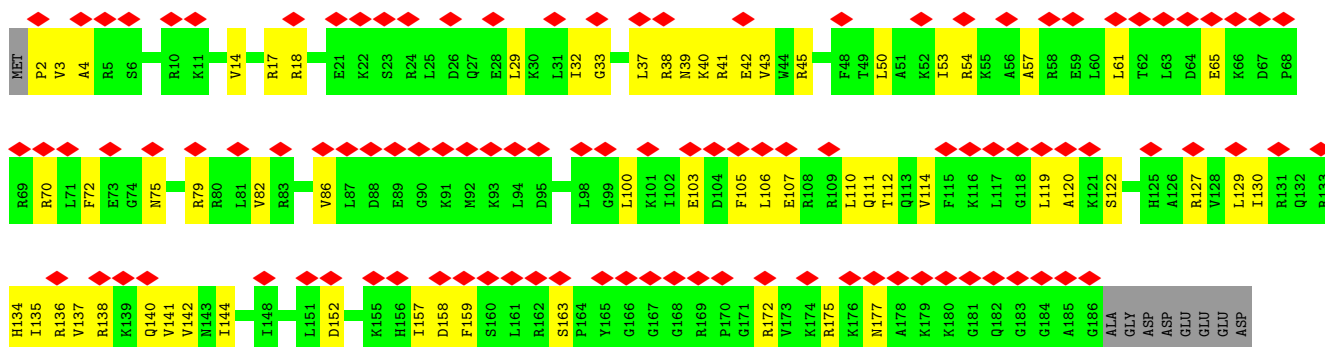




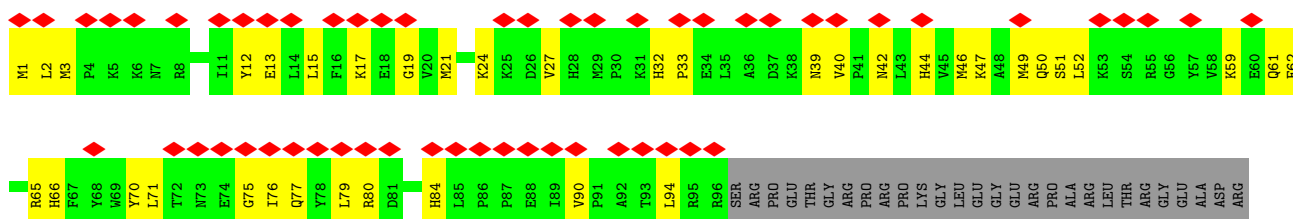
• Molecule 58: eS8



• Molecule 59: uS4



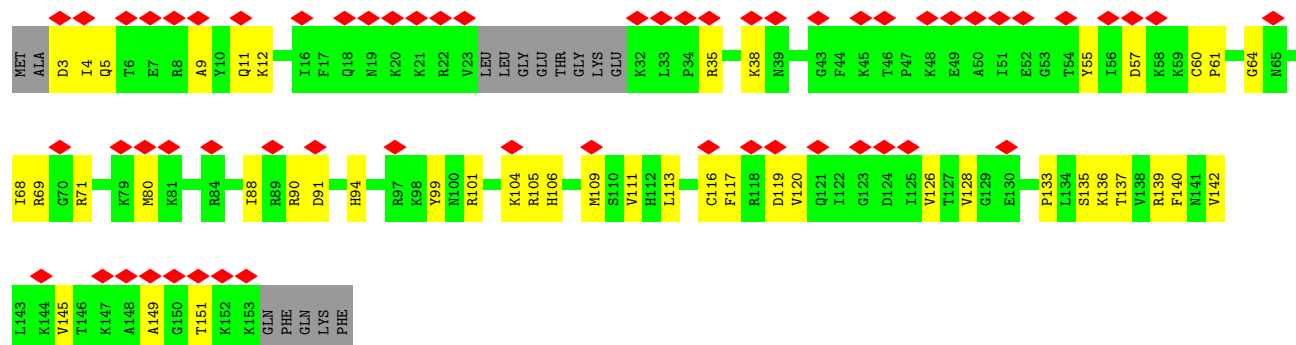
• Molecule 60: eS10



ASP
THR
TYR
ARG
SER
ALA
VAL
PRO
GLY
ALA
ASP
LYS
LYS
GLU
GLY
GLY
ALA
ALA
SER
SER
THR
THR
PHE
GLN
PHE
GLY
GLY
ARG
ARG
GLY
GLY
GLN
PRO
PRO
GLN

• Molecule 61: uS17

Chain LL:



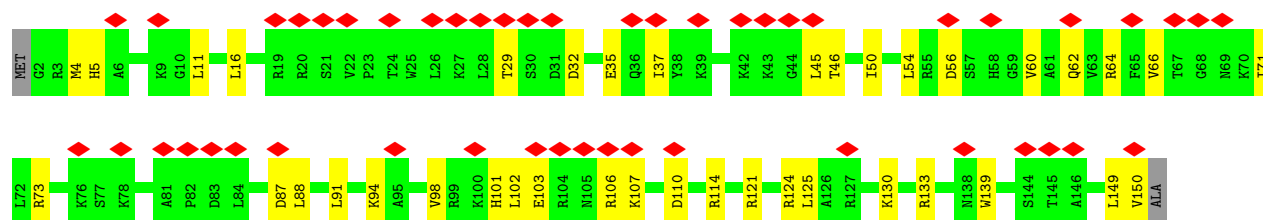
• Molecule 62: eS12

Chain MM:



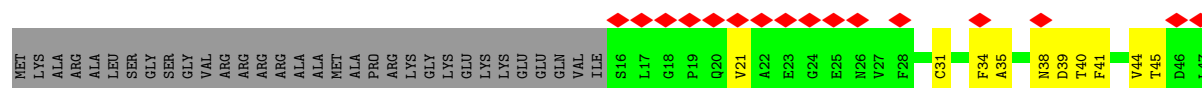
• Molecule 63: uS15

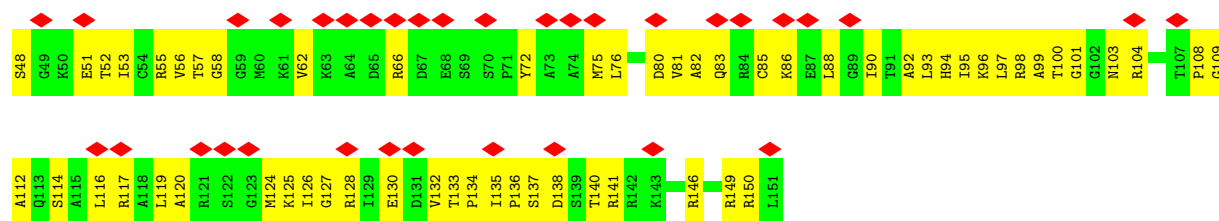
Chain NN:



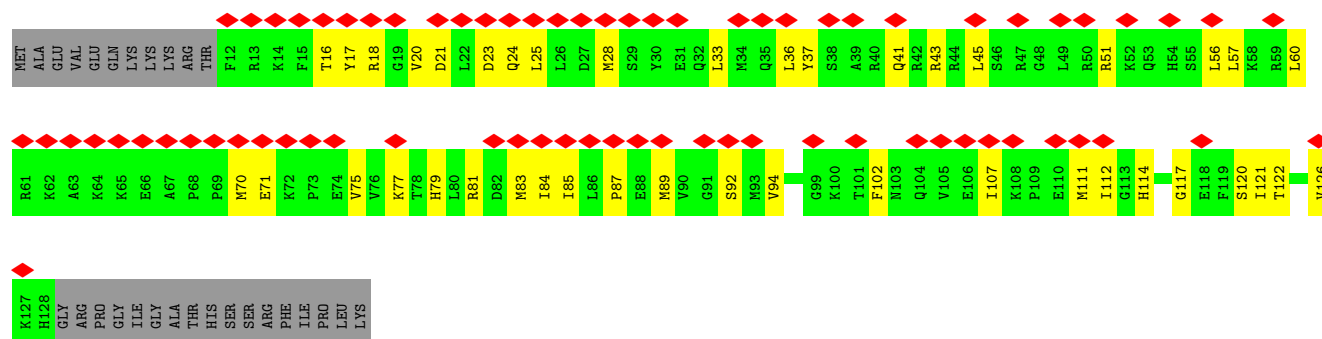
• Molecule 64: uS11

Chain OO:

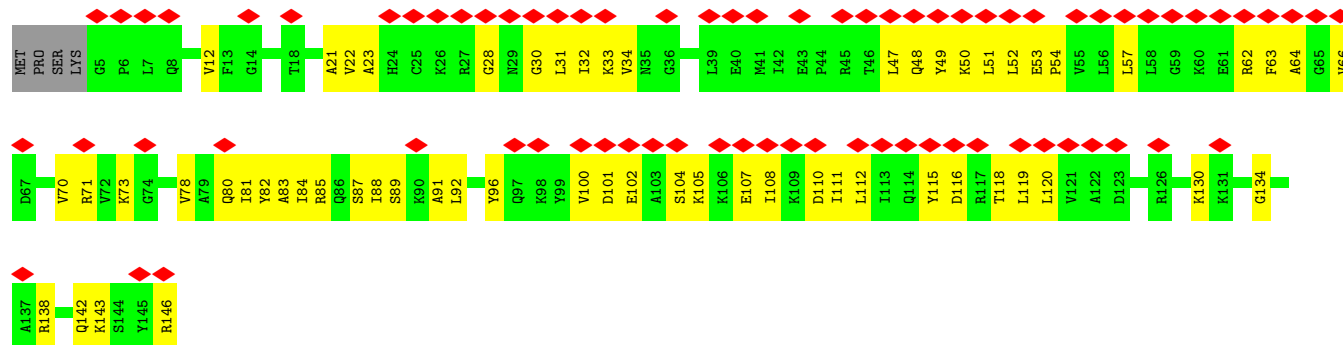




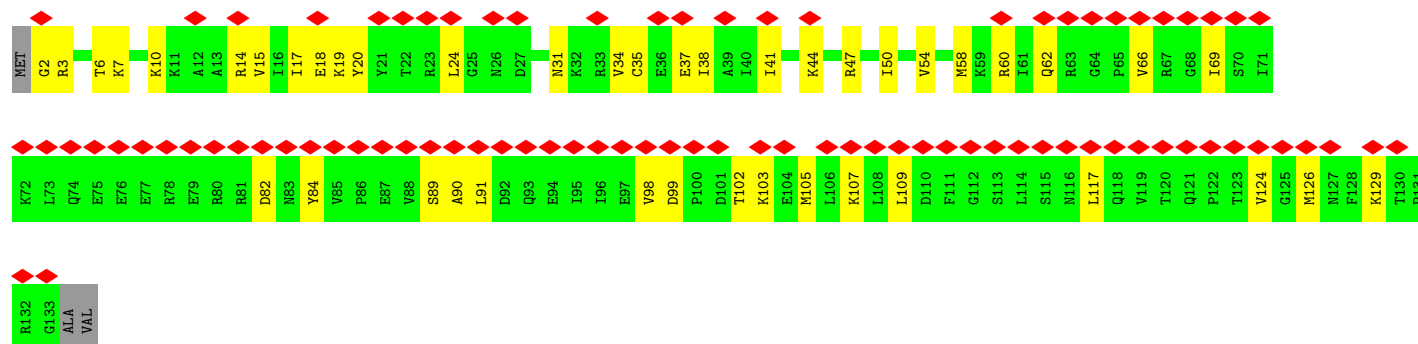
• Molecule 65: uS19



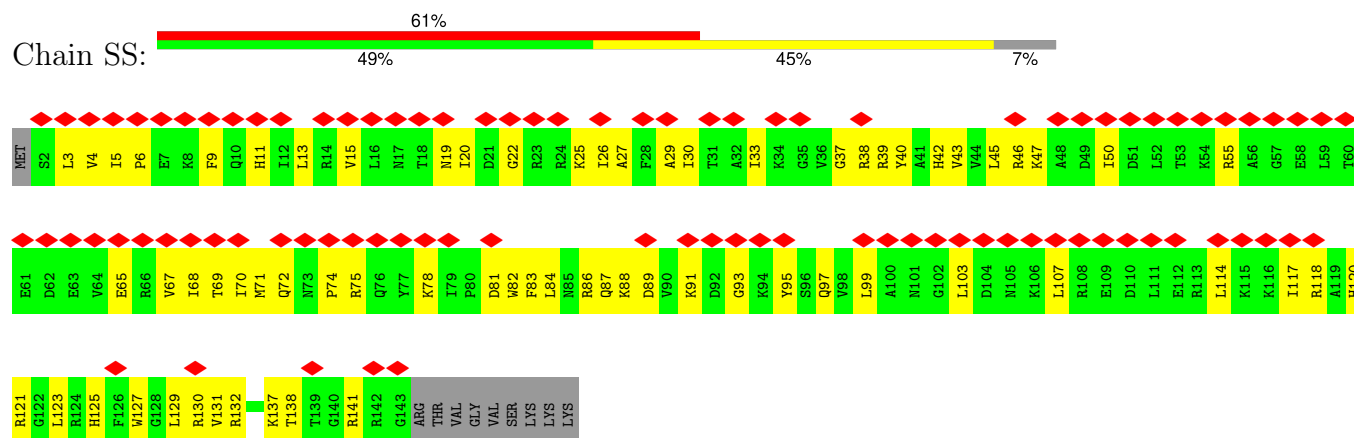
• Molecule 66: uS9



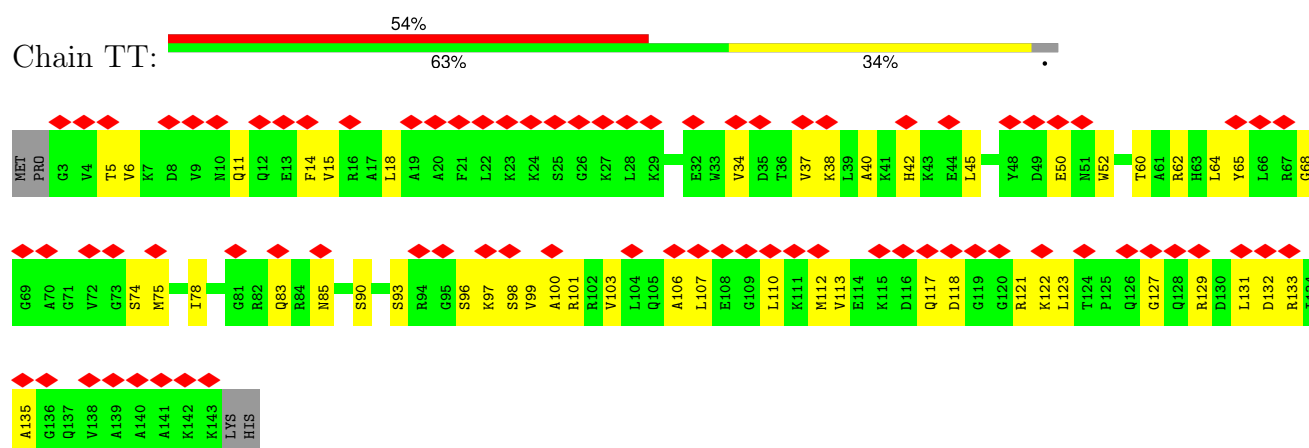
• Molecule 67: eS17



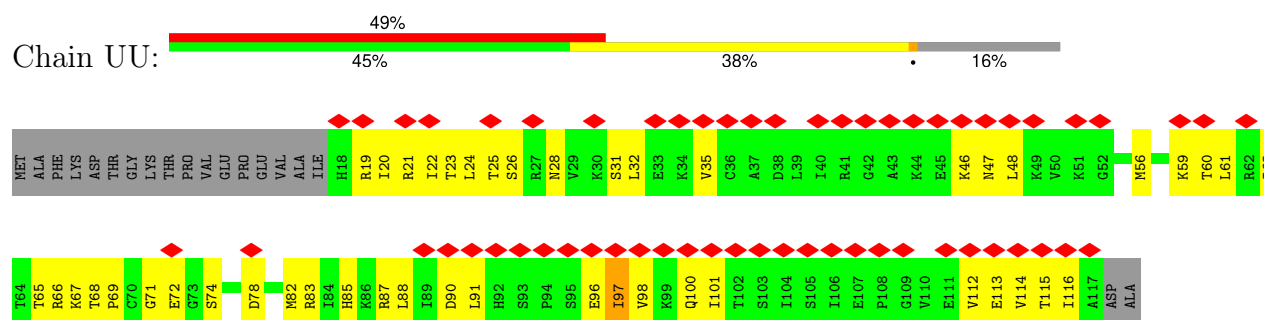
- Molecule 68: uS13



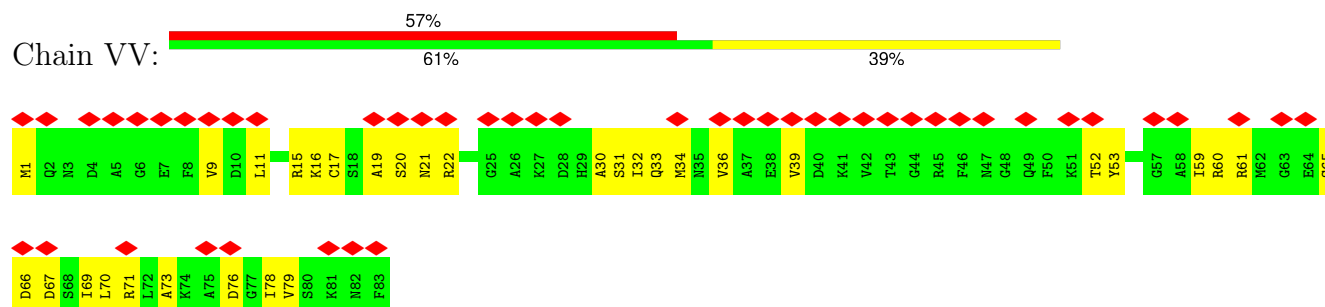
- Molecule 69: eS19



- Molecule 70: uS10

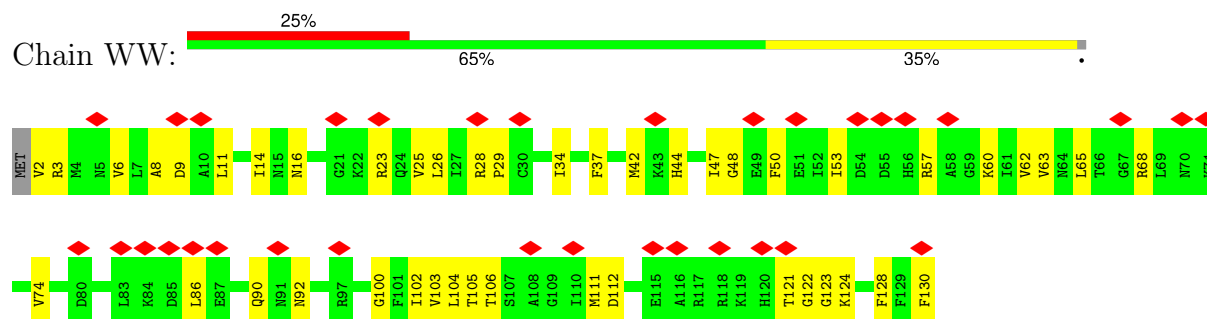


- Molecule 71: eS21



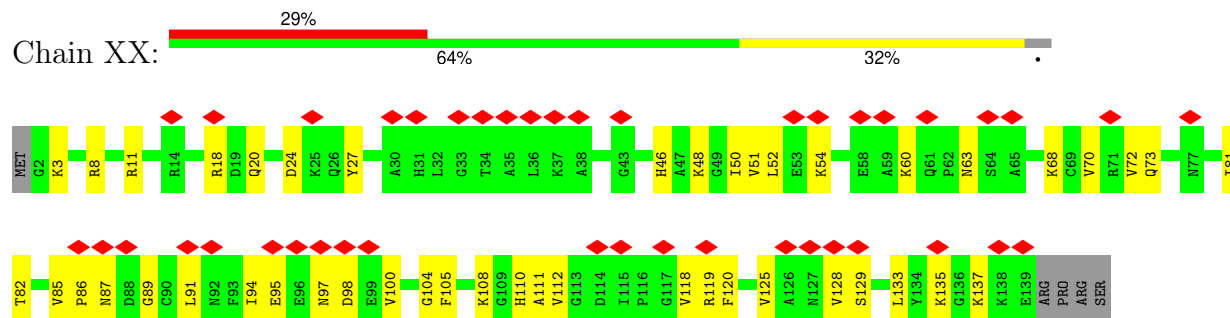
- Molecule 72: uS8

Chain WW:



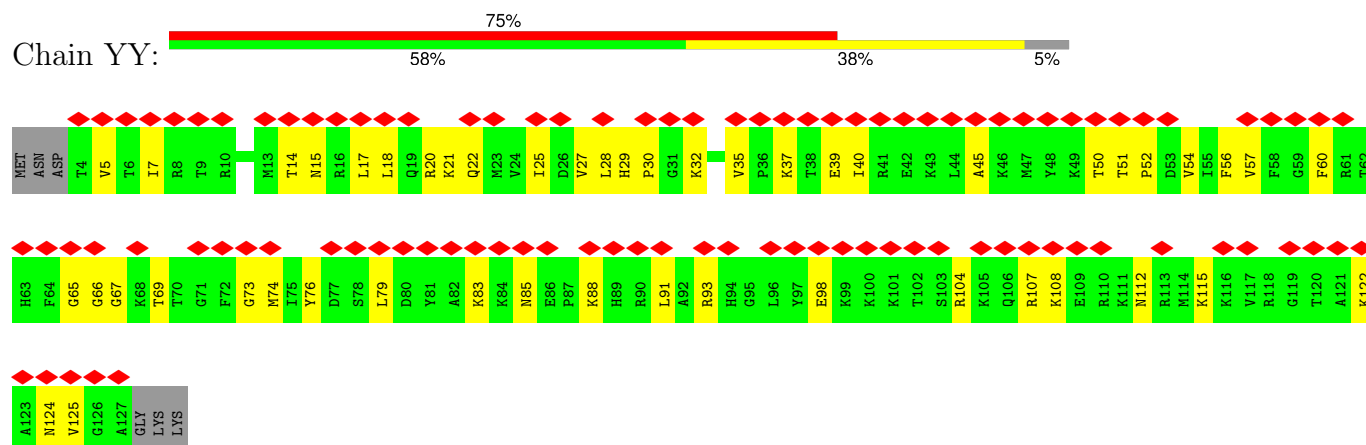
- Molecule 73: uS12

Chain XX:



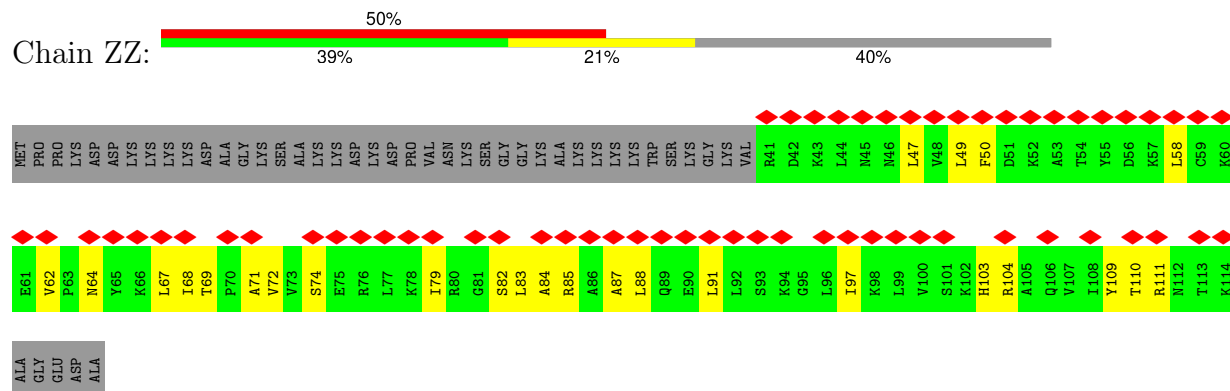
- Molecule 74: eS24

Chain YY:

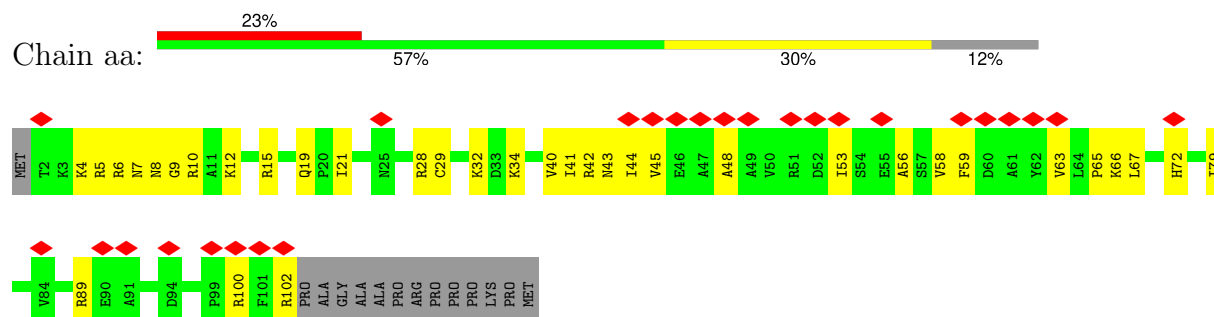


- Molecule 75: eS25

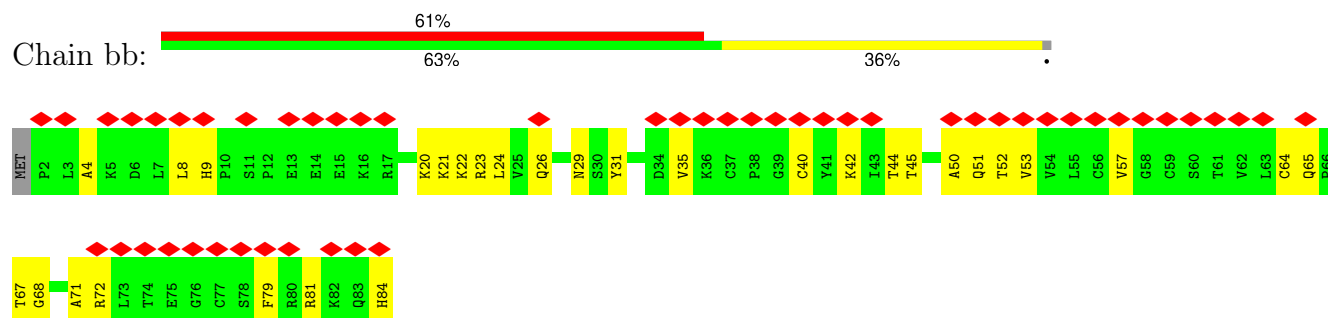
Chain ZZ:



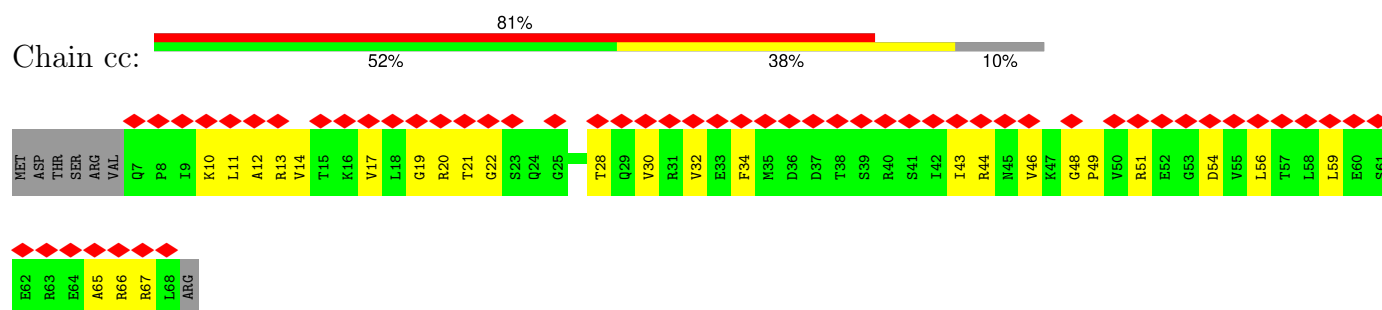
• Molecule 76: eS26



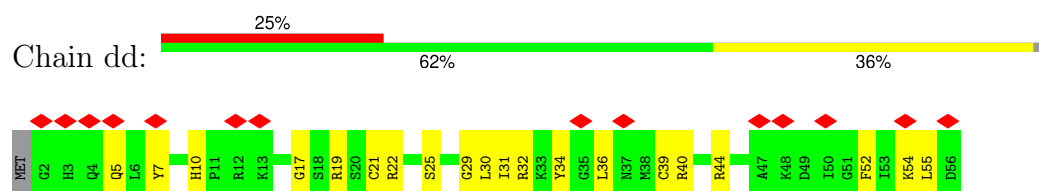
• Molecule 77: eS27



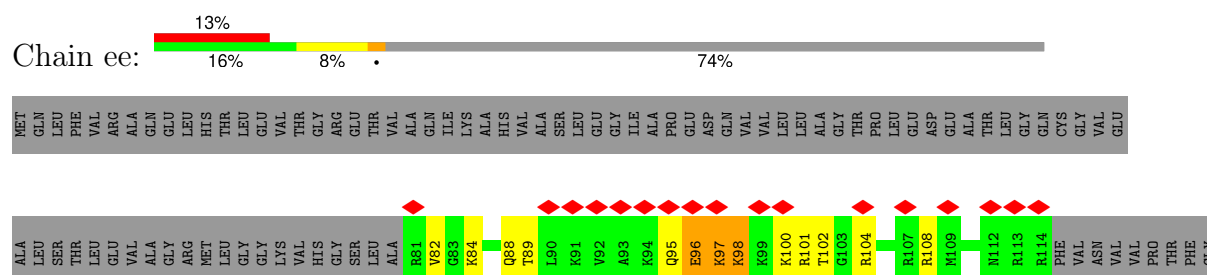
• Molecule 78: eS28



• Molecule 79: uS14

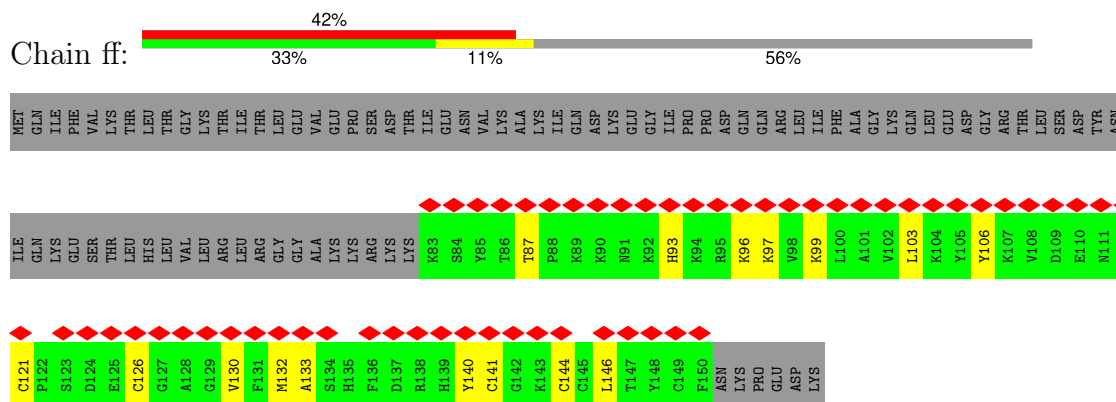


• Molecule 80: eS30

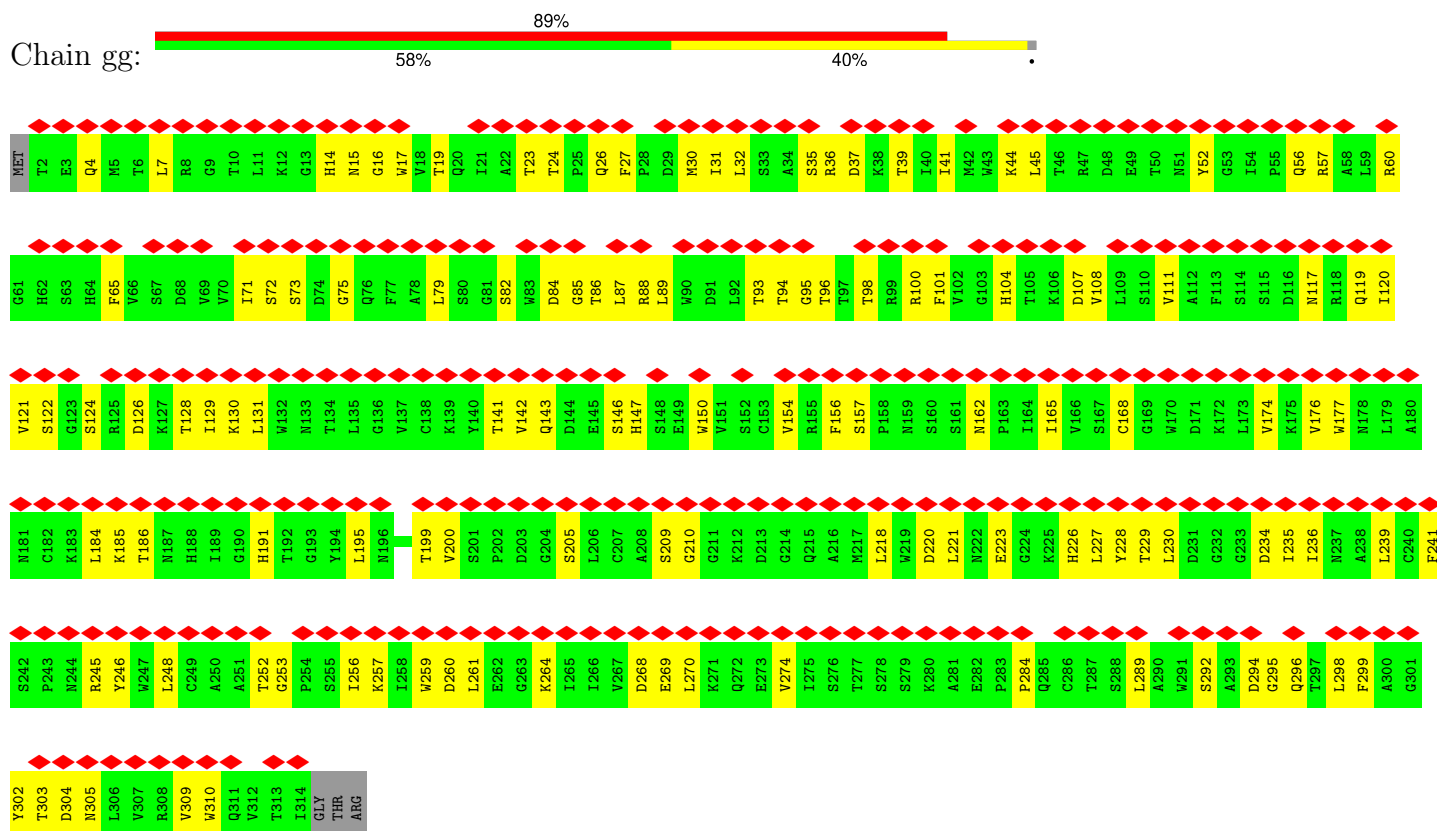


LYS
LYS
LYS
GLY
PRO
ASN
ALA
ASN
SER

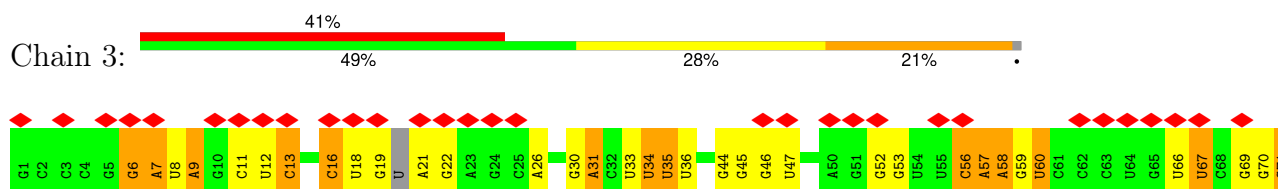
• Molecule 81: eS31



• Molecule 82: RACK1

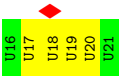


• Molecule 83: E-site tRNA

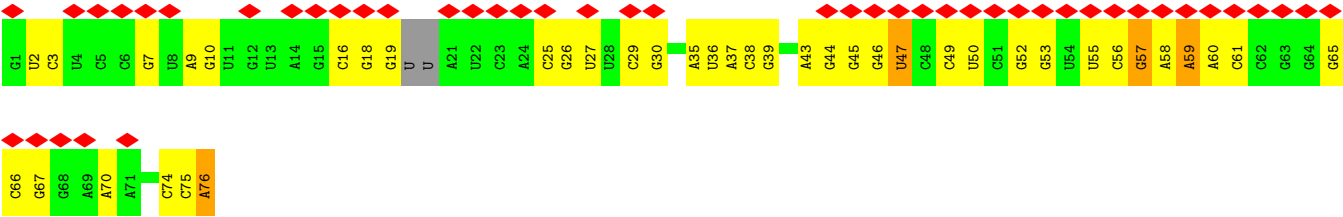




• Molecule 84: mRNA



• Molecule 85: P-site tRNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	42975	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	35	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.943	Depositor
Minimum map value	-0.613	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.034	Depositor
Recommended contour level	0.14	Depositor
Map size (Å)	428.80002, 428.80002, 428.80002	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.34, 1.34, 1.34	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: 6MZ, A2M, E3C, B8Q, 34G, UY1, UR3, 2MG, GDP, ZN, 4AC, MG, OMG, B9B, MA6, B8N, DDE, M7A, 5MU, OMC, 1MA, PSU, OMU, 5MC

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.37	0/1929	0.38	0/2586
2	B	0.36	0/3216	0.37	0/4311
3	C	0.38	0/2937	0.40	0/3946
4	D	0.29	0/2407	0.34	0/3224
5	E	0.29	0/1760	0.35	0/2362
6	F	0.39	0/1911	0.37	0/2549
7	G	0.30	0/1799	0.37	0/2424
8	H	0.33	0/1535	0.37	0/2063
9	I	0.33	0/1729	0.37	0/2308
10	J	0.29	0/1359	0.36	0/1817
11	L	0.31	0/1733	0.33	0/2316
12	M	0.32	0/1158	0.33	0/1547
13	N	0.40	0/1746	0.38	0/2338
14	O	0.36	0/1653	0.40	0/2210
15	P	0.39	0/1268	0.39	0/1700
16	Q	0.37	0/1539	0.39	0/2054
17	R	0.31	0/1518	0.36	0/2005
18	S	0.37	0/1501	0.40	0/2012
19	T	0.34	0/1326	0.34	0/1770
20	U	0.25	0/814	0.41	0/1092
21	V	0.34	0/987	0.38	0/1324
22	W	0.34	0/541	0.34	0/720
23	X	0.31	0/966	0.35	0/1301
24	Y	0.32	0/1132	0.40	0/1504
25	Z	0.29	0/1130	0.35	0/1507
26	a	0.40	0/1191	0.41	0/1590
27	b	0.32	0/619	0.38	0/818
28	c	0.32	0/742	0.34	0/995
29	d	0.32	0/846	0.35	0/1136
30	e	0.40	0/1071	0.39	0/1429
31	f	0.41	0/895	0.41	0/1198

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	g	0.33	0/916	0.39	0/1220
33	h	0.30	0/1021	0.36	0/1348
34	i	0.27	0/841	0.35	0/1112
35	j	0.38	0/720	0.44	0/952
36	k	0.28	0/565	0.38	0/750
37	l	0.36	0/450	0.40	0/597
38	m	0.32	0/427	0.48	0/564
39	n	0.34	0/223	0.31	0/284
40	o	0.33	0/855	0.35	0/1128
41	p	0.33	0/718	0.33	0/953
42	r	0.34	0/1017	0.37	0/1364
43	s	0.16	0/1530	0.38	0/2064
44	t	0.16	0/1174	0.39	0/1582
45	5	0.39	1/82306 (0.0%)	0.36	0/128361
46	7	0.37	0/2858	0.31	0/4455
47	8	0.37	0/3675	0.34	0/5725
48	v	0.22	0/6623	0.40	0/8943
49	9	0.29	1/39726 (0.0%)	0.32	0/61882
50	AA	0.24	0/1747	0.34	0/2374
51	BB	0.23	0/1756	0.36	0/2350
52	CC	0.26	0/1753	0.38	0/2369
53	DD	0.23	0/1796	0.35	0/2417
54	EE	0.23	0/2118	0.36	0/2849
55	FF	0.23	0/1492	0.36	0/2005
56	GG	0.21	0/1946	0.35	0/2590
57	HH	0.20	0/1510	0.39	0/2022
58	II	0.24	0/1715	0.37	0/2287
59	JJ	0.22	0/1550	0.33	0/2069
60	KK	0.23	0/834	0.38	0/1125
61	LL	0.26	0/1195	0.34	0/1597
62	MM	0.16	0/918	0.39	0/1233
63	NN	0.24	0/1226	0.34	0/1649
64	OO	0.28	0/1029	0.41	0/1380
65	PP	0.22	0/994	0.39	0/1327
66	QQ	0.26	0/1146	0.41	0/1534
67	RR	0.21	0/1082	0.38	0/1452
68	SS	0.23	0/1190	0.41	0/1594
69	TT	0.23	0/1115	0.41	0/1493
70	UU	0.23	0/805	0.43	0/1081
71	VV	0.26	0/643	0.38	0/860
72	WW	0.27	0/1051	0.39	0/1406
73	XX	0.26	0/1086	0.39	0/1450
74	YY	0.20	0/1028	0.34	0/1366

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	ZZ	0.21	0/604	0.37	0/810
76	aa	0.30	0/828	0.38	0/1109
77	bb	0.21	0/665	0.36	0/891
78	cc	0.16	0/490	0.38	0/656
79	dd	0.28	0/470	0.38	0/623
80	ee	0.24	0/289	0.61	0/374
81	ff	0.16	0/566	0.35	0/750
82	gg	0.19	0/2493	0.39	0/3394
83	3	0.23	0/1754	0.30	0/2725
84	w	0.24	0/131	0.32	0/200
85	2	0.21	0/1761	0.29	0/2739
All	All	0.33	2/233379 (0.0%)	0.36	0/341590

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
48	v	0	1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	3785	A2M	O3'-P	5.30	1.61	1.56
49	9	668	A2M	O3'-P	5.08	1.61	1.56

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
48	v	701	ARG	Sidechain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1891	0	1986	72	0
2	B	3148	0	3267	108	0
3	C	2883	0	3053	128	0
4	D	2361	0	2395	75	0
5	E	1726	0	1869	63	0
6	F	1875	0	1995	65	0
7	G	1768	0	1891	63	0
8	H	1516	0	1597	56	0
9	I	1691	0	1740	59	0
10	J	1336	0	1375	38	0
11	L	1702	0	1820	43	0
12	M	1137	0	1211	45	0
13	N	1701	0	1749	74	0
14	O	1621	0	1770	48	0
15	P	1242	0	1274	39	0
16	Q	1515	0	1634	56	0
17	R	1502	0	1659	37	0
18	S	1462	0	1508	56	0
19	T	1298	0	1366	48	0
20	U	800	0	825	32	0
21	V	973	0	1034	18	0
22	W	528	0	541	11	0
23	X	949	0	1016	31	0
24	Y	1115	0	1205	41	0
25	Z	1107	0	1182	33	0
26	a	1162	0	1209	61	0
27	b	609	0	650	19	0
28	c	732	0	767	21	0
29	d	833	0	891	23	0
30	e	1053	0	1147	39	0
31	f	876	0	912	43	0
32	g	906	0	999	36	0
33	h	1013	0	1147	35	0
34	i	830	0	916	24	0
35	j	705	0	737	36	0
36	k	559	0	624	18	0
37	l	438	0	469	19	0
38	m	421	0	454	11	0
39	n	222	0	264	10	0
40	o	842	0	912	22	0
41	p	708	0	756	19	0
42	r	1001	0	1060	46	0
43	s	1507	0	1564	57	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	t	1160	0	1218	46	0
45	5	75712	0	38336	1746	0
46	7	2558	0	1296	52	0
47	8	3315	0	1685	94	0
48	v	6516	0	6607	287	0
49	9	36291	0	18320	952	0
50	AA	1710	0	1708	84	0
51	BB	1729	0	1803	64	0
52	CC	1716	0	1806	74	0
53	DD	1768	0	1866	64	0
54	EE	2076	0	2177	88	0
55	FF	1471	0	1522	75	0
56	GG	1923	0	2089	68	0
57	HH	1488	0	1582	63	0
58	II	1686	0	1772	63	0
59	JJ	1525	0	1640	60	0
60	KK	810	0	836	29	0
61	LL	1175	0	1249	37	0
62	MM	908	0	939	53	0
63	NN	1202	0	1289	35	0
64	OO	1016	0	1039	84	0
65	PP	975	0	1022	43	0
66	QQ	1128	0	1195	67	0
67	RR	1068	0	1121	48	0
68	SS	1172	0	1229	75	0
69	TT	1097	0	1132	54	0
70	UU	795	0	862	42	0
71	VV	636	0	637	45	0
72	WW	1034	0	1080	49	0
73	XX	1069	0	1134	50	0
74	YY	1011	0	1083	44	0
75	ZZ	598	0	656	31	0
76	aa	814	0	864	36	0
77	bb	651	0	672	25	0
78	cc	488	0	514	30	0
79	dd	459	0	449	23	0
80	ee	289	0	332	19	0
81	ff	555	0	563	26	0
82	gg	2436	0	2393	112	0
83	3	1573	0	802	28	0
84	w	120	0	61	4	0
85	2	1577	0	804	28	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
86	2	1	0	0	0	0
86	5	198	0	0	0	0
86	7	5	0	0	0	0
86	8	1	0	0	0	0
86	9	56	0	0	0	0
86	A	2	0	0	0	0
86	I	2	0	0	0	0
86	P	1	0	0	0	0
86	QQ	1	0	0	0	0
86	TT	1	0	0	0	0
86	V	1	0	0	0	0
86	a	1	0	0	0	0
86	aa	1	0	0	0	0
86	e	1	0	0	0	0
86	f	1	0	0	0	0
86	g	1	0	0	0	0
86	o	1	0	0	0	0
86	w	1	0	0	0	0
87	aa	1	0	0	0	0
87	dd	1	0	0	0	0
87	ff	1	0	0	0	0
87	g	1	0	0	0	0
87	j	1	0	0	0	0
87	m	1	0	0	0	0
87	o	1	0	0	0	0
87	p	1	0	0	0	0
88	v	28	0	12	0	0
89	9	35	0	40	0	0
All	All	220911	0	165876	5657	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 15.

All (5657) 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)
45:5:2638:G:N2	45:5:2697:A:N1	2.03	1.04
45:5:3692:A:N6	45:5:3823:G:H21	1.56	1.04
45:5:1991:A:O2'	45:5:1992:U:O5'	1.78	1.01
3:C:92:PHE:O	3:C:100:ARG:NH1	1.95	0.99
42:r:98:ARG:NH2	45:5:2262:G:OP2	1.95	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:3692:A:H62	45:5:3823:G:H21	0.99	0.98
45:5:1968:G:N2	45:5:2019:C:O2	1.97	0.98
9:I:33:ILE:O	9:I:69:ARG:NH1	1.96	0.97
49:9:521:A:OP1	59:JJ:45:ARG:NH1	1.96	0.97
45:5:1326:A2M:OP2	45:5:4445:U:O2'	1.82	0.97
49:9:1542:C:OP1	69:TT:62:ARG:NH1	1.96	0.97
45:5:3877:A:O2'	45:5:4400:G:N2	1.97	0.97
45:5:102:G:O2'	45:5:1381:U:O2'	1.82	0.97
14:O:169:ARG:NH1	45:5:4860:G:OP1	1.97	0.97
45:5:1080:C:O2	45:5:1219:G:N2	1.97	0.97
49:9:434:G:O2'	49:9:435:A:OP1	1.82	0.96
48:v:604:MET:HE1	48:v:729:LEU:HD12	1.47	0.96
53:DD:139:SER:HG	53:DD:149:SER:HG	1.08	0.96
45:5:3692:A:H62	45:5:3823:G:N2	1.63	0.96
14:O:186:GLU:OE1	14:O:187:LYS:NZ	1.96	0.95
45:5:1320:U:O2'	45:5:1891:A:N1	2.00	0.95
49:9:197:U:O2	49:9:202:G:O6	1.85	0.95
45:5:62:A:N3	45:5:77:U:O2'	1.99	0.95
45:5:922(B):C:O2'	45:5:923:C:OP1	1.85	0.95
45:5:461:G:N2	45:5:694:C:O2	1.99	0.95
45:5:1754:U:O2'	45:5:1755:C:O4'	1.82	0.95
1:A:30:ARG:O	1:A:163:ARG:NH2	2.00	0.94
18:S:99:ASP:OD1	18:S:100:LEU:N	1.99	0.94
63:NN:56:ASP:OD2	77:bb:52:THR:OG1	1.84	0.94
45:5:4136:G:N2	45:5:4148:C:O2	2.01	0.94
30:e:26:ASP:OD1	30:e:27:ARG:N	1.99	0.94
45:5:407:A:O2'	45:5:410:A:OP1	1.85	0.93
45:5:1525:A:HO2'	45:5:3916:G:HO2'	1.07	0.93
49:9:290:U:O2'	49:9:292:A:N7	2.01	0.93
51:BB:28:LYS:NZ	64:OO:51:GLU:OE2	2.00	0.93
49:9:1298:G:O2'	49:9:1299:A:O5'	1.86	0.93
45:5:2416:G:N2	45:5:2427:G:O6	2.01	0.93
24:Y:74:TYR:OH	47:8:75:OMG:OP2	1.85	0.92
45:5:453:G:N2	45:5:1293:G:O6	2.03	0.92
45:5:1369:C:OP2	45:5:1370:G:O2'	1.87	0.92
49:9:1563:G:OP1	69:TT:121:ARG:NH1	2.01	0.92
45:5:4924:C:O2'	45:5:4925:U:O4'	1.87	0.92
49:9:1216:C:O2'	66:QQ:143:LYS:NZ	2.02	0.92
23:X:78:LYS:NZ	23:X:133:GLU:OE1	2.03	0.92
74:YY:27:VAL:HG11	74:YY:35:VAL:HG21	1.49	0.92
49:9:1300:U:O2	65:PP:51:ARG:NH2	2.03	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2758:G:O2'	45:5:2765:A:N3	2.01	0.91
45:5:4572:U:O2'	45:5:4573:G:O4'	1.88	0.91
1:A:2:GLY:N	45:5:4185:G:OP1	2.04	0.91
51:BB:63:LYS:NZ	51:BB:89:GLU:O	2.03	0.91
45:5:1481:C:O2'	45:5:1482:G:O5'	1.89	0.90
2:B:222:VAL:O	2:B:343:ARG:NH1	2.05	0.90
45:5:245:C:O2'	45:5:246:G:OP2	1.88	0.90
49:9:1137:U:O2'	49:9:1138:C:OP1	1.87	0.90
48:v:327:ASP:OD1	48:v:330:LYS:NZ	2.04	0.90
45:5:4633:G:O2'	45:5:4635:A:OP2	1.87	0.90
49:9:506:G:OP1	74:YY:108:LYS:NZ	2.04	0.90
49:9:678:U:OP2	49:9:1026:C:N4	2.04	0.90
85:2:7:G:N2	85:2:66:C:O2	2.03	0.90
15:P:135:ARG:NH2	45:5:1596:U:O2'	2.05	0.90
36:k:35:LYS:NZ	45:5:2695:A:OP1	2.04	0.90
45:5:106:A:O2'	45:5:335:A:N3	2.05	0.90
9:I:118:ALA:O	45:5:1864:G:O2'	1.87	0.90
45:5:2552:G:OP2	45:5:2553:A:O2'	1.89	0.90
45:5:4476:C:O2'	45:5:4478:G:OP2	1.88	0.90
82:gg:35:SER:OG	82:gg:37:ASP:OD1	1.90	0.90
45:5:2708:U:O2'	45:5:2709:C:O5'	1.89	0.90
59:JJ:107:GLU:O	59:JJ:112:THR:OG1	1.90	0.90
49:9:1544:C:O2'	66:QQ:80:GLN:OE1	1.89	0.90
30:e:76:LYS:NZ	30:e:98:GLU:OE1	2.06	0.89
42:r:65:LYS:O	42:r:102:TYR:OH	1.90	0.89
49:9:1255:G:OP1	49:9:1256:G:O2'	1.88	0.89
49:9:1060:A:O2'	49:9:1062:A:N7	2.06	0.89
11:L:36:ARG:NH2	45:5:1364:U:OP2	2.05	0.89
49:9:159:A2M:N6	49:9:467:G:O2'	2.05	0.89
49:9:1646:C:OP1	66:QQ:138:ARG:NH1	2.06	0.89
49:9:14:C:O5'	52:CC:190:SER:OG	1.91	0.89
70:UU:19:ARG:NH2	70:UU:90:ASP:OD2	2.05	0.89
82:gg:82:SER:OG	82:gg:84:ASP:OD1	1.89	0.89
28:c:59:GLU:OE2	32:g:92:LYS:NZ	2.05	0.89
49:9:872:A:O2'	49:9:874:G:OP2	1.89	0.89
49:9:1858:G:N7	64:OO:146:ARG:NH2	2.19	0.89
6:F:147:LYS:NZ	6:F:151:GLU:OE2	2.05	0.89
45:5:5012:G:O2'	45:5:5014:A:OP1	1.91	0.89
49:9:1863:A:OP2	76:aa:4:LYS:NZ	2.05	0.89
48:v:634:TYR:OH	48:v:638:LYS:NZ	2.06	0.88
56:GG:84:TYR:OH	56:GG:91:GLU:OE1	1.91	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:KK:13:GLU:OE1	60:KK:17:LYS:NZ	2.06	0.88
43:s:160:LEU:HD12	43:s:175:LEU:HD21	1.53	0.88
44:t:76:SER:OG	45:5:1974:U:OP1	1.92	0.88
49:9:885:U:O2	49:9:901:G:O6	1.91	0.88
43:s:5:ASP:N	43:s:8:THR:HG1	1.70	0.88
49:9:1160:U:O4	73:XX:3:LYS:NZ	2.06	0.88
49:9:304:C:O2'	49:9:305:U:OP2	1.90	0.88
49:9:1329:U:O2'	49:9:1332:A:OP2	1.90	0.88
3:C:63:SER:OG	45:5:1646:A:OP1	1.91	0.88
9:I:115:MET:HE3	45:5:1868:A:H61	1.39	0.88
45:5:67:C:OP2	45:5:312:G:N2	2.06	0.87
49:9:1119:A:O2'	77:bb:72:ARG:NH2	2.07	0.87
15:P:74:LYS:NZ	45:5:4982:A:OP1	2.08	0.87
45:5:4195:G:OP1	45:5:4221:C:O2'	1.92	0.87
74:YY:20:ARG:NH1	74:YY:74:MET:SD	2.47	0.87
3:C:336:ARG:NH2	45:5:947:C:OP1	2.08	0.87
48:v:663:THR:OG1	48:v:703:ASP:OD1	1.93	0.87
45:5:2553:A:OP2	45:5:2574:G:O2'	1.91	0.87
49:9:496:C:OP1	54:EE:49:ARG:NH2	2.07	0.87
8:H:106:GLN:NE2	8:H:113:GLU:OE2	2.08	0.87
19:T:94:GLU:OE1	19:T:94:GLU:N	2.07	0.87
45:5:1548:G:O2'	45:5:2812:A:N3	2.06	0.87
21:V:97:TYR:OH	22:W:37:GLU:OE2	1.92	0.87
45:5:2361:G:O2'	45:5:3859:G:O6	1.93	0.87
48:v:697:MET:HE1	48:v:733:VAL:HG21	1.57	0.87
49:9:1580:A:OP2	70:UU:59:LYS:NZ	2.07	0.87
46:7:72:U:O2	46:7:103:A:N6	2.08	0.87
27:b:18:ARG:NH1	45:5:1686:C:O2'	2.08	0.87
45:5:2520:C:O2	45:5:2640:G:N2	2.08	0.87
5:E:287:HIS:HD1	31:f:42:TYR:HH	1.18	0.86
45:5:2504:C:O2'	45:5:2505:C:O4'	1.93	0.86
50:AA:54:THR:OG1	50:AA:163:CYS:SG	2.25	0.86
16:Q:2:GLY:N	45:5:2072:C:OP1	2.09	0.86
45:5:2779:C:O2'	47:8:112:G:OP1	1.92	0.86
17:R:88:ARG:NH1	45:5:3607:U:OP1	2.07	0.86
45:5:3641:U:OP2	45:5:3646:A:N6	2.09	0.86
19:T:39:ILE:O	19:T:99:SER:OG	1.94	0.86
45:5:981:C:O2	45:5:1275:G:N2	2.08	0.86
45:5:4670:C:O2'	45:5:4672:A:OP2	1.93	0.86
49:9:687:C:O3'	57:HH:121:THR:OG1	1.92	0.86
6:F:85:GLU:OE2	19:T:136:ARG:NH2	2.09	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1741:U:OP1	58:II:42:ARG:NH1	2.10	0.85
45:5:1946:G:O2'	45:5:1948:G:OP2	1.92	0.85
45:5:2303:C:O2'	45:5:2332:A:N1	2.08	0.85
49:9:1130:G:O2'	49:9:1131:G:O5'	1.93	0.85
49:9:1243:PSU:OP2	49:9:1518:C:O2'	1.93	0.85
49:9:1374:5MC:O2'	49:9:1464:C:O2	1.92	0.85
5:E:184:LEU:O	45:5:4883:C:N4	2.09	0.85
12:M:49:ALA:HB2	18:S:100:LEU:HD11	1.58	0.85
49:9:515:G:O2'	49:9:517:OMC:OP1	1.93	0.85
49:9:1415:C:O2'	69:TT:132:ASP:OD2	1.93	0.85
49:9:1654:G:OP1	69:TT:90:SER:OG	1.95	0.85
45:5:85:G:O2'	45:5:97:G:O6	1.93	0.85
49:9:642:U:OP1	59:JJ:41:ARG:N	2.08	0.85
49:9:959:G:OP1	64:OO:104:ARG:NH2	2.10	0.85
45:5:5053:U:OP1	45:5:5054:C:N4	2.09	0.85
13:N:4:TYR:OH	45:5:151:G:OP2	1.95	0.85
37:l:44:TRP:O	37:l:48:LYS:NZ	2.09	0.85
49:9:903:A:O2'	49:9:904:A:OP1	1.95	0.85
49:9:1550:G:OP2	53:DD:8:LYS:NZ	2.09	0.85
52:CC:262:THR:O	71:VV:33:GLN:NE2	2.09	0.85
10:J:156:ARG:NH2	46:7:17:C:OP1	2.10	0.84
4:D:72:ASP:OD2	46:7:6:C:O2'	1.94	0.84
5:E:189:LEU:HD21	5:E:215:LEU:HD13	1.59	0.84
30:e:114:ARG:NH1	30:e:117:GLN:OE1	2.10	0.84
45:5:1872:G:O2'	45:5:4219:A:N3	2.10	0.84
82:gg:84:ASP:OD2	82:gg:86:THR:OG1	1.93	0.84
45:5:1:C:N4	47:8:156:U:O2	2.11	0.84
45:5:419:A:N3	45:5:1332:C:O2'	2.10	0.84
48:v:689:GLU:OE2	48:v:730:TYR:OH	1.95	0.84
1:A:117:GLU:O	1:A:162:ASN:ND2	2.10	0.84
45:5:4600:G:O2'	45:5:4609:G:O6	1.95	0.84
49:9:523:A:OP1	59:JJ:127:ARG:NH1	2.11	0.84
43:s:135:THR:HG21	48:v:187:VAL:HG21	1.60	0.84
45:5:233:U:O2'	45:5:2304:U:O4	1.94	0.84
49:9:1130:G:HO2'	49:9:1131:G:P	2.00	0.84
27:b:15:LYS:NZ	45:5:1685:G:N3	2.25	0.84
31:f:91:ASN:O	45:5:440:U:O2'	1.95	0.84
44:t:16:ARG:NH2	45:5:1975:G:O4'	2.11	0.84
45:5:4896:G:N2	45:5:4925:U:O2	2.10	0.84
49:9:962:A:N1	49:9:1055:A:O2'	2.11	0.84
49:9:1533:A:OP2	55:FF:164:ARG:NH1	2.10	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1534:C:OP1	55:FF:81:ARG:NH2	2.10	0.84
2:B:19:ARG:NH2	45:5:4623:OMG:OP1	2.10	0.83
45:5:68:U:HO2'	45:5:100:C:HO2'	1.22	0.83
45:5:2104:A:O2'	45:5:2105:A:O4'	1.95	0.83
45:5:4078:C:O2'	45:5:4172:A:N6	2.11	0.83
45:5:4903:G:O6	45:5:4918:C:N4	2.11	0.83
23:X:55:ARG:NH2	47:8:116:C:O2'	2.11	0.83
45:5:420:A:N6	47:8:14:U:O2	2.10	0.83
49:9:1313:A:OP2	62:MM:33:ARG:NH2	2.11	0.83
17:R:173:ARG:NH1	49:9:910:G:OP2	2.10	0.83
45:5:3796:U:O2'	49:9:1720:U:O2'	1.96	0.83
46:7:29:C:O2	46:7:50:A:N6	2.12	0.83
49:9:650:A:OP2	73:XX:108:LYS:NZ	2.10	0.83
72:WW:14:ILE:HG22	72:WW:25:VAL:HG11	1.59	0.83
73:XX:105:PHE:CD2	73:XX:112:VAL:HG11	2.12	0.83
43:s:62:ARG:NH2	43:s:82:ILE:O	2.12	0.83
49:9:1451:G:N7	67:RR:44:LYS:NZ	2.25	0.83
49:9:1520:G:O2'	49:9:1521:C:OP1	1.96	0.83
17:R:173:ARG:NH2	49:9:911:C:OP2	2.12	0.83
49:9:989:C:OP2	51:BB:155:TYR:OH	1.96	0.83
54:EE:59:ASP:OD1	54:EE:60:GLU:N	2.12	0.83
12:M:132:ARG:NH1	45:5:4895:C:O2	2.12	0.83
49:9:436:G:OP1	49:9:471:G:O2'	1.95	0.83
49:9:1299:A:O2'	49:9:1301:A:OP1	1.96	0.83
49:9:1658:G:OP2	49:9:1660:C:N4	2.12	0.83
45:5:1999:A:O2'	45:5:2000:G:O4'	1.96	0.83
49:9:331:C:OP2	56:GG:189:ARG:NH1	2.11	0.83
49:9:1297:U:O2'	49:9:1299:A:N7	2.11	0.83
49:9:1396:A:O2'	49:9:1398:G:N7	2.11	0.83
2:B:246:ARG:NH2	45:5:4525:C:OP1	2.12	0.83
49:9:874:G:O2'	49:9:875:A:OP1	1.96	0.83
13:N:160:GLU:OE1	13:N:160:GLU:N	2.11	0.82
45:5:1435:G:O2'	45:5:2105:A:N1	2.11	0.82
49:9:1331:C:O2	49:9:1489:A:O2'	1.97	0.82
49:9:1549:U:OP1	79:dd:34:TYR:OH	1.96	0.82
13:N:31:ARG:NE	13:N:124:ASP:OD2	2.11	0.82
49:9:110:U:O2'	49:9:111:A:OP1	1.97	0.82
49:9:472:C:O2	49:9:475:C:N4	2.13	0.82
45:5:2519:U:O2'	45:5:2530:U:O2	1.96	0.82
45:5:1755:C:O2'	45:5:1757:U:OP2	1.95	0.82
72:WW:8:ALA:HA	72:WW:74:VAL:HG21	1.61	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:g:21:ARG:NH2	45:5:2641:A:OP1	2.12	0.82
45:5:1591:U:OP2	45:5:2856:C:O2'	1.96	0.82
76:aa:43:ASN:OD1	76:aa:66:LYS:NZ	2.11	0.82
45:5:2392:C:OP1	45:5:4654:C:O2'	1.97	0.82
49:9:943:U:OP1	51:BB:214:LYS:NZ	2.12	0.82
11:L:74:ARG:NH1	45:5:109:G:OP2	2.12	0.82
19:T:130:ARG:O	45:5:1837:A:O2'	1.96	0.82
45:5:3672:G:O2'	45:5:3673:C:OP1	1.97	0.82
49:9:1373:C:O2'	67:RR:10:LYS:NZ	2.13	0.82
49:9:1696:C:HO2'	49:9:1702:G:HO2'	1.16	0.82
56:GG:23:LYS:O	56:GG:26:THR:OG1	1.97	0.82
9:I:43:VAL:HG21	9:I:197:VAL:HG13	1.62	0.82
45:5:4083:U:O2'	45:5:4086:G:OP2	1.98	0.82
6:F:163:LYS:NZ	45:5:1842:G:OP2	2.12	0.82
49:9:1341:C:N4	49:9:1485:U:O4	2.13	0.82
49:9:1547:C:N4	49:9:1586:U:O4	2.12	0.82
45:5:275:C:O2'	45:5:276:C:O5'	1.97	0.81
18:S:95:ARG:NH1	45:5:1951:G:O2'	2.12	0.81
48:v:18:ASN:OD1	48:v:360:SER:OG	1.97	0.81
12:M:70:GLN:NE2	45:5:935:A:N1	2.27	0.81
22:W:61:LYS:NZ	45:5:5038:A:OP1	2.13	0.81
45:5:3689:G:O2'	45:5:3818:UY1:OP2	1.97	0.81
49:9:43:U:OP2	49:9:485:A:N6	2.14	0.81
66:QQ:54:PRO:HG2	66:QQ:88:ILE:HD11	1.60	0.81
11:L:100:PRO:O	34:i:25:ARG:NH2	2.13	0.81
45:5:2104:A:O2'	45:5:2105:A:O5'	1.97	0.81
48:v:710:HIS:O	48:v:716:ARG:NH1	2.14	0.81
49:9:1024:A:OP2	63:NN:124:ARG:NH2	2.14	0.81
16:Q:173:LYS:NZ	45:5:88:A:N7	2.28	0.81
45:5:470:A:N6	45:5:684:G:O2'	2.12	0.81
49:9:560:A:OP2	59:JJ:177:ASN:ND2	2.14	0.81
49:9:1301:A:OP2	79:dd:5:GLN:NE2	2.14	0.81
25:Z:123:LYS:O	25:Z:124:THR:OG1	1.98	0.81
82:gg:157:SER:OG	82:gg:162:ASN:O	1.99	0.81
49:9:567:C:O2	49:9:583:A:N6	2.14	0.81
2:B:30:LYS:NZ	45:5:4717:A:OP2	2.11	0.81
38:m:100:TYR:O	45:5:4472:G:O2'	1.99	0.81
4:D:226:TYR:OH	46:7:48:G:OP1	1.99	0.81
12:M:7:VAL:HG23	12:M:27:ILE:HD13	1.61	0.81
25:Z:115:LYS:NZ	25:Z:119:GLU:OE2	2.14	0.81
45:5:1793:A:O2'	45:5:1794:A:O4'	1.99	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2378:G:N2	45:5:2381:A:OP2	2.14	0.81
48:v:800:LEU:O	48:v:804:THR:HG22	1.79	0.81
45:5:1099:C:O2'	45:5:1100:U:O4'	1.98	0.80
49:9:495:U:O2'	54:EE:27:PHE:O	1.97	0.80
49:9:1228:A:O2'	49:9:1634:A:N3	2.14	0.80
39:n:11:ARG:NH2	49:9:1844:U:OP1	2.15	0.80
45:5:405:U:O2'	45:5:407:A:N7	2.14	0.80
43:s:68:HIS:O	43:s:71:ASN:N	2.14	0.80
49:9:94:G:HO2'	49:9:508:A:HO2'	0.82	0.80
59:JJ:138:ARG:NH2	59:JJ:152:ASP:O	2.15	0.80
45:5:1883:G:N2	45:5:2070:U:O2	2.12	0.80
45:5:4077:A:N1	45:5:4171:C:N4	2.29	0.80
57:HH:191:GLU:N	57:HH:191:GLU:OE1	2.13	0.80
75:ZZ:64:ASN:O	75:ZZ:64:ASN:ND2	2.15	0.80
49:9:440:G:OP1	49:9:1798:C:O2'	1.99	0.80
74:YY:76:TYR:OH	74:YY:85:ASN:O	1.97	0.80
53:DD:94:ARG:O	53:DD:101:GLN:NE2	2.14	0.80
2:B:80:GLU:OE1	2:B:323:TYR:OH	1.98	0.80
1:A:126:LEU:HD13	1:A:150:LEU:HD21	1.63	0.80
49:9:109:U:O2	61:LL:71:ARG:NH2	2.15	0.80
66:QQ:110:ASP:OD1	66:QQ:111:ILE:N	2.15	0.80
68:SS:99:LEU:O	68:SS:103:LEU:N	2.15	0.80
45:5:3801:U:O2'	45:5:3802:U:O5'	2.00	0.80
49:9:57:U:OP1	49:9:504:G:O2'	2.00	0.80
45:5:1389:U:OP1	45:5:1497:A:O2'	2.00	0.79
49:9:146:G:O2'	49:9:147:A:O5'	1.98	0.79
3:C:27:VAL:HG11	3:C:128:LEU:HD12	1.64	0.79
3:C:195:LYS:NZ	47:8:21:C:OP1	2.16	0.79
45:5:4372:U:O2	45:5:4377:G:O2'	1.99	0.79
43:s:115:ALA:O	43:s:167:VAL:HG12	1.82	0.79
72:WW:3:ARG:HD3	72:WW:6:VAL:HG22	1.65	0.79
2:B:218:ASP:OD2	2:B:348:ARG:NH2	2.14	0.79
4:D:33:ARG:NH1	46:7:7:G:OP1	2.15	0.79
5:E:108:ARG:NH1	45:5:469:C:N3	2.30	0.79
5:E:164:ARG:NH2	5:E:276:SER:OG	2.14	0.79
35:j:52:LYS:NZ	45:5:364:G:O6	2.14	0.79
51:BB:68:GLU:OE2	64:OO:96:LYS:NZ	2.14	0.79
52:CC:200:ARG:O	59:JJ:54:ARG:NH2	2.16	0.79
34:i:53:TYR:OH	34:i:86:LYS:NZ	2.16	0.79
1:A:3:ARG:HB3	1:A:207:VAL:HG22	1.63	0.79
2:B:341:LYS:NZ	45:5:4627:U:OP1	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:S:76:LYS:NZ	18:S:100:LEU:O	2.15	0.79
36:k:40:ARG:NH1	45:5:2772:C:OP1	2.16	0.79
45:5:4917:C:O2'	45:5:4918:C:O5'	2.01	0.79
49:9:27:A2M:HM'2	49:9:28:U:O4'	1.83	0.79
49:9:420:G:O2'	49:9:660:C:N3	2.16	0.79
31:f:106:TYR:O	31:f:108:SER:N	2.16	0.78
45:5:3751:G:H21	45:5:3775:A:H8	1.31	0.78
49:9:585:C:OP2	59:JJ:175:ARG:NH2	2.16	0.78
49:9:1285:G:OP2	62:MM:35:ILE:N	2.15	0.78
5:E:120:PRO:O	42:r:112:ARG:NH1	2.17	0.78
35:j:46:LYS:NZ	45:5:24:G:N7	2.32	0.78
49:9:969:U:OP1	49:9:970:G:O2'	2.00	0.78
49:9:1036:A:N6	49:9:1079:C:O2	2.17	0.78
49:9:1837:G:O2'	84:w:17:U:OP1	2.01	0.78
52:CC:77:SER:OG	52:CC:80:GLU:OE1	1.99	0.78
15:P:96:LYS:NZ	45:5:393:U:O2'	2.14	0.78
20:U:80:LYS:NZ	45:5:2621:A:OP1	2.16	0.78
49:9:90:G:OP1	49:9:445:A:N6	2.17	0.78
82:gg:185:LYS:NZ	82:gg:186:THR:OG1	2.15	0.78
1:A:175:ILE:HD13	45:5:3683:C:O4'	1.84	0.78
49:9:887:U:N3	49:9:889:U:O4	2.15	0.78
49:9:1341:C:OP1	49:9:1687:C:O2'	2.02	0.78
57:HH:119:SER:OG	57:HH:120:ARG:NH1	2.16	0.78
32:g:66:ARG:NH2	45:5:2517:A:O2'	2.16	0.78
39:n:21:ARG:NH1	49:9:1717:C:O3'	2.16	0.78
38:m:118:THR:OG1	38:m:120:ASN:ND2	2.17	0.78
45:5:1319:U:O2	45:5:3876:A:N6	2.15	0.78
48:v:828:SER:OG	48:v:833:GLN:NE2	2.16	0.78
49:9:1036:A:N3	49:9:1844:U:O2'	2.17	0.78
69:TT:5:THR:HG22	69:TT:6:VAL:H	1.46	0.78
1:A:142:GLU:O	1:A:143:THR:OG1	2.02	0.78
68:SS:68:ILE:O	68:SS:72:GLN:NE2	2.17	0.78
2:B:240:LEU:HD21	2:B:252:ALA:HB2	1.66	0.78
37:l:2:SER:N	45:5:2406:G:O6	2.17	0.78
45:5:1235:G:O2'	45:5:1236:C:OP2	2.01	0.78
63:NN:50:ILE:HD11	63:NN:71:ILE:HG23	1.63	0.78
45:5:3654:G:O2'	45:5:3693:U:OP1	2.00	0.78
45:5:4136:G:N1	45:5:4148:C:N3	2.30	0.78
28:c:31:TYR:OH	28:c:59:GLU:OE1	2.01	0.77
35:j:20:ARG:O	47:8:101:C:O2'	1.99	0.77
49:9:587:A:OP2	59:JJ:172:ARG:NH2	2.17	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:913:A:OP2	57:HH:99:ARG:NH1	2.16	0.77
45:5:1072:C:O2'	45:5:1073:G:O5'	2.01	0.77
45:5:2309:G:O2'	47:8:18:U:O2	2.02	0.77
2:B:358:ARG:NH2	45:5:4675:U:OP1	2.18	0.77
34:i:66:ASP:OD1	34:i:67:LYS:N	2.16	0.77
45:5:1072:C:O2'	45:5:1073:G:O4'	2.01	0.77
45:5:2601:A:O2'	45:5:2743:A:OP1	2.00	0.77
45:5:3762:PSU:O3'	48:v:845:LYS:NZ	2.17	0.77
49:9:642:U:O2'	49:9:643:A:O5'	2.01	0.77
45:5:2740:U:O2'	45:5:2742:G:N2	2.17	0.77
49:9:476:A:N3	49:9:488:U:O2'	2.17	0.77
49:9:1391:C:O2'	70:UU:83:ARG:NH2	2.18	0.77
45:5:352:G:O2'	47:8:22:U:O4	2.02	0.77
45:5:2489:C:O2'	45:5:2491:C:N4	2.16	0.77
49:9:1528:G:O2'	49:9:1666:C:OP1	2.01	0.77
52:CC:169:TYR:OH	52:CC:175:GLY:O	2.01	0.77
45:5:976:G:N2	45:5:976:G:OP2	2.16	0.77
45:5:981:C:N3	45:5:1275:G:N1	2.32	0.77
50:AA:190:SER:OG	50:AA:192:GLU:OE1	2.01	0.77
63:NN:4:MET:HE1	63:NN:121:ARG:HG3	1.66	0.77
5:E:115:MET:O	42:r:87:ARG:NH1	2.18	0.77
5:E:210:LYS:N	5:E:259:GLN:OE1	2.17	0.77
45:5:2869:U:O2'	45:5:2881:A:N7	2.18	0.77
49:9:1157:G:O2'	72:WW:74:VAL:O	2.02	0.77
19:T:87:LYS:NZ	45:5:4301:U:OP2	2.17	0.77
33:h:10:ARG:NH2	33:h:63:GLN:OE1	2.17	0.77
49:9:1119:A:O2'	49:9:1120:U:O5'	2.03	0.77
82:gg:235:ILE:O	82:gg:253:GLY:N	2.18	0.77
1:A:198:ARG:NH2	45:5:3687:A:OP2	2.18	0.77
2:B:15:GLY:O	45:5:4587:G:N2	2.14	0.76
45:5:5005:G:N2	45:5:5041:G:O2'	2.17	0.76
48:v:428:ARG:NH1	48:v:489:GLU:O	2.18	0.76
49:9:1289:U:H4'	60:KK:2:LEU:HD21	1.66	0.76
3:C:321:ASN:OD1	45:5:1280:C:O2'	2.01	0.76
32:g:11:LEU:O	32:g:18:ASN:ND2	2.19	0.76
39:n:4:LYS:NZ	49:9:1844:U:O4	2.16	0.76
49:9:696:G:N1	49:9:731:G:O6	2.17	0.76
49:9:1256:G:O6	70:UU:65:THR:HG22	1.85	0.76
83:3:22:G:N7	83:3:46:G:O6	2.19	0.76
3:C:219:LYS:NZ	45:5:224:U:O2	2.15	0.76
45:5:1238:A:O2'	45:5:1239:C:OP1	2.02	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1124:C:O2'	67:RR:126:MET:O	2.03	0.76
13:N:31:ARG:NH1	45:5:4078:C:OP1	2.18	0.76
16:Q:134:ARG:NH2	45:5:1449:C:OP1	2.18	0.76
45:5:1541:C:O2	45:5:2448:G:N2	2.19	0.76
52:CC:135:GLY:O	52:CC:165:VAL:HG12	1.85	0.76
75:ZZ:79:ILE:HD11	75:ZZ:83:LEU:HD23	1.68	0.76
1:A:72:ARG:NH1	45:5:2503:G:O6	2.19	0.76
10:J:160:GLU:OE1	10:J:160:GLU:N	2.18	0.76
48:v:147:ILE:HD11	48:v:192:TYR:HB2	1.68	0.76
48:v:396:MET:HE2	48:v:470:VAL:HG21	1.68	0.76
8:H:71:ARG:NH1	45:5:4691:A:OP1	2.18	0.76
9:I:24:ARG:NH2	45:5:4225:G:OP1	2.19	0.76
9:I:36:LEU:HD13	9:I:69:ARG:HD3	1.68	0.76
14:O:168:TYR:OH	45:5:4768:G:OP1	2.03	0.76
27:b:26:SER:O	45:5:1805:A:N6	2.18	0.76
45:5:1656:U:O2'	45:5:3906:A:N1	2.19	0.76
49:9:606:G:O6	49:9:636:C:N4	2.19	0.76
85:2:10:G:O6	85:2:45:G:N2	2.19	0.76
45:5:4522:G:O2'	45:5:4525:C:OP2	2.02	0.76
49:9:1261:C:O2	79:dd:10:HIS:NE2	2.19	0.76
45:5:4541:G:N2	45:5:4544:A:OP2	2.19	0.75
4:D:107:ARG:NH2	4:D:116:ASP:OD1	2.19	0.75
13:N:178:HIS:O	45:5:293:G:N2	2.16	0.75
4:D:59:ASP:OD1	4:D:60:ILE:N	2.19	0.75
45:5:1081:C:N4	45:5:1218:G:O6	2.18	0.75
48:v:715:DDE:NAD	84:w:20:U:O2	2.19	0.75
49:9:492:C:OP2	74:YY:107:ARG:NH2	2.18	0.75
45:5:2041:A:N6	45:5:4434:C:O2	2.19	0.75
45:5:4588:U:O2	45:5:4714:C:N4	2.20	0.75
49:9:453:C:O2'	56:GG:92:ARG:O	2.03	0.75
19:T:92:ARG:NH2	45:5:4313:A:OP1	2.18	0.75
61:LL:113:LEU:HD21	61:LL:120:VAL:HG11	1.69	0.75
82:gg:141:THR:HG22	82:gg:143:GLN:OE1	1.86	0.75
2:B:119:TYR:OH	2:B:129:ALA:N	2.20	0.75
45:5:66:A:O2'	45:5:326:C:O2	2.05	0.75
49:9:682:U:OP2	73:XX:8:ARG:NH2	2.20	0.75
54:EE:40:GLU:OE1	54:EE:103:TYR:OH	2.04	0.75
24:Y:88:GLU:OE1	24:Y:93:THR:N	2.19	0.75
45:5:2100:G:O2'	45:5:2101:A:OP2	2.04	0.75
45:5:4156:G:OP2	45:5:4157:A:O2'	2.04	0.75
61:LL:149:ALA:O	63:NN:133:ARG:NH1	2.18	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:187:VAL:HG23	8:H:188:GLN:OE1	1.86	0.75
45:5:1961:G:O2'	45:5:2025:A:N6	2.15	0.75
51:BB:58:ALA:O	51:BB:62:LEU:HD12	1.86	0.75
68:SS:65:GLU:O	68:SS:69:THR:HG23	1.87	0.75
45:5:3827:G:O2'	45:5:3829:G:OP2	2.05	0.75
49:9:1612:G:OP1	65:PP:18:ARG:NH2	2.20	0.75
6:F:150:ASN:ND2	45:5:943:A:N7	2.34	0.74
49:9:163:U:OP2	56:GG:87:ARG:NH2	2.20	0.74
4:D:268:ARG:NH2	46:7:60:G:O2'	2.20	0.74
18:S:15:ARG:NE	18:S:60:GLU:OE2	2.20	0.74
45:5:3910:C:O2'	45:5:4196:OMG:N2	2.20	0.74
49:9:1734:G:O2'	49:9:1800:A:N6	2.19	0.74
49:9:1858:G:OP2	64:OO:146:ARG:NH1	2.20	0.74
45:5:4620:OMU:OP2	45:5:4670:C:N4	2.20	0.74
48:v:18:ASN:ND2	48:v:92:SER:O	2.21	0.74
48:v:394:LEU:HD21	48:v:421:VAL:HG12	1.67	0.74
49:9:919:A:OP2	63:NN:64:ARG:NH2	2.20	0.74
55:FF:99:ILE:HG23	75:ZZ:67:LEU:CD1	2.18	0.74
68:SS:84:LEU:O	68:SS:87:GLN:NE2	2.20	0.74
2:B:73:VAL:O	21:V:89:ARG:NH2	2.20	0.74
10:J:40:LEU:HD21	10:J:72:CYS:SG	2.28	0.74
31:f:4:ARG:NH1	45:5:4754:G:OP1	2.19	0.74
41:p:41:PHE:O	45:5:2674:A:N6	2.19	0.74
45:5:1440:U:O2'	45:5:1441:C:OP1	2.05	0.74
45:5:4635:A:O2'	45:5:4637:OMG:OP1	2.04	0.74
49:9:1240:A:N6	65:PP:122:THR:O	2.16	0.74
13:N:178:HIS:ND1	45:5:68:U:OP1	2.19	0.74
20:U:111:GLU:OE2	20:U:113:ARG:NE	2.20	0.74
42:r:12:ASN:OD1	42:r:19:LYS:NZ	2.15	0.74
42:r:59:GLY:N	42:r:121:GLN:OE1	2.20	0.74
45:5:722:G:OP1	45:5:935(A):G:N1	2.20	0.74
45:5:2459:G:N2	45:5:2462:C:OP2	2.20	0.74
49:9:140:U:O2'	49:9:141:A:OP1	2.04	0.74
49:9:1441:U:O2	49:9:1443:C:N4	2.20	0.74
6:F:25:ALA:O	6:F:29:ILE:HD12	1.88	0.74
45:5:4492:U:O2'	45:5:4512:U:O2	2.04	0.74
45:5:1233:G:O2'	45:5:1234:G:OP2	2.04	0.74
49:9:1314:U:O2'	60:KK:1:MET:O	2.06	0.74
12:M:7:VAL:HG12	18:S:152:PHE:O	1.88	0.73
33:h:89:ARG:NH1	47:8:37:A:OP2	2.20	0.73
45:5:1978:C:O2'	45:5:1979:A:OP1	2.06	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:NN:46:THR:O	63:NN:50:ILE:HG23	1.87	0.73
12:M:86:TRP:O	12:M:89:THR:HG22	1.89	0.73
2:B:21:ARG:NH2	45:5:4981:G:O6	2.20	0.73
30:e:5:ARG:NH2	45:5:705:G:OP2	2.21	0.73
43:s:6:ARG:NH2	45:5:1999:A:OP1	2.21	0.73
61:LL:3:ASP:OD1	61:LL:4:ILE:HD12	1.87	0.73
9:I:29:ALA:O	9:I:32:ARG:NH1	2.21	0.73
45:5:4568:A:O2'	45:5:4981:G:N7	2.21	0.73
47:8:46:G:O2'	47:8:61:A:N1	2.20	0.73
69:TT:113:VAL:HG12	69:TT:123:LEU:HD12	1.71	0.73
8:H:92:MET:HE3	8:H:144:LEU:HD22	1.69	0.73
11:L:74:ARG:NH2	45:5:76:A:N7	2.35	0.73
29:d:27:ILE:HD11	29:d:86:VAL:HG21	1.71	0.73
33:h:52:LYS:NZ	47:8:63:U:O2'	2.21	0.73
49:9:1825:A:O2'	49:9:1826:G:OP1	2.05	0.73
64:OO:103:ASN:ND2	64:OO:141:ARG:O	2.21	0.73
83:3:16:C:O3'	83:3:19:G:OP2	2.03	0.73
50:AA:159:ILE:HD11	71:VV:34:MET:HE1	1.69	0.73
1:A:118:GLU:OE1	45:5:3662:A:O2'	2.03	0.73
26:a:117:LEU:HD22	26:a:140:VAL:HG21	1.71	0.73
37:l:33:ASN:OD1	37:l:35:ILE:N	2.21	0.73
45:5:1599:G:N2	45:5:1601:A:O4'	2.18	0.73
45:5:1991:A:HO2'	45:5:1992:U:P	2.12	0.73
31:f:23:GLU:OE2	45:5:438:G:N2	2.12	0.73
47:8:110:U:O2'	47:8:111:U:O4'	2.04	0.73
48:v:156:MET:HE3	48:v:350:LEU:CD2	2.19	0.73
49:9:155:G:H4'	56:GG:15:LEU:HD11	1.69	0.73
49:9:1546:G:OP1	66:QQ:73:LYS:NZ	2.22	0.73
52:CC:255:LEU:HD23	71:VV:1:MET:HE3	1.69	0.73
65:PP:37:TYR:OH	65:PP:45:LEU:HD11	1.88	0.73
74:YY:122:LYS:O	74:YY:125:VAL:HG22	1.89	0.73
44:t:56:LEU:HD21	44:t:82:ILE:HG21	1.69	0.73
48:v:706:ASP:OD1	48:v:707:VAL:N	2.21	0.73
49:9:1306:U:OP1	81:ff:96:LYS:NZ	2.22	0.73
2:B:261:ARG:HB2	14:O:64:THR:HG21	1.72	0.72
4:D:289:ARG:NH2	45:5:1180:C:O4'	2.21	0.72
31:f:106:TYR:OH	45:5:4944:C:OP2	2.06	0.72
45:5:1081:C:N3	45:5:1218:G:N1	2.35	0.72
45:5:1931:C:O2'	45:5:1932:A:O5'	2.06	0.72
63:NN:29:THR:N	63:NN:32:ASP:OD2	2.22	0.72
4:D:286:SER:OG	45:5:1179:U:O2	2.07	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:1985:G:N2	45:5:2003:G:O2'	2.22	0.72
45:5:3878:C:OP1	45:5:4400:G:O2'	2.07	0.72
49:9:436:G:O3'	49:9:473:A:N6	2.21	0.72
3:C:75:ARG:NH1	45:5:4391:G:OP1	2.22	0.72
6:F:51:GLU:OE2	45:5:1237:C:O2'	2.07	0.72
42:r:67:ARG:NH1	45:5:666:G:OP2	2.22	0.72
49:9:307:G:N2	58:II:45:THR:O	2.22	0.72
49:9:932:G:OP1	51:BB:158:HIS:N	2.21	0.72
53:DD:64:ARG:NH2	60:KK:71:LEU:O	2.23	0.72
76:aa:42:ARG:NH1	76:aa:43:ASN:O	2.22	0.72
35:j:66:HIS:O	35:j:70:VAL:HG23	1.88	0.72
2:B:385:LYS:NZ	45:5:5002:U:OP2	2.21	0.72
5:E:104:ASN:O	5:E:108:ARG:NH2	2.22	0.72
13:N:181:HIS:O	13:N:195:ARG:NH2	2.23	0.72
23:X:77:ILE:HD13	23:X:100:VAL:HG12	1.70	0.72
48:v:385:ILE:CD1	48:v:395:MET:HE2	2.20	0.72
64:OO:126:ILE:N	76:aa:56:ALA:O	2.21	0.72
80:ee:88:GLN:O	80:ee:89:THR:OG1	2.07	0.72
49:9:1332:A:O2'	53:DD:145:GLN:O	2.07	0.72
7:G:165:GLU:OE1	13:N:26:ARG:NH2	2.22	0.72
49:9:1306:U:O2'	49:9:1307:U:O5'	2.07	0.72
49:9:1597:C:OP1	68:SS:25:LYS:NZ	2.22	0.72
3:C:156:ASP:OD2	3:C:255:SER:OG	2.06	0.72
45:5:4415:A:N6	45:5:4427:G:O2'	2.23	0.72
72:WW:23:ARG:O	72:WW:65:LEU:N	2.23	0.72
11:L:7:GLY:O	26:a:49:HIS:NE2	2.23	0.72
45:5:4903:G:N1	45:5:4918:C:N3	2.34	0.72
48:v:39:LEU:HD21	48:v:350:LEU:HD12	1.70	0.72
48:v:588:ASN:OD1	48:v:589:VAL:N	2.23	0.72
49:9:532:C:O2'	49:9:533:A:OP1	2.07	0.72
65:PP:81:ARG:NH1	65:PP:120:SER:OG	2.23	0.72
66:QQ:92:LEU:HD22	66:QQ:108:ILE:HG21	1.72	0.72
67:RR:99:ASP:OD2	67:RR:102:THR:N	2.22	0.72
82:gg:199:THR:OG1	82:gg:239:LEU:O	2.05	0.72
24:Y:32:SER:OG	24:Y:101:PRO:O	2.03	0.71
35:j:5:THR:OG1	45:5:1601:A:OP1	2.06	0.71
49:9:516:A:N1	49:9:643:A:O2'	2.22	0.71
43:s:58:ASN:HD21	43:s:86:VAL:HG22	1.54	0.71
45:5:2318:G:N2	45:5:2321:G:OP2	2.22	0.71
45:5:1477:C:O2'	45:5:1478:C:OP1	2.08	0.71
49:9:1616:U:OP2	65:PP:43:ARG:NH2	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SS:118:ARG:HD3	68:SS:123:LEU:HD21	1.72	0.71
6:F:72:ARG:NE	45:5:728:U:OP1	2.22	0.71
25:Z:87:VAL:HG21	25:Z:89:ILE:HD12	1.71	0.71
34:i:30:ARG:NH1	45:5:327:U:O2'	2.24	0.71
35:j:22:CYS:SG	35:j:24:SER:OG	2.47	0.71
49:9:303:C:O2	58:II:184:ARG:NH1	2.23	0.71
49:9:1663:A:O2'	49:9:1664:A:OP2	2.07	0.71
51:BB:44:ILE:HD11	51:BB:86:LEU:HD12	1.73	0.71
12:M:2:VAL:HG21	45:5:4765:G:OP2	1.90	0.71
20:U:24:ASP:OD1	20:U:69:LYS:NZ	2.24	0.71
11:L:13:HIS:NE2	45:5:97:G:N7	2.37	0.71
45:5:237:B9B:O2'	45:5:238:C:OP2	2.08	0.71
48:v:21:ASN:OD1	48:v:415:ARG:NH2	2.24	0.71
57:HH:62:ILE:HD11	57:HH:94:PHE:CE1	2.26	0.71
58:II:7:ASN:OD1	58:II:8:TRP:N	2.23	0.71
3:C:197:ARG:NH1	45:5:351:C:OP2	2.22	0.71
43:s:120:GLU:OE2	43:s:122:THR:OG1	2.06	0.71
49:9:1190:A:N3	49:9:1714:U:O2'	2.20	0.71
1:A:37:ARG:NH2	45:5:4088:C:OP1	2.22	0.71
7:G:87:LEU:HD21	7:G:222:ILE:HD12	1.73	0.71
9:I:210:ARG:O	9:I:214:SER:OG	2.07	0.71
17:R:62:ARG:NH2	45:5:4648:A:OP1	2.23	0.71
26:a:21:ARG:NH1	45:5:1317:U:OP1	2.23	0.71
45:5:4950:U:O2'	45:5:4951:G:OP1	2.06	0.71
76:aa:7:ASN:O	76:aa:9:GLY:N	2.22	0.71
8:H:37:ASP:OD1	8:H:39:ASN:ND2	2.24	0.70
49:9:1360:U:O2'	49:9:1379:A:OP2	2.09	0.70
67:RR:37:GLU:OE1	82:gg:150:TRP:NE1	2.23	0.70
2:B:252:ALA:HB1	45:5:4524:G:C2	2.26	0.70
26:a:75:LEU:HD13	26:a:78:LEU:HD22	1.71	0.70
45:5:1620:U:HO2'	45:5:2450:G:HO2'	1.37	0.70
45:5:2487:G:O6	45:5:2489:C:O2'	2.08	0.70
49:9:820:U:O2	49:9:828:G:O6	2.08	0.70
49:9:969:U:O2	49:9:971:G:N1	2.24	0.70
64:OO:39:ASP:OD1	64:OO:40:THR:N	2.22	0.70
26:a:85:GLN:NE2	45:5:510:U:O4'	2.24	0.70
39:n:12:ARG:NH2	49:9:1847:G:O6	2.24	0.70
41:p:23:ARG:NH2	45:5:2875:C:OP1	2.24	0.70
45:5:3625:G:O2'	45:5:3626:G:OP1	2.08	0.70
45:5:3809:G:N2	45:5:3809:G:OP2	2.22	0.70
66:QQ:92:LEU:CD2	66:QQ:108:ILE:HG21	2.20	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:4977:A:O2'	45:5:4982:A:N1	2.23	0.70
7:G:58:PRO:HD2	7:G:61:ILE:HD12	1.72	0.70
25:Z:87:VAL:CG2	25:Z:89:ILE:HD12	2.22	0.70
49:9:112:U:O2'	49:9:114:G:O2'	2.09	0.70
6:F:82:VAL:HG22	18:S:62:VAL:HA	1.74	0.70
49:9:688:U:O2'	49:9:689:U:OP2	2.07	0.70
68:SS:47:LYS:NZ	68:SS:78:LYS:O	2.20	0.70
26:a:6:ARG:NH1	45:5:1340:OMC:OP1	2.24	0.70
45:5:1802:A:O2'	45:5:1837:A:OP1	2.09	0.70
45:5:2759:G:O2'	45:5:2760:G:O4'	2.07	0.70
65:PP:83:MET:HE3	65:PP:84:ILE:O	1.91	0.70
2:B:252:ALA:HB1	45:5:4524:G:N3	2.06	0.70
15:P:64:ASN:O	15:P:80:GLN:NE2	2.24	0.70
30:e:16:ARG:NH2	45:5:438:G:OP1	2.24	0.70
45:5:1080:C:N3	45:5:1219:G:N1	2.39	0.70
55:FF:39:ILE:HG23	55:FF:68:ILE:HD12	1.74	0.70
82:gg:239:LEU:HD22	82:gg:248:LEU:HD21	1.74	0.70
13:N:157:LYS:O	13:N:162:ARG:NH1	2.25	0.70
19:T:116:LYS:NZ	45:5:1836:G:N7	2.37	0.70
43:s:101:MET:SD	43:s:105:ASN:ND2	2.65	0.70
45:5:2816:G:HO2'	45:5:3622:C:HO2'	1.25	0.70
48:v:665:ILE:O	48:v:667:LYS:NZ	2.24	0.70
49:9:952:G:H21	64:OO:52:THR:HG21	1.56	0.70
56:GG:65:GLN:OE1	56:GG:66:GLY:N	2.23	0.70
82:gg:245:ARG:NH2	82:gg:296:GLN:OE1	2.25	0.70
3:C:245:HIS:NE2	42:r:13:CYS:SG	2.65	0.70
49:9:520:A:O2'	49:9:825:A:N3	2.21	0.70
49:9:1351:G:O2'	49:9:1378:A:N1	2.20	0.70
62:MM:64:LEU:HD11	81:ff:106:TYR:HB2	1.73	0.70
48:v:674:GLU:OE1	48:v:716:ARG:NH2	2.25	0.69
49:9:31:U:O2'	49:9:643:A:N1	2.26	0.69
49:9:1256:G:N2	79:dd:30:LEU:O	2.25	0.69
57:HH:146:VAL:HG12	72:WW:42:MET:HE1	1.74	0.69
65:PP:111:MET:HG2	68:SS:117:ILE:HD11	1.74	0.69
6:F:28:LYS:NZ	45:5:965:G:N7	2.40	0.69
9:I:26:VAL:HG21	9:I:96:VAL:HG21	1.72	0.69
14:O:49:ARG:NH2	45:5:1932:A:OP2	2.24	0.69
40:o:23:VAL:HG22	40:o:70:LEU:CD2	2.22	0.69
45:5:373:OMG:HM21	45:5:1645:C:H4'	1.74	0.69
49:9:1560:U:O2'	49:9:1583:C:O2'	2.01	0.69
54:EE:95:THR:HG23	54:EE:97:GLU:OE1	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:EE:181:CYS:SG	54:EE:225:ILE:HG23	2.32	0.69
44:t:62:LEU:HD13	44:t:70:GLN:O	1.90	0.69
52:CC:199:PRO:O	52:CC:202:THR:OG1	2.08	0.69
55:FF:24:SER:O	55:FF:107:ASN:ND2	2.26	0.69
56:GG:50:VAL:HG12	56:GG:113:ILE:HD13	1.73	0.69
59:JJ:65:GLU:OE1	59:JJ:70:ARG:NH1	2.24	0.69
73:XX:128:VAL:HG13	73:XX:133:LEU:HD11	1.74	0.69
2:B:234:ARG:NH2	45:5:4566:U:O2'	2.26	0.69
45:5:197:A:N1	45:5:225:G:O2'	2.24	0.69
50:AA:159:ILE:HD11	71:VV:34:MET:CE	2.21	0.69
16:Q:75:ARG:NH2	45:5:1457:G:O2'	2.25	0.69
45:5:1080:C:C2	45:5:1219:G:N2	2.61	0.69
45:5:1787:A:N3	45:5:4210:U:O2'	2.25	0.69
49:9:586:G:O2'	49:9:592:C:N4	2.26	0.69
49:9:1535:U:O2'	55:FF:82:ASN:OD1	2.09	0.69
64:OO:117:ARG:NH2	76:aa:48:ALA:O	2.26	0.69
2:B:168:MET:HE1	2:B:173:LEU:HD12	1.75	0.69
10:J:54:ARG:NH2	10:J:55:TYR:OH	2.26	0.69
44:t:67:ARG:NH1	44:t:68:GLN:O	2.25	0.69
49:9:1169:G:O2'	49:9:1190:A:N6	2.26	0.69
50:AA:156:TYR:O	71:VV:60:ARG:NH2	2.25	0.69
51:BB:105:LEU:HD23	51:BB:213:ARG:HA	1.73	0.69
4:D:8:LYS:NZ	45:5:4264:G:OP1	2.24	0.69
45:5:3897:G:O2'	45:5:3898:G:OP2	2.09	0.69
48:v:180:ARG:O	48:v:184:ASN:ND2	2.26	0.69
85:2:47:U:O2'	85:2:50:U:OP1	2.11	0.69
12:M:81:ASP:OD1	12:M:84:THR:OG1	2.10	0.69
49:9:1620:A:O2'	49:9:1621:U:OP2	2.11	0.69
61:LL:126:VAL:HG12	61:LL:145:VAL:HG13	1.74	0.69
64:OO:116:LEU:HD13	76:aa:53:ILE:HD11	1.73	0.69
68:SS:75:ARG:NH1	68:SS:81:ASP:OD1	2.26	0.69
49:9:482:G:N1	49:9:485:A:OP2	2.26	0.69
1:A:117:GLU:OE1	1:A:121:GLY:N	2.26	0.68
27:b:8:THR:HG22	27:b:10:HIS:H	1.58	0.68
33:h:84:ARG:NH2	45:5:17:A:OP1	2.26	0.68
49:9:538:U:H3	49:9:546:G:H22	1.40	0.68
52:CC:201:GLY:N	52:CC:221:ASP:OD2	2.26	0.68
48:v:829:SER:O	48:v:832:SER:N	2.25	0.68
74:YY:57:VAL:HG22	74:YY:60:PHE:HE1	1.58	0.68
4:D:280:VAL:HG21	46:7:63:C:H1'	1.74	0.68
5:E:61:ARG:NE	45:5:978:G:OP1	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:N:24:ARG:NE	45:5:3938:G:OP2	2.27	0.68
26:a:8:THR:HG23	26:a:9:ARG:HD2	1.75	0.68
44:t:152:ILE:HG22	44:t:155:ILE:HD12	1.75	0.68
45:5:260:C:N4	45:5:261:G:O6	2.27	0.68
49:9:1661:A:OP1	79:dd:19:ARG:NH2	2.25	0.68
1:A:146:THR:HG23	1:A:160:SER:CB	2.23	0.68
45:5:2673:G:OP1	45:5:2674:A:O2'	2.06	0.68
45:5:2045:G:O6	45:5:3870:C:O2'	2.08	0.68
53:DD:208:VAL:HG13	67:RR:41:ILE:HD13	1.75	0.68
78:cc:66:ARG:O	78:cc:67:ARG:NH1	2.26	0.68
45:5:4219:A:N6	45:5:4220:6MZ:H9C2	2.07	0.68
45:5:4719:G:O2'	45:5:4720:C:O5'	2.11	0.68
49:9:127:C:O2'	49:9:215:G:O2'	2.10	0.68
53:DD:66:ILE:O	53:DD:70:THR:HG23	1.94	0.68
45:5:209:U:O2'	45:5:210:C:O5'	2.10	0.68
45:5:1481:C:HO2'	45:5:1482:G:P	2.16	0.68
55:FF:118:ASN:O	55:FF:193:LYS:NZ	2.18	0.68
82:gg:39:THR:HG22	82:gg:60:ARG:HG2	1.74	0.68
18:S:5:GLY:O	18:S:111:ARG:NH2	2.26	0.68
54:EE:125:LYS:NZ	54:EE:225:ILE:O	2.22	0.68
48:v:123:ASP:OD1	48:v:415:ARG:NH1	2.27	0.68
55:FF:41:VAL:O	55:FF:41:VAL:HG12	1.94	0.68
59:JJ:57:ALA:O	59:JJ:61:LEU:HD23	1.94	0.68
61:LL:136:LYS:O	61:LL:139:ARG:NH2	2.26	0.68
78:cc:21:THR:HG22	78:cc:22:GLY:H	1.58	0.68
7:G:53:ARG:NH2	45:5:4165:C:OP1	2.27	0.68
30:e:99:ILE:CG2	30:e:103:VAL:HG21	2.24	0.68
45:5:1482:G:O2'	45:5:1483:C:OP2	2.11	0.68
48:v:129:VAL:HG22	48:v:155:LEU:HD11	1.76	0.68
49:9:602:G:OP2	49:9:603:C:O2'	2.11	0.68
57:HH:134:VAL:HG12	57:HH:173:PHE:CE2	2.29	0.68
72:WW:14:ILE:HG22	72:WW:25:VAL:CG1	2.24	0.68
2:B:291:TYR:OH	2:B:315:ASN:ND2	2.26	0.67
2:B:297:LYS:HG3	2:B:299:ILE:HG23	1.76	0.67
16:Q:122:THR:OG1	16:Q:124:ASP:OD1	2.11	0.67
45:5:4331:G:O2'	45:5:4332:C:OP1	2.10	0.67
50:AA:10:MET:HE2	50:AA:15:VAL:HG22	1.76	0.67
85:2:7:G:N1	85:2:66:C:N3	2.39	0.67
1:A:242:ARG:NH1	1:A:243:THR:O	2.28	0.67
37:l:3:SER:O	45:5:2781:G:O2'	2.11	0.67
45:5:3786:U:O2'	45:5:3787:G:OP1	2.12	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:v:604:MET:CE	48:v:729:LEU:HD12	2.22	0.67
9:I:15:LYS:NZ	45:5:1863:U:OP1	2.26	0.67
40:o:2:VAL:N	40:o:90:HIS:O	2.27	0.67
49:9:616:A:OP1	73:XX:68:LYS:NZ	2.26	0.67
49:9:641:A:OP1	59:JJ:40:LYS:NZ	2.26	0.67
68:SS:3:LEU:O	75:ZZ:49:LEU:HD12	1.94	0.67
2:B:279:GLU:OE2	45:5:4623:OMG:N2	2.25	0.67
13:N:9:GLU:OE2	34:i:41:ARG:NH1	2.26	0.67
36:k:17:ARG:NH2	36:k:19:ASP:OD2	2.27	0.67
45:5:2474:G:N2	45:5:2504:C:OP1	2.24	0.67
57:HH:178:LYS:O	57:HH:182:GLY:N	2.26	0.67
1:A:24:LYS:HG3	1:A:49:ILE:HD12	1.76	0.67
16:Q:20:SER:O	16:Q:26:ARG:NH1	2.28	0.67
37:l:27:ILE:O	37:l:33:ASN:ND2	2.26	0.67
47:8:109:C:O2'	47:8:110:U:OP2	2.11	0.67
48:v:101:ASN:CB	48:v:469:ILE:HD13	2.24	0.67
6:F:241:ARG:NH1	45:5:941:C:OP2	2.28	0.67
26:a:26:ARG:NH2	45:5:1656:U:OP2	2.27	0.67
49:9:1345:G:N7	49:9:1371:U:O2'	2.22	0.67
64:OO:31:CYS:HB2	64:OO:93:LEU:HD23	1.74	0.67
19:T:23:GLY:N	45:5:4278:C:OP1	2.28	0.67
45:5:406:C:O2'	45:5:407:A:OP1	2.11	0.67
49:9:1285:G:O2'	81:ff:99:LYS:NZ	2.22	0.67
65:PP:111:MET:HA	68:SS:117:ILE:HD11	1.76	0.67
46:7:23:A:N3	46:7:118:C:O2'	2.24	0.67
85:2:3:C:H42	85:2:70:A:H61	1.41	0.67
7:G:157:ILE:HA	7:G:201:THR:HG22	1.77	0.67
17:R:151:ARG:NH2	61:LL:119:ASP:OD1	2.28	0.67
44:t:77:ALA:N	45:5:1974:U:OP1	2.28	0.67
45:5:1927:U:OP1	45:5:1949:U:O2'	2.07	0.67
48:v:156:MET:HE1	48:v:213:GLY:HA3	1.77	0.67
54:EE:45:ILE:HD12	54:EE:61:VAL:HG11	1.75	0.67
67:RR:15:VAL:HG13	67:RR:19:LYS:NZ	2.10	0.67
43:s:58:ASN:ND2	43:s:86:VAL:HG22	2.10	0.67
45:5:4168:G:O2'	45:5:4169:G:OP1	2.12	0.67
49:9:1259:A:N6	49:9:1519:U:O5'	2.28	0.67
45:5:1617:G:H1'	45:5:2513:A:H61	1.60	0.66
48:v:12:ILE:HD13	48:v:78:PHE:CE2	2.30	0.66
67:RR:31:ASN:HA	67:RR:34:VAL:HG12	1.76	0.66
3:C:350:ARG:NE	45:5:724:C:OP1	2.26	0.66
19:T:70:HIS:NE2	45:5:4327:C:OP1	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:a:81:LEU:HD22	26:a:106:SER:OG	1.96	0.66
36:k:39:SER:OG	45:5:2774:C:OP2	2.12	0.66
45:5:40:G:N2	45:5:4380:A:N7	2.42	0.66
45:5:2562:G:N2	45:5:2565:A:OP2	2.28	0.66
48:v:396:MET:CE	48:v:470:VAL:HG21	2.25	0.66
49:9:40:A:O2'	49:9:485:A:O2'	2.07	0.66
49:9:1386:A:OP2	53:DD:160:SER:OG	2.12	0.66
6:F:183:ILE:HD11	6:F:192:GLU:HG2	1.76	0.66
11:L:106:SER:HG	11:L:109:SER:HG	1.42	0.66
13:N:96:ARG:NH2	13:N:104:GLU:OE1	2.29	0.66
45:5:1833:G:N2	45:5:1835:G:O4'	2.28	0.66
45:5:4118:U:O2'	45:5:4119:C:OP2	2.13	0.66
46:7:11:A:O2'	46:7:13:A:OP2	2.13	0.66
49:9:563:G:O2'	49:9:564:A:O5'	2.13	0.66
49:9:677:G:OP1	63:NN:124:ARG:NH1	2.27	0.66
49:9:1674:G:OP1	55:FF:51:HIS:NE2	2.27	0.66
73:XX:105:PHE:CD2	73:XX:112:VAL:HG21	2.30	0.66
28:c:45:LEU:HD23	28:c:96:ILE:HD13	1.77	0.66
2:B:304:SER:OG	2:B:365:LEU:O	2.14	0.66
8:H:128:MET:SD	8:H:146:LEU:HD11	2.36	0.66
45:5:1655:C:OP1	45:5:1679:A:O2'	2.14	0.66
48:v:588:ASN:OD1	48:v:589:VAL:HG22	1.96	0.66
49:9:84:A:N3	49:9:150:A:O2'	2.28	0.66
82:gg:87:LEU:HD22	82:gg:111:VAL:HG21	1.77	0.66
7:G:200:THR:HG22	7:G:201:THR:HG23	1.78	0.66
50:AA:74:VAL:HG23	50:AA:121:LEU:HD22	1.77	0.66
3:C:189:MET:HE3	3:C:200:ARG:NH2	2.10	0.66
16:Q:178:ARG:NH2	26:a:46:ASP:OD2	2.29	0.66
45:5:2809:G:O2'	45:5:4644:G:OP1	2.12	0.66
49:9:312:G:OP2	56:GG:195:LYS:NZ	2.29	0.66
53:DD:64:ARG:NE	53:DD:68:GLU:OE2	2.29	0.66
61:LL:111:VAL:HG12	61:LL:140:PHE:HB2	1.76	0.66
13:N:192:TRP:NE1	45:5:48:G:OP1	2.29	0.66
19:T:80:VAL:HG21	19:T:85:LEU:HD12	1.76	0.66
45:5:1874:A:O4'	45:5:4213:A:N6	2.28	0.66
49:9:25:A:O2'	49:9:26:U:O5'	2.14	0.66
49:9:927:C:O2	77:bb:51:GLN:NE2	2.28	0.66
49:9:1354:G:N2	49:9:1357:A:OP2	2.28	0.66
62:MM:22:LEU:HD23	62:MM:22:LEU:O	1.95	0.66
62:MM:64:LEU:HD11	81:ff:106:TYR:CB	2.26	0.66
42:r:26:SER:OG	42:r:28:GLU:OE1	2.13	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2333:G:OP1	47:8:20:A:O2'	2.14	0.66
48:v:722:ILE:HG13	48:v:723:PRO:HD3	1.78	0.66
49:9:1152:U:O2'	72:WW:16:ASN:OD1	2.10	0.66
56:GG:3:LEU:HD11	56:GG:111:LEU:HD11	1.78	0.66
71:VV:53:TYR:OH	71:VV:76:ASP:OD2	2.13	0.66
4:D:129:GLU:HB3	4:D:177:THR:HG21	1.78	0.66
9:I:99:ILE:HG22	9:I:123:GLN:HB2	1.78	0.66
12:M:36:ALA:HB2	12:M:52:PHE:CE1	2.31	0.66
24:Y:53:ASP:OD2	24:Y:115:ARG:NH2	2.29	0.66
45:5:738:C:O2'	45:5:740:G:OP1	2.13	0.66
45:5:2639:U:O2'	45:5:2640:G:O5'	2.12	0.66
45:5:2809:G:N2	45:5:4643:G:O2'	2.29	0.66
45:5:4393:G:O4'	45:5:4447:5MC:HM53	1.96	0.66
48:v:36:THR:HG23	48:v:102:LEU:HD21	1.77	0.66
49:9:14:C:P	52:CC:190:SER:HG	2.19	0.66
49:9:828:G:OP1	54:EE:22:LYS:NZ	2.20	0.66
51:BB:49:VAL:HG11	51:BB:62:LEU:HD11	1.76	0.66
51:BB:90:ASP:CG	51:BB:228:LEU:HD23	2.21	0.66
63:NN:50:ILE:HD11	63:NN:71:ILE:CG2	2.26	0.66
3:C:245:HIS:CD2	42:r:13:CYS:SG	2.89	0.65
15:P:82:ARG:NH2	45:5:2362:U:OP1	2.29	0.65
17:R:62:ARG:NH2	45:5:4646:U:OP2	2.29	0.65
32:g:22:LEU:HD12	32:g:30:ILE:CG2	2.25	0.65
83:3:9:A:H2'	83:3:11:C:H41	1.62	0.65
49:9:1075:C:OP1	63:NN:107:LYS:NZ	2.28	0.65
1:A:70:LYS:NZ	45:5:4084:G:O6	2.29	0.65
2:B:55:HIS:ND1	45:5:4627:U:O2'	2.29	0.65
2:B:290:GLY:N	2:B:329:ASP:OD1	2.30	0.65
6:F:124:LEU:HD22	6:F:129:ILE:CD1	2.27	0.65
10:J:104:ASN:OD1	10:J:133:VAL:HA	1.95	0.65
24:Y:92:GLY:O	24:Y:93:THR:HG23	1.96	0.65
31:f:14:TYR:HD2	31:f:21:GLN:HE21	1.44	0.65
42:r:28:GLU:OE1	42:r:28:GLU:N	2.29	0.65
48:v:421:VAL:HG23	48:v:450:THR:HG21	1.77	0.65
48:v:507:VAL:HG12	48:v:554:LEU:HD21	1.78	0.65
49:9:1355:C:O2	52:CC:235:ASN:ND2	2.29	0.65
2:B:11:HIS:NE2	45:5:4458:C:OP1	2.28	0.65
45:5:175:C:N3	45:5:262:G:N2	2.45	0.65
49:9:41:G:H1	49:9:481:C:H42	1.44	0.65
49:9:1597:C:OP2	75:ZZ:85:ARG:NH2	2.27	0.65
4:D:64:ILE:HG13	4:D:109:LEU:HD22	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:35:ASP:C	9:I:36:LEU:HD12	2.21	0.65
13:N:67:ARG:NH2	13:N:127:TYR:OH	2.29	0.65
17:R:59:SER:N	45:5:4646:U:OP1	2.29	0.65
30:e:84:GLU:OE2	42:r:20:ARG:NH2	2.29	0.65
48:v:112:SER:HA	48:v:115:VAL:HG22	1.79	0.65
49:9:420:G:H2'	49:9:660:C:H42	1.60	0.65
49:9:594:A:O4'	49:9:643:A:N6	2.30	0.65
49:9:1570:G:N7	69:TT:97:LYS:NZ	2.40	0.65
14:O:16:LEU:HD21	14:O:83:THR:OG1	1.96	0.65
40:o:11:PHE:O	40:o:81:ARG:NH2	2.28	0.65
48:v:739:ARG:NH1	48:v:823:ASP:OD2	2.29	0.65
37:l:42:ARG:NH2	45:5:2408:U:OP1	2.27	0.65
45:5:1739:G:N3	45:5:1742:A:N6	2.44	0.65
45:5:2639:U:HO2'	45:5:2640:G:P	2.18	0.65
45:5:4288:C:O2'	45:5:4321:U:OP1	2.10	0.65
45:5:4882:U:O2'	45:5:4883:C:O5'	2.14	0.65
48:v:114:GLU:OE1	48:v:400:LYS:NZ	2.28	0.65
48:v:224:THR:N	48:v:227:GLN:OE1	2.29	0.65
53:DD:63:GLY:O	53:DD:67:ARG:NH1	2.29	0.65
54:EE:173:ILE:HD12	54:EE:227:VAL:HG12	1.79	0.65
62:MM:96:ARG:O	62:MM:96:ARG:NE	2.29	0.65
3:C:69:THR:HG21	45:5:3906:A:H2'	1.78	0.65
6:F:121:PHE:O	6:F:204:ASN:ND2	2.30	0.65
8:H:134:CYS:SG	8:H:144:LEU:HD21	2.37	0.65
15:P:118:GLN:NE2	45:5:423:G:H21	1.93	0.65
49:9:594:A:O2'	80:ee:100:LYS:NZ	2.26	0.65
66:QQ:146:ARG:NH2	83:3:33:U:OP2	2.30	0.65
69:TT:106:ALA:O	69:TT:110:LEU:HD23	1.97	0.65
70:UU:24:LEU:HD22	70:UU:112:VAL:HG12	1.77	0.65
30:e:99:ILE:HG22	30:e:103:VAL:HG21	1.77	0.65
45:5:32:G:O6	45:5:48:G:O2'	2.09	0.65
45:5:1760:G:O2'	45:5:1761:G:O5'	2.15	0.65
48:v:115:VAL:O	48:v:119:LEU:HD23	1.97	0.65
66:QQ:89:SER:OG	66:QQ:112:LEU:HD13	1.97	0.65
73:XX:51:VAL:O	73:XX:97:ASN:N	2.30	0.65
82:gg:236:ILE:HG22	82:gg:252:THR:HG22	1.78	0.65
16:Q:70:MET:HE1	16:Q:137:VAL:HB	1.80	0.64
48:v:118:ALA:O	48:v:122:THR:HG23	1.97	0.64
49:9:561:A:O2'	59:JJ:134:HIS:NE2	2.30	0.64
49:9:1745:A:O3'	56:GG:31:ARG:NH2	2.29	0.64
51:BB:79:VAL:HG21	51:BB:81:PHE:CE2	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:WW:6:VAL:HG12	72:WW:34:ILE:HD11	1.79	0.64
3:C:234:LYS:NZ	45:5:1364:U:O2	2.28	0.64
9:I:184:MET:HB3	9:I:190:LEU:HD13	1.78	0.64
18:S:87:ARG:NH2	45:5:2035:C:OP1	2.25	0.64
19:T:78:LYS:NZ	45:5:4305:G:O6	2.28	0.64
23:X:60:TYR:OH	45:5:17:A:OP2	2.15	0.64
43:s:160:LEU:HD12	43:s:175:LEU:CD2	2.26	0.64
45:5:3938:G:N2	45:5:4171:C:OP2	2.30	0.64
59:JJ:32:ILE:HD11	59:JJ:40:LYS:HG2	1.79	0.64
14:O:81:TRP:HB2	14:O:104:VAL:HG21	1.79	0.64
17:R:88:ARG:O	45:5:2725:A:N6	2.31	0.64
37:l:18:LYS:NZ	47:8:46:G:OP1	2.25	0.64
39:n:18:ARG:NH2	49:9:1183:A:OP2	2.28	0.64
45:5:5053:U:O2'	45:5:5054:C:O4'	2.14	0.64
52:CC:81:ILE:HG21	52:CC:88:ILE:HD11	1.79	0.64
75:ZZ:84:ALA:O	75:ZZ:88:LEU:HD23	1.98	0.64
1:A:146:THR:HG23	1:A:160:SER:HB3	1.79	0.64
26:a:4:ARG:NH2	45:5:2341:A:OP2	2.27	0.64
45:5:308:G:OP2	45:5:308:G:N2	2.20	0.64
45:5:1669:A:H4'	45:5:1685:G:H22	1.61	0.64
45:5:3888:G:O2'	45:5:3889:G:OP1	2.15	0.64
50:AA:118:GLU:OE1	50:AA:118:GLU:N	2.31	0.64
56:GG:136:LYS:NZ	56:GG:175:LYS:O	2.30	0.64
64:OO:95:ILE:HD11	64:OO:119:LEU:HD11	1.78	0.64
66:QQ:100:VAL:HG22	66:QQ:101:ASP:H	1.63	0.64
16:Q:148:VAL:HG12	45:5:1346:C:OP1	1.96	0.64
29:d:57:MET:O	29:d:59:THR:HG23	1.97	0.64
45:5:2706:G:O2'	45:5:2709:C:N4	2.21	0.64
45:5:4448:G:O2'	45:5:4449:A:OP2	2.15	0.64
49:9:846:G:C5	54:EE:19:MET:HE1	2.33	0.64
49:9:1609:C:OP1	68:SS:131:VAL:HG12	1.98	0.64
49:9:1647:A:OP1	66:QQ:138:ARG:NH2	2.31	0.64
49:9:1664:A:O2'	49:9:1666:C:N4	2.26	0.64
67:RR:24:LEU:HB3	67:RR:58:MET:HE3	1.79	0.64
82:gg:23:THR:HG23	82:gg:31:ILE:HG22	1.80	0.64
3:C:293:LEU:HD22	16:Q:34:PHE:CD2	2.33	0.64
19:T:3:ASN:ND2	45:5:4212:A:N1	2.46	0.64
34:i:82:ARG:NH2	45:5:282:C:O2	2.31	0.64
49:9:555:A:H61	49:9:589:G:H21	1.44	0.64
49:9:1860:A:OP2	76:aa:10:ARG:NE	2.31	0.64
52:CC:85:SER:OG	71:VV:15:ARG:NH2	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:JJ:50:LEU:HD13	59:JJ:105:PHE:CE2	2.32	0.64
35:j:43:ARG:NH2	45:5:55:G:OP2	2.31	0.64
44:t:123:ARG:HE	44:t:124:GLU:H	1.46	0.64
49:9:118:C:H2'	49:9:119:PSU:H5''	1.80	0.64
51:BB:109:LYS:O	51:BB:113:MET:HG3	1.97	0.64
3:C:199:ARG:NH2	45:5:350:C:OP2	2.31	0.64
4:D:232:THR:OG1	4:D:234:ASP:OD1	2.13	0.64
4:D:279:ARG:NH1	46:7:61:G:O2'	2.30	0.64
35:j:63:ARG:NH1	47:8:58:G:N7	2.45	0.64
45:5:1390:G:N2	45:5:1393:G:OP2	2.30	0.64
48:v:480:VAL:HG13	48:v:481:LYS:H	1.62	0.64
49:9:1288:U:O4	49:9:1311:C:N3	2.31	0.64
57:HH:8:ILE:HG22	57:HH:45:ILE:HB	1.80	0.64
5:E:189:LEU:HD21	5:E:215:LEU:CD1	2.28	0.64
5:E:191:ARG:NH1	5:E:217:ASP:OD1	2.31	0.64
45:5:3867:A2M:HM'3	45:5:3880:G:C2	2.33	0.64
46:7:21:G:O2'	46:7:22:A:OP2	2.10	0.64
49:9:114:G:OP1	61:LL:69:ARG:NH1	2.30	0.64
53:DD:55:THR:HA	53:DD:58:VAL:HG12	1.77	0.64
11:L:34:ARG:NH2	47:8:30:U:OP1	2.31	0.64
48:v:265:TYR:HB2	48:v:285:LEU:HD23	1.79	0.64
48:v:310:GLU:N	48:v:310:GLU:OE1	2.30	0.64
3:C:100:ARG:NH2	45:5:1521:C:OP1	2.28	0.63
4:D:65:ALA:HB2	4:D:74:ILE:HD13	1.79	0.63
7:G:215:LEU:O	7:G:219:VAL:HG23	1.98	0.63
17:R:55:VAL:HG11	45:5:2635:U:C4'	2.29	0.63
23:X:81:LEU:HD11	23:X:99:ILE:HD11	1.78	0.63
44:t:108:GLU:OE1	44:t:108:GLU:N	2.30	0.63
49:9:624:C:N4	73:XX:63:ASN:OD1	2.31	0.63
49:9:1718:G:O2'	49:9:1815:A:N6	2.30	0.63
7:G:86:VAL:HG11	7:G:185:LYS:HG2	1.79	0.63
8:H:86:LEU:O	8:H:187:VAL:HG22	1.98	0.63
45:5:27:C:O2'	45:5:60:A:N3	2.31	0.63
45:5:3784:A:H61	45:5:3814:U:H1'	1.63	0.63
48:v:683:PHE:CD1	48:v:729:LEU:HD21	2.33	0.63
49:9:4:C:O2'	59:JJ:18:ARG:NH2	2.30	0.63
49:9:161:U:O2'	56:GG:87:ARG:NH1	2.31	0.63
49:9:1719:A:N6	49:9:1814:G:O2'	2.30	0.63
3:C:124:ILE:HG21	3:C:264:TYR:OH	1.98	0.63
5:E:166:VAL:HG21	5:E:204:ILE:HD11	1.79	0.63
20:U:78:PHE:HE2	20:U:83:LEU:HD21	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:V:90:ARG:NH1	21:V:96:LEU:HD22	2.14	0.63
42:r:66:ARG:NH1	45:5:478:G:OP1	2.30	0.63
82:gg:73:SER:N	82:gg:117:ASN:OD1	2.30	0.63
4:D:50:ARG:NH2	4:D:72:ASP:OD2	2.31	0.63
16:Q:181:ARG:NH1	45:5:1391:A:OP1	2.31	0.63
25:Z:64:LYS:NZ	45:5:2758:G:O6	2.31	0.63
35:j:48:ASN:N	45:5:52:G:OP1	2.29	0.63
45:5:108:A:N1	45:5:333:U:O2'	2.26	0.63
45:5:394:G:N2	45:5:397:G:OP2	2.25	0.63
49:9:1464:C:O5'	67:RR:60:ARG:NE	2.31	0.63
60:KK:65:ARG:NE	79:dd:25:SER:OG	2.32	0.63
69:TT:123:LEU:HD21	69:TT:131:LEU:CD1	2.29	0.63
74:YY:112:ASN:OD1	74:YY:115:LYS:NZ	2.31	0.63
3:C:340:ILE:HG22	5:E:52:LEU:HD11	1.81	0.63
17:R:5:ARG:NH1	45:5:2385:U:OP1	2.32	0.63
28:c:51:ASN:OD1	28:c:78:ASN:N	2.32	0.63
31:f:21:GLN:OE1	45:5:1310:C:O4'	2.16	0.63
33:h:56:ARG:NH1	47:8:65:A:OP1	2.30	0.63
51:BB:124:HIS:O	51:BB:169:MET:HE1	1.99	0.63
70:UU:61:LEU:HD22	79:dd:34:TYR:CE1	2.33	0.63
2:B:121:ASN:OD1	45:5:4987:C:N4	2.32	0.63
23:X:55:ARG:NH2	47:8:117:C:O4'	2.32	0.63
45:5:5047:C:O2'	45:5:5050:C:OP2	2.16	0.63
49:9:677:G:N1	49:9:1027:A:OP2	2.29	0.63
63:NN:87:ASP:OD1	63:NN:88:LEU:N	2.31	0.63
74:YY:98:GLU:OE1	74:YY:98:GLU:N	2.31	0.63
18:S:171:ARG:O	45:5:4871:C:N4	2.31	0.63
45:5:46:U:OP2	45:5:47:A:O2'	2.13	0.63
45:5:1763:C:O2'	45:5:1764:G:OP1	2.14	0.63
45:5:3603:G:O2'	45:5:3604:A:OP1	2.15	0.63
59:JJ:137:VAL:HG22	59:JJ:157:ILE:CD1	2.28	0.63
66:QQ:47:LEU:HD12	66:QQ:81:ILE:HD11	1.80	0.63
70:UU:68:THR:O	79:dd:40:ARG:NH1	2.31	0.63
3:C:80:ARG:NH2	45:5:1645:C:OP1	2.32	0.63
4:D:120:GLU:O	4:D:248:ARG:NH1	2.32	0.63
26:a:76:ASP:OD1	26:a:77:LYS:N	2.32	0.63
32:g:70:THR:HG21	45:5:2588:C:H41	1.62	0.63
45:5:4478:G:O2'	45:5:4602:A:N1	2.29	0.63
66:QQ:85:ARG:NH2	66:QQ:118:THR:HG23	2.14	0.63
13:N:124:ASP:OD1	45:5:3937:C:O2'	2.17	0.63
45:5:1484:G:O2'	45:5:1486:C:OP2	2.16	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:v:602:LEU:HD21	48:v:604:MET:HE2	1.80	0.63
62:MM:40:LYS:NZ	81:ff:130:VAL:HG13	2.14	0.63
9:I:115:MET:HE3	45:5:1868:A:N6	2.12	0.62
16:Q:88:ASP:OD1	16:Q:89:ASP:N	2.32	0.62
49:9:64:A:OP1	56:GG:136:LYS:NZ	2.32	0.62
49:9:159:A2M:H2	49:9:467:G:H21	1.64	0.62
8:H:128:MET:HE2	8:H:128:MET:HA	1.80	0.62
25:Z:97:ASN:O	25:Z:100:VAL:HG22	1.98	0.62
48:v:164:LEU:HD11	48:v:174:LEU:HD21	1.81	0.62
49:9:1610:G:OP1	68:SS:121:ARG:NH1	2.32	0.62
57:HH:127:ASP:O	57:HH:131:GLU:OE2	2.16	0.62
58:II:3:ILE:O	58:II:3:ILE:HG23	1.98	0.62
71:VV:17:CYS:N	71:VV:22:ARG:O	2.32	0.62
15:P:108:ASP:N	15:P:152:GLU:OE2	2.32	0.62
16:Q:43:PHE:CZ	16:Q:47:VAL:HG21	2.35	0.62
46:7:87:G:N2	46:7:90:A:OP2	2.23	0.62
48:v:675:ILE:HD13	48:v:709:LEU:HD21	1.80	0.62
49:9:74:G:O6	56:GG:159:ARG:NH2	2.32	0.62
66:QQ:31:LEU:HD11	66:QQ:33:LYS:HE3	1.81	0.62
66:QQ:130:LYS:NZ	66:QQ:134:GLY:O	2.29	0.62
82:gg:111:VAL:HG22	82:gg:122:SER:CB	2.29	0.62
4:D:45:ASN:O	4:D:45:ASN:ND2	2.29	0.62
34:i:63:VAL:O	34:i:64:SER:OG	2.15	0.62
57:HH:8:ILE:HG23	57:HH:24:SER:HB2	1.80	0.62
62:MM:40:LYS:HZ3	81:ff:130:VAL:N	1.97	0.62
82:gg:111:VAL:HG22	82:gg:122:SER:HB2	1.81	0.62
82:gg:274:VAL:O	82:gg:274:VAL:HG12	1.98	0.62
34:i:60:LEU:HD21	34:i:68:ARG:HH11	1.64	0.62
69:TT:6:VAL:HG11	69:TT:65:TYR:CZ	2.34	0.62
74:YY:57:VAL:HG22	74:YY:60:PHE:CE1	2.34	0.62
32:g:52:ARG:NH2	45:5:2598:A:OP1	2.32	0.62
49:9:301:A:O2'	58:II:73:THR:HG22	2.00	0.62
49:9:1696:C:O2'	49:9:1702:G:O2'	1.95	0.62
7:G:161:VAL:O	7:G:161:VAL:HG12	1.97	0.62
13:N:108:ARG:CZ	13:N:161:MET:HE2	2.30	0.62
25:Z:30:ASP:OD1	25:Z:77:TYR:OH	2.12	0.62
43:s:102:LEU:HD22	43:s:187:LEU:HD22	1.80	0.62
45:5:934:C:O2'	45:5:935:A:OP2	2.17	0.62
45:5:1291:G:O2'	45:5:1292:C:O5'	2.13	0.62
45:5:1324:A:N1	45:5:3875:G:O2'	2.24	0.62
45:5:2043:A:N6	45:5:4437:U:O5'	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2514:G:O2'	45:5:2743:A:N6	2.32	0.62
45:5:4536:OMC:HM22	45:5:4537:C:O4'	1.99	0.62
49:9:546:G:O2'	49:9:547:G:O4'	2.17	0.62
49:9:1179:G:N2	49:9:1182:A:OP2	2.29	0.62
73:XX:105:PHE:CG	73:XX:112:VAL:HG11	2.35	0.62
82:gg:26:GLN:NE2	82:gg:73:SER:O	2.32	0.62
3:C:268:ARG:NH2	45:5:492:U:OP2	2.32	0.62
4:D:203:ASN:OD1	4:D:204:VAL:N	2.33	0.62
31:f:19:ARG:NH2	45:5:1887:G:OP2	2.33	0.62
32:g:16:ALA:O	32:g:37:LYS:NZ	2.32	0.62
40:o:23:VAL:HG22	40:o:70:LEU:HD22	1.81	0.62
45:5:2515:G:HO2'	45:5:2599:G:HO2'	1.44	0.62
48:v:13:MET:HE2	48:v:468:ASN:CG	2.24	0.62
4:D:23:ARG:NE	45:5:4280:A:OP2	2.31	0.62
16:Q:83:VAL:O	16:Q:83:VAL:HG12	1.97	0.62
45:5:4413:C:H5	45:5:4429:C:H42	1.47	0.62
47:8:102:G:OP2	47:8:104:A:O2'	2.17	0.62
48:v:419:GLY:C	48:v:420:LEU:HD12	2.23	0.62
53:DD:25:LEU:HD12	53:DD:37:VAL:HG11	1.82	0.62
57:HH:19:PHE:CZ	57:HH:23:ILE:HD11	2.34	0.62
1:A:94:ALA:HB3	1:A:102:LEU:CD2	2.29	0.62
20:U:36:ALA:O	20:U:65:ARG:NH1	2.32	0.62
45:5:959:G:O2'	45:5:2263:A:N6	2.33	0.62
45:5:1868:A:O2'	45:5:4402:C:O2	2.14	0.62
48:v:797:THR:HG22	48:v:810:PRO:HG2	1.81	0.62
49:9:351:G:OP1	58:II:7:ASN:ND2	2.29	0.62
49:9:1648:G:N2	49:9:1675:A:OP2	2.28	0.62
1:A:156:LYS:NZ	45:5:3662:A:OP2	2.32	0.61
32:g:13:TYR:OH	45:5:2802:C:O2	2.14	0.61
45:5:2517:A:N3	45:5:2539:C:O2'	2.33	0.61
49:9:1570:G:HO2'	49:9:1614:A:HO2'	1.44	0.61
69:TT:96:SER:HB3	69:TT:99:VAL:HG12	1.82	0.61
72:WW:11:LEU:HD12	72:WW:74:VAL:HG22	1.82	0.61
81:ff:133:ALA:N	81:ff:140:TYR:O	2.33	0.61
10:J:40:LEU:O	10:J:44:THR:HG22	2.00	0.61
30:e:7:LEU:N	30:e:93:LYS:O	2.31	0.61
30:e:36:ARG:NH2	45:5:2322:G:OP1	2.31	0.61
49:9:588:G:OP2	49:9:588:G:N2	2.31	0.61
53:DD:43:PRO:O	53:DD:44:THR:HG22	2.00	0.61
64:OO:132:VAL:O	64:OO:132:VAL:HG23	1.98	0.61
1:A:118:GLU:OE2	45:5:3681:G:N2	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:U:78:PHE:CE2	20:U:83:LEU:HD21	2.36	0.61
49:9:380:G:O6	58:II:178:ARG:NH1	2.32	0.61
51:BB:28:LYS:HG3	51:BB:50:THR:HG22	1.81	0.61
55:FF:39:ILE:HD13	55:FF:68:ILE:HD11	1.81	0.61
65:PP:18:ARG:NH1	68:SS:88:LYS:O	2.33	0.61
35:j:49:TRP:O	45:5:1646:A:O2'	2.14	0.61
35:j:75:ARG:NH2	47:8:93:C:OP1	2.32	0.61
45:5:20:U:OP2	47:8:36:G:N1	2.33	0.61
49:9:4:C:H4'	52:CC:207:ALA:HB2	1.83	0.61
49:9:140:U:HO2'	49:9:141:A:P	2.23	0.61
49:9:1280:G:OP2	62:MM:101:ARG:NH1	2.33	0.61
53:DD:48:ILE:HG23	53:DD:86:LEU:HD13	1.81	0.61
53:DD:70:THR:HG22	53:DD:86:LEU:HD23	1.82	0.61
53:DD:72:VAL:HG11	60:KK:70:TYR:HE1	1.64	0.61
61:LL:5:GLN:NE2	61:LL:11:GLN:O	2.33	0.61
77:bb:23:ARG:NH1	77:bb:29:ASN:OD1	2.29	0.61
83:3:21:A:N6	83:3:46:G:O2'	2.33	0.61
7:G:146:LEU:HD13	7:G:205:THR:HG21	1.82	0.61
8:H:44:GLU:HG3	12:M:2:VAL:HG22	1.80	0.61
8:H:50:LYS:NZ	45:5:759:G:O3'	2.33	0.61
14:O:117:ARG:NH2	45:5:4758:U:O2'	2.33	0.61
27:b:7:HIS:O	27:b:8:THR:OG1	2.14	0.61
48:v:101:ASN:HB2	48:v:469:ILE:HD13	1.81	0.61
49:9:1201:U:O2'	49:9:1358:U:O2'	2.10	0.61
3:C:237:ILE:HG23	3:C:238:LEU:HD22	1.81	0.61
11:L:169:ILE:HD11	26:a:98:ALA:HB3	1.80	0.61
12:M:37:LEU:HD13	18:S:100:LEU:HD21	1.83	0.61
15:P:49:LYS:O	15:P:53:LEU:HD12	2.01	0.61
45:5:2638:G:H1	45:5:2697:A:H61	1.46	0.61
45:5:5068:G:O2'	45:5:5069:U:OP2	2.18	0.61
75:ZZ:74:SER:OG	75:ZZ:79:ILE:O	2.08	0.61
1:A:208:GLU:OE1	1:A:208:GLU:N	2.34	0.61
2:B:315:ASN:OD1	2:B:326:VAL:N	2.32	0.61
5:E:119:TYR:OH	42:r:94:ARG:NH2	2.34	0.61
12:M:5:ARG:NH1	45:5:4870:G:OP2	2.33	0.61
41:p:85:ARG:O	41:p:89:LEU:HD13	2.00	0.61
42:r:87:ARG:NE	45:5:690:C:OP1	2.34	0.61
50:AA:90:PHE:O	50:AA:94:THR:HG22	2.00	0.61
62:MM:25:ALA:HB3	62:MM:31:LEU:HD23	1.83	0.61
78:cc:17:VAL:HG22	78:cc:30:VAL:HG12	1.81	0.61
3:C:149:GLU:OE2	42:r:71:ARG:NH1	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:227:VAL:HA	18:S:39:VAL:HG22	1.83	0.61
18:S:80:ILE:HD12	18:S:97:TYR:HD2	1.65	0.61
45:5:4252:C:OP2	45:5:4253:A:O2'	2.11	0.61
54:EE:11:ARG:CZ	54:EE:20:LEU:HD13	2.31	0.61
66:QQ:85:ARG:HH22	66:QQ:118:THR:HG23	1.64	0.61
72:WW:106:THR:HG21	72:WW:121:THR:O	2.01	0.61
9:I:43:VAL:HG21	9:I:197:VAL:CG1	2.30	0.61
13:N:179:LYS:O	45:5:297:U:O2'	2.18	0.61
25:Z:70:SER:OG	25:Z:111:ARG:O	2.18	0.61
30:e:108:ARG:NH2	45:5:2326:G:OP1	2.33	0.61
37:l:33:ASN:OD1	37:l:34:LYS:N	2.33	0.61
49:9:1284:A:N6	49:9:1313:A:O2'	2.32	0.61
4:D:146:LEU:HD23	45:5:4323:A:C2	2.35	0.61
5:E:185:ASN:ND2	5:E:274:LEU:O	2.34	0.61
45:5:125:C:O2'	45:5:126:C:O5'	2.19	0.61
45:5:504:G:O2'	45:5:505:G:O5'	2.18	0.61
49:9:88:G:N2	49:9:499:G:O3'	2.34	0.61
49:9:659:G:O2'	49:9:662:G:O2'	2.04	0.61
57:HH:78:ARG:NH1	57:HH:82:GLU:OE2	2.34	0.61
16:Q:85:THR:OG1	45:5:1353:G:O6	2.17	0.60
45:5:207:G:O2'	45:5:232:G:N2	2.33	0.60
45:5:2816:G:O2'	45:5:3622:C:O2'	2.05	0.60
48:v:161:ASP:OD1	48:v:162:ARG:N	2.34	0.60
54:EE:23:LEU:HD23	54:EE:23:LEU:O	2.01	0.60
54:EE:112:HIS:NE2	54:EE:238:LEU:O	2.34	0.60
1:A:236:GLY:N	45:5:3687:A:O2'	2.34	0.60
45:5:1563:A:N6	49:9:1028:A:N1	2.48	0.60
49:9:50:A:OP2	49:9:472:C:N4	2.34	0.60
49:9:1616:U:O2'	49:9:1661:A:N3	2.28	0.60
72:WW:53:ILE:HD13	72:WW:62:VAL:HG23	1.82	0.60
6:F:136:GLU:OE1	46:7:96:U:O2'	2.19	0.60
8:H:113:GLU:OE1	8:H:123:ILE:HD11	2.00	0.60
13:N:44:ARG:NH2	45:5:280:G:OP2	2.34	0.60
14:O:77:SER:N	14:O:106:ASP:OD1	2.32	0.60
45:5:1763:C:HO2'	45:5:1764:G:P	2.24	0.60
53:DD:16:ILE:HD11	79:dd:36:LEU:HD23	1.83	0.60
56:GG:137:ARG:O	56:GG:141:ILE:HD12	2.00	0.60
4:D:57:ASN:O	46:7:49:A:N6	2.35	0.60
17:R:83:GLY:N	45:5:2812:A:OP1	2.33	0.60
45:5:2811:G:N2	45:5:2814:C:OP2	2.34	0.60
52:CC:81:ILE:HG23	52:CC:86:LEU:HB2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:UU:66:ARG:NH2	70:UU:71:GLY:O	2.34	0.60
71:VV:16:LYS:NZ	71:VV:21:ASN:OD1	2.27	0.60
73:XX:86:PRO:O	73:XX:87:ASN:ND2	2.35	0.60
6:F:219:MET:HB3	6:F:231:ASP:OD2	2.02	0.60
9:I:82:LYS:NZ	9:I:83:ASP:OD2	2.34	0.60
13:N:12:ARG:NH1	45:5:308:G:O6	2.35	0.60
39:n:4:LYS:N	49:9:1842:4AC:OP1	2.34	0.60
45:5:4371:G:O2'	45:5:4372:U:OP2	2.13	0.60
49:9:1086:G:OP2	76:aa:12:LYS:NZ	2.34	0.60
49:9:1805:G:H2'	49:9:1806:M7A:O4'	2.02	0.60
53:DD:105:LEU:HD23	53:DD:184:ILE:HG21	1.83	0.60
12:M:104:MET:O	12:M:109:ARG:NH2	2.34	0.60
49:9:98:C:OP2	49:9:426:A:O2'	2.18	0.60
18:S:95:ARG:NE	18:S:97:TYR:OH	2.28	0.60
18:S:170:LYS:NZ	45:5:4871:C:N3	2.46	0.60
49:9:1372:U:OP1	49:9:1385:G:N2	2.22	0.60
49:9:1566:G:N7	69:TT:101:ARG:NH2	2.47	0.60
55:FF:102:LEU:HD13	75:ZZ:110:THR:CG2	2.31	0.60
56:GG:148:SER:OG	56:GG:149:LYS:N	2.33	0.60
57:HH:118:ARG:O	57:HH:121:THR:HG22	2.01	0.60
63:NN:37:ILE:HG23	63:NN:50:ILE:HD12	1.83	0.60
69:TT:123:LEU:HD21	69:TT:131:LEU:HD12	1.82	0.60
2:B:228:TYR:O	45:5:2835:A:O2'	2.14	0.60
7:G:73:ARG:NH2	45:5:4076:G:OP1	2.35	0.60
45:5:1396:G:O2'	45:5:1468:C:O2'	2.18	0.60
45:5:3815:G:O2'	45:5:3816:A:O4'	2.19	0.60
45:5:4305:G:C2'	45:5:4305:G:N3	2.65	0.60
49:9:15:U:O2'	49:9:669:A:N6	2.35	0.60
51:BB:168:MET:HG3	51:BB:197:ILE:HD11	1.83	0.60
63:NN:16:LEU:HD21	63:NN:62:GLN:OE1	2.02	0.60
63:NN:45:LEU:HB3	63:NN:50:ILE:HG22	1.84	0.60
48:v:416:VAL:HG11	48:v:465:PRO:O	2.01	0.60
49:9:534:G:N2	49:9:551:U:O2	2.35	0.60
54:EE:45:ILE:CD1	54:EE:61:VAL:HG11	2.30	0.60
42:r:24:THR:OG1	45:5:2289:C:N4	2.35	0.60
45:5:83:C:O2'	45:5:100:C:N4	2.35	0.60
48:v:843:GLY:O	48:v:844:LEU:HD23	2.02	0.60
49:9:434:G:HO2'	49:9:435:A:P	2.22	0.60
57:HH:27:LEU:HD11	57:HH:45:ILE:HD12	1.84	0.60
78:cc:28:THR:HG23	78:cc:30:VAL:HG13	1.84	0.60
48:v:103:ILE:HD12	48:v:122:THR:HG22	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1491:G:O2'	70:UU:72:GLU:OE2	2.18	0.59
58:II:165:GLN:NE2	58:II:170:LYS:O	2.33	0.59
19:T:25:VAL:HG13	19:T:45:MET:HE1	1.85	0.59
45:5:120:A:N1	45:5:148:A:O2'	2.27	0.59
45:5:3690:U:H2'	45:5:3691:G:O4'	2.02	0.59
48:v:129:VAL:HG12	48:v:139:THR:HG21	1.82	0.59
48:v:598:LYS:NZ	85:2:27:U:OP1	2.26	0.59
71:VV:19:ALA:O	72:WW:23:ARG:NH1	2.35	0.59
9:I:53:VAL:HG12	9:I:134:VAL:HG22	1.84	0.59
16:Q:147:GLU:N	45:5:1504:G:OP1	2.36	0.59
23:X:82:THR:HG21	33:h:37:THR:HG22	1.84	0.59
45:5:5001:U:H2'	45:5:5002:U:O4'	2.02	0.59
58:II:99:ASN:N	58:II:175:ILE:O	2.36	0.59
61:LL:120:VAL:HG23	61:LL:145:VAL:HG11	1.83	0.59
72:WW:44:HIS:NE2	72:WW:112:ASP:OD2	2.31	0.59
74:YY:5:VAL:HG11	74:YY:35:VAL:HG11	1.84	0.59
75:ZZ:91:LEU:HD23	75:ZZ:97:ILE:HD11	1.83	0.59
2:B:29:VAL:HG23	2:B:346:THR:HG21	1.84	0.59
15:P:41:ILE:CD1	15:P:95:LEU:HD22	2.32	0.59
22:W:34:ALA:HB3	45:5:4663:G:OP1	2.01	0.59
31:f:65:ASN:HD21	31:f:67:THR:HG22	1.68	0.59
38:m:118:THR:O	38:m:119:ASN:OD1	2.21	0.59
45:5:2009:A:H62	48:v:753:GLU:CB	2.15	0.59
49:9:118:C:C2'	49:9:119:PSU:H5''	2.32	0.59
78:cc:32:VAL:HG11	78:cc:56:LEU:CD2	2.31	0.59
78:cc:32:VAL:HG11	78:cc:56:LEU:HD21	1.85	0.59
46:7:12:U:OP2	46:7:67:C:O2'	2.19	0.59
48:v:815:ASP:OD2	48:v:816:HIS:ND1	2.31	0.59
56:GG:49:VAL:HG22	56:GG:115:LYS:HB3	1.84	0.59
64:OO:116:LEU:HD11	76:aa:45:VAL:CG1	2.33	0.59
17:R:55:VAL:HG11	45:5:2635:U:H4'	1.85	0.59
19:T:35:LYS:NZ	45:5:1824:G:OP1	2.33	0.59
32:g:60:ARG:NH2	45:5:2516:G:OP1	2.36	0.59
40:o:8:ARG:HG3	40:o:23:VAL:HG21	1.83	0.59
48:v:592:LEU:HD21	48:v:856:ASP:O	2.02	0.59
49:9:379:C:O2	58:II:5:ARG:NE	2.34	0.59
49:9:595:U:O2'	49:9:644:OMG:N2	2.36	0.59
49:9:1193:U:OP1	73:XX:60:LYS:NZ	2.26	0.59
51:BB:71:LEU:HD12	51:BB:84:PHE:CE1	2.37	0.59
56:GG:18:VAL:HG11	56:GG:24:LEU:HD21	1.82	0.59
70:UU:82:MET:HE3	79:dd:52:PHE:CD2	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:WW:23:ARG:HB2	77:bb:4:ALA:HB1	1.85	0.59
75:ZZ:49:LEU:HA	75:ZZ:83:LEU:HD22	1.85	0.59
1:A:238:ILE:HD13	45:5:3666:C:H5''	1.83	0.59
11:L:39:ARG:NH2	45:5:1362:G:OP1	2.31	0.59
24:Y:50:ARG:NH1	24:Y:51:LYS:O	2.35	0.59
27:b:32:LEU:HD13	27:b:43:MET:HE1	1.84	0.59
45:5:4301:U:OP2	45:5:4303:C:N4	2.35	0.59
49:9:91:A:H61	56:GG:89:THR:HG22	1.66	0.59
49:9:987:A:OP1	76:aa:32:LYS:NZ	2.35	0.59
50:AA:160:ALA:HB3	71:VV:66:ASP:OD2	2.01	0.59
55:FF:72:LEU:HD22	55:FF:112:LEU:HD11	1.84	0.59
57:HH:134:VAL:HG23	57:HH:134:VAL:O	2.03	0.59
61:LL:99:TYR:O	61:LL:101:ARG:N	2.36	0.59
2:B:252:ALA:HB3	45:5:4457:PSU:O4	2.03	0.59
33:h:98:HIS:O	33:h:101:SER:OG	2.19	0.59
49:9:319:C:O2	49:9:332:G:N1	2.35	0.59
49:9:484:A2M:OP1	73:XX:48:LYS:NZ	2.32	0.59
51:BB:90:ASP:OD2	51:BB:228:LEU:HD23	2.03	0.59
57:HH:68:GLN:OE1	57:HH:68:GLN:N	2.33	0.59
42:r:66:ARG:NH2	42:r:78:VAL:HG12	2.18	0.59
45:5:1596:U:O2	45:5:3861:A:O2'	2.13	0.59
48:v:69:THR:OG1	48:v:403:PRO:O	2.18	0.59
49:9:1207:G:N1	84:w:18:U:OP2	2.32	0.59
49:9:1472:C:O2	49:9:1476:A:N6	2.36	0.59
50:AA:137:ALA:HA	50:AA:142:LEU:HD21	1.84	0.59
24:Y:83:GLU:O	24:Y:86:GLN:NE2	2.35	0.59
32:g:20:THR:HG22	32:g:34:TYR:CD1	2.37	0.59
45:5:2690:C:H2'	45:5:2691:U:O4'	2.03	0.59
64:OO:94:HIS:ND1	64:OO:127:GLY:O	2.36	0.59
82:gg:52:TYR:CD2	82:gg:309:VAL:HG11	2.38	0.59
11:L:103:ARG:NH1	45:5:75:G:O6	2.35	0.58
14:O:62:MET:HE1	45:5:3869:OMC:HM21	1.84	0.58
15:P:41:ILE:HD12	15:P:95:LEU:HD22	1.84	0.58
26:a:72:THR:HG22	26:a:110:LYS:HB3	1.84	0.58
45:5:3603:G:N2	45:5:3604:A:N1	2.51	0.58
3:C:266:THR:HG22	3:C:267:TRP:N	2.18	0.58
7:G:65:ARG:NH2	47:8:149:G:O3'	2.36	0.58
11:L:18:TRP:NE1	45:5:1516:G:O2'	2.31	0.58
17:R:42:ARG:NH2	45:5:2524:U:OP1	2.36	0.58
45:5:406:C:HO2'	45:5:407:A:P	2.25	0.58
45:5:1942:A:OP2	45:5:2040:A:N6	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:EE:85:GLY:N	54:EE:88:ASP:OD2	2.33	0.58
57:HH:20:GLU:HA	57:HH:23:ILE:HD12	1.85	0.58
57:HH:140:VAL:N	57:HH:157:HIS:O	2.34	0.58
11:L:94:ILE:HD11	11:L:96:ILE:HD12	1.86	0.58
25:Z:103:ASP:OD2	25:Z:106:LEU:HD23	2.03	0.58
33:h:7:ARG:NH2	47:8:86:U:OP1	2.36	0.58
46:7:37:G:N2	46:7:41:G:N3	2.52	0.58
48:v:270:ASN:OD1	48:v:271:GLY:N	2.36	0.58
49:9:1648:G:H22	49:9:1675:A:P	2.27	0.58
52:CC:83:LEU:O	71:VV:15:ARG:NE	2.35	0.58
52:CC:136:HIS:CE1	71:VV:11:LEU:HD21	2.38	0.58
62:MM:55:ASN:ND2	62:MM:80:ASP:O	2.36	0.58
2:B:156:TYR:OH	45:5:4912:G:N2	2.37	0.58
48:v:396:MET:SD	48:v:485:ILE:HD11	2.44	0.58
49:9:1306:U:C2'	49:9:1307:U:O5'	2.52	0.58
58:II:134:GLU:N	58:II:134:GLU:OE1	2.36	0.58
59:JJ:37:LEU:HD11	59:JJ:106:LEU:HD22	1.86	0.58
1:A:24:LYS:NZ	45:5:2742:G:OP1	2.32	0.58
3:C:154:VAL:HG11	3:C:158:VAL:HG21	1.86	0.58
5:E:253:GLN:NE2	5:E:257:ASP:OD2	2.36	0.58
11:L:74:ARG:NE	45:5:76:A:OP2	2.37	0.58
30:e:31:ILE:HD11	45:5:2347:A:C6	2.38	0.58
45:5:958:G:N1	45:5:1285:U:OP2	2.29	0.58
45:5:4882:U:HO2'	45:5:4883:C:P	2.26	0.58
49:9:928:G:H2'	49:9:929:G:C8	2.38	0.58
49:9:1567:G:H21	49:9:1567:G:P	2.26	0.58
65:PP:85:ILE:HG22	65:PP:114:HIS:O	2.03	0.58
72:WW:26:LEU:HD13	72:WW:62:VAL:HG22	1.84	0.58
9:I:4:ARG:NH1	45:5:1866:U:OP1	2.27	0.58
45:5:3782:5MC:O2'	45:5:3783:A:O5'	2.20	0.58
52:CC:179:THR:OG1	52:CC:221:ASP:O	2.19	0.58
70:UU:96:GLU:O	70:UU:98:VAL:N	2.36	0.58
78:cc:14:VAL:HG23	78:cc:54:ASP:O	2.03	0.58
16:Q:82:VAL:HG22	16:Q:84:GLY:H	1.68	0.58
18:S:95:ARG:NH2	18:S:112:ASP:OD2	2.37	0.58
29:d:18:ASN:OD1	29:d:19:GLU:N	2.37	0.58
45:5:4322:G:N2	45:5:4325:A:OP2	2.30	0.58
48:v:839:ARG:NE	48:v:847:GLY:O	2.37	0.58
49:9:49:C:H2'	49:9:472:C:H41	1.68	0.58
50:AA:76:VAL:HG12	50:AA:87:VAL:HG13	1.85	0.58
82:gg:52:TYR:HD2	82:gg:309:VAL:HG11	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:gg:128:THR:HG22	82:gg:130:LYS:HG2	1.85	0.58
4:D:53:VAL:O	4:D:54:ARG:NH1	2.36	0.58
10:J:40:LEU:HD22	10:J:48:PRO:HB3	1.86	0.58
36:k:54:GLU:O	36:k:58:GLN:OE1	2.21	0.58
49:9:1589:A:N3	49:9:1653:U:O2'	2.34	0.58
73:XX:24:ASP:HB2	73:XX:27:TYR:HB3	1.85	0.58
13:N:65:ARG:NH2	45:5:2457:G:OP1	2.35	0.58
20:U:55:ASN:OD1	20:U:57:GLY:N	2.37	0.58
25:Z:46:ILE:HG23	25:Z:68:ILE:HG23	1.86	0.58
25:Z:133:LYS:NZ	45:5:2753:G:OP1	2.36	0.58
48:v:147:ILE:HD13	48:v:189:ILE:HA	1.84	0.58
49:9:1681:U:OP1	78:cc:20:ARG:NH2	2.37	0.58
6:F:222:LYS:NZ	45:5:1896:A:OP1	2.37	0.58
45:5:1552:G:O2'	45:5:1553:A:OP2	2.22	0.58
45:5:3890:A:N6	45:5:4570:G:O2'	2.34	0.58
8:H:27:VAL:HG12	8:H:84:VAL:HG21	1.85	0.57
11:L:169:ILE:HD11	26:a:98:ALA:CB	2.34	0.57
19:T:75:VAL:HG21	27:b:30:GLU:OE2	2.04	0.57
45:5:1389:U:P	45:5:1497:A:HO2'	2.24	0.57
45:5:2308:A:N3	47:8:19:C:O2'	2.27	0.57
48:v:301:PHE:CE1	48:v:336:LEU:HD21	2.39	0.57
50:AA:97:THR:HG23	50:AA:97:THR:O	2.05	0.57
55:FF:14:THR:HG23	55:FF:14:THR:O	2.04	0.57
59:JJ:137:VAL:HG22	59:JJ:157:ILE:HD12	1.85	0.57
26:a:42:ARG:NH1	45:5:4377:G:O6	2.37	0.57
26:a:75:LEU:CD1	26:a:78:LEU:HD22	2.33	0.57
45:5:3868:G:H22	45:5:3900:G:H1'	1.69	0.57
45:5:4378:A:O2'	45:5:4379:A:H2'	2.05	0.57
49:9:1035:A:H2'	49:9:1036:A:O4'	2.04	0.57
49:9:1291:A:HO2'	81:ff:140:TYR:HH	1.47	0.57
49:9:1591:C:O2'	55:FF:87:LEU:HD12	2.03	0.57
50:AA:111:GLN:NE2	52:CC:89:LYS:O	2.37	0.57
52:CC:214:LEU:HD23	52:CC:244:ILE:HD11	1.86	0.57
72:WW:3:ARG:NH1	72:WW:9:ASP:OD2	2.37	0.57
73:XX:128:VAL:CG1	73:XX:133:LEU:HD11	2.34	0.57
73:XX:129:SER:O	73:XX:133:LEU:HD13	2.04	0.57
82:gg:239:LEU:CD2	82:gg:248:LEU:HD21	2.33	0.57
20:U:28:PRO:HB3	20:U:100:LEU:HD11	1.86	0.57
23:X:70:LYS:NZ	47:8:98:C:OP1	2.38	0.57
43:s:47:LEU:HD22	43:s:101:MET:HE2	1.86	0.57
45:5:1594:C:O2'	45:5:1597:G:O2'	2.16	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:3625:G:HO2'	45:5:3626:G:P	2.27	0.57
45:5:3765:G:O2'	45:5:3767:C:N4	2.37	0.57
49:9:189:U:N3	49:9:211:G:N1	2.52	0.57
1:A:123:ARG:NH1	45:5:4083:U:OP1	2.37	0.57
1:A:200:ARG:NH2	45:5:3650:C:OP1	2.33	0.57
6:F:107:VAL:HG22	45:5:1725:U:O2'	2.02	0.57
16:Q:40:ASN:OD1	16:Q:132:LYS:NZ	2.37	0.57
44:t:98:ILE:O	44:t:98:ILE:HG22	2.04	0.57
45:5:4635:A:N6	45:5:5045:G:H21	2.02	0.57
45:5:4637:OMG:N2	45:5:5003:U:O2'	2.37	0.57
48:v:76:SER:O	48:v:77:LEU:HD12	2.05	0.57
67:RR:17:ILE:HG13	67:RR:58:MET:HE1	1.87	0.57
75:ZZ:68:ILE:CG2	75:ZZ:88:LEU:HD11	2.34	0.57
10:J:68:ILE:HD11	45:5:4258:C:H5'	1.85	0.57
18:S:36:ASN:OD1	18:S:39:VAL:HG23	2.05	0.57
19:T:108:ARG:NH2	45:5:1837:A:OP1	2.36	0.57
45:5:1273:G:O2'	45:5:1274:A:O5'	2.22	0.57
45:5:2041:A:N7	45:5:4434:C:O2'	2.34	0.57
45:5:2695:A:O2'	45:5:2696:A:OP2	2.20	0.57
45:5:4387:C:OP2	45:5:4532:PSU:O2'	2.16	0.57
48:v:760:TYR:CE2	48:v:770:VAL:HG11	2.40	0.57
55:FF:30:ILE:HG22	55:FF:113:VAL:HG11	1.85	0.57
62:MM:96:ARG:NH2	62:MM:98:GLY:O	2.37	0.57
63:NN:103:GLU:O	63:NN:106:ARG:NH2	2.38	0.57
74:YY:28:LEU:HG	74:YY:30:PRO:HD3	1.86	0.57
26:a:42:ARG:NH2	45:5:4377:G:N7	2.52	0.57
26:a:116:LYS:NZ	45:5:1420:A:N7	2.50	0.57
45:5:2468:U:O4	45:5:2506:G:O2'	2.10	0.57
45:5:4694:G:HO2'	45:5:4695:C:C5'	2.17	0.57
49:9:1200:A:OP1	76:aa:89:ARG:NH2	2.38	0.57
52:CC:255:LEU:HD23	71:VV:1:MET:CE	2.32	0.57
53:DD:92:ALA:O	53:DD:93:THR:OG1	2.22	0.57
54:EE:21:ASP:OD2	54:EE:24:THR:OG1	2.21	0.57
57:HH:60:ILE:O	57:HH:60:ILE:HG23	2.03	0.57
85:2:29:C:H2'	85:2:30:G:O4'	2.04	0.57
35:j:14:LYS:NZ	45:5:2406:G:OP1	2.34	0.57
36:k:55:LYS:HE2	36:k:55:LYS:HA	1.86	0.57
37:l:20:ASN:ND2	37:l:42:ARG:O	2.37	0.57
42:r:98:ARG:NH1	45:5:2261:G:OP2	2.37	0.57
45:5:2391:G:OP1	45:5:4653:C:O2'	2.23	0.57
48:v:722:ILE:CG1	48:v:723:PRO:HD3	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:535:G:N1	49:9:550:C:O2	2.38	0.57
52:CC:108:LYS:HG3	52:CC:233:LEU:HD22	1.87	0.57
65:PP:92:SER:O	65:PP:107:ILE:HD12	2.04	0.57
70:UU:82:MET:HE3	79:dd:52:PHE:CE2	2.40	0.57
4:D:267:ASN:C	4:D:267:ASN:HD22	2.12	0.57
13:N:44:ARG:NH1	45:5:280:G:OP2	2.36	0.57
17:R:103:ARG:NH1	45:5:2667:C:OP2	2.37	0.57
18:S:159:LEU:HD22	18:S:172:PRO:HB3	1.87	0.57
21:V:99:GLU:OE1	22:W:24:THR:HG22	2.04	0.57
23:X:85:SER:OG	45:5:2527:A:N6	2.37	0.57
24:Y:11:ARG:NH1	45:5:229:G:OP1	2.36	0.57
42:r:70:GLN:O	42:r:71:ARG:HG2	2.05	0.57
43:s:30:VAL:HG12	43:s:189:ILE:HA	1.87	0.57
49:9:812:A:O2'	54:EE:12:VAL:O	2.16	0.57
49:9:1576:G:O2'	49:9:1582:C:O4'	2.22	0.57
49:9:1827:U:O2	49:9:1827:U:H2'	2.03	0.57
51:BB:168:MET:CG	51:BB:197:ILE:HD11	2.35	0.57
55:FF:175:ASP:O	55:FF:179:ASN:ND2	2.37	0.57
65:PP:56:LEU:HD23	65:PP:83:MET:HG2	1.87	0.57
8:H:31:ARG:NH1	8:H:187:VAL:HG21	2.20	0.57
13:N:50:ARG:NH1	45:5:279:A:OP1	2.38	0.57
31:f:12:ALA:HB3	31:f:83:MET:HE1	1.87	0.57
45:5:82:U:H2'	45:5:83:C:O4'	2.05	0.57
45:5:196:C:N3	45:5:243:A:N6	2.52	0.57
45:5:2009:A:H4'	45:5:2010:A:OP1	2.04	0.57
48:v:683:PHE:HD1	48:v:729:LEU:HD21	1.70	0.57
71:VV:21:ASN:OD1	71:VV:21:ASN:O	2.23	0.57
25:Z:17:ARG:NH1	25:Z:18:TYR:OH	2.37	0.57
45:5:1763:C:H2'	45:5:1764:G:O4'	2.04	0.57
50:AA:34:MET:HA	50:AA:34:MET:HE3	1.87	0.57
64:OO:116:LEU:HD11	76:aa:45:VAL:HG11	1.85	0.57
70:UU:96:GLU:O	70:UU:98:VAL:HG12	2.05	0.57
12:M:31:ILE:CD1	18:S:75:VAL:HG22	2.34	0.56
17:R:109:TYR:OH	17:R:139:MET:SD	2.63	0.56
20:U:79:SER:OG	45:5:2619:G:OP1	2.22	0.56
21:V:88:TYR:OH	21:V:96:LEU:HD23	2.05	0.56
41:p:17:ARG:NH2	45:5:1577:G:OP1	2.36	0.56
45:5:3816:A:OP1	45:5:3818:UY1:N1	2.38	0.56
48:v:126:LEU:HD21	48:v:156:MET:HB2	1.87	0.56
49:9:31:U:OP1	73:XX:137:LYS:NZ	2.37	0.56
49:9:67:C:C6	56:GG:162:LEU:HD11	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1091:C:HO2'	72:WW:2:VAL:N	2.01	0.56
49:9:1534:C:O2'	49:9:1599:U:O4	2.16	0.56
49:9:1568:C:OP2	69:TT:98:SER:OG	2.20	0.56
55:FF:48:TYR:C	55:FF:49:LEU:HD12	2.30	0.56
56:GG:23:LYS:NZ	56:GG:41:LEU:O	2.29	0.56
58:II:57:ALA:HB2	58:II:183:GLY:HA2	1.87	0.56
66:QQ:102:GLU:OE2	82:gg:57:ARG:N	2.38	0.56
1:A:67:TYR:OH	45:5:4087:G:N7	2.26	0.56
1:A:112:ILE:HG23	1:A:133:TYR:CD2	2.40	0.56
3:C:22:VAL:HG12	3:C:258:ARG:CZ	2.34	0.56
10:J:105:PHE:CZ	10:J:132:VAL:HG11	2.39	0.56
13:N:155:VAL:O	13:N:162:ARG:NH2	2.38	0.56
23:X:120:ASP:OD1	23:X:121:VAL:N	2.38	0.56
45:5:485:C:O2'	45:5:486:C:O5'	2.20	0.56
68:SS:15:VAL:CG2	68:SS:20:ILE:HD12	2.35	0.56
3:C:221:PHE:CB	3:C:229:LEU:HD21	2.35	0.56
6:F:49:ILE:HD12	6:F:185:CYS:HB3	1.86	0.56
6:F:174:ILE:HD11	6:F:186:MET:HE3	1.87	0.56
7:G:158:ALA:HB2	7:G:190:LEU:HD12	1.87	0.56
11:L:9:ILE:HG21	26:a:52:TYR:CZ	2.41	0.56
13:N:10:LEU:HD12	34:i:48:CYS:SG	2.45	0.56
17:R:39:GLN:NE2	45:5:2710:C:OP1	2.38	0.56
45:5:1077:C:OP1	45:5:1215:C:O2'	2.22	0.56
45:5:1194:G:H2'	45:5:1195:G:C1'	2.35	0.56
45:5:1587:G:O2'	45:5:1588:U:OP2	2.19	0.56
45:5:1625:OMG:N1	45:5:3918:G:OP1	2.38	0.56
45:5:2588:C:OP1	45:5:2768:C:O2'	2.17	0.56
45:5:3870:C:C2	45:5:3886:G:N2	2.73	0.56
48:v:301:PHE:CD1	48:v:336:LEU:HD21	2.40	0.56
48:v:507:VAL:CG1	48:v:554:LEU:HD21	2.35	0.56
49:9:1081:PSU:H2'	49:9:1081:PSU:O4	2.04	0.56
49:9:1337:4AC:O2'	70:UU:68:THR:HG22	2.05	0.56
51:BB:71:LEU:HD11	51:BB:189:ILE:HG23	1.86	0.56
55:FF:29:GLN:O	55:FF:110:GLN:NE2	2.33	0.56
55:FF:39:ILE:CD1	55:FF:68:ILE:HD11	2.36	0.56
55:FF:86:LYS:O	55:FF:90:VAL:HG23	2.05	0.56
55:FF:99:ILE:HG23	75:ZZ:67:LEU:HD13	1.87	0.56
56:GG:50:VAL:HG12	56:GG:113:ILE:CD1	2.35	0.56
82:gg:124:SER:OG	82:gg:126:ASP:OD1	2.23	0.56
82:gg:234:ASP:OD1	82:gg:235:ILE:N	2.38	0.56
3:C:221:PHE:HB3	3:C:229:LEU:HD21	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:L:165:LYS:NZ	45:5:512:U:OP2	2.22	0.56
13:N:193:ARG:NE	45:5:27:C:OP1	2.38	0.56
14:O:16:LEU:HD23	14:O:83:THR:HG21	1.88	0.56
16:Q:47:VAL:O	16:Q:51:LEU:HD23	2.05	0.56
30:e:107:ASN:ND2	45:5:2303:C:OP1	2.36	0.56
45:5:2447:U:O2'	45:5:2744:A:N3	2.36	0.56
45:5:3920:PSU:HO2'	45:5:4543:G:HO2'	1.52	0.56
67:RR:18:GLU:OE2	67:RR:69:ILE:HD13	2.05	0.56
18:S:127:MET:HE1	19:T:154:ILE:O	2.05	0.56
45:5:2009:A:N7	48:v:753:GLU:HG2	2.21	0.56
45:5:2860:C:H42	45:5:3626:G:H5''	1.70	0.56
49:9:1123:C:OP1	51:BB:205:TYR:OH	2.22	0.56
49:9:1403:C:OP2	49:9:1405:A:N6	2.38	0.56
53:DD:25:LEU:CD1	53:DD:37:VAL:HG11	2.35	0.56
56:GG:31:ARG:O	56:GG:34:THR:OG1	2.22	0.56
59:JJ:32:ILE:HG21	80:ee:104:ARG:CG	2.35	0.56
60:KK:3:MET:HE1	60:KK:44:HIS:O	2.05	0.56
70:UU:21:ARG:HD2	70:UU:88:LEU:HD12	1.87	0.56
3:C:293:LEU:O	3:C:299:GLN:NE2	2.36	0.56
9:I:55:ASP:OD1	9:I:164:LYS:NZ	2.38	0.56
11:L:62:PRO:O	11:L:63:THR:OG1	2.12	0.56
14:O:23:VAL:HG13	14:O:33:VAL:HG11	1.87	0.56
65:PP:111:MET:CG	68:SS:117:ILE:HD11	2.35	0.56
3:C:307:LYS:NZ	45:5:2090:U:OP2	2.37	0.56
10:J:44:THR:HG23	10:J:46:GLN:H	1.70	0.56
26:a:26:ARG:NH1	45:5:1655:C:OP2	2.39	0.56
45:5:757:G:O2'	45:5:758:G:OP2	2.17	0.56
45:5:2363:A2M:N6	45:5:3859:G:O2'	2.38	0.56
48:v:110:ASP:HB3	48:v:553:HIS:HB2	1.87	0.56
49:9:615:C:O2	80:ee:84:LYS:NZ	2.37	0.56
57:HH:130:LEU:CD2	57:HH:139:ILE:HD11	2.36	0.56
74:YY:39:GLU:OE1	74:YY:39:GLU:N	2.39	0.56
78:cc:14:VAL:HA	78:cc:32:VAL:HG12	1.88	0.56
6:F:64:TYR:OH	45:5:726:G:O2'	2.13	0.56
9:I:152:LEU:HB3	9:I:165:ILE:HD12	1.87	0.56
42:r:35:ARG:NH1	45:5:2265:G:OP1	2.38	0.56
45:5:1920:C:H3'	45:5:1921:C:H5''	1.88	0.56
45:5:2740:U:HO2'	45:5:2742:G:N2	2.04	0.56
45:5:3661:G:N2	45:5:3682:A:OP2	2.38	0.56
49:9:804:U:O2'	72:WW:122:GLY:O	2.20	0.56
49:9:1661:A:OP2	79:dd:32:ARG:NH2	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1677:U:OP1	55:FF:148:ASN:ND2	2.39	0.56
52:CC:127:PHE:CD2	52:CC:141:VAL:HG12	2.40	0.56
59:JJ:140:GLN:O	59:JJ:142:VAL:HG13	2.06	0.56
62:MM:40:LYS:HZ3	81:ff:130:VAL:H	1.52	0.56
68:SS:19:ASN:OD1	68:SS:20:ILE:N	2.38	0.56
82:gg:89:LEU:O	82:gg:89:LEU:HD12	2.05	0.56
6:F:130:ASN:ND2	45:5:1727:U:OP1	2.38	0.56
13:N:192:TRP:CD1	13:N:196:ASN:ND2	2.74	0.56
21:V:74:LYS:NZ	45:5:3797:C:OP2	2.39	0.56
33:h:91:MET:HE2	33:h:94:ARG:HH12	1.71	0.56
45:5:2562:G:N1	45:5:2565:A:OP2	2.35	0.56
45:5:4478:G:N2	45:5:4608:G:O2'	2.39	0.56
48:v:300:VAL:HG22	48:v:315:LEU:HD21	1.87	0.56
49:9:29:G:H4'	73:XX:129:SER:HB2	1.88	0.56
49:9:1488:C:O2'	49:9:1490:G:O5'	2.24	0.56
76:aa:41:ILE:HG13	76:aa:41:ILE:O	2.06	0.56
76:aa:44:ILE:HD12	76:aa:65:PRO:HG2	1.88	0.56
15:P:107:LEU:HD23	15:P:112:LEU:HD21	1.88	0.56
17:R:62:ARG:NH1	45:5:4646:U:OP2	2.39	0.56
34:i:68:ARG:HE	45:5:3722:G:P	2.30	0.56
48:v:149:GLU:OE2	48:v:368:ARG:NE	2.38	0.56
49:9:1588:A:N3	49:9:1654:G:O2'	2.37	0.56
57:HH:27:LEU:HD11	57:HH:45:ILE:CD1	2.35	0.56
59:JJ:32:ILE:HG21	80:ee:104:ARG:HG2	1.87	0.56
3:C:228:THR:OG1	3:C:248:ARG:NH2	2.38	0.55
3:C:353:ARG:NH2	45:5:930:G:OP2	2.39	0.55
7:G:51:LEU:HD11	45:5:4086:G:C4	2.41	0.55
8:H:92:MET:CE	8:H:144:LEU:HD22	2.35	0.55
45:5:2616:C:C2	45:5:2722:G:N2	2.75	0.55
45:5:3786:U:O2'	45:5:3787:G:P	2.64	0.55
48:v:150:ARG:NH1	48:v:371:LEU:HD23	2.21	0.55
48:v:839:ARG:NH2	48:v:845:LYS:O	2.38	0.55
49:9:1368:U:O3'	67:RR:2:GLY:N	2.39	0.55
49:9:1402:A:N6	49:9:1441:U:O2'	2.39	0.55
78:cc:14:VAL:HG22	78:cc:32:VAL:HG12	1.87	0.55
1:A:210:PRO:O	1:A:221:LYS:NZ	2.30	0.55
35:j:12:ARG:NH1	45:5:2801:U:O2'	2.40	0.55
35:j:27:TYR:HA	35:j:34:CYS:HA	1.88	0.55
45:5:1942:A:N3	45:5:4432:C:O2'	2.25	0.55
47:8:85:U:O2'	47:8:87:G:OP1	2.22	0.55
49:9:1610:G:C6	49:9:1630:A:N1	2.74	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:144:ARG:NH1	31:f:110:ILE:O	2.39	0.55
28:c:56:ARG:NH1	45:5:2674:A:O4'	2.35	0.55
45:5:1455:G:O2'	45:5:1456:C:OP1	2.23	0.55
48:v:590:LEU:HD11	48:v:705:HIS:HB2	1.89	0.55
49:9:532:C:HO2'	49:9:533:A:P	2.29	0.55
49:9:1834:A:H2	49:9:1837:G:H22	1.51	0.55
4:D:95:TYR:N	46:7:47:G:OP1	2.38	0.55
29:d:32:ARG:NH2	45:5:4995:U:O3'	2.39	0.55
43:s:146:LYS:HB2	43:s:155:LEU:HD21	1.87	0.55
45:5:305:A:O2'	45:5:306:A:O4'	2.22	0.55
49:9:919:A:N1	49:9:1020:A:O2'	2.29	0.55
49:9:1220:A:N3	49:9:1677:U:O2'	2.34	0.55
53:DD:37:VAL:HG12	53:DD:50:ILE:HG12	1.89	0.55
56:GG:20:ASP:OD1	56:GG:22:ARG:NH1	2.40	0.55
61:LL:57:ASP:OD2	61:LL:60:CYS:N	2.40	0.55
62:MM:40:LYS:HZ1	81:ff:130:VAL:HG13	1.70	0.55
63:NN:4:MET:HE3	63:NN:5:HIS:CE1	2.41	0.55
70:UU:22:ILE:CD1	70:UU:114:VAL:HG12	2.36	0.55
78:cc:10:LYS:O	78:cc:11:LEU:HD22	2.07	0.55
2:B:95:THR:HG22	45:5:4910:A:H4'	1.89	0.55
14:O:62:MET:HE1	45:5:3869:OMC:CM2	2.36	0.55
16:Q:83:VAL:HG22	16:Q:123:PHE:CZ	2.41	0.55
26:a:59:ARG:NH2	40:o:36:GLN:OE1	2.39	0.55
45:5:2093:G:H4'	45:5:2094:C:H5'	1.88	0.55
45:5:2564:G:O2'	45:5:2565:A:O4'	2.20	0.55
49:9:1207:G:O2'	49:9:1208:A:OP1	2.25	0.55
49:9:1473:G:H2'	49:9:1475:G:N2	2.21	0.55
50:AA:145:ILE:HG13	50:AA:159:ILE:HD13	1.87	0.55
56:GG:118:GLU:N	56:GG:118:GLU:OE1	2.39	0.55
16:Q:104:ARG:NH1	45:5:1353:G:N7	2.54	0.55
27:b:61:ASN:ND2	45:5:1829:G:O4'	2.40	0.55
37:l:23:ILE:HG22	47:8:52:A:C2	2.42	0.55
45:5:485:C:O2'	45:5:486:C:P	2.64	0.55
45:5:1305:C:OP1	47:8:7:U:O2'	2.24	0.55
45:5:1978:C:HO2'	45:5:1979:A:P	2.29	0.55
45:5:3625:G:O2'	45:5:3626:G:P	2.65	0.55
48:v:755:VAL:HG13	48:v:804:THR:OG1	2.07	0.55
49:9:30:C:O2'	49:9:596:U:OP1	2.25	0.55
49:9:658:U:C4	73:XX:24:ASP:OD1	2.60	0.55
50:AA:140:VAL:O	50:AA:142:LEU:HD23	2.07	0.55
51:BB:153:THR:HG23	51:BB:154:SER:N	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:V:104:VAL:HB	21:V:112:MET:HE3	1.87	0.55
23:X:51:THR:N	45:5:2475:G:O6	2.33	0.55
23:X:106:LYS:N	45:5:2779:C:OP1	2.39	0.55
26:a:78:LEU:HD21	26:a:124:VAL:CG2	2.36	0.55
36:k:8:ILE:HD12	36:k:8:ILE:H	1.71	0.55
43:s:44:ARG:NH2	43:s:52:VAL:HG13	2.21	0.55
44:t:80:LEU:HD12	44:t:116:MET:HE2	1.88	0.55
45:5:209:U:HO2'	45:5:210:C:P	2.29	0.55
45:5:976:G:H21	45:5:976:G:P	2.30	0.55
45:5:1238:A:HO2'	45:5:1239:C:P	2.28	0.55
48:v:244:LEU:HD12	48:v:244:LEU:H	1.71	0.55
49:9:620:G:N2	49:9:647:U:OP1	2.40	0.55
49:9:921:G:OP2	77:bb:21:LYS:NZ	2.28	0.55
54:EE:184:THR:N	54:EE:224:ASN:O	2.36	0.55
56:GG:51:ARG:HH21	56:GG:112:VAL:HG21	1.71	0.55
61:LL:88:ILE:HD13	61:LL:128:VAL:HG11	1.89	0.55
64:OO:116:LEU:CD1	76:aa:53:ILE:HD11	2.36	0.55
69:TT:18:LEU:CD1	69:TT:131:LEU:HD23	2.37	0.55
72:WW:106:THR:HG22	72:WW:123:GLY:HA3	1.87	0.55
73:XX:68:LYS:O	73:XX:85:VAL:HG22	2.07	0.55
3:C:275:SER:N	45:5:1376:C:OP1	2.39	0.55
5:E:49:ASN:OD1	5:E:49:ASN:O	2.25	0.55
7:G:241:VAL:O	7:G:241:VAL:HG13	2.06	0.55
46:7:38:U:O2'	46:7:42:A:N6	2.39	0.55
48:v:509:VAL:HG12	48:v:572:LYS:HG2	1.87	0.55
49:9:594:A:C2'	80:ee:100:LYS:HZ2	2.20	0.55
49:9:955:A:N1	49:9:968:U:O2'	2.35	0.55
63:NN:37:ILE:HG12	63:NN:54:LEU:HD11	1.89	0.55
69:TT:6:VAL:HG11	69:TT:65:TYR:OH	2.07	0.55
1:A:137:ILE:HD11	1:A:149:LYS:HB2	1.89	0.55
2:B:160:ILE:HD12	2:B:194:LEU:HD21	1.87	0.55
2:B:248:LEU:N	45:5:2838:G:OP1	2.40	0.55
45:5:4344:U:H2'	45:5:4345:C:C6	2.41	0.55
47:8:36:G:N2	47:8:37:A:N1	2.55	0.55
48:v:36:THR:HG23	48:v:102:LEU:CD2	2.37	0.55
49:9:64:A:P	56:GG:136:LYS:HZ1	2.30	0.55
52:CC:210:PRO:HD3	52:CC:236:PHE:CE2	2.41	0.55
64:OO:82:ALA:HA	64:OO:124:MET:HE2	1.88	0.55
79:dd:31:ILE:O	79:dd:31:ILE:HG23	2.07	0.55
85:2:55:U:O2'	85:2:57:G:N7	2.29	0.55
7:G:157:ILE:HG12	7:G:170:LEU:HD23	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:S:94:TYR:OH	18:S:96:GLU:OE2	2.19	0.55
19:T:137:GLU:OE1	19:T:137:GLU:N	2.40	0.55
26:a:39:HIS:O	26:a:40:HIS:ND1	2.40	0.55
45:5:4932:U:O2'	45:5:4933:C:OP1	2.25	0.55
49:9:1566:G:O3'	49:9:1567:G:N2	2.36	0.55
53:DD:64:ARG:O	53:DD:68:GLU:HG3	2.07	0.55
66:QQ:96:TYR:HD1	66:QQ:100:VAL:CG1	2.18	0.55
77:bb:42:LYS:HD3	77:bb:57:VAL:HG22	1.88	0.55
49:9:309:G:O2'	49:9:310:C:O5'	2.24	0.54
49:9:1498:A:H2'	49:9:1499:U:O4'	2.06	0.54
49:9:1617:G:N1	49:9:1620:A:OP2	2.40	0.54
51:BB:229:MET:HE2	51:BB:229:MET:HA	1.89	0.54
58:II:72:CYS:SG	58:II:73:THR:N	2.80	0.54
63:NN:91:LEU:HD12	63:NN:125:LEU:HD12	1.88	0.54
30:e:31:ILE:HD11	45:5:2347:A:C5	2.42	0.54
44:t:32:ILE:HD13	44:t:39:PRO:HA	1.88	0.54
45:5:410:A:O2'	45:5:414:C:O2'	2.08	0.54
48:v:192:TYR:CE1	48:v:779:THR:HG23	2.43	0.54
49:9:1262:C:O2	79:dd:17:GLY:N	2.39	0.54
62:MM:95:ASP:OD2	62:MM:101:ARG:NE	2.40	0.54
75:ZZ:47:LEU:O	75:ZZ:79:ILE:HD12	2.07	0.54
1:A:199:VAL:HG21	45:5:1631:A:N7	2.23	0.54
8:H:12:ILE:CD1	8:H:18:ILE:HD12	2.38	0.54
12:M:29:ASP:OD1	12:M:30:VAL:N	2.35	0.54
41:p:52:VAL:O	41:p:52:VAL:HG13	2.07	0.54
44:t:135:THR:HA	45:5:2002:A:H61	1.72	0.54
45:5:1978:C:O2'	45:5:1979:A:P	2.65	0.54
45:5:4503:A:H2'	45:5:4504:C:C6	2.42	0.54
48:v:129:VAL:CG2	48:v:155:LEU:HD11	2.37	0.54
49:9:642:U:HO2'	49:9:643:A:C5'	2.17	0.54
49:9:1378:A:N6	50:AA:136:GLU:OE1	2.41	0.54
49:9:1388:A:H61	53:DD:161:GLY:HA3	1.71	0.54
49:9:1611:G:O2'	68:SS:87:GLN:O	2.24	0.54
72:WW:90:GLN:OE1	72:WW:102:ILE:HD12	2.07	0.54
85:2:58:A:O2'	85:2:59:A:OP2	2.26	0.54
7:G:176:LYS:HD2	34:i:43:MET:HE1	1.90	0.54
12:M:119:ARG:NH2	14:O:182:GLU:OE2	2.40	0.54
31:f:18:LEU:HD23	31:f:19:ARG:NH2	2.23	0.54
45:5:911:U:H2'	45:5:912:G:O4'	2.08	0.54
45:5:1523:A:N3	45:5:4389:C:O2'	2.33	0.54
45:5:4308:C:O2'	45:5:4338:G:H4'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:4398:C:H41	45:5:4446:U:H3	1.54	0.54
49:9:532:C:O2'	49:9:533:A:P	2.65	0.54
49:9:684:G:O2'	72:WW:6:VAL:HG21	2.08	0.54
49:9:851:C:O2'	49:9:852:G:N2	2.41	0.54
49:9:1031:A2M:HM'2	49:9:1032:C:O4'	2.07	0.54
49:9:1126:G:OP2	67:RR:129:LYS:NZ	2.36	0.54
61:LL:61:PRO:HB3	61:LL:68:ILE:HD11	1.88	0.54
1:A:5:ILE:HG22	1:A:208:GLU:O	2.07	0.54
1:A:182:ALA:HB2	45:5:3652:A:O2'	2.08	0.54
5:E:73:ARG:HH11	45:5:983:C:H41	1.54	0.54
10:J:110:GLN:OE1	10:J:110:GLN:N	2.39	0.54
14:O:108:ILE:HD13	14:O:117:ARG:HD3	1.90	0.54
45:5:269:G:H2'	45:5:270:U:C6	2.43	0.54
45:5:481(A):C:O2'	45:5:483:G:O4'	2.25	0.54
48:v:395:MET:HG3	48:v:486:THR:HG22	1.88	0.54
48:v:421:VAL:CG2	48:v:450:THR:HG21	2.37	0.54
49:9:441:C:OP2	58:II:2:GLY:N	2.41	0.54
54:EE:208:VAL:HB	54:EE:225:ILE:CD1	2.38	0.54
55:FF:120:GLY:O	55:FF:146:ARG:NE	2.39	0.54
58:II:174:CYS:HB2	58:II:190:LEU:HD21	1.90	0.54
63:NN:11:LEU:O	63:NN:11:LEU:HD23	2.07	0.54
77:bb:67:THR:HG22	77:bb:68:GLY:N	2.23	0.54
82:gg:107:ASP:OD1	82:gg:108:VAL:N	2.41	0.54
3:C:320:LYS:NZ	45:5:717:U:OP2	2.40	0.54
9:I:111:LEU:HD23	9:I:111:LEU:H	1.72	0.54
16:Q:114:LEU:CD2	16:Q:120:ILE:HD12	2.37	0.54
39:n:2:ARG:NE	49:9:1842:4AC:OP2	2.34	0.54
43:s:44:ARG:HH22	43:s:52:VAL:HG13	1.72	0.54
45:5:222:C:H2'	45:5:223:G:O4'	2.07	0.54
45:5:3734:PSU:H2'	45:5:3735:G:O4'	2.08	0.54
49:9:813:A:C8	49:9:814:5MU:H73	2.42	0.54
55:FF:100:ILE:CG2	55:FF:111:VAL:HG21	2.38	0.54
56:GG:74:ARG:NH2	56:GG:94:ARG:O	2.41	0.54
68:SS:67:VAL:O	68:SS:70:ILE:HG22	2.07	0.54
5:E:49:ASN:HB3	5:E:64:MET:SD	2.47	0.54
12:M:7:VAL:CG2	12:M:27:ILE:HD13	2.37	0.54
45:5:131:C:N4	45:5:132:G:O6	2.40	0.54
45:5:1387:A:N1	45:5:1396:G:O2'	2.40	0.54
45:5:1669:A:H4'	45:5:1685:G:N2	2.22	0.54
45:5:1736:A:N3	46:7:78:C:O2'	2.40	0.54
45:5:2614:C:O2'	45:5:2808:G:OP1	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1116:C:O2	49:9:1116:C:H2'	2.07	0.54
50:AA:42:LYS:HG3	50:AA:48:ILE:HD11	1.89	0.54
52:CC:165:VAL:HG11	52:CC:217:ALA:O	2.07	0.54
54:EE:16:LYS:O	54:EE:19:MET:N	2.40	0.54
72:WW:106:THR:OG1	72:WW:111:MET:SD	2.66	0.54
78:cc:20:ARG:HA	78:cc:28:THR:HA	1.90	0.54
19:T:126:VAL:HG12	19:T:127:GLN:N	2.23	0.54
30:e:84:GLU:O	30:e:87:VAL:HG22	2.07	0.54
35:j:16:HIS:NE2	45:5:1532:G:OP1	2.36	0.54
45:5:703:G:O3'	45:5:704:C:H4'	2.08	0.54
45:5:1978:C:C4	45:5:1979:A:C2	2.96	0.54
45:5:2771:G:H2'	45:5:2772:C:O4'	2.07	0.54
49:9:21:U:O2'	59:JJ:17:ARG:O	2.24	0.54
49:9:589:G:O6	49:9:591:U:O2'	2.20	0.54
49:9:1155:U:OP2	52:CC:194:ARG:NE	2.39	0.54
74:YY:45:ALA:HB1	74:YY:50:THR:O	2.07	0.54
2:B:29:VAL:HG13	2:B:348:ARG:HD3	1.89	0.54
6:F:152:LEU:CD2	6:F:212:LEU:HD21	2.37	0.54
7:G:60:TYR:OH	47:8:148:A:N3	2.31	0.54
11:L:81:LEU:HD11	11:L:98:VAL:HG22	1.90	0.54
15:P:95:LEU:HD21	15:P:114:ILE:HD11	1.90	0.54
26:a:93:ASN:OD1	26:a:94:LYS:N	2.40	0.54
41:p:4:ARG:NE	45:5:1554:A:OP2	2.40	0.54
45:5:1081:C:O2	45:5:1218:G:N2	2.41	0.54
45:5:1476:C:O2'	45:5:1477:C:OP1	2.24	0.54
45:5:2380:G:N2	45:5:2425:U:OP1	2.38	0.54
48:v:183:GLU:O	48:v:187:VAL:HG23	2.07	0.54
49:9:507:G:OP2	74:YY:104:ARG:NH2	2.41	0.54
8:H:105:ILE:CD1	8:H:112:VAL:HG12	2.38	0.54
10:J:141:ILE:HD11	10:J:151:ILE:HD13	1.90	0.54
26:a:116:LYS:HE2	45:5:1420:A:N7	2.23	0.54
28:c:61:GLU:OE1	28:c:71:VAL:HG11	2.08	0.54
32:g:15:THR:HG22	32:g:16:ALA:N	2.23	0.54
45:5:2049:G:O2'	45:5:3884:U:O2'	2.08	0.54
48:v:362:VAL:HG13	48:v:363:THR:H	1.72	0.54
49:9:61:A:HO2'	49:9:315:C:HO2'	1.53	0.54
49:9:874:G:HO2'	49:9:875:A:P	2.25	0.54
49:9:1013:U:OP1	49:9:1129:G:O2'	2.24	0.54
49:9:1230:C:OP1	68:SS:130:ARG:NH1	2.41	0.54
54:EE:136:ILE:O	54:EE:138:HIS:ND1	2.40	0.54
57:HH:17:ASP:OD1	57:HH:18:GLU:N	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:302:ASN:OD1	2:B:368:ILE:HB	2.07	0.53
3:C:22:VAL:HG12	3:C:258:ARG:NH2	2.23	0.53
3:C:94:ASN:OD1	3:C:95:MET:N	2.41	0.53
5:E:115:MET:HE1	45:5:2261:G:C5'	2.38	0.53
6:F:193:ILE:HD11	6:F:207:LEU:HD12	1.91	0.53
7:G:187:LYS:HZ3	7:G:198:THR:HB	1.74	0.53
16:Q:13:VAL:O	16:Q:13:VAL:HG12	2.08	0.53
19:T:116:LYS:O	19:T:120:LYS:HG2	2.08	0.53
31:f:54:LYS:O	31:f:66:LYS:NZ	2.40	0.53
46:7:111:C:H2'	46:7:112:U:O4'	2.08	0.53
48:v:27:HIS:HB2	48:v:139:THR:HG23	1.88	0.53
49:9:219:U:O4'	58:II:184:ARG:NH2	2.41	0.53
49:9:1010:G:OP1	63:NN:94:LYS:NZ	2.32	0.53
49:9:1518:C:OP1	49:9:1519:U:H2'	2.08	0.53
55:FF:29:GLN:N	55:FF:110:GLN:OE1	2.39	0.53
62:MM:94:ILE:HG22	62:MM:95:ASP:N	2.23	0.53
67:RR:105:MET:O	67:RR:109:LEU:HD13	2.09	0.53
72:WW:3:ARG:CD	72:WW:6:VAL:HG22	2.37	0.53
11:L:175:ASN:O	11:L:177:LYS:HD3	2.08	0.53
13:N:138:PHE:CD2	45:5:18:C:H4'	2.43	0.53
14:O:16:LEU:CD2	14:O:83:THR:HG21	2.38	0.53
31:f:58:VAL:O	45:5:4944:C:N4	2.41	0.53
45:5:1599:G:H21	45:5:1601:A:C4'	2.20	0.53
45:5:1753:G:H2'	45:5:1754:U:C2	2.43	0.53
45:5:4633:G:N2	45:5:4664:A:OP2	2.35	0.53
45:5:5007:A:N7	45:5:5042:A:O2'	2.33	0.53
48:v:267:ASP:HA	48:v:285:LEU:HD11	1.90	0.53
49:9:301:A:N3	58:II:73:THR:HG21	2.23	0.53
49:9:611:G:H2'	49:9:612:PSU:H6	1.73	0.53
49:9:913:A:C5	57:HH:120:ARG:NH1	2.77	0.53
50:AA:154:LEU:HD22	50:AA:157:VAL:HG11	1.90	0.53
3:C:119:GLN:NE2	45:5:1350:C:O2	2.40	0.53
4:D:75:VAL:HG21	4:D:113:PHE:HZ	1.73	0.53
16:Q:70:MET:HE1	16:Q:137:VAL:CB	2.38	0.53
34:i:37:THR:OG1	34:i:41:ARG:NH2	2.41	0.53
45:5:1617:G:H1'	45:5:2513:A:N6	2.23	0.53
45:5:3867:A2M:HM'3	45:5:3880:G:N2	2.24	0.53
45:5:4944:C:OP1	45:5:4944:C:H4'	2.09	0.53
45:5:4967:A:H2'	45:5:4968:A:H8	1.74	0.53
48:v:156:MET:HE2	48:v:156:MET:HA	1.91	0.53
49:9:27:A2M:O2'	49:9:483:C:O2'	2.27	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1148:A:OP1	76:aa:6:ARG:NH2	2.41	0.53
61:LL:35:ARG:NH1	61:LL:55:TYR:O	2.41	0.53
74:YY:51:THR:HG23	74:YY:52:PRO:HD2	1.90	0.53
4:D:115:MET:HE1	45:5:1819:G:H1'	1.91	0.53
8:H:23:ARG:HA	8:H:45:LEU:HD12	1.89	0.53
12:M:77:TRP:NE1	12:M:83:ASN:OD1	2.35	0.53
32:g:2:VAL:N	45:5:2395:A:N1	2.56	0.53
45:5:2380:G:N1	45:5:2425:U:OP1	2.41	0.53
45:5:4760:G:H2'	45:5:4761:G:O4'	2.09	0.53
48:v:475:VAL:O	48:v:475:VAL:HG12	2.08	0.53
49:9:163:U:OP1	56:GG:85:ARG:N	2.32	0.53
49:9:1205:C:O2'	49:9:1834:A:N6	2.42	0.53
59:JJ:79:ARG:HA	59:JJ:82:VAL:HG22	1.90	0.53
66:QQ:102:GLU:HA	66:QQ:105:LYS:HB3	1.90	0.53
2:B:14:LEU:HD21	2:B:265:SER:HB3	1.91	0.53
15:P:80:GLN:CD	45:5:3892:U:HO2'	2.16	0.53
45:5:212:A:N6	45:5:213:G:O6	2.41	0.53
45:5:2528:G:H4'	45:5:2783:A:H4'	1.89	0.53
46:7:11:A:N1	46:7:66:G:O2'	2.39	0.53
49:9:1512:C:O2'	79:dd:7:TYR:O	2.18	0.53
49:9:1741:U:H2'	49:9:1742:C:O4'	2.08	0.53
59:JJ:29:LEU:HD23	59:JJ:29:LEU:O	2.08	0.53
64:OO:35:ALA:O	64:OO:109:GLY:N	2.37	0.53
68:SS:65:GLU:HA	68:SS:68:ILE:HG12	1.90	0.53
77:bb:45:THR:O	77:bb:45:THR:HG23	2.08	0.53
2:B:139:ASP:OD1	2:B:142:GLY:N	2.33	0.53
10:J:101:ASP:OD1	10:J:102:THR:HG23	2.08	0.53
24:Y:45:ARG:NH2	45:5:238:C:OP2	2.41	0.53
40:o:18:HIS:N	45:5:4318:C:O2'	2.41	0.53
45:5:1893:C:H1'	45:5:1937:C:O2	2.09	0.53
49:9:383:G:O2'	61:LL:133:PRO:O	2.27	0.53
49:9:932:G:O2'	49:9:934:G:OP2	2.14	0.53
68:SS:15:VAL:HG22	68:SS:20:ILE:HD12	1.91	0.53
68:SS:137:LYS:O	68:SS:141:ARG:NH2	2.41	0.53
5:E:182:LEU:HD12	5:E:186:ARG:HA	1.91	0.53
13:N:73:ARG:HB2	13:N:92:LEU:HD12	1.89	0.53
45:5:267:G:O2'	45:5:268:G:OP1	2.21	0.53
45:5:2859:G:H22	45:5:3836:A:H2	1.55	0.53
48:v:756:VAL:HA	48:v:759:ILE:HG12	1.90	0.53
53:DD:72:VAL:HG11	60:KK:70:TYR:CE1	2.43	0.53
59:JJ:120:ALA:HB2	59:JJ:129:LEU:HD21	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:aa:19:GLN:OE1	76:aa:19:GLN:N	2.41	0.53
6:F:72:ARG:HE	45:5:728:U:P	2.32	0.53
26:a:78:LEU:HD21	26:a:124:VAL:HG22	1.90	0.53
31:f:21:GLN:NE2	45:5:1309:C:O2'	2.38	0.53
33:h:10:ARG:NH1	33:h:60:VAL:HG22	2.24	0.53
33:h:10:ARG:HH11	33:h:60:VAL:HG22	1.74	0.53
43:s:6:ARG:HA	43:s:6:ARG:HE	1.74	0.53
66:QQ:146:ARG:NH1	83:3:35:U:OP2	2.40	0.53
70:UU:20:ILE:HG23	70:UU:91:LEU:HB2	1.91	0.53
73:XX:110:HIS:ND1	73:XX:111:ALA:O	2.39	0.53
78:cc:10:LYS:C	78:cc:11:LEU:HD22	2.33	0.53
3:C:204:ARG:NH2	45:5:2298:U:OP1	2.42	0.53
5:E:246:THR:HG22	5:E:248:GLN:H	1.74	0.53
12:M:34:ASN:ND2	45:5:1925:G:OP1	2.37	0.53
17:R:70:ARG:HD3	17:R:76:MET:HE2	1.90	0.53
18:S:9:GLU:OE2	18:S:31:ARG:NE	2.39	0.53
22:W:13:ILE:HD11	22:W:32:LEU:N	2.23	0.53
29:d:29:ILE:O	29:d:33:ILE:HG12	2.09	0.53
43:s:95:LEU:HD11	43:s:194:ASP:OD1	2.08	0.53
45:5:1895:G:O2'	45:5:1907:A:N3	2.27	0.53
49:9:436:G:O6	49:9:458:A:N6	2.41	0.53
49:9:1304:U:OP1	81:ff:93:HIS:N	2.42	0.53
49:9:1830:UR3:H6	49:9:1831:A:H62	1.74	0.53
50:AA:60:LEU:HD21	71:VV:69:ILE:HG22	1.91	0.53
51:BB:194:GLY:HA2	51:BB:197:ILE:HG22	1.90	0.53
52:CC:209:VAL:HG21	52:CC:233:LEU:CD1	2.39	0.53
60:KK:24:LYS:O	60:KK:42:ASN:ND2	2.40	0.53
66:QQ:12:VAL:HG21	66:QQ:91:ALA:N	2.24	0.53
75:ZZ:79:ILE:CD1	75:ZZ:83:LEU:HD23	2.39	0.53
3:C:143:ARG:NH1	45:5:2300:A:N7	2.56	0.53
9:I:59:GLN:OE1	9:I:126:VAL:HG21	2.09	0.53
17:R:6:LEU:HD22	45:5:2412:A:H5''	1.91	0.53
18:S:102:THR:HG23	18:S:129:VAL:HG11	1.91	0.53
31:f:12:ALA:CB	31:f:83:MET:HE1	2.39	0.53
43:s:30:VAL:HG12	43:s:189:ILE:CG1	2.39	0.53
45:5:1637:A:OP1	45:5:1640:C:N4	2.37	0.53
45:5:4932:U:HO2'	45:5:4933:C:P	2.32	0.53
48:v:225:LEU:CD1	48:v:260:LEU:HD22	2.39	0.53
52:CC:106:VAL:HG13	52:CC:106:VAL:O	2.08	0.53
53:DD:105:LEU:HD23	53:DD:184:ILE:CG2	2.38	0.53
82:gg:32:LEU:HD21	82:gg:71:ILE:HG23	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:136:GLU:OE2	6:F:225:HIS:NE2	2.41	0.52
13:N:172:ARG:NH2	45:5:61:A:O2'	2.40	0.52
18:S:160:ARG:NH2	45:5:1922:G:OP1	2.39	0.52
20:U:72:VAL:HG11	20:U:78:PHE:CE2	2.44	0.52
26:a:77:LYS:HE2	45:5:1502:G:H1	1.74	0.52
36:k:9:LYS:O	36:k:13:LEU:HD13	2.09	0.52
45:5:44:A:O2'	45:5:94:A:N1	2.37	0.52
45:5:180:C:H2'	45:5:181:C:C1'	2.39	0.52
45:5:2365:OMC:HM21	45:5:2828:U:C2	2.44	0.52
45:5:4208:U:OP1	45:5:4334:U:O2'	2.25	0.52
49:9:350:C:O2'	49:9:383:G:N1	2.27	0.52
50:AA:2:SER:N	71:VV:78:ILE:O	2.43	0.52
55:FF:103:LEU:HD11	75:ZZ:67:LEU:HB2	1.90	0.52
64:OO:96:LYS:HB3	64:OO:132:VAL:HG22	1.91	0.52
66:QQ:70:VAL:HG11	66:QQ:84:ILE:HG23	1.91	0.52
68:SS:11:HIS:O	68:SS:22:GLY:N	2.42	0.52
14:O:49:ARG:NH1	45:5:1932:A:OP2	2.42	0.52
27:b:47:LYS:HA	27:b:50:ASN:ND2	2.24	0.52
30:e:32:LYS:C	30:e:34:ASN:H	2.17	0.52
44:t:58:ILE:HG22	44:t:59:THR:N	2.24	0.52
45:5:707:C:O2'	45:5:4943:A:N1	2.39	0.52
45:5:1316:OMG:HM22	45:5:1658:G:OP1	2.09	0.52
45:5:4413:C:O4'	45:5:4413:C:O2	2.24	0.52
48:v:12:ILE:HD13	48:v:78:PHE:CZ	2.44	0.52
49:9:1700:C:C2	49:9:1834:A:N6	2.77	0.52
57:HH:117:PRO:HG2	57:HH:120:ARG:HG2	1.91	0.52
70:UU:24:LEU:CD2	70:UU:112:VAL:HG12	2.39	0.52
15:P:127:ARG:NH1	45:5:2422:OMC:OP1	2.42	0.52
31:f:13:GLY:O	31:f:27:LEU:N	2.41	0.52
44:t:123:ARG:O	44:t:128:THR:OG1	2.26	0.52
45:5:418:A:C2	47:8:17:A:H1'	2.45	0.52
49:9:126:G:OP1	56:GG:198:ARG:NE	2.41	0.52
49:9:300:U:O4	49:9:301:A:N6	2.42	0.52
49:9:920:A:O2'	49:9:922:A:O5'	2.28	0.52
49:9:990:A:OP1	51:BB:116:LYS:NZ	2.40	0.52
50:AA:30:LEU:HD21	50:AA:35:GLU:HG2	1.91	0.52
55:FF:71:ARG:NH2	55:FF:148:ASN:OD1	2.43	0.52
62:MM:89:VAL:HG23	62:MM:91:LEU:HG	1.90	0.52
68:SS:46:ARG:NH1	69:TT:50:GLU:OE1	2.43	0.52
2:B:45:ALA:HB3	2:B:183:ILE:HG23	1.89	0.52
12:M:11:ARG:HA	12:M:61:ILE:HD13	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:T:66:ASN:O	19:T:73:GLY:N	2.40	0.52
38:m:88:LYS:HD3	38:m:89:TYR:CE2	2.45	0.52
45:5:914:U:O2	45:5:915:A:N6	2.42	0.52
45:5:1743:A:N1	45:5:1789:C:O2'	2.32	0.52
45:5:2008:U:H2'	45:5:2009:A:H3'	1.91	0.52
45:5:3619:G:H22	45:5:3624:A:H1'	1.74	0.52
48:v:23:SER:HB3	48:v:122:THR:HG21	1.90	0.52
49:9:333:G:O5'	56:GG:190:ARG:NH1	2.42	0.52
49:9:373:G:OP1	61:LL:135:SER:OG	2.26	0.52
49:9:1407:U:H4'	66:QQ:71:ARG:NH2	2.24	0.52
49:9:1597:C:P	68:SS:25:LYS:HZ1	2.31	0.52
52:CC:65:LYS:CG	52:CC:273:LEU:HD13	2.39	0.52
60:KK:27:VAL:HG12	60:KK:46:MET:CE	2.39	0.52
66:QQ:47:LEU:HD12	66:QQ:81:ILE:CD1	2.39	0.52
68:SS:55:ARG:NH2	75:ZZ:82:SER:OG	2.42	0.52
78:cc:46:VAL:HG13	78:cc:46:VAL:O	2.09	0.52
8:H:18:ILE:HD11	8:H:81:ILE:HD11	1.92	0.52
18:S:116:ARG:NH1	45:5:1950:U:O2'	2.42	0.52
29:d:41:ARG:NH1	45:5:4636:U:OP1	2.41	0.52
29:d:50:ARG:NH2	45:5:2373:C:OP1	2.43	0.52
32:g:98:GLU:OE2	45:5:4122:G:N2	2.39	0.52
42:r:37:SER:OG	45:5:2266:C:O3'	2.27	0.52
45:5:99:A:H2'	45:5:100:C:O2	2.10	0.52
45:5:158:A:N1	45:5:276:C:O2'	2.41	0.52
47:8:113:C:H2'	47:8:114:G:O4'	2.09	0.52
49:9:1012:A:H2'	49:9:1013:U:O4'	2.08	0.52
50:AA:183:LEU:CB	50:AA:189:ILE:HD12	2.39	0.52
66:QQ:28:GLY:O	66:QQ:66:VAL:N	2.43	0.52
73:XX:105:PHE:HD2	73:XX:112:VAL:HG21	1.74	0.52
9:I:33:ILE:HG22	9:I:36:LEU:HD11	1.91	0.52
35:j:56:ARG:NE	45:5:375:G:O6	2.40	0.52
45:5:1328:G:O2'	45:5:2349:A:OP1	2.26	0.52
45:5:1762:C:N3	45:5:1763:C:N4	2.58	0.52
45:5:3620:G:OP1	45:5:3622:C:N4	2.43	0.52
45:5:3878:C:N4	45:5:4518:A:O4'	2.42	0.52
45:5:3901:A:H61	45:5:4446:U:H4'	1.74	0.52
45:5:4727:A:H2'	45:5:4728:U:O4'	2.09	0.52
48:v:362:VAL:HG13	48:v:363:THR:N	2.24	0.52
48:v:580:ARG:O	48:v:740:LEU:HD12	2.09	0.52
48:v:595:SER:OG	48:v:596:PRO:HD2	2.10	0.52
49:9:5:U:O2'	49:9:602:G:H4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:110:U:O2'	49:9:111:A:P	2.68	0.52
49:9:902:G:H2'	49:9:903:A:C8	2.45	0.52
49:9:1155:U:OP2	52:CC:194:ARG:NH2	2.43	0.52
50:AA:74:VAL:HG13	50:AA:74:VAL:O	2.10	0.52
57:HH:121:THR:HG23	57:HH:124:ALA:H	1.74	0.52
61:LL:104:LYS:O	73:XX:11:ARG:NH2	2.43	0.52
72:WW:104:LEU:CD1	72:WW:106:THR:HG23	2.40	0.52
82:gg:15:ASN:OD1	82:gg:16:GLY:N	2.42	0.52
2:B:343:ARG:NH2	45:5:4977:A:OP1	2.43	0.52
4:D:280:VAL:HG21	46:7:63:C:C1'	2.38	0.52
7:G:73:ARG:NE	45:5:4076:G:OP1	2.43	0.52
20:U:113:ARG:NH1	45:5:2702:C:O3'	2.42	0.52
23:X:51:THR:O	45:5:2475:G:N1	2.41	0.52
30:e:101:HIS:ND1	45:5:2325:C:OP1	2.40	0.52
31:f:41:PHE:O	31:f:109:ARG:NH2	2.42	0.52
45:5:4948:C:H3'	45:5:4949:G:H5''	1.91	0.52
48:v:150:ARG:HG3	48:v:200:MET:HE2	1.90	0.52
49:9:146:G:HO2'	49:9:147:A:C5'	2.18	0.52
49:9:929:G:H2'	49:9:930:C:O4'	2.09	0.52
55:FF:112:LEU:HD12	55:FF:177:LEU:HD13	1.92	0.52
63:NN:98:VAL:O	63:NN:102:LEU:HD23	2.09	0.52
71:VV:20:SER:HB3	71:VV:59:ILE:HD11	1.91	0.52
2:B:344:VAL:O	2:B:344:VAL:HG13	2.08	0.52
3:C:291:ARG:NH2	45:5:666:G:N3	2.50	0.52
10:J:43:LEU:HD11	10:J:115:LEU:HD13	1.92	0.52
26:a:75:LEU:HD12	26:a:117:LEU:HD12	1.90	0.52
30:e:34:ASN:OD1	45:5:2322:G:OP2	2.28	0.52
45:5:67:C:N4	45:5:325:U:O2'	2.40	0.52
45:5:1477:C:HO2'	45:5:1478:C:P	2.32	0.52
45:5:5015:G:H2'	45:5:5016:A:C2	2.45	0.52
47:8:81:C:H3'	47:8:82:A:H4'	1.90	0.52
48:v:122:THR:O	48:v:368:ARG:NE	2.43	0.52
49:9:1394:G:O2'	49:9:1395:C:P	2.68	0.52
53:DD:208:VAL:CG1	67:RR:41:ILE:HD13	2.39	0.52
78:cc:21:THR:HG22	78:cc:22:GLY:N	2.21	0.52
82:gg:14:HIS:ND1	82:gg:41:ILE:HD13	2.24	0.52
10:J:24:ILE:HD12	10:J:40:LEU:HD12	1.92	0.52
36:k:8:ILE:O	36:k:12:LEU:HD23	2.10	0.52
36:k:40:ARG:N	45:5:2773:G:OP1	2.42	0.52
45:5:55:G:H2'	45:5:56:A:O4'	2.10	0.52
45:5:90:G:OP2	45:5:92:C:N4	2.41	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:275:C:HO2'	45:5:276:C:P	2.31	0.52
45:5:1956:A:O2'	45:5:1957:U:P	2.67	0.52
45:5:2350:U:O4'	45:5:4448:G:N2	2.42	0.52
45:5:2849:A:H4'	45:5:2850:A:O5'	2.09	0.52
48:v:558:LEU:HD13	48:v:572:LYS:NZ	2.25	0.52
50:AA:49:ILE:HG21	50:AA:162:PRO:O	2.10	0.52
51:BB:121:ILE:HG12	51:BB:161:VAL:HG13	1.91	0.52
64:OO:92:ALA:O	64:OO:93:LEU:HD12	2.10	0.52
67:RR:41:ILE:HG21	67:RR:47:ARG:N	2.25	0.52
78:cc:28:THR:HG23	78:cc:30:VAL:CG1	2.39	0.52
2:B:158:GLN:HA	2:B:190:VAL:HG21	1.92	0.52
3:C:275:SER:OG	45:5:1376:C:OP1	2.21	0.52
7:G:114:LEU:HD23	7:G:114:LEU:O	2.10	0.52
7:G:137:ARG:HG3	7:G:146:LEU:HD11	1.92	0.52
26:a:137:ILE:O	26:a:140:VAL:HG22	2.09	0.52
35:j:15:THR:OG1	45:5:1534:A2M:H8	2.10	0.52
41:p:58:GLY:O	45:5:2652:G:N1	2.43	0.52
45:5:56:A:O2'	45:5:57:G:H5'	2.10	0.52
45:5:420:A:O2'	45:5:1331:C:O2'	2.27	0.52
45:5:3770:U:H2'	45:5:3771:C:C6	2.45	0.52
49:9:1093:A:H2'	49:9:1094:C:C6	2.45	0.52
49:9:1110:G:H4'	67:RR:124:VAL:HG11	1.91	0.52
49:9:1623:A:H62	68:SS:132:ARG:HE	1.57	0.52
53:DD:48:ILE:CG2	53:DD:86:LEU:HD13	2.40	0.52
54:EE:123:LEU:HD13	54:EE:236:ILE:CG2	2.40	0.52
55:FF:39:ILE:HG23	55:FF:68:ILE:CD1	2.40	0.52
58:II:48:VAL:HG11	58:II:54:LYS:HG3	1.92	0.52
69:TT:110:LEU:O	69:TT:112:MET:N	2.39	0.52
3:C:8:ILE:HD11	3:C:24:LEU:HD13	1.92	0.51
29:d:68:LEU:HD23	29:d:68:LEU:C	2.35	0.51
45:5:746:A:O2'	45:5:747:A:OP2	2.20	0.51
45:5:3909:C:O2	45:5:4396:A:N1	2.43	0.51
48:v:592:LEU:HD13	48:v:603:TYR:HE2	1.76	0.51
49:9:874:G:O2'	49:9:875:A:P	2.67	0.51
49:9:1230:C:OP1	68:SS:130:ARG:NH2	2.43	0.51
54:EE:11:ARG:NE	54:EE:20:LEU:HD13	2.24	0.51
57:HH:53:VAL:HG12	57:HH:54:GLY:H	1.75	0.51
67:RR:20:TYR:O	67:RR:24:LEU:HD23	2.11	0.51
67:RR:24:LEU:CB	67:RR:58:MET:HE3	2.39	0.51
67:RR:41:ILE:HG21	67:RR:47:ARG:CA	2.40	0.51
70:UU:63:ILE:HG22	70:UU:65:THR:HG23	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:YY:54:VAL:O	74:YY:54:VAL:HG22	2.10	0.51
82:gg:14:HIS:CE1	82:gg:41:ILE:HD13	2.46	0.51
82:gg:174:VAL:HG22	82:gg:195:LEU:HD13	1.93	0.51
83:3:34:U:O2'	83:3:35:U:P	2.69	0.51
9:I:150:GLU:OE2	9:I:153:ARG:NH2	2.43	0.51
21:V:87:SER:HA	21:V:97:TYR:HB3	1.92	0.51
31:f:106:TYR:HB2	31:f:107:PRO:HD3	1.92	0.51
45:5:2089:G:H1'	45:5:2090:U:OP2	2.09	0.51
49:9:537:C:H42	49:9:547:G:H22	1.57	0.51
50:AA:118:GLU:HG3	52:CC:65:LYS:HB2	1.92	0.51
57:HH:69:LEU:HD22	57:HH:96:ALA:HB2	1.91	0.51
68:SS:26:ILE:HD11	68:SS:55:ARG:O	2.10	0.51
83:3:44:G:H2'	83:3:45:G:O4'	2.10	0.51
4:D:73:MET:HE1	46:7:113:G:O2'	2.09	0.51
10:J:104:ASN:OD1	10:J:133:VAL:HG13	2.11	0.51
18:S:71:SER:O	18:S:76:LYS:NZ	2.42	0.51
19:T:47:THR:O	45:5:4282:A:N6	2.43	0.51
21:V:21:PRO:HG3	45:5:2846:G:H21	1.73	0.51
45:5:717:U:H2'	45:5:718:C:C6	2.46	0.51
45:5:1739:G:H2'	45:5:1740:C:C6	2.46	0.51
45:5:2042:A:O4'	45:5:4462:C:O2'	2.28	0.51
48:v:546:ILE:O	48:v:546:ILE:HG22	2.09	0.51
49:9:932:G:C2'	49:9:934:G:OP2	2.58	0.51
50:AA:78:SER:O	50:AA:101:GLY:N	2.43	0.51
55:FF:87:LEU:HD11	66:QQ:78:VAL:CG2	2.41	0.51
64:OO:97:LEU:CD1	64:OO:112:ALA:HB1	2.39	0.51
65:PP:85:ILE:HG23	65:PP:85:ILE:O	2.10	0.51
67:RR:126:MET:HE2	67:RR:126:MET:HA	1.93	0.51
71:VV:67:ASP:HA	71:VV:70:LEU:CD2	2.40	0.51
3:C:95:MET:SD	45:5:2351:OMC:HM23	2.50	0.51
3:C:169:LEU:C	3:C:169:LEU:HD23	2.34	0.51
10:J:155:HIS:HB2	46:7:55:A:H4'	1.93	0.51
11:L:169:ILE:H	11:L:169:ILE:HD12	1.76	0.51
29:d:64:ILE:O	45:5:2373:C:O2'	2.26	0.51
45:5:922(B):C:C2'	45:5:923:C:OP1	2.59	0.51
47:8:108:A:C2	47:8:112:G:C5	2.99	0.51
48:v:398:ILE:O	48:v:398:ILE:HG13	2.10	0.51
48:v:429:ILE:HG21	48:v:478:PHE:HE2	1.76	0.51
49:9:1306:U:HO2'	49:9:1307:U:P	2.33	0.51
50:AA:55:TRP:CE2	50:AA:59:LEU:HD21	2.45	0.51
55:FF:102:LEU:HD13	75:ZZ:110:THR:HG22	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:PP:57:LEU:HD21	65:PP:83:MET:HE2	1.91	0.51
66:QQ:53:GLU:HG2	66:QQ:54:PRO:HD3	1.91	0.51
72:WW:53:ILE:CD1	72:WW:62:VAL:HG23	2.41	0.51
82:gg:304:ASP:O	82:gg:305:ASN:OD1	2.28	0.51
83:3:6:G:H22	83:3:67:U:H3	1.59	0.51
3:C:13:GLU:OE2	3:C:157:LYS:HB2	2.10	0.51
4:D:23:ARG:NH2	45:5:4280:A:OP2	2.43	0.51
45:5:966:A:H1'	45:5:968:C:N4	2.26	0.51
45:5:1963:C:C2	45:5:1964:A:C8	2.98	0.51
45:5:4947:U:O2'	45:5:4948:C:P	2.67	0.51
45:5:5046:U:H2'	45:5:5050:C:N4	2.25	0.51
49:9:55:U:O2	49:9:55:U:O2'	2.27	0.51
54:EE:156:VAL:O	54:EE:156:VAL:HG12	2.10	0.51
56:GG:26:THR:HG21	56:GG:40:ALA:HB3	1.92	0.51
60:KK:61:GLN:OE1	60:KK:61:GLN:HA	2.11	0.51
64:OO:120:ALA:HB2	64:OO:126:ILE:HD11	1.93	0.51
65:PP:70:MET:HG3	65:PP:71:GLU:OE1	2.11	0.51
2:B:56:ILE:HD12	2:B:365:LEU:HD22	1.92	0.51
3:C:340:ILE:CG2	5:E:52:LEU:HD11	2.40	0.51
13:N:81:TYR:OH	45:5:1625:OMG:H3'	2.10	0.51
25:Z:83:THR:HG22	25:Z:85:TYR:H	1.76	0.51
45:5:2738:C:O2	45:5:2740:U:O2'	2.27	0.51
45:5:3626:G:C6	45:5:3836:A:C2	2.99	0.51
45:5:3655:C:O2'	45:5:3747:A:N1	2.37	0.51
49:9:165:G:H2'	49:9:166:A2M:H8	1.92	0.51
49:9:189:U:C2	49:9:211:G:N1	2.78	0.51
49:9:753:C:O2'	49:9:754:G:O5'	2.26	0.51
49:9:1589:A:N6	49:9:1672:U:O2'	2.29	0.51
54:EE:247:THR:HG22	54:EE:250:GLU:CD	2.35	0.51
73:XX:68:LYS:HG3	73:XX:91:LEU:HD22	1.92	0.51
73:XX:70:VAL:HG23	73:XX:72:VAL:HG23	1.91	0.51
74:YY:88:LYS:HD2	74:YY:91:LEU:HD12	1.92	0.51
2:B:251:VAL:HG21	2:B:267:ALA:HB3	1.93	0.51
3:C:291:ARG:NH2	45:5:666:G:H1'	2.25	0.51
3:C:313:VAL:HG13	3:C:313:VAL:O	2.09	0.51
4:D:39:GLN:NE2	4:D:46:THR:OG1	2.43	0.51
5:E:104:ASN:OD1	5:E:108:ARG:NH2	2.41	0.51
9:I:11:TYR:O	9:I:59:GLN:NE2	2.44	0.51
21:V:126:ALA:HB2	21:V:139:ILE:HD12	1.93	0.51
30:e:44:ARG:NE	30:e:52:GLN:OE1	2.44	0.51
45:5:434:A:H2'	45:5:435:A:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2004:U:H1'	45:5:2016:C:H1'	1.93	0.51
45:5:4468:U:O2	45:5:4708:A:C8	2.64	0.51
45:5:4711:C:H2'	45:5:4712:C:O4'	2.11	0.51
48:v:602:LEU:CD2	48:v:604:MET:HE2	2.41	0.51
48:v:641:TRP:CZ3	48:v:701:ARG:CZ	2.93	0.51
48:v:779:THR:HG22	48:v:781:MET:H	1.76	0.51
49:9:27:A2M:HM'3	73:XX:46:HIS:CD2	2.46	0.51
49:9:395:G:N2	58:II:14:THR:O	2.30	0.51
49:9:1046:U:H1'	64:OO:140:THR:HG22	1.92	0.51
49:9:1095:U:C2	49:9:1151:G:N2	2.79	0.51
54:EE:57:THR:O	54:EE:61:VAL:HG12	2.10	0.51
58:II:60:LEU:HD23	58:II:185:ALA:HB2	1.93	0.51
58:II:133:GLU:O	58:II:136:ILE:HG22	2.11	0.51
65:PP:107:ILE:HA	65:PP:111:MET:SD	2.51	0.51
69:TT:64:LEU:HD13	69:TT:113:VAL:HG11	1.92	0.51
76:aa:63:VAL:HG13	76:aa:63:VAL:O	2.10	0.51
78:cc:49:PRO:O	78:cc:51:ARG:NH1	2.44	0.51
1:A:227:ARG:NH2	45:5:3659:G:O2'	2.35	0.51
3:C:322:LEU:HD21	5:E:56:ILE:CD1	2.41	0.51
8:H:92:MET:HG2	8:H:181:VAL:HG22	1.92	0.51
9:I:189:ARG:O	9:I:190:LEU:HD12	2.10	0.51
15:P:25:HIS:NE2	45:5:3859:G:N7	2.59	0.51
23:X:81:LEU:HD12	23:X:97:VAL:HG12	1.92	0.51
24:Y:15:ARG:NH1	45:5:230:G:OP1	2.43	0.51
36:k:11:PHE:O	36:k:14:THR:HG22	2.11	0.51
45:5:1426:G:N1	45:5:1458:C:OP2	2.36	0.51
45:5:4917:C:HO2'	45:5:4918:C:C5'	2.21	0.51
48:v:804:THR:HG23	48:v:804:THR:O	2.11	0.51
49:9:1050:A:OP1	49:9:1846:G:N2	2.40	0.51
49:9:1304:U:H2'	49:9:1305:C:C6	2.46	0.51
49:9:1394:G:O2'	49:9:1395:C:OP1	2.26	0.51
49:9:1638:G:H4'	49:9:1639:G:OP1	2.11	0.51
50:AA:69:GLU:OE1	50:AA:69:GLU:N	2.43	0.51
59:JJ:110:LEU:HD22	59:JJ:142:VAL:HG21	1.93	0.51
63:NN:29:THR:HG22	63:NN:32:ASP:OD2	2.11	0.51
82:gg:270:LEU:HD23	82:gg:310:TRP:CD1	2.45	0.51
1:A:225:ILE:HD13	1:A:233:ARG:CZ	2.40	0.51
2:B:80:GLU:HG3	2:B:326:VAL:HG13	1.93	0.51
3:C:69:THR:HG22	45:5:2350:U:O4	2.11	0.51
14:O:119:VAL:HG22	18:S:168:THR:O	2.10	0.51
16:Q:126:LEU:HD11	16:Q:136:THR:HG21	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:13:SER:OG	17:R:38:ARG:NH1	2.41	0.51
45:5:1455:G:O2'	45:5:1456:C:P	2.69	0.51
45:5:1804:A:O2'	45:5:1833:G:O6	2.21	0.51
45:5:2580:U:C2'	45:5:2581:A:O5'	2.59	0.51
48:v:24:VAL:HG13	48:v:102:LEU:HD11	1.93	0.51
48:v:129:VAL:O	48:v:157:MET:HA	2.10	0.51
49:9:640:A:C6	49:9:641:A:N6	2.79	0.51
49:9:1797:U:H2'	49:9:1798:C:C6	2.45	0.51
50:AA:104:THR:O	50:AA:107:THR:HG23	2.11	0.51
56:GG:18:VAL:HG13	56:GG:23:LYS:HD2	1.92	0.51
57:HH:53:VAL:HG12	57:HH:54:GLY:N	2.26	0.51
13:N:64:ILE:HD11	13:N:106:ALA:HB2	1.93	0.51
43:s:192:VAL:HG12	43:s:194:ASP:OD1	2.11	0.51
45:5:1681:G:OP2	45:5:1853:G:N1	2.40	0.51
48:v:772:GLU:HB2	48:v:785:LYS:HB2	1.93	0.51
49:9:421:G:N2	49:9:653:A:OP1	2.43	0.51
49:9:642:U:HO2'	49:9:643:A:P	2.30	0.51
49:9:1215:C:O2'	49:9:1645:C:OP2	2.29	0.51
54:EE:102:ILE:HG13	54:EE:182:MET:HE1	1.92	0.51
58:II:22:HIS:ND1	58:II:23:LYS:O	2.44	0.51
75:ZZ:58:LEU:O	75:ZZ:62:VAL:HG22	2.11	0.51
83:3:75:C:O2'	83:3:76:A:O5'	2.28	0.51
9:I:99:ILE:CG2	9:I:123:GLN:HB2	2.41	0.50
12:M:24:LEU:O	12:M:43:THR:OG1	2.17	0.50
45:5:515:C:H2'	45:5:516:C:C6	2.46	0.50
45:5:1481:C:O2'	45:5:1482:G:N3	2.44	0.50
45:5:4659:G:H2'	45:5:4660:G:O4'	2.10	0.50
45:5:4694:G:O2'	45:5:4695:C:O5'	2.26	0.50
45:5:5047:C:O2'	45:5:5047:C:O2	2.28	0.50
48:v:304:ILE:HG21	48:v:336:LEU:HB2	1.93	0.50
49:9:183:G:O2'	49:9:184:G:O5'	2.29	0.50
49:9:1537:A:N6	49:9:1595:U:O4	2.43	0.50
58:II:45:THR:HG1	58:II:55:TYR:HE1	1.57	0.50
2:B:352:LEU:HD12	2:B:352:LEU:H	1.76	0.50
5:E:102:ASP:OD1	5:E:103:LYS:N	2.44	0.50
7:G:141:ASN:OD1	13:N:3:ALA:N	2.35	0.50
9:I:55:ASP:OD2	9:I:162:ARG:NH2	2.44	0.50
20:U:103:VAL:HG21	20:U:113:ARG:CZ	2.41	0.50
23:X:85:SER:HG	45:5:2527:A:H61	1.58	0.50
32:g:17:SER:OG	45:5:2514:G:OP1	2.10	0.50
43:s:44:ARG:HD3	43:s:53:VAL:HG12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:480:C:O2'	45:5:481:G:O5'	2.22	0.50
45:5:1967:A:N6	45:5:1968:G:O6	2.44	0.50
45:5:1998:A:N7	45:5:1999:A:C6	2.79	0.50
45:5:2363:A2M:H2'	45:5:2364:OMG:O4'	2.12	0.50
46:7:38:U:N3	46:7:41:G:OP2	2.44	0.50
47:8:6:C:C2	47:8:7:U:C5	2.99	0.50
48:v:416:VAL:HB	48:v:470:VAL:HG11	1.94	0.50
48:v:429:ILE:HG22	48:v:430:MET:N	2.27	0.50
49:9:634:A:N6	49:9:635:G:O6	2.44	0.50
49:9:1119:A:H2'	49:9:1120:U:C6	2.46	0.50
49:9:1409:A:H2'	49:9:1410:C:O4'	2.12	0.50
57:HH:194:LEU:HD22	77:bb:84:HIS:CE1	2.47	0.50
62:MM:41:ALA:CB	62:MM:110:VAL:HG11	2.40	0.50
70:UU:46:LYS:O	70:UU:47:ASN:OD1	2.29	0.50
72:WW:104:LEU:HD12	72:WW:106:THR:HG23	1.93	0.50
82:gg:142:VAL:HG23	82:gg:142:VAL:O	2.10	0.50
2:B:154:LYS:CG	2:B:194:LEU:HD12	2.42	0.50
5:E:245:ILE:HD12	45:5:4938:A:O2'	2.12	0.50
45:5:2566:G:H2'	45:5:2567:G:C8	2.47	0.50
45:5:4393:G:O2'	45:5:4446:U:OP2	2.21	0.50
49:9:29:G:H2'	49:9:30:C:C6	2.47	0.50
51:BB:91:VAL:HG23	51:BB:91:VAL:O	2.11	0.50
53:DD:226:GLN:OE1	82:gg:185:LYS:NZ	2.45	0.50
55:FF:94:LYS:NZ	66:QQ:49:TYR:OH	2.34	0.50
63:NN:60:VAL:HG13	63:NN:66:VAL:HG21	1.94	0.50
82:gg:210:GLY:CA	82:gg:236:ILE:HD11	2.41	0.50
82:gg:261:LEU:HD23	82:gg:261:LEU:O	2.12	0.50
2:B:36:ASP:O	2:B:38:SER:N	2.40	0.50
2:B:82:PRO:HG3	2:B:171:LEU:HD21	1.92	0.50
7:G:168:VAL:HG11	13:N:10:LEU:HD21	1.92	0.50
44:t:45:ASP:OD1	44:t:46:ILE:N	2.44	0.50
45:5:1173:G:H2'	45:5:1174:G:O4'	2.11	0.50
45:5:3700:C:O2'	45:5:3774:A:H1'	2.11	0.50
45:5:4735:G:O2'	45:5:4736:C:P	2.69	0.50
45:5:5006:U:H4'	45:5:5007:A:H5'	1.92	0.50
49:9:64:A:H2	49:9:83:A:H62	1.58	0.50
52:CC:210:PRO:CD	52:CC:236:PHE:CE2	2.94	0.50
53:DD:23:GLU:OE2	53:DD:27:ARG:NE	2.45	0.50
53:DD:105:LEU:HB2	53:DD:122:VAL:HG21	1.92	0.50
54:EE:18:TRP:C	54:EE:19:MET:HG2	2.36	0.50
55:FF:142:SER:HB3	78:cc:48:GLY:HA3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:MM:89:VAL:HG21	62:MM:106:CYS:SG	2.51	0.50
66:QQ:80:GLN:O	66:QQ:84:ILE:HG13	2.12	0.50
82:gg:146:SER:OG	82:gg:147:HIS:N	2.42	0.50
82:gg:292:SER:O	82:gg:295:GLY:N	2.44	0.50
2:B:77:THR:HG21	2:B:337:VAL:HG22	1.93	0.50
4:D:52:ILE:HD11	4:D:65:ALA:HB3	1.93	0.50
6:F:145:ASN:OD1	6:F:147:LYS:N	2.44	0.50
6:F:193:ILE:HD11	6:F:207:LEU:CD1	2.41	0.50
17:R:81:ARG:O	45:5:2863:G:N2	2.25	0.50
40:o:37:GLY:HA3	45:5:4342:C:O3'	2.11	0.50
42:r:6:GLN:O	42:r:10:VAL:HG22	2.11	0.50
45:5:181:C:N4	45:5:182:G:O6	2.43	0.50
45:5:1817:U:O2'	45:5:1818:G:H5'	2.11	0.50
45:5:4414:A:OP2	45:5:4422:A:N6	2.45	0.50
49:9:14:C:P	52:CC:235:ASN:HD22	2.34	0.50
49:9:648:A:H4'	73:XX:104:GLY:O	2.11	0.50
49:9:1270:G:O2'	49:9:1301:A:N7	2.43	0.50
49:9:1425:G:O2'	66:QQ:33:LYS:NZ	2.44	0.50
50:AA:158:ASP:C	50:AA:159:ILE:HD12	2.37	0.50
65:PP:33:LEU:HD21	65:PP:87:PRO:CD	2.42	0.50
68:SS:118:ARG:CD	68:SS:123:LEU:HD21	2.41	0.50
4:D:107:ARG:HA	4:D:107:ARG:HE	1.77	0.50
11:L:178:ALA:N	26:a:134:GLU:OE2	2.44	0.50
12:M:46:ARG:NH1	45:5:935:A:N7	2.60	0.50
14:O:195:VAL:HA	14:O:198:THR:HG22	1.92	0.50
16:Q:30:LYS:HE3	42:r:8:MET:HE1	1.92	0.50
26:a:61:TYR:O	45:5:87:A:O2'	2.29	0.50
32:g:76:ARG:NH1	45:5:2583:C:OP2	2.44	0.50
33:h:48:ARG:HB3	33:h:48:ARG:NH1	2.27	0.50
43:s:37:SER:O	43:s:41:GLN:HG3	2.11	0.50
45:5:176:G:C6	45:5:261:G:N1	2.80	0.50
45:5:504:G:O2'	45:5:505:G:P	2.69	0.50
45:5:4313:A:C6	45:5:4314:C:C5	2.99	0.50
45:5:4419:U:OP1	45:5:4475:G:N2	2.45	0.50
49:9:15:U:H2'	49:9:16:G:O4'	2.12	0.50
49:9:129:C:H2'	49:9:214:U:O4	2.11	0.50
49:9:553:U:O2'	49:9:554:A:P	2.70	0.50
49:9:830:A:OP2	49:9:846:G:N2	2.31	0.50
49:9:883:U:H2'	49:9:884:C:O4'	2.12	0.50
49:9:1115:U:O2'	49:9:1116:C:O5'	2.29	0.50
49:9:1535:U:O3'	55:FF:88:MET:HE1	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:AA:183:LEU:HB2	50:AA:189:ILE:HD12	1.94	0.50
59:JJ:53:ILE:HD11	59:JJ:105:PHE:CZ	2.47	0.50
64:OO:99:ALA:HB2	64:OO:108:PRO:HA	1.94	0.50
70:UU:32:LEU:HD12	70:UU:85:HIS:HB2	1.94	0.50
77:bb:8:LEU:HD12	77:bb:9:HIS:CD2	2.47	0.50
81:ff:144:CYS:SG	81:ff:146:LEU:HD23	2.51	0.50
19:T:15:PHE:O	45:5:4276:G:O2'	2.29	0.50
25:Z:51:ARG:HD2	25:Z:65:ARG:HD2	1.93	0.50
44:t:143:VAL:HG13	44:t:143:VAL:O	2.11	0.50
45:5:2611:A:H5'	45:5:2688:G:H4'	1.92	0.50
45:5:3710:G:N2	45:5:3713:U:O4	2.45	0.50
45:5:4341:C:N3	83:3:76:A:O2'	2.43	0.50
45:5:4635:A:H2	45:5:4663:G:H21	1.59	0.50
45:5:5004:C:H2'	45:5:5005:G:O4'	2.11	0.50
48:v:123:ASP:OD2	48:v:364:ALA:HB1	2.11	0.50
48:v:390:PRO:HB3	48:v:420:LEU:HD11	1.92	0.50
49:9:918:U:H2'	49:9:919:A:O4'	2.12	0.50
49:9:1076:G:OP2	63:NN:107:LYS:NZ	2.43	0.50
49:9:1338:G:O3'	70:UU:74:SER:HB3	2.11	0.50
49:9:1836:G:OP1	49:9:1839:U:H4'	2.12	0.50
50:AA:141:ASN:ND2	71:VV:31:SER:OG	2.44	0.50
65:PP:28:MET:SD	65:PP:36:LEU:HD11	2.51	0.50
74:YY:20:ARG:HB3	74:YY:76:TYR:CD1	2.47	0.50
1:A:116:LEU:O	1:A:125:LYS:N	2.38	0.50
3:C:76:ILE:HG12	3:C:96:CYS:SG	2.52	0.50
3:C:223:ASN:OD1	45:5:226:G:H2'	2.11	0.50
36:k:64:LEU:O	36:k:66:VAL:HG23	2.11	0.50
45:5:1414:C:H2'	45:5:1415:G:O4'	2.10	0.50
45:5:2402:G:C2	45:5:2403:A:C8	2.99	0.50
45:5:3653:A:C2	45:5:3692:A:O4'	2.65	0.50
45:5:4970:C:C2	45:5:4971:A:C8	3.00	0.50
48:v:592:LEU:HD23	48:v:592:LEU:H	1.76	0.50
49:9:61:A:O2'	49:9:315:C:O2'	2.22	0.50
49:9:126:G:H21	49:9:180:G:H21	1.57	0.50
49:9:165:G:H2'	49:9:166:A2M:O4'	2.11	0.50
49:9:358:C:P	73:XX:18:ARG:HH12	2.35	0.50
49:9:1524:G:O2'	83:3:30:G:OP1	2.29	0.50
52:CC:70:VAL:HG21	52:CC:93:ILE:HG12	1.94	0.50
57:HH:101:LEU:O	57:HH:116:ARG:NH1	2.45	0.50
59:JJ:72:PHE:O	59:JJ:75:ASN:OD1	2.30	0.50
71:VV:1:MET:O	71:VV:9:VAL:HG22	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:ZZ:64:ASN:HD22	75:ZZ:64:ASN:C	2.07	0.50
82:gg:4:GLN:NE2	82:gg:268:ASP:OD2	2.45	0.50
82:gg:236:ILE:CG2	82:gg:252:THR:HG22	2.40	0.50
5:E:204:ILE:HG13	5:E:206:ILE:HG23	1.93	0.50
7:G:99:ALA:HB1	7:G:193:LEU:HD23	1.94	0.50
7:G:145:THR:HG21	45:5:117:C:OP2	2.12	0.50
12:M:114:LYS:NZ	45:5:4929:C:OP1	2.38	0.50
25:Z:11:VAL:HG21	25:Z:80:LEU:HD22	1.93	0.50
29:d:23:ARG:NH1	45:5:5057:C:O2'	2.43	0.50
40:o:97:LYS:NZ	45:5:4233:A:OP1	2.37	0.50
45:5:2849:A:H62	45:5:3838:U:H3	1.59	0.50
45:5:4305:G:N3	45:5:4305:G:O2'	2.42	0.50
48:v:517:LEU:N	48:v:518:PRO:CD	2.75	0.50
48:v:783:VAL:O	48:v:783:VAL:HG13	2.12	0.50
49:9:415:A:H2'	49:9:416:U:O4'	2.11	0.50
49:9:533:A:H2'	49:9:534:G:C8	2.46	0.50
49:9:1398:G:O2'	82:gg:88:ARG:NH2	2.44	0.50
54:EE:95:THR:HG21	74:YY:17:LEU:HD11	1.93	0.50
58:II:26:LYS:O	58:II:29:LEU:HB2	2.11	0.50
73:XX:52:LEU:HD11	73:XX:73:GLN:HB2	1.93	0.50
81:ff:119:ARG:HG3	81:ff:132:MET:HE2	1.94	0.50
82:gg:45:LEU:HD12	82:gg:52:TYR:CZ	2.46	0.50
4:D:163:LEU:CD1	4:D:173:ILE:HG21	2.42	0.49
14:O:60:LYS:O	14:O:72:HIS:CE1	2.66	0.49
36:k:28:ASN:ND2	45:5:2695:A:OP2	2.44	0.49
43:s:55:MET:HE1	45:5:1998:A:N9	2.27	0.49
45:5:2647:A:H62	45:5:2686:G:H8	1.60	0.49
45:5:3888:G:HO2'	45:5:3889:G:P	2.35	0.49
49:9:572:U:OP1	74:YY:60:PHE:N	2.43	0.49
50:AA:85:ARG:NH2	67:RR:82:ASP:O	2.45	0.49
54:EE:9:LEU:HD23	54:EE:28:ALA:HB3	1.93	0.49
54:EE:42:LEU:HD23	54:EE:109:PHE:CD2	2.47	0.49
58:II:133:GLU:OE1	58:II:133:GLU:N	2.39	0.49
70:UU:26:SER:OG	70:UU:32:LEU:HG	2.11	0.49
70:UU:98:VAL:HA	70:UU:101:ILE:HG12	1.93	0.49
82:gg:15:ASN:ND2	82:gg:37:ASP:OD2	2.44	0.49
2:B:354:GLN:O	2:B:360:LEU:HD21	2.12	0.49
17:R:11:ALA:HB3	17:R:22:VAL:HG11	1.94	0.49
20:U:22:THR:C	20:U:23:LEU:HD12	2.36	0.49
21:V:66:LYS:NZ	45:5:3799:A:OP1	2.42	0.49
26:a:43:ILE:HG23	45:5:4304:A:C2	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:a:85:GLN:HA	26:a:88:VAL:HG22	1.94	0.49
30:e:34:ASN:OD1	45:5:2322:G:P	2.70	0.49
45:5:125:C:O2'	45:5:126:C:P	2.69	0.49
45:5:1477:C:O2'	45:5:1478:C:P	2.70	0.49
45:5:2423:A:C2'	45:5:2424:OMG:O5'	2.60	0.49
45:5:3641:U:H5	45:5:3646:A:N7	2.11	0.49
45:5:4273:A:N6	45:5:4335:C:C5	2.81	0.49
48:v:538:ILE:HG23	48:v:538:ILE:O	2.11	0.49
49:9:10:G:H1'	52:CC:115:GLN:HG2	1.94	0.49
49:9:1317:C:N4	49:9:1318:G:O6	2.44	0.49
49:9:1839:U:H2'	49:9:1840:U:C6	2.47	0.49
55:FF:49:LEU:HD13	66:QQ:50:LYS:HB2	1.94	0.49
55:FF:99:ILE:HG23	75:ZZ:67:LEU:HD12	1.90	0.49
71:VV:65:SER:O	71:VV:69:ILE:HG12	2.12	0.49
78:cc:19:GLY:O	78:cc:28:THR:OG1	2.25	0.49
78:cc:43:ILE:HG22	78:cc:44:ARG:N	2.27	0.49
2:B:307:TYR:OH	2:B:364:ASP:OD2	2.19	0.49
3:C:42:THR:HG23	45:5:2340:C:H4'	1.93	0.49
6:F:170:ASP:OD1	6:F:171:ASN:N	2.45	0.49
8:H:116:ASN:O	8:H:119:GLY:N	2.42	0.49
9:I:110:ARG:NH2	85:2:74:C:OP2	2.41	0.49
14:O:197:LYS:HD2	14:O:203:VAL:HG22	1.94	0.49
24:Y:74:TYR:HD2	24:Y:77:LYS:HB2	1.76	0.49
41:p:47:MET:HG2	41:p:71:TYR:CE1	2.47	0.49
45:5:1278:C:H2'	45:5:1279:A:O4'	2.12	0.49
45:5:1332:C:H2'	45:5:1333:A:C8	2.47	0.49
45:5:1693:U:H2'	45:5:1694:C:O4'	2.11	0.49
45:5:1814:C:H2'	45:5:1816:C:H5	1.78	0.49
45:5:1977:C:H2'	45:5:1978:C:C6	2.47	0.49
45:5:2627:C:O4'	45:5:2627:C:O2	2.30	0.49
48:v:429:ILE:HG21	48:v:478:PHE:CE2	2.47	0.49
48:v:480:VAL:HG13	48:v:481:LYS:N	2.25	0.49
49:9:1303:C:O2	49:9:1303:C:O4'	2.30	0.49
50:AA:69:GLU:HB2	52:CC:270:THR:HG21	1.95	0.49
50:AA:76:VAL:CG1	50:AA:87:VAL:HG13	2.42	0.49
52:CC:211:LYS:O	52:CC:215:MET:HG3	2.12	0.49
81:ff:130:VAL:O	81:ff:130:VAL:HG23	2.11	0.49
2:B:54:THR:HG22	2:B:373:LYS:NZ	2.27	0.49
11:L:189:ALA:HA	34:i:11:LEU:HD21	1.95	0.49
13:N:96:ARG:HG2	13:N:100:SER:HB2	1.94	0.49
24:Y:74:TYR:HE2	24:Y:77:LYS:HG3	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Z:61:LYS:O	25:Z:65:ARG:HG2	2.13	0.49
29:d:68:LEU:CD1	29:d:106:VAL:HG12	2.42	0.49
45:5:1356:U:O2'	45:5:1505:C:O2	2.30	0.49
45:5:4396:A:O2'	85:2:76:A:N1	2.43	0.49
47:8:6:C:H2'	47:8:7:U:H6	1.76	0.49
48:v:365:GLN:O	48:v:366:LYS:C	2.54	0.49
49:9:301:A:H2'	49:9:302:A:O4'	2.13	0.49
49:9:344:U:O2'	54:EE:144:ALA:HB2	2.13	0.49
49:9:1255:G:O4'	70:UU:71:GLY:HA3	2.11	0.49
49:9:1334:G:C6	49:9:1498:A:N1	2.81	0.49
49:9:1520:G:N3	49:9:1520:G:H2'	2.28	0.49
52:CC:165:VAL:HG21	52:CC:219:ILE:HD11	1.95	0.49
61:LL:38:LYS:NZ	61:LL:64:GLY:O	2.45	0.49
62:MM:84:LYS:O	62:MM:88:TRP:CD1	2.66	0.49
64:OO:97:LEU:HD11	64:OO:112:ALA:HB1	1.94	0.49
82:gg:210:GLY:HA3	82:gg:236:ILE:HD11	1.93	0.49
83:3:75:C:H2'	83:3:76:A:H4'	1.94	0.49
2:B:90:VAL:HG22	2:B:104:THR:HG23	1.94	0.49
12:M:28:VAL:HG11	12:M:47:ARG:NH1	2.28	0.49
18:S:55:LYS:NZ	46:7:99:G:OP2	2.44	0.49
33:h:92:ARG:NH2	47:8:37:A:OP1	2.46	0.49
38:m:118:THR:O	38:m:119:ASN:CG	2.55	0.49
45:5:275:C:HO2'	45:5:276:C:C5'	2.18	0.49
45:5:1274:A:N1	45:5:1275:G:C6	2.81	0.49
45:5:1933:G:H2'	45:5:1934:A:C8	2.48	0.49
45:5:2778:G:N2	47:8:113:C:OP2	2.42	0.49
45:5:3604:A:H2'	45:5:3605:C:C1'	2.43	0.49
45:5:4884:G:O2'	45:5:4885:U:P	2.70	0.49
47:8:124:U:OP1	47:8:126:C:N4	2.44	0.49
49:9:63:U:O2'	49:9:170:A:N3	2.42	0.49
49:9:642:U:OP2	59:JJ:40:LYS:N	2.38	0.49
49:9:1862:G:H4'	49:9:1863:A:OP1	2.11	0.49
54:EE:64:ILE:HG23	74:YY:17:LEU:HD23	1.95	0.49
57:HH:76:GLN:HE22	57:HH:94:PHE:HB2	1.77	0.49
57:HH:131:GLU:HG3	57:HH:139:ILE:HD12	1.94	0.49
66:QQ:22:VAL:HG21	66:QQ:71:ARG:CZ	2.42	0.49
69:TT:11:GLN:CD	69:TT:62:ARG:HE	2.20	0.49
2:B:89:ILE:HG13	2:B:201:LEU:HD21	1.94	0.49
13:N:105:ARG:NH1	45:5:2459:G:N7	2.61	0.49
32:g:5:LEU:CD1	32:g:22:LEU:HD11	2.42	0.49
45:5:175:C:C2	45:5:262:G:N2	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:275:C:H2'	45:5:276:C:C6	2.48	0.49
45:5:3702:A:N6	45:5:3774:A:N1	2.61	0.49
49:9:642:U:O3'	59:JJ:39:ASN:ND2	2.37	0.49
49:9:962:A:H2'	49:9:963:A:O4'	2.13	0.49
49:9:996:A:OP1	63:NN:114:ARG:NH1	2.45	0.49
49:9:1015:U:OP2	77:bb:20:LYS:NZ	2.46	0.49
49:9:1593:C:OP2	75:ZZ:104:ARG:NH1	2.42	0.49
50:AA:121:LEU:HD21	50:AA:145:ILE:HD13	1.94	0.49
54:EE:212:ASP:OD1	54:EE:213:ALA:N	2.46	0.49
55:FF:87:LEU:HD21	66:QQ:47:LEU:HD11	1.94	0.49
57:HH:134:VAL:HG21	57:HH:158:LEU:CD2	2.43	0.49
64:OO:53:ILE:HG23	64:OO:88:LEU:HG	1.95	0.49
66:QQ:34:VAL:HG11	66:QQ:84:ILE:HG21	1.94	0.49
73:XX:98:ASP:OD2	73:XX:98:ASP:C	2.56	0.49
76:aa:40:VAL:O	76:aa:40:VAL:HG23	2.12	0.49
77:bb:50:ALA:O	77:bb:51:GLN:HB3	2.13	0.49
82:gg:79:LEU:HD23	82:gg:120:ILE:HD12	1.93	0.49
1:A:116:LEU:CD1	1:A:164:ALA:HB2	2.42	0.49
4:D:55:VAL:HG23	4:D:55:VAL:O	2.13	0.49
9:I:158:LYS:NZ	45:5:4429:C:N3	2.57	0.49
20:U:24:ASP:OD1	20:U:26:THR:OG1	2.20	0.49
28:c:18:LEU:HD21	28:c:47:ILE:HD12	1.94	0.49
45:5:2365:OMC:HM22	45:5:2829:U:H5''	1.94	0.49
45:5:2504:C:O2'	45:5:2504:C:O2	2.31	0.49
45:5:5046:U:H2'	45:5:5050:C:H41	1.77	0.49
48:v:604:MET:HE1	48:v:729:LEU:CD1	2.32	0.49
49:9:1384:C:C4	49:9:1385:G:N7	2.81	0.49
49:9:1655:C:C2	49:9:1656:G:C8	3.01	0.49
49:9:1854:U:OP1	64:OO:150:ARG:NH2	2.46	0.49
54:EE:95:THR:CG2	54:EE:97:GLU:OE1	2.61	0.49
71:VV:67:ASP:O	71:VV:71:ARG:NE	2.46	0.49
3:C:116:ASN:ND2	45:5:1506:G:N3	2.53	0.49
3:C:122:TYR:CE2	3:C:280:PRO:HB2	2.48	0.49
4:D:126:THR:O	4:D:126:THR:HG22	2.11	0.49
5:E:185:ASN:O	5:E:186:ARG:HB2	2.12	0.49
13:N:64:ILE:CD1	13:N:106:ALA:HB2	2.43	0.49
16:Q:11:ARG:NH2	45:5:1690:C:OP2	2.36	0.49
16:Q:175:GLU:O	45:5:1497:A:N6	2.46	0.49
22:W:47:ARG:NH1	22:W:54:LEU:HD23	2.28	0.49
23:X:145:ASP:OD2	23:X:148:ASP:HB2	2.13	0.49
28:c:38:ILE:HG21	28:c:63:TYR:HB3	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:o:63:THR:HG22	40:o:89:LYS:HB3	1.95	0.49
45:5:1961:G:C2'	45:5:2025:A:H61	2.20	0.49
45:5:4459:U:H2'	45:5:4460:U:C6	2.48	0.49
47:8:57:C:O2	47:8:61:A:O2'	2.26	0.49
48:v:151:ILE:O	48:v:200:MET:HE1	2.12	0.49
48:v:629:LYS:HZ3	49:9:1320:G:P	2.35	0.49
49:9:885:U:O2	49:9:901:G:C6	2.66	0.49
49:9:1336:C:H2'	49:9:1337:4AC:O4'	2.13	0.49
50:AA:51:LEU:HD12	67:RR:105:MET:CE	2.43	0.49
51:BB:97:LEU:HD23	51:BB:232:HIS:CD2	2.48	0.49
64:OO:126:ILE:HD12	76:aa:53:ILE:HD13	1.95	0.49
67:RR:14:ARG:O	67:RR:15:VAL:C	2.55	0.49
2:B:219:VAL:HG11	2:B:337:VAL:HB	1.95	0.49
3:C:197:ARG:O	3:C:198:ASN:HB2	2.13	0.49
4:D:8:LYS:HZ1	45:5:4264:G:P	2.33	0.49
5:E:181:PRO:HD2	5:E:184:LEU:HD12	1.95	0.49
6:F:41:LEU:O	6:F:41:LEU:HD23	2.12	0.49
7:G:86:VAL:HG12	7:G:87:LEU:N	2.28	0.49
15:P:126:ARG:HB2	15:P:126:ARG:NH1	2.28	0.49
35:j:16:HIS:ND1	45:5:370:U:O2'	2.36	0.49
39:n:15:ARG:NH2	49:9:1183:A:OP1	2.46	0.49
45:5:261:G:H2'	45:5:262:G:O4'	2.13	0.49
45:5:1475:G:H2'	45:5:1476:C:C6	2.48	0.49
45:5:1549:G:C2	45:5:1550:G:C8	3.01	0.49
45:5:4392:OMG:HM23	45:5:4447:5MC:HM52	1.94	0.49
48:v:760:TYR:OH	48:v:773:GLU:OE1	2.21	0.49
49:9:534:G:H2'	49:9:535:G:H8	1.77	0.49
49:9:1023:A:O2'	72:WW:2:VAL:HG11	2.12	0.49
49:9:1862:G:N7	76:aa:34:LYS:NZ	2.54	0.49
50:AA:56:GLU:HG3	71:VV:79:VAL:HG13	1.93	0.49
50:AA:60:LEU:HD21	71:VV:69:ILE:CG2	2.43	0.49
50:AA:144:THR:OG1	50:AA:156:TYR:O	2.29	0.49
54:EE:23:LEU:HD23	54:EE:23:LEU:C	2.37	0.49
55:FF:100:ILE:HD11	55:FF:177:LEU:HD12	1.95	0.49
62:MM:25:ALA:HB2	62:MM:113:ASP:HB3	1.95	0.49
62:MM:64:LEU:HD13	81:ff:103:LEU:HD22	1.94	0.49
2:B:241:PRO:HD3	45:5:4456:OMC:HM21	1.95	0.49
3:C:302:LEU:HD11	16:Q:34:PHE:CE2	2.48	0.49
8:H:44:GLU:OE2	12:M:2:VAL:N	2.46	0.49
24:Y:59:ARG:NH1	45:5:200:U:O2'	2.37	0.49
44:t:108:GLU:O	44:t:112:ILE:HG13	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:90:G:N7	45:5:92:C:C2	2.81	0.49
45:5:139:G:C4	45:5:140:G:C8	3.01	0.49
45:5:674:G:H2'	45:5:675:C:C6	2.48	0.49
45:5:1882:U:C4	45:5:2279:A:C2	3.01	0.49
45:5:2558:C:N4	45:5:2559:G:O6	2.46	0.49
45:5:4314:C:C2	45:5:4315:A:C8	3.01	0.49
49:9:46:A:N7	49:9:97:U:O2'	2.44	0.49
49:9:1516:G:O3'	65:PP:122:THR:HG21	2.13	0.49
49:9:1637:A:H4'	49:9:1638:G:O5'	2.12	0.49
56:GG:224:ARG:O	56:GG:227:GLN:HG3	2.13	0.49
59:JJ:32:ILE:HD11	59:JJ:40:LYS:CG	2.41	0.49
60:KK:84:HIS:ND1	62:MM:27:ILE:HD13	2.27	0.49
79:dd:21:CYS:SG	79:dd:39:CYS:N	2.84	0.49
80:ee:97:LYS:O	80:ee:98:LYS:HB2	2.13	0.49
2:B:317:LEU:HB3	45:5:5001:U:H4'	1.95	0.48
4:D:163:LEU:HD13	4:D:173:ILE:HG21	1.93	0.48
6:F:102:PRO:HD3	45:5:1876:U:O3'	2.13	0.48
10:J:66:GLU:O	10:J:68:ILE:HG23	2.13	0.48
13:N:5:LYS:NZ	45:5:276:C:OP2	2.46	0.48
22:W:19:ARG:NE	22:W:37:GLU:OE1	2.45	0.48
30:e:6:PRO:HG2	30:e:9:LYS:HG3	1.93	0.48
30:e:35:TRP:CZ2	30:e:56:PRO:HD2	2.48	0.48
30:e:114:ARG:NH2	30:e:118:LEU:HD21	2.27	0.48
42:r:47:LYS:O	42:r:103:HIS:NE2	2.45	0.48
43:s:135:THR:HG21	48:v:187:VAL:CG2	2.39	0.48
45:5:1956:A:C2'	45:5:1957:U:O5'	2.61	0.48
45:5:3626:G:H2'	45:5:3627:OMG:O4'	2.13	0.48
45:5:4534:G:O6	45:5:4553:A:C6	2.66	0.48
45:5:5034:A:H2'	45:5:5035:U:O4'	2.13	0.48
48:v:447:ILE:O	48:v:447:ILE:HG22	2.13	0.48
49:9:798:G:O2'	49:9:799:U:OP2	2.31	0.48
49:9:1192:U:OP2	73:XX:119:ARG:NH2	2.46	0.48
49:9:1487:A:O2'	49:9:1488:C:H5'	2.14	0.48
49:9:1606:G:O2'	49:9:1632:G:N2	2.45	0.48
58:II:41:ARG:HD2	58:II:62:VAL:HG22	1.93	0.48
67:RR:15:VAL:HG13	67:RR:19:LYS:HZ1	1.78	0.48
82:gg:147:HIS:NE2	82:gg:168:CYS:O	2.46	0.48
3:C:110:ARG:HD3	13:N:204:ARG:HG3	1.95	0.48
4:D:19:LYS:HZ1	45:5:4279:A:C2'	2.26	0.48
6:F:124:LEU:HD22	6:F:129:ILE:HD13	1.95	0.48
6:F:152:LEU:HD23	6:F:247:ASN:ND2	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:12:ILE:HG12	8:H:18:ILE:HD12	1.96	0.48
9:I:31:ILE:HG23	9:I:31:ILE:O	2.13	0.48
11:L:71:ARG:NH2	45:5:74:G:O3'	2.44	0.48
12:M:47:ARG:O	18:S:73:LEU:HD22	2.13	0.48
13:N:8:GLN:O	13:N:12:ARG:HG3	2.13	0.48
13:N:142:ILE:HG23	13:N:148:THR:HG21	1.95	0.48
17:R:37:SER:OG	17:R:40:GLN:NE2	2.46	0.48
26:a:72:THR:HG21	45:5:1396:G:C6	2.47	0.48
45:5:1666:C:O2'	45:5:1688:G:OP1	2.25	0.48
45:5:1667:A:H61	45:5:2280:G:H3'	1.78	0.48
45:5:3888:G:O2'	45:5:3889:G:P	2.71	0.48
45:5:4313:A:H2'	45:5:4314:C:O4'	2.13	0.48
45:5:4947:U:HO2'	45:5:4948:C:P	2.36	0.48
48:v:702:PHE:CE2	48:v:733:VAL:HG23	2.48	0.48
49:9:613:G:H22	49:9:629:A:H5'	1.77	0.48
49:9:658:U:C5	73:XX:24:ASP:OD1	2.65	0.48
49:9:995:G:N1	49:9:998:A:OP2	2.45	0.48
49:9:1240:A:H1'	49:9:1267:C:O2'	2.14	0.48
49:9:1300:U:O2	49:9:1300:U:H2'	2.13	0.48
49:9:1377:U:O2'	49:9:1378:A:O5'	2.21	0.48
49:9:1394:G:H21	49:9:1475:G:H1'	1.78	0.48
2:B:276:HIS:ND1	45:5:4716:C:OP1	2.46	0.48
30:e:78:LEU:HD11	30:e:100:ALA:HA	1.94	0.48
33:h:82:ASP:OD1	33:h:83:LEU:N	2.46	0.48
42:r:82:ILE:HD13	42:r:92:SER:OG	2.14	0.48
44:t:13:VAL:HG12	44:t:14:TYR:N	2.28	0.48
45:5:1322:1MA:H1'	45:5:1324:A:OP2	2.14	0.48
45:5:1432:G:O2'	45:5:1451:G:N2	2.45	0.48
45:5:1641:G:O2'	45:5:4386:C:O2	2.15	0.48
45:5:2638:G:H22	45:5:2697:A:N6	2.10	0.48
45:5:2696:A:HO2'	45:5:2697:A:H8	1.61	0.48
45:5:4586:G:O6	45:5:4717:A:N6	2.46	0.48
46:7:24:C:H2'	46:7:25:G:O4'	2.13	0.48
49:9:23:G:H2'	49:9:24:C:O4'	2.13	0.48
49:9:320:G:N3	49:9:332:G:N2	2.61	0.48
49:9:563:G:N7	49:9:586:G:N2	2.59	0.48
49:9:960:U:O2'	49:9:962:A:N7	2.43	0.48
49:9:1098:C:H2'	49:9:1099:G:C8	2.48	0.48
52:CC:209:VAL:HB	52:CC:210:PRO:CD	2.43	0.48
55:FF:87:LEU:CD2	66:QQ:47:LEU:HD11	2.43	0.48
68:SS:6:PRO:HD2	68:SS:9:PHE:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:211:PHE:CD1	1:A:219:ILE:HG23	2.48	0.48
2:B:120:LYS:N	45:5:4968:A:OP1	2.44	0.48
2:B:223:THR:HG22	2:B:338:VAL:HB	1.95	0.48
3:C:235:LEU:HD22	3:C:240:LEU:HD11	1.95	0.48
10:J:47:THR:HG23	10:J:47:THR:O	2.13	0.48
19:T:71:ALA:HB3	45:5:4313:A:H4'	1.94	0.48
29:d:46:LEU:HD22	29:d:72:VAL:HG11	1.95	0.48
45:5:385:A:H4'	45:5:386:A:OP1	2.14	0.48
45:5:4967:A:H2'	45:5:4968:A:C8	2.49	0.48
49:9:903:A:O2'	49:9:904:A:P	2.71	0.48
49:9:943:U:O2	64:OO:136:PRO:O	2.31	0.48
62:MM:122:ASP:OD1	62:MM:123:VAL:N	2.46	0.48
63:NN:110:ASP:O	63:NN:114:ARG:HG2	2.13	0.48
66:QQ:100:VAL:HG22	66:QQ:101:ASP:N	2.28	0.48
81:ff:146:LEU:HD12	81:ff:146:LEU:O	2.13	0.48
82:gg:248:LEU:HD23	82:gg:248:LEU:C	2.39	0.48
1:A:2:GLY:O	45:5:1642:A:N6	2.37	0.48
1:A:30:ARG:NH2	1:A:33:ASP:OD1	2.45	0.48
3:C:322:LEU:HD21	5:E:56:ILE:HD11	1.96	0.48
13:N:10:LEU:HG	13:N:19:MET:HE3	1.95	0.48
16:Q:110:ARG:HG2	16:Q:120:ILE:HD13	1.95	0.48
40:o:103:VAL:HG12	40:o:104:ILE:N	2.29	0.48
42:r:124:VAL:HG23	42:r:125:MET:H	1.79	0.48
45:5:52:G:H4'	45:5:1529:G:H4'	1.93	0.48
45:5:1612:G:H2'	45:5:1612:G:N3	2.29	0.48
45:5:2520:C:H1'	45:5:2640:G:H21	1.78	0.48
45:5:4562:C:H2'	45:5:4563:U:O4'	2.13	0.48
45:5:4872:G:H4'	45:5:4873:G:H5'	1.95	0.48
45:5:4908:G:OP2	45:5:4913:G:N2	2.46	0.48
45:5:4962:C:H2'	45:5:4963:G:O4'	2.14	0.48
48:v:493:ASN:OD1	48:v:494:MET:N	2.44	0.48
48:v:702:PHE:HE2	48:v:733:VAL:HG23	1.78	0.48
50:AA:64:ALA:HB2	71:VV:34:MET:HE3	1.94	0.48
51:BB:81:PHE:HB2	51:BB:106:THR:HG22	1.95	0.48
51:BB:106:THR:HG23	51:BB:109:LYS:H	1.78	0.48
82:gg:119:GLN:OE1	82:gg:119:GLN:HA	2.13	0.48
82:gg:177:TRP:CZ3	82:gg:184:LEU:N	2.81	0.48
3:C:266:THR:HG22	3:C:267:TRP:H	1.78	0.48
3:C:316:LYS:HB2	3:C:324:ILE:HG13	1.95	0.48
5:E:110:VAL:HG13	45:5:689:U:OP1	2.13	0.48
15:P:40:HIS:NE2	15:P:110:ASP:O	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:37:ARG:NH1	45:5:2088:A:OP2	2.46	0.48
16:Q:186:TYR:CD2	45:5:4307:A:H4'	2.48	0.48
20:U:66:SER:OG	20:U:67:LYS:N	2.47	0.48
30:e:99:ILE:HG22	30:e:103:VAL:CG2	2.41	0.48
43:s:167:VAL:HG13	43:s:167:VAL:O	2.14	0.48
45:5:731:G:C6	45:5:932:A:C4	3.02	0.48
45:5:1998:A:C5'	45:5:1999:A:OP2	2.62	0.48
45:5:3652:A:H2'	45:5:3653:A:C8	2.49	0.48
45:5:3717:A:N3	45:5:4178:A:O2'	2.30	0.48
45:5:3800:A:O2'	45:5:4505:C:O2	2.31	0.48
45:5:3861:A:H2'	45:5:3862:A:C8	2.48	0.48
45:5:4949:G:H4'	45:5:4950:U:H5'	1.95	0.48
48:v:394:LEU:HD11	48:v:421:VAL:HG13	1.96	0.48
49:9:190:G:H5''	58:II:145:ILE:HD13	1.95	0.48
49:9:583:A:N7	49:9:584:A:N7	2.61	0.48
49:9:1010:G:H2'	49:9:1011:A:C8	2.48	0.48
49:9:1453:C:H2'	49:9:1454:A:H4'	1.95	0.48
51:BB:28:LYS:CG	51:BB:50:THR:HG22	2.44	0.48
53:DD:64:ARG:HG3	60:KK:94:LEU:HD23	1.95	0.48
55:FF:156:THR:HG22	55:FF:159:ARG:HH12	1.78	0.48
59:JJ:100:LEU:HD23	59:JJ:105:PHE:CZ	2.49	0.48
64:OO:99:ALA:C	64:OO:101:GLY:H	2.21	0.48
66:QQ:32:ILE:HD11	66:QQ:63:PHE:CD1	2.48	0.48
82:gg:269:GLU:C	82:gg:270:LEU:HD12	2.37	0.48
7:G:182:CYS:HB3	7:G:222:ILE:HG23	1.95	0.48
15:P:127:ARG:NH2	45:5:2422:OMC:OP1	2.46	0.48
19:T:87:LYS:CD	45:5:4305:G:H22	2.26	0.48
26:a:16:SER:OG	45:5:2283:G:OP1	2.29	0.48
30:e:84:GLU:OE2	42:r:20:ARG:NH1	2.47	0.48
45:5:295:A:N6	45:5:4362:A:O4'	2.45	0.48
45:5:1069:G:H2'	45:5:1070:G:O4'	2.14	0.48
45:5:1888:A:N3	45:5:3883:U:O2'	2.41	0.48
45:5:2421:G:OP2	45:5:2828:U:H1'	2.14	0.48
45:5:2676:A:C5	45:5:2677:G:C8	3.01	0.48
45:5:2722:G:H2'	45:5:2723:U:O4'	2.13	0.48
45:5:3867:A2M:HM'2	45:5:3868:G:O4'	2.13	0.48
45:5:4244:A:H2'	45:5:4245:G:O4'	2.13	0.48
45:5:4465:U:C6	45:5:4488:A:N6	2.81	0.48
45:5:4638:U:H4'	45:5:5044:A:N3	2.28	0.48
48:v:296:PRO:O	48:v:300:VAL:HG23	2.14	0.48
49:9:121:OMU:H2'	49:9:122:G:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:594:A:C2'	80:ee:100:LYS:NZ	2.76	0.48
49:9:821:G:O2'	49:9:824:C:OP1	2.21	0.48
49:9:1055:A:N1	49:9:1063:C:N4	2.58	0.48
49:9:1286:G:N7	62:MM:35:ILE:HG22	2.28	0.48
54:EE:174:LYS:O	54:EE:179:ASN:ND2	2.47	0.48
68:SS:38:ARG:HB3	69:TT:45:LEU:HD21	1.94	0.48
69:TT:18:LEU:HD11	69:TT:131:LEU:HD23	1.95	0.48
82:gg:129:ILE:O	82:gg:129:ILE:HG23	2.13	0.48
2:B:246:ARG:NH1	45:5:4558:U:OP2	2.46	0.48
4:D:138:GLN:HG3	4:D:139:PRO:HD2	1.95	0.48
8:H:121:LYS:HE3	45:5:4613:C:N3	2.28	0.48
24:Y:85:VAL:HG11	24:Y:99:ILE:CG1	2.44	0.48
25:Z:77:TYR:O	25:Z:80:LEU:N	2.46	0.48
30:e:62:SER:N	45:5:2319:C:OP1	2.41	0.48
45:5:237:B9B:OP1	45:5:238:C:N4	2.47	0.48
45:5:377:A:H2'	45:5:378:A:O4'	2.13	0.48
45:5:1211:G:C2'	45:5:1212:G:O5'	2.61	0.48
45:5:1488:G:H2'	45:5:1489:G:O4'	2.13	0.48
45:5:1956:A:O2'	45:5:1957:U:OP1	2.30	0.48
45:5:2006:U:OP2	45:5:2006:U:C6	2.67	0.48
45:5:2290:C:C2	45:5:2291:G:C8	3.02	0.48
45:5:2581:A:H1'	45:5:2654:C:O2'	2.14	0.48
48:v:692:LEU:HD11	48:v:738:PRO:HB2	1.96	0.48
49:9:475:C:C4	49:9:476:A:N7	2.82	0.48
49:9:688:U:C2	57:HH:122:LEU:HD13	2.49	0.48
49:9:1622:U:H3	65:PP:122:THR:HG22	1.78	0.48
49:9:1676:U:H2'	49:9:1677:U:O4'	2.13	0.48
51:BB:32:ASP:OD1	51:BB:33:VAL:N	2.43	0.48
55:FF:98:GLU:O	55:FF:102:LEU:HG	2.13	0.48
62:MM:23:LYS:HD2	62:MM:24:THR:N	2.29	0.48
66:QQ:49:TYR:HA	66:QQ:52:LEU:HB2	1.95	0.48
67:RR:58:MET:O	67:RR:62:GLN:OE1	2.32	0.48
68:SS:26:ILE:H	68:SS:26:ILE:HD12	1.78	0.48
69:TT:42:HIS:HB3	69:TT:93:SER:HB3	1.96	0.48
75:ZZ:79:ILE:HD11	75:ZZ:83:LEU:CD2	2.41	0.48
4:D:195:HIS:O	4:D:199:ILE:HG12	2.13	0.48
35:j:17:THR:CG2	35:j:29:LEU:HD21	2.44	0.48
42:r:41:ASN:OD1	42:r:42:GLY:N	2.47	0.48
44:t:81:ILE:CD1	44:t:135:THR:HG23	2.44	0.48
45:5:1440:U:O2'	45:5:1441:C:P	2.72	0.48
45:5:1992:U:O2'	45:5:2002:A:OP1	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:1999:A:HO2'	45:5:2000:G:C4'	2.26	0.48
48:v:629:LYS:HE2	49:9:1320:G:H5'	1.96	0.48
54:EE:226:PHE:O	54:EE:228:ILE:HG23	2.13	0.48
56:GG:70:HIS:O	56:GG:98:ARG:NH2	2.46	0.48
74:YY:25:ILE:HD11	74:YY:73:GLY:HA3	1.95	0.48
4:D:152:ARG:O	4:D:157:ASN:ND2	2.47	0.48
11:L:161:PHE:HB2	26:a:105:ARG:HE	1.78	0.48
18:S:134:ALA:HB3	45:5:748:G:OP1	2.14	0.48
31:f:68:ARG:NH1	45:5:442:G:OP1	2.46	0.48
43:s:139:GLN:OE1	48:v:180:ARG:HD2	2.13	0.48
45:5:325:U:H2'	45:5:326:C:C6	2.49	0.48
45:5:3783:A:O5'	45:5:3784:A:H5''	2.14	0.48
45:5:3836:A:H2'	45:5:3837:C:O4'	2.14	0.48
45:5:4200:G:HO2'	85:2:2:U:HO2'	1.60	0.48
45:5:4289:U:O2'	45:5:4320:G:O2'	2.19	0.48
48:v:224:THR:HG22	48:v:225:LEU:N	2.29	0.48
48:v:715:DDE:NE2	85:2:35:A:O2'	2.47	0.48
49:9:448:A:N6	58:II:29:LEU:HD12	2.28	0.48
49:9:1016:U:O2	49:9:1016:U:C2'	2.62	0.48
49:9:1233:G:N3	49:9:1252:C:O2'	2.35	0.48
49:9:1301:A:C5	49:9:1303:C:C2	3.02	0.48
53:DD:55:THR:O	53:DD:59:LEU:HD23	2.14	0.48
53:DD:93:THR:HG21	53:DD:198:ILE:HG23	1.95	0.48
54:EE:29:PRO:CG	54:EE:45:ILE:HG21	2.44	0.48
54:EE:199:GLU:OE2	54:EE:209:HIS:NE2	2.44	0.48
58:II:172:LEU:HD12	58:II:195:LEU:HD11	1.95	0.48
58:II:189:VAL:O	58:II:191:GLU:OE1	2.32	0.48
66:QQ:116:ASP:HB3	66:QQ:118:THR:HG22	1.95	0.48
70:UU:32:LEU:HA	70:UU:35:VAL:HG12	1.96	0.48
71:VV:30:ALA:O	71:VV:60:ARG:HD3	2.14	0.48
75:ZZ:50:PHE:HE2	75:ZZ:87:ALA:HB2	1.79	0.48
2:B:218:ASP:OD1	2:B:280:ILE:HA	2.13	0.47
6:F:240:ASN:O	6:F:244:ARG:HG2	2.14	0.47
8:H:105:ILE:HG23	8:H:109:GLY:HA2	1.96	0.47
45:5:1502:G:H2'	45:5:1503:A:C8	2.49	0.47
45:5:1726:U:C2	45:5:1727:U:C5	3.02	0.47
45:5:1942:A:H2'	45:5:1943:A:C8	2.49	0.47
45:5:4331:G:HO2'	45:5:4332:C:P	2.33	0.47
45:5:4593:C:H2'	45:5:4594:U:C6	2.49	0.47
47:8:75:OMG:HM22	47:8:76:C:O4'	2.14	0.47
48:v:509:VAL:O	48:v:509:VAL:HG23	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:v:650:TRP:CZ3	48:v:679:VAL:HG11	2.48	0.47
49:9:658:U:N3	73:XX:20:GLN:O	2.44	0.47
49:9:796:G:H2'	49:9:797:C:O4'	2.14	0.47
49:9:804:U:N3	49:9:805:U:O4	2.46	0.47
49:9:1138:C:OP1	50:AA:155:ARG:NH1	2.46	0.47
49:9:1334:G:H2'	49:9:1335:G:O4'	2.13	0.47
49:9:1566:G:C2	49:9:1568:C:OP2	2.66	0.47
49:9:1622:U:O4	65:PP:122:THR:HG22	2.13	0.47
53:DD:210:ILE:HD13	67:RR:15:VAL:HG11	1.96	0.47
54:EE:43:PRO:HB2	54:EE:45:ILE:HG22	1.94	0.47
58:II:101:ILE:HD12	58:II:190:LEU:HD11	1.95	0.47
59:JJ:114:VAL:HG21	59:JJ:130:ILE:HD11	1.96	0.47
68:SS:40:TYR:HA	68:SS:43:VAL:HG22	1.96	0.47
68:SS:107:LEU:HD23	68:SS:107:LEU:C	2.39	0.47
68:SS:125:HIS:CE1	68:SS:131:VAL:HG11	2.49	0.47
4:D:196:ARG:NH1	4:D:237:GLU:OE2	2.47	0.47
7:G:231:ASP:OD1	7:G:234:ARG:NH2	2.47	0.47
13:N:204:ARG:NH1	45:5:1341:U:O3'	2.47	0.47
15:P:95:LEU:HD21	15:P:114:ILE:CD1	2.43	0.47
43:s:58:ASN:HB3	43:s:82:ILE:HG22	1.95	0.47
44:t:30:PRO:HA	48:v:778:GLY:H	1.78	0.47
44:t:91:ASP:OD2	44:t:93:LYS:NZ	2.45	0.47
45:5:1612:G:N3	45:5:1612:G:C2'	2.77	0.47
45:5:3693:U:N3	45:5:3694:U:C5	2.82	0.47
45:5:4281:A:O2'	45:5:4282:A:O5'	2.28	0.47
45:5:4719:G:H4'	45:5:4720:C:OP1	2.14	0.47
45:5:5016:A:N6	45:5:5033:G:O2'	2.47	0.47
47:8:21:C:H2'	47:8:22:U:H5'	1.95	0.47
47:8:126:C:HO2'	47:8:127:U:H5	1.58	0.47
49:9:183:G:O2'	49:9:184:G:O4'	2.30	0.47
49:9:531:A:O2'	49:9:532:C:P	2.72	0.47
49:9:902:G:O2'	49:9:903:A:P	2.72	0.47
49:9:903:A:HO2'	49:9:904:A:P	2.37	0.47
49:9:1577:G:H2'	49:9:1578:U:H5'	1.96	0.47
51:BB:131:ASP:O	51:BB:133:TYR:N	2.45	0.47
65:PP:85:ILE:HG23	65:PP:112:ILE:HA	1.95	0.47
68:SS:20:ILE:HG23	68:SS:29:ALA:HB1	1.96	0.47
72:WW:6:VAL:HG13	72:WW:29:PRO:HG2	1.95	0.47
82:gg:294:ASP:OD1	82:gg:295:GLY:N	2.47	0.47
7:G:95:LEU:HD13	7:G:218:LEU:HD21	1.95	0.47
9:I:15:LYS:NZ	45:5:4212:A:OP2	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:22:LEU:CD1	10:J:43:LEU:HD22	2.44	0.47
12:M:7:VAL:HG21	12:M:52:PHE:CE1	2.49	0.47
45:5:1196:G:H2'	45:5:1197:C:C6	2.50	0.47
45:5:4477:A:C2	45:5:4604:G:O4'	2.67	0.47
49:9:16:G:H2'	49:9:17:C:C1'	2.44	0.47
49:9:107:A:H2'	49:9:108:G:C8	2.49	0.47
49:9:531:A:C2'	49:9:532:C:OP1	2.61	0.47
49:9:1605:G:H2'	49:9:1606:G:O4'	2.14	0.47
51:BB:191:ASP:O	51:BB:194:GLY:N	2.46	0.47
60:KK:21:MET:HB3	60:KK:49:MET:HE2	1.96	0.47
64:OO:92:ALA:C	64:OO:93:LEU:HD12	2.38	0.47
70:UU:87:ARG:C	70:UU:88:LEU:HD22	2.40	0.47
72:WW:50:PHE:HB3	72:WW:63:VAL:HG22	1.95	0.47
77:bb:21:LYS:HD2	77:bb:26:GLN:OE1	2.14	0.47
3:C:11:TYR:CE2	3:C:148:PRO:HB2	2.48	0.47
4:D:4:VAL:HG22	4:D:5:LYS:N	2.29	0.47
4:D:53:VAL:HG11	4:D:159:VAL:HA	1.95	0.47
5:E:165:VAL:HG11	5:E:187:VAL:HG11	1.97	0.47
5:E:260:ILE:O	5:E:263:LYS:N	2.43	0.47
8:H:101:ILE:HG23	8:H:114:ILE:HG23	1.96	0.47
10:J:135:GLY:HA2	10:J:139:PHE:CE2	2.49	0.47
23:X:81:LEU:CD1	23:X:99:ILE:HD11	2.43	0.47
42:r:124:VAL:HG23	42:r:125:MET:N	2.30	0.47
45:5:34:A:O2'	45:5:1526:G:N3	2.48	0.47
45:5:356:G:N1	45:5:360:A:OP2	2.42	0.47
45:5:1523:A:C2'	45:5:1524:A2M:O5'	2.63	0.47
45:5:2104:A:O2'	45:5:2105:A:P	2.72	0.47
45:5:2350:U:N3	45:5:3906:A:OP1	2.41	0.47
45:5:2490:U:H2'	45:5:2491:C:C2	2.50	0.47
45:5:4453:C:H2'	45:5:4454:G:O4'	2.14	0.47
45:5:4584:A:H2'	45:5:4585:U:O4'	2.14	0.47
47:8:10:G:H2'	47:8:11:C:O4'	2.14	0.47
48:v:393:PRO:O	48:v:394:LEU:C	2.57	0.47
48:v:759:ILE:HG13	48:v:760:TYR:N	2.29	0.47
49:9:104:A:O5'	58:II:12:ARG:NH1	2.47	0.47
49:9:197:U:C2	49:9:202:G:O6	2.65	0.47
49:9:1337:4AC:OP1	79:dd:44:ARG:NH2	2.47	0.47
50:AA:137:ALA:O	50:AA:140:VAL:O	2.33	0.47
51:BB:99:ASN:ND2	51:BB:133:TYR:OH	2.47	0.47
51:BB:138:PHE:O	51:BB:213:ARG:N	2.47	0.47
68:SS:5:ILE:HG23	68:SS:5:ILE:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:gg:72:SER:O	82:gg:75:GLY:N	2.38	0.47
1:A:196:TRP:NE1	45:5:3653:A:OP1	2.39	0.47
3:C:155:GLU:HA	3:C:155:GLU:OE2	2.14	0.47
7:G:176:LYS:CD	34:i:43:MET:HE1	2.45	0.47
9:I:203:ARG:NH2	46:7:105:C:OP2	2.47	0.47
24:Y:35:SER:OG	24:Y:106:ILE:O	2.31	0.47
24:Y:74:TYR:HD1	47:8:74:U:C4	2.32	0.47
37:l:13:LEU:HD22	45:5:2407:G:H2'	1.96	0.47
45:5:400:A2M:HM'2	45:5:401:G:O4'	2.15	0.47
45:5:1198:G:H2'	45:5:1199:G:O4'	2.14	0.47
45:5:1211:G:H2'	45:5:1212:G:O5'	2.15	0.47
45:5:1533:A:C8	45:5:1622:U:O4	2.68	0.47
45:5:2491:C:H2'	45:5:2492:C:C4'	2.44	0.47
45:5:2864:A:H2'	45:5:2865:U:C6	2.48	0.47
45:5:4594:U:C2	45:5:4595:G:C8	3.02	0.47
45:5:4992:G:H2'	45:5:4993:G:C8	2.48	0.47
48:v:27:HIS:ND1	48:v:138:GLN:HB2	2.29	0.47
48:v:649:ILE:HA	48:v:663:THR:HG22	1.96	0.47
49:9:12:U:O2'	49:9:1356:G:H1'	2.14	0.47
49:9:509:OMG:HM22	49:9:510:G:O4'	2.15	0.47
49:9:981:A:H2'	49:9:982:G:C8	2.49	0.47
50:AA:15:VAL:O	50:AA:19:LEU:HG	2.14	0.47
52:CC:145:LYS:HA	52:CC:145:LYS:HE3	1.96	0.47
57:HH:146:VAL:CG1	72:WW:42:MET:HE1	2.44	0.47
3:C:323:ARG:NH2	45:5:976:G:N7	2.56	0.47
5:E:73:ARG:NH1	45:5:983:C:H41	2.13	0.47
13:N:33:LEU:HD13	13:N:37:HIS:NE2	2.30	0.47
18:S:82:LEU:HD12	18:S:124:ILE:HG23	1.96	0.47
25:Z:46:ILE:HG21	25:Z:49:TYR:HA	1.97	0.47
25:Z:74:VAL:O	25:Z:74:VAL:HG13	2.14	0.47
25:Z:87:VAL:HG12	25:Z:127:ASN:ND2	2.30	0.47
26:a:43:ILE:HD12	45:5:1682:A:N3	2.30	0.47
38:m:79:GLU:OE1	38:m:79:GLU:N	2.47	0.47
43:s:30:VAL:O	43:s:86:VAL:HB	2.15	0.47
45:5:1956:A:HO2'	45:5:1957:U:P	2.38	0.47
45:5:2715:G:H2'	45:5:2716:C:O4'	2.15	0.47
45:5:3661:G:N1	45:5:3682:A:OP2	2.46	0.47
45:5:4123:C:H2'	45:5:4124:G:O4'	2.14	0.47
48:v:604:MET:HB2	48:v:703:ASP:O	2.14	0.47
49:9:26:U:H2'	49:9:27:A2M:H8	1.97	0.47
49:9:688:U:O2	49:9:689:U:C6	2.67	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:962:A:O3'	64:OO:66:ARG:HG3	2.14	0.47
50:AA:158:ASP:OD2	71:VV:32:ILE:HD11	2.15	0.47
51:BB:43:ASN:O	51:BB:43:ASN:OD1	2.32	0.47
52:CC:149:THR:HG22	52:CC:152:ARG:NH2	2.29	0.47
53:DD:22:ASN:O	53:DD:26:THR:HG23	2.14	0.47
58:II:55:TYR:O	58:II:183:GLY:N	2.47	0.47
58:II:64:ASN:HB3	58:II:186:ASP:OD1	2.15	0.47
66:QQ:48:GLN:O	66:QQ:52:LEU:HD23	2.14	0.47
68:SS:42:HIS:O	68:SS:46:ARG:HG2	2.15	0.47
82:gg:121:VAL:HG22	82:gg:156:PHE:CZ	2.50	0.47
2:B:84:MET:HE2	2:B:183:ILE:HD11	1.96	0.47
2:B:165:HIS:ND1	2:B:166:THR:O	2.46	0.47
8:H:16:VAL:HG21	8:H:85:THR:HG23	1.96	0.47
8:H:75:SER:OG	45:5:4691:A:OP1	2.33	0.47
11:L:119:GLU:CD	11:L:155:MET:HE3	2.39	0.47
13:N:36:LEU:HG	13:N:64:ILE:HD12	1.95	0.47
15:P:41:ILE:HD13	15:P:150:LEU:CD2	2.45	0.47
16:Q:156:PRO:O	26:a:50:PRO:HD3	2.15	0.47
31:f:11:PHE:CE1	31:f:26:ALA:HB1	2.49	0.47
34:i:68:ARG:NE	45:5:3722:G:P	2.87	0.47
34:i:82:ARG:NH2	45:5:306:A:N3	2.63	0.47
44:t:10:ILE:O	44:t:10:ILE:HG13	2.14	0.47
45:5:259:C:H2'	45:5:260:C:C6	2.50	0.47
45:5:449:C:H4'	45:5:450:G:H5'	1.95	0.47
45:5:930:G:HO2'	45:5:931:C:P	2.38	0.47
45:5:930:G:O2'	45:5:931:C:P	2.72	0.47
45:5:956:A:H1'	45:5:2076:G:H5''	1.97	0.47
45:5:962:C:N4	45:5:963:G:O6	2.48	0.47
45:5:1275:G:H2'	45:5:1276:C:O4'	2.13	0.47
45:5:1411(C):C:N4	45:5:1412:G:O6	2.48	0.47
45:5:2005:G:H2'	45:5:2005:G:N3	2.30	0.47
45:5:2397:G:C8	45:5:2399:G:C8	3.03	0.47
45:5:3846:C:O2	45:5:4632:U:O2'	2.32	0.47
45:5:4114:C:H2'	45:5:4115:G:O4'	2.15	0.47
46:7:75:G:N2	46:7:100:A:OP2	2.41	0.47
48:v:641:TRP:CZ2	48:v:645:GLU:HB3	2.50	0.47
49:9:116:OMU:H4'	49:9:116:OMU:HM23	1.97	0.47
49:9:550:C:O2'	49:9:551:U:O4'	2.33	0.47
49:9:928:G:C6	49:9:1014:G:C6	3.03	0.47
49:9:991:G:C6	49:9:1134:G:H4'	2.49	0.47
49:9:1101:U:H3	49:9:1131:G:H1	1.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1115:U:O2'	49:9:1116:C:P	2.72	0.47
49:9:1335:G:H2'	49:9:1336:C:O4'	2.15	0.47
49:9:1414:A:H2'	49:9:1415:C:O4'	2.14	0.47
49:9:1431:G:H2'	49:9:1432:U:C6	2.50	0.47
49:9:1637:A:H1'	49:9:1638:G:OP2	2.14	0.47
49:9:1725:U:H2'	49:9:1726:G:O4'	2.15	0.47
51:BB:165:ARG:O	51:BB:169:MET:HG2	2.15	0.47
53:DD:29:LEU:HD13	53:DD:58:VAL:HG23	1.97	0.47
55:FF:17:ILE:HG22	55:FF:18:LYS:N	2.29	0.47
56:GG:18:VAL:CG1	56:GG:24:LEU:HD21	2.44	0.47
58:II:194:GLU:OE2	61:LL:12:LYS:HD3	2.14	0.47
63:NN:4:MET:HE1	63:NN:121:ARG:CG	2.41	0.47
65:PP:17:TYR:O	65:PP:18:ARG:C	2.57	0.47
68:SS:20:ILE:HD11	68:SS:33:ILE:HD11	1.97	0.47
69:TT:112:MET:HE2	69:TT:112:MET:HA	1.95	0.47
70:UU:69:PRO:O	79:dd:40:ARG:NH2	2.48	0.47
76:aa:58:VAL:O	76:aa:58:VAL:HG12	2.14	0.47
80:ee:88:GLN:C	80:ee:89:THR:HG1	2.14	0.47
2:B:103:LYS:NZ	2:B:149:ASP:OD2	2.40	0.47
2:B:297:LYS:CG	2:B:299:ILE:HG23	2.42	0.47
3:C:103:ALA:HA	45:5:1517:2MG:HN2	1.80	0.47
9:I:13:LYS:NZ	45:5:1867:A:OP1	2.44	0.47
9:I:61:SER:HA	9:I:126:VAL:HG12	1.97	0.47
14:O:49:ARG:NE	45:5:1930:U:OP2	2.48	0.47
15:P:13:LYS:C	15:P:107:LEU:HD21	2.39	0.47
18:S:127:MET:CE	19:T:155:PRO:HA	2.45	0.47
24:Y:112:ASP:O	24:Y:113:LYS:C	2.58	0.47
28:c:104:ILE:HG23	28:c:105:ILE:HG13	1.97	0.47
30:e:26:ASP:OD1	30:e:26:ASP:C	2.58	0.47
36:k:5:ILE:CD1	36:k:14:THR:HG21	2.45	0.47
44:t:153:ASP:OD1	44:t:154:ASP:N	2.46	0.47
45:5:132:G:H2'	45:5:133:C:O4'	2.15	0.47
45:5:1078:A:C6	45:5:1233:G:O6	2.68	0.47
45:5:2079:G:H2'	45:5:2080:U:C6	2.50	0.47
45:5:2503:G:H4'	45:5:2504:C:OP1	2.14	0.47
45:5:2553:A:H2	45:5:2765:A:H62	1.63	0.47
45:5:2862:G:O2'	45:5:3624:A:O2'	2.22	0.47
45:5:3605:C:N3	45:5:3606:U:C5	2.83	0.47
48:v:43:ALA:O	48:v:77:LEU:HA	2.14	0.47
49:9:317:C:H2'	49:9:318:A:C1'	2.45	0.47
49:9:1096:G:H4'	49:9:1096:G:OP1	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:EE:42:LEU:HD12	54:EE:42:LEU:O	2.14	0.47
56:GG:186:GLN:HA	56:GG:189:ARG:HD3	1.97	0.47
62:MM:49:LEU:HB2	62:MM:111:VAL:HB	1.96	0.47
71:VV:32:ILE:CD1	71:VV:60:ARG:HD2	2.45	0.47
73:XX:94:ILE:HG21	73:XX:125:VAL:HG11	1.96	0.47
6:F:237:ASP:O	6:F:240:ASN:ND2	2.48	0.47
10:J:40:LEU:HD23	10:J:40:LEU:C	2.40	0.47
11:L:94:ILE:CD1	11:L:96:ILE:HD12	2.44	0.47
12:M:118:MET:HG3	14:O:192:PHE:CE2	2.50	0.47
19:T:116:LYS:HG3	19:T:128:LEU:HD11	1.97	0.47
26:a:28:HIS:CE1	26:a:32:ARG:HE	2.33	0.47
29:d:68:LEU:HD11	29:d:86:VAL:HG12	1.97	0.47
40:o:62:THR:O	40:o:62:THR:HG22	2.13	0.47
43:s:161:ILE:HD11	43:s:167:VAL:HG23	1.97	0.47
45:5:457:G:C6	45:5:700:G:C6	3.03	0.47
45:5:2055:G:H3'	45:5:2056:G:C5'	2.44	0.47
48:v:595:SER:O	48:v:598:LYS:N	2.40	0.47
49:9:129:C:O2'	49:9:184:G:O6	2.23	0.47
49:9:376:A:H2'	49:9:377:G:O4'	2.14	0.47
49:9:479:C:C2'	49:9:480:G:O5'	2.62	0.47
49:9:973:C:C2	49:9:974:C:C6	3.03	0.47
57:HH:130:LEU:HD23	57:HH:139:ILE:HD11	1.97	0.47
58:II:117:TYR:CE2	58:II:156:ALA:HA	2.50	0.47
64:OO:85:CYS:SG	64:OO:90:ILE:HB	2.54	0.47
72:WW:42:MET:HE2	72:WW:50:PHE:CE2	2.50	0.47
74:YY:29:HIS:ND1	74:YY:29:HIS:O	2.48	0.47
80:ee:95:GLN:O	80:ee:96:GLU:CB	2.63	0.47
2:B:101:THR:O	2:B:101:THR:HG23	2.14	0.47
2:B:102:PHE:CD2	2:B:157:CYS:SG	3.08	0.47
3:C:108:TRP:HB2	13:N:200:LEU:HD13	1.97	0.47
5:E:185:ASN:HB2	5:E:187:VAL:HG23	1.96	0.47
8:H:80:MET:O	8:H:84:VAL:HG22	2.15	0.47
8:H:115:ARG:CZ	8:H:123:ILE:HD12	2.45	0.47
18:S:80:ILE:HD12	18:S:97:TYR:CD2	2.49	0.47
18:S:82:LEU:HD13	18:S:109:CYS:SG	2.55	0.47
25:Z:84:ARG:HH22	32:g:102:ILE:HG21	1.79	0.47
28:c:90:ARG:NH2	45:5:2673:G:OP2	2.48	0.47
33:h:33:VAL:O	33:h:37:THR:HG23	2.15	0.47
39:n:10:MET:SD	49:9:1172:U:H4'	2.55	0.47
44:t:152:ILE:CG2	44:t:155:ILE:HD12	2.44	0.47
45:5:158:A:H5''	45:5:159:C:H2'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:230:G:H2'	45:5:231:U:O4'	2.14	0.47
45:5:662:C:H2'	45:5:663:G:O4'	2.15	0.47
45:5:1405:C:N4	45:5:1406:G:O6	2.47	0.47
45:5:1431:C:H2'	45:5:1432:G:O4'	2.14	0.47
45:5:1909:G:H2'	45:5:1910:G:O4'	2.15	0.47
45:5:3656:A:O4'	45:5:3747:A:C2	2.68	0.47
45:5:3726:A:N6	45:5:4359:U:O2'	2.48	0.47
45:5:3928:A:H2'	45:5:3929:G:O4'	2.15	0.47
45:5:4461:C:O2'	45:5:4462:C:H5'	2.15	0.47
48:v:451:ILE:HD12	48:v:459:GLU:O	2.14	0.47
49:9:1122:A:N3	51:BB:146:ARG:NH1	2.63	0.47
66:QQ:12:VAL:HG22	66:QQ:91:ALA:HB2	1.97	0.47
85:2:43:A:H2'	85:2:44:G:C8	2.49	0.47
3:C:7:LEU:HD11	45:5:489:C:H4'	1.97	0.46
4:D:136:ASP:OD1	4:D:137:GLY:N	2.48	0.46
10:J:43:LEU:HD23	10:J:43:LEU:C	2.40	0.46
14:O:90:HIS:NE2	45:5:3886:G:OP2	2.48	0.46
16:Q:181:ARG:HH22	45:5:1391:A:P	2.38	0.46
18:S:44:PHE:CZ	18:S:48:VAL:HG11	2.50	0.46
20:U:60:VAL:O	20:U:74:SER:OG	2.22	0.46
43:s:111:ALA:N	43:s:181:SER:OG	2.48	0.46
45:5:31:U:H2'	45:5:32:G:O4'	2.14	0.46
45:5:1979:A:H2'	45:5:1980:U:O4'	2.15	0.46
45:5:2068:C:O2'	45:5:2069:A:H5''	2.15	0.46
45:5:2409:U:C5	45:5:2783:A:N1	2.84	0.46
45:5:3853:PSU:O2'	45:5:4979:A:N3	2.47	0.46
45:5:4096:C:H41	45:5:4112:C:H42	1.63	0.46
45:5:4586:G:C6	45:5:4717:A:C6	3.03	0.46
45:5:4698:C:HO2'	45:5:4699:U:H6	1.61	0.46
48:v:73:THR:O	48:v:74:ALA:C	2.58	0.46
49:9:301:A:C2'	58:II:73:THR:HG22	2.45	0.46
49:9:434:G:O2'	49:9:435:A:P	2.72	0.46
49:9:480:G:H2'	49:9:481:C:C6	2.49	0.46
49:9:1050:A:H4'	49:9:1846:G:O2'	2.14	0.46
49:9:1611:G:OP2	68:SS:121:ARG:NH2	2.46	0.46
49:9:1620:A:N3	49:9:1620:A:H2'	2.30	0.46
51:BB:171:ILE:HD13	51:BB:197:ILE:HA	1.96	0.46
54:EE:29:PRO:CB	54:EE:45:ILE:HG21	2.45	0.46
55:FF:20:PHE:O	55:FF:20:PHE:CG	2.67	0.46
64:OO:146:ARG:HG2	76:aa:29:CYS:HB3	1.97	0.46
66:QQ:53:GLU:O	66:QQ:57:LEU:HD23	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:RR:6:THR:HG22	67:RR:7:LYS:N	2.30	0.46
69:TT:6:VAL:HA	69:TT:135:ALA:CB	2.45	0.46
82:gg:191:HIS:CD2	82:gg:195:LEU:HD21	2.50	0.46
3:C:20:LYS:HD3	3:C:254:GLU:OE2	2.15	0.46
5:E:153:LEU:HD23	5:E:199:ALA:HA	1.96	0.46
6:F:66:THR:O	6:F:70:MET:HG2	2.16	0.46
7:G:218:LEU:O	7:G:222:ILE:HG12	2.15	0.46
18:S:127:MET:HE3	19:T:155:PRO:HA	1.97	0.46
26:a:17:HIS:CD2	45:5:1338:G:C2	3.02	0.46
36:k:37:ARG:NH1	45:5:2537:A:OP2	2.47	0.46
41:p:73:THR:O	41:p:76:ALA:N	2.48	0.46
45:5:66:A:N6	45:5:282:C:O2'	2.42	0.46
45:5:700:G:C2	45:5:701:G:C8	3.03	0.46
45:5:720:G:O2'	45:5:721:G:H5'	2.15	0.46
45:5:725:G:O2'	45:5:726:G:H5'	2.15	0.46
45:5:1321:G:OP1	45:5:1880:G:O2'	2.27	0.46
45:5:1475:G:O2'	45:5:1476:C:O4'	2.22	0.46
45:5:1758:G:H2'	45:5:1758:G:N3	2.29	0.46
45:5:1760:G:O2'	45:5:1761:G:O4'	2.22	0.46
45:5:2267:U:O2	45:5:2267:U:O4'	2.32	0.46
45:5:2519:U:C2	45:5:2520:C:C5	3.03	0.46
45:5:2639:U:H2'	45:5:2694:G:O6	2.15	0.46
45:5:2668:G:N1	45:5:2734:U:O2'	2.45	0.46
49:9:98:C:H2'	49:9:426:A:H4'	1.97	0.46
49:9:1411:G:H2'	49:9:1412:C:O4'	2.14	0.46
49:9:1842:4AC:O7	49:9:1842:4AC:H5	2.14	0.46
51:BB:59:SER:HB3	51:BB:91:VAL:HG21	1.97	0.46
54:EE:102:ILE:CG1	54:EE:182:MET:HE1	2.45	0.46
54:EE:149:TYR:CD2	56:GG:205:GLU:HB3	2.50	0.46
56:GG:89:THR:HG23	56:GG:89:THR:O	2.14	0.46
57:HH:170:VAL:HG13	57:HH:187:PHE:HB2	1.96	0.46
68:SS:43:VAL:HG11	68:SS:83:PHE:CE2	2.50	0.46
73:XX:54:LYS:NZ	73:XX:94:ILE:O	2.44	0.46
82:gg:24:THR:HB	82:gg:71:ILE:HD13	1.96	0.46
5:E:115:MET:HE1	45:5:2261:G:H4'	1.97	0.46
10:J:46:GLN:NE2	46:7:39:C:O2	2.48	0.46
10:J:157:ILE:HG22	10:J:158:SER:N	2.31	0.46
12:M:37:LEU:HD13	18:S:100:LEU:CD2	2.44	0.46
18:S:173:ASN:OD1	18:S:174:THR:N	2.48	0.46
29:d:20:VAL:HG12	29:d:20:VAL:O	2.15	0.46
41:p:50:ARG:HH21	41:p:56:HIS:CG	2.32	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:176:G:H2'	45:5:177:G:O4'	2.15	0.46
45:5:267:G:HO2'	45:5:268:G:P	2.36	0.46
45:5:1098:G:C2'	45:5:1099:C:O5'	2.64	0.46
45:5:2504:C:O2'	45:5:2505:C:O2	2.34	0.46
45:5:2695:A:H1'	45:5:2696:A:OP2	2.15	0.46
45:5:2849:A:N7	45:5:3838:U:O4	2.49	0.46
45:5:2861:OMC:HM22	45:5:3625:G:N7	2.31	0.46
45:5:4296:PSU:H2'	45:5:4297:G:O4'	2.15	0.46
48:v:592:LEU:HD13	48:v:603:TYR:CE2	2.50	0.46
48:v:592:LEU:HB3	48:v:603:TYR:CD2	2.50	0.46
49:9:422:U:O2'	49:9:652:U:OP1	2.33	0.46
49:9:1610:G:O2'	68:SS:86:ARG:NH1	2.48	0.46
49:9:1801:A:H2'	49:9:1802:C:C6	2.51	0.46
55:FF:28:VAL:O	55:FF:28:VAL:HG13	2.15	0.46
55:FF:52:SER:OG	55:FF:70:GLU:OE2	2.15	0.46
55:FF:196:LEU:O	55:FF:199:VAL:HG22	2.15	0.46
62:MM:66:GLU:OE1	62:MM:66:GLU:HA	2.15	0.46
67:RR:60:ARG:CZ	67:RR:66:VAL:HG12	2.45	0.46
82:gg:7:LEU:HD21	82:gg:310:TRP:CE2	2.50	0.46
82:gg:298:LEU:C	82:gg:298:LEU:HD12	2.40	0.46
2:B:338:VAL:O	2:B:338:VAL:HG23	2.16	0.46
3:C:36:ILE:CD1	45:5:1350:C:O2'	2.63	0.46
3:C:100:ARG:HG3	3:C:101:MET:O	2.15	0.46
4:D:221:LYS:NZ	46:7:30:C:O2'	2.47	0.46
5:E:195:LYS:O	31:f:106:TYR:O	2.34	0.46
8:H:106:GLN:O	8:H:107:GLU:HB2	2.15	0.46
9:I:26:VAL:HG22	9:I:122:PRO:HB3	1.97	0.46
14:O:134:LYS:NZ	45:5:4702:G:OP2	2.41	0.46
23:X:87:MET:HA	23:X:87:MET:HE3	1.97	0.46
26:a:116:LYS:CE	45:5:1420:A:N7	2.79	0.46
29:d:68:LEU:HD23	29:d:68:LEU:O	2.15	0.46
32:g:20:THR:HG22	32:g:34:TYR:CE1	2.50	0.46
42:r:67:ARG:O	42:r:67:ARG:HD3	2.15	0.46
44:t:153:ASP:O	44:t:157:SER:C	2.59	0.46
45:5:64:A:H1'	45:5:76:A:H1'	1.98	0.46
45:5:106:A:H2'	45:5:107:G:O4'	2.16	0.46
45:5:369:G:N2	45:5:372:A:OP2	2.42	0.46
45:5:1534:A2M:H2'	45:5:1637:A:N1	2.31	0.46
45:5:1586:G:O2'	45:5:1587:G:H5'	2.15	0.46
45:5:2574:G:N7	45:5:2760:G:N2	2.63	0.46
45:5:3801:U:HO2'	45:5:3802:U:P	2.35	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:3837:C:H2'	45:5:3838:U:O4'	2.16	0.46
45:5:4633:G:O3'	45:5:4634:U:H3'	2.15	0.46
45:5:4924:C:C2'	45:5:4925:U:O4'	2.62	0.46
45:5:5002:U:H2'	45:5:5003:U:C6	2.51	0.46
48:v:641:TRP:CH2	48:v:701:ARG:NH1	2.83	0.46
48:v:693:CYS:O	48:v:842:LYS:NZ	2.48	0.46
48:v:701:ARG:NH1	48:v:703:ASP:OD2	2.47	0.46
48:v:718:GLY:HA2	48:v:721:ILE:HG22	1.96	0.46
49:9:596:U:OP1	73:XX:135:LYS:NZ	2.48	0.46
50:AA:59:LEU:O	50:AA:63:ARG:HG3	2.15	0.46
54:EE:63:LYS:O	54:EE:67:GLN:HG2	2.15	0.46
59:JJ:141:VAL:CG1	74:YY:65:GLY:HA2	2.45	0.46
60:KK:80:ARG:NH2	60:KK:90:VAL:HG12	2.31	0.46
65:PP:111:MET:CA	68:SS:117:ILE:HD11	2.44	0.46
68:SS:30:ILE:HD11	68:SS:71:MET:CE	2.46	0.46
82:gg:227:LEU:O	82:gg:228:TYR:CD1	2.68	0.46
1:A:3:ARG:CB	1:A:207:VAL:HG22	2.41	0.46
1:A:241:ARG:NH1	45:5:3659:G:OP1	2.48	0.46
3:C:104:PRO:CD	45:5:1650:A:H61	2.29	0.46
3:C:110:ARG:NH1	45:5:1508:A:OP1	2.47	0.46
5:E:131:HIS:HB2	45:5:1281:G:C6	2.51	0.46
6:F:152:LEU:HD23	6:F:247:ASN:HD22	1.80	0.46
9:I:152:LEU:CB	9:I:165:ILE:HD12	2.45	0.46
10:J:26:VAL:HG23	10:J:28:GLU:H	1.81	0.46
11:L:9:ILE:HD12	26:a:45:PHE:CE2	2.50	0.46
33:h:7:ARG:HD3	47:8:86:U:C5	2.51	0.46
42:r:38:PHE:N	45:5:2267:U:OP1	2.48	0.46
43:s:43:ILE:HG23	43:s:47:LEU:HD12	1.97	0.46
45:5:173:C:H2'	45:5:174:C:C1'	2.45	0.46
45:5:930:G:C2'	45:5:931:C:O5'	2.63	0.46
45:5:2009:A:H62	48:v:753:GLU:HB2	1.81	0.46
45:5:2359:U:OP2	45:5:2360:A:O2'	2.32	0.46
45:5:3635:A:C8	45:5:3692:A:C8	3.04	0.46
45:5:3896:C:O2	45:5:4564:A:N1	2.48	0.46
45:5:4491:G:O2'	45:5:4511:A:N1	2.46	0.46
48:v:582:THR:HG22	48:v:583:VAL:N	2.30	0.46
49:9:553:U:O2'	49:9:554:A:O5'	2.31	0.46
49:9:857:U:H2'	49:9:858:A:C8	2.51	0.46
49:9:1144:A:H5'	49:9:1355:C:H41	1.80	0.46
49:9:1623:A:N6	68:SS:132:ARG:HE	2.13	0.46
54:EE:185:GLY:N	54:EE:189:LEU:HD13	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:LL:80:MET:CE	61:LL:120:VAL:HG13	2.46	0.46
67:RR:41:ILE:HD12	67:RR:50:ILE:HD12	1.98	0.46
1:A:20:VAL:HA	1:A:23:ARG:HG3	1.98	0.46
1:A:101:VAL:HG22	1:A:165:VAL:HG22	1.97	0.46
1:A:200:ARG:HD2	45:5:3690:U:OP2	2.16	0.46
1:A:243:THR:N	45:5:3745:U:O2'	2.48	0.46
3:C:139:SER:O	42:r:15:SER:N	2.37	0.46
3:C:156:ASP:CG	3:C:255:SER:HG	2.23	0.46
5:E:53:VAL:HG22	5:E:54:ARG:N	2.30	0.46
7:G:135:VAL:HG22	7:G:136:LEU:N	2.31	0.46
7:G:165:GLU:CG	13:N:19:MET:HE1	2.46	0.46
12:M:11:ARG:NE	12:M:61:ILE:HD11	2.30	0.46
21:V:90:ARG:CZ	21:V:96:LEU:HD22	2.45	0.46
27:b:17:HIS:NE2	27:b:21:ILE:HD12	2.30	0.46
34:i:66:ASP:OD1	34:i:66:ASP:C	2.59	0.46
42:r:56:ASP:OD1	42:r:57:GLY:N	2.48	0.46
45:5:909:G:C2	45:5:910:G:C8	3.04	0.46
45:5:1092:G:C6	45:5:1205:G:C6	3.04	0.46
45:5:1291:G:O2'	45:5:1292:C:P	2.73	0.46
45:5:1670:G:O2'	45:5:1853:G:H4'	2.16	0.46
45:5:2013:A:H2'	45:5:2014:C:C6	2.50	0.46
45:5:2544:G:C8	47:8:126:C:H5''	2.51	0.46
45:5:2835:A:N6	45:5:3853:PSU:O4'	2.49	0.46
45:5:3653:A:C2	45:5:3692:A:C4'	2.98	0.46
46:7:43:U:C2	46:7:44:C:C6	3.04	0.46
47:8:79:G:H2'	47:8:80:A:O4'	2.15	0.46
49:9:846:G:C5	54:EE:19:MET:CE	2.98	0.46
49:9:1220:A:H2'	49:9:1221:G:O4'	2.16	0.46
50:AA:178:LEU:O	50:AA:182:VAL:HG23	2.14	0.46
55:FF:152:TRP:O	55:FF:156:THR:HG23	2.16	0.46
59:JJ:134:HIS:ND1	59:JJ:163:SER:OG	2.48	0.46
61:LL:80:MET:HE1	61:LL:120:VAL:HG13	1.96	0.46
68:SS:27:ALA:HB1	68:SS:42:HIS:CE1	2.51	0.46
69:TT:62:ARG:HA	69:TT:65:TYR:CE2	2.50	0.46
73:XX:95:GLU:OE1	73:XX:95:GLU:N	2.48	0.46
80:ee:97:LYS:O	80:ee:98:LYS:CB	2.63	0.46
82:gg:88:ARG:HD3	82:gg:100:ARG:HD3	1.98	0.46
2:B:213:GLN:O	2:B:214:ASP:OD1	2.33	0.46
2:B:224:LYS:NZ	45:5:4667:C:OP1	2.29	0.46
10:J:159:LYS:O	10:J:163:MET:HG3	2.15	0.46
12:M:132:ARG:CZ	45:5:4895:C:O2	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:N:136:ASP:OD2	47:8:141:C:HI'	2.15	0.46
16:Q:108:ARG:NH2	45:5:1355:G:OP1	2.41	0.46
20:U:39:PHE:CE2	20:U:70:ILE:HD13	2.51	0.46
31:f:93:PRO:O	31:f:94:ALA:HB3	2.15	0.46
35:j:25:LYS:O	35:j:25:LYS:CG	2.64	0.46
35:j:56:ARG:NH2	45:5:374:G:OP2	2.38	0.46
40:o:44:LYS:NZ	45:5:91:G:O5'	2.45	0.46
44:t:160:VAL:HG22	44:t:161:GLU:N	2.30	0.46
45:5:275:C:O2'	45:5:276:C:P	2.74	0.46
45:5:1080:C:O2	45:5:1219:G:C2	2.68	0.46
45:5:1620:U:O2'	45:5:2450:G:O2'	2.18	0.46
45:5:2519:U:H4'	45:5:2520:C:OP1	2.16	0.46
45:5:3637:U:O4	45:5:3651:A:H2	1.98	0.46
45:5:3771:C:H2'	45:5:3772:U:O4'	2.15	0.46
48:v:126:LEU:HD21	48:v:156:MET:CB	2.45	0.46
49:9:572:U:N3	49:9:577:U:OP2	2.42	0.46
49:9:581:U:H4'	74:YY:66:GLY:CA	2.46	0.46
49:9:891:G:H2'	49:9:891:G:N3	2.30	0.46
49:9:953:C:O2	64:OO:55:ARG:NH2	2.48	0.46
49:9:1447:G:H2'	49:9:1448:A:C8	2.51	0.46
54:EE:191:ARG:HE	54:EE:245:ARG:HD2	1.81	0.46
57:HH:63:PHE:HA	57:HH:95:ILE:O	2.16	0.46
60:KK:15:LEU:CD2	60:KK:71:LEU:HD21	2.46	0.46
82:gg:226:HIS:NE2	82:gg:229:THR:OG1	2.47	0.46
82:gg:299:PHE:CD1	82:gg:309:VAL:HG12	2.50	0.46
5:E:98:PRO:O	45:5:687:U:O2'	2.19	0.46
8:H:26:ILE:CG2	8:H:35:ARG:HE	2.29	0.46
11:L:36:ARG:O	11:L:40:GLN:HG2	2.15	0.46
11:L:124:LEU:HD11	33:h:119:TYR:HB2	1.98	0.46
12:M:2:VAL:HG11	45:5:4765:G:OP2	2.15	0.46
17:R:79:GLY:O	45:5:3619:G:H4'	2.16	0.46
18:S:84:TYR:CE1	18:S:93:MET:SD	3.09	0.46
19:T:35:LYS:N	19:T:38:ASP:OD2	2.46	0.46
19:T:105:PHE:O	19:T:109:VAL:HG23	2.16	0.46
28:c:92:CYS:O	28:c:93:THR:OG1	2.34	0.46
42:r:97:ILE:HG21	42:r:107:ARG:HB2	1.98	0.46
43:s:55:MET:HE1	45:5:1998:A:C8	2.50	0.46
44:t:11:LYS:HB2	44:t:64:ILE:HB	1.97	0.46
45:5:406:C:O2'	45:5:407:A:P	2.71	0.46
45:5:970:G:H2'	45:5:971:U:O4'	2.16	0.46
45:5:1324:A:C2	45:5:3876:A:O2'	2.60	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:1455:G:HO2'	45:5:1456:C:P	2.39	0.46
45:5:3725:G:N2	45:5:3728:A:OP2	2.45	0.46
45:5:4661:G:N2	45:5:5004:C:O3'	2.49	0.46
45:5:4998:G:H2'	45:5:4999:G:O4'	2.16	0.46
48:v:590:LEU:HD13	48:v:605:LYS:HG2	1.98	0.46
50:AA:33:GLN:HB3	50:AA:154:LEU:HD12	1.98	0.46
52:CC:191:VAL:HG11	52:CC:236:PHE:HA	1.96	0.46
54:EE:45:ILE:HG23	54:EE:46:ILE:N	2.30	0.46
55:FF:32:ASP:OD2	55:FF:146:ARG:NH1	2.49	0.46
64:OO:35:ALA:HB2	64:OO:112:ALA:HB2	1.98	0.46
64:OO:100:THR:O	64:OO:100:THR:HG22	2.16	0.46
2:B:298:LEU:HG	2:B:300:LYS:HE2	1.98	0.46
7:G:187:LYS:NZ	7:G:198:THR:HG21	2.31	0.46
13:N:166:SER:O	13:N:170:LYS:HG2	2.16	0.46
18:S:98:ARG:NH1	45:5:748:G:O6	2.46	0.46
23:X:139:ARG:NH1	45:5:2533:C:OP1	2.49	0.46
43:s:163:THR:HG23	43:s:163:THR:O	2.15	0.46
45:5:40:G:N2	45:5:4380:A:H62	2.14	0.46
45:5:507:G:O2'	45:5:508:G:H5'	2.15	0.46
45:5:922(B):C:H2'	45:5:923:C:O4'	2.16	0.46
45:5:1279:A:O2'	45:5:1281:G:N7	2.31	0.46
45:5:1384:C:O2	45:5:1505:C:H4'	2.15	0.46
45:5:1523:A:O2'	45:5:1524:A2M:O5'	2.29	0.46
45:5:2365:OMC:HM21	45:5:2828:U:O2	2.15	0.46
45:5:3652:A:C3'	45:5:3653:A:C8	2.98	0.46
48:v:27:HIS:CG	48:v:136:CYS:SG	3.09	0.46
49:9:961:G:OP1	64:OO:149:ARG:NH1	2.48	0.46
49:9:1086:G:O2'	49:9:1088:U:OP2	2.25	0.46
49:9:1399:C:C2	49:9:1400:U:C5	3.03	0.46
49:9:1497:G:H4'	49:9:1498:A:H5'	1.98	0.46
49:9:1780:G:H2'	49:9:1781:A:N9	2.31	0.46
55:FF:51:HIS:ND1	66:QQ:82:TYR:OH	2.48	0.46
70:UU:63:ILE:CD1	79:dd:36:LEU:HD11	2.46	0.46
74:YY:7:ILE:HG22	74:YY:27:VAL:HG13	1.97	0.46
3:C:190:ARG:N	3:C:200:ARG:O	2.43	0.46
4:D:4:VAL:HG22	4:D:5:LYS:H	1.80	0.46
8:H:118:LEU:HD11	8:H:167:VAL:HG12	1.98	0.46
14:O:74:ARG:O	14:O:142:ALA:HB1	2.15	0.46
19:T:87:LYS:NZ	45:5:4305:G:H22	2.13	0.46
24:Y:95:VAL:HG21	45:5:386:A:H5''	1.97	0.46
32:g:50:PRO:HD3	41:p:61:MET:HE3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:o:5:PRO:HD3	45:5:4232:U:C2	2.51	0.46
42:r:61:VAL:O	42:r:61:VAL:HG23	2.16	0.46
45:5:2095:A:H2'	45:5:2096:G:C8	2.51	0.46
45:5:3717:A:H1'	45:5:4179:G:H4'	1.97	0.46
45:5:4532:PSU:H2'	45:5:4533:A:O4'	2.16	0.46
47:8:86:U:O2'	47:8:87:G:N7	2.44	0.46
48:v:617:ILE:HG21	48:v:659:PRO:HA	1.97	0.46
49:9:1560:U:HO2'	49:9:1583:C:HO2'	1.22	0.46
49:9:1622:U:H3'	49:9:1623:A:H4'	1.97	0.46
49:9:1807:C:H2'	49:9:1808:U:O4'	2.16	0.46
54:EE:126:VAL:HG13	54:EE:139:LEU:HG	1.98	0.46
54:EE:159:THR:HG21	54:EE:227:VAL:O	2.16	0.46
55:FF:108:PRO:HA	55:FF:111:VAL:HG22	1.98	0.46
57:HH:73:GLN:HA	57:HH:76:GLN:HB2	1.98	0.46
62:MM:111:VAL:HG12	62:MM:113:ASP:H	1.81	0.46
66:QQ:104:SER:O	66:QQ:108:ILE:HG12	2.16	0.46
67:RR:18:GLU:OE2	67:RR:69:ILE:HA	2.16	0.46
2:B:302:ASN:OD1	2:B:302:ASN:O	2.33	0.45
3:C:36:ILE:HG21	3:C:122:TYR:CD1	2.50	0.45
8:H:151:ILE:O	8:H:155:SER:OG	2.34	0.45
12:M:65:PRO:HB3	45:5:917:A:C2	2.52	0.45
16:Q:30:LYS:CE	42:r:8:MET:HE1	2.47	0.45
19:T:117:LYS:O	19:T:121:GLU:OE1	2.34	0.45
35:j:26:ALA:O	35:j:34:CYS:O	2.35	0.45
40:o:36:GLN:HB2	45:5:4363:A:H5''	1.99	0.45
41:p:8:VAL:O	41:p:11:VAL:HG22	2.16	0.45
45:5:1234:G:O2'	45:5:1235:G:OP2	2.26	0.45
45:5:2394:G:N2	45:5:2820:C:C5	2.84	0.45
45:5:3792:OMG:H2'	45:5:3792:OMG:N3	2.30	0.45
45:5:3948:C:O4'	45:5:4065:G:N1	2.49	0.45
45:5:4605:A:H62	48:v:802:SER:HA	1.80	0.45
47:8:21:C:C2'	47:8:22:U:H5'	2.46	0.45
48:v:27:HIS:HB3	48:v:30:HIS:CE1	2.50	0.45
48:v:518:PRO:HB3	73:XX:50:ILE:HG21	1.98	0.45
49:9:597:G:N1	49:9:640:A:C6	2.85	0.45
49:9:827:A:C5	49:9:828:G:C8	3.04	0.45
49:9:959:G:O2'	49:9:1065:G:H4'	2.15	0.45
49:9:1228:A:H2'	49:9:1229:G:C8	2.51	0.45
49:9:1232:U:H2'	49:9:1233:G:H8	1.81	0.45
49:9:1532:C:O2'	49:9:1601:A:N1	2.50	0.45
49:9:1850:MA6:H93	49:9:1851:MA6:N6	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:AA:159:ILE:CD1	71:VV:34:MET:HE1	2.43	0.45
51:BB:23:ASP:OD1	51:BB:23:ASP:N	2.49	0.45
52:CC:262:THR:HG22	52:CC:263:LYS:N	2.30	0.45
54:EE:247:THR:HG22	54:EE:250:GLU:OE2	2.15	0.45
56:GG:19:ASP:OD1	56:GG:19:ASP:N	2.48	0.45
75:ZZ:69:THR:HG22	75:ZZ:72:VAL:HG12	1.97	0.45
2:B:14:LEU:HD23	2:B:264:PHE:CE2	2.51	0.45
6:F:103:LYS:O	6:F:107:VAL:HG23	2.16	0.45
7:G:143:VAL:HG23	7:G:203:ALA:HB2	1.97	0.45
11:L:124:LEU:HD12	11:L:125:VAL:N	2.31	0.45
18:S:76:LYS:HD2	18:S:131:GLU:HG3	1.98	0.45
20:U:39:PHE:CZ	20:U:43:LEU:HD11	2.51	0.45
23:X:81:LEU:HD11	23:X:135:LYS:HG3	1.98	0.45
24:Y:106:ILE:HG21	24:Y:109:LEU:HD23	1.96	0.45
26:a:84:GLU:OE1	26:a:87:ARG:NH2	2.50	0.45
32:g:61:PRO:HB3	45:5:2598:A:N3	2.31	0.45
33:h:48:ARG:HG3	47:8:49:G:OP1	2.16	0.45
42:r:38:PHE:O	42:r:45:HIS:NE2	2.39	0.45
45:5:102:G:H21	45:5:1381:U:H6	1.64	0.45
45:5:978:G:H22	45:5:1277:G:H22	1.63	0.45
45:5:1593:A:H4'	45:5:2839:U:H4'	1.98	0.45
45:5:1755:C:O2	45:5:1756:U:C4	2.70	0.45
45:5:2004:U:H3	45:5:2015:U:H3	1.65	0.45
47:8:97:A:H2'	47:8:98:C:O4'	2.16	0.45
48:v:609:PHE:HB3	48:v:610:PRO:HD2	1.97	0.45
49:9:744:G:H2'	49:9:745:C:O4'	2.16	0.45
49:9:1260:A:C2	49:9:1620:A:C8	3.04	0.45
49:9:1373:C:O2	49:9:1465:A:O2'	2.35	0.45
49:9:1387:G:H2'	49:9:1388:A:O4'	2.16	0.45
54:EE:28:ALA:HB1	54:EE:29:PRO:HD2	1.98	0.45
55:FF:30:ILE:HD11	55:FF:36:GLN:CD	2.41	0.45
60:KK:12:TYR:CZ	60:KK:52:LEU:HD11	2.51	0.45
65:PP:79:HIS:O	65:PP:81:ARG:N	2.47	0.45
69:TT:5:THR:HG22	69:TT:6:VAL:N	2.22	0.45
76:aa:44:ILE:HG12	76:aa:67:LEU:HD11	1.98	0.45
12:M:130:LEU:HB3	14:O:177:LEU:HD22	1.99	0.45
13:N:148:THR:HG22	13:N:148:THR:O	2.16	0.45
15:P:121:LYS:O	47:8:13:G:O2'	2.26	0.45
17:R:74:ARG:NH2	45:5:2891:U:OP2	2.46	0.45
27:b:8:THR:O	45:5:1671:U:H4'	2.15	0.45
32:g:94:ALA:O	32:g:98:GLU:HG2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:s:28:PHE:HE1	43:s:192:VAL:HG13	1.81	0.45
44:t:12:VAL:HG13	44:t:61:LYS:HE2	1.98	0.45
44:t:104:ILE:O	44:t:143:VAL:HG23	2.16	0.45
45:5:180:C:H2'	45:5:181:C:N1	2.30	0.45
45:5:480:C:O2'	45:5:481:G:P	2.75	0.45
45:5:1633:G:H5'	45:5:1634:A:OP1	2.16	0.45
45:5:2811:G:N1	45:5:2814:C:OP2	2.47	0.45
45:5:3677:U:O2'	45:5:3685:C:O3'	2.34	0.45
45:5:3839:G:N2	45:5:3843:C:O2'	2.46	0.45
45:5:3891:A:H2'	45:5:3892:U:O4'	2.16	0.45
45:5:4559:A:O3'	45:5:4560:C:O2	2.35	0.45
45:5:4924:C:H2'	45:5:4925:U:N1	2.30	0.45
46:7:77:A:H2'	46:7:78:C:O4'	2.17	0.45
47:8:8:U:C2	47:8:9:A:C8	3.04	0.45
47:8:64:U:C2	47:8:65:A:C8	3.05	0.45
48:v:321:ILE:HD13	48:v:343:TRP:CD1	2.52	0.45
49:9:5:U:H2'	49:9:6:G:H8	1.82	0.45
49:9:91:A:N6	56:GG:89:THR:HG22	2.31	0.45
49:9:115:U:H2'	49:9:116:OMU:C6	2.47	0.45
49:9:118:C:H2'	49:9:119:PSU:C5'	2.44	0.45
49:9:189:U:O2	49:9:211:G:C2	2.69	0.45
49:9:371:A:OP2	58:II:10:LYS:HB2	2.15	0.45
49:9:682:U:OP2	73:XX:8:ARG:NE	2.49	0.45
49:9:943:U:C4	49:9:944:A:N7	2.84	0.45
49:9:1266:C:N3	49:9:1517:G:N2	2.64	0.45
55:FF:101:HIS:O	55:FF:105:GLY:N	2.44	0.45
64:OO:116:LEU:HD12	64:OO:117:ARG:N	2.31	0.45
65:PP:60:LEU:HD22	65:PP:89:MET:HE3	1.97	0.45
66:QQ:30:GLY:N	66:QQ:64:ALA:O	2.49	0.45
71:VV:32:ILE:HD12	71:VV:60:ARG:HD2	1.98	0.45
71:VV:66:ASP:O	71:VV:70:LEU:HD23	2.17	0.45
4:D:70:GLU:OE1	4:D:70:GLU:N	2.49	0.45
5:E:131:HIS:HB2	45:5:1281:G:O6	2.16	0.45
6:F:75:ARG:HD2	45:5:729:G:H5''	1.99	0.45
15:P:29:THR:HG21	15:P:146:ILE:HD11	1.98	0.45
15:P:48:LEU:HD12	15:P:95:LEU:HD12	1.98	0.45
17:R:32:ILE:O	17:R:35:ALA:HB3	2.15	0.45
18:S:82:LEU:HD11	18:S:113:MET:SD	2.57	0.45
24:Y:91:ASN:C	24:Y:91:ASN:OD1	2.60	0.45
28:c:18:LEU:O	28:c:22:MET:HG2	2.16	0.45
41:p:16:THR:HA	45:5:2876:OMG:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:121:A:H5'	45:5:122:U:OP2	2.16	0.45
45:5:271:C:H2'	45:5:272:U:C6	2.52	0.45
45:5:1322:1MA:O4'	45:5:1324:A:N7	2.50	0.45
45:5:1572:U:O2'	45:5:2668:G:H5'	2.15	0.45
45:5:2068:C:C4'	45:5:2069:A:OP1	2.64	0.45
45:5:4688:C:H2'	45:5:4689:U:C6	2.52	0.45
45:5:4891:G:C4	45:5:4892:A:C8	3.04	0.45
46:7:2:U:H2'	46:7:3:C:C6	2.51	0.45
48:v:289:PHE:HE1	48:v:294:LEU:HD11	1.81	0.45
49:9:57:U:O2	49:9:88:G:O6	2.34	0.45
49:9:1033:G:N1	49:9:1080:A:O2'	2.34	0.45
49:9:1129:G:O2'	49:9:1130:G:H5'	2.17	0.45
49:9:1351:G:C6	49:9:1352:G:N7	2.85	0.45
49:9:1650:A:C4	49:9:1675:A:N6	2.84	0.45
49:9:1828:C:H2'	49:9:1829:G:O4'	2.16	0.45
50:AA:59:LEU:HD22	50:AA:181:GLU:OE1	2.15	0.45
53:DD:76:ARG:CZ	60:KK:66:HIS:CD2	3.00	0.45
56:GG:18:VAL:HG11	56:GG:24:LEU:CD2	2.46	0.45
64:OO:34:PHE:CD2	64:OO:98:ARG:NH1	2.85	0.45
65:PP:75:VAL:O	65:PP:75:VAL:HG13	2.15	0.45
70:UU:115:THR:HG22	70:UU:116:ILE:N	2.31	0.45
77:bb:35:VAL:HG12	77:bb:79:PHE:CB	2.46	0.45
77:bb:53:VAL:O	77:bb:53:VAL:HG13	2.16	0.45
81:ff:140:TYR:CZ	81:ff:141:CYS:O	2.69	0.45
82:gg:205:SER:C	82:gg:221:LEU:HD13	2.42	0.45
85:2:38:C:H2'	85:2:39:G:O4'	2.16	0.45
15:P:102:ALA:CB	15:P:112:LEU:HD11	2.47	0.45
16:Q:177:ALA:O	16:Q:178:ARG:C	2.60	0.45
20:U:63:LEU:HD13	20:U:72:VAL:HG22	1.97	0.45
24:Y:91:ASN:HA	45:5:389:A:H1'	1.99	0.45
24:Y:103:LYS:HE2	45:5:231:U:O2'	2.17	0.45
25:Z:20:GLY:N	32:g:91:ILE:HD13	2.32	0.45
45:5:1191:C:H2'	45:5:1192:C:O4'	2.16	0.45
45:5:1395:U:O2	45:5:1469:C:H4'	2.16	0.45
48:v:101:ASN:HB3	48:v:469:ILE:HD13	1.97	0.45
48:v:478:PHE:O	48:v:479:LEU:HB2	2.17	0.45
48:v:748:GLU:OE2	48:v:783:VAL:HG22	2.16	0.45
49:9:181:A:OP2	49:9:182:C:O2'	2.22	0.45
49:9:457:C:N4	49:9:458:A:H62	2.14	0.45
49:9:846:G:C6	54:EE:19:MET:HE1	2.51	0.45
49:9:962:A:O3'	64:OO:66:ARG:CG	2.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BB:147:ASN:OD1	51:BB:147:ASN:N	2.48	0.45
53:DD:71:ALA:O	53:DD:75:LYS:HG3	2.17	0.45
62:MM:77:ILE:HD11	62:MM:128:PHE:HE1	1.81	0.45
69:TT:117:GLN:O	69:TT:118:ASP:HB2	2.17	0.45
82:gg:32:LEU:CD2	82:gg:71:ILE:HG23	2.47	0.45
1:A:247:ARG:NH1	1:A:247:ARG:HG2	2.32	0.45
3:C:61:GLN:O	35:j:52:LYS:NZ	2.49	0.45
3:C:333:LYS:NZ	45:5:977:C:O2'	2.38	0.45
5:E:206:ILE:HG22	5:E:263:LYS:HD3	1.99	0.45
6:F:45:ARG:O	6:F:49:ILE:HG12	2.17	0.45
7:G:34:LYS:O	45:5:4128:A:N3	2.50	0.45
8:H:121:LYS:HE3	45:5:4613:C:C2	2.52	0.45
15:P:142:SER:O	15:P:142:SER:OG	2.29	0.45
18:S:158:VAL:HG11	45:5:2055:G:C8	2.52	0.45
20:U:80:LYS:O	20:U:110:TYR:HE2	1.99	0.45
44:t:12:VAL:HG22	44:t:61:LYS:HZ1	1.81	0.45
45:5:1846:G:H2'	45:5:1847:C:C6	2.52	0.45
45:5:1991:A:C2'	45:5:1992:U:O5'	2.64	0.45
45:5:3707:U:H2'	45:5:3708:C:C6	2.51	0.45
45:5:3864:C:O2'	45:5:3866:C:OP2	2.27	0.45
45:5:4189:U:H2'	45:5:4190:U:O4'	2.16	0.45
48:v:504:VAL:CG2	48:v:797:THR:HG21	2.46	0.45
48:v:751:CYS:HB2	48:v:755:VAL:CG1	2.47	0.45
49:9:55:U:OP1	49:9:451:G:N1	2.38	0.45
49:9:91:A:OP2	49:9:446:G:N1	2.42	0.45
49:9:172:U:OP1	49:9:314:U:O2'	2.32	0.45
49:9:422:U:O2	49:9:652:U:H4'	2.17	0.45
49:9:575:A:OP2	74:YY:93:ARG:NH1	2.50	0.45
49:9:656:G:OP2	49:9:662:G:N1	2.49	0.45
49:9:821:G:O3'	49:9:824:C:OP1	2.35	0.45
49:9:1130:G:OP2	49:9:1130:G:N2	2.50	0.45
49:9:1139:C:H2'	49:9:1140:G:O4'	2.17	0.45
49:9:1232:U:H2'	49:9:1233:G:C8	2.50	0.45
49:9:1411:G:C6	49:9:1431:G:C6	3.04	0.45
49:9:1570:G:O2'	49:9:1614:A:O2'	2.18	0.45
49:9:1738:C:OP1	56:GG:92:ARG:NH2	2.49	0.45
49:9:1860:A:OP1	76:aa:8:ASN:HB2	2.16	0.45
50:AA:82:THR:HG22	50:AA:171:VAL:HG11	1.98	0.45
52:CC:64:THR:HG23	52:CC:67:GLY:H	1.82	0.45
54:EE:195:ILE:HG23	54:EE:208:VAL:CG1	2.47	0.45
55:FF:77:MET:HB2	55:FF:82:ASN:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:GG:159:ARG:NH2	56:GG:171:THR:O	2.50	0.45
65:PP:121:ILE:HD12	68:SS:120:HIS:HD2	1.82	0.45
66:QQ:34:VAL:HG23	66:QQ:34:VAL:O	2.16	0.45
72:WW:86:LEU:O	72:WW:90:GLN:HG2	2.16	0.45
3:C:168:VAL:HG13	3:C:177:TRP:CZ3	2.52	0.45
12:M:7:VAL:HG23	12:M:27:ILE:CD1	2.40	0.45
14:O:54:TYR:HE1	14:O:58:LEU:HD21	1.82	0.45
14:O:84:VAL:HG11	14:O:102:LEU:HD22	1.99	0.45
16:Q:114:LEU:HD21	16:Q:120:ILE:HD12	1.98	0.45
20:U:101:ARG:HE	20:U:103:VAL:CG1	2.30	0.45
26:a:62:HIS:NE2	45:5:69:A:OP1	2.44	0.45
27:b:52:LYS:HG3	27:b:52:LYS:O	2.17	0.45
36:k:23:VAL:HG23	36:k:64:LEU:HD21	1.98	0.45
37:l:24:PRO:HG2	37:l:27:ILE:HG12	1.98	0.45
45:5:1099:C:H2'	45:5:1100:U:C6	2.52	0.45
45:5:1195:G:H2'	45:5:1196:G:H8	1.81	0.45
45:5:2006:U:H2'	45:5:2007:G:C8	2.52	0.45
45:5:2509:C:H5'	47:8:108:A:H4'	1.98	0.45
45:5:2569:G:H2'	45:5:2570:U:O4'	2.17	0.45
45:5:3889:G:N7	45:5:4720:C:H2'	2.32	0.45
45:5:4212:A:H4'	45:5:4213:A:O5'	2.17	0.45
47:8:89:U:H2'	47:8:90:C:O4'	2.17	0.45
48:v:604:MET:HG2	48:v:728:CYS:SG	2.57	0.45
48:v:746:LEU:HD23	48:v:746:LEU:C	2.42	0.45
48:v:750:GLN:N	48:v:750:GLN:OE1	2.49	0.45
49:9:126:G:H21	49:9:180:G:N2	2.15	0.45
49:9:189:U:C2	49:9:211:G:C2	3.05	0.45
49:9:510:G:OP2	59:JJ:3:VAL:HG12	2.16	0.45
49:9:1462:U:H2'	49:9:1464:C:C5	2.51	0.45
49:9:1610:G:C6	49:9:1630:A:C2	3.05	0.45
52:CC:84:PHE:HB2	52:CC:86:LEU:CD1	2.47	0.45
58:II:107:THR:HG22	58:II:110:ARG:HH21	1.82	0.45
59:JJ:40:LYS:HA	59:JJ:43:VAL:HG12	1.98	0.45
61:LL:113:LEU:HD13	61:LL:142:VAL:HG11	1.99	0.45
68:SS:26:ILE:CG2	68:SS:45:LEU:HD21	2.47	0.45
3:C:66:SER:OG	45:5:1523:A:OP1	2.33	0.45
3:C:325:MET:HE1	6:F:154:TYR:CZ	2.52	0.45
17:R:73:GLY:C	17:R:74:ARG:HG2	2.42	0.45
18:S:135:SER:O	18:S:136:LYS:HG2	2.17	0.45
24:Y:51:LYS:HE2	24:Y:72:GLN:HA	1.97	0.45
29:d:21:VAL:HG22	29:d:22:THR:N	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:l:10:LYS:CD	45:5:2781:G:OP1	2.64	0.45
45:5:1322:1MA:HM13	45:5:4445:U:O3'	2.16	0.45
45:5:2088:A:OP1	45:5:2089:G:O2'	2.27	0.45
45:5:2308:A:H4'	45:5:2334:C:H4'	1.98	0.45
45:5:3653:A:N6	45:5:3691:G:O2'	2.39	0.45
45:5:4093:G:H1	45:5:4115:G:H22	1.64	0.45
45:5:4749:C:H2'	45:5:4750:G:C1'	2.47	0.45
45:5:5013:C:H41	45:5:5029:C:P	2.39	0.45
48:v:425:LEU:HD23	48:v:426:LYS:O	2.17	0.45
48:v:441:ASP:OD1	48:v:441:ASP:O	2.34	0.45
49:9:466:G:N2	49:9:466:G:OP2	2.50	0.45
49:9:594:A:H2'	80:ee:100:LYS:NZ	2.32	0.45
49:9:642:U:H4'	49:9:643:A:OP1	2.17	0.45
49:9:982:G:H2'	49:9:983:A:O4'	2.16	0.45
49:9:1507:G:N2	81:ff:87:THR:O	2.34	0.45
49:9:1550:G:O2'	49:9:1558:C:O2	2.34	0.45
53:DD:41:VAL:O	53:DD:42:THR:HG23	2.17	0.45
54:EE:92:ILE:CG2	54:EE:95:THR:HG22	2.47	0.45
55:FF:76:MET:HE2	55:FF:92:ILE:HG21	1.99	0.45
61:LL:88:ILE:HD11	61:LL:109:MET:SD	2.56	0.45
81:ff:132:MET:HG2	81:ff:141:CYS:HA	1.99	0.45
85:2:60:A:P	85:2:61:C:H41	2.40	0.45
1:A:94:ALA:HB3	1:A:102:LEU:HD23	1.99	0.45
3:C:95:MET:SD	45:5:2351:OMC:CM2	3.05	0.45
13:N:115:VAL:HG13	13:N:132:VAL:CG1	2.47	0.45
19:T:89:ILE:HG22	45:5:4300:U:H4'	1.99	0.45
43:s:146:LYS:HG3	43:s:147:ILE:H	1.82	0.45
45:5:169:A:C2	45:5:267:G:C5	3.05	0.45
45:5:382:G:C5	45:5:384:A:OP2	2.70	0.45
45:5:959:G:H4'	45:5:960:A:O5'	2.17	0.45
45:5:1870:C:H2'	45:5:1871:A2M:H8	1.99	0.45
45:5:2020:U:H2'	45:5:2021:G:C8	2.52	0.45
45:5:2394:G:N1	45:5:2820:C:OP2	2.47	0.45
45:5:4572:U:HO2'	45:5:4573:G:H8	1.63	0.45
45:5:4759:C:O2	45:5:4759:C:O4'	2.34	0.45
47:8:81:C:H5'	47:8:82:A:O5'	2.17	0.45
48:v:19:ILE:O	48:v:361:PRO:CG	2.65	0.45
48:v:385:ILE:HD12	48:v:395:MET:HE2	1.99	0.45
48:v:744:ILE:HD11	48:v:816:HIS:NE2	2.32	0.45
48:v:830:ARG:NE	48:v:830:ARG:HA	2.32	0.45
49:9:121:OMU:HM23	49:9:121:OMU:H1'	1.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:148:U:O2'	49:9:149:A:H5'	2.17	0.45
49:9:435:A:O2'	49:9:436:G:OP2	2.35	0.45
49:9:479:C:H2'	49:9:480:G:O5'	2.17	0.45
49:9:961:G:OP1	64:OO:149:ARG:NH2	2.49	0.45
49:9:1293:A:N7	49:9:1294:G:C8	2.85	0.45
50:AA:19:LEU:CD2	50:AA:51:LEU:HD11	2.47	0.45
52:CC:63:VAL:HG23	52:CC:64:THR:N	2.31	0.45
52:CC:191:VAL:HG12	52:CC:192:LEU:N	2.31	0.45
54:EE:136:ILE:HG21	54:EE:148:ARG:NE	2.32	0.45
55:FF:70:GLU:OE1	55:FF:86:LYS:NZ	2.46	0.45
58:II:102:VAL:HG11	58:II:175:ILE:HD11	1.98	0.45
59:JJ:114:VAL:HG13	59:JJ:119:LEU:HB2	1.99	0.45
67:RR:35:CYS:HA	67:RR:38:ILE:HG12	1.98	0.45
68:SS:26:ILE:HG22	68:SS:45:LEU:HD21	1.99	0.45
68:SS:97:GLN:O	68:SS:99:LEU:HD22	2.16	0.45
69:TT:60:THR:HG23	69:TT:75:MET:SD	2.57	0.45
73:XX:100:VAL:HG23	73:XX:125:VAL:HG12	1.99	0.45
78:cc:43:ILE:HG21	78:cc:67:ARG:NH2	2.31	0.45
5:E:286:PRO:HG2	31:f:7:CYS:SG	2.57	0.45
6:F:135:VAL:HG23	6:F:139:ILE:CD1	2.47	0.45
11:L:186:ARG:NH1	34:i:9:VAL:HG11	2.32	0.45
19:T:126:VAL:HG12	19:T:127:GLN:H	1.81	0.45
23:X:47:ARG:NH2	45:5:2504:C:H5'	2.32	0.45
24:Y:109:LEU:HD13	24:Y:119:LEU:HD11	1.99	0.45
26:a:39:HIS:O	26:a:40:HIS:CG	2.70	0.45
28:c:94:LEU:C	28:c:94:LEU:HD12	2.42	0.45
31:f:93:PRO:HB2	31:f:95:LYS:HG2	1.98	0.45
33:h:21:LEU:HB2	33:h:57:VAL:HG11	1.98	0.45
43:s:20:LEU:CD1	43:s:52:VAL:HG11	2.47	0.45
43:s:159:GLN:O	43:s:160:LEU:HD23	2.17	0.45
45:5:1073:G:H22	45:5:1238:A:H2	1.65	0.45
45:5:1192:C:H2'	45:5:1193:C:O4'	2.17	0.45
45:5:1194:G:C2	45:5:1195:G:C6	3.05	0.45
45:5:2258:C:O2'	45:5:2259:G:P	2.75	0.45
45:5:2579:G:N2	45:5:2582:A:OP2	2.43	0.45
45:5:3784:A:HO2'	45:5:3785:A2M:H3'	1.82	0.45
45:5:4393:G:C2'	45:5:4446:U:OP2	2.65	0.45
45:5:4507:A:H2'	45:5:4508:C:O4'	2.17	0.45
45:5:4514:G:H2'	45:5:4515:G:O4'	2.16	0.45
45:5:4925:U:C1'	45:5:4926:C:P	3.05	0.45
45:5:4932:U:O2'	45:5:4933:C:P	2.74	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:8:139:G:H2'	47:8:140:C:O4'	2.17	0.45
48:v:205:ILE:HG22	48:v:212:VAL:HG22	1.99	0.45
48:v:267:ASP:CA	48:v:285:LEU:HD11	2.47	0.45
48:v:289:PHE:O	48:v:290:CYS:C	2.59	0.45
49:9:142:C:C3'	49:9:143:U:H5'	2.46	0.45
49:9:563:G:O2'	49:9:564:A:C5'	2.65	0.45
49:9:606:G:N3	49:9:606:G:H2'	2.33	0.45
49:9:682:U:H2'	49:9:683:OMG:O4'	2.17	0.45
49:9:942:G:H2'	49:9:943:U:N1	2.32	0.45
49:9:1284:A:OP1	49:9:1285:G:O2'	2.24	0.45
49:9:1354:G:C5	49:9:1356:G:OP2	2.70	0.45
49:9:1380:C:H2'	49:9:1381:G:O4'	2.17	0.45
49:9:1809:A:H2'	49:9:1810:U:C6	2.52	0.45
49:9:1857:G:OP2	64:OO:146:ARG:HG3	2.17	0.45
50:AA:198:MET:HE3	67:RR:89:SER:OG	2.17	0.45
53:DD:7:LYS:HE2	70:UU:25:THR:HG21	1.99	0.45
54:EE:72:ILE:O	54:EE:77:ARG:NH1	2.50	0.45
56:GG:10:THR:HG23	56:GG:128:THR:HA	1.99	0.45
66:QQ:78:VAL:HA	66:QQ:81:ILE:HG12	1.99	0.45
66:QQ:107:GLU:O	66:QQ:111:ILE:HG22	2.16	0.45
68:SS:13:LEU:HB3	68:SS:15:VAL:HG13	1.97	0.45
82:gg:174:VAL:HG21	82:gg:209:SER:OG	2.17	0.45
2:B:353:VAL:HG12	2:B:355:THR:HG23	2.00	0.44
3:C:331:TYR:CE2	3:C:335:MET:HG3	2.52	0.44
5:E:95:VAL:HG23	5:E:95:VAL:O	2.16	0.44
5:E:111:LYS:NZ	45:5:2259:G:O2'	2.42	0.44
7:G:161:VAL:O	7:G:162:ASP:C	2.59	0.44
31:f:21:GLN:OE1	45:5:1310:C:C1'	2.64	0.44
32:g:15:THR:HG21	45:5:2514:G:OP1	2.17	0.44
34:i:28:ARG:NH2	45:5:325:U:OP2	2.43	0.44
45:5:433:A:C2	45:5:3867:A2M:H4'	2.53	0.44
45:5:733:A:H2'	45:5:734:G:O4'	2.17	0.44
45:5:1307:A:H2'	45:5:1308:C:C6	2.53	0.44
45:5:1533:A:O5'	45:5:1623:A:N6	2.50	0.44
45:5:1931:C:HO2'	45:5:1932:A:C5'	2.26	0.44
45:5:2040:A:H4'	45:5:2041:A:O5'	2.17	0.44
45:5:2277:C:O2'	45:5:2278:G:H5'	2.17	0.44
45:5:2562:G:C2	45:5:2565:A:OP2	2.70	0.44
45:5:2841:G:H3'	45:5:2842:G:H5''	1.99	0.44
45:5:3723:A:H2'	45:5:3724:A2M:H8	1.99	0.44
45:5:3769:C:O2'	45:5:3770:U:H5'	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:4977:A:H2'	45:5:4978:G:O4'	2.17	0.44
47:8:24:G:H2'	47:8:25:G:O4'	2.16	0.44
49:9:35:C:H2'	49:9:36:U:C6	2.52	0.44
49:9:650:A:H2'	49:9:651:U:O4'	2.16	0.44
49:9:824:C:C2	59:JJ:144:ILE:HG21	2.52	0.44
51:BB:97:LEU:HD23	51:BB:232:HIS:CG	2.52	0.44
54:EE:18:TRP:CZ2	54:EE:31:PRO:HG3	2.52	0.44
62:MM:94:ILE:O	62:MM:100:PRO:HA	2.17	0.44
64:OO:21:VAL:HG23	64:OO:21:VAL:O	2.17	0.44
64:OO:101:GLY:HA3	64:OO:134:PRO:HG2	1.98	0.44
72:WW:128:PHE:CD1	72:WW:128:PHE:C	2.94	0.44
73:XX:18:ARG:HH11	73:XX:18:ARG:HG3	1.81	0.44
73:XX:89:GLY:HA2	80:ee:82:VAL:O	2.17	0.44
82:gg:124:SER:HG	82:gg:126:ASP:CG	2.25	0.44
1:A:118:GLU:OE1	45:5:3662:A:C2'	2.66	0.44
1:A:208:GLU:HG2	45:5:1629:G:H1	1.82	0.44
11:L:22:VAL:CG1	13:N:200:LEU:HD12	2.48	0.44
14:O:34:VAL:HG22	14:O:103:LYS:HB2	1.99	0.44
15:P:104:LEU:HD22	45:5:400:A2M:HM'1	2.00	0.44
16:Q:53:MET:HE1	45:5:1693:U:OP1	2.17	0.44
24:Y:107:THR:O	24:Y:107:THR:HG22	2.17	0.44
26:a:77:LYS:CE	45:5:1502:G:H1	2.30	0.44
33:h:29:SER:O	33:h:33:VAL:HG23	2.17	0.44
44:t:73:VAL:HG13	44:t:73:VAL:O	2.17	0.44
45:5:1551:C:C2'	45:5:1552:G:H5'	2.48	0.44
45:5:4188:U:H2'	45:5:4189:U:C6	2.52	0.44
45:5:4219:A:C6	45:5:4220:6MZ:H9C2	2.52	0.44
45:5:4637:OMG:HM23	45:5:4637:OMG:H1'	1.78	0.44
48:v:243:GLN:HG3	48:v:244:LEU:HD12	1.99	0.44
48:v:506:ARG:HG2	48:v:547:ALA:HB2	1.98	0.44
49:9:436:G:C6	49:9:458:A:C6	3.05	0.44
49:9:465:A:H4'	49:9:466:G:O5'	2.17	0.44
49:9:483:C:H2'	49:9:484:A2M:O4'	2.18	0.44
49:9:658:U:O4	49:9:1165:G:C4	2.71	0.44
49:9:1102:G:C6	49:9:1131:G:C6	3.04	0.44
49:9:1116:C:O2'	49:9:1117:C:O2	2.25	0.44
49:9:1337:4AC:O7	49:9:1337:4AC:H5	2.16	0.44
49:9:1531:A:H2'	49:9:1532:C:C6	2.52	0.44
50:AA:198:MET:CE	67:RR:89:SER:HA	2.47	0.44
52:CC:256:TRP:CD2	72:WW:68:ARG:HD3	2.52	0.44
53:DD:55:THR:HG22	53:DD:90:LYS:HE3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:FF:30:ILE:HG22	55:FF:113:VAL:CG1	2.47	0.44
56:GG:185:LEU:O	56:GG:189:ARG:HD3	2.17	0.44
59:JJ:37:LEU:HD11	59:JJ:106:LEU:CD2	2.47	0.44
61:LL:116:CYS:SG	61:LL:117:PHE:N	2.91	0.44
69:TT:129:ARG:O	69:TT:132:ASP:OD1	2.36	0.44
74:YY:37:LYS:HA	74:YY:40:ILE:HG12	1.99	0.44
82:gg:176:VAL:HG11	82:gg:185:LYS:CE	2.47	0.44
3:C:135:ALA:HB2	42:r:43:LEU:O	2.18	0.44
3:C:138:MET:O	3:C:141:GLY:N	2.46	0.44
3:C:221:PHE:HB3	3:C:227:ILE:HG21	1.98	0.44
8:H:106:GLN:CD	8:H:113:GLU:OE2	2.61	0.44
10:J:13:ARG:NH1	46:7:54:A:O2'	2.49	0.44
13:N:140:LYS:HD2	13:N:144:ARG:HH12	1.82	0.44
14:O:7:LEU:HD23	14:O:9:LEU:HG	1.98	0.44
14:O:18:ARG:O	14:O:22:ILE:HG12	2.16	0.44
19:T:91:VAL:HG12	19:T:92:ARG:O	2.17	0.44
31:f:11:PHE:CE2	31:f:97:ILE:HD13	2.52	0.44
33:h:48:ARG:CG	47:8:49:G:OP1	2.65	0.44
35:j:17:THR:HB	35:j:29:LEU:HD21	1.99	0.44
43:s:130:LEU:HD22	43:s:134:LYS:HE2	1.99	0.44
44:t:13:VAL:HG12	44:t:14:TYR:H	1.82	0.44
45:5:233:U:OP1	45:5:233:U:H4'	2.17	0.44
45:5:1442:C:C2	45:5:1443:A:N7	2.86	0.44
45:5:1662:C:H2'	45:5:1663:C:C6	2.52	0.44
45:5:1973:G:H2'	45:5:1974:U:C5	2.52	0.44
45:5:1991:A:O2'	45:5:1992:U:C6	2.71	0.44
45:5:2515:G:H1'	45:5:2745:A:N1	2.32	0.44
45:5:4884:G:C2'	45:5:4885:U:O5'	2.66	0.44
45:5:4933:C:H2'	45:5:4934:A:C1'	2.47	0.44
48:v:505:VAL:O	48:v:505:VAL:HG13	2.16	0.44
48:v:636:ALA:HA	48:v:641:TRP:O	2.17	0.44
49:9:642:U:O2'	49:9:643:A:P	2.74	0.44
49:9:929:G:N2	49:9:1104:G:H4'	2.32	0.44
49:9:1162:C:H2'	49:9:1163:C:O4'	2.16	0.44
49:9:1235:G:C6	49:9:1524:G:C6	3.06	0.44
51:BB:28:LYS:HA	51:BB:50:THR:HA	1.99	0.44
51:BB:229:MET:HE2	51:BB:229:MET:CA	2.47	0.44
52:CC:204:ILE:N	52:CC:204:ILE:HD12	2.32	0.44
53:DD:225:GLU:N	53:DD:225:GLU:OE1	2.51	0.44
54:EE:26:VAL:HG22	59:JJ:2:PRO:O	2.16	0.44
55:FF:30:ILE:CD1	55:FF:36:GLN:HA	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:KK:15:LEU:O	60:KK:19:GLY:HA2	2.17	0.44
62:MM:23:LYS:O	62:MM:26:LEU:HG	2.18	0.44
62:MM:56:CYS:SG	62:MM:58:GLU:OE1	2.69	0.44
62:MM:83:LYS:HG3	62:MM:103:VAL:HG13	2.00	0.44
65:PP:23:ASP:OD1	65:PP:24:GLN:N	2.50	0.44
66:QQ:83:ALA:O	66:QQ:87:SER:OG	2.34	0.44
70:UU:56:MET:HG2	70:UU:88:LEU:HD23	2.00	0.44
3:C:152:LEU:HD23	3:C:251:ILE:HG13	2.00	0.44
5:E:284:VAL:HG13	5:E:289:LEU:HD21	1.99	0.44
8:H:26:ILE:HG23	8:H:35:ARG:HE	1.81	0.44
8:H:163:GLN:OE1	45:5:4686:G:N2	2.39	0.44
9:I:103:LEU:HD11	9:I:111:LEU:HD21	1.98	0.44
11:L:79:GLU:HG2	11:L:110:LEU:HD11	2.00	0.44
14:O:39:GLU:OE1	14:O:107:GLY:N	2.48	0.44
21:V:101:ASN:ND2	45:5:2847:G:OP1	2.49	0.44
24:Y:91:ASN:HA	45:5:389:A:C1'	2.47	0.44
26:a:75:LEU:HD12	26:a:117:LEU:CD1	2.47	0.44
26:a:103:VAL:CG1	26:a:108:TYR:HB2	2.48	0.44
33:h:52:LYS:NZ	47:8:62:A:OP1	2.39	0.44
45:5:68:U:O2'	45:5:100:C:O2'	2.04	0.44
45:5:922(A):G:H2'	45:5:922(B):C:C6	2.53	0.44
45:5:1742:A:C2	45:5:1790:U:O2'	2.71	0.44
45:5:3702:A:C6	45:5:3703:G:C8	3.05	0.44
45:5:4718:G:H4'	45:5:4719:G:OP1	2.18	0.44
48:v:385:ILE:O	48:v:388:CYS:N	2.51	0.44
49:9:1650:A:N3	49:9:1675:A:C6	2.86	0.44
49:9:1793:A:C2	49:9:1794:C:C5	3.05	0.44
52:CC:64:THR:HG22	52:CC:90:GLU:CD	2.43	0.44
53:DD:41:VAL:O	53:DD:41:VAL:HG13	2.17	0.44
53:DD:127:MET:HE2	53:DD:154:ASP:OD2	2.18	0.44
64:OO:83:GLN:OE1	64:OO:86:LYS:NZ	2.50	0.44
69:TT:123:LEU:HD21	69:TT:131:LEU:HD11	1.99	0.44
2:B:17:LEU:HD21	2:B:235:TRP:HH2	1.83	0.44
3:C:190:ARG:HG2	3:C:191:ALA:N	2.33	0.44
8:H:111:LEU:HD23	8:H:112:VAL:N	2.32	0.44
11:L:22:VAL:HG13	13:N:200:LEU:HD12	2.00	0.44
16:Q:50:ARG:C	16:Q:83:VAL:HG11	2.42	0.44
20:U:84:LYS:HB2	20:U:110:TYR:CZ	2.53	0.44
21:V:112:MET:SD	21:V:117:ILE:HD11	2.58	0.44
35:j:82:THR:HG23	47:8:94:G:N3	2.32	0.44
37:l:26:TRP:CZ3	37:l:27:ILE:HD13	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:418:A:OP2	47:8:15:G:N2	2.44	0.44
45:5:1556:C:O2'	45:5:2669:C:OP1	2.18	0.44
45:5:1601:A:N7	45:5:3643:A:C4	2.86	0.44
45:5:2368:A:H62	45:5:2827:G:C2'	2.31	0.44
45:5:4627:U:H2'	45:5:4628:PSU:O4'	2.17	0.44
49:9:158:A:N6	49:9:466:G:N7	2.65	0.44
49:9:165:G:C1'	56:GG:110:ASN:HD22	2.29	0.44
49:9:999:G:O6	76:aa:15:ARG:O	2.35	0.44
49:9:1398:G:C2	49:9:1399:C:C6	3.06	0.44
49:9:1409:A:C2	49:9:1438:A:C6	3.06	0.44
49:9:1620:A:C5	49:9:1624:U:C2	3.06	0.44
49:9:1734:G:HO2'	49:9:1800:A:N6	2.15	0.44
53:DD:66:ILE:HD11	53:DD:86:LEU:HB3	2.00	0.44
56:GG:3:LEU:HD12	56:GG:109:LEU:HB3	1.98	0.44
57:HH:78:ARG:O	57:HH:82:GLU:OE1	2.35	0.44
59:JJ:110:LEU:CD2	59:JJ:142:VAL:HG21	2.47	0.44
61:LL:4:ILE:HG22	61:LL:5:GLN:N	2.32	0.44
61:LL:80:MET:HE1	61:LL:120:VAL:CG1	2.48	0.44
72:WW:57:ARG:CZ	77:bb:26:GLN:HE21	2.30	0.44
77:bb:35:VAL:HG12	77:bb:79:PHE:HB3	1.98	0.44
82:gg:256:ILE:HD11	82:gg:302:TYR:CE1	2.52	0.44
3:C:315:LYS:HG3	6:F:167:ALA:HB1	1.99	0.44
4:D:18:VAL:O	4:D:18:VAL:HG23	2.16	0.44
6:F:237:ASP:OD1	6:F:237:ASP:N	2.49	0.44
7:G:249:ARG:O	7:G:253:LEU:HD23	2.18	0.44
9:I:28:ASP:OD1	9:I:28:ASP:N	2.50	0.44
13:N:125:SER:HB3	45:5:3937:C:H1'	2.00	0.44
13:N:184:ILE:HG22	13:N:184:ILE:O	2.18	0.44
17:R:132:PHE:CD2	17:R:138:LEU:HD13	2.53	0.44
38:m:118:THR:HG23	38:m:119:ASN:N	2.33	0.44
44:t:143:VAL:N	44:t:145:GLY:O	2.46	0.44
45:5:269:G:H2'	45:5:270:U:H6	1.81	0.44
45:5:438:G:O2'	45:5:439:G:H5'	2.18	0.44
45:5:1816:C:C4	45:5:1817:U:C4	3.05	0.44
45:5:1885:G:C6	45:5:1886:G:C5	3.06	0.44
45:5:1998:A:H5'	45:5:1999:A:OP2	2.18	0.44
45:5:2009:A:N6	48:v:753:GLU:HB2	2.33	0.44
45:5:2717:G:H2'	45:5:2718:U:O4'	2.17	0.44
45:5:2740:U:O2	45:5:2740:U:O4'	2.36	0.44
45:5:2841:G:C3'	45:5:2842:G:H5''	2.47	0.44
45:5:3636:C:O2	45:5:3636:C:H2'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:3785:A2M:H2	45:5:4551:U:O2	2.17	0.44
47:8:43:A:O2'	47:8:44:A:H5'	2.17	0.44
47:8:83:C:H4'	47:8:85:U:O2	2.17	0.44
49:9:88:G:H21	49:9:500:A:P	2.41	0.44
49:9:502:C:H2'	49:9:503:C:C5	2.53	0.44
49:9:654:A:OP2	49:9:655:A:O2'	2.20	0.44
49:9:1101:U:H2'	49:9:1102:G:C8	2.53	0.44
49:9:1535:U:H1'	55:FF:82:ASN:ND2	2.32	0.44
49:9:1628:C:OP1	69:TT:38:LYS:NZ	2.38	0.44
50:AA:185:MET:CE	71:VV:39:VAL:HG11	2.47	0.44
51:BB:153:THR:HG23	51:BB:154:SER:H	1.83	0.44
53:DD:167:TYR:O	53:DD:190:LEU:N	2.41	0.44
54:EE:92:ILE:O	54:EE:96:GLY:N	2.50	0.44
61:LL:151:THR:O	61:LL:151:THR:HG22	2.17	0.44
62:MM:47:ALA:HA	62:MM:112:LYS:HG2	2.00	0.44
68:SS:114:LEU:HA	68:SS:117:ILE:HG22	1.99	0.44
81:ff:119:ARG:HG2	81:ff:119:ARG:HH11	1.83	0.44
4:D:234:ASP:C	4:D:235:MET:HG3	2.43	0.44
6:F:222:LYS:N	45:5:1908:A:OP1	2.41	0.44
7:G:87:LEU:HD21	7:G:222:ILE:CD1	2.45	0.44
9:I:48:LEU:HD23	9:I:48:LEU:C	2.43	0.44
12:M:112:VAL:HG11	14:O:201:LEU:CD1	2.47	0.44
20:U:100:LEU:HD23	20:U:113:ARG:O	2.18	0.44
25:Z:136:PHE:O	32:g:78:TYR:OH	2.31	0.44
30:e:89:LEU:HD12	30:e:118:LEU:HD22	1.99	0.44
31:f:24:HIS:HA	31:f:91:ASN:OD1	2.18	0.44
43:s:28:PHE:CE1	43:s:192:VAL:HG22	2.53	0.44
43:s:128:THR:HG22	43:s:152:ILE:O	2.18	0.44
45:5:25:A:C8	45:5:341:G:C8	3.06	0.44
45:5:291:U:O2'	45:5:293:G:N7	2.36	0.44
45:5:747:A:H4'	45:5:748:G:OP1	2.18	0.44
45:5:1168:G:N1	45:5:1194:G:C6	2.86	0.44
45:5:1349:G:C6	45:5:1350:C:C4	3.06	0.44
45:5:1795:A:O2'	46:7:97:G:N2	2.51	0.44
45:5:2009:A:H62	48:v:753:GLU:CG	2.30	0.44
45:5:3639:PSU:H2'	45:5:3640:U:O4'	2.18	0.44
45:5:3656:A:H2'	45:5:3657:U:H5''	1.99	0.44
45:5:4616:A:H2'	45:5:4617:G:O4'	2.18	0.44
48:v:20:ARG:HB2	48:v:100:ILE:HG12	2.00	0.44
49:9:380:G:N1	49:9:383:G:OP2	2.43	0.44
49:9:987:A:OP2	49:9:988:C:N4	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1326:U:H4'	49:9:1327:G:C5'	2.48	0.44
49:9:1624:U:O2	49:9:1624:U:O4'	2.35	0.44
49:9:1868:U:C4	76:aa:100:ARG:HD3	2.53	0.44
50:AA:144:THR:O	50:AA:158:ASP:HB2	2.17	0.44
50:AA:203:PHE:HZ	67:RR:91:LEU:HD21	1.82	0.44
55:FF:119:SER:OG	55:FF:189:ALA:HB1	2.18	0.44
56:GG:70:HIS:O	56:GG:98:ARG:NH1	2.50	0.44
62:MM:64:LEU:HD11	81:ff:106:TYR:HB3	1.99	0.44
66:QQ:119:LEU:C	66:QQ:120:LEU:HD22	2.43	0.44
68:SS:50:ILE:HD11	68:SS:67:VAL:CG2	2.47	0.44
74:YY:14:THR:HA	74:YY:21:LYS:HA	2.00	0.44
82:gg:230:LEU:HD23	82:gg:259:TRP:CG	2.52	0.44
2:B:101:THR:HG23	45:5:4724:A:O4'	2.18	0.44
2:B:306:ASP:HA	2:B:309:LEU:HD21	2.00	0.44
7:G:143:VAL:HG11	7:G:201:THR:OG1	2.17	0.44
8:H:144:LEU:C	8:H:144:LEU:HD23	2.43	0.44
12:M:130:LEU:HD12	14:O:181:ALA:HB2	2.00	0.44
14:O:110:PRO:O	14:O:113:ASP:OD1	2.36	0.44
19:T:132:PRO:O	19:T:133:ALA:C	2.61	0.44
26:a:12:ARG:NH1	26:a:17:HIS:HE1	2.16	0.44
30:e:127:ALA:O	45:5:2327:G:OP1	2.36	0.44
31:f:71:TRP:CZ3	31:f:104:MET:HE3	2.53	0.44
42:r:30:ASN:HA	42:r:50:GLY:HA3	2.00	0.44
44:t:138:SER:HB3	45:5:2002:A:N6	2.32	0.44
45:5:19:G:O2'	45:5:20:U:H5'	2.18	0.44
45:5:33:A:H4'	45:5:33:A:OP1	2.18	0.44
45:5:1212:G:H2'	45:5:1213:G:O4'	2.18	0.44
45:5:1503:A:H4'	45:5:1504:G:H5'	2.00	0.44
45:5:1738:A:O2'	45:5:1739:G:H5'	2.18	0.44
45:5:1858:A:C2	45:5:1859:C:C5	3.05	0.44
45:5:2472:A:H61	47:8:147:G:H22	1.66	0.44
45:5:2639:U:O2'	45:5:2640:G:P	2.73	0.44
45:5:4095:G:H2'	45:5:4096:C:O4'	2.17	0.44
45:5:4257:A:O2'	45:5:4258:C:C6	2.70	0.44
45:5:4585:U:H6	45:5:4585:U:O5'	2.01	0.44
45:5:4620:OMU:HM23	45:5:4620:OMU:H1'	1.71	0.44
47:8:31:G:H2'	47:8:32:C:O4'	2.18	0.44
49:9:806:U:C2	49:9:858:A:C2	3.05	0.44
49:9:914:U:O2	49:9:914:U:O4'	2.35	0.44
49:9:916:A:C5	63:NN:73:ARG:HD3	2.53	0.44
49:9:1246:A:N3	49:9:1251:A:O2'	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1399:C:N3	49:9:1400:U:C5	2.86	0.44
49:9:1869:A:N6	51:BB:114:VAL:O	2.51	0.44
52:CC:130:ILE:HG22	52:CC:158:ALA:HB1	1.99	0.44
53:DD:163:PRO:O	53:DD:167:TYR:HB2	2.18	0.44
54:EE:139:LEU:HD22	54:EE:147:ILE:HD11	1.99	0.44
55:FF:47:LYS:HE3	66:QQ:116:ASP:OD1	2.18	0.44
62:MM:33:ARG:HH11	62:MM:91:LEU:HD22	1.83	0.44
69:TT:107:LEU:O	69:TT:110:LEU:O	2.35	0.44
78:cc:13:ARG:O	78:cc:32:VAL:HA	2.18	0.44
8:H:156:ASN:O	8:H:160:LEU:HD13	2.18	0.44
9:I:176:PHE:CG	9:I:190:LEU:HD21	2.52	0.44
20:U:101:ARG:NH2	45:5:2623:A:OP1	2.50	0.44
31:f:40:GLU:HA	31:f:43:LEU:HD13	1.99	0.44
32:g:65:MET:HE2	45:5:2748:C:H4'	1.99	0.44
45:5:261:G:H2'	45:5:262:G:C8	2.53	0.44
45:5:416:U:C2'	45:5:417:G:H5'	2.47	0.44
45:5:439:G:H2'	45:5:440:U:O4'	2.17	0.44
45:5:3922:G:O2'	45:5:3923:A:H5'	2.18	0.44
45:5:4237:C:O2'	45:5:4321:U:O2	2.36	0.44
48:v:360:SER:OG	48:v:362:VAL:HG12	2.17	0.44
48:v:676:LYS:HA	48:v:679:VAL:HG12	1.98	0.44
49:9:153:G:C6	49:9:166:A2M:N6	2.86	0.44
49:9:1127:C:C2	49:9:1128:C:C5	3.06	0.44
49:9:1266:C:C4	49:9:1517:G:N2	2.86	0.44
49:9:1834:A:N3	49:9:1834:A:O2'	2.46	0.44
53:DD:76:ARG:HD3	53:DD:77:PHE:CD1	2.52	0.44
56:GG:24:LEU:O	56:GG:28:TYR:CD1	2.71	0.44
57:HH:177:TYR:CD1	57:HH:185:VAL:HG21	2.53	0.44
62:MM:41:ALA:HB1	62:MM:110:VAL:HG11	1.99	0.44
66:QQ:50:LYS:O	66:QQ:53:GLU:HG2	2.17	0.44
66:QQ:62:ARG:NH2	66:QQ:107:GLU:OE1	2.51	0.44
67:RR:24:LEU:HD12	67:RR:31:ASN:HB2	1.99	0.44
82:gg:104:HIS:NE2	82:gg:122:SER:OG	2.31	0.44
2:B:76:VAL:HG21	2:B:332:MET:SD	2.58	0.43
4:D:88:VAL:HG23	4:D:243:ALA:HB2	2.00	0.43
7:G:138:ALA:HB1	7:G:199:CYS:SG	2.58	0.43
10:J:89:VAL:HG11	10:J:109:ILE:HG12	1.99	0.43
13:N:135:ILE:HG21	13:N:151:ILE:HG21	1.99	0.43
18:S:130:GLU:OE2	18:S:132:ILE:HG22	2.18	0.43
24:Y:28:LYS:O	24:Y:31:SER:OG	2.35	0.43
24:Y:49:ILE:HD11	24:Y:55:VAL:HG11	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Z:11:VAL:CG2	25:Z:80:LEU:HD22	2.48	0.43
26:a:43:ILE:HD12	45:5:1682:A:C2	2.53	0.43
40:o:104:ILE:CD1	85:2:56:C:N3	2.81	0.43
45:5:1402:C:H2'	45:5:1403:G:C8	2.53	0.43
45:5:1493:G:H2'	45:5:1494:U:O4'	2.18	0.43
45:5:1983:A:OP2	45:5:2010:A:C8	2.71	0.43
45:5:2523:G:H2'	45:5:2524:U:O4'	2.17	0.43
45:5:4598:C:H2'	45:5:4611:A:H62	1.83	0.43
45:5:4655:A:N6	45:5:4658:G:C5	2.85	0.43
48:v:665:ILE:O	48:v:665:ILE:HG22	2.18	0.43
48:v:770:VAL:O	48:v:770:VAL:HG13	2.17	0.43
49:9:183:G:H1'	49:9:184:G:O4'	2.17	0.43
49:9:877:C:H2'	49:9:878:G:C1'	2.48	0.43
49:9:1332:A:C6	49:9:1500:G:C5	3.06	0.43
49:9:1391:C:H2'	49:9:1392:U:O4'	2.18	0.43
49:9:1497:G:C4	60:KK:62:PHE:CD2	3.06	0.43
56:GG:5:ILE:HG12	56:GG:16:ILE:HD12	1.99	0.43
58:II:48:VAL:HG11	58:II:54:LYS:CG	2.47	0.43
60:KK:32:HIS:CD2	60:KK:33:PRO:HD2	2.53	0.43
64:OO:40:THR:O	64:OO:40:THR:HG23	2.17	0.43
69:TT:11:GLN:O	69:TT:15:VAL:HG23	2.18	0.43
71:VV:73:ALA:HB1	71:VV:79:VAL:HG23	2.00	0.43
74:YY:28:LEU:HA	74:YY:67:GLY:O	2.18	0.43
7:G:152:ALA:O	7:G:179:VAL:HG13	2.18	0.43
7:G:177:MET:HA	7:G:177:MET:HE3	1.99	0.43
8:H:163:GLN:NE2	45:5:4686:G:O2'	2.50	0.43
18:S:68:PHE:N	45:5:729:G:O6	2.51	0.43
28:c:79:ILE:HD11	41:p:43:GLY:O	2.17	0.43
31:f:43:LEU:N	31:f:43:LEU:HD12	2.33	0.43
33:h:103:LYS:NZ	33:h:111:GLU:OE1	2.49	0.43
35:j:43:ARG:NE	45:5:54:G:OP1	2.51	0.43
40:o:65:LYS:HG2	40:o:87:ARG:HG2	2.01	0.43
45:5:115:C:O2	45:5:115:C:O4'	2.35	0.43
45:5:219:G:OP2	45:5:219:G:O4'	2.35	0.43
45:5:1271:G:O2'	45:5:1272:C:O5'	2.32	0.43
45:5:2504:C:N4	45:5:4085:A:OP2	2.44	0.43
45:5:2750:G:H2'	45:5:2751:G:O4'	2.19	0.43
45:5:4500:PSU:H2'	45:5:4501:U:H6	1.84	0.43
45:5:5066:U:H2'	45:5:5067:U:O4'	2.18	0.43
47:8:13:G:C6	47:8:14:U:C4	3.05	0.43
47:8:81:C:H4'	47:8:82:A:OP2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:v:580:ARG:HG2	48:v:817:TRP:CZ3	2.53	0.43
49:9:189:U:OP1	58:II:148:LYS:NZ	2.50	0.43
49:9:416:U:H2'	49:9:417:C:O4'	2.18	0.43
49:9:923:G:O2'	49:9:924:G:H5'	2.18	0.43
49:9:983:A:N1	64:OO:138:ASP:OD1	2.51	0.43
49:9:1398:G:HO2'	82:gg:88:ARG:NH2	2.15	0.43
49:9:1405:A:H2'	49:9:1406:G:O4'	2.17	0.43
49:9:1532:C:C2'	49:9:1533:A:OP1	2.65	0.43
50:AA:158:ASP:OD2	71:VV:32:ILE:CD1	2.66	0.43
53:DD:67:ARG:NH2	60:KK:94:LEU:O	2.51	0.43
54:EE:95:THR:CG2	74:YY:17:LEU:HD11	2.48	0.43
57:HH:19:PHE:CE2	57:HH:23:ILE:HD11	2.53	0.43
58:II:76:THR:HG22	58:II:108:PRO:HG2	1.99	0.43
64:OO:133:THR:O	64:OO:135:ILE:N	2.51	0.43
66:QQ:23:ALA:HB2	66:QQ:70:VAL:HG22	2.00	0.43
71:VV:17:CYS:SG	71:VV:59:ILE:HD12	2.57	0.43
71:VV:36:VAL:HG11	71:VV:78:ILE:HG21	2.00	0.43
82:gg:260:ASP:OD1	82:gg:260:ASP:O	2.37	0.43
2:B:10:ARG:NH1	2:B:14:LEU:HD11	2.32	0.43
3:C:154:VAL:CG1	3:C:158:VAL:HG21	2.47	0.43
3:C:197:ARG:NH2	45:5:351:C:OP2	2.51	0.43
7:G:96:LEU:HD11	7:G:184:LEU:HD21	1.99	0.43
7:G:249:ARG:NH2	45:5:4075:U:OP1	2.44	0.43
16:Q:42:THR:HG21	45:5:1428:U:OP1	2.18	0.43
37:l:45:ARG:HD3	45:5:2796:G:OP2	2.19	0.43
38:m:109:ASN:OD1	38:m:119:ASN:HB3	2.18	0.43
45:5:1084:C:H2'	45:5:1085:C:C6	2.53	0.43
45:5:1738:A:O2'	46:7:101:A:N3	2.48	0.43
45:5:3785:A2M:HM'1	45:5:4537:C:H1'	1.99	0.43
45:5:3808:OMC:C5	45:5:3809:G:C6	3.07	0.43
45:5:4914:G:N3	45:5:4914:G:H2'	2.32	0.43
46:7:62:U:O2'	46:7:64:G:O4'	2.36	0.43
47:8:91:A:H2'	47:8:92:U:O4'	2.18	0.43
48:v:609:PHE:HB3	48:v:613:LEU:HB3	1.99	0.43
48:v:678:SER:HB2	48:v:721:ILE:HG21	2.00	0.43
48:v:763:LEU:HD13	48:v:786:ALA:CB	2.48	0.43
49:9:407:G:H3'	49:9:408:A:C5'	2.48	0.43
49:9:441:C:O2'	49:9:442:C:O5'	2.37	0.43
49:9:611:G:H2'	49:9:612:PSU:C6	2.53	0.43
49:9:1139:C:H5	49:9:1149:A:H62	1.64	0.43
49:9:1409:A:N1	49:9:1438:A:C6	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1445:U:O2'	49:9:1446:A:H5'	2.18	0.43
49:9:1518:C:OP1	49:9:1520:G:H8	2.01	0.43
49:9:1818:A:H2'	49:9:1819:A:H5''	2.00	0.43
50:AA:90:PHE:CE1	50:AA:94:THR:HG21	2.54	0.43
50:AA:121:LEU:HD21	50:AA:145:ILE:CD1	2.48	0.43
52:CC:90:GLU:HB2	52:CC:93:ILE:HG13	1.99	0.43
52:CC:166:ARG:HB2	52:CC:248:TYR:CD2	2.53	0.43
52:CC:261:PHE:HB3	71:VV:52:THR:HG21	2.00	0.43
54:EE:19:MET:SD	54:EE:108:ARG:HD2	2.57	0.43
55:FF:41:VAL:O	55:FF:41:VAL:CG1	2.63	0.43
57:HH:134:VAL:HG12	57:HH:173:PHE:CD2	2.53	0.43
68:SS:30:ILE:HD11	68:SS:71:MET:HE3	2.01	0.43
68:SS:75:ARG:HG3	68:SS:84:LEU:HD11	2.01	0.43
82:gg:85:GLY:HA2	82:gg:108:VAL:HG23	1.99	0.43
82:gg:129:ILE:HD12	82:gg:154:VAL:HG11	2.00	0.43
83:3:8:U:O2	83:3:8:U:O5'	2.36	0.43
1:A:114:CYS:HB2	1:A:169:VAL:HG23	1.99	0.43
1:A:168:VAL:HG13	41:p:79:VAL:HG21	2.00	0.43
3:C:113:ARG:NH1	45:5:1509:C:OP1	2.44	0.43
3:C:158:VAL:HG22	3:C:170:LEU:HD22	1.99	0.43
4:D:109:LEU:HD21	4:D:142:PHE:CZ	2.54	0.43
8:H:120:GLU:OE1	8:H:124:ARG:NH1	2.48	0.43
17:R:63:CYS:SG	45:5:2809:G:H4'	2.58	0.43
17:R:104:ARG:O	17:R:108:ARG:HG3	2.19	0.43
18:S:27:LEU:HB3	19:T:148:PRO:HB3	2.00	0.43
24:Y:49:ILE:HD11	24:Y:55:VAL:CG1	2.48	0.43
24:Y:59:ARG:HD2	45:5:209:U:H4'	2.00	0.43
25:Z:53:VAL:HB	25:Z:62:ILE:HD12	2.00	0.43
26:a:101:ILE:HG23	26:a:124:VAL:HA	2.01	0.43
27:b:18:ARG:NH2	45:5:1669:A:OP1	2.43	0.43
29:d:39:LYS:NZ	45:5:2369:U:O2	2.45	0.43
30:e:35:TRP:CE2	30:e:56:PRO:CD	3.02	0.43
31:f:30:ILE:HG12	31:f:103:VAL:HG21	2.00	0.43
38:m:109:ASN:ND2	45:5:1947:U:H2'	2.34	0.43
41:p:29:ILE:HG23	41:p:69:TRP:CG	2.54	0.43
42:r:60:VAL:HG12	42:r:117:ILE:HG21	2.01	0.43
43:s:152:ILE:H	43:s:152:ILE:HD12	1.83	0.43
45:5:964:A:H2'	45:5:965:G:O4'	2.18	0.43
45:5:1098:G:H2'	45:5:1099:C:O5'	2.19	0.43
45:5:1427:A:OP2	45:5:1457:G:N1	2.45	0.43
45:5:1849:U:H2'	45:5:1850:A:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2519:U:H1'	45:5:2520:C:C6	2.53	0.43
45:5:2866:C:C4	45:5:2867:C:C5	3.07	0.43
45:5:3935:C:N4	45:5:3936:A:H62	2.15	0.43
45:5:4530:UR3:O5'	45:5:4530:UR3:H6	2.18	0.43
45:5:4947:U:C2'	45:5:4948:C:O5'	2.67	0.43
48:v:368:ARG:O	48:v:371:LEU:HG	2.18	0.43
48:v:650:TRP:HZ2	48:v:672:LEU:HD21	1.83	0.43
48:v:756:VAL:HG11	48:v:782:PHE:CD1	2.53	0.43
49:9:193:C:H2'	49:9:194:C:C6	2.53	0.43
49:9:343:A:O2'	54:EE:140:VAL:HG21	2.17	0.43
49:9:371:A:C2	49:9:372:U:C4	3.07	0.43
49:9:501:C:O2	49:9:501:C:H2'	2.18	0.43
49:9:919:A:O2'	49:9:1020:A:N1	2.39	0.43
49:9:959:G:O2'	49:9:960:U:H5'	2.19	0.43
49:9:1202:U:H2'	49:9:1203:G:O4'	2.18	0.43
49:9:1402:A:C2	49:9:1405:A:C2	3.06	0.43
49:9:1511:U:H2'	49:9:1512:C:C6	2.53	0.43
49:9:1548:G:N3	49:9:1548:G:O4'	2.51	0.43
49:9:1550:G:H3'	49:9:1579:A:H61	1.83	0.43
49:9:1566:G:C6	49:9:1570:G:O6	2.72	0.43
49:9:1637:A:H4'	49:9:1638:G:C5'	2.48	0.43
53:DD:98:ALA:HA	53:DD:188:ILE:HD12	2.00	0.43
53:DD:115:VAL:CG1	53:DD:138:VAL:HG21	2.48	0.43
59:JJ:111:GLN:CD	59:JJ:127:ARG:HB2	2.43	0.43
64:OO:34:PHE:O	64:OO:40:THR:HA	2.19	0.43
70:UU:67:LYS:HG2	70:UU:78:ASP:CG	2.43	0.43
72:WW:105:THR:N	72:WW:124:LYS:O	2.46	0.43
82:gg:270:LEU:HD23	82:gg:310:TRP:CG	2.53	0.43
82:gg:299:PHE:HD1	82:gg:309:VAL:HG12	1.84	0.43
2:B:35:ASP:OD1	2:B:35:ASP:N	2.49	0.43
2:B:93:VAL:O	2:B:93:VAL:HG13	2.18	0.43
2:B:99:LEU:HD21	2:B:159:VAL:HG21	2.01	0.43
4:D:153:THR:HB	4:D:160:PHE:CZ	2.53	0.43
5:E:115:MET:CE	45:5:2261:G:C5'	2.97	0.43
6:F:124:LEU:HD22	6:F:129:ILE:HD11	2.01	0.43
9:I:55:ASP:OD2	9:I:164:LYS:HD3	2.18	0.43
9:I:169:LYS:O	9:I:178:ALA:N	2.42	0.43
9:I:190:LEU:HD23	9:I:197:VAL:HG21	2.00	0.43
10:J:111:GLU:HG3	10:J:114:ASP:OD2	2.18	0.43
14:O:121:PRO:HA	14:O:124:LEU:HD12	2.01	0.43
17:R:89:MET:HE3	17:R:90:PRO:HD2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:T:42:ILE:HD11	19:T:74:ILE:HG21	2.00	0.43
23:X:87:MET:O	23:X:90:ILE:N	2.51	0.43
34:i:3:LEU:HD11	34:i:5:TYR:CZ	2.53	0.43
35:j:4:GLY:O	35:j:8:PHE:CD2	2.72	0.43
44:t:42:VAL:O	44:t:45:ASP:OD1	2.36	0.43
45:5:978:G:H8	45:5:978:G:OP2	2.02	0.43
45:5:1370:G:H4'	45:5:1371:A:O5'	2.17	0.43
45:5:1823:G:H2'	45:5:1824:G:O4'	2.19	0.43
45:5:1958:A:C2'	45:5:1959:U:O5'	2.67	0.43
45:5:2383:C:C2	45:5:2423:A:C2	3.06	0.43
45:5:2431:A:O2'	45:5:2432:U:H5'	2.19	0.43
45:5:2588:C:H5''	45:5:2589:C:C5'	2.48	0.43
45:5:3890:A:H61	45:5:4570:G:C2'	2.30	0.43
45:5:4323:A:H2'	45:5:4324:A:O4'	2.18	0.43
45:5:4601:U:OP2	45:5:4609:G:N1	2.40	0.43
48:v:505:VAL:O	48:v:547:ALA:HA	2.18	0.43
48:v:610:PRO:HG3	48:v:639:TYR:HB3	1.99	0.43
49:9:625:G:O6	73:XX:63:ASN:O	2.35	0.43
49:9:650:A:P	73:XX:108:LYS:NZ	2.91	0.43
49:9:973:C:C4	49:9:974:C:C5	3.06	0.43
49:9:1092:G:C2	49:9:1093:A:C5	3.06	0.43
50:AA:179:ALA:O	50:AA:183:LEU:HD23	2.19	0.43
56:GG:52:ILE:CG2	56:GG:109:LEU:HD11	2.48	0.43
57:HH:7:LYS:O	57:HH:44:ASN:HB2	2.18	0.43
62:MM:33:ARG:NH1	62:MM:91:LEU:HD22	2.34	0.43
68:SS:26:ILE:O	68:SS:30:ILE:HG22	2.18	0.43
68:SS:89:ASP:OD1	68:SS:91:LYS:N	2.50	0.43
75:ZZ:68:ILE:HG21	75:ZZ:88:LEU:HD11	2.01	0.43
82:gg:89:LEU:HD23	82:gg:101:PHE:CZ	2.53	0.43
6:F:82:VAL:HG23	18:S:62:VAL:HG23	1.99	0.43
7:G:142:THR:O	7:G:146:LEU:HG	2.18	0.43
15:P:41:ILE:HG23	15:P:42:ARG:N	2.33	0.43
23:X:60:TYR:CD2	33:h:78:TYR:HB3	2.54	0.43
24:Y:30:MET:HB3	24:Y:101:PRO:HG2	2.01	0.43
25:Z:17:ARG:NH2	45:5:2578:G:N7	2.58	0.43
29:d:29:ILE:HG21	29:d:80:VAL:HG11	2.00	0.43
31:f:48:ALA:CB	31:f:104:MET:HE2	2.48	0.43
43:s:29:ILE:HD12	43:s:29:ILE:N	2.33	0.43
43:s:180:ILE:O	43:s:180:ILE:HG23	2.18	0.43
45:5:159:C:H4'	45:5:160:G:OP2	2.19	0.43
45:5:199:G:O3'	45:5:200:U:H4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:756:G:C6	45:5:908:G:C6	3.07	0.43
45:5:1381:U:H2'	45:5:1382:G:H5'	2.01	0.43
45:5:2376:A:H2'	45:5:2377:C:C6	2.54	0.43
45:5:2423:A:O2'	45:5:2424:OMG:O5'	2.35	0.43
45:5:2639:U:H2'	45:5:2694:G:C6	2.54	0.43
45:5:4655:A:N6	45:5:4658:G:N7	2.65	0.43
45:5:4884:G:H2'	45:5:4885:U:O4'	2.19	0.43
48:v:207:PRO:HG2	48:v:261:TRP:CE2	2.53	0.43
49:9:1139:C:O2	49:9:1139:C:O5'	2.37	0.43
49:9:1166:G:O2'	49:9:1167:G:H5'	2.19	0.43
49:9:1223:A:H2'	49:9:1224:G:O4'	2.18	0.43
49:9:1298:G:O2'	49:9:1299:A:P	2.76	0.43
49:9:1304:U:OP1	81:ff:93:HIS:HB2	2.18	0.43
49:9:1551:U:O2	49:9:1551:U:O4'	2.36	0.43
49:9:1778:C:H2'	49:9:1779:G:C8	2.54	0.43
50:AA:2:SER:HA	50:AA:8:LEU:HD13	2.00	0.43
50:AA:18:PHE:HD1	50:AA:173:LEU:HD21	1.82	0.43
52:CC:179:THR:CB	52:CC:221:ASP:O	2.66	0.43
55:FF:96:ALA:O	55:FF:100:ILE:HD12	2.18	0.43
60:KK:59:LYS:HG2	60:KK:70:TYR:HB2	2.01	0.43
64:OO:80:ASP:C	64:OO:80:ASP:OD1	2.61	0.43
71:VV:67:ASP:HA	71:VV:70:LEU:HD21	1.99	0.43
74:YY:17:LEU:N	74:YY:17:LEU:HD12	2.34	0.43
77:bb:64:CYS:SG	77:bb:71:ALA:HB1	2.58	0.43
82:gg:131:LEU:HD23	82:gg:131:LEU:H	1.83	0.43
82:gg:252:THR:HG21	82:gg:257:LYS:HD2	2.00	0.43
3:C:135:ALA:HB3	42:r:6:GLN:OE1	2.18	0.43
3:C:339:THR:O	3:C:343:GLN:HG3	2.17	0.43
4:D:152:ARG:HG3	4:D:154:THR:HG23	2.00	0.43
7:G:31:LEU:HD21	25:Z:122:TYR:CZ	2.53	0.43
7:G:54:PHE:O	45:5:4085:A:H2'	2.19	0.43
9:I:55:ASP:OD1	9:I:164:LYS:CE	2.66	0.43
10:J:170:TYR:O	10:J:171:ASP:C	2.60	0.43
18:S:83:ARG:HB3	18:S:127:MET:HE2	2.00	0.43
19:T:143:THR:O	19:T:143:THR:HG23	2.18	0.43
28:c:61:GLU:CD	28:c:71:VAL:HG11	2.42	0.43
30:e:54:LEU:HD23	30:e:60:TYR:OH	2.18	0.43
35:j:71:TYR:O	35:j:75:ARG:HG3	2.18	0.43
43:s:68:HIS:O	43:s:69:LEU:C	2.62	0.43
43:s:161:ILE:CD1	43:s:167:VAL:HG23	2.48	0.43
45:5:262:G:C2	45:5:263:G:N7	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:978:G:N2	45:5:1277:G:H22	2.16	0.43
45:5:1342:A:O2'	45:5:1343:A:H5'	2.17	0.43
45:5:2279:A:H2'	45:5:2280:G:O4'	2.18	0.43
45:5:3863:C:H4'	45:5:3903:A:H4'	2.00	0.43
45:5:3903:A:O2'	45:5:3904:G:H5'	2.18	0.43
45:5:4070:U:H2'	45:5:4071:U:C6	2.53	0.43
45:5:4466:C:O2'	45:5:4467:A:H5'	2.19	0.43
45:5:4964:C:O2'	45:5:4965:U:O5'	2.23	0.43
47:8:7:U:C2	47:8:8:U:C5	3.06	0.43
48:v:36:THR:O	48:v:40:VAL:HG23	2.18	0.43
48:v:598:LYS:HZ2	85:2:27:U:P	2.39	0.43
48:v:776:VAL:HG12	48:v:777:ALA:N	2.33	0.43
49:9:140:U:O2'	49:9:141:A:P	2.74	0.43
49:9:475:C:O2'	49:9:507:G:N3	2.28	0.43
49:9:682:U:OP2	73:XX:8:ARG:CZ	2.67	0.43
49:9:1007:C:O2	63:NN:101:HIS:NE2	2.45	0.43
49:9:1060:A:C2	49:9:1062:A:N6	2.86	0.43
49:9:1139:C:O2	49:9:1139:C:O4'	2.36	0.43
49:9:1260:A:C2	49:9:1620:A:C4	3.07	0.43
49:9:1643:U:H2'	49:9:1644:C:C6	2.54	0.43
50:AA:106:GLY:N	50:AA:136:GLU:OE2	2.52	0.43
50:AA:111:GLN:HG2	52:CC:63:VAL:HG21	2.00	0.43
54:EE:244:ILE:O	54:EE:244:ILE:HG22	2.19	0.43
55:FF:122:ARG:HE	78:cc:59:LEU:HD21	1.84	0.43
58:II:135:GLU:O	58:II:138:ASN:OD1	2.37	0.43
68:SS:103:LEU:C	68:SS:103:LEU:HD23	2.44	0.43
69:TT:100:ALA:O	69:TT:103:VAL:HG12	2.18	0.43
70:UU:60:THR:HG23	70:UU:60:THR:O	2.18	0.43
70:UU:72:GLU:O	70:UU:72:GLU:HG2	2.19	0.43
73:XX:81:ILE:HD12	73:XX:120:PHE:CD2	2.54	0.43
78:cc:32:VAL:HG11	78:cc:56:LEU:HD22	2.00	0.43
82:gg:17:TRP:CB	82:gg:303:THR:HA	2.49	0.43
2:B:100:ARG:NE	45:5:4911:A:OP2	2.51	0.43
2:B:228:TYR:CE1	2:B:270:GLY:HA2	2.53	0.43
2:B:258:HIS:HA	2:B:259:PRO:C	2.44	0.43
3:C:292:ILE:O	3:C:298:ILE:HD12	2.19	0.43
4:D:16:TYR:O	46:7:11:A:N6	2.52	0.43
11:L:170:THR:HB	11:L:173:GLU:OE1	2.18	0.43
12:M:36:ALA:HB2	12:M:52:PHE:CZ	2.53	0.43
31:f:94:ALA:O	45:5:1308:C:O2'	2.33	0.43
45:5:63:G:C5	45:5:333:U:C4	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:1818:G:N3	45:5:1818:G:H2'	2.32	0.43
45:5:3712:A:N1	49:9:970:G:C5	2.87	0.43
45:5:4439:U:H2'	45:5:4440:G:O4'	2.19	0.43
45:5:4516:G:O2'	45:5:4517:A:H5'	2.19	0.43
45:5:4708:A:H3'	45:5:4709:U:C5'	2.49	0.43
48:v:144:ARG:HD3	48:v:192:TYR:CE1	2.53	0.43
48:v:694:GLU:OE1	48:v:694:GLU:N	2.52	0.43
49:9:126:G:HO2'	49:9:127:C:C5'	2.28	0.43
49:9:419:G:N2	49:9:661:U:O2	2.52	0.43
49:9:1260:A:C2	49:9:1620:A:C5	3.07	0.43
49:9:1472:C:C2	49:9:1476:A:N6	2.85	0.43
50:AA:99:ILE:HD11	50:AA:117:ARG:NH2	2.34	0.43
51:BB:141:GLY:HA3	51:BB:207:LEU:HD23	2.01	0.43
54:EE:180:LEU:O	54:EE:227:VAL:HG13	2.18	0.43
55:FF:156:THR:HG22	55:FF:159:ARG:NH1	2.33	0.43
58:II:172:LEU:HD12	58:II:195:LEU:CD1	2.48	0.43
59:JJ:135:ILE:HG22	59:JJ:136:ARG:N	2.34	0.43
60:KK:47:LYS:HE3	60:KK:50:GLN:NE2	2.33	0.43
82:gg:154:VAL:HG23	82:gg:154:VAL:O	2.18	0.43
1:A:21:LYS:HG2	45:5:1541:C:H5''	2.01	0.43
3:C:266:THR:CG2	3:C:267:TRP:N	2.82	0.43
13:N:147:ASP:OD1	33:h:104:THR:HG21	2.19	0.43
16:Q:70:MET:HE2	16:Q:70:MET:HA	2.00	0.43
37:l:42:ARG:NH2	45:5:2408:U:P	2.92	0.43
39:n:4:LYS:HB2	49:9:1842:4AC:P	2.59	0.43
42:r:66:ARG:O	42:r:67:ARG:HB3	2.19	0.43
44:t:65:GLN:CG	44:t:66:ASN:N	2.82	0.43
45:5:7:C:H2'	45:5:8:U:C6	2.53	0.43
45:5:52:G:C4'	45:5:1529:G:H4'	2.49	0.43
45:5:508:G:O3'	45:5:509:A:H3'	2.19	0.43
45:5:1672:U:O2'	45:5:4304:A:OP1	2.30	0.43
45:5:1759:G:H2'	45:5:1760:G:H5''	2.01	0.43
45:5:2065:G:H2'	45:5:2066:C:O4'	2.18	0.43
45:5:2600:A:O4'	45:5:2601:A:C5	2.71	0.43
45:5:3693:U:C2	45:5:3694:U:C5	3.07	0.43
45:5:3693:U:C2	45:5:3694:U:C6	3.07	0.43
45:5:3700:C:O2'	45:5:3774:A:N3	2.45	0.43
45:5:3806:G:H2'	45:5:3807:A:O4'	2.19	0.43
45:5:4926:C:O2	45:5:4926:C:OP2	2.36	0.43
48:v:85:ASP:N	48:v:85:ASP:OD1	2.51	0.43
48:v:131:CYS:SG	48:v:157:MET:HB3	2.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:v:153:PRO:HD2	48:v:203:ILE:HG13	2.01	0.43
48:v:385:ILE:CG2	48:v:417:PHE:HB3	2.48	0.43
48:v:801:ARG:O	48:v:806:GLY:N	2.51	0.43
49:9:98:C:C2	49:9:409:C:C5	3.07	0.43
49:9:154:U:H2'	49:9:155:G:O4'	2.19	0.43
49:9:502:C:O4'	54:EE:66:MET:HE3	2.19	0.43
49:9:524:U:N3	80:ee:100:LYS:HB3	2.34	0.43
49:9:587:A:H1'	49:9:590:A:H1'	2.01	0.43
49:9:952:G:H2'	49:9:953:C:O4'	2.19	0.43
49:9:1335:G:H4'	53:DD:172:VAL:HG11	2.01	0.43
50:AA:55:TRP:O	50:AA:59:LEU:HD23	2.18	0.43
55:FF:112:LEU:HD12	55:FF:177:LEU:CD1	2.48	0.43
58:II:85:ALA:CB	61:LL:9:ALA:HB2	2.49	0.43
58:II:121:LEU:HD11	58:II:158:ILE:HD11	2.00	0.43
59:JJ:114:VAL:CG2	59:JJ:130:ILE:HD11	2.49	0.43
64:OO:100:THR:O	64:OO:100:THR:CG2	2.66	0.43
64:OO:136:PRO:C	64:OO:138:ASP:N	2.77	0.43
65:PP:20:VAL:HG23	65:PP:25:LEU:HG	2.01	0.43
66:QQ:116:ASP:HB2	66:QQ:119:LEU:HG	1.99	0.43
69:TT:107:LEU:C	69:TT:113:VAL:HG22	2.44	0.43
69:TT:123:LEU:CD2	69:TT:131:LEU:HD12	2.49	0.43
74:YY:79:LEU:O	74:YY:83:LYS:HG2	2.19	0.43
82:gg:199:THR:HG22	82:gg:200:VAL:N	2.34	0.43
1:A:116:LEU:HD13	1:A:164:ALA:HB2	2.00	0.43
2:B:89:ILE:HD11	2:B:197:ALA:C	2.43	0.43
2:B:369:ASP:OD1	2:B:371:THR:HG23	2.18	0.43
2:B:384:GLU:OE1	22:W:14:TYR:OH	2.37	0.43
3:C:254:GLU:O	3:C:258:ARG:HG3	2.18	0.43
6:F:47:LYS:HE3	45:5:1237:C:O3'	2.19	0.43
6:F:161:ILE:HD12	6:F:166:ILE:HB	2.00	0.43
10:J:129:ASP:OD1	45:5:4251:A:C8	2.71	0.43
13:N:178:HIS:HB2	45:5:315:G:C6	2.54	0.43
15:P:75:GLN:NE2	15:P:76:TRP:NE1	2.66	0.43
18:S:115:ALA:HB1	45:5:1925:G:N3	2.34	0.43
35:j:5:THR:HG21	45:5:2793:G:H21	1.84	0.43
45:5:519:C:C2	45:5:520:U:C5	3.07	0.43
45:5:981:C:C2	45:5:1275:G:N2	2.85	0.43
45:5:1573:G:OP1	45:5:2667:C:O2'	2.28	0.43
45:5:1733:G:N3	45:5:4214:A:H2'	2.34	0.43
45:5:1742:A:N1	45:5:1790:U:O2'	2.40	0.43
45:5:1877:G:H2'	45:5:1878:G:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2557:G:H2'	45:5:2558:C:O4'	2.18	0.43
45:5:2659:A:C2	45:5:2676:A:N9	2.87	0.43
45:5:4378:A:OP2	45:5:4378:A:H4'	2.19	0.43
45:5:4672:A:H2'	45:5:4673:U:O4'	2.19	0.43
45:5:5052:C:H2'	45:5:5053:U:O4'	2.19	0.43
48:v:265:TYR:CB	48:v:285:LEU:HD23	2.48	0.43
48:v:511:ALA:HB2	48:v:520:LEU:HD22	2.01	0.43
48:v:650:TRP:CG	48:v:676:LYS:HZ3	2.37	0.43
48:v:744:ILE:HA	48:v:789:PRO:HA	2.01	0.43
49:9:569:A:C2	49:9:570:C:H1'	2.54	0.43
49:9:913:A:H2'	57:HH:120:ARG:NH2	2.33	0.43
49:9:964:A:H1'	49:9:1054:G:O2'	2.19	0.43
49:9:1216:C:H4'	49:9:1644:C:OP1	2.19	0.43
49:9:1230:C:C2	49:9:1231:C:C5	3.06	0.43
49:9:1664:A:C4'	49:9:1665:G:OP1	2.67	0.43
50:AA:56:GLU:CG	71:VV:79:VAL:HG13	2.48	0.43
50:AA:57:LYS:NZ	71:VV:66:ASP:OD1	2.51	0.43
50:AA:200:ASP:OD2	67:RR:90:ALA:N	2.43	0.43
51:BB:127:VAL:O	51:BB:135:LEU:HD23	2.19	0.43
52:CC:209:VAL:HG21	52:CC:233:LEU:HD12	2.00	0.43
54:EE:26:VAL:HA	59:JJ:4:ALA:HB2	2.01	0.43
56:GG:176:ILE:HG21	56:GG:179:LEU:HD13	2.01	0.43
60:KK:39:ASN:O	60:KK:40:VAL:C	2.62	0.43
64:OO:34:PHE:HB2	64:OO:41:PHE:HB2	2.00	0.43
65:PP:41:GLN:HG2	65:PP:84:ILE:HD13	2.01	0.43
74:YY:54:VAL:HG22	74:YY:76:TYR:HB2	2.00	0.43
82:gg:17:TRP:HA	82:gg:305:ASN:HA	2.00	0.43
82:gg:27:PHE:HB2	82:gg:30:MET:HE2	2.01	0.43
83:3:58:A:H1'	83:3:60:U:OP2	2.18	0.43
1:A:247:ARG:HG2	1:A:247:ARG:HH11	1.84	0.42
2:B:94:GLU:OE1	2:B:158:GLN:HB2	2.19	0.42
3:C:53:ALA:HB1	3:C:105:THR:O	2.18	0.42
5:E:113:ARG:NH1	45:5:458:C:O2'	2.49	0.42
8:H:112:VAL:O	8:H:112:VAL:HG23	2.18	0.42
10:J:26:VAL:O	10:J:28:GLU:OE2	2.37	0.42
16:Q:79:THR:HB	16:Q:136:THR:HG22	2.01	0.42
23:X:77:ILE:CD1	23:X:100:VAL:HG12	2.42	0.42
23:X:143:ASP:OD1	23:X:143:ASP:N	2.50	0.42
24:Y:49:ILE:HG21	24:Y:80:ILE:HG21	2.00	0.42
26:a:59:ARG:NH2	26:a:61:TYR:OH	2.51	0.42
43:s:141:LEU:HD11	43:s:160:LEU:HD22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:734:G:H1	45:5:929:A:H62	1.67	0.42
45:5:914:U:H4'	45:5:914:U:OP1	2.18	0.42
45:5:2415:U:H2'	45:5:2416:G:C8	2.54	0.42
45:5:2458:C:H2'	45:5:2459:G:O4'	2.19	0.42
45:5:2835:A:N1	45:5:3894:A:O2'	2.52	0.42
45:5:3635:A:C5	45:5:3636:C:C6	3.07	0.42
45:5:3910:C:H2'	45:5:3911:C:C6	2.54	0.42
45:5:4129:G:O6	45:5:4156:G:N2	2.51	0.42
45:5:4254:G:N3	45:5:4254:G:H2'	2.34	0.42
45:5:4376:A:H5''	45:5:4377:G:O5'	2.19	0.42
45:5:4582:C:O2'	45:5:4583:C:H5'	2.18	0.42
47:8:48:A:N7	47:8:51:U:O2'	2.46	0.42
49:9:1202:U:O2	52:CC:115:GLN:HB2	2.19	0.42
49:9:1285:G:OP1	62:MM:106:CYS:HA	2.18	0.42
49:9:1611:G:P	68:SS:121:ARG:HH22	2.42	0.42
49:9:1681:U:H2'	49:9:1682:C:C6	2.54	0.42
50:AA:163:CYS:O	50:AA:164:ASN:C	2.61	0.42
51:BB:45:GLY:C	51:BB:46:LYS:HD3	2.44	0.42
51:BB:74:LEU:HD11	51:BB:86:LEU:HD11	2.01	0.42
53:DD:172:VAL:HG22	53:DD:185:LYS:HG2	2.01	0.42
65:PP:21:ASP:OD1	65:PP:21:ASP:N	2.47	0.42
67:RR:50:ILE:O	67:RR:54:VAL:HG13	2.18	0.42
1:A:21:LYS:NZ	45:5:2743:A:H1'	2.34	0.42
4:D:151:ALA:O	4:D:153:THR:HG23	2.19	0.42
5:E:111:LYS:CE	45:5:2259:G:O2'	2.67	0.42
5:E:115:MET:HE1	45:5:2261:G:H5''	2.01	0.42
6:F:96:GLY:N	45:5:1896:A:OP1	2.52	0.42
6:F:247:ASN:OD1	6:F:247:ASN:C	2.62	0.42
8:H:50:LYS:NZ	45:5:760:G:P	2.92	0.42
8:H:95:VAL:HG22	38:m:82:LEU:CD1	2.49	0.42
9:I:97:ILE:HG13	9:I:97:ILE:O	2.18	0.42
9:I:180:GLU:O	9:I:184:MET:HG3	2.19	0.42
12:M:17:PHE:CE1	12:M:54:CYS:HB3	2.53	0.42
12:M:62:LEU:HD11	12:M:82:ILE:HG13	2.00	0.42
24:Y:17:ARG:NH2	45:5:346:G:OP1	2.47	0.42
25:Z:51:ARG:NH1	45:5:2755:A:OP2	2.52	0.42
25:Z:60:LYS:HZ1	45:5:4149:C:H5''	1.84	0.42
43:s:28:PHE:CE1	43:s:192:VAL:HG13	2.53	0.42
45:5:104:G:O6	45:5:105:A:N6	2.51	0.42
45:5:449:C:C4'	45:5:450:G:OP2	2.67	0.42
45:5:966:A:H2'	45:5:966:A:N3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:1754:U:HO2'	45:5:1755:C:C1'	2.14	0.42
45:5:3757:G:H2'	45:5:3758:U:O4'	2.20	0.42
45:5:4134:C:H2'	45:5:4135:G:H8	1.85	0.42
45:5:4696:C:H2'	45:5:4697:U:O4'	2.19	0.42
45:5:4892:A:C5	45:5:4893:A:C2	3.07	0.42
45:5:4918:C:H2'	45:5:4919:G:O4'	2.20	0.42
45:5:4925:U:H1'	45:5:4926:C:P	2.58	0.42
47:8:7:U:N3	47:8:8:U:C5	2.87	0.42
48:v:595:SER:HA	48:v:724:THR:OG1	2.19	0.42
48:v:600:ASN:HB2	48:v:709:LEU:HD23	2.01	0.42
49:9:14:C:O2	49:9:668:A2M:H2	2.18	0.42
49:9:122:G:H21	54:EE:146:THR:HG21	1.84	0.42
49:9:361:U:H4'	49:9:362:C:C5'	2.49	0.42
49:9:460:A:C2	49:9:470:G:C6	3.08	0.42
49:9:1050:A:N6	49:9:1069:U:C6	2.87	0.42
49:9:1462:U:O2	49:9:1464:C:N4	2.51	0.42
50:AA:51:LEU:HD12	67:RR:105:MET:HE3	2.01	0.42
52:CC:146:GLU:HA	52:CC:146:GLU:OE2	2.19	0.42
55:FF:61:PHE:HE2	78:cc:51:ARG:CZ	2.33	0.42
63:NN:32:ASP:O	63:NN:35:GLU:HG3	2.19	0.42
64:OO:34:PHE:CD2	64:OO:98:ARG:HD3	2.54	0.42
66:QQ:23:ALA:HB3	66:QQ:91:ALA:HB2	2.00	0.42
68:SS:26:ILE:HB	68:SS:45:LEU:HD21	2.01	0.42
69:TT:18:LEU:CD1	69:TT:131:LEU:CD2	2.98	0.42
70:UU:97:ILE:HG22	70:UU:100:GLN:HE22	1.84	0.42
72:WW:28:ARG:HB2	72:WW:29:PRO:HD3	2.01	0.42
2:B:14:LEU:HD21	2:B:265:SER:CB	2.48	0.42
2:B:216:MET:CE	2:B:283:LYS:HD3	2.47	0.42
3:C:27:VAL:CG2	3:C:264:TYR:HB2	2.50	0.42
7:G:184:LEU:HD23	7:G:190:LEU:HD21	2.00	0.42
13:N:93:LYS:NZ	45:5:287:U:O2	2.41	0.42
13:N:113:LEU:HD12	13:N:113:LEU:N	2.34	0.42
22:W:55:TYR:CD1	22:W:55:TYR:C	2.97	0.42
30:e:57:ASN:O	30:e:59:GLY:N	2.52	0.42
45:5:433:A:H2'	45:5:434:A:O4'	2.19	0.42
45:5:488:G:C4	45:5:489:C:C5	3.08	0.42
45:5:1081:C:C5'	45:5:1082:C:OP2	2.68	0.42
45:5:2000:G:H5''	45:5:2001:G:OP1	2.19	0.42
45:5:2009:A:N6	48:v:753:GLU:CG	2.82	0.42
45:5:2045:G:N2	45:5:2046:G:N7	2.67	0.42
45:5:2097:A:H2'	45:5:2097:A:N3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:3651:A:H2'	45:5:3652:A:O4'	2.18	0.42
45:5:4090:G:O2'	45:5:4091:G:H5'	2.19	0.42
45:5:4352:U:C2	45:5:4363:A:C2	3.07	0.42
45:5:4452:U:OP2	45:5:4522:G:N1	2.35	0.42
45:5:4591:U:H2'	45:5:4592:C:O4'	2.18	0.42
45:5:4651:A:H2'	45:5:4652:G:O4'	2.19	0.42
45:5:4971:A:C5	45:5:4972:U:C5	3.06	0.42
48:v:470:VAL:HG23	48:v:470:VAL:O	2.19	0.42
49:9:491:C:H2'	49:9:492:C:O4'	2.19	0.42
49:9:509:OMG:H4'	54:EE:26:VAL:HG21	2.01	0.42
49:9:1115:U:O3'	49:9:1116:C:O2	2.37	0.42
49:9:1185:C:C4	49:9:1186:U:C5	3.07	0.42
49:9:1223:A:O2'	49:9:1651:A:H4'	2.20	0.42
49:9:1249:C:OP2	49:9:1250:A:O2'	2.30	0.42
49:9:1259:A:H1'	49:9:1264:C:H42	1.84	0.42
49:9:1315:U:O2	49:9:1315:U:O4'	2.36	0.42
49:9:1393:G:O2'	49:9:1394:G:H5'	2.20	0.42
49:9:1518:C:P	49:9:1519:U:H2'	2.59	0.42
49:9:1566:G:N1	49:9:1570:G:C6	2.88	0.42
49:9:1629:C:OP1	68:SS:39:ARG:NE	2.52	0.42
53:DD:39:VAL:HG13	53:DD:39:VAL:O	2.19	0.42
54:EE:220:THR:HG22	54:EE:221:ARG:N	2.34	0.42
56:GG:157:VAL:HG22	56:GG:158:VAL:N	2.34	0.42
59:JJ:38:ARG:HG3	80:ee:101:ARG:HG2	2.00	0.42
64:OO:45:THR:HG22	64:OO:52:THR:HG22	2.02	0.42
74:YY:60:PHE:HD2	74:YY:69:THR:HG22	1.84	0.42
1:A:60:LYS:HE2	1:A:73:THR:HG21	2.02	0.42
7:G:200:THR:N	45:5:150:U:OP1	2.43	0.42
11:L:180:ALA:O	11:L:184:MET:HG3	2.19	0.42
19:T:71:ALA:CB	45:5:4313:A:H4'	2.50	0.42
25:Z:24:VAL:HG11	25:Z:87:VAL:HG21	2.00	0.42
26:a:90:ALA:HB2	26:a:99:PRO:CG	2.49	0.42
26:a:117:LEU:HD23	26:a:118:PRO:O	2.18	0.42
27:b:8:THR:HG22	27:b:10:HIS:N	2.31	0.42
31:f:33:VAL:HG11	31:f:39:THR:HG22	2.01	0.42
31:f:79:GLY:HA2	45:5:2066:C:O2'	2.19	0.42
35:j:13:ASN:HB2	45:5:1534:A2M:O4'	2.19	0.42
35:j:23:GLY:HA3	47:8:43:A:O2'	2.19	0.42
36:k:48:THR:O	36:k:48:THR:HG22	2.18	0.42
40:o:7:THR:O	40:o:7:THR:HG23	2.19	0.42
45:5:381:U:O2	45:5:410:A:H2	2.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:1081:C:H3'	45:5:1082:C:H5''	2.01	0.42
45:5:1211:G:O2'	45:5:1212:G:H5'	2.20	0.42
45:5:1238:A:H2'	45:5:1239:C:H5'	2.01	0.42
45:5:1420:A:O4'	45:5:1420:A:OP2	2.37	0.42
45:5:1927:U:H4'	45:5:2035:C:O2	2.20	0.42
45:5:1960:A:H4'	45:5:1961:G:OP2	2.20	0.42
45:5:2008:U:H5'	48:v:757:GLY:HA3	2.01	0.42
45:5:2067:C:O2'	45:5:2068:C:H5'	2.19	0.42
45:5:2439:G:H5'	45:5:2778:G:OP2	2.20	0.42
45:5:2630:U:O2'	45:5:2632:PSU:H4'	2.19	0.42
45:5:2747:U:O2'	45:5:2748:C:H5'	2.19	0.42
45:5:2845:A:H1'	45:5:4630:G:O2'	2.20	0.42
48:v:30:HIS:CD2	48:v:130:ASP:H	2.38	0.42
49:9:28:U:H2'	49:9:29:G:H8	1.85	0.42
49:9:657:U:C2'	49:9:658:U:OP2	2.67	0.42
49:9:905:C:C2	49:9:906:U:C5	3.07	0.42
49:9:962:A:H5''	64:OO:66:ARG:HG2	2.01	0.42
49:9:987:A:H2'	51:BB:114:VAL:HG11	2.01	0.42
49:9:1024:A:O4'	72:WW:2:VAL:HG13	2.19	0.42
49:9:1140:G:H2'	49:9:1141:G:O4'	2.19	0.42
49:9:1238:U:H2'	49:9:1239:U:O4'	2.19	0.42
49:9:1450:G:H2'	49:9:1451:G:O4'	2.20	0.42
49:9:1454:A:O5'	67:RR:3:ARG:NH1	2.53	0.42
54:EE:158:ASP:OD1	54:EE:174:LYS:HA	2.19	0.42
55:FF:176:GLU:OE1	55:FF:176:GLU:HA	2.19	0.42
57:HH:98:ARG:NE	57:HH:128:ALA:HB1	2.34	0.42
59:JJ:158:ASP:OD1	59:JJ:159:PHE:N	2.51	0.42
70:UU:28:ASN:HB2	70:UU:31:SER:HB3	2.02	0.42
81:ff:119:ARG:CG	81:ff:132:MET:HE2	2.49	0.42
82:gg:241:PHE:CE1	82:gg:248:LEU:HD12	2.54	0.42
1:A:144:LYS:HE2	1:A:160:SER:OG	2.19	0.42
3:C:78:ARG:NH2	45:5:2352:U:OP1	2.52	0.42
4:D:56:THR:HG22	4:D:57:ASN:N	2.35	0.42
7:G:161:VAL:O	7:G:161:VAL:CG1	2.64	0.42
14:O:158:GLU:O	14:O:162:GLU:HG2	2.20	0.42
16:Q:16:LYS:HE2	16:Q:16:LYS:HA	2.02	0.42
16:Q:184:ARG:NH2	45:5:4365:C:OP1	2.53	0.42
17:R:63:CYS:SG	45:5:2809:G:H5''	2.60	0.42
24:Y:74:TYR:CD1	47:8:74:U:C4	3.07	0.42
31:f:45:LYS:HA	31:f:107:PRO:HD2	2.02	0.42
43:s:65:ILE:HA	43:s:68:HIS:HB2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:978:G:H22	45:5:1277:G:H1	1.67	0.42
45:5:1679:A:O2'	45:5:1680:G:H5'	2.19	0.42
45:5:2018:C:N3	45:5:2019:C:C5	2.88	0.42
45:5:2734:U:H2'	45:5:2735:G:O4'	2.19	0.42
45:5:3715:PSU:O2'	83:3:71:G:N3	2.50	0.42
45:5:4260:U:H2'	45:5:4261:C:C6	2.54	0.42
45:5:4263:C:H2'	45:5:4264:G:O4'	2.19	0.42
45:5:4266:G:N3	45:5:4266:G:H2'	2.33	0.42
45:5:4370:OMG:C6	83:3:76:A:C2	3.08	0.42
45:5:5000:G:H2'	45:5:5001:U:O4'	2.19	0.42
46:7:75:G:O2'	46:7:99:G:O6	2.26	0.42
48:v:129:VAL:O	48:v:129:VAL:HG23	2.19	0.42
48:v:236:PHE:CD2	48:v:236:PHE:O	2.73	0.42
49:9:437:G:H2'	49:9:438:G:O4'	2.19	0.42
49:9:878:G:H3'	49:9:879:C:H5''	2.02	0.42
49:9:1159:G:H2'	49:9:1160:U:O4'	2.19	0.42
49:9:1388:A:N6	53:DD:161:GLY:HA3	2.35	0.42
49:9:1666:C:H2'	49:9:1667:U:O4'	2.20	0.42
49:9:1829:G:O2'	49:9:1850:MA6:H92	2.19	0.42
50:AA:36:GLN:O	50:AA:53:ARG:NH1	2.53	0.42
54:EE:44:LEU:HD12	54:EE:70:ILE:CD1	2.49	0.42
56:GG:77:LEU:HD13	56:GG:84:TYR:HB2	2.01	0.42
57:HH:166:VAL:O	57:HH:170:VAL:HG23	2.20	0.42
58:II:44:HIS:ND1	58:II:58:LEU:HD11	2.34	0.42
58:II:67:TRP:CE2	58:II:70:GLU:OE1	2.73	0.42
65:PP:94:VAL:CG1	65:PP:107:ILE:HD11	2.49	0.42
76:aa:7:ASN:O	76:aa:7:ASN:CG	2.62	0.42
82:gg:111:VAL:HG22	82:gg:122:SER:HB3	2.02	0.42
82:gg:284:PRO:HB3	82:gg:304:ASP:OD1	2.20	0.42
83:3:66:U:H2'	83:3:67:U:C1'	2.49	0.42
3:C:63:SER:O	3:C:80:ARG:HG2	2.20	0.42
3:C:291:ARG:NH2	45:5:666:G:C4	2.88	0.42
3:C:298:ILE:O	3:C:302:LEU:HG	2.20	0.42
6:F:187:GLU:CD	45:5:943:A:H61	2.27	0.42
8:H:9:THR:HG21	8:H:54:ARG:HE	1.84	0.42
12:M:11:ARG:CZ	12:M:61:ILE:HD11	2.49	0.42
13:N:44:ARG:CZ	45:5:280:G:OP2	2.68	0.42
13:N:159:ARG:NH1	45:5:332:C:OP1	2.53	0.42
15:P:74:LYS:O	15:P:77:GLY:N	2.41	0.42
20:U:39:PHE:CE1	20:U:43:LEU:HD11	2.54	0.42
20:U:80:LYS:HG3	20:U:110:TYR:CE2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:e:26:ASP:OD2	45:5:436:C:H4'	2.19	0.42
42:r:78:VAL:HG23	42:r:78:VAL:O	2.19	0.42
45:5:420:A:C8	45:5:421:C:C5	3.08	0.42
45:5:421:C:O2'	45:5:2357:G:H4'	2.19	0.42
45:5:977:C:H2'	45:5:978:G:C1'	2.49	0.42
45:5:1505:C:N4	45:5:1506:G:O6	2.53	0.42
45:5:1536:U:H5'	45:5:3642:A:C2	2.55	0.42
45:5:1840:G:O2'	45:5:1841:C:H5'	2.19	0.42
45:5:2019:C:C2	45:5:2020:U:C6	3.07	0.42
45:5:2706:G:H3'	45:5:2707:U:C5'	2.48	0.42
45:5:4243:C:O2'	45:5:4268:A:N3	2.50	0.42
45:5:4305:G:N3	45:5:4305:G:H2'	2.34	0.42
46:7:2:U:H2'	46:7:3:C:H6	1.85	0.42
48:v:24:VAL:CG1	48:v:102:LEU:HD11	2.49	0.42
48:v:209:LEU:O	48:v:357:HIS:NE2	2.44	0.42
48:v:416:VAL:O	48:v:416:VAL:HG13	2.19	0.42
49:9:111:A:H2'	49:9:112:U:C6	2.55	0.42
49:9:154:U:O2	56:GG:4:ASN:ND2	2.51	0.42
49:9:382:C:N4	49:9:383:G:O6	2.52	0.42
49:9:540:U:O2	49:9:543:C:N4	2.46	0.42
49:9:689:U:O2	57:HH:122:LEU:HD11	2.20	0.42
49:9:695:C:N4	49:9:696:G:O6	2.53	0.42
49:9:820:U:O2	49:9:828:G:C6	2.71	0.42
49:9:963:A:H2'	49:9:964:A:O4'	2.20	0.42
49:9:1164:G:O2'	49:9:1165:G:H5'	2.19	0.42
49:9:1173:A:H2'	49:9:1174:U:O4'	2.19	0.42
49:9:1286:G:O2'	81:ff:97:LYS:NZ	2.52	0.42
49:9:1334:G:C5	49:9:1498:A:C2	3.07	0.42
49:9:1693:G:N2	49:9:1834:A:C8	2.88	0.42
53:DD:70:THR:HG22	53:DD:86:LEU:HB2	2.01	0.42
54:EE:87:MET:HE2	54:EE:87:MET:HA	2.01	0.42
58:II:60:LEU:HD21	58:II:185:ALA:H	1.84	0.42
59:JJ:86:VAL:HG21	59:JJ:105:PHE:CD1	2.54	0.42
60:KK:76:ILE:HG13	60:KK:77:GLN:N	2.34	0.42
62:MM:119:GLN:O	62:MM:122:ASP:OD1	2.38	0.42
63:NN:149:LEU:O	63:NN:150:VAL:C	2.63	0.42
66:QQ:51:LEU:O	66:QQ:54:PRO:HD2	2.19	0.42
66:QQ:102:GLU:OE1	82:gg:56:GLN:C	2.63	0.42
82:gg:165:ILE:HG13	82:gg:177:TRP:HB2	2.02	0.42
3:C:323:ARG:HG2	45:5:1280:C:H2'	2.01	0.42
4:D:99:TYR:CD2	4:D:199:ILE:HD12	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:261:VAL:HG12	46:7:120:U:O3'	2.20	0.42
13:N:49:ARG:NH1	45:5:152:U:OP2	2.47	0.42
15:P:97:ASN:C	15:P:97:ASN:HD22	2.25	0.42
16:Q:54:SER:O	16:Q:57:ASN:N	2.44	0.42
16:Q:184:ARG:O	16:Q:186:TYR:N	2.50	0.42
45:5:51:A:N3	45:5:1528:U:O2'	2.51	0.42
45:5:100:C:O2	45:5:100:C:O4'	2.35	0.42
45:5:108:A:H4'	45:5:109:G:OP1	2.19	0.42
45:5:351:C:H2'	45:5:352:G:O4'	2.20	0.42
45:5:487:G:C4	45:5:488:G:C8	3.07	0.42
45:5:1384:C:C4	45:5:1385:G:N7	2.88	0.42
45:5:1619:G:H2'	45:5:1620:U:O4'	2.19	0.42
45:5:1732:C:O2'	45:5:1733:G:H5'	2.19	0.42
45:5:1883:G:O6	45:5:1896:A:H2	2.03	0.42
45:5:2098:G:C6	45:5:2107:A:C5	3.08	0.42
45:5:2382:A:C2'	45:5:2383:C:O5'	2.68	0.42
45:5:2617:G:C6	45:5:2618:G:N7	2.87	0.42
45:5:4603:C:N4	45:5:4609:G:N2	2.68	0.42
46:7:42:A:C5	46:7:43:U:C5	3.08	0.42
49:9:434:G:H2'	49:9:435:A:C8	2.55	0.42
49:9:509:OMG:H1'	49:9:509:OMG:HM23	1.85	0.42
49:9:1101:U:H2'	49:9:1102:G:H8	1.84	0.42
50:AA:203:PHE:CZ	67:RR:91:LEU:HD21	2.55	0.42
54:EE:36:HIS:CG	54:EE:85:GLY:HA3	2.55	0.42
54:EE:67:GLN:HB3	54:EE:69:PHE:HE1	1.85	0.42
54:EE:198:ARG:NH2	54:EE:206:ASP:OD2	2.42	0.42
57:HH:53:VAL:O	57:HH:54:GLY:C	2.62	0.42
58:II:134:GLU:O	58:II:137:LEU:HB2	2.19	0.42
64:OO:120:ALA:HB2	64:OO:126:ILE:CD1	2.49	0.42
64:OO:136:PRO:O	64:OO:137:SER:HB3	2.19	0.42
69:TT:107:LEU:O	69:TT:112:MET:HB3	2.20	0.42
82:gg:246:TYR:CE2	82:gg:261:LEU:HB3	2.53	0.42
1:A:112:ILE:HG23	1:A:133:TYR:HD2	1.83	0.42
2:B:46:PHE:HD2	2:B:210:VAL:HG21	1.84	0.42
2:B:154:LYS:HG2	2:B:194:LEU:HD12	2.01	0.42
3:C:153:VAL:HA	3:C:252:TRP:O	2.20	0.42
4:D:55:VAL:HG11	4:D:158:LYS:HB2	2.00	0.42
5:E:58:ARG:HG3	5:E:58:ARG:NH1	2.35	0.42
6:F:36:PHE:CE1	6:F:40:MET:HE3	2.55	0.42
6:F:142:GLY:HA3	6:F:239:ILE:HB	2.02	0.42
15:P:61:ARG:NH2	15:P:76:TRP:O	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:P:67:VAL:HG13	15:P:82:ARG:HG3	2.02	0.42
24:Y:11:ARG:NE	47:8:22:U:OP1	2.44	0.42
28:c:47:ILE:HD12	28:c:94:LEU:HD11	2.01	0.42
31:f:14:TYR:HD2	31:f:21:GLN:NE2	2.13	0.42
43:s:14:PHE:HA	43:s:17:ILE:HG22	2.02	0.42
45:5:444:G:H2'	45:5:445:U:C6	2.54	0.42
45:5:1210:C:O2	45:5:1210:C:C2'	2.68	0.42
45:5:2082:G:H2'	45:5:2083:C:O4'	2.20	0.42
45:5:2539:C:H2'	45:5:2540:C:C6	2.55	0.42
45:5:4155:C:H2'	45:5:4156:G:O4'	2.20	0.42
45:5:4232:U:H4'	45:5:4233:A:O4'	2.19	0.42
45:5:4601:U:O2	45:5:4601:U:H2'	2.19	0.42
45:5:4635:A:H62	45:5:5045:G:H21	1.67	0.42
45:5:4758:U:O2	45:5:4758:U:O4'	2.37	0.42
45:5:4932:U:C2'	45:5:4933:C:O5'	2.68	0.42
47:8:67:U:C2	47:8:68:G:C8	3.08	0.42
48:v:156:MET:HE3	48:v:350:LEU:HD21	2.01	0.42
48:v:527:LEU:HD21	48:v:534:VAL:HG21	2.01	0.42
48:v:668:GLY:HA2	49:9:1503:C:O2'	2.19	0.42
48:v:829:SER:O	48:v:833:GLN:OE1	2.38	0.42
49:9:112:U:H2'	49:9:115:U:H5	1.85	0.42
49:9:129:C:N3	49:9:184:G:N1	2.67	0.42
49:9:609:U:C2	49:9:610:G:C8	3.07	0.42
49:9:754:G:H2'	49:9:755:C:C6	2.55	0.42
51:BB:189:ILE:HB	51:BB:190:PRO:CD	2.49	0.42
51:BB:212:VAL:O	51:BB:213:ARG:C	2.62	0.42
52:CC:67:GLY:O	52:CC:70:VAL:HG22	2.19	0.42
53:DD:3:VAL:HG13	53:DD:4:GLN:N	2.35	0.42
54:EE:62:LYS:HA	54:EE:80:ILE:CG2	2.49	0.42
57:HH:40:LEU:HD23	57:HH:43:LEU:HD12	2.02	0.42
61:LL:113:LEU:CD2	61:LL:120:VAL:HG11	2.43	0.42
62:MM:41:ALA:HB3	62:MM:110:VAL:HG11	2.02	0.42
64:OO:58:GLY:O	64:OO:62:VAL:HG12	2.20	0.42
70:UU:97:ILE:O	70:UU:98:VAL:C	2.63	0.42
71:VV:73:ALA:CB	71:VV:79:VAL:HG23	2.49	0.42
76:aa:21:ILE:HD12	76:aa:72:HIS:CG	2.55	0.42
77:bb:42:LYS:NZ	77:bb:44:THR:HG22	2.35	0.42
81:ff:126:CYS:HB3	81:ff:130:VAL:HG21	2.02	0.42
1:A:204:MET:SD	45:5:1631:A:C2	3.13	0.42
2:B:53:MET:HE2	2:B:336:CYS:HA	2.01	0.42
3:C:76:ILE:CD1	45:5:1521:C:H4'	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:146:GLU:OE2	3:C:175:LYS:HE3	2.20	0.42
3:C:235:LEU:HD23	3:C:235:LEU:HA	1.95	0.42
4:D:71:GLY:O	4:D:73:MET:HE3	2.19	0.42
20:U:70:ILE:HD12	20:U:70:ILE:N	2.34	0.42
24:Y:35:SER:OG	24:Y:107:THR:HA	2.19	0.42
25:Z:36:ARG:NH1	25:Z:38:TYR:OH	2.53	0.42
27:b:25:ARG:NH1	45:5:1845:U:OP1	2.40	0.42
29:d:78:ARG:NH1	45:5:4636:U:O4	2.53	0.42
33:h:7:ARG:HB3	33:h:7:ARG:NH1	2.35	0.42
34:i:79:THR:HG22	34:i:80:HIS:N	2.35	0.42
38:m:104:HIS:CE1	38:m:107:ALA:HB2	2.55	0.42
40:o:54:PRO:O	83:3:75:C:O2'	2.37	0.42
42:r:33:LYS:O	42:r:34:ALA:C	2.62	0.42
44:t:82:ILE:HD12	44:t:100:HIS:ND1	2.34	0.42
45:5:11:G:O2'	45:5:12:A:H5'	2.20	0.42
45:5:317:A:C2	45:5:4361:PSU:H1'	2.54	0.42
45:5:695:G:C6	45:5:697:G:N7	2.88	0.42
45:5:1236:C:O2'	45:5:1237:C:OP1	2.34	0.42
45:5:1669:A:H1'	45:5:1852:U:O2'	2.20	0.42
45:5:1730:U:H2'	45:5:1731:C:C6	2.55	0.42
45:5:1737:A:O2'	46:7:77:A:N3	2.49	0.42
45:5:2276:A:H2'	45:5:2277:C:O4'	2.20	0.42
45:5:2457:G:H2'	45:5:2458:C:O4'	2.20	0.42
45:5:2588:C:H5''	45:5:2589:C:H5''	2.01	0.42
45:5:3722:G:H2'	45:5:3723:A:H8	1.85	0.42
45:5:3896:C:O3'	45:5:3897:G:O4'	2.37	0.42
45:5:4524:G:OP2	45:5:4524:G:H4'	2.20	0.42
45:5:4749:C:H2'	45:5:4750:G:O4'	2.19	0.42
48:v:18:ASN:O	48:v:20:ARG:NH1	2.53	0.42
48:v:143:LEU:HD23	48:v:188:ILE:CD1	2.50	0.42
48:v:558:LEU:HD12	48:v:559:LYS:N	2.35	0.42
49:9:318:A:C2'	49:9:319:C:OP1	2.68	0.42
49:9:959:G:OP2	64:OO:38:ASN:OD1	2.38	0.42
49:9:1044:G:HO2'	49:9:1045:U:H5	1.66	0.42
49:9:1124:C:O3'	51:BB:150:ILE:HD13	2.20	0.42
49:9:1125:C:H2'	49:9:1126:G:O4'	2.20	0.42
49:9:1606:G:N2	49:9:1632:G:H1'	2.34	0.42
49:9:1660:C:OP1	79:dd:19:ARG:NH1	2.52	0.42
50:AA:23:THR:HG23	50:AA:163:CYS:HB3	2.01	0.42
50:AA:158:ASP:CG	71:VV:32:ILE:HD11	2.45	0.42
51:BB:67:PHE:CD1	64:OO:48:SER:HB3	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:CC:68:ARG:HA	52:CC:68:ARG:HE	1.85	0.42
57:HH:66:VAL:N	57:HH:67:PRO:CD	2.83	0.42
58:II:107:THR:N	58:II:108:PRO:CD	2.83	0.42
59:JJ:32:ILE:HG21	80:ee:104:ARG:HG3	2.01	0.42
59:JJ:37:LEU:HD21	59:JJ:106:LEU:HD22	2.02	0.42
62:MM:31:LEU:HD12	62:MM:31:LEU:C	2.45	0.42
64:OO:56:VAL:HG23	64:OO:81:VAL:HG22	2.02	0.42
69:TT:42:HIS:CB	69:TT:93:SER:HB3	2.50	0.42
73:XX:105:PHE:CE2	73:XX:112:VAL:HG21	2.54	0.42
75:ZZ:97:ILE:CG2	75:ZZ:109:TYR:HB3	2.50	0.42
76:aa:28:ARG:HG3	76:aa:28:ARG:HH11	1.85	0.42
82:gg:93:THR:OG1	82:gg:94:THR:N	2.52	0.42
82:gg:218:LEU:O	82:gg:227:LEU:HB3	2.20	0.42
83:3:30:G:H3'	83:3:31:A:H5''	2.01	0.42
83:3:56:C:C2'	83:3:57:A:O5'	2.67	0.42
2:B:268:ARG:NH2	45:5:3896:C:O2'	2.47	0.42
3:C:154:VAL:HG12	3:C:155:GLU:N	2.35	0.42
3:C:221:PHE:HB2	3:C:229:LEU:HD21	2.02	0.42
14:O:162:GLU:HA	14:O:162:GLU:OE2	2.20	0.42
16:Q:55:ARG:NH2	45:5:1350:C:C5	2.88	0.42
26:a:11:LEU:HD22	26:a:17:HIS:HA	2.00	0.42
26:a:105:ARG:HG2	26:a:105:ARG:HH11	1.84	0.42
26:a:117:LEU:HD22	26:a:140:VAL:HG11	2.02	0.42
30:e:15:LYS:NZ	30:e:61:GLY:O	2.39	0.42
40:o:73:VAL:O	40:o:73:VAL:HG12	2.20	0.42
41:p:42:CYS:HA	45:5:2674:A:N6	2.35	0.42
43:s:121:VAL:HG22	43:s:182:PRO:HG2	2.02	0.42
45:5:37:U:H2'	45:5:38:A:O4'	2.19	0.42
45:5:214:G:H2'	45:5:215:C:O4'	2.20	0.42
45:5:454:U:O4	45:5:703:G:C2	2.72	0.42
45:5:1931:C:O2'	45:5:1932:A:C5'	2.67	0.42
45:5:2824:OMC:HM22	45:5:2824:OMC:H1'	1.87	0.42
45:5:3718:A2M:H2	45:5:3934:G:C1'	2.50	0.42
45:5:4211:C:O5'	45:5:4211:C:H6	2.03	0.42
45:5:4420:PSU:C2'	45:5:4421:C:O5'	2.68	0.42
45:5:4462:C:O2'	45:5:4463:U:H5'	2.20	0.42
47:8:67:U:N3	47:8:68:G:N7	2.68	0.42
48:v:256:MET:HE3	48:v:256:MET:HB2	1.97	0.42
48:v:534:VAL:O	48:v:534:VAL:HG13	2.20	0.42
48:v:722:ILE:HG13	48:v:723:PRO:CD	2.49	0.42
48:v:771:PHE:CD2	48:v:772:GLU:HG3	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:v:848:ILE:O	48:v:849:PRO:C	2.63	0.42
49:9:74:G:O6	56:GG:159:ARG:CZ	2.68	0.42
49:9:517:OMC:H1'	49:9:517:OMC:HM23	1.82	0.42
49:9:1128:C:O2'	49:9:1129:G:H5'	2.20	0.42
49:9:1394:G:N2	49:9:1475:G:H1'	2.35	0.42
49:9:1567:G:C6	68:SS:82:TRP:CG	3.08	0.42
49:9:1567:G:O3'	69:TT:98:SER:HB2	2.20	0.42
49:9:1573:G:C2	49:9:1574:C:O2	2.73	0.42
49:9:1722:G:C5	49:9:1813:A:N6	2.88	0.42
52:CC:135:GLY:C	52:CC:165:VAL:HG12	2.43	0.42
55:FF:91:ARG:HD2	75:ZZ:103:HIS:CE1	2.54	0.42
57:HH:25:GLN:HA	57:HH:28:LEU:HD12	2.02	0.42
59:JJ:50:LEU:HD12	59:JJ:50:LEU:O	2.20	0.42
59:JJ:103:GLU:OE1	59:JJ:103:GLU:N	2.43	0.42
64:OO:101:GLY:CA	64:OO:134:PRO:HG2	2.50	0.42
67:RR:98:VAL:CG2	67:RR:117:LEU:HD21	2.49	0.42
79:dd:29:GLY:O	79:dd:40:ARG:N	2.53	0.42
82:gg:289:LEU:HA	82:gg:299:PHE:O	2.20	0.42
3:C:204:ARG:HD2	45:5:2299:G:OP2	2.20	0.41
3:C:284:MET:HE2	3:C:287:THR:HA	2.02	0.41
4:D:22:ARG:NH1	46:7:7:G:H5''	2.34	0.41
4:D:205:ALA:O	4:D:209:ARG:HG3	2.20	0.41
7:G:89:ARG:HG2	7:G:89:ARG:HH11	1.85	0.41
8:H:1:MET:HB3	18:S:141:ALA:HB2	2.02	0.41
9:I:66:GLU:OE2	9:I:70:ILE:HD11	2.20	0.41
11:L:19:GLN:NE2	45:5:1518:A:H61	2.17	0.41
16:Q:177:ALA:HB3	26:a:51:GLY:O	2.20	0.41
20:U:100:LEU:HD13	20:U:112:LEU:HD23	2.01	0.41
20:U:108:GLU:O	20:U:108:GLU:OE1	2.37	0.41
28:c:52:CYS:CB	28:c:92:CYS:SG	3.08	0.41
29:d:42:ALA:HB3	29:d:43:PRO:HD3	2.02	0.41
32:g:3:GLN:HE22	32:g:5:LEU:HD23	1.85	0.41
32:g:7:TYR:HE1	32:g:20:THR:HG21	1.85	0.41
35:j:75:ARG:HH22	47:8:93:C:P	2.42	0.41
37:l:24:PRO:HB2	37:l:26:TRP:NE1	2.35	0.41
41:p:73:THR:O	41:p:74:THR:C	2.63	0.41
45:5:271:C:C2	45:5:272:U:C5	3.08	0.41
45:5:1474:C:O2'	45:5:1475:G:H5'	2.20	0.41
45:5:1662:C:O2'	45:5:2320:G:H1'	2.21	0.41
45:5:1667:A:N1	45:5:2281:U:OP2	2.53	0.41
45:5:1995:G:H2'	45:5:1996:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2364:OMG:HM23	45:5:2364:OMG:H1'	1.80	0.41
45:5:2733:C:H2'	45:5:2734:U:O4'	2.20	0.41
45:5:2889:G:H2'	45:5:2890:C:C6	2.55	0.41
45:5:3654:G:N2	45:5:3817:A:C2	2.88	0.41
45:5:3779:A:H61	45:5:3815:G:H1'	1.85	0.41
48:v:260:LEU:HD21	48:v:293:ILE:CG1	2.49	0.41
48:v:712:ASP:HB2	48:v:715:DDE:HD2	2.00	0.41
48:v:830:ARG:HD3	48:v:834:VAL:HG23	2.01	0.41
49:9:67:C:C5	56:GG:162:LEU:HD11	2.56	0.41
49:9:102:A:H4'	49:9:104:A:C8	2.54	0.41
49:9:405:G:H2'	49:9:406:U:O4'	2.20	0.41
49:9:553:U:H2'	49:9:554:A:C8	2.55	0.41
49:9:669:A:N3	49:9:1164:G:O2'	2.39	0.41
49:9:1293:A:C5	49:9:1294:G:N7	2.88	0.41
49:9:1305:C:H2'	49:9:1306:U:C5	2.55	0.41
49:9:1757:G:C2	49:9:1758:G:N7	2.87	0.41
49:9:1798:C:H2'	49:9:1799:G:O4'	2.20	0.41
50:AA:80:ARG:HA	50:AA:80:ARG:HE	1.85	0.41
53:DD:35:SER:HB2	53:DD:97:CYS:SG	2.60	0.41
57:HH:46:THR:O	57:HH:46:THR:HG22	2.20	0.41
59:JJ:33:GLY:HA3	80:ee:108:ARG:CG	2.50	0.41
60:KK:84:HIS:CE1	62:MM:27:ILE:HD13	2.55	0.41
64:OO:72:TYR:CZ	64:OO:76:LEU:HD11	2.55	0.41
64:OO:98:ARG:HG2	64:OO:99:ALA:N	2.34	0.41
65:PP:33:LEU:HD21	65:PP:87:PRO:HD2	2.01	0.41
66:QQ:21:ALA:O	66:QQ:87:SER:OG	2.28	0.41
69:TT:6:VAL:CG1	69:TT:65:TYR:OH	2.68	0.41
69:TT:74:SER:O	69:TT:78:ILE:HG13	2.20	0.41
72:WW:28:ARG:CB	72:WW:29:PRO:HD3	2.50	0.41
2:B:217:ILE:HG21	2:B:284:ILE:HD11	2.02	0.41
3:C:61:GLN:O	35:j:52:LYS:CE	2.68	0.41
3:C:130:ALA:CB	3:C:246:VAL:HB	2.50	0.41
4:D:78:ALA:HB3	4:D:105:LEU:HB2	2.02	0.41
5:E:53:VAL:HG12	5:E:56:ILE:HB	2.02	0.41
5:E:185:ASN:CB	5:E:187:VAL:HG23	2.49	0.41
7:G:90:GLN:OE1	7:G:90:GLN:HA	2.21	0.41
14:O:125:LYS:HG3	14:O:129:LEU:HD12	2.02	0.41
15:P:14:SER:OG	15:P:151:THR:HG22	2.19	0.41
23:X:129:ARG:C	23:X:131:ASP:H	2.28	0.41
26:a:145:VAL:HG12	26:a:146:LEU:N	2.35	0.41
29:d:49:ILE:HD13	29:d:68:LEU:HD21	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:f:48:ALA:HB2	31:f:104:MET:HE2	2.02	0.41
32:g:15:THR:CG2	45:5:2514:G:H5''	2.49	0.41
37:l:23:ILE:HG22	47:8:52:A:N3	2.35	0.41
45:5:233:U:H3'	45:5:234:G:H5''	2.01	0.41
45:5:499:G:OP1	45:5:499:G:H4'	2.20	0.41
45:5:1666:C:C4	45:5:1667:A:N7	2.88	0.41
45:5:1727:U:H2'	45:5:1728:U:C6	2.55	0.41
45:5:1986:U:H2'	45:5:2007:G:O6	2.20	0.41
45:5:2384:U:C2	45:5:2385:U:C6	3.08	0.41
45:5:3837:C:H2'	45:5:3838:U:C1'	2.50	0.41
45:5:4350:C:C2	45:5:4351:U:C5	3.08	0.41
45:5:4458:C:H2'	45:5:4459:U:C6	2.55	0.41
45:5:4768:G:C6	45:5:4867:G:C6	3.08	0.41
46:7:61:G:O2'	46:7:62:U:H5'	2.20	0.41
48:v:79:TYR:CD2	48:v:351:LEU:HB3	2.55	0.41
48:v:369:CYS:HA	48:v:372:LEU:HB2	2.02	0.41
48:v:395:MET:HE3	48:v:494:MET:HE1	2.02	0.41
48:v:558:LEU:HD22	48:v:572:LYS:HD3	2.02	0.41
49:9:573:U:O2'	49:9:575:A:N7	2.53	0.41
49:9:814:5MU:C4	49:9:815:U:C5	3.08	0.41
49:9:1742:C:H2'	49:9:1743:G:O4'	2.21	0.41
49:9:1857:G:O2'	49:9:1858:G:H5'	2.20	0.41
50:AA:90:PHE:CD2	50:AA:179:ALA:HB2	2.54	0.41
51:BB:205:TYR:O	51:BB:207:LEU:HD12	2.21	0.41
55:FF:195:GLU:OE1	55:FF:198:ARG:NH1	2.53	0.41
56:GG:35:GLU:OE1	56:GG:35:GLU:N	2.53	0.41
57:HH:7:LYS:NZ	57:HH:40:LEU:O	2.37	0.41
57:HH:69:LEU:HD13	57:HH:96:ALA:HB2	2.00	0.41
64:OO:99:ALA:O	64:OO:101:GLY:N	2.53	0.41
65:PP:16:THR:O	65:PP:16:THR:HG23	2.20	0.41
66:QQ:92:LEU:HG	66:QQ:96:TYR:HE2	1.85	0.41
69:TT:122:LYS:HG3	69:TT:123:LEU:N	2.34	0.41
74:YY:51:THR:O	74:YY:54:VAL:HG12	2.20	0.41
77:bb:40:CYS:SG	77:bb:42:LYS:HG2	2.60	0.41
78:cc:65:ALA:O	78:cc:67:ARG:NH1	2.53	0.41
1:A:29:LEU:HD21	1:A:165:VAL:HG23	2.01	0.41
1:A:227:ARG:O	1:A:227:ARG:HD3	2.20	0.41
8:H:18:ILE:HG12	8:H:27:VAL:HG22	2.03	0.41
8:H:140:GLN:OE1	8:H:140:GLN:HA	2.20	0.41
9:I:51:HIS:ND1	9:I:137:SER:OG	2.46	0.41
10:J:60:PHE:N	10:J:60:PHE:CD1	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:L:101:ARG:NH1	45:5:76:A:H5'	2.35	0.41
13:N:50:ARG:NH2	45:5:279:A:OP1	2.52	0.41
17:R:62:ARG:CZ	45:5:4646:U:OP2	2.69	0.41
30:e:77:PHE:HD2	30:e:88:LEU:HD11	1.86	0.41
33:h:14:LYS:HE2	33:h:61:ILE:HG23	2.00	0.41
44:t:42:VAL:HG22	44:t:46:ILE:CG2	2.50	0.41
45:5:1804:A:O4'	45:5:1806:G:C8	2.73	0.41
45:5:2737:C:H2'	45:5:2738:C:O4'	2.20	0.41
45:5:2781:G:O2'	45:5:2782:U:H5'	2.20	0.41
45:5:4168:G:HO2'	45:5:4169:G:P	2.40	0.41
45:5:4402:C:C4	45:5:4403:PSU:N1	2.89	0.41
47:8:5:U:C2	47:8:6:C:C5	3.08	0.41
49:9:385:G:O2'	58:II:10:LYS:NZ	2.50	0.41
49:9:413:G:C2	49:9:414:A:C8	3.08	0.41
49:9:599:A:C2	49:9:638:C:C2	3.09	0.41
49:9:1059:G:H2'	49:9:1060:A:H5'	2.02	0.41
49:9:1553:C:H41	79:dd:22:ARG:NE	2.19	0.41
50:AA:185:MET:HE3	71:VV:39:VAL:HG11	2.01	0.41
52:CC:220:ASP:O	52:CC:221:ASP:OD1	2.39	0.41
52:CC:260:VAL:HG13	52:CC:260:VAL:O	2.20	0.41
55:FF:47:LYS:HE3	66:QQ:115:TYR:O	2.20	0.41
58:II:3:ILE:O	58:II:3:ILE:CG2	2.68	0.41
58:II:131:PRO:C	58:II:132:GLU:HG3	2.46	0.41
59:JJ:42:GLU:OE2	59:JJ:127:ARG:NH2	2.53	0.41
66:QQ:85:ARG:NH2	66:QQ:119:LEU:HD23	2.36	0.41
67:RR:14:ARG:HG2	67:RR:14:ARG:HH11	1.85	0.41
70:UU:46:LYS:HB2	70:UU:48:LEU:HD13	2.01	0.41
71:VV:61:ARG:CZ	71:VV:61:ARG:HB2	2.50	0.41
83:3:12:U:O2'	83:3:13:C:OP1	2.25	0.41
85:2:18:G:C4	85:2:58:A:C2	3.07	0.41
1:A:183:GLY:N	45:5:1577:G:N7	2.59	0.41
2:B:249:ARG:NH2	45:5:3845:A:OP2	2.54	0.41
2:B:384:GLU:CD	22:W:14:TYR:HH	2.28	0.41
6:F:90:PHE:CD2	6:F:243:ILE:HD11	2.54	0.41
8:H:63:ASN:OD1	8:H:63:ASN:N	2.52	0.41
9:I:10:ARG:HE	9:I:160:PRO:HB2	1.85	0.41
10:J:44:THR:HG23	10:J:46:GLN:N	2.36	0.41
11:L:143:GLU:OE1	33:h:123:ALA:HB1	2.20	0.41
12:M:38:VAL:HG11	12:M:55:MET:CE	2.51	0.41
16:Q:65:ARG:HG3	16:Q:65:ARG:HH11	1.86	0.41
18:S:45:TRP:HA	18:S:48:VAL:HG22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:b:69:ALA:O	27:b:72:ILE:HG22	2.21	0.41
31:f:43:LEU:O	31:f:109:ARG:NH2	2.48	0.41
32:g:22:LEU:HD12	32:g:30:ILE:HG21	2.01	0.41
36:k:41:TYR:HE2	45:5:2772:C:OP1	2.04	0.41
45:5:89:C:H2'	45:5:90:G:H5'	2.03	0.41
45:5:92:C:OP2	45:5:4341:C:H1'	2.21	0.41
45:5:978:G:H2'	45:5:979:C:H5'	2.01	0.41
45:5:1316:OMG:H1'	45:5:1316:OMG:HM23	1.82	0.41
45:5:1546:C:O2	45:5:1612:G:O6	2.38	0.41
45:5:1741:G:O6	46:7:103:A:O2'	2.34	0.41
45:5:3718:A2M:H2	45:5:3934:G:H1'	2.02	0.41
45:5:4460:U:H2'	45:5:4461:C:C6	2.56	0.41
45:5:4623:OMG:H1'	45:5:4623:OMG:HM23	1.75	0.41
45:5:4640:C:H2'	45:5:4641:U:O4'	2.20	0.41
45:5:4881:U:O3'	45:5:4882:U:H3'	2.20	0.41
45:5:4889:G:C6	45:5:4931:G:C6	3.08	0.41
45:5:4947:U:H2'	45:5:4948:C:O2	2.20	0.41
48:v:215:GLY:HA3	48:v:222:ALA:HA	2.03	0.41
49:9:145:G:H2'	49:9:146:G:C8	2.56	0.41
49:9:183:G:C2	49:9:184:G:C4	3.07	0.41
49:9:189:U:N3	49:9:211:G:C6	2.88	0.41
49:9:370:G:H4'	49:9:371:A:OP1	2.20	0.41
49:9:934:G:O6	49:9:1008:A:N1	2.53	0.41
49:9:944:A:C4	49:9:945:U:C5	3.08	0.41
49:9:1100:A:C6	49:9:1101:U:C4	3.09	0.41
49:9:1109:C:H42	67:RR:126:MET:H	1.69	0.41
49:9:1130:G:N3	49:9:1130:G:H2'	2.35	0.41
49:9:1372:U:H2'	49:9:1373:C:O4'	2.20	0.41
49:9:1406:G:H2'	49:9:1407:U:C6	2.55	0.41
49:9:1439:A:H2'	49:9:1440:C:C6	2.55	0.41
49:9:1536:G:P	55:FF:88:MET:HE1	2.60	0.41
50:AA:145:ILE:CG2	50:AA:161:ILE:HD11	2.50	0.41
52:CC:92:GLU:OE1	52:CC:92:GLU:HA	2.20	0.41
52:CC:165:VAL:O	52:CC:165:VAL:HG13	2.20	0.41
68:SS:75:ARG:HD2	68:SS:95:TYR:HB2	2.02	0.41
68:SS:89:ASP:O	68:SS:93:GLY:N	2.53	0.41
69:TT:34:VAL:O	69:TT:52:TRP:NE1	2.48	0.41
82:gg:230:LEU:HD11	82:gg:264:LYS:HZ2	1.83	0.41
85:2:3:C:H42	85:2:70:A:N6	2.14	0.41
85:2:36:U:C4	85:2:37:A:N7	2.88	0.41
85:2:75:C:H5''	85:2:76:A:OP2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:40:TYR:HA	1:A:90:CYS:O	2.21	0.41
4:D:83:LEU:N	4:D:84:PRO:CD	2.83	0.41
8:H:27:VAL:CG1	8:H:84:VAL:HG21	2.50	0.41
13:N:12:ARG:NH2	45:5:279:A:OP2	2.39	0.41
13:N:38:ARG:NH2	13:N:60:VAL:HG22	2.36	0.41
13:N:49:ARG:HH21	45:5:114:G:P	2.44	0.41
13:N:99:GLN:O	13:N:103:GLU:HG3	2.21	0.41
13:N:124:ASP:N	13:N:127:TYR:O	2.54	0.41
15:P:66:GLY:HA3	45:5:2362:U:H5''	2.02	0.41
15:P:122:ALA:HB1	15:P:123:PRO:CD	2.50	0.41
16:Q:14:ARG:NH2	45:5:2083:C:P	2.93	0.41
16:Q:101:CYS:SG	16:Q:126:LEU:HB2	2.60	0.41
21:V:29:ALA:HB3	21:V:104:VAL:HG12	2.03	0.41
24:Y:109:LEU:CD1	24:Y:119:LEU:HD11	2.49	0.41
32:g:23:SER:OG	32:g:33:LEU:HD12	2.21	0.41
32:g:69:LYS:HG3	32:g:73:HIS:CD2	2.56	0.41
33:h:86:LYS:O	33:h:92:ARG:NH1	2.42	0.41
40:o:23:VAL:HG22	40:o:70:LEU:HD23	1.99	0.41
40:o:36:GLN:HB2	45:5:4363:A:C5'	2.50	0.41
44:t:13:VAL:HG21	44:t:35:LEU:HD21	2.02	0.41
45:5:204:U:H2'	45:5:205:C:O4'	2.21	0.41
45:5:254:G:H2'	45:5:255:C:O4'	2.21	0.41
45:5:711:A:H2'	45:5:712:C:C6	2.56	0.41
45:5:1273:G:H2'	45:5:1274:A:C8	2.55	0.41
45:5:1321:G:H2'	45:5:3876:A:N7	2.35	0.41
45:5:1483:C:O2	45:5:1483:C:O4'	2.38	0.41
45:5:1484:G:H2'	45:5:1484:G:N3	2.35	0.41
45:5:1795:A:H5''	46:7:98:G:O2'	2.21	0.41
45:5:1800:U:O2'	45:5:1801:A:H5'	2.21	0.41
45:5:1998:A:N7	45:5:1999:A:N1	2.68	0.41
45:5:2000:G:H4'	45:5:2017:A:H2	1.85	0.41
45:5:2670:C:C2'	45:5:2671:C:H5'	2.50	0.41
45:5:4884:G:O2'	45:5:4885:U:O5'	2.34	0.41
45:5:4955:A:H2'	45:5:4956:A:C1'	2.50	0.41
46:7:89:G:H2'	46:7:90:A:O4'	2.19	0.41
47:8:134:G:H2'	47:8:135:C:O4'	2.20	0.41
49:9:639:C:H2'	49:9:640:A:C8	2.56	0.41
49:9:666:U:H5'	49:9:1088:U:O4'	2.20	0.41
49:9:944:A:H5''	64:OO:134:PRO:HB2	2.03	0.41
49:9:1088:U:H3'	49:9:1089:G:C5'	2.51	0.41
49:9:1758:G:H2'	49:9:1759:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:1842:4AC:H6	49:9:1842:4AC:O5'	2.20	0.41
53:DD:7:LYS:CE	70:UU:25:THR:HG21	2.50	0.41
54:EE:53:LYS:O	74:YY:22:GLN:NE2	2.50	0.41
54:EE:147:ILE:HD13	54:EE:169:ILE:CG2	2.50	0.41
58:II:98:LYS:HD2	58:II:178:ARG:HG2	2.02	0.41
58:II:132:GLU:HA	58:II:135:GLU:OE1	2.20	0.41
63:NN:37:ILE:CG1	63:NN:54:LEU:HD11	2.50	0.41
65:PP:81:ARG:NH2	65:PP:117:GLY:O	2.53	0.41
65:PP:94:VAL:HG12	65:PP:107:ILE:HD11	2.02	0.41
66:QQ:110:ASP:OD1	66:QQ:110:ASP:C	2.63	0.41
68:SS:4:VAL:O	68:SS:5:ILE:C	2.63	0.41
69:TT:11:GLN:HA	69:TT:14:PHE:HB3	2.02	0.41
69:TT:40:ALA:HB3	69:TT:42:HIS:ND1	2.35	0.41
74:YY:5:VAL:CG1	74:YY:35:VAL:HG11	2.49	0.41
78:cc:12:ALA:HA	78:cc:34:PHE:HA	2.03	0.41
1:A:179:ILE:O	1:A:180:LEU:HB2	2.20	0.41
4:D:144:CYS:O	4:D:173:ILE:HA	2.20	0.41
5:E:137:SER:OG	45:5:1288:G:OP2	2.38	0.41
5:E:201:SER:OG	5:E:291:PHE:OXT	2.38	0.41
8:H:4:ILE:HD12	18:S:144:GLN:O	2.20	0.41
9:I:59:GLN:CG	9:I:126:VAL:HG21	2.51	0.41
12:M:46:ARG:NH2	45:5:933:G:O2'	2.54	0.41
17:R:74:ARG:NE	45:5:2891:U:OP2	2.49	0.41
17:R:124:TYR:CE2	45:5:2665:U:C4	3.09	0.41
21:V:13:LYS:CE	21:V:128:LEU:HD11	2.51	0.41
21:V:30:ASP:HB3	21:V:112:MET:HE1	2.01	0.41
23:X:135:LYS:NZ	45:5:2436:U:OP2	2.43	0.41
24:Y:3:PHE:HD1	45:5:243:A:H5''	1.86	0.41
27:b:40:LEU:HD12	27:b:43:MET:HE2	2.02	0.41
29:d:26:THR:O	45:5:4996:C:C5'	2.68	0.41
33:h:48:ARG:HB3	33:h:48:ARG:CZ	2.49	0.41
33:h:106:LYS:O	33:h:110:LYS:HG3	2.21	0.41
43:s:47:LEU:HD22	43:s:101:MET:CE	2.50	0.41
45:5:419:A:N6	47:8:15:G:H1'	2.35	0.41
45:5:2100:G:HO2'	45:5:2101:A:P	2.35	0.41
45:5:2291:G:N2	45:5:2344:U:O2	2.50	0.41
45:5:2485:U:H2'	45:5:2486:G:C8	2.55	0.41
45:5:2520:C:H2'	45:5:2521:G:H8	1.86	0.41
45:5:2561:C:N4	45:5:2562:G:O6	2.53	0.41
45:5:2599:G:H1'	45:5:2746:A:N6	2.35	0.41
45:5:2721:G:O2'	45:5:2722:G:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2889:G:H2'	45:5:2890:C:O4'	2.21	0.41
45:5:4566:U:H2'	45:5:4567:G:O4'	2.20	0.41
48:v:39:LEU:HD22	48:v:351:LEU:CD2	2.50	0.41
48:v:599:HIS:CE1	85:2:36:U:H5''	2.55	0.41
49:9:57:U:O2'	49:9:499:G:O2'	2.05	0.41
49:9:97:U:O2'	49:9:98:C:H5'	2.19	0.41
49:9:164:A:O2'	49:9:165:G:H5'	2.20	0.41
49:9:863:U:O2	72:WW:124:LYS:HE2	2.20	0.41
49:9:1102:G:C6	49:9:1103:C:N4	2.88	0.41
49:9:1223:A:OP1	55:FF:79:HIS:N	2.54	0.41
49:9:1588:A:C2	49:9:1671:G:N2	2.89	0.41
49:9:1731:A:H2'	49:9:1732:G:H8	1.85	0.41
54:EE:19:MET:SD	54:EE:51:ARG:NH2	2.94	0.41
56:GG:154:ARG:O	56:GG:157:VAL:HG12	2.20	0.41
58:II:13:LYS:HB2	61:LL:137:THR:HG21	2.03	0.41
59:JJ:14:VAL:HG23	59:JJ:14:VAL:O	2.20	0.41
64:OO:35:ALA:CB	64:OO:112:ALA:HB2	2.51	0.41
64:OO:44:VAL:HG23	64:OO:81:VAL:HG11	2.03	0.41
83:3:6:G:H2'	83:3:7:A:O4'	2.20	0.41
3:C:138:MET:HE3	3:C:138:MET:HB3	1.93	0.41
3:C:197:ARG:CZ	45:5:351:C:OP2	2.68	0.41
3:C:205:ARG:NH1	45:5:2297:G:OP1	2.54	0.41
14:O:37:ARG:NH2	45:5:4761:G:OP2	2.54	0.41
19:T:17:ARG:NE	19:T:17:ARG:HA	2.36	0.41
26:a:15:VAL:HA	45:5:1660:U:OP1	2.21	0.41
27:b:42:ASN:CG	45:5:1816:C:C6	2.99	0.41
29:d:27:ILE:HG23	29:d:32:ARG:HE	1.85	0.41
43:s:65:ILE:HG22	43:s:79:LEU:HD21	2.02	0.41
44:t:120:SER:O	44:t:120:SER:OG	2.32	0.41
45:5:206:U:O2'	45:5:208:A:N7	2.43	0.41
45:5:1072:C:O2'	45:5:1073:G:C5'	2.68	0.41
45:5:1194:G:H2'	45:5:1195:G:N9	2.36	0.41
45:5:1387:A:C2	45:5:1396:G:O2'	2.74	0.41
45:5:2605:G:O2'	45:5:2606:G:H5'	2.21	0.41
45:5:2654:C:H2'	45:5:2655:C:C6	2.56	0.41
45:5:2730:U:H2'	45:5:2731:C:C6	2.56	0.41
45:5:2890:C:O2'	45:5:2891:U:H5'	2.21	0.41
45:5:3604:A:H2'	45:5:3605:C:O4'	2.20	0.41
45:5:4171:C:C2'	45:5:4172:A:O5'	2.68	0.41
45:5:4277:G:HO2'	45:5:4282:A:N6	2.19	0.41
45:5:4401:G:H2'	45:5:4402:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:v:618:ASP:OD2	48:v:698:ARG:NH1	2.53	0.41
49:9:19:A:H2'	49:9:20:G:O4'	2.20	0.41
49:9:373:G:O2'	49:9:374:G:H5'	2.20	0.41
49:9:497:C:O2'	49:9:498:C:H5'	2.20	0.41
49:9:525:A:O3'	80:ee:102:THR:OG1	2.39	0.41
49:9:527:C:OP1	59:JJ:122:SER:OG	2.19	0.41
49:9:1521:C:H5'	65:PP:126:VAL:HG22	2.02	0.41
50:AA:121:LEU:HD23	50:AA:122:LEU:N	2.35	0.41
51:BB:168:MET:HG3	51:BB:197:ILE:CD1	2.48	0.41
52:CC:65:LYS:HD2	52:CC:273:LEU:HD13	2.02	0.41
52:CC:192:LEU:HD23	52:CC:192:LEU:C	2.46	0.41
53:DD:69:LEU:HA	53:DD:72:VAL:HG22	2.02	0.41
62:MM:94:ILE:O	62:MM:101:ARG:N	2.42	0.41
64:OO:99:ALA:HB2	64:OO:108:PRO:CA	2.51	0.41
64:OO:119:LEU:HD12	64:OO:119:LEU:C	2.46	0.41
65:PP:77:LYS:HB2	65:PP:102:PHE:CD2	2.56	0.41
66:QQ:22:VAL:HG21	66:QQ:71:ARG:NH1	2.36	0.41
70:UU:23:THR:OG1	70:UU:113:GLU:HB3	2.21	0.41
70:UU:96:GLU:C	70:UU:98:VAL:N	2.78	0.41
72:WW:90:GLN:C	72:WW:92:ASN:H	2.28	0.41
73:XX:86:PRO:O	73:XX:87:ASN:CG	2.63	0.41
74:YY:56:PHE:O	74:YY:74:MET:N	2.45	0.41
78:cc:14:VAL:HG22	78:cc:32:VAL:CG1	2.50	0.41
78:cc:30:VAL:HG23	78:cc:32:VAL:HG13	2.03	0.41
81:ff:121:CYS:HA	81:ff:132:MET:SD	2.61	0.41
82:gg:36:ARG:O	82:gg:65:PHE:CD1	2.73	0.41
82:gg:79:LEU:HD21	82:gg:111:VAL:HG11	2.03	0.41
82:gg:87:LEU:CD2	82:gg:111:VAL:HG21	2.49	0.41
82:gg:257:LYS:HG2	82:gg:269:GLU:HG2	2.01	0.41
7:G:102:TYR:OH	7:G:208:ASN:N	2.50	0.41
8:H:41:ILE:HG22	8:H:43:VAL:HG13	2.02	0.41
10:J:94:LEU:O	10:J:174:ILE:HA	2.20	0.41
19:T:41:ASP:OD2	19:T:99:SER:HB3	2.21	0.41
41:p:20:ALA:HB2	45:5:2874:U:O4'	2.20	0.41
42:r:62:VAL:HG11	42:r:96:MET:HE3	2.02	0.41
44:t:50:THR:HG22	44:t:53:TRP:CD1	2.56	0.41
45:5:415:G:C5	45:5:416:U:C5	3.08	0.41
45:5:750:U:C2	45:5:751:G:C8	3.09	0.41
45:5:909:G:H2'	45:5:910:G:H8	1.85	0.41
45:5:1420:A:H4'	45:5:1421:G:OP1	2.20	0.41
45:5:2486:G:O2'	45:5:2487:G:O5'	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2595:C:H2'	45:5:2596:G:O4'	2.21	0.41
45:5:3653:A:C2	45:5:3692:A:H4'	2.55	0.41
45:5:4242:U:H4'	45:5:4243:C:OP1	2.19	0.41
45:5:4588:U:O2'	45:5:4589:A:H2'	2.21	0.41
45:5:4926:C:O2	45:5:4926:C:O4'	2.37	0.41
48:v:106:PRO:HD2	48:v:114:GLU:HB3	2.03	0.41
48:v:421:VAL:HG23	48:v:421:VAL:O	2.21	0.41
48:v:675:ILE:O	48:v:679:VAL:HG12	2.20	0.41
49:9:318:A:C2	49:9:333:G:N1	2.89	0.41
49:9:399:C:C2	61:LL:106:HIS:HD2	2.39	0.41
49:9:422:U:H2'	49:9:423:U:O4'	2.21	0.41
49:9:752:G:H1'	49:9:753:C:O5'	2.21	0.41
49:9:874:G:H2'	49:9:875:A:H8	1.85	0.41
49:9:1035:A:O2'	49:9:1856:C:O2	2.36	0.41
52:CC:116:THR:O	52:CC:117:ARG:C	2.64	0.41
53:DD:69:LEU:O	53:DD:72:VAL:HG22	2.21	0.41
55:FF:167:LYS:HA	75:ZZ:71:ALA:HB1	2.03	0.41
56:GG:73:VAL:HG22	56:GG:74:ARG:N	2.36	0.41
57:HH:134:VAL:HG21	57:HH:158:LEU:HD22	2.03	0.41
64:OO:72:TYR:O	64:OO:75:MET:HG2	2.21	0.41
68:SS:3:LEU:O	68:SS:3:LEU:HD23	2.20	0.41
72:WW:47:ILE:CG2	72:WW:48:GLY:N	2.83	0.41
75:ZZ:69:THR:HG23	75:ZZ:72:VAL:H	1.86	0.41
82:gg:220:ASP:CB	82:gg:223:GLU:O	2.68	0.41
83:3:16:C:O2'	83:3:18:U:H5'	2.21	0.41
83:3:56:C:O2'	83:3:57:A:O5'	2.37	0.41
85:2:3:C:N4	85:2:70:A:H61	2.14	0.41
1:A:4:VAL:HG21	45:5:1626:G:H5'	2.02	0.41
1:A:57:PRO:HD2	1:A:170:ALA:HB3	2.02	0.41
1:A:118:GLU:OE2	45:5:3681:G:N1	2.54	0.41
2:B:92:TYR:OH	45:5:4581:G:O2'	2.30	0.41
2:B:96:PRO:HD3	14:O:156:LEU:CD1	2.51	0.41
3:C:37:VAL:HG13	3:C:237:ILE:HD11	2.03	0.41
3:C:94:ASN:OD1	3:C:95:MET:HE2	2.20	0.41
4:D:15:ARG:HD2	45:5:1743:A:O4'	2.21	0.41
4:D:56:THR:HG22	4:D:57:ASN:H	1.86	0.41
5:E:186:ARG:NH1	45:5:4936:G:OP2	2.53	0.41
6:F:161:ILE:HD11	6:F:173:LEU:HB3	2.03	0.41
6:F:168:LEU:CB	6:F:186:MET:HE1	2.51	0.41
6:F:222:LYS:HE3	45:5:1907:A:O2'	2.20	0.41
7:G:31:LEU:HD21	25:Z:122:TYR:CE2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:73:ARG:CZ	45:5:4076:G:OP1	2.68	0.41
7:G:87:LEU:HD11	7:G:182:CYS:SG	2.61	0.41
9:I:9:TYR:CD2	9:I:97:ILE:HD12	2.56	0.41
9:I:16:PRO:HB2	45:5:1786:A:H4'	2.03	0.41
9:I:181:PHE:CZ	9:I:197:VAL:HG11	2.56	0.41
9:I:189:ARG:NH2	9:I:199:TYR:OH	2.54	0.41
10:J:49:VAL:HG13	46:7:39:C:O4'	2.21	0.41
11:L:46:ILE:O	11:L:47:ALA:C	2.63	0.41
14:O:110:PRO:N	14:O:111:PRO:CD	2.84	0.41
16:Q:68:ARG:HE	45:5:1501:C:H2'	1.86	0.41
17:R:63:CYS:SG	45:5:2809:G:C5'	3.09	0.41
18:S:2:LYS:O	18:S:4:SER:N	2.52	0.41
19:T:17:ARG:NH1	19:T:45:MET:HE3	2.36	0.41
19:T:121:GLU:OE1	19:T:121:GLU:N	2.49	0.41
19:T:127:GLN:OE1	19:T:127:GLN:HA	2.21	0.41
20:U:107:LYS:C	20:U:108:GLU:HG3	2.46	0.41
22:W:44:ARG:HD2	45:5:3615:G:N3	2.36	0.41
25:Z:28:ASN:HB2	25:Z:77:TYR:OH	2.20	0.41
27:b:6:ASN:N	45:5:1873:A:OP1	2.54	0.41
31:f:33:VAL:HG21	31:f:42:TYR:CE1	2.56	0.41
31:f:88:PHE:CD2	31:f:92:LEU:HD13	2.56	0.41
33:h:101:SER:O	33:h:102:LEU:C	2.63	0.41
34:i:17:VAL:HG23	34:i:17:VAL:O	2.19	0.41
35:j:81:GLY:HA3	45:5:134:G:C5	2.56	0.41
37:l:47:THR:HG21	45:5:367:C:OP1	2.20	0.41
43:s:9:TRP:HH2	45:5:1998:A:H4'	1.86	0.41
44:t:12:VAL:HG13	44:t:61:LYS:CE	2.50	0.41
44:t:58:ILE:CG2	44:t:59:THR:N	2.84	0.41
44:t:98:ILE:O	44:t:99:LYS:C	2.64	0.41
45:5:20:U:O2'	47:8:37:A:N6	2.54	0.41
45:5:100:C:H2'	45:5:101:A:O4'	2.21	0.41
45:5:175:C:C2'	45:5:176:G:O5'	2.69	0.41
45:5:231:U:C2'	45:5:232:G:OP1	2.68	0.41
45:5:450:G:H2'	45:5:450:G:N3	2.36	0.41
45:5:909:G:N3	45:5:910:G:C8	2.88	0.41
45:5:1169:G:H2'	45:5:1170:G:C8	2.55	0.41
45:5:1235:G:H1'	45:5:1236:C:H5'	2.03	0.41
45:5:1317:U:H2'	45:5:1318:C:C6	2.56	0.41
45:5:1322:1MA:CM1	45:5:4445:U:O3'	2.69	0.41
45:5:1354:A:N1	45:5:1385:G:O2'	2.48	0.41
45:5:1528:U:O2'	45:5:1529:G:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:1748:U:H2'	45:5:1749:A:O4'	2.19	0.41
45:5:1883:G:O6	45:5:1896:A:C2	2.74	0.41
45:5:2012:A:C4	45:5:2013:A:C8	3.09	0.41
45:5:2020:U:H2'	45:5:2021:G:H8	1.85	0.41
45:5:2324:C:H2'	45:5:2325:C:O4'	2.21	0.41
45:5:2465:C:H1'	45:5:3672:G:H1	1.86	0.41
45:5:2493:G:O2'	45:5:2494:U:H5'	2.21	0.41
45:5:2691:U:C2	45:5:2692:U:C5	3.09	0.41
45:5:2874:U:H4'	45:5:2875:C:OP2	2.20	0.41
45:5:4404:U:O2'	45:5:4435:U:O4	2.39	0.41
45:5:4499:OMG:C6	45:5:4500:PSU:O4	2.74	0.41
45:5:4626:A:C8	45:5:4672:A:C2	3.08	0.41
45:5:4737:G:C6	45:5:4963:G:C6	3.08	0.41
45:5:4880:C:O2	45:5:4880:C:O5'	2.38	0.41
45:5:4962:C:C2	45:5:4963:G:C8	3.09	0.41
48:v:164:LEU:HD11	48:v:174:LEU:CD2	2.49	0.41
48:v:259:LYS:O	48:v:264:ARG:HD2	2.21	0.41
48:v:710:HIS:ND1	48:v:715:DDE:HD2	2.35	0.41
48:v:773:GLU:HA	48:v:784:VAL:HA	2.03	0.41
49:9:96:C:O4'	49:9:474:G:H4'	2.21	0.41
49:9:128:U:H5'	49:9:215:G:O4'	2.21	0.41
49:9:499:G:N1	49:9:504:G:C6	2.89	0.41
49:9:564:A:N6	49:9:586:G:O2'	2.54	0.41
49:9:696:G:C6	49:9:731:G:O6	2.72	0.41
49:9:729:C:H2'	49:9:730:C:O4'	2.21	0.41
49:9:913:A:N3	57:HH:66:VAL:HG11	2.36	0.41
49:9:1005:G:C6	49:9:1006:C:C4	3.09	0.41
49:9:1007:C:H2'	49:9:1008:A:O4'	2.21	0.41
49:9:1088:U:H4'	49:9:1089:G:OP2	2.20	0.41
49:9:1094:C:C2'	49:9:1095:U:O5'	2.69	0.41
49:9:1140:G:O2'	49:9:1141:G:H5'	2.21	0.41
49:9:1209:A:O2'	49:9:1210:G:H5'	2.21	0.41
49:9:1292:C:H2'	49:9:1293:A:O4'	2.21	0.41
49:9:1630:A:H5''	68:SS:37:GLY:H	1.85	0.41
49:9:1863:A:H1'	76:aa:79:ILE:HD13	2.03	0.41
49:9:1864:U:O2'	49:9:1866:A:N7	2.48	0.41
51:BB:72:ALA:HB2	51:BB:80:ALA:HB2	2.03	0.41
51:BB:93:GLY:O	51:BB:94:LYS:HB3	2.20	0.41
52:CC:233:LEU:O	52:CC:234:GLY:C	2.63	0.41
54:EE:170:THR:OG1	54:EE:171:ASP:N	2.54	0.41
54:EE:255:ARG:O	54:EE:259:LYS:HG3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:HH:100:ILE:O	57:HH:100:ILE:HG23	2.20	0.41
61:LL:128:VAL:O	61:LL:128:VAL:HG23	2.21	0.41
64:OO:125:LYS:HA	76:aa:56:ALA:O	2.21	0.41
66:QQ:92:LEU:C	66:QQ:92:LEU:HD23	2.46	0.41
67:RR:103:LYS:O	67:RR:107:LYS:HG2	2.21	0.41
68:SS:3:LEU:HD21	75:ZZ:50:PHE:HD2	1.86	0.41
68:SS:20:ILE:CG2	68:SS:29:ALA:HB1	2.51	0.41
68:SS:127:TRP:HB2	68:SS:129:LEU:CD1	2.51	0.41
72:WW:11:LEU:HD11	72:WW:37:PHE:CZ	2.56	0.41
72:WW:37:PHE:CZ	72:WW:103:VAL:HG11	2.56	0.41
72:WW:60:LYS:NZ	77:bb:24:LEU:O	2.48	0.41
72:WW:100:GLY:HA2	72:WW:130:PHE:HB3	2.02	0.41
72:WW:106:THR:HG22	72:WW:123:GLY:CA	2.51	0.41
73:XX:82:THR:HG23	73:XX:118:VAL:HG22	2.03	0.41
74:YY:15:ASN:ND2	74:YY:18:LEU:HD12	2.36	0.41
82:gg:36:ARG:HE	82:gg:36:ARG:HA	1.85	0.41
82:gg:89:LEU:HD12	82:gg:98:THR:OG1	2.21	0.41
82:gg:95:GLY:O	82:gg:96:THR:HG23	2.20	0.41
83:3:52:G:C2	83:3:53:G:C8	3.09	0.41
84:w:19:U:N3	84:w:20:U:C5	2.89	0.41
85:2:35:A:O2'	85:2:36:U:H5'	2.21	0.41
85:2:66:C:N4	85:2:67:G:O6	2.54	0.41
1:A:226:ARG:NH1	45:5:4181:U:O2'	2.54	0.41
3:C:130:ALA:CB	3:C:136:LEU:HD12	2.51	0.41
3:C:292:ILE:HG22	3:C:298:ILE:HD12	2.03	0.41
4:D:265:ARG:HD2	4:D:267:ASN:ND2	2.35	0.41
6:F:64:TYR:CZ	6:F:68:ILE:HD11	2.56	0.41
13:N:119:TYR:CE1	13:N:131:GLU:HB2	2.56	0.41
14:O:49:ARG:NH1	14:O:49:ARG:HG3	2.36	0.41
14:O:85:ARG:NH2	45:5:3886:G:OP1	2.47	0.41
19:T:27:LEU:O	19:T:31:MET:HG2	2.20	0.41
19:T:45:MET:O	19:T:47:THR:N	2.54	0.41
32:g:9:ARG:CZ	32:g:34:TYR:HD2	2.34	0.41
33:h:13:LYS:HG2	33:h:16:GLU:HG2	2.02	0.41
45:5:382:G:N1	45:5:385:A:OP2	2.53	0.41
45:5:453:G:O2'	45:5:705:G:OP1	2.37	0.41
45:5:743:G:H2'	45:5:744:G:O4'	2.21	0.41
45:5:987:C:C2	45:5:988:C:C5	3.09	0.41
45:5:1197:C:C3'	45:5:1198:G:C8	3.04	0.41
45:5:1905:U:C2'	45:5:1906:U:O5'	2.69	0.41
45:5:1964:A:C4	45:5:1965:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:2001:G:H3'	45:5:2001:G:OP2	2.20	0.41
45:5:2016:C:OP2	45:5:2016:C:C6	2.75	0.41
45:5:2016:C:H2'	45:5:2017:A:H8	1.86	0.41
45:5:2408:U:O4'	45:5:2409:U:C5	2.74	0.41
45:5:2417:A:C4	45:5:2418:A:C8	3.09	0.41
45:5:4633:G:N1	45:5:4664:A:OP2	2.47	0.41
45:5:4699:U:H4'	45:5:4700:A:OP1	2.21	0.41
45:5:5015:G:H2'	45:5:5016:A:H2	1.86	0.41
47:8:109:C:O2'	47:8:110:U:P	2.78	0.41
49:9:6:G:O2'	49:9:7:G:H5'	2.21	0.41
49:9:17:C:O2'	49:9:1194:A:N1	2.50	0.41
49:9:171:A:H5''	56:GG:177:GLN:HG2	2.03	0.41
49:9:350:C:H3'	49:9:351:G:H5''	2.03	0.41
49:9:464:A:H3'	49:9:465:A:H5'	2.03	0.41
49:9:521:A:H2'	49:9:522:A:O4'	2.21	0.41
49:9:659:G:H2'	49:9:663:C:C6	2.56	0.41
49:9:1320:G:H2'	49:9:1321:G:O4'	2.20	0.41
61:LL:91:ASP:OD1	61:LL:91:ASP:O	2.39	0.41
64:OO:128:ARG:HG2	76:aa:59:PHE:CE2	2.56	0.41
67:RR:84:TYR:CD2	67:RR:84:TYR:C	2.99	0.41
68:SS:138:THR:O	68:SS:138:THR:HG22	2.19	0.41
69:TT:37:VAL:HG12	69:TT:38:LYS:N	2.35	0.41
69:TT:112:MET:SD	69:TT:127:GLY:HA2	2.61	0.41
83:3:26:A:H61	83:3:44:G:H1	1.70	0.41
2:B:216:MET:CE	2:B:283:LYS:CD	2.99	0.40
4:D:60:ILE:HD13	4:D:98:ALA:HA	2.03	0.40
6:F:247:ASN:OD1	6:F:247:ASN:O	2.39	0.40
7:G:79:ALA:HB1	7:G:168:VAL:CG2	2.51	0.40
8:H:9:THR:CG2	8:H:54:ARG:HB3	2.51	0.40
9:I:14:ASN:OD1	45:5:1864:G:OP2	2.40	0.40
9:I:14:ASN:O	9:I:128:ARG:NH1	2.54	0.40
11:L:14:PHE:HB2	45:5:1515:A:O2'	2.21	0.40
11:L:19:GLN:HE22	45:5:1518:A:H61	1.69	0.40
13:N:11:TRP:CZ3	13:N:23:LEU:HD21	2.56	0.40
13:N:50:ARG:CZ	45:5:279:A:OP1	2.69	0.40
19:T:128:LEU:HD12	45:5:1834:U:C6	2.56	0.40
21:V:104:VAL:HG11	21:V:117:ILE:HG12	2.02	0.40
23:X:79:PHE:CD2	33:h:36:VAL:HG11	2.56	0.40
28:c:44:LYS:HG3	28:c:105:ILE:CD1	2.51	0.40
28:c:52:CYS:SG	28:c:57:LYS:HB2	2.61	0.40
43:s:20:LEU:HD11	43:s:52:VAL:HG11	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:156:G:N2	45:5:157:U:O4	2.55	0.40
45:5:1307:A:H2'	45:5:1308:C:O4'	2.20	0.40
45:5:1764:G:N1	45:5:1766:A:OP1	2.54	0.40
45:5:1770:A:C2'	45:5:1771:U:O5'	2.68	0.40
45:5:2080:U:O2'	45:5:2081:C:H5'	2.21	0.40
45:5:2495:U:H2'	45:5:2496:G:H8	1.87	0.40
45:5:2699:C:O2'	45:5:2700:G:H5'	2.21	0.40
45:5:4121:G:H4'	45:5:4122:G:OP2	2.21	0.40
45:5:4136:G:O6	45:5:4148:C:N4	2.48	0.40
45:5:4304:A:H3'	45:5:4305:G:O4'	2.21	0.40
45:5:4762:A:O2'	45:5:4763:U:H5'	2.21	0.40
45:5:4862:G:H2'	45:5:4863:G:O4'	2.21	0.40
45:5:4933:C:H2'	45:5:4934:A:O4'	2.21	0.40
47:8:47:C:O2'	47:8:62:A:OP2	2.35	0.40
47:8:121:G:C6	47:8:122:G:C4	3.09	0.40
48:v:28:VAL:HG22	48:v:29:ASP:N	2.36	0.40
48:v:174:LEU:O	48:v:177:THR:HG22	2.21	0.40
48:v:374:GLU:OE2	48:v:495:ARG:HG3	2.21	0.40
48:v:830:ARG:HD3	48:v:830:ARG:O	2.21	0.40
48:v:839:ARG:CD	48:v:847:GLY:O	2.69	0.40
49:9:350:C:C4	49:9:351:G:C8	3.09	0.40
49:9:399:C:H4'	49:9:400:C:OP2	2.21	0.40
49:9:563:G:C8	49:9:586:G:N2	2.89	0.40
49:9:975:G:C5'	64:OO:34:PHE:HZ	2.33	0.40
49:9:1217:A:H2'	49:9:1218:C:C6	2.56	0.40
49:9:1265:A:H4'	49:9:1327:G:P	2.61	0.40
49:9:1570:G:O3'	49:9:1615:U:H4'	2.21	0.40
49:9:1694:U:O2'	49:9:1833:C:O2'	2.35	0.40
49:9:1827:U:H4'	49:9:1827:U:OP1	2.22	0.40
51:BB:88:THR:HG23	51:BB:96:CYS:HB2	2.04	0.40
52:CC:141:VAL:HG23	52:CC:141:VAL:O	2.21	0.40
59:JJ:135:ILE:CG2	59:JJ:136:ARG:N	2.84	0.40
62:MM:38:ALA:HB1	62:MM:110:VAL:HG23	2.03	0.40
62:MM:94:ILE:HG22	62:MM:95:ASP:H	1.86	0.40
64:OO:130:GLU:OE1	64:OO:130:GLU:N	2.54	0.40
65:PP:41:GLN:HG2	65:PP:84:ILE:CD1	2.50	0.40
65:PP:107:ILE:HD12	65:PP:107:ILE:H	1.85	0.40
69:TT:133:ARG:HG2	69:TT:133:ARG:HH11	1.86	0.40
73:XX:94:ILE:CG2	73:XX:125:VAL:HG11	2.50	0.40
74:YY:32:LYS:HE3	74:YY:32:LYS:HA	2.03	0.40
74:YY:124:ASN:O	74:YY:125:VAL:C	2.64	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:gg:236:ILE:O	82:gg:236:ILE:HG13	2.22	0.40
85:2:52:G:C2	85:2:53:G:C8	3.09	0.40
2:B:173:LEU:HD22	2:B:342:LYS:HB3	2.04	0.40
3:C:44:LEU:HD12	3:C:237:ILE:HG21	2.03	0.40
4:D:67:ALA:HA	4:D:72:ASP:CB	2.52	0.40
4:D:112:ARG:NH1	4:D:112:ARG:HB2	2.36	0.40
5:E:175:LEU:HD13	5:E:193:HIS:HA	2.02	0.40
6:F:28:LYS:HE3	6:F:32:LEU:HD21	2.02	0.40
6:F:93:ARG:HB2	6:F:113:LEU:HB3	2.04	0.40
7:G:83:PHE:HA	7:G:183:ILE:HD13	2.02	0.40
9:I:35:ASP:O	9:I:36:LEU:HD12	2.22	0.40
9:I:102:MET:HE3	45:5:4441:A:H4'	2.03	0.40
10:J:134:LEU:HD21	10:J:165:TRP:CZ3	2.56	0.40
12:M:91:TRP:O	12:M:95:ILE:HG12	2.22	0.40
13:N:50:ARG:HA	45:5:113:A:H1'	2.03	0.40
14:O:83:THR:HG22	14:O:87:MET:HE3	2.02	0.40
15:P:94:MET:HE2	15:P:94:MET:HB3	1.96	0.40
16:Q:104:ARG:CZ	16:Q:104:ARG:HB3	2.52	0.40
20:U:63:LEU:HD13	20:U:72:VAL:CG2	2.51	0.40
23:X:141:ALA:HB3	23:X:143:ASP:OD1	2.21	0.40
24:Y:30:MET:HE2	24:Y:101:PRO:HG3	2.03	0.40
30:e:90:MET:HE3	30:e:90:MET:HB3	1.96	0.40
32:g:26:PRO:HD2	45:5:2521:G:H4'	2.03	0.40
32:g:78:TYR:HB2	32:g:87:VAL:HG21	2.03	0.40
34:i:86:LYS:O	34:i:89:GLU:HG2	2.21	0.40
44:t:67:ARG:HG2	44:t:68:GLN:N	2.36	0.40
45:5:13:U:O5'	45:5:13:U:O2	2.40	0.40
45:5:27:C:C2	45:5:56:A:N1	2.89	0.40
45:5:423:G:H2'	45:5:424:U:C6	2.56	0.40
45:5:980:U:H2'	45:5:981:C:C6	2.56	0.40
45:5:1278:C:C2'	45:5:1279:A:O5'	2.70	0.40
45:5:1296:G:O2'	45:5:1297:U:OP2	2.28	0.40
45:5:1383:G:N2	45:5:1505:C:O3'	2.53	0.40
45:5:1398:A:N1	45:5:1419:G:O2'	2.50	0.40
45:5:1459:A:H2'	45:5:1460:C:O4'	2.21	0.40
45:5:1899:G:C2'	45:5:1900:C:O5'	2.70	0.40
45:5:2580:U:H2'	45:5:2581:A:O5'	2.22	0.40
45:5:2799:G:H2'	45:5:2800:G:O4'	2.21	0.40
45:5:3694:U:C4	45:5:3695:PSU:C2	3.09	0.40
45:5:4775:C:N3	45:5:4776:G:C8	2.90	0.40
48:v:338:ALA:O	48:v:342:ARG:HG2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:9:13:C:OP1	52:CC:232:THR:HG23	2.20	0.40
49:9:208:G:N2	49:9:209:A:H62	2.19	0.40
49:9:220:U:H2'	49:9:221:A:H8	1.85	0.40
49:9:353:C:O3'	61:LL:90:ARG:NH1	2.52	0.40
49:9:459:C:H2'	49:9:460:A:O4'	2.21	0.40
49:9:572:U:H1'	49:9:578:C:H41	1.85	0.40
49:9:687:C:N3	57:HH:118:ARG:NH2	2.69	0.40
49:9:993:G:O2'	49:9:994:C:H5'	2.20	0.40
49:9:1122:A:C6	49:9:1123:C:C5	3.09	0.40
49:9:1225:U:H1'	66:QQ:142:GLN:HE22	1.85	0.40
49:9:1276:A:O2'	60:KK:51:SER:HA	2.22	0.40
49:9:1290:G:H2'	49:9:1291:A:O4'	2.21	0.40
49:9:1335:G:O4'	53:DD:174:HIS:HE1	2.04	0.40
50:AA:142:LEU:HD23	50:AA:142:LEU:H	1.86	0.40
53:DD:138:VAL:HG23	53:DD:138:VAL:O	2.22	0.40
56:GG:39:ASP:HA	56:GG:45:TRP:O	2.21	0.40
56:GG:58:LYS:HA	56:GG:107:SER:HB2	2.03	0.40
58:II:121:LEU:HD21	58:II:166:PHE:CD1	2.57	0.40
63:NN:130:LYS:NZ	63:NN:139:TRP:O	2.36	0.40
64:OO:56:VAL:HG12	64:OO:57:THR:N	2.36	0.40
67:RR:34:VAL:HA	82:gg:150:TRP:CZ2	2.55	0.40
69:TT:83:GLN:HG2	69:TT:85:ASN:OD1	2.21	0.40
76:aa:5:ARG:HB3	76:aa:7:ASN:O	2.21	0.40
82:gg:309:VAL:O	82:gg:309:VAL:HG23	2.21	0.40
1:A:242:ARG:C	1:A:243:THR:HG23	2.46	0.40
3:C:167:ALA:HB2	3:C:220:ALA:HB1	2.03	0.40
4:D:289:ARG:NH2	45:5:1180:C:O5'	2.55	0.40
7:G:34:LYS:NZ	45:5:4129:G:O2'	2.37	0.40
7:G:86:VAL:HG11	7:G:185:LYS:CG	2.50	0.40
12:M:115:ALA:CB	14:O:195:VAL:HG11	2.51	0.40
15:P:83:TRP:CZ3	45:5:3855:C:H4'	2.57	0.40
23:X:141:ALA:HB1	23:X:142:PRO:HD2	2.03	0.40
24:Y:129:GLY:O	24:Y:132:LYS:HG2	2.22	0.40
33:h:16:GLU:OE1	33:h:16:GLU:HA	2.22	0.40
45:5:62:A:H2	45:5:77:U:O2	2.05	0.40
45:5:406:C:C2'	45:5:407:A:O5'	2.68	0.40
45:5:418:A:O2'	45:5:419:A:H5'	2.22	0.40
45:5:653:C:H2'	45:5:654:C:O4'	2.22	0.40
45:5:1384:C:O2'	45:5:1505:C:OP1	2.37	0.40
45:5:1443:A:H2'	45:5:1444:G:O4'	2.22	0.40
45:5:1509:C:O2'	45:5:1510:G:H5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:5:1620:U:O2'	45:5:1621:A:H5'	2.22	0.40
45:5:1862:PSU:H2'	45:5:1863:U:C6	2.56	0.40
45:5:1965:G:H2'	45:5:1966:C:C6	2.56	0.40
45:5:2536:A:O2'	45:5:2641:A:N1	2.42	0.40
45:5:2865:U:O2'	45:5:2866:C:H5'	2.21	0.40
45:5:3923:A:H2'	45:5:3924:C:C6	2.55	0.40
45:5:4237:C:H4'	45:5:4327:C:O2	2.21	0.40
45:5:4375:C:H5'	45:5:4376:A:OP1	2.21	0.40
45:5:4507:A:O2'	45:5:4508:C:H5'	2.21	0.40
45:5:4518:A:OP2	45:5:4518:A:H8	2.04	0.40
45:5:4924:C:H2'	45:5:4925:U:C6	2.57	0.40
45:5:4932:U:H2'	45:5:4933:C:O5'	2.21	0.40
46:7:32:A:O2'	46:7:41:G:N7	2.51	0.40
47:8:62:A:H4'	47:8:63:U:O5'	2.20	0.40
48:v:669:VAL:HG23	48:v:669:VAL:O	2.20	0.40
49:9:25:A:O2'	49:9:26:U:C5'	2.69	0.40
49:9:185:G:N3	49:9:185:G:H2'	2.36	0.40
49:9:470:G:O2'	49:9:471:G:C5'	2.69	0.40
49:9:689:U:H1'	57:HH:122:LEU:HD11	2.03	0.40
49:9:921:G:H1'	63:NN:11:LEU:HD11	2.04	0.40
49:9:954:U:C4	49:9:971:G:C2	3.09	0.40
49:9:1052:A:H2'	49:9:1053:C:O4'	2.21	0.40
49:9:1344:A:H4'	49:9:1345:G:OP1	2.20	0.40
49:9:1429:G:OP2	69:TT:68:GLY:N	2.53	0.40
49:9:1617:G:N2	49:9:1619:A:H3'	2.36	0.40
51:BB:68:GLU:O	51:BB:68:GLU:HG3	2.20	0.40
54:EE:42:LEU:HD12	54:EE:42:LEU:C	2.47	0.40
55:FF:61:PHE:HZ	78:cc:49:PRO:CG	2.35	0.40
56:GG:59:GLN:N	56:GG:59:GLN:OE1	2.54	0.40
57:HH:70:LYS:HD2	57:HH:70:LYS:O	2.21	0.40
58:II:16:GLY:O	58:II:17:LYS:C	2.65	0.40
60:KK:75:GLY:O	60:KK:79:LEU:HD13	2.21	0.40
62:MM:59:PRO:HG2	62:MM:60:MET:HE2	2.03	0.40
64:OO:114:SER:O	64:OO:117:ARG:HG2	2.21	0.40
75:ZZ:64:ASN:O	75:ZZ:111:ARG:NH2	2.54	0.40
82:gg:19:THR:HG22	82:gg:19:THR:O	2.22	0.40
82:gg:230:LEU:HD23	82:gg:259:TRP:CB	2.52	0.40
2:B:284:ILE:O	2:B:284:ILE:HG22	2.21	0.40
2:B:324:GLY:HA2	45:5:5051:C:H4'	2.02	0.40
5:E:70:LEU:HA	5:E:73:ARG:HD3	2.04	0.40
5:E:249:ARG:NH2	45:5:4940:C:O2'	2.40	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:70:MET:HA	6:F:73:MET:HG2	2.03	0.40
6:F:219:MET:HE3	45:5:1907:A:H4'	2.03	0.40
8:H:86:LEU:HB3	8:H:188:GLN:O	2.22	0.40
13:N:184:ILE:O	45:5:78:U:OP1	2.39	0.40
16:Q:110:ARG:O	16:Q:114:LEU:HD23	2.21	0.40
18:S:99:ASP:OD1	18:S:99:ASP:C	2.61	0.40
20:U:46:ARG:O	20:U:47:ILE:C	2.63	0.40
23:X:62:ARG:NH2	45:5:16:G:OP2	2.52	0.40
24:Y:80:ILE:HG23	24:Y:101:PRO:HG3	2.04	0.40
28:c:35:LEU:HD11	28:c:60:ILE:CD1	2.51	0.40
28:c:102:SER:OG	28:c:103:ASP:N	2.54	0.40
32:g:60:ARG:HB3	32:g:61:PRO:HD2	2.04	0.40
45:5:380:U:O2'	45:5:381:U:H5''	2.22	0.40
45:5:1332:C:H2'	45:5:1333:A:H8	1.84	0.40
45:5:1352:C:H2'	45:5:1353:G:O4'	2.22	0.40
45:5:1497:A:H4'	45:5:1498:G:OP2	2.21	0.40
45:5:1953:U:O2'	45:5:1954:U:H5'	2.20	0.40
45:5:1982:G:C4'	45:5:1983:A:OP1	2.69	0.40
45:5:2018:C:C2	45:5:2019:C:C6	3.09	0.40
45:5:2817:C:H4'	45:5:4655:A:O2'	2.22	0.40
45:5:3709:U:O4	45:5:3710:G:O6	2.38	0.40
45:5:4120:U:O2	45:5:4120:U:O4'	2.38	0.40
45:5:4620:OMU:OP2	45:5:4670:C:C4	2.75	0.40
48:v:26:ALA:HB2	48:v:128:VAL:HB	2.03	0.40
48:v:531:ASP:HB3	48:v:534:VAL:HG12	2.03	0.40
49:9:195:C:H2'	49:9:196:C:C6	2.57	0.40
49:9:349:A:H2'	49:9:350:C:C1'	2.52	0.40
49:9:1046:U:H2'	49:9:1047:C:O4'	2.22	0.40
49:9:1239:U:C2	49:9:1241:A:OP2	2.74	0.40
49:9:1384:C:H4'	53:DD:157:MET:O	2.20	0.40
49:9:1525:C:H4'	83:3:31:A:OP1	2.21	0.40
51:BB:139:CYS:SG	51:BB:211:PHE:O	2.78	0.40
52:CC:91:SER:HB3	52:CC:156:ILE:HG23	2.04	0.40
58:II:162:LEU:HD11	58:II:191:GLU:HG3	2.03	0.40
64:OO:34:PHE:CD2	64:OO:98:ARG:HB3	2.57	0.40
64:OO:85:CYS:SG	64:OO:124:MET:HE1	2.62	0.40
68:SS:4:VAL:HG12	68:SS:5:ILE:N	2.36	0.40
69:TT:64:LEU:HD22	69:TT:121:ARG:O	2.22	0.40
76:aa:102:ARG:H	76:aa:102:ARG:HD3	1.86	0.40
77:bb:64:CYS:SG	77:bb:65:GLN:N	2.94	0.40
79:dd:54:LYS:O	79:dd:55:LEU:HD23	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:gg:44:LYS:HB3	82:gg:56:GLN:CG	2.52	0.40
85:2:25:C:C2	85:2:26:G:C8	3.09	0.40
1:A:208:GLU:CG	45:5:1629:G:H1	2.35	0.40
2:B:253:CYS:SG	45:5:4521:PSU:H1'	2.60	0.40
3:C:80:ARG:NH2	45:5:1645:C:P	2.95	0.40
4:D:200:MET:CE	4:D:241:LYS:HE2	2.51	0.40
6:F:95:ARG:NH2	6:F:223:THR:HG22	2.37	0.40
7:G:170:LEU:CD2	7:G:201:THR:HG21	2.51	0.40
14:O:15:LEU:O	14:O:16:LEU:C	2.64	0.40
15:P:4:TYR:HE1	15:P:147:GLU:HB2	1.85	0.40
16:Q:82:VAL:HG11	16:Q:86:VAL:HG22	2.03	0.40
17:R:44:LEU:CD2	17:R:49:LEU:HD22	2.51	0.40
18:S:113:MET:HE3	18:S:113:MET:HB3	1.95	0.40
30:e:67:LYS:O	30:e:68:HIS:HB2	2.20	0.40
30:e:124:ASN:OD1	30:e:124:ASN:N	2.55	0.40
34:i:46:GLU:OE2	34:i:47:VAL:N	2.54	0.40
35:j:49:TRP:CE3	45:5:1646:A:H1'	2.56	0.40
35:j:75:ARG:HH11	35:j:75:ARG:HB3	1.87	0.40
43:s:127:ASN:HA	43:s:153:GLU:HA	2.04	0.40
45:5:406:C:H2'	45:5:407:A:O5'	2.21	0.40
45:5:978:G:H1	45:5:1277:G:H1	1.70	0.40
45:5:1308:C:H2'	45:5:1309:C:C6	2.56	0.40
45:5:1380:G:H4'	45:5:1381:U:O2	2.22	0.40
45:5:1487:G:O2'	45:5:1488:G:H5'	2.21	0.40
45:5:1577:G:O2'	45:5:1612:G:H4'	2.21	0.40
45:5:1594:C:O2'	45:5:1597:G:H1'	2.21	0.40
45:5:1962:A:N3	45:5:1962:A:H2'	2.37	0.40
45:5:3681:G:H4'	45:5:3684:G:H1'	2.02	0.40
45:5:4205:A:H2'	45:5:4206:C:O4'	2.22	0.40
45:5:4237:C:H1'	45:5:4321:U:H1'	2.02	0.40
45:5:4238:G:H2'	45:5:4239:A:H8	1.87	0.40
45:5:4442:PSU:O2'	45:5:4443:C:H5'	2.21	0.40
45:5:4486:C:H2'	45:5:4487:A:O4'	2.22	0.40
45:5:4670:C:O3'	45:5:4671:C:H3'	2.21	0.40
45:5:4882:U:O2'	45:5:4883:C:H4'	2.22	0.40
45:5:4924:C:HO2'	45:5:4925:U:C4'	2.21	0.40
47:8:141:C:H2'	47:8:142:U:C6	2.56	0.40
47:8:154:G:H2'	47:8:155:C:C6	2.56	0.40
48:v:112:SER:HB2	48:v:501:VAL:HG22	2.03	0.40
48:v:276:SER:OG	48:v:278:THR:O	2.39	0.40
48:v:364:ALA:HA	48:v:367:TYR:CE1	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:v:507:VAL:O	48:v:507:VAL:HG13	2.21	0.40
49:9:10:G:H1'	52:CC:115:GLN:CG	2.52	0.40
49:9:118:C:H2'	49:9:119:PSU:O4'	2.21	0.40
49:9:332:G:N7	56:GG:186:GLN:NE2	2.66	0.40
49:9:947:G:H2'	49:9:948:C:C6	2.57	0.40
49:9:1094:C:O2'	49:9:1095:U:H5'	2.22	0.40
49:9:1108:G:H2'	49:9:1109:C:H5''	2.04	0.40
49:9:1129:G:OP1	77:bb:22:LYS:NZ	2.51	0.40
49:9:1202:U:C2	49:9:1203:G:C8	3.10	0.40
49:9:1230:C:H2'	49:9:1231:C:C6	2.57	0.40
49:9:1285:G:OP1	62:MM:107:SER:N	2.38	0.40
49:9:1293:A:OP1	49:9:1300:U:C5	2.75	0.40
49:9:1300:U:O2	49:9:1300:U:C2'	2.70	0.40
49:9:1495:G:H2'	49:9:1496:U:C6	2.57	0.40
49:9:1589:A:H61	49:9:1672:U:HO2'	1.60	0.40
49:9:1650:A:H2'	49:9:1651:A:O4'	2.20	0.40
49:9:1675:A:C2	49:9:1676:U:C4	3.10	0.40
49:9:1786:U:H2'	49:9:1787:G:H8	1.86	0.40
54:EE:80:ILE:HG13	54:EE:81:THR:HG23	2.04	0.40
55:FF:187:SER:HB2	55:FF:190:ILE:HG12	2.04	0.40
56:GG:44:GLU:HG2	56:GG:121:ILE:HD13	2.04	0.40
57:HH:163:GLN:HG3	57:HH:167:GLU:OE2	2.21	0.40
58:II:93:THR:O	58:II:94:LYS:C	2.64	0.40
59:JJ:33:GLY:HA3	80:ee:108:ARG:HG2	2.04	0.40
61:LL:94:HIS:HB2	61:LL:105:ARG:HD2	2.04	0.40
62:MM:19:GLN:HG2	62:MM:88:TRP:CZ3	2.57	0.40
62:MM:41:ALA:O	62:MM:47:ALA:HB2	2.22	0.40
62:MM:54:SER:OG	62:MM:55:ASN:N	2.55	0.40
62:MM:92:CYS:HB2	62:MM:102:LYS:HG3	2.02	0.40
64:OO:66:ARG:HG3	64:OO:66:ARG:HH11	1.87	0.40
68:SS:99:LEU:O	68:SS:103:LEU:HB2	2.22	0.40
69:TT:65:TYR:CD1	69:TT:65:TYR:C	3.00	0.40
72:WW:47:ILE:CG2	72:WW:63:VAL:HG13	2.51	0.40
74:YY:51:THR:CG2	74:YY:52:PRO:HD2	2.50	0.40
77:bb:31:TYR:CE2	77:bb:81:ARG:HG2	2.57	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	245/257 (95%)	213 (87%)	32 (13%)	0	100	100
2	B	392/403 (97%)	356 (91%)	36 (9%)	0	100	100
3	C	360/425 (85%)	336 (93%)	24 (7%)	0	100	100
4	D	287/297 (97%)	274 (96%)	13 (4%)	0	100	100
5	E	209/291 (72%)	194 (93%)	15 (7%)	0	100	100
6	F	223/247 (90%)	207 (93%)	16 (7%)	0	100	100
7	G	214/319 (67%)	197 (92%)	17 (8%)	0	100	100
8	H	188/192 (98%)	174 (93%)	14 (7%)	0	100	100
9	I	204/214 (95%)	189 (93%)	15 (7%)	0	100	100
10	J	165/178 (93%)	157 (95%)	8 (5%)	0	100	100
11	L	208/211 (99%)	198 (95%)	10 (5%)	0	100	100
12	M	136/218 (62%)	128 (94%)	8 (6%)	0	100	100
13	N	201/204 (98%)	182 (90%)	19 (10%)	0	100	100
14	O	196/203 (97%)	187 (95%)	9 (5%)	0	100	100
15	P	151/184 (82%)	144 (95%)	7 (5%)	0	100	100
16	Q	185/188 (98%)	171 (92%)	14 (8%)	0	100	100
17	R	177/196 (90%)	168 (95%)	9 (5%)	0	100	100
18	S	174/176 (99%)	162 (93%)	12 (7%)	0	100	100
19	T	157/160 (98%)	146 (93%)	11 (7%)	0	100	100
20	U	96/128 (75%)	86 (90%)	10 (10%)	0	100	100
21	V	128/140 (91%)	118 (92%)	10 (8%)	0	100	100
22	W	61/157 (39%)	57 (93%)	4 (7%)	0	100	100
23	X	114/156 (73%)	106 (93%)	8 (7%)	0	100	100
24	Y	132/145 (91%)	123 (93%)	9 (7%)	0	100	100
25	Z	133/136 (98%)	119 (90%)	14 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	a	145/148 (98%)	132 (91%)	13 (9%)	0	100	100
27	b	73/245 (30%)	66 (90%)	7 (10%)	0	100	100
28	c	92/115 (80%)	83 (90%)	9 (10%)	0	100	100
29	d	96/125 (77%)	93 (97%)	3 (3%)	0	100	100
30	e	126/135 (93%)	113 (90%)	13 (10%)	0	100	100
31	f	107/110 (97%)	97 (91%)	10 (9%)	0	100	100
32	g	112/117 (96%)	108 (96%)	4 (4%)	0	100	100
33	h	120/123 (98%)	112 (93%)	8 (7%)	0	100	100
34	i	100/105 (95%)	94 (94%)	6 (6%)	0	100	100
35	j	84/97 (87%)	77 (92%)	7 (8%)	0	100	100
36	k	66/70 (94%)	63 (96%)	3 (4%)	0	100	100
37	l	47/51 (92%)	42 (89%)	5 (11%)	0	100	100
38	m	49/93 (53%)	46 (94%)	3 (6%)	0	100	100
39	n	21/25 (84%)	21 (100%)	0	0	100	100
40	o	101/106 (95%)	92 (91%)	9 (9%)	0	100	100
41	p	89/92 (97%)	82 (92%)	7 (8%)	0	100	100
42	r	123/137 (90%)	110 (89%)	13 (11%)	0	100	100
43	s	194/318 (61%)	170 (88%)	24 (12%)	0	100	100
44	t	151/165 (92%)	120 (80%)	31 (20%)	0	100	100
48	v	830/858 (97%)	724 (87%)	106 (13%)	0	100	100
50	AA	215/295 (73%)	190 (88%)	25 (12%)	0	100	100
51	BB	211/264 (80%)	194 (92%)	17 (8%)	0	100	100
52	CC	219/293 (75%)	200 (91%)	19 (9%)	0	100	100
53	DD	226/243 (93%)	212 (94%)	14 (6%)	0	100	100
54	EE	260/263 (99%)	233 (90%)	27 (10%)	0	100	100
55	FF	181/204 (89%)	171 (94%)	10 (6%)	0	100	100
56	GG	235/249 (94%)	221 (94%)	14 (6%)	0	100	100
57	HH	181/194 (93%)	166 (92%)	15 (8%)	0	100	100
58	II	204/208 (98%)	178 (87%)	26 (13%)	0	100	100
59	JJ	183/194 (94%)	170 (93%)	13 (7%)	0	100	100
60	KK	94/165 (57%)	83 (88%)	11 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
61	LL	139/158 (88%)	121 (87%)	18 (13%)	0	100	100
62	MM	115/132 (87%)	103 (90%)	12 (10%)	0	100	100
63	NN	147/151 (97%)	134 (91%)	13 (9%)	0	100	100
64	OO	134/168 (80%)	108 (81%)	26 (19%)	0	100	100
65	PP	115/145 (79%)	103 (90%)	12 (10%)	0	100	100
66	QQ	140/146 (96%)	125 (89%)	15 (11%)	0	100	100
67	RR	130/135 (96%)	119 (92%)	11 (8%)	0	100	100
68	SS	140/152 (92%)	126 (90%)	13 (9%)	1 (1%)	19	50
69	TT	139/145 (96%)	130 (94%)	9 (6%)	0	100	100
70	UU	98/119 (82%)	88 (90%)	9 (9%)	1 (1%)	13	42
71	VV	81/83 (98%)	73 (90%)	8 (10%)	0	100	100
72	WW	127/130 (98%)	112 (88%)	15 (12%)	0	100	100
73	XX	136/143 (95%)	125 (92%)	11 (8%)	0	100	100
74	YY	122/130 (94%)	112 (92%)	10 (8%)	0	100	100
75	ZZ	73/125 (58%)	67 (92%)	6 (8%)	0	100	100
76	aa	99/115 (86%)	88 (89%)	11 (11%)	0	100	100
77	bb	81/84 (96%)	69 (85%)	12 (15%)	0	100	100
78	cc	60/69 (87%)	54 (90%)	6 (10%)	0	100	100
79	dd	53/56 (95%)	49 (92%)	4 (8%)	0	100	100
80	ee	32/133 (24%)	22 (69%)	7 (22%)	3 (9%)	0	3
81	ff	65/156 (42%)	56 (86%)	9 (14%)	0	100	100
82	gg	311/317 (98%)	269 (86%)	42 (14%)	0	100	100
All	All	12208/14224 (86%)	11108 (91%)	1095 (9%)	5 (0%)	100	100

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
80	ee	96	GLU
80	ee	98	LYS
70	UU	97	ILE
80	ee	97	LYS
68	SS	74	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	189/199 (95%)	189 (100%)	0	100	100
2	B	336/348 (97%)	336 (100%)	0	100	100
3	C	302/347 (87%)	302 (100%)	0	100	100
4	D	245/250 (98%)	244 (100%)	1 (0%)	89	93
5	E	191/251 (76%)	191 (100%)	0	100	100
6	F	196/215 (91%)	196 (100%)	0	100	100
7	G	189/272 (70%)	189 (100%)	0	100	100
8	H	169/171 (99%)	169 (100%)	0	100	100
9	I	178/181 (98%)	178 (100%)	0	100	100
10	J	140/149 (94%)	140 (100%)	0	100	100
11	L	175/176 (99%)	175 (100%)	0	100	100
12	M	117/161 (73%)	117 (100%)	0	100	100
13	N	171/172 (99%)	171 (100%)	0	100	100
14	O	170/173 (98%)	170 (100%)	0	100	100
15	P	134/163 (82%)	134 (100%)	0	100	100
16	Q	164/165 (99%)	164 (100%)	0	100	100
17	R	158/175 (90%)	158 (100%)	0	100	100
18	S	157/157 (100%)	157 (100%)	0	100	100
19	T	139/140 (99%)	139 (100%)	0	100	100
20	U	88/114 (77%)	88 (100%)	0	100	100
21	V	100/107 (94%)	100 (100%)	0	100	100
22	W	55/126 (44%)	55 (100%)	0	100	100
23	X	104/134 (78%)	104 (100%)	0	100	100
24	Y	124/135 (92%)	124 (100%)	0	100	100
25	Z	117/118 (99%)	117 (100%)	0	100	100
26	a	119/120 (99%)	119 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
27	b	62/184 (34%)	62 (100%)	0	100	100
28	c	80/98 (82%)	80 (100%)	0	100	100
29	d	91/110 (83%)	91 (100%)	0	100	100
30	e	114/121 (94%)	114 (100%)	0	100	100
31	f	88/89 (99%)	88 (100%)	0	100	100
32	g	98/100 (98%)	98 (100%)	0	100	100
33	h	109/110 (99%)	109 (100%)	0	100	100
34	i	86/89 (97%)	86 (100%)	0	100	100
35	j	73/80 (91%)	73 (100%)	0	100	100
36	k	63/65 (97%)	63 (100%)	0	100	100
37	l	46/48 (96%)	46 (100%)	0	100	100
38	m	47/84 (56%)	47 (100%)	0	100	100
39	n	22/24 (92%)	22 (100%)	0	100	100
40	o	91/94 (97%)	91 (100%)	0	100	100
41	p	74/75 (99%)	74 (100%)	0	100	100
42	r	109/121 (90%)	109 (100%)	0	100	100
43	s	164/258 (64%)	164 (100%)	0	100	100
44	t	126/137 (92%)	126 (100%)	0	100	100
48	v	710/729 (97%)	709 (100%)	1 (0%)	92	96
50	AA	180/245 (74%)	180 (100%)	0	100	100
51	BB	194/231 (84%)	194 (100%)	0	100	100
52	CC	187/225 (83%)	187 (100%)	0	100	100
53	DD	190/202 (94%)	190 (100%)	0	100	100
54	EE	224/225 (100%)	224 (100%)	0	100	100
55	FF	158/170 (93%)	158 (100%)	0	100	100
56	GG	207/218 (95%)	207 (100%)	0	100	100
57	HH	165/174 (95%)	165 (100%)	0	100	100
58	II	178/180 (99%)	178 (100%)	0	100	100
59	JJ	161/168 (96%)	161 (100%)	0	100	100
60	KK	87/136 (64%)	87 (100%)	0	100	100
61	LL	130/142 (92%)	130 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
62	MM	99/108 (92%)	99 (100%)	0	100	100
63	NN	130/131 (99%)	130 (100%)	0	100	100
64	OO	106/130 (82%)	106 (100%)	0	100	100
65	PP	107/130 (82%)	107 (100%)	0	100	100
66	QQ	117/121 (97%)	117 (100%)	0	100	100
67	RR	119/121 (98%)	119 (100%)	0	100	100
68	SS	123/132 (93%)	123 (100%)	0	100	100
69	TT	111/115 (96%)	111 (100%)	0	100	100
70	UU	92/107 (86%)	92 (100%)	0	100	100
71	VV	67/67 (100%)	67 (100%)	0	100	100
72	WW	112/113 (99%)	112 (100%)	0	100	100
73	XX	110/115 (96%)	110 (100%)	0	100	100
74	YY	107/112 (96%)	107 (100%)	0	100	100
75	ZZ	66/103 (64%)	66 (100%)	0	100	100
76	aa	88/98 (90%)	88 (100%)	0	100	100
77	bb	75/76 (99%)	75 (100%)	0	100	100
78	cc	55/62 (89%)	55 (100%)	0	100	100
79	dd	48/49 (98%)	48 (100%)	0	100	100
80	ee	29/106 (27%)	29 (100%)	0	100	100
81	ff	61/140 (44%)	61 (100%)	0	100	100
82	gg	272/275 (99%)	272 (100%)	0	100	100
All	All	10635/12062 (88%)	10633 (100%)	2 (0%)	100	100

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	D	267	ASN
48	v	811	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (71) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	8	GLN
1	A	132	ASN

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Mol	Chain	Res	Type
2	B	109	HIS
2	B	123	HIS
2	B	167	GLN
2	B	328	ASN
3	C	61	GLN
3	C	276	ASN
3	C	286	ASN
4	D	198	HIS
6	F	182	ASN
6	F	199	HIS
7	G	82	GLN
8	H	106	GLN
8	H	108	ASN
9	I	213	HIS
11	L	28	GLN
11	L	175	ASN
12	M	20	HIS
12	M	131	GLN
13	N	90	ASN
15	P	21	ASN
15	P	75	GLN
17	R	40	GLN
17	R	86	ASN
17	R	121	HIS
19	T	139	HIS
20	U	50	ASN
20	U	94	ASN
23	X	107	HIS
23	X	151	ASN
24	Y	127	GLN
26	a	17	HIS
27	b	60	ASN
34	i	26	HIS
34	i	80	HIS
38	m	117	HIS
38	m	120	ASN
41	p	33	GLN
42	r	30	ASN
48	v	202	ASN
48	v	535	GLN
48	v	737	GLN
48	v	764	ASN

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Mol	Chain	Res	Type
50	AA	193	HIS
52	CC	136	HIS
53	DD	57	ASN
53	DD	145	GLN
53	DD	207	HIS
55	FF	118	ASN
56	GG	110	ASN
57	HH	76	GLN
59	JJ	156	HIS
60	KK	7	ASN
61	LL	19	ASN
61	LL	106	HIS
62	MM	28	HIS
63	NN	123	HIS
64	OO	38	ASN
65	PP	79	HIS
67	RR	26	ASN
68	SS	76	GLN
69	TT	91	HIS
71	VV	35	ASN
76	aa	17	HIS
76	aa	25	ASN
77	bb	9	HIS
77	bb	84	HIS
79	dd	45	GLN
81	ff	111	ASN
82	gg	20	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
45	5	3506/3543 (98%)	744 (21%)	61 (1%)
46	7	119/120 (99%)	17 (14%)	1 (0%)
47	8	155/156 (99%)	35 (22%)	2 (1%)
49	9	1684/1869 (90%)	417 (24%)	24 (1%)
83	3	71/75 (94%)	20 (28%)	1 (1%)
84	w	5/6 (83%)	0	0
85	2	71/76 (93%)	10 (14%)	0
All	All	5611/5845 (95%)	1243 (22%)	89 (1%)

All (1243) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
45	5	13	U
45	5	15	A
45	5	25	A
45	5	33	A
45	5	39	A
45	5	42	A
45	5	56	A
45	5	59	A
45	5	64	A
45	5	65	A
45	5	71	C
45	5	73	A
45	5	91	G
45	5	104	G
45	5	108	A
45	5	109	G
45	5	110	C
45	5	116	G
45	5	117	C
45	5	119	G
45	5	120	A
45	5	126	C
45	5	134	G
45	5	135	G
45	5	136	C
45	5	142	G
45	5	143	C
45	5	149	A
45	5	158	A
45	5	159	C
45	5	160	G
45	5	170	C
45	5	174	C
45	5	176	G
45	5	197	A
45	5	200	U
45	5	201	C
45	5	209	U
45	5	211	G
45	5	216	C
45	5	218	A
45	5	219	G
45	5	220	C

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Mol	Chain	Res	Type
45	5	224	U
45	5	233	U
45	5	234	G
45	5	238	C
45	5	246	G
45	5	253	G
45	5	255	C
45	5	256	G
45	5	265	C
45	5	266	C
45	5	267	G
45	5	268	G
45	5	276	C
45	5	278	G
45	5	280	G
45	5	281	U
45	5	292	G
45	5	297	U
45	5	306	A
45	5	316	U
45	5	317	A
45	5	334	A
45	5	340	C
45	5	349	A
45	5	357	U
45	5	363	A
45	5	381	U
45	5	386	A
45	5	387	G
45	5	401	G
45	5	406	C
45	5	407	A
45	5	408	A
45	5	410	A
45	5	412	G
45	5	413	G
45	5	415	G
45	5	418	A
45	5	433	A
45	5	446	C
45	5	449	C
45	5	450	G

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Mol	Chain	Res	Type
45	5	452	A
45	5	453	G
45	5	454	U
45	5	455	C
45	5	463	A
45	5	464	G
45	5	467	U
45	5	468	U
45	5	481	G
45	5	481(A)	C
45	5	482	G
45	5	484	U
45	5	485	C
45	5	486	C
45	5	492	U
45	5	499	G
45	5	505	G
45	5	510	U
45	5	519	C
45	5	520	U
45	5	523	C
45	5	640	C
45	5	646	G
45	5	657	C
45	5	666	G
45	5	669	C
45	5	670	G
45	5	682	G
45	5	687	U
45	5	688	U
45	5	696	C
45	5	697	G
45	5	704	C
45	5	705	G
45	5	719	C
45	5	730	G
45	5	731	G
45	5	733	A
45	5	738	C
45	5	739	G
45	5	742	G
45	5	744	G

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Mol	Chain	Res	Type
45	5	747	A
45	5	758	G
45	5	914	U
45	5	917	A
45	5	918	G
45	5	923	C
45	5	925	C
45	5	926	G
45	5	928	C
45	5	929	A
45	5	931	C
45	5	932	A
45	5	933	G
45	5	935	A
45	5	935(A)	G
45	5	936	C
45	5	937	U
45	5	941	C
45	5	943	A
45	5	944	A
45	5	945	U
45	5	956	A
45	5	959	G
45	5	960	A
45	5	961	G
45	5	966	A
45	5	967	C
45	5	969	C
45	5	972	C
45	5	978	G
45	5	979	C
45	5	983	C
45	5	1068	G
45	5	1072	C
45	5	1073	G
45	5	1079	C
45	5	1082	C
45	5	1099	C
45	5	1195	G
45	5	1198	G
45	5	1200	G
45	5	1211	G

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Mol	Chain	Res	Type
45	5	1212	G
45	5	1215	C
45	5	1216	C
45	5	1234	G
45	5	1235	G
45	5	1236	C
45	5	1237	C
45	5	1239	C
45	5	1272	C
45	5	1273	G
45	5	1274	A
45	5	1275	G
45	5	1277	G
45	5	1280	C
45	5	1284	G
45	5	1287	G
45	5	1292	C
45	5	1293	G
45	5	1296	G
45	5	1301	C
45	5	1314	C
45	5	1326	A2M
45	5	1340	OMC
45	5	1354	A
45	5	1358	G
45	5	1359	G
45	5	1371	A
45	5	1372	A
45	5	1377	G
45	5	1381	U
45	5	1382	G
45	5	1387	A
45	5	1394	G
45	5	1397	A
45	5	1398	A
45	5	1414	C
45	5	1415	G
45	5	1419	G
45	5	1420	A
45	5	1421	G
45	5	1433	A
45	5	1436	C

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Mol	Chain	Res	Type
45	5	1437	C
45	5	1441	C
45	5	1445	U
45	5	1446	C
45	5	1456	C
45	5	1457	G
45	5	1477	C
45	5	1478	C
45	5	1481	C
45	5	1482	G
45	5	1483	C
45	5	1497	A
45	5	1498	G
45	5	1502	G
45	5	1514	U
45	5	1516	G
45	5	1523	A
45	5	1524	A2M
45	5	1525	A
45	5	1534	A2M
45	5	1549	G
45	5	1564	A
45	5	1566	C
45	5	1578	U
45	5	1591	U
45	5	1592	G
45	5	1596	U
45	5	1597	G
45	5	1602	U
45	5	1607	C
45	5	1612	G
45	5	1613	A
45	5	1614	C
45	5	1624	G
45	5	1625	OMG
45	5	1626	G
45	5	1631	A
45	5	1633	G
45	5	1634	A
45	5	1638	A
45	5	1640	C
45	5	1641	G

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Mol	Chain	Res	Type
45	5	1649	U
45	5	1650	A
45	5	1654	G
45	5	1661	C
45	5	1676	C
45	5	1677	PSU
45	5	1679	A
45	5	1680	G
45	5	1691	G
45	5	1694	C
45	5	1731	C
45	5	1741	G
45	5	1742	A
45	5	1750	G
45	5	1753	G
45	5	1756	U
45	5	1758	G
45	5	1760	G
45	5	1764	G
45	5	1765	A
45	5	1767	A
45	5	1768	C
45	5	1771	U
45	5	1772	C
45	5	1773	U
45	5	1774	C
45	5	1776	A
45	5	1781	PSU
45	5	1785	C
45	5	1787	A
45	5	1804	A
45	5	1806	G
45	5	1815	G
45	5	1819	G
45	5	1821	G
45	5	1828	C
45	5	1833	G
45	5	1834	U
45	5	1835	G
45	5	1836	G
45	5	1837	A
45	5	1842	G

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Mol	Chain	Res	Type
45	5	1855	G
45	5	1869	G
45	5	1881	C
45	5	1897	A
45	5	1899	G
45	5	1900	C
45	5	1918	U
45	5	1919	G
45	5	1920	C
45	5	1921	C
45	5	1922	G
45	5	1932	A
45	5	1947	U
45	5	1957	U
45	5	1958	A
45	5	1959	U
45	5	1961	G
45	5	1963	C
45	5	1966	C
45	5	1967	A
45	5	1971	C
45	5	1974	U
45	5	1975	G
45	5	1979	A
45	5	1980	U
45	5	1983	A
45	5	1984	A
45	5	1985	G
45	5	1986	U
45	5	1987	C
45	5	1990	A
45	5	1992	U
45	5	1994	C
45	5	1997	U
45	5	1998	A
45	5	2001	G
45	5	2002	A
45	5	2003	G
45	5	2005	G
45	5	2006	U
45	5	2007	G
45	5	2008	U

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Mol	Chain	Res	Type
45	5	2009	A
45	5	2010	A
45	5	2011	C
45	5	2012	A
45	5	2013	A
45	5	2016	C
45	5	2021	G
45	5	2026	A
45	5	2031	C
45	5	2033	A
45	5	2043	A
45	5	2045	G
45	5	2046	G
45	5	2047	A
45	5	2048	U
45	5	2052	G
45	5	2055	G
45	5	2056	G
45	5	2062	C
45	5	2069	A
45	5	2072	C
45	5	2084	U
45	5	2089	G
45	5	2090	U
45	5	2093	G
45	5	2094	C
45	5	2095	A
45	5	2097	A
45	5	2098	G
45	5	2100	G
45	5	2102	G
45	5	2103	A
45	5	2104	A
45	5	2105	A
45	5	2106	G
45	5	2107	A
45	5	2108	G
45	5	2109	A
45	5	2259	G
45	5	2260	C
45	5	2267	U
45	5	2289	C

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Mol	Chain	Res	Type
45	5	2297	G
45	5	2300	A
45	5	2301	G
45	5	2306	G
45	5	2313	A
45	5	2316	G
45	5	2322	G
45	5	2333	G
45	5	2348	G
45	5	2351	OMC
45	5	2360	A
45	5	2363	A2M
45	5	2367	A
45	5	2369	U
45	5	2381	A
45	5	2383	C
45	5	2395	A
45	5	2402	G
45	5	2411	C
45	5	2417	A
45	5	2422	OMC
45	5	2424	OMG
45	5	2425	U
45	5	2434	G
45	5	2440	U
45	5	2441	C
45	5	2442	G
45	5	2450	G
45	5	2463	G
45	5	2469	C
45	5	2471	G
45	5	2474	G
45	5	2475	G
45	5	2483	G
45	5	2488	C
45	5	2489	C
45	5	2490	U
45	5	2491	C
45	5	2492	C
45	5	2495	U
45	5	2496	G
45	5	2503	G

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Mol	Chain	Res	Type
45	5	2504	C
45	5	2505	C
45	5	2506	G
45	5	2511	A
45	5	2512	A
45	5	2513	A
45	5	2529	A
45	5	2530	U
45	5	2544	G
45	5	2545	U
45	5	2546	G
45	5	2547	G
45	5	2554	U
45	5	2564	G
45	5	2566	G
45	5	2570	U
45	5	2575	U
45	5	2581	A
45	5	2583	C
45	5	2586	G
45	5	2587	A
45	5	2600	A
45	5	2601	A
45	5	2602	G
45	5	2611	A
45	5	2616	C
45	5	2618	G
45	5	2627	C
45	5	2640	G
45	5	2653	C
45	5	2662	G
45	5	2669	C
45	5	2671	C
45	5	2673	G
45	5	2674	A
45	5	2686	G
45	5	2687	U
45	5	2695	A
45	5	2696	A
45	5	2701	U
45	5	2707	U
45	5	2708	U

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Mol	Chain	Res	Type
45	5	2709	C
45	5	2710	C
45	5	2711	G
45	5	2715	G
45	5	2724	G
45	5	2725	A
45	5	2726	G
45	5	2735	G
45	5	2740	U
45	5	2742	G
45	5	2743	A
45	5	2753	G
45	5	2763	U
45	5	2764	A
45	5	2769	U
45	5	2788	U
45	5	2790	U
45	5	2798	A
45	5	2803	U
45	5	2814	C
45	5	2826	U
45	5	2827	G
45	5	2829	U
45	5	2839	U
45	5	2842	G
45	5	2855	G
45	5	2876	OMG
45	5	2879	A
45	5	2897	G
45	5	3598	C
45	5	3604	A
45	5	3605	C
45	5	3615	G
45	5	3618	C
45	5	3625	G
45	5	3626	G
45	5	3630	A
45	5	3635	A
45	5	3644	U
45	5	3648	A
45	5	3649	A
45	5	3653	A

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Mol	Chain	Res	Type
45	5	3657	U
45	5	3662	A
45	5	3673	C
45	5	3682	A
45	5	3691	G
45	5	3692	A
45	5	3712	A
45	5	3714	G
45	5	3717	A
45	5	3722	G
45	5	3740	G
45	5	3741	C
45	5	3748	A
45	5	3750	G
45	5	3753	G
45	5	3761	C
45	5	3766	A
45	5	3773	U
45	5	3774	A
45	5	3776	G
45	5	3777	G
45	5	3780	G
45	5	3783	A
45	5	3784	A
45	5	3785	A2M
45	5	3786	U
45	5	3787	G
45	5	3792	OMG
45	5	3802	U
45	5	3807	A
45	5	3810	C
45	5	3811	G
45	5	3812	C
45	5	3814	U
45	5	3817	A
45	5	3818	UY1
45	5	3819	G
45	5	3838	U
45	5	3839	G
45	5	3840	U
45	5	3859	G
45	5	3877	A

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Mol	Chain	Res	Type
45	5	3878	C
45	5	3879	G
45	5	3889	G
45	5	3892	U
45	5	3897	G
45	5	3898	G
45	5	3901	A
45	5	3905	A
45	5	3906	A
45	5	3907	G
45	5	3908	A
45	5	3909	C
45	5	3915	U
45	5	3916	G
45	5	3926	C
45	5	3939	G
45	5	4066	U
45	5	4076	G
45	5	4084	G
45	5	4096	C
45	5	4116	C
45	5	4118	U
45	5	4119	C
45	5	4120	U
45	5	4121	G
45	5	4127	A
45	5	4133	C
45	5	4134	C
45	5	4150	G
45	5	4152	G
45	5	4158	C
45	5	4162	C
45	5	4163	U
45	5	4166	G
45	5	4169	G
45	5	4170	A
45	5	4183	G
45	5	4184	G
45	5	4191	G
45	5	4206	C
45	5	4212	A
45	5	4213	A

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Mol	Chain	Res	Type
45	5	4225	G
45	5	4229	U
45	5	4233	A
45	5	4234	A
45	5	4243	C
45	5	4249	G
45	5	4251	A
45	5	4254	G
45	5	4266	G
45	5	4268	A
45	5	4271	A
45	5	4273	A
45	5	4281	A
45	5	4291	G
45	5	4297	G
45	5	4303	C
45	5	4304	A
45	5	4305	G
45	5	4314	C
45	5	4326	G
45	5	4329	G
45	5	4330	G
45	5	4339	A
45	5	4349	C
45	5	4354	U
45	5	4360	U
45	5	4364	G
45	5	4373	G
45	5	4374	U
45	5	4376	A
45	5	4377	G
45	5	4378	A
45	5	4379	A
45	5	4380	A
45	5	4387	C
45	5	4391	G
45	5	4393	G
45	5	4394	A
45	5	4395	U
45	5	4398	C
45	5	4415	A
45	5	4419	U

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Mol	Chain	Res	Type
45	5	4421	C
45	5	4422	A
45	5	4430	G
45	5	4433	G
45	5	4439	U
45	5	4440	G
45	5	4448	G
45	5	4449	A
45	5	4452	U
45	5	4453	C
45	5	4464	A
45	5	4466	C
45	5	4475	G
45	5	4500	PSU
45	5	4512	U
45	5	4513	A
45	5	4515	G
45	5	4519	C
45	5	4524	G
45	5	4548	A
45	5	4549	G
45	5	4560	C
45	5	4567	G
45	5	4573	G
45	5	4575	G
45	5	4584	A
45	5	4589	A
45	5	4590	A
45	5	4599	A
45	5	4627	U
45	5	4635	A
45	5	4636	U
45	5	4637	OMG
45	5	4652	G
45	5	4656	A
45	5	4670	C
45	5	4672	A
45	5	4677	U
45	5	4687	A
45	5	4695	C
45	5	4700	A
45	5	4709	U

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Mol	Chain	Res	Type
45	5	4719	G
45	5	4720	C
45	5	4736	C
45	5	4740	G
45	5	4745	G
45	5	4750	G
45	5	4751	G
45	5	4754	G
45	5	4757	C
45	5	4759	C
45	5	4761	G
45	5	4765	G
45	5	4771	C
45	5	4772	C
45	5	4773	C
45	5	4860	G
45	5	4867	G
45	5	4870	G
45	5	4871	C
45	5	4873	G
45	5	4875	G
45	5	4882	U
45	5	4883	C
45	5	4885	U
45	5	4895	C
45	5	4896	G
45	5	4898	G
45	5	4907	G
45	5	4910	A
45	5	4912	G
45	5	4914	G
45	5	4916	G
45	5	4918	C
45	5	4921	C
45	5	4922	C
45	5	4923	U
45	5	4924	C
45	5	4925	U
45	5	4926	C
45	5	4933	C
45	5	4934	A
45	5	4937	C

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Mol	Chain	Res	Type
45	5	4944	C
45	5	4948	C
45	5	4949	G
45	5	4951	G
45	5	4956	A
45	5	4957	C
45	5	4958	C
45	5	4960	G
45	5	4963	G
45	5	4964	C
45	5	4966	A
45	5	4976	U
45	5	4985	U
45	5	4988	U
45	5	4989	U
45	5	4990	C
45	5	4991	U
45	5	4993	G
45	5	4999	G
45	5	5006	U
45	5	5014	A
45	5	5017	G
45	5	5041	G
45	5	5047	C
45	5	5050	C
45	5	5053	U
45	5	5054	C
45	5	5061	A
45	5	5062	G
46	7	7	G
46	7	22	A
46	7	33	U
46	7	39	C
46	7	40	U
46	7	53	U
46	7	54	A
46	7	63	C
46	7	64	G
46	7	74	A
46	7	75	G
46	7	89	G
46	7	97	G

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Mol	Chain	Res	Type
46	7	100	A
46	7	102	U
46	7	110	G
46	7	120	U
47	8	2	G
47	8	20	A
47	8	23	C
47	8	26	C
47	8	34	U
47	8	35	C
47	8	40	A
47	8	49	G
47	8	51	U
47	8	52	A
47	8	59	A
47	8	63	U
47	8	75	OMG
47	8	80	A
47	8	81	C
47	8	82	A
47	8	83	C
47	8	84	A
47	8	85	U
47	8	86	U
47	8	94	G
47	8	103	A
47	8	105	C
47	8	109	C
47	8	110	U
47	8	111	U
47	8	114	G
47	8	122	G
47	8	123	U
47	8	125	C
47	8	126	C
47	8	127	U
47	8	147	G
47	8	153	C
47	8	155	C
49	9	2	A
49	9	4	C
49	9	14	C

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Mol	Chain	Res	Type
49	9	15	U
49	9	17	C
49	9	25	A
49	9	26	U
49	9	33	G
49	9	44	U
49	9	45	A
49	9	46	A
49	9	56	G
49	9	58	C
49	9	65	C
49	9	67	C
49	9	68	A
49	9	73	C
49	9	74	G
49	9	75	G
49	9	77	A
49	9	79	A
49	9	103	A
49	9	111	A
49	9	113	G
49	9	115	U
49	9	116	OMU
49	9	121	OMU
49	9	124	U
49	9	126	G
49	9	127	C
49	9	130	G
49	9	141	A
49	9	143	U
49	9	147	A
49	9	155	G
49	9	158	A
49	9	159	A2M
49	9	160	U
49	9	162	C
49	9	163	U
49	9	166	A2M
49	9	167	G
49	9	168	C
49	9	170	A
49	9	180	G

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Mol	Chain	Res	Type
49	9	182	C
49	9	183	G
49	9	184	G
49	9	188	C
49	9	189	U
49	9	190	G
49	9	191	A
49	9	192	C
49	9	206	G
49	9	208	G
49	9	213	G
49	9	292	A
49	9	293	C
49	9	302	A
49	9	305	U
49	9	307	G
49	9	308	G
49	9	309	G
49	9	312	G
49	9	318	A
49	9	319	C
49	9	332	G
49	9	335	G
49	9	339	A
49	9	340	C
49	9	343	A
49	9	347	G
49	9	350	C
49	9	351	G
49	9	360	A
49	9	362	C
49	9	364	A
49	9	368	U
49	9	369	C
49	9	370	G
49	9	377	G
49	9	381	C
49	9	385	G
49	9	386	C
49	9	398	A
49	9	400	C
49	9	407	G

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Mol	Chain	Res	Type
49	9	408	A
49	9	409	C
49	9	418	A
49	9	421	G
49	9	428	U
49	9	435	A
49	9	436	G
49	9	438	G
49	9	448	A
49	9	449	A
49	9	450	C
49	9	455	A
49	9	465	A
49	9	466	G
49	9	472	C
49	9	473	A
49	9	474	G
49	9	476	A
49	9	480	G
49	9	482	G
49	9	483	C
49	9	487	U
49	9	492	C
49	9	496	C
49	9	502	C
49	9	508	A
49	9	517	OMC
49	9	523	A
49	9	525	A
49	9	529	A
49	9	531	A
49	9	532	C
49	9	533	A
49	9	536	A
49	9	537	C
49	9	539	C
49	9	540	U
49	9	548	C
49	9	549	C
49	9	550	C
49	9	551	U
49	9	554	A

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Mol	Chain	Res	Type
49	9	555	A
49	9	556	U
49	9	559	G
49	9	560	A
49	9	563	G
49	9	564	A
49	9	568	E3C
49	9	570	C
49	9	574	A
49	9	576	A
49	9	583	A
49	9	587	A
49	9	588	G
49	9	589	G
49	9	590	A
49	9	591	U
49	9	603	C
49	9	604	A
49	9	606	G
49	9	607	U
49	9	608	C
49	9	612	PSU
49	9	614	C
49	9	617	G
49	9	620	G
49	9	621	C
49	9	625	G
49	9	627	U
49	9	628	A
49	9	629	A
49	9	641	A
49	9	643	A
49	9	650	A
49	9	658	U
49	9	660	C
49	9	664	A
49	9	668	A2M
49	9	669	A
49	9	671	A
49	9	672	A
49	9	673	G
49	9	679	A

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Mol	Chain	Res	Type
49	9	688	U
49	9	689	U
49	9	690	G
49	9	731	G
49	9	744	G
49	9	745	C
49	9	751	G
49	9	752	G
49	9	753	C
49	9	754	G
49	9	798	G
49	9	801	U
49	9	810	A
49	9	821	G
49	9	822	PSU
49	9	830	A
49	9	844	U
49	9	847	A
49	9	853	C
49	9	864	A
49	9	869	A
49	9	870	A
49	9	871	U
49	9	872	A
49	9	873	G
49	9	874	G
49	9	875	A
49	9	878	G
49	9	879	C
49	9	884	C
49	9	887	U
49	9	890	U
49	9	891	G
49	9	892	U
49	9	894	G
49	9	898	U
49	9	901	G
49	9	903	A
49	9	904	A
49	9	907	G
49	9	909	G
49	9	913	A

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Mol	Chain	Res	Type
49	9	914	U
49	9	916	A
49	9	920	A
49	9	930	C
49	9	933	G
49	9	934	G
49	9	943	U
49	9	954	U
49	9	961	G
49	9	971	G
49	9	978	G
49	9	983	A
49	9	990	A
49	9	992	A
49	9	999	G
49	9	1002	U
49	9	1017	U
49	9	1023	A
49	9	1027	A
49	9	1031	A2M
49	9	1039	C
49	9	1041	G
49	9	1045	U
49	9	1060	A
49	9	1067	C
49	9	1080	A
49	9	1081	PSU
49	9	1083	A
49	9	1084	A
49	9	1085	C
49	9	1086	G
49	9	1087	A
49	9	1089	G
49	9	1096	G
49	9	1097	G
49	9	1109	C
49	9	1115	U
49	9	1116	C
49	9	1117	C
49	9	1118	C
49	9	1120	U
49	9	1121	G

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Mol	Chain	Res	Type
49	9	1123	C
49	9	1131	G
49	9	1133	A
49	9	1138	C
49	9	1148	A
49	9	1149	A
49	9	1150	A
49	9	1153	C
49	9	1154	U
49	9	1183	A
49	9	1195	A
49	9	1207	G
49	9	1208	A
49	9	1215	C
49	9	1216	C
49	9	1224	G
49	9	1242	U
49	9	1243	PSU
49	9	1248	B8N
49	9	1251	A
49	9	1253	A
49	9	1256	G
49	9	1257	G
49	9	1259	A
49	9	1264	C
49	9	1269	G
49	9	1274	G
49	9	1275	G
49	9	1282	A
49	9	1284	A
49	9	1285	G
49	9	1286	G
49	9	1287	A
49	9	1292	C
49	9	1293	A
49	9	1295	A
49	9	1296	U
49	9	1298	G
49	9	1299	A
49	9	1300	U
49	9	1301	A
49	9	1302	G

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Mol	Chain	Res	Type
49	9	1303	C
49	9	1307	U
49	9	1308	U
49	9	1309	C
49	9	1310	U
49	9	1312	G
49	9	1314	U
49	9	1316	C
49	9	1322	G
49	9	1333	U
49	9	1341	C
49	9	1342	U
49	9	1364	U
49	9	1369	A
49	9	1371	U
49	9	1372	U
49	9	1378	A
49	9	1393	G
49	9	1395	C
49	9	1396	A
49	9	1401	A
49	9	1402	A
49	9	1404	U
49	9	1406	G
49	9	1412	C
49	9	1428	G
49	9	1429	G
49	9	1442	U
49	9	1447	G
49	9	1449	G
49	9	1454	A
49	9	1462	U
49	9	1463	U
49	9	1464	C
49	9	1466	G
49	9	1473	G
49	9	1476	A
49	9	1486	A
49	9	1489	A
49	9	1490	G
49	9	1497	G
49	9	1498	A

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Mol	Chain	Res	Type
49	9	1508	A
49	9	1510	G
49	9	1521	C
49	9	1522	A
49	9	1531	A
49	9	1533	A
49	9	1536	G
49	9	1544	C
49	9	1548	G
49	9	1552	G
49	9	1553	C
49	9	1554	C
49	9	1555	U
49	9	1556	A
49	9	1557	C
49	9	1560	U
49	9	1570	G
49	9	1574	C
49	9	1575	G
49	9	1578	U
49	9	1579	A
49	9	1580	A
49	9	1584	G
49	9	1587	G
49	9	1588	A
49	9	1601	A
49	9	1602	U
49	9	1604	G
49	9	1605	G
49	9	1606	G
49	9	1621	U
49	9	1623	A
49	9	1625	U
49	9	1637	A
49	9	1638	G
49	9	1639	G
49	9	1648	G
49	9	1649	U
49	9	1654	G
49	9	1663	A
49	9	1664	A
49	9	1665	G

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Mol	Chain	Res	Type
49	9	1669	G
49	9	1671	G
49	9	1683	C
49	9	1695	A
49	9	1696	C
49	9	1715	A
49	9	1721	U
49	9	1722	G
49	9	1724	A
49	9	1725	U
49	9	1726	G
49	9	1742	C
49	9	1748	G
49	9	1756	C
49	9	1758	G
49	9	1761	U
49	9	1779	G
49	9	1783	C
49	9	1785	C
49	9	1806	M7A
49	9	1819	A
49	9	1825	A
49	9	1826	G
49	9	1828	C
49	9	1829	G
49	9	1836	G
49	9	1838	U
49	9	1839	U
49	9	1849	G
49	9	1851	MA6
49	9	1861	G
49	9	1862	G
49	9	1863	A
49	9	1864	U
49	9	1865	C
49	9	1869	A
83	3	6	G
83	3	7	A
83	3	9	A
83	3	13	C
83	3	16	C
83	3	31	A

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Mol	Chain	Res	Type
83	3	35	U
83	3	36	U
83	3	47	U
83	3	56	C
83	3	57	A
83	3	58	A
83	3	59	G
83	3	60	U
83	3	67	U
83	3	69	G
83	3	70	G
83	3	71	G
83	3	75	C
83	3	76	A
85	2	9	A
85	2	16	C
85	2	19	G
85	2	46	G
85	2	47	U
85	2	49	C
85	2	57	G
85	2	59	A
85	2	65	G
85	2	76	A

All (89) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
45	5	125	C
45	5	134	G
45	5	142	G
45	5	245	C
45	5	267	G
45	5	275	C
45	5	385	A
45	5	406	C
45	5	449	C
45	5	480	C
45	5	485	C
45	5	504	G
45	5	922(B)	C
45	5	930	G

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Mol	Chain	Res	Type
45	5	959	G
45	5	1211	G
45	5	1236	C
45	5	1238	A
45	5	1291	G
45	5	1370	G
45	5	1440	U
45	5	1455	G
45	5	1476	C
45	5	1477	C
45	5	1625	OMG
45	5	1633	G
45	5	1763	C
45	5	1818	G
45	5	1956	A
45	5	1978	C
45	5	1982	G
45	5	1986	U
45	5	1991	A
45	5	2009	A
45	5	2046	G
45	5	2068	C
45	5	2089	G
45	5	2104	A
45	5	2258	C
45	5	2266	C
45	5	2503	G
45	5	2639	U
45	5	2695	A
45	5	3603	G
45	5	3625	G
45	5	3672	G
45	5	3786	U
45	5	3801	U
45	5	3888	G
45	5	4119	C
45	5	4168	G
45	5	4232	U
45	5	4395	U
45	5	4448	G
45	5	4699	U
45	5	4719	G

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Mol	Chain	Res	Type
45	5	4882	U
45	5	4884	G
45	5	4925	U
45	5	4932	U
45	5	4947	U
46	7	21	G
47	8	81	C
47	8	124	U
49	9	110	U
49	9	140	U
49	9	434	G
49	9	465	A
49	9	479	C
49	9	531	A
49	9	532	C
49	9	553	U
49	9	642	U
49	9	688	U
49	9	752	G
49	9	870	A
49	9	874	G
49	9	902	G
49	9	903	A
49	9	1119	A
49	9	1137	U
49	9	1394	G
49	9	1395	C
49	9	1489	A
49	9	1520	G
49	9	1637	A
49	9	1638	G
49	9	1664	A
83	3	34	U

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

136 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the

expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
45	OMC	5	1340	45	19,22,23	2.86	7 (36%)	25,31,34	1.00	1 (4%)
45	OMC	5	2422	86,45	19,22,23	2.94	8 (42%)	25,31,34	0.85	0
45	A2M	5	398	45	18,25,26	4.41	6 (33%)	20,36,39	3.32	6 (30%)
49	A2M	9	27	49	18,25,26	4.41	7 (38%)	20,36,39	3.31	5 (25%)
49	B8Q	9	1219	86,49	18,22,23	2.76	4 (22%)	21,32,35	1.71	5 (23%)
45	PSU	5	1792	45	17,20,22	2.22	10 (58%)	21,28,33	1.95	4 (19%)
45	PSU	5	4403	45	17,20,22	2.31	10 (58%)	21,28,33	1.89	5 (23%)
45	PSU	5	4420	45	17,20,22	2.13	9 (52%)	21,28,33	1.86	4 (19%)
45	OMG	5	3899	45	19,26,27	2.38	8 (42%)	21,38,41	1.45	4 (19%)
45	OMC	5	4456	45	19,22,23	2.89	8 (42%)	25,31,34	0.75	0
45	PSU	5	4628	45	17,20,22	2.26	9 (52%)	21,28,33	2.00	4 (19%)
45	OMU	5	4498	45	19,22,23	2.75	6 (31%)	25,31,34	1.88	5 (20%)
45	PSU	5	3853	45	17,20,22	2.24	10 (58%)	21,28,33	2.02	3 (14%)
49	B8N	9	1248	49	25,29,30	3.41	7 (28%)	28,42,45	2.11	7 (25%)
49	5MC	9	1374	49	19,22,23	3.73	8 (42%)	26,32,35	0.99	2 (7%)
45	2MG	5	1517	45	18,26,27	2.30	7 (38%)	16,38,41	2.00	5 (31%)
45	A2M	5	3724	45	18,25,26	4.45	7 (38%)	20,36,39	3.30	4 (20%)
49	5MU	9	814	49	19,22,23	1.42	6 (31%)	27,32,35	2.30	8 (29%)
45	PSU	5	2508	45	17,20,22	2.15	9 (52%)	21,28,33	1.93	4 (19%)
49	E3C	9	568	49	19,23,24	3.30	6 (31%)	21,33,36	1.50	4 (19%)
45	PSU	5	4521	86,45	17,20,22	2.20	9 (52%)	21,28,33	1.94	4 (19%)
45	OMG	5	4637	45	19,26,27	2.47	8 (42%)	21,38,41	1.46	4 (19%)
49	PSU	9	119	49	18,21,22	2.04	9 (50%)	21,30,33	1.93	4 (19%)
45	PSU	5	4500	45	17,20,22	2.10	8 (47%)	21,28,33	1.90	4 (19%)
49	4AC	9	1337	49	21,24,25	3.31	10 (47%)	28,34,37	1.02	4 (14%)
45	OMG	5	4499	45	19,26,27	2.50	8 (42%)	21,38,41	1.45	3 (14%)
45	A2M	5	2363	86,45	18,25,26	4.38	6 (33%)	20,36,39	3.50	4 (20%)
45	5MC	5	3782	86,45	19,22,23	3.61	8 (42%)	26,32,35	1.08	2 (7%)
45	OMC	5	2861	45	19,22,23	2.96	8 (42%)	25,31,34	0.78	0
45	PSU	5	3762	45	17,20,22	2.12	8 (47%)	21,28,33	1.98	4 (19%)
45	OMU	5	3925	45	19,22,23	2.68	6 (31%)	25,31,34	1.90	5 (20%)
45	UR3	5	4530	45	19,22,23	2.67	8 (42%)	26,32,35	1.64	4 (15%)
45	PSU	5	1860	45	17,20,22	2.09	9 (52%)	21,28,33	1.84	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
45	OMC	5	2804	45	19,22,23	2.91	8 (42%)	25,31,34	0.83	0
45	OMG	5	4392	45	19,26,27	2.31	8 (42%)	21,38,41	1.41	4 (19%)
45	PSU	5	4353	45	17,20,22	2.16	9 (52%)	21,28,33	1.95	5 (23%)
49	PSU	9	1081	49	18,21,22	2.19	10 (55%)	21,30,33	1.93	3 (14%)
49	OMC	9	1703	49	19,22,23	3.01	8 (42%)	25,31,34	0.74	0
45	PSU	5	3734	45	17,20,22	2.10	8 (47%)	21,28,33	1.87	4 (19%)
45	OMG	5	3627	45	19,26,27	2.39	8 (42%)	21,38,41	1.45	3 (14%)
45	PSU	5	3764	45	17,20,22	2.15	9 (52%)	21,28,33	1.80	4 (19%)
49	A2M	9	484	49	18,25,26	4.39	7 (38%)	20,36,39	3.43	3 (15%)
45	OMG	5	4196	45,85	19,26,27	2.36	8 (42%)	21,38,41	1.37	3 (14%)
49	PSU	9	823	49	18,21,22	2.09	9 (50%)	21,30,33	1.95	5 (23%)
45	PSU	5	3920	45	17,20,22	2.25	8 (47%)	21,28,33	1.89	5 (23%)
45	A2M	5	3718	45	18,25,26	4.40	6 (33%)	20,36,39	3.36	4 (20%)
45	OMG	5	4623	45	19,26,27	2.34	8 (42%)	21,38,41	1.39	3 (14%)
49	A2M	9	166	49	18,25,26	4.41	6 (33%)	20,36,39	3.16	4 (20%)
49	OMU	9	121	49	19,22,23	2.90	6 (31%)	25,31,34	1.90	6 (24%)
45	PSU	5	3715	45	17,20,22	2.15	9 (52%)	21,28,33	1.92	4 (19%)
49	A2M	9	1031	49	18,25,26	4.38	7 (38%)	20,36,39	3.40	4 (20%)
45	PSU	5	4457	45	17,20,22	2.20	9 (52%)	21,28,33	2.02	4 (19%)
49	OMG	9	683	49	19,26,27	2.46	8 (42%)	21,38,41	1.40	3 (14%)
48	DDE	v	715	48	15,20,21	1.02	0	11,28,30	1.19	1 (9%)
49	PSU	9	612	49	18,21,22	2.12	9 (50%)	21,30,33	1.93	4 (19%)
45	A2M	5	400	45	18,25,26	4.33	6 (33%)	20,36,39	3.36	4 (20%)
49	PSU	9	1243	49	18,21,22	2.10	8 (44%)	21,30,33	2.01	4 (19%)
45	PSU	5	1782	45	17,20,22	2.13	9 (52%)	21,28,33	1.96	4 (19%)
45	A2M	5	3825	45	18,25,26	4.39	7 (38%)	20,36,39	3.16	4 (20%)
45	PSU	5	4293	45	17,20,22	2.36	9 (52%)	21,28,33	2.01	4 (19%)
45	OMC	5	2824	45	19,22,23	2.85	8 (42%)	25,31,34	0.94	1 (4%)
49	OMU	9	116	49	19,22,23	2.80	6 (31%)	25,31,34	1.74	6 (24%)
45	OMG	5	373	45	19,26,27	2.39	8 (42%)	21,38,41	1.38	4 (19%)
49	A2M	9	668	86,49	18,25,26	4.21	6 (33%)	20,36,39	3.65	6 (30%)
49	OMG	9	644	49	19,26,27	2.46	8 (42%)	21,38,41	1.41	4 (19%)
45	A2M	5	2815	45	18,25,26	4.36	6 (33%)	20,36,39	3.41	4 (20%)
45	OMU	5	4620	45	19,22,23	2.75	6 (31%)	25,31,34	1.98	5 (20%)
45	PSU	5	1677	45	17,20,22	2.16	9 (52%)	21,28,33	1.90	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
45	5MC	5	4447	45	19,22,23	3.56	8 (42%)	26,32,35	1.25	3 (11%)
45	PSU	5	2632	45	17,20,22	2.17	8 (47%)	21,28,33	1.98	4 (19%)
45	OMG	5	4228	45	19,26,27	2.40	7 (36%)	21,38,41	1.41	3 (14%)
45	OMG	5	2876	45	19,26,27	2.44	8 (42%)	21,38,41	1.40	4 (19%)
49	OMG	9	509	86,49	19,26,27	2.40	8 (42%)	21,38,41	1.27	3 (14%)
45	A2M	5	1326	45	18,25,26	4.34	6 (33%)	20,36,39	3.51	5 (25%)
45	OMG	5	2424	45	19,26,27	2.45	8 (42%)	21,38,41	1.44	4 (19%)
45	OMC	5	3808	45	19,22,23	2.90	8 (42%)	25,31,34	0.76	0
45	OMG	5	4370	45	19,26,27	2.40	8 (42%)	21,38,41	1.41	3 (14%)
45	A2M	5	4571	45	18,25,26	4.39	7 (38%)	20,36,39	3.27	5 (25%)
45	OMG	5	4618	45	19,26,27	2.41	8 (42%)	21,38,41	1.43	4 (19%)
47	OMG	8	75	47	19,26,27	2.42	8 (42%)	21,38,41	1.30	3 (14%)
45	PSU	5	4296	45	17,20,22	2.14	8 (47%)	21,28,33	2.06	4 (19%)
45	OMU	5	4227	45	19,22,23	2.78	6 (31%)	25,31,34	1.77	4 (16%)
45	OMC	5	4536	45	19,22,23	2.81	8 (42%)	25,31,34	0.85	1 (4%)
49	PSU	9	822	49	18,21,22	2.07	8 (44%)	21,30,33	1.95	4 (19%)
45	6MZ	5	4220	45	17,25,26	1.50	2 (11%)	15,36,39	2.20	3 (20%)
45	OMG	5	2364	45	19,26,27	2.39	8 (42%)	21,38,41	1.44	3 (14%)
45	OMC	5	3841	45	19,22,23	2.75	8 (42%)	25,31,34	0.92	1 (4%)
45	OMC	5	3869	45	19,22,23	2.76	7 (36%)	25,31,34	0.95	2 (8%)
45	A2M	5	3830	45	18,25,26	4.28	6 (33%)	20,36,39	3.39	5 (25%)
45	OMU	5	4306	45	19,22,23	2.73	6 (31%)	25,31,34	1.82	5 (20%)
45	PSU	5	4299	45	17,20,22	2.25	9 (52%)	21,28,33	1.98	5 (23%)
45	A2M	5	1524	45	18,25,26	4.34	6 (33%)	20,36,39	4.10	5 (25%)
45	OMG	5	1625	45	19,26,27	2.45	8 (42%)	21,38,41	1.42	4 (19%)
45	PSU	5	1781	45	17,20,22	2.16	10 (58%)	21,28,33	1.85	5 (23%)
45	OMC	5	3887	45	19,22,23	2.89	8 (42%)	25,31,34	0.81	0
45	A2M	5	3867	45	18,25,26	4.29	6 (33%)	20,36,39	3.60	5 (25%)
45	A2M	5	3785	45	18,25,26	4.18	6 (33%)	20,36,39	3.82	6 (30%)
45	PSU	5	3695	45	17,20,22	2.23	9 (52%)	21,28,33	1.86	3 (14%)
45	OMG	5	1316	45	19,26,27	2.39	8 (42%)	21,38,41	1.41	3 (14%)
45	PSU	5	4361	45	17,20,22	2.25	8 (47%)	21,28,33	1.96	5 (23%)
45	OMC	5	2351	45	19,22,23	2.82	8 (42%)	25,31,34	0.82	0
45	UY1	5	3818	86,45	19,22,23	4.33	9 (47%)	21,31,34	1.91	5 (23%)
45	PSU	5	4442	45	17,20,22	2.18	10 (58%)	21,28,33	1.93	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
45	B9B	5	237	45	20,28,29	1.78	2 (10%)	19,40,43	2.37	5 (26%)
45	OMC	5	3701	86,45	19,22,23	2.92	8 (42%)	25,31,34	0.93	0
45	PSU	5	1744	45	17,20,22	2.15	8 (47%)	21,28,33	2.07	4 (19%)
45	OMG	5	3792	45	19,26,27	2.44	8 (42%)	21,38,41	1.35	4 (19%)
45	PSU	5	1683	45	17,20,22	2.25	9 (52%)	21,28,33	1.98	4 (19%)
49	6MZ	9	1832	86,49	17,25,26	1.37	2 (11%)	15,36,39	2.20	3 (20%)
49	OMC	9	174	49	19,22,23	3.05	8 (42%)	25,31,34	0.84	0
45	OMC	5	2365	45	19,22,23	2.98	8 (42%)	25,31,34	0.84	0
45	PSU	5	3851	45	17,20,22	2.18	9 (52%)	21,28,33	1.95	5 (23%)
45	PSU	5	3639	45	17,20,22	2.27	8 (47%)	21,28,33	1.93	4 (19%)
45	A2M	5	1871	86,45	18,25,26	4.46	6 (33%)	20,36,39	3.39	4 (20%)
45	PSU	5	4532	45	17,20,22	2.22	8 (47%)	21,28,33	1.95	4 (19%)
45	A2M	5	4523	86,45	18,25,26	4.33	6 (33%)	20,36,39	3.32	4 (20%)
45	A2M	5	2787	45	18,25,26	4.27	6 (33%)	20,36,39	3.27	3 (15%)
49	4AC	9	1842	49	21,24,25	3.29	10 (47%)	28,34,37	1.04	4 (14%)
45	OMG	5	1522	45	19,26,27	2.31	8 (42%)	21,38,41	1.37	3 (14%)
49	MA6	9	1850	49	19,26,27	1.61	3 (15%)	18,38,41	4.90	4 (22%)
45	OMG	5	4494	45	19,26,27	2.41	8 (42%)	21,38,41	1.35	4 (19%)
49	A2M	9	159	49	18,25,26	4.42	7 (38%)	20,36,39	3.42	4 (20%)
45	PSU	5	1862	45	17,20,22	2.23	9 (52%)	21,28,33	2.03	4 (19%)
49	A2M	9	1678	49	18,25,26	4.47	7 (38%)	20,36,39	3.88	4 (20%)
49	UR3	9	1830	49	19,22,23	2.65	8 (42%)	26,32,35	1.56	4 (15%)
45	1MA	5	1322	86,45	17,25,26	3.60	4 (23%)	17,37,40	1.85	3 (17%)
49	OMC	9	517	49	19,22,23	3.03	8 (42%)	25,31,34	0.84	0
45	PSU	5	4423	45	17,20,22	2.10	9 (52%)	21,28,33	1.90	4 (19%)
45	A2M	5	1534	86,45	18,25,26	4.24	7 (38%)	20,36,39	3.55	5 (25%)
45	A2M	5	3760	45,49	18,25,26	4.39	7 (38%)	20,36,39	3.42	4 (20%)
45	PSU	5	4552	45	17,20,22	2.31	8 (47%)	21,28,33	2.00	4 (19%)
49	M7A	9	1806	49	19,25,26	1.76	4 (21%)	25,37,40	4.20	8 (32%)
45	OMU	5	2837	45	19,22,23	2.81	6 (31%)	25,31,34	1.93	5 (20%)
49	MA6	9	1851	49	19,26,27	1.72	3 (15%)	18,38,41	4.76	4 (22%)
45	PSU	5	4579	45	17,20,22	2.21	8 (47%)	21,28,33	1.85	4 (19%)
49	OMC	9	1710	49	19,22,23	2.99	8 (42%)	25,31,34	0.80	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral

centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
45	OMC	5	1340	45	-	0/9/27/28	0/2/2/2
45	OMC	5	2422	86,45	-	1/9/27/28	0/2/2/2
45	A2M	5	398	45	-	1/5/27/28	0/3/3/3
49	A2M	9	27	49	-	0/5/27/28	0/3/3/3
49	B8Q	9	1219	86,49	-	0/7/42/43	0/2/2/2
45	PSU	5	1792	45	-	0/6/24/26	0/2/2/2
45	PSU	5	4403	45	-	0/6/24/26	0/2/2/2
45	PSU	5	4420	45	-	2/6/24/26	0/2/2/2
45	OMG	5	3899	45	-	0/5/27/28	0/3/3/3
45	OMC	5	4456	45	-	0/9/27/28	0/2/2/2
45	PSU	5	4628	45	-	0/6/24/26	0/2/2/2
45	OMU	5	4498	45	-	0/9/27/28	0/2/2/2
45	PSU	5	3853	45	-	0/6/24/26	0/2/2/2
49	B8N	9	1248	49	-	10/16/34/35	0/2/2/2
49	5MC	9	1374	49	-	0/7/25/26	0/2/2/2
45	2MG	5	1517	45	-	0/5/27/28	0/3/3/3
45	A2M	5	3724	45	-	0/5/27/28	0/3/3/3
49	5MU	9	814	49	-	0/7/25/26	0/2/2/2
45	PSU	5	2508	45	-	1/6/24/26	0/2/2/2
49	E3C	9	568	49	-	4/9/44/45	0/2/2/2
45	PSU	5	4521	86,45	-	0/6/24/26	0/2/2/2
45	OMG	5	4637	45	-	2/5/27/28	0/3/3/3
49	PSU	9	119	49	-	1/7/25/26	0/2/2/2
45	PSU	5	4500	45	-	2/6/24/26	0/2/2/2
49	4AC	9	1337	49	-	0/11/29/30	0/2/2/2
45	OMG	5	4499	45	-	0/5/27/28	0/3/3/3
45	A2M	5	2363	86,45	-	2/5/27/28	0/3/3/3
45	5MC	5	3782	86,45	-	0/7/25/26	0/2/2/2
45	OMC	5	2861	45	-	0/9/27/28	0/2/2/2
45	PSU	5	3762	45	-	0/6/24/26	0/2/2/2
45	OMU	5	3925	45	-	0/9/27/28	0/2/2/2
45	UR3	5	4530	45	-	0/7/25/26	0/2/2/2
45	PSU	5	1860	45	-	0/6/24/26	0/2/2/2
45	OMC	5	2804	45	-	2/9/27/28	0/2/2/2
45	OMG	5	4392	45	-	1/5/27/28	0/3/3/3
45	PSU	5	4353	45	-	0/6/24/26	0/2/2/2
49	PSU	9	1081	49	-	5/7/25/26	0/2/2/2
49	OMC	9	1703	49	-	2/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
45	PSU	5	3734	45	-	0/6/24/26	0/2/2/2
45	OMG	5	3627	45	-	1/5/27/28	0/3/3/3
45	PSU	5	3764	45	-	0/6/24/26	0/2/2/2
49	A2M	9	484	49	-	0/5/27/28	0/3/3/3
45	OMG	5	4196	45,85	-	0/5/27/28	0/3/3/3
49	PSU	9	823	49	-	0/7/25/26	0/2/2/2
45	PSU	5	3920	45	-	0/6/24/26	0/2/2/2
45	A2M	5	3718	45	-	0/5/27/28	0/3/3/3
45	OMG	5	4623	45	-	1/5/27/28	0/3/3/3
49	A2M	9	166	49	-	2/5/27/28	0/3/3/3
49	OMU	9	121	49	-	3/9/27/28	0/2/2/2
45	PSU	5	3715	45	-	0/6/24/26	0/2/2/2
49	A2M	9	1031	49	-	2/5/27/28	0/3/3/3
45	PSU	5	4457	45	-	0/6/24/26	0/2/2/2
49	OMG	9	683	49	-	0/5/27/28	0/3/3/3
48	DDE	v	715	48	-	7/20/21/23	0/1/1/1
49	PSU	9	612	49	-	1/7/25/26	0/2/2/2
45	A2M	5	400	45	-	0/5/27/28	0/3/3/3
49	PSU	9	1243	49	-	2/7/25/26	0/2/2/2
45	PSU	5	1782	45	-	0/6/24/26	0/2/2/2
45	A2M	5	3825	45	-	2/5/27/28	0/3/3/3
45	PSU	5	4293	45	-	0/6/24/26	0/2/2/2
45	OMC	5	2824	45	-	1/9/27/28	0/2/2/2
49	OMU	9	116	49	-	4/9/27/28	0/2/2/2
45	OMG	5	373	45	-	1/5/27/28	0/3/3/3
49	A2M	9	668	86,49	-	0/5/27/28	0/3/3/3
49	OMG	9	644	49	-	1/5/27/28	0/3/3/3
45	A2M	5	2815	45	-	1/5/27/28	0/3/3/3
45	OMU	5	4620	45	-	2/9/27/28	0/2/2/2
45	PSU	5	1677	45	-	4/6/24/26	0/2/2/2
45	5MC	5	4447	45	-	4/7/25/26	0/2/2/2
45	PSU	5	2632	45	-	0/6/24/26	0/2/2/2
45	OMG	5	4228	45	-	0/5/27/28	0/3/3/3
45	OMG	5	2876	45	-	2/5/27/28	0/3/3/3
49	OMG	9	509	86,49	-	0/5/27/28	0/3/3/3
45	A2M	5	1326	45	-	2/5/27/28	0/3/3/3
45	OMG	5	2424	45	-	2/5/27/28	0/3/3/3
45	OMC	5	3808	45	-	0/9/27/28	0/2/2/2
45	OMG	5	4370	45	-	2/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
45	A2M	5	4571	45	-	0/5/27/28	0/3/3/3
45	OMG	5	4618	45	-	1/5/27/28	0/3/3/3
47	OMG	8	75	47	-	2/5/27/28	0/3/3/3
45	PSU	5	4296	45	-	0/6/24/26	0/2/2/2
45	OMU	5	4227	45	-	0/9/27/28	0/2/2/2
45	OMC	5	4536	45	-	0/9/27/28	0/2/2/2
49	PSU	9	822	49	-	2/7/25/26	0/2/2/2
45	6MZ	5	4220	45	-	2/5/27/28	0/3/3/3
45	OMG	5	2364	45	-	3/5/27/28	0/3/3/3
45	OMC	5	3841	45	-	1/9/27/28	0/2/2/2
45	OMC	5	3869	45	-	3/9/27/28	0/2/2/2
45	A2M	5	3830	45	-	0/5/27/28	0/3/3/3
45	OMU	5	4306	45	-	0/9/27/28	0/2/2/2
45	PSU	5	4299	45	-	0/6/24/26	0/2/2/2
45	A2M	5	1524	45	-	2/5/27/28	0/3/3/3
45	OMG	5	1625	45	-	2/5/27/28	0/3/3/3
45	PSU	5	1781	45	-	2/6/24/26	0/2/2/2
45	OMC	5	3887	45	-	1/9/27/28	0/2/2/2
45	A2M	5	3867	45	-	0/5/27/28	0/3/3/3
45	A2M	5	3785	45	-	2/5/27/28	0/3/3/3
45	PSU	5	3695	45	-	3/6/24/26	0/2/2/2
45	OMG	5	1316	45	-	2/5/27/28	0/3/3/3
45	PSU	5	4361	45	-	0/6/24/26	0/2/2/2
45	OMC	5	2351	45	-	1/9/27/28	0/2/2/2
45	UY1	5	3818	86,45	-	2/9/27/28	0/2/2/2
45	PSU	5	4442	45	-	0/6/24/26	0/2/2/2
45	B9B	5	237	45	-	2/7/29/30	0/3/3/3
45	OMC	5	3701	86,45	-	5/9/27/28	0/2/2/2
45	PSU	5	1744	45	-	0/6/24/26	0/2/2/2
45	OMG	5	3792	45	-	2/5/27/28	0/3/3/3
45	PSU	5	1683	45	-	0/6/24/26	0/2/2/2
49	6MZ	9	1832	86,49	-	0/5/27/28	0/3/3/3
49	OMC	9	174	49	-	3/9/27/28	0/2/2/2
45	OMC	5	2365	45	-	2/9/27/28	0/2/2/2
45	PSU	5	3851	45	-	0/6/24/26	0/2/2/2
45	PSU	5	3639	45	-	0/6/24/26	0/2/2/2
45	A2M	5	1871	86,45	-	0/5/27/28	0/3/3/3
45	PSU	5	4532	45	-	2/6/24/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
45	A2M	5	4523	86,45	-	0/5/27/28	0/3/3/3
45	A2M	5	2787	45	-	0/5/27/28	0/3/3/3
49	4AC	9	1842	49	-	0/11/29/30	0/2/2/2
45	OMG	5	1522	45	-	0/5/27/28	0/3/3/3
49	MA6	9	1850	49	-	3/7/29/30	0/3/3/3
45	OMG	5	4494	45	-	0/5/27/28	0/3/3/3
49	A2M	9	159	49	-	3/5/27/28	0/3/3/3
45	PSU	5	1862	45	-	1/6/24/26	0/2/2/2
49	A2M	9	1678	49	-	2/5/27/28	0/3/3/3
49	UR3	9	1830	49	-	2/7/25/26	0/2/2/2
45	1MA	5	1322	86,45	-	0/3/25/26	0/3/3/3
49	OMC	9	517	49	-	3/9/27/28	0/2/2/2
45	PSU	5	4423	45	-	0/6/24/26	0/2/2/2
45	A2M	5	1534	86,45	-	2/5/27/28	0/3/3/3
45	A2M	5	3760	45,49	-	1/5/27/28	0/3/3/3
45	PSU	5	4552	45	-	0/6/24/26	0/2/2/2
49	M7A	9	1806	49	-	3/7/37/38	0/3/3/3
45	OMU	5	2837	45	-	0/9/27/28	0/2/2/2
49	MA6	9	1851	49	-	4/7/29/30	0/3/3/3
45	PSU	5	4579	45	-	0/6/24/26	0/2/2/2
49	OMC	9	1710	49	-	0/9/27/28	0/2/2/2

All (1013) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	3724	A2M	O4'-C1'	16.25	1.62	1.40
49	9	1678	A2M	O4'-C1'	16.25	1.62	1.40
45	5	3760	A2M	O4'-C1'	16.17	1.62	1.40
49	9	166	A2M	O4'-C1'	16.17	1.62	1.40
49	9	159	A2M	O4'-C1'	16.15	1.62	1.40
45	5	398	A2M	O4'-C1'	16.05	1.62	1.40
45	5	1871	A2M	O4'-C1'	16.04	1.61	1.40
45	5	3718	A2M	O4'-C1'	16.02	1.61	1.40
49	9	27	A2M	O4'-C1'	15.96	1.61	1.40
49	9	484	A2M	O4'-C1'	15.96	1.61	1.40
49	9	1031	A2M	O4'-C1'	15.96	1.61	1.40
45	5	4571	A2M	O4'-C1'	15.88	1.61	1.40
45	5	3825	A2M	O4'-C1'	15.87	1.61	1.40
45	5	2815	A2M	O4'-C1'	15.85	1.61	1.40
45	5	2363	A2M	O4'-C1'	15.72	1.61	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	400	A2M	O4'-C1'	15.64	1.61	1.40
45	5	1524	A2M	O4'-C1'	15.58	1.61	1.40
45	5	4523	A2M	O4'-C1'	15.58	1.61	1.40
45	5	2787	A2M	O4'-C1'	15.57	1.61	1.40
45	5	3830	A2M	O4'-C1'	15.42	1.61	1.40
45	5	1326	A2M	O4'-C1'	15.38	1.61	1.40
45	5	1534	A2M	O4'-C1'	15.17	1.60	1.40
45	5	3867	A2M	O4'-C1'	15.08	1.60	1.40
45	5	3785	A2M	O4'-C1'	15.07	1.60	1.40
49	9	668	A2M	O4'-C1'	14.90	1.60	1.40
45	5	1322	1MA	C2-N3	13.55	1.45	1.28
45	5	3818	UY1	C6-C5	10.93	1.47	1.35
45	5	3818	UY1	C2-N1	9.94	1.49	1.36
49	9	1374	5MC	C6-C5	9.13	1.49	1.34
45	5	4447	5MC	C6-C5	9.03	1.49	1.34
49	9	1219	B8Q	C6-C5	8.98	1.52	1.33
45	5	3782	5MC	C6-C5	8.91	1.49	1.34
49	9	568	E3C	C2-N3	8.09	1.47	1.37
49	9	1248	B8N	C4-N3	-7.86	1.26	1.40
49	9	1248	B8N	C6-N1	7.85	1.55	1.36
49	9	1248	B8N	C4-C5	7.72	1.65	1.47
49	9	568	E3C	C6-C5	7.61	1.49	1.33
45	5	3818	UY1	C2-N3	7.40	1.49	1.37
49	9	1842	4AC	C4-N3	7.35	1.45	1.32
45	5	3867	A2M	O4'-C4'	-7.23	1.28	1.45
45	5	1326	A2M	O4'-C4'	-7.23	1.28	1.45
49	9	668	A2M	O4'-C4'	-7.12	1.29	1.45
49	9	1337	4AC	C4-N3	7.10	1.44	1.32
45	5	2363	A2M	O4'-C4'	-7.04	1.29	1.45
49	9	568	E3C	C2-N1	6.94	1.48	1.38
49	9	121	OMU	C2-N1	6.88	1.49	1.38
49	9	1678	A2M	O4'-C4'	-6.87	1.29	1.45
45	5	1524	A2M	O4'-C4'	-6.84	1.29	1.45
45	5	4530	UR3	C2-N1	6.84	1.48	1.38
49	9	1374	5MC	C4-N3	6.79	1.45	1.34
49	9	484	A2M	O4'-C4'	-6.78	1.29	1.45
45	5	3782	5MC	C4-N3	6.75	1.44	1.34
45	5	2365	OMC	C2-N3	6.74	1.49	1.36
49	9	517	OMC	C2-N3	6.71	1.49	1.36
49	9	121	OMU	C2-N3	6.68	1.49	1.38
49	9	174	OMC	C2-N3	6.67	1.49	1.36
45	5	4523	A2M	O4'-C4'	-6.67	1.30	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	1871	A2M	O4'-C4'	-6.67	1.30	1.45
45	5	2815	A2M	O4'-C4'	-6.66	1.30	1.45
49	9	1710	OMC	C2-N3	6.61	1.49	1.36
49	9	27	A2M	O4'-C4'	-6.61	1.30	1.45
45	5	2837	OMU	C2-N1	6.60	1.48	1.38
49	9	1703	OMC	C2-N3	6.60	1.49	1.36
45	5	4571	A2M	O4'-C4'	-6.59	1.30	1.45
45	5	398	A2M	O4'-C4'	-6.58	1.30	1.45
45	5	3718	A2M	O4'-C4'	-6.58	1.30	1.45
49	9	1830	UR3	C2-N1	6.53	1.47	1.38
49	9	116	OMU	C2-N3	6.53	1.49	1.38
45	5	400	A2M	O4'-C4'	-6.53	1.30	1.45
45	5	4227	OMU	C2-N1	6.51	1.48	1.38
45	5	4498	OMU	C2-N1	6.50	1.48	1.38
45	5	1534	A2M	O4'-C4'	-6.46	1.30	1.45
49	9	116	OMU	C2-N1	6.45	1.48	1.38
45	5	3724	A2M	O4'-C4'	-6.44	1.30	1.45
45	5	3825	A2M	O4'-C4'	-6.44	1.30	1.45
45	5	1340	OMC	C2-N3	6.44	1.49	1.36
49	9	159	A2M	O4'-C4'	-6.43	1.30	1.45
49	9	1031	A2M	O4'-C4'	-6.43	1.30	1.45
45	5	4456	OMC	C2-N3	6.43	1.49	1.36
45	5	2837	OMU	C2-N3	6.42	1.49	1.38
45	5	2422	OMC	C2-N3	6.41	1.49	1.36
45	5	2804	OMC	C2-N3	6.41	1.49	1.36
45	5	3808	OMC	C2-N3	6.40	1.49	1.36
45	5	4620	OMU	C2-N3	6.39	1.49	1.38
45	5	2861	OMC	C2-N3	6.37	1.49	1.36
49	9	1248	B8N	C2-N1	6.37	1.57	1.39
45	5	3830	A2M	O4'-C4'	-6.35	1.30	1.45
49	9	1337	4AC	C6-C5	6.32	1.49	1.35
45	5	3785	A2M	O4'-C4'	-6.31	1.31	1.45
49	9	166	A2M	O4'-C4'	-6.30	1.31	1.45
45	5	2787	A2M	O4'-C4'	-6.29	1.31	1.45
45	5	4620	OMU	C2-N1	6.29	1.48	1.38
45	5	3925	OMU	C2-N3	6.24	1.48	1.38
45	5	4227	OMU	C2-N3	6.23	1.48	1.38
45	5	4306	OMU	C2-N3	6.22	1.48	1.38
45	5	4306	OMU	C2-N1	6.21	1.48	1.38
45	5	3760	A2M	O4'-C4'	-6.20	1.31	1.45
49	9	1337	4AC	C2-N3	6.19	1.48	1.36
45	5	4536	OMC	C2-N3	6.18	1.48	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	9	1248	B8N	C6-C5	6.17	1.43	1.35
45	5	3701	OMC	C2-N3	6.17	1.48	1.36
45	5	3869	OMC	C2-N3	6.17	1.48	1.36
45	5	3782	5MC	C2-N3	6.15	1.48	1.36
49	9	174	OMC	C6-C5	6.15	1.49	1.35
45	5	2824	OMC	C2-N3	6.15	1.48	1.36
45	5	4498	OMU	C2-N3	6.14	1.48	1.38
45	5	3887	OMC	C2-N3	6.14	1.48	1.36
49	9	1830	UR3	C6-C5	6.13	1.49	1.35
49	9	1374	5MC	C2-N3	6.13	1.48	1.36
49	9	1842	4AC	C6-C5	6.12	1.49	1.35
45	5	4447	5MC	C4-N3	6.12	1.43	1.34
49	9	1703	OMC	C6-C5	6.10	1.49	1.35
49	9	1842	4AC	C2-N3	6.06	1.48	1.36
45	5	2351	OMC	C2-N3	6.02	1.48	1.36
45	5	3887	OMC	C6-C5	6.01	1.49	1.35
45	5	4530	UR3	C6-C5	5.99	1.49	1.35
49	9	1374	5MC	C5-C4	5.95	1.48	1.44
45	5	3925	OMU	C2-N1	5.93	1.47	1.38
45	5	2861	OMC	C6-C5	5.91	1.48	1.35
49	9	1710	OMC	C6-C5	5.91	1.48	1.35
45	5	3701	OMC	C6-C5	5.91	1.48	1.35
45	5	2804	OMC	C6-C5	5.90	1.48	1.35
45	5	2365	OMC	C6-C5	5.90	1.48	1.35
45	5	3841	OMC	C6-C5	5.90	1.48	1.35
45	5	4447	5MC	C2-N3	5.90	1.48	1.36
45	5	3841	OMC	C2-N3	5.84	1.47	1.36
49	9	1219	B8Q	C2-N3	5.82	1.46	1.35
45	5	2422	OMC	C6-C5	5.79	1.48	1.35
45	5	4456	OMC	C6-C5	5.78	1.48	1.35
45	5	2824	OMC	C6-C5	5.77	1.48	1.35
45	5	2351	OMC	C6-C5	5.76	1.48	1.35
45	5	3808	OMC	C6-C5	5.76	1.48	1.35
45	5	1340	OMC	C6-C5	5.75	1.48	1.35
45	5	4536	OMC	C6-C5	5.75	1.48	1.35
49	9	517	OMC	C6-C5	5.72	1.48	1.35
49	9	121	OMU	C6-C5	5.70	1.48	1.35
49	9	116	OMU	C6-C5	5.63	1.48	1.35
49	9	1851	MA6	C6-C5	-5.63	1.36	1.44
45	5	4620	OMU	C6-C5	5.60	1.48	1.35
45	5	4498	OMU	C6-C5	5.60	1.48	1.35
45	5	4227	OMU	C6-C5	5.59	1.48	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	2837	OMU	C6-C5	5.59	1.48	1.35
45	5	237	B9B	C2-N2	5.59	1.45	1.33
45	5	4306	OMU	C6-C5	5.55	1.47	1.35
45	5	1517	2MG	C2-N2	5.54	1.45	1.33
45	5	3925	OMU	C6-C5	5.48	1.47	1.35
45	5	3869	OMC	C6-C5	5.46	1.47	1.35
49	9	517	OMC	C4-N3	5.45	1.45	1.34
45	5	4370	OMG	C2-N3	5.45	1.46	1.33
45	5	2876	OMG	C2-N3	5.39	1.46	1.33
45	5	3792	OMG	C2-N3	5.38	1.46	1.33
49	9	683	OMG	C2-N3	5.36	1.46	1.33
49	9	509	OMG	C2-N3	5.36	1.46	1.33
45	5	4499	OMG	C2-N3	5.36	1.46	1.33
45	5	4494	OMG	C2-N3	5.34	1.46	1.33
47	8	75	OMG	C2-N3	5.32	1.46	1.33
49	9	644	OMG	C2-N3	5.27	1.46	1.33
45	5	2424	OMG	C2-N3	5.25	1.46	1.33
45	5	2861	OMC	C4-N3	5.25	1.44	1.34
45	5	3782	5MC	C5-C4	5.24	1.48	1.44
45	5	1316	OMG	C2-N3	5.24	1.46	1.33
45	5	2364	OMG	C2-N3	5.24	1.46	1.33
45	5	1625	OMG	C2-N3	5.23	1.45	1.33
45	5	4456	OMC	C4-N3	5.21	1.44	1.34
45	5	3818	UY1	C1'-C5	-5.20	1.38	1.50
45	5	4220	6MZ	C6-C5	-5.19	1.36	1.44
49	9	1710	OMC	C4-N3	5.18	1.44	1.34
49	9	1703	OMC	C4-N3	5.18	1.44	1.34
45	5	4637	OMG	C2-N3	5.17	1.45	1.33
49	9	174	OMC	C4-N3	5.15	1.44	1.34
45	5	3627	OMG	C2-N3	5.13	1.45	1.33
49	9	1850	MA6	C6-C5	-5.12	1.37	1.44
45	5	3899	OMG	C2-N3	5.11	1.45	1.33
45	5	4618	OMG	C2-N3	5.11	1.45	1.33
45	5	3818	UY1	C6-N1	5.07	1.44	1.36
45	5	4196	OMG	C2-N3	5.04	1.45	1.33
45	5	2365	OMC	C4-N3	5.04	1.44	1.34
45	5	2422	OMC	C4-N3	5.03	1.44	1.34
45	5	4637	OMG	C4-N3	5.03	1.49	1.37
45	5	2861	OMC	C4-N4	5.00	1.46	1.33
45	5	4228	OMG	C2-N3	5.00	1.45	1.33
45	5	3792	OMG	C4-N3	5.00	1.49	1.37
45	5	3808	OMC	C4-N3	4.99	1.44	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	9	1337	4AC	C4-N4	4.99	1.47	1.39
45	5	3701	OMC	C4-N4	4.99	1.46	1.33
45	5	2365	OMC	C4-N4	4.99	1.46	1.33
49	9	1710	OMC	C4-N4	4.98	1.46	1.33
49	9	1842	4AC	C4-N4	4.98	1.47	1.39
49	9	1703	OMC	C4-N4	4.98	1.46	1.33
45	5	373	OMG	C2-N3	4.97	1.45	1.33
45	5	4623	OMG	C2-N3	4.97	1.45	1.33
45	5	1522	OMG	C2-N3	4.97	1.45	1.33
49	9	174	OMC	C4-N4	4.96	1.45	1.33
49	9	644	OMG	C4-N3	4.93	1.49	1.37
45	5	2804	OMC	C4-N3	4.93	1.44	1.34
45	5	4392	OMG	C2-N3	4.93	1.45	1.33
45	5	3887	OMC	C4-N3	4.93	1.44	1.34
49	9	509	OMG	C4-N3	4.93	1.49	1.37
49	9	517	OMC	C4-N4	4.91	1.45	1.33
45	5	2804	OMC	C4-N4	4.91	1.45	1.33
45	5	4370	OMG	C4-N3	4.89	1.49	1.37
45	5	1625	OMG	C4-N3	4.88	1.49	1.37
45	5	2422	OMC	C4-N4	4.88	1.45	1.33
45	5	3701	OMC	C4-N3	4.88	1.44	1.34
45	5	2876	OMG	C2-N2	4.87	1.45	1.34
49	9	683	OMG	C4-N3	4.86	1.49	1.37
45	5	4637	OMG	C2-N2	4.86	1.45	1.34
45	5	3808	OMC	C4-N4	4.86	1.45	1.33
45	5	2876	OMG	C4-N3	4.84	1.48	1.37
47	8	75	OMG	C4-N3	4.84	1.48	1.37
45	5	4494	OMG	C4-N3	4.83	1.48	1.37
49	9	1337	4AC	C7-N4	4.81	1.47	1.37
49	9	1830	UR3	C2-N3	4.81	1.48	1.39
45	5	2351	OMC	C4-N4	4.80	1.45	1.33
49	9	644	OMG	C2-N2	4.77	1.45	1.34
45	5	3869	OMC	C4-N3	4.77	1.44	1.34
45	5	4499	OMG	C4-N3	4.77	1.48	1.37
45	5	2424	OMG	C4-N3	4.77	1.48	1.37
45	5	3792	OMG	C2-N2	4.77	1.45	1.34
45	5	4456	OMC	C4-N4	4.76	1.45	1.33
45	5	4499	OMG	C2-N2	4.76	1.45	1.34
45	5	2824	OMC	C4-N3	4.75	1.43	1.34
45	5	4530	UR3	C2-N3	4.75	1.48	1.39
45	5	4196	OMG	C4-N3	4.75	1.48	1.37
45	5	2364	OMG	C2-N2	4.74	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	1340	OMC	C4-N3	4.73	1.43	1.34
45	5	1316	OMG	C4-N3	4.73	1.48	1.37
45	5	237	B9B	O6-C6	4.72	1.40	1.34
45	5	4618	OMG	C2-N2	4.71	1.45	1.34
45	5	4536	OMC	C4-N4	4.70	1.45	1.33
45	5	3869	OMC	C4-N4	4.70	1.45	1.33
45	5	4623	OMG	C4-N3	4.70	1.48	1.37
49	9	1842	4AC	C7-N4	4.69	1.46	1.37
45	5	3887	OMC	C4-N4	4.68	1.45	1.33
45	5	4618	OMG	C4-N3	4.68	1.48	1.37
49	9	683	OMG	C2-N2	4.67	1.45	1.34
45	5	2424	OMG	C2-N2	4.66	1.45	1.34
45	5	1340	OMC	C4-N4	4.66	1.45	1.33
49	9	509	OMG	C2-N2	4.66	1.45	1.34
45	5	2364	OMG	C4-N3	4.65	1.48	1.37
47	8	75	OMG	C2-N2	4.65	1.45	1.34
45	5	1316	OMG	C2-N2	4.65	1.45	1.34
45	5	4536	OMC	C4-N3	4.64	1.43	1.34
45	5	3899	OMG	C4-N3	4.64	1.48	1.37
45	5	2824	OMC	C4-N4	4.63	1.45	1.33
45	5	4228	OMG	C2-N2	4.62	1.45	1.34
45	5	3627	OMG	C4-N3	4.62	1.48	1.37
49	9	1374	5MC	C4-N4	4.61	1.45	1.34
45	5	3841	OMC	C4-N4	4.61	1.45	1.33
45	5	1625	OMG	C2-N2	4.60	1.44	1.34
45	5	373	OMG	C2-N2	4.60	1.44	1.34
45	5	4447	5MC	C4-N4	4.59	1.45	1.34
45	5	2351	OMC	C4-N3	4.58	1.43	1.34
45	5	4494	OMG	C2-N2	4.58	1.44	1.34
45	5	4392	OMG	C4-N3	4.57	1.48	1.37
45	5	4228	OMG	C4-N3	4.56	1.48	1.37
45	5	373	OMG	C4-N3	4.55	1.48	1.37
45	5	3627	OMG	C2-N2	4.54	1.44	1.34
45	5	4370	OMG	C2-N2	4.53	1.44	1.34
45	5	3782	5MC	C4-N4	4.52	1.45	1.34
45	5	1522	OMG	C4-N3	4.52	1.48	1.37
45	5	3639	PSU	C2-N1	-4.52	1.30	1.36
45	5	4447	5MC	C6-N1	4.50	1.45	1.38
45	5	4628	PSU	C2-N1	-4.49	1.30	1.36
45	5	4447	5MC	C5-C4	4.48	1.47	1.44
49	9	1806	M7A	C6-N6	4.48	1.45	1.34
45	5	4196	OMG	C2-N2	4.44	1.44	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	4552	PSU	C2-N1	-4.43	1.30	1.36
45	5	3899	OMG	C2-N2	4.42	1.44	1.34
49	9	174	OMC	C2-N1	4.42	1.49	1.40
45	5	1522	OMG	C2-N2	4.41	1.44	1.34
49	9	517	OMC	C2-N1	4.41	1.49	1.40
49	9	1832	6MZ	C6-C5	-4.36	1.38	1.44
45	5	3841	OMC	C4-N3	4.33	1.43	1.34
45	5	4403	PSU	C2-N1	-4.32	1.31	1.36
45	5	4623	OMG	C2-N2	4.30	1.44	1.34
45	5	4392	OMG	C2-N2	4.28	1.44	1.34
45	5	4293	PSU	C2-N1	-4.24	1.31	1.36
45	5	3701	OMC	C2-N1	4.23	1.48	1.40
45	5	1683	PSU	C2-N1	-4.19	1.31	1.36
49	9	1374	5MC	C6-N1	4.17	1.45	1.38
45	5	2422	OMC	C2-N1	4.16	1.48	1.40
45	5	3853	PSU	C2-N1	-4.16	1.31	1.36
45	5	2824	OMC	C2-N1	4.16	1.48	1.40
45	5	3920	PSU	C2-N1	-4.15	1.31	1.36
45	5	4579	PSU	C2-N1	-4.11	1.31	1.36
45	5	3695	PSU	C2-N1	-4.10	1.31	1.36
49	9	1710	OMC	C2-N1	4.09	1.48	1.40
45	5	4403	PSU	C2-N3	-4.09	1.30	1.37
45	5	4361	PSU	C2-N1	-4.04	1.31	1.36
45	5	4293	PSU	C2-N3	-4.01	1.30	1.37
49	9	1703	OMC	C2-N1	4.00	1.48	1.40
45	5	1340	OMC	C2-N1	3.99	1.48	1.40
45	5	4521	PSU	C2-N1	-3.98	1.31	1.36
45	5	4532	PSU	C2-N1	-3.98	1.31	1.36
45	5	4293	PSU	C4-N3	-3.97	1.31	1.38
45	5	4299	PSU	C2-N1	-3.95	1.31	1.36
45	5	1792	PSU	C2-N1	-3.95	1.31	1.36
45	5	4552	PSU	C4-N3	-3.93	1.31	1.38
49	9	612	PSU	C2-N1	-3.92	1.31	1.36
49	9	568	E3C	C4-N3	3.90	1.54	1.48
45	5	2861	OMC	C2-N1	3.89	1.48	1.40
49	9	1081	PSU	C2-N1	-3.89	1.31	1.36
45	5	3715	PSU	C2-N1	-3.89	1.31	1.36
45	5	1862	PSU	C4-N3	-3.88	1.31	1.38
45	5	4457	PSU	C2-N1	-3.88	1.31	1.36
45	5	2508	PSU	C2-N1	-3.85	1.31	1.36
45	5	3887	OMC	C2-N1	3.85	1.48	1.40
45	5	4552	PSU	C2-N3	-3.83	1.31	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	1862	PSU	C2-N3	-3.83	1.31	1.37
45	5	4521	PSU	C4-N3	-3.82	1.31	1.38
45	5	3764	PSU	C2-N1	-3.81	1.31	1.36
45	5	2804	OMC	C2-N1	3.81	1.48	1.40
45	5	3695	PSU	C2-N3	-3.80	1.31	1.37
45	5	2365	OMC	C2-N1	3.80	1.48	1.40
45	5	3782	5MC	C6-N1	3.78	1.44	1.38
45	5	4457	PSU	C4-N3	-3.78	1.31	1.38
45	5	3851	PSU	C2-N1	-3.78	1.31	1.36
45	5	4296	PSU	C4-N3	-3.77	1.31	1.38
45	5	4423	PSU	C2-N1	-3.76	1.31	1.36
45	5	3762	PSU	C2-N1	-3.76	1.31	1.36
45	5	2632	PSU	C2-N1	-3.76	1.31	1.36
49	9	1374	5MC	C2-N1	3.75	1.47	1.40
49	9	1243	PSU	C2-N1	-3.75	1.31	1.36
45	5	3782	5MC	C2-N1	3.75	1.47	1.40
49	9	1337	4AC	C5-C4	3.74	1.49	1.41
45	5	2351	OMC	C2-N1	3.74	1.47	1.40
45	5	4442	PSU	C4-N3	-3.74	1.31	1.38
45	5	3808	OMC	C2-N1	3.73	1.47	1.40
45	5	4403	PSU	C4-N3	-3.72	1.31	1.38
45	5	3695	PSU	C4-N3	-3.71	1.31	1.38
45	5	4299	PSU	C4-N3	-3.71	1.31	1.38
45	5	1744	PSU	C2-N1	-3.71	1.31	1.36
49	9	1806	M7A	C2-N1	3.70	1.40	1.33
45	5	2632	PSU	C4-N3	-3.69	1.31	1.38
49	9	1243	PSU	C4-N3	-3.69	1.31	1.38
49	9	823	PSU	C4-N3	-3.69	1.31	1.38
45	5	4361	PSU	C2-N3	-3.69	1.31	1.37
45	5	4532	PSU	C4-N3	-3.69	1.31	1.38
45	5	4500	PSU	C4-N3	-3.69	1.31	1.38
49	9	1081	PSU	C4-N3	-3.68	1.32	1.38
45	5	4361	PSU	C4-N3	-3.68	1.32	1.38
45	5	4521	PSU	C2-N3	-3.68	1.31	1.37
45	5	1744	PSU	C4-N3	-3.68	1.32	1.38
45	5	4532	PSU	C2-N3	-3.67	1.31	1.37
45	5	4353	PSU	C2-N1	-3.67	1.31	1.36
45	5	1860	PSU	C4-N3	-3.66	1.32	1.38
45	5	4579	PSU	C4-N3	-3.66	1.32	1.38
45	5	1677	PSU	C6-C5	3.66	1.39	1.35
45	5	4420	PSU	C2-N1	-3.65	1.31	1.36
45	5	3851	PSU	C4-N3	-3.65	1.32	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	4296	PSU	C2-N1	-3.65	1.31	1.36
45	5	1862	PSU	C2-N1	-3.64	1.31	1.36
45	5	1781	PSU	C4-N3	-3.64	1.32	1.38
45	5	1683	PSU	C4-N3	-3.63	1.32	1.38
45	5	3920	PSU	C2-N3	-3.62	1.31	1.37
45	5	1782	PSU	C2-N3	-3.61	1.31	1.37
45	5	1517	2MG	C2-N1	3.60	1.42	1.36
45	5	3920	PSU	C4-N3	-3.60	1.32	1.38
45	5	3639	PSU	C2-N3	-3.59	1.31	1.37
45	5	4353	PSU	C4-N3	-3.59	1.32	1.38
49	9	119	PSU	C4-N3	-3.59	1.32	1.38
45	5	4628	PSU	C4-N3	-3.59	1.32	1.38
45	5	3853	PSU	C2-N3	-3.58	1.31	1.37
45	5	4536	OMC	C2-N1	3.58	1.47	1.40
45	5	4353	PSU	C2-N3	-3.58	1.31	1.37
45	5	4457	PSU	C2-N3	-3.58	1.31	1.37
45	5	3853	PSU	C4-N3	-3.58	1.32	1.38
49	9	1842	4AC	C5-C4	3.58	1.48	1.41
45	5	3715	PSU	C4-N3	-3.57	1.32	1.38
45	5	1792	PSU	C4-N3	-3.57	1.32	1.38
45	5	1782	PSU	C4-N3	-3.57	1.32	1.38
49	9	612	PSU	C4-N3	-3.56	1.32	1.38
45	5	2632	PSU	C2-N3	-3.56	1.31	1.37
45	5	3869	OMC	C2-N1	3.56	1.47	1.40
45	5	4442	PSU	C2-N1	-3.55	1.32	1.36
45	5	1683	PSU	C2-N3	-3.55	1.31	1.37
45	5	4456	OMC	C2-N1	3.55	1.47	1.40
45	5	3734	PSU	C2-N1	-3.54	1.32	1.36
45	5	1782	PSU	C2-N1	-3.54	1.32	1.36
49	9	823	PSU	C2-N1	-3.54	1.32	1.36
45	5	4447	5MC	C2-N1	3.53	1.47	1.40
45	5	2508	PSU	C4-N3	-3.53	1.32	1.38
45	5	4299	PSU	C2-N3	-3.53	1.31	1.37
45	5	3818	UY1	C4-N3	3.52	1.45	1.38
45	5	1322	1MA	C4-N3	3.51	1.48	1.37
45	5	3764	PSU	C4-N3	-3.50	1.32	1.38
49	9	822	PSU	C4-N3	-3.50	1.32	1.38
45	5	1677	PSU	C4-N3	-3.49	1.32	1.38
45	5	3762	PSU	C4-N3	-3.49	1.32	1.38
45	5	4500	PSU	C2-N1	-3.49	1.32	1.36
45	5	3734	PSU	C4-N3	-3.49	1.32	1.38
49	9	1337	4AC	C2-N1	3.48	1.47	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	1860	PSU	C2-N1	-3.47	1.32	1.36
49	9	1081	PSU	C2-N3	-3.47	1.31	1.37
45	5	1792	PSU	C2-N3	-3.46	1.31	1.37
49	9	1248	B8N	O4-C4	-3.46	1.16	1.23
49	9	822	PSU	C2-N1	-3.46	1.32	1.36
49	9	121	OMU	C4-N3	3.46	1.44	1.38
45	5	1781	PSU	C2-N1	-3.46	1.32	1.36
49	9	568	E3C	C6-N1	3.45	1.46	1.38
45	5	1860	PSU	C2-N3	-3.45	1.31	1.37
45	5	4500	PSU	C2-N3	-3.45	1.31	1.37
45	5	3851	PSU	C2-N3	-3.44	1.31	1.37
45	5	3764	PSU	C2-N3	-3.44	1.31	1.37
45	5	1517	2MG	C4-N3	3.43	1.45	1.37
45	5	1677	PSU	C2-N1	-3.43	1.32	1.36
49	9	119	PSU	C2-N1	-3.42	1.32	1.36
45	5	3841	OMC	C2-N1	3.42	1.47	1.40
49	9	683	OMG	C6-N1	3.42	1.43	1.37
45	5	3639	PSU	C4-N3	-3.42	1.32	1.38
45	5	4423	PSU	C4-N3	-3.41	1.32	1.38
45	5	4499	OMG	C6-N1	3.41	1.43	1.37
45	5	4442	PSU	C2-N3	-3.41	1.31	1.37
45	5	3715	PSU	C2-N3	-3.41	1.31	1.37
45	5	4420	PSU	C6-C5	3.41	1.39	1.35
49	9	823	PSU	C2-N3	-3.40	1.31	1.37
45	5	1744	PSU	C2-N3	-3.39	1.31	1.37
45	5	4579	PSU	C2-N3	-3.39	1.31	1.37
45	5	2508	PSU	C2-N3	-3.37	1.31	1.37
49	9	1806	M7A	C71-N7	-3.37	1.40	1.46
45	5	4420	PSU	C4-N3	-3.36	1.32	1.38
49	9	1842	4AC	C2-N1	3.36	1.47	1.40
49	9	1243	PSU	C2-N3	-3.36	1.31	1.37
45	5	4628	PSU	C2-N3	-3.35	1.32	1.37
49	9	119	PSU	C2-N3	-3.34	1.32	1.37
49	9	644	OMG	C6-N1	3.34	1.42	1.37
49	9	612	PSU	C2-N3	-3.34	1.32	1.37
45	5	1517	2MG	C6-N1	3.33	1.42	1.37
45	5	1781	PSU	C2-N3	-3.32	1.32	1.37
49	9	1850	MA6	C6-N6	3.31	1.45	1.37
45	5	2424	OMG	C6-N1	3.31	1.42	1.37
45	5	1781	PSU	C6-C5	3.31	1.39	1.35
49	9	822	PSU	C6-C5	3.28	1.38	1.35
45	5	4523	A2M	O3'-C3'	-3.28	1.34	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	3734	PSU	C2-N3	-3.27	1.32	1.37
45	5	2837	OMU	C4-N3	3.27	1.44	1.38
45	5	3627	OMG	C6-N1	3.27	1.42	1.37
45	5	4227	OMU	C4-N3	3.26	1.44	1.38
45	5	1792	PSU	C6-C5	3.26	1.38	1.35
45	5	3762	PSU	C2-N3	-3.26	1.32	1.37
45	5	1871	A2M	O3'-C3'	-3.25	1.34	1.43
45	5	4228	OMG	C6-N1	3.25	1.42	1.37
49	9	822	PSU	C2-N3	-3.24	1.32	1.37
45	5	1625	OMG	C6-N1	3.24	1.42	1.37
45	5	4296	PSU	C2-N3	-3.23	1.32	1.37
45	5	4196	OMG	C6-N1	3.23	1.42	1.37
45	5	3825	A2M	O3'-C3'	-3.22	1.35	1.43
49	9	116	OMU	C4-N3	3.22	1.44	1.38
45	5	4423	PSU	C2-N3	-3.22	1.32	1.37
45	5	1322	1MA	C2-N1	3.21	1.42	1.35
45	5	4618	OMG	C6-N1	3.19	1.42	1.37
45	5	4571	A2M	C6-N6	3.19	1.45	1.34
45	5	1862	PSU	C6-C5	3.19	1.38	1.35
45	5	1534	A2M	C6-N6	3.19	1.45	1.34
45	5	373	OMG	C6-N1	3.18	1.42	1.37
45	5	3899	OMG	C6-N1	3.17	1.42	1.37
45	5	3825	A2M	C6-N6	3.17	1.45	1.34
45	5	4571	A2M	O3'-C3'	-3.17	1.35	1.43
45	5	1524	A2M	C6-N6	3.17	1.45	1.34
45	5	3762	PSU	C6-C5	3.17	1.38	1.35
49	9	174	OMC	C6-N1	3.16	1.45	1.38
45	5	3734	PSU	C6-C5	3.16	1.38	1.35
45	5	373	OMG	C5-C4	-3.16	1.35	1.43
45	5	398	A2M	O3'-C3'	-3.16	1.35	1.43
45	5	3867	A2M	C6-N6	3.15	1.45	1.34
49	9	27	A2M	C6-N6	3.15	1.45	1.34
45	5	3724	A2M	C6-N6	3.15	1.45	1.34
45	5	2508	PSU	C6-C5	3.15	1.38	1.35
45	5	1534	A2M	O3'-C3'	-3.14	1.35	1.43
45	5	4420	PSU	C2-N3	-3.14	1.32	1.37
45	5	4296	PSU	C6-C5	3.13	1.38	1.35
45	5	4523	A2M	C6-N6	3.13	1.45	1.34
49	9	1851	MA6	C6-N6	3.13	1.44	1.37
45	5	398	A2M	C6-N6	3.13	1.45	1.34
49	9	1678	A2M	C6-N6	3.12	1.45	1.34
49	9	1678	A2M	O3'-C3'	-3.12	1.35	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	9	166	A2M	O3'-C3'	-3.12	1.35	1.43
45	5	3867	A2M	O3'-C3'	-3.12	1.35	1.43
49	9	484	A2M	C6-N6	3.11	1.45	1.34
49	9	1081	PSU	C6-C5	3.11	1.38	1.35
45	5	400	A2M	C6-N6	3.10	1.45	1.34
45	5	400	A2M	O3'-C3'	-3.10	1.35	1.43
45	5	4306	OMU	C4-N3	3.09	1.43	1.38
45	5	3724	A2M	O3'-C3'	-3.09	1.35	1.43
45	5	4423	PSU	C6-C5	3.09	1.38	1.35
45	5	1871	A2M	C6-N6	3.09	1.45	1.34
49	9	159	A2M	C6-N6	3.09	1.45	1.34
45	5	1744	PSU	C6-C5	3.09	1.38	1.35
45	5	4620	OMU	C4-N3	3.08	1.43	1.38
45	5	1322	1MA	C5-C4	-3.08	1.35	1.43
45	5	1316	OMG	C5-C4	-3.08	1.35	1.43
45	5	3764	PSU	C6-C5	3.08	1.38	1.35
45	5	4447	5MC	O2-C2	-3.08	1.18	1.23
45	5	4306	OMU	O2-C2	-3.08	1.17	1.23
49	9	668	A2M	C6-N6	3.07	1.45	1.34
45	5	4392	OMG	C5-C4	-3.07	1.35	1.43
45	5	2861	OMC	O2-C2	-3.07	1.18	1.23
45	5	3830	A2M	C6-N6	3.06	1.45	1.34
45	5	3792	OMG	C6-N1	3.06	1.42	1.37
45	5	2787	A2M	C6-N6	3.06	1.45	1.34
49	9	27	A2M	O3'-C3'	-3.06	1.35	1.43
45	5	4579	PSU	C6-C5	3.06	1.38	1.35
45	5	3841	OMC	O2-C2	-3.05	1.18	1.23
45	5	4498	OMU	O2-C2	-3.05	1.17	1.23
45	5	2815	A2M	C6-N6	3.05	1.45	1.34
45	5	3760	A2M	C6-N6	3.05	1.45	1.34
45	5	3887	OMC	O2-C2	-3.05	1.18	1.23
45	5	3785	A2M	C6-N6	3.05	1.45	1.34
45	5	4637	OMG	C6-N1	3.04	1.42	1.37
49	9	166	A2M	C6-N6	3.04	1.45	1.34
45	5	4494	OMG	C6-N1	3.04	1.42	1.37
45	5	3718	A2M	C6-N6	3.04	1.45	1.34
45	5	2351	OMC	O2-C2	-3.04	1.18	1.23
45	5	4392	OMG	C6-N1	3.03	1.42	1.37
45	5	1326	A2M	O3'-C3'	-3.03	1.35	1.43
49	9	1031	A2M	C6-N6	3.03	1.44	1.34
45	5	2815	A2M	O3'-C3'	-3.02	1.35	1.43
49	9	119	PSU	C6-C5	3.02	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	1326	A2M	C6-N6	3.02	1.44	1.34
45	5	1522	OMG	C5-C4	-3.01	1.35	1.43
45	5	3925	OMU	C4-N3	3.01	1.43	1.38
45	5	4536	OMC	O2-C2	-3.01	1.18	1.23
45	5	4499	OMG	C5-C6	3.01	1.53	1.47
49	9	159	A2M	O3'-C3'	-3.01	1.35	1.43
45	5	2787	A2M	O3'-C3'	-3.01	1.35	1.43
45	5	4637	OMG	C5-C4	-3.00	1.35	1.43
45	5	3853	PSU	C6-C5	3.00	1.38	1.35
49	9	1842	4AC	O2-C2	-3.00	1.18	1.23
45	5	1524	A2M	O3'-C3'	-3.00	1.35	1.43
47	8	75	OMG	C6-N1	3.00	1.42	1.37
49	9	517	OMC	C6-N1	2.99	1.45	1.38
45	5	3851	PSU	C6-C5	2.99	1.38	1.35
49	9	1703	OMC	C6-N1	2.99	1.45	1.38
45	5	4228	OMG	C5-C4	-2.99	1.35	1.43
49	9	1031	A2M	O3'-C3'	-2.99	1.35	1.43
45	5	3925	OMU	O2-C2	-2.98	1.17	1.23
45	5	4498	OMU	C4-N3	2.98	1.43	1.38
45	5	2363	A2M	O3'-C3'	-2.98	1.35	1.43
49	9	1219	B8Q	C2-N1	2.98	1.42	1.38
45	5	2804	OMC	O2-C2	-2.98	1.18	1.23
45	5	3718	A2M	O3'-C3'	-2.98	1.35	1.43
45	5	4623	OMG	C6-N1	2.97	1.42	1.37
45	5	1782	PSU	C6-C5	2.97	1.38	1.35
45	5	2363	A2M	C6-N6	2.97	1.44	1.34
45	5	3830	A2M	O3'-C3'	-2.97	1.35	1.43
45	5	1860	PSU	C6-C5	2.96	1.38	1.35
45	5	2824	OMC	O2-C2	-2.96	1.18	1.23
45	5	1677	PSU	C2-N3	-2.96	1.32	1.37
45	5	4552	PSU	C6-N1	-2.95	1.31	1.36
45	5	3701	OMC	C6-N1	2.94	1.45	1.38
45	5	4623	OMG	C5-C4	-2.93	1.35	1.43
45	5	1340	OMC	O2-C2	-2.93	1.18	1.23
45	5	3724	A2M	O2'-C2'	2.92	1.49	1.42
45	5	4628	PSU	C6-C5	2.92	1.38	1.35
45	5	4299	PSU	C6-C5	2.92	1.38	1.35
49	9	823	PSU	C6-C5	2.91	1.38	1.35
49	9	121	OMU	O2-C2	-2.91	1.17	1.23
49	9	1703	OMC	O2-C2	-2.91	1.18	1.23
45	5	3808	OMC	O2-C2	-2.91	1.18	1.23
45	5	3825	A2M	O2'-C2'	2.91	1.49	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	1517	2MG	C5-C4	-2.91	1.35	1.43
45	5	2422	OMC	O2-C2	-2.91	1.18	1.23
45	5	2365	OMC	C6-N1	2.91	1.45	1.38
45	5	4456	OMC	O2-C2	-2.91	1.18	1.23
45	5	3715	PSU	C6-C5	2.90	1.38	1.35
45	5	3627	OMG	C5-C4	-2.90	1.35	1.43
49	9	159	A2M	O2'-C2'	2.90	1.49	1.42
45	5	4500	PSU	C6-C5	2.89	1.38	1.35
45	5	2876	OMG	C6-N1	2.89	1.42	1.37
49	9	1337	4AC	C6-N1	2.89	1.45	1.38
45	5	2837	OMU	O2-C2	-2.89	1.17	1.23
45	5	4361	PSU	C6-C5	2.88	1.38	1.35
45	5	3899	OMG	C5-C4	-2.88	1.36	1.43
45	5	2424	OMG	C5-C4	-2.87	1.36	1.43
45	5	3760	A2M	O2'-C2'	2.87	1.49	1.42
45	5	3869	OMC	O2-C2	-2.87	1.18	1.23
47	8	75	OMG	C5-C6	2.86	1.53	1.47
45	5	4499	OMG	C2-N1	2.86	1.44	1.37
45	5	2365	OMC	O2-C2	-2.86	1.18	1.23
45	5	4306	OMU	O4-C4	-2.86	1.18	1.24
49	9	1806	M7A	C5-N7	2.85	1.45	1.39
45	5	4532	PSU	C6-C5	2.85	1.38	1.35
49	9	1081	PSU	O4-C4	-2.85	1.18	1.23
45	5	4494	OMG	C5-C4	-2.84	1.36	1.43
45	5	4620	OMU	O2-C2	-2.84	1.18	1.23
49	9	1243	PSU	C6-C5	2.84	1.38	1.35
45	5	4293	PSU	C6-C5	2.83	1.38	1.35
45	5	4499	OMG	C5-C4	-2.83	1.36	1.43
49	9	1710	OMC	O2-C2	-2.83	1.18	1.23
45	5	4370	OMG	C6-N1	2.82	1.42	1.37
45	5	1517	2MG	CM2-N2	2.82	1.50	1.45
49	9	1710	OMC	C6-N1	2.82	1.44	1.38
45	5	4353	PSU	C6-C5	2.82	1.38	1.35
45	5	4227	OMU	O4-C4	-2.81	1.19	1.24
49	9	1842	4AC	C6-N1	2.81	1.44	1.38
49	9	612	PSU	C6-C5	2.81	1.38	1.35
45	5	4370	OMG	C5-C4	-2.81	1.36	1.43
45	5	1871	A2M	C1'-N9	-2.81	1.43	1.49
45	5	3830	A2M	O2'-C2'	2.81	1.49	1.42
49	9	644	OMG	C5-C6	2.80	1.53	1.47
45	5	1534	A2M	O2'-C2'	2.80	1.49	1.42
45	5	4618	OMG	C2-N1	2.80	1.44	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	9	683	OMG	C2-N1	2.80	1.44	1.37
45	5	3887	OMC	C6-N1	2.80	1.44	1.38
49	9	509	OMG	C6-N1	2.79	1.42	1.37
49	9	27	A2M	O2'-C2'	2.79	1.49	1.42
49	9	116	OMU	O4-C4	-2.79	1.19	1.24
45	5	2632	PSU	C6-C5	2.79	1.38	1.35
45	5	2861	OMC	C6-N1	2.79	1.44	1.38
45	5	2364	OMG	C5-C4	-2.78	1.36	1.43
45	5	398	A2M	O2'-C2'	2.78	1.49	1.42
45	5	1522	OMG	C6-N1	2.78	1.42	1.37
45	5	3925	OMU	O4-C4	-2.78	1.19	1.24
49	9	1337	4AC	O2-C2	-2.77	1.18	1.23
45	5	4442	PSU	O4'-C1'	-2.77	1.40	1.43
49	9	484	A2M	O2'-C2'	2.77	1.49	1.42
45	5	4618	OMG	C5-C4	-2.77	1.36	1.43
45	5	3760	A2M	O3'-C3'	-2.76	1.36	1.43
45	5	2876	OMG	C5-C4	-2.76	1.36	1.43
45	5	4228	OMG	C5-C6	2.76	1.52	1.47
49	9	823	PSU	O4-C4	-2.76	1.18	1.23
45	5	4228	OMG	C2-N1	2.75	1.44	1.37
45	5	2351	OMC	C6-N1	2.75	1.44	1.38
49	9	612	PSU	O4-C4	-2.75	1.18	1.23
49	9	568	E3C	O2-C2	-2.75	1.17	1.22
45	5	2424	OMG	C5-C6	2.74	1.52	1.47
49	9	814	5MU	C4-N3	-2.74	1.33	1.38
45	5	3792	OMG	C5-C4	-2.74	1.36	1.43
45	5	3818	UY1	O4-C4	-2.74	1.18	1.23
45	5	4227	OMU	O2-C2	-2.73	1.18	1.23
45	5	1524	A2M	C1'-N9	-2.73	1.43	1.49
45	5	2815	A2M	O2'-C2'	2.73	1.49	1.42
49	9	644	OMG	C5-C4	-2.73	1.36	1.43
45	5	2422	OMC	C6-N1	2.73	1.44	1.38
45	5	4293	PSU	O4-C4	-2.73	1.18	1.23
45	5	2364	OMG	C6-N1	2.73	1.42	1.37
45	5	1625	OMG	C5-C6	2.72	1.52	1.47
45	5	2424	OMG	C2-N1	2.72	1.44	1.37
45	5	4620	OMU	O4-C4	-2.72	1.19	1.24
45	5	4618	OMG	C5-C6	2.72	1.52	1.47
45	5	2876	OMG	C2-N1	2.72	1.44	1.37
49	9	1374	5MC	O2-C2	-2.72	1.18	1.23
49	9	116	OMU	O2-C2	-2.71	1.18	1.23
45	5	4457	PSU	C6-N1	-2.71	1.31	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	1625	OMG	C2-N1	2.71	1.44	1.37
49	9	683	OMG	C5-C4	-2.71	1.36	1.43
49	9	683	OMG	C5-C6	2.71	1.52	1.47
47	8	75	OMG	C5-C4	-2.71	1.36	1.43
49	9	174	OMC	O2-C2	-2.71	1.18	1.23
45	5	400	A2M	O2'-C2'	2.71	1.49	1.42
45	5	4361	PSU	O4-C4	-2.71	1.18	1.23
49	9	121	OMU	O4-C4	-2.71	1.19	1.24
45	5	4456	OMC	C6-N1	2.70	1.44	1.38
45	5	4571	A2M	O2'-C2'	2.70	1.49	1.42
49	9	644	OMG	C2-N1	2.70	1.44	1.37
45	5	2837	OMU	O4-C4	-2.69	1.19	1.24
45	5	1625	OMG	C5-C4	-2.69	1.36	1.43
45	5	4637	OMG	C5-C6	2.69	1.52	1.47
45	5	2824	OMC	C6-N1	2.69	1.44	1.38
45	5	3808	OMC	C6-N1	2.69	1.44	1.38
45	5	4196	OMG	C5-C4	-2.69	1.36	1.43
45	5	3841	OMC	C6-N1	2.68	1.44	1.38
45	5	400	A2M	C1'-N9	-2.68	1.43	1.49
45	5	3718	A2M	O2'-C2'	2.68	1.49	1.42
49	9	509	OMG	C2-N1	2.68	1.44	1.37
45	5	1677	PSU	O4'-C1'	-2.68	1.40	1.43
45	5	3627	OMG	C5-C6	2.68	1.52	1.47
49	9	1031	A2M	O2'-C2'	2.68	1.49	1.42
45	5	1683	PSU	C6-C5	2.68	1.38	1.35
45	5	2804	OMC	C6-N1	2.67	1.44	1.38
45	5	4299	PSU	C6-N1	-2.67	1.31	1.36
45	5	1781	PSU	O4-C4	-2.67	1.18	1.23
45	5	1871	A2M	O2'-C2'	2.67	1.49	1.42
45	5	4628	PSU	C6-N1	-2.67	1.31	1.36
49	9	1081	PSU	C6-N1	-2.67	1.31	1.36
45	5	4494	OMG	C2-N1	2.66	1.44	1.37
49	9	517	OMC	O2-C2	-2.66	1.18	1.23
45	5	1677	PSU	O4-C4	-2.66	1.18	1.23
45	5	4623	OMG	C2-N1	2.66	1.44	1.37
45	5	3867	A2M	O2'-C2'	2.65	1.49	1.42
45	5	4530	UR3	C6-N1	2.65	1.44	1.38
45	5	3920	PSU	C4-C5	-2.65	1.37	1.44
45	5	3920	PSU	C6-C5	2.65	1.38	1.35
45	5	4442	PSU	O4-C4	-2.65	1.18	1.23
45	5	3853	PSU	C6-N1	-2.65	1.32	1.36
49	9	1830	UR3	C6-N1	2.65	1.44	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	4353	PSU	C6-N1	-2.64	1.32	1.36
45	5	4623	OMG	C5-C6	2.64	1.52	1.47
45	5	2363	A2M	O2'-C2'	2.64	1.49	1.42
45	5	1326	A2M	C1'-N9	-2.63	1.43	1.49
49	9	1678	A2M	O2'-C2'	2.63	1.49	1.42
49	9	509	OMG	C5-C4	-2.63	1.36	1.43
45	5	1326	A2M	O2'-C2'	2.63	1.49	1.42
45	5	4498	OMU	O4-C4	-2.63	1.19	1.24
45	5	4196	OMG	C5-C6	2.63	1.52	1.47
45	5	3639	PSU	O4-C4	-2.63	1.18	1.23
49	9	1243	PSU	O4-C4	-2.62	1.18	1.23
49	9	1243	PSU	C6-N1	-2.62	1.32	1.36
45	5	1683	PSU	O4-C4	-2.62	1.18	1.23
49	9	484	A2M	O3'-C3'	-2.62	1.36	1.43
45	5	3785	A2M	O2'-C2'	2.62	1.49	1.42
45	5	4521	PSU	C6-C5	2.62	1.38	1.35
45	5	3867	A2M	C1'-N9	-2.62	1.43	1.49
45	5	4403	PSU	C6-C5	2.62	1.38	1.35
45	5	3639	PSU	C6-C5	2.61	1.38	1.35
49	9	668	A2M	O3'-C3'	-2.61	1.36	1.43
45	5	3792	OMG	C5-C6	2.61	1.52	1.47
45	5	1744	PSU	C6-N1	-2.61	1.32	1.36
45	5	3785	A2M	O3'-C3'	-2.61	1.36	1.43
45	5	4296	PSU	O4-C4	-2.60	1.18	1.23
45	5	4521	PSU	C6-N1	-2.60	1.32	1.36
45	5	1340	OMC	C6-N1	2.60	1.44	1.38
45	5	3695	PSU	O4-C4	-2.60	1.18	1.23
45	5	3920	PSU	C6-N1	-2.59	1.32	1.36
47	8	75	OMG	C2-N1	2.59	1.43	1.37
45	5	3695	PSU	C6-N1	-2.59	1.32	1.36
45	5	3920	PSU	O4-C4	-2.59	1.18	1.23
49	9	822	PSU	C1'-C5	2.59	1.56	1.50
45	5	3701	OMC	O2-C2	-2.59	1.18	1.23
45	5	1316	OMG	C6-N1	2.59	1.41	1.37
45	5	4196	OMG	C2-N1	2.59	1.43	1.37
45	5	4403	PSU	O4-C4	-2.58	1.18	1.23
45	5	373	OMG	C2-N1	2.58	1.43	1.37
45	5	3899	OMG	C5-C6	2.58	1.52	1.47
45	5	3627	OMG	C2-N1	2.58	1.43	1.37
45	5	1792	PSU	O4-C4	-2.58	1.18	1.23
45	5	2364	OMG	C5-C6	2.57	1.52	1.47
45	5	3639	PSU	C4-C5	-2.57	1.37	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	4628	PSU	O4-C4	-2.57	1.18	1.23
49	9	822	PSU	O4-C4	-2.57	1.18	1.23
45	5	4392	OMG	C2-N1	2.57	1.43	1.37
45	5	4293	PSU	O2-C2	-2.57	1.17	1.23
45	5	4536	OMC	C6-N1	2.57	1.44	1.38
45	5	3734	PSU	O4-C4	-2.56	1.18	1.23
45	5	2508	PSU	C6-N1	-2.56	1.32	1.36
45	5	2632	PSU	C6-N1	-2.56	1.32	1.36
45	5	2364	OMG	C2-N1	2.55	1.43	1.37
45	5	1522	OMG	C5-C6	2.55	1.52	1.47
45	5	4403	PSU	C6-N1	-2.55	1.32	1.36
49	9	612	PSU	C6-N1	-2.55	1.32	1.36
45	5	4552	PSU	O4-C4	-2.55	1.18	1.23
45	5	4299	PSU	O4-C4	-2.55	1.18	1.23
45	5	3830	A2M	C1'-N9	-2.55	1.43	1.49
45	5	3639	PSU	C6-N1	-2.55	1.32	1.36
49	9	668	A2M	O2'-C2'	2.55	1.48	1.42
45	5	4442	PSU	C6-C5	2.54	1.38	1.35
45	5	4579	PSU	C6-N1	-2.54	1.32	1.36
45	5	1862	PSU	C6-N1	-2.54	1.32	1.36
45	5	4500	PSU	O4-C4	-2.53	1.18	1.23
49	9	119	PSU	O4-C4	-2.53	1.18	1.23
45	5	3715	PSU	C6-N1	-2.53	1.32	1.36
45	5	3764	PSU	O4-C4	-2.53	1.18	1.23
45	5	4293	PSU	C6-N1	-2.52	1.32	1.36
45	5	4579	PSU	O4-C4	-2.52	1.18	1.23
45	5	1862	PSU	O4-C4	-2.52	1.18	1.23
45	5	4637	OMG	C2-N1	2.51	1.43	1.37
45	5	1316	OMG	C5-C6	2.51	1.52	1.47
45	5	2632	PSU	O4-C4	-2.51	1.18	1.23
45	5	3899	OMG	C2-N1	2.50	1.43	1.37
45	5	1683	PSU	C4-C5	-2.50	1.37	1.44
45	5	4457	PSU	C6-C5	2.50	1.38	1.35
49	9	814	5MU	C6-N1	-2.50	1.33	1.38
45	5	1792	PSU	C6-N1	-2.50	1.32	1.36
45	5	3782	5MC	O2-C2	-2.50	1.19	1.23
45	5	4293	PSU	C4-C5	-2.50	1.37	1.44
45	5	3695	PSU	C6-C5	2.49	1.38	1.35
45	5	4296	PSU	C6-N1	-2.49	1.32	1.36
45	5	4552	PSU	C4-C5	-2.49	1.37	1.44
45	5	4442	PSU	C6-N1	-2.49	1.32	1.36
45	5	1782	PSU	O4-C4	-2.49	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	4532	PSU	C6-N1	-2.48	1.32	1.36
45	5	1860	PSU	O4-C4	-2.48	1.18	1.23
49	9	668	A2M	C1'-N9	-2.48	1.43	1.49
45	5	4299	PSU	C4-C5	-2.48	1.37	1.44
45	5	3851	PSU	O4-C4	-2.48	1.18	1.23
45	5	4523	A2M	O2'-C2'	2.48	1.48	1.42
49	9	509	OMG	C5-C6	2.47	1.52	1.47
45	5	4361	PSU	C4-C5	-2.47	1.37	1.44
45	5	3701	OMC	C5-C4	2.47	1.48	1.42
45	5	373	OMG	C5-C6	2.46	1.52	1.47
49	9	823	PSU	C6-N1	-2.46	1.32	1.36
49	9	1842	4AC	O7-C7	-2.46	1.17	1.23
45	5	4420	PSU	O4'-C1'	-2.46	1.40	1.43
45	5	4500	PSU	C6-N1	-2.46	1.32	1.36
45	5	3715	PSU	O4-C4	-2.45	1.18	1.23
49	9	166	A2M	O2'-C2'	2.44	1.48	1.42
45	5	4370	OMG	C5-C6	2.44	1.52	1.47
45	5	3762	PSU	O4-C4	-2.43	1.18	1.23
45	5	1683	PSU	C6-N1	-2.43	1.32	1.36
45	5	4423	PSU	O4-C4	-2.43	1.19	1.23
45	5	1744	PSU	O4-C4	-2.43	1.19	1.23
45	5	4361	PSU	C6-N1	-2.42	1.32	1.36
45	5	4571	A2M	C1'-N9	-2.42	1.43	1.49
45	5	4353	PSU	O4-C4	-2.42	1.19	1.23
45	5	4370	OMG	C2-N1	2.42	1.43	1.37
45	5	4521	PSU	O4-C4	-2.42	1.19	1.23
45	5	3851	PSU	O4'-C1'	-2.41	1.40	1.43
45	5	1683	PSU	O2-C2	-2.41	1.18	1.23
45	5	4457	PSU	O4-C4	-2.41	1.19	1.23
45	5	3762	PSU	C6-N1	-2.41	1.32	1.36
49	9	174	OMC	C5-C4	2.41	1.48	1.42
45	5	2787	A2M	O2'-C2'	2.41	1.48	1.42
49	9	1830	UR3	C4-N3	2.41	1.45	1.40
45	5	1522	OMG	C2-N1	2.40	1.43	1.37
45	5	4420	PSU	O4-C4	-2.40	1.19	1.23
45	5	3639	PSU	O2-C2	-2.40	1.18	1.23
45	5	1316	OMG	C2-N1	2.39	1.43	1.37
45	5	4552	PSU	O2-C2	-2.39	1.18	1.23
49	9	119	PSU	C6-N1	-2.39	1.32	1.36
45	5	1524	A2M	O2'-C2'	2.39	1.48	1.42
45	5	4392	OMG	C5-C6	2.39	1.52	1.47
45	5	4532	PSU	O4-C4	-2.39	1.19	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	9	1832	6MZ	C2-N3	2.38	1.35	1.32
45	5	4628	PSU	O2-C2	-2.38	1.18	1.23
45	5	3853	PSU	O4-C4	-2.38	1.19	1.23
45	5	3764	PSU	C1'-C5	2.38	1.55	1.50
45	5	3851	PSU	C4-C5	-2.38	1.37	1.44
45	5	3920	PSU	O2-C2	-2.38	1.18	1.23
45	5	3869	OMC	C6-N1	2.38	1.43	1.38
49	9	822	PSU	C6-N1	-2.38	1.32	1.36
45	5	4420	PSU	C6-N1	-2.37	1.32	1.36
45	5	4457	PSU	O2-C2	-2.37	1.18	1.23
49	9	517	OMC	C5-C4	2.36	1.48	1.42
45	5	3764	PSU	C6-N1	-2.36	1.32	1.36
45	5	2508	PSU	O4-C4	-2.36	1.19	1.23
45	5	3851	PSU	C6-N1	-2.36	1.32	1.36
45	5	4403	PSU	O2-C2	-2.36	1.18	1.23
45	5	4521	PSU	O2-C2	-2.36	1.18	1.23
45	5	3808	OMC	C5-C4	2.35	1.48	1.42
49	9	27	A2M	C1'-N9	-2.35	1.44	1.49
45	5	4579	PSU	C4-C5	-2.35	1.37	1.44
45	5	3853	PSU	O2-C2	-2.35	1.18	1.23
45	5	4361	PSU	O2-C2	-2.34	1.18	1.23
45	5	3899	OMG	O6-C6	-2.34	1.17	1.23
45	5	4523	A2M	C1'-N9	-2.34	1.44	1.49
45	5	2632	PSU	C4-C5	-2.34	1.37	1.44
45	5	4552	PSU	C6-C5	2.33	1.37	1.35
45	5	4530	UR3	C4-N3	2.33	1.45	1.40
45	5	1862	PSU	O2-C2	-2.33	1.18	1.23
49	9	1031	A2M	C1'-N9	-2.33	1.44	1.49
45	5	1517	2MG	O6-C6	-2.33	1.17	1.23
45	5	3695	PSU	C1'-C5	2.33	1.55	1.50
45	5	2364	OMG	O6-C6	-2.32	1.17	1.23
49	9	1678	A2M	C2-N3	2.32	1.35	1.32
45	5	3785	A2M	C1'-N9	-2.32	1.44	1.49
45	5	398	A2M	C1'-N9	-2.32	1.44	1.49
45	5	4530	UR3	O4-C4	-2.32	1.18	1.23
45	5	4532	PSU	O2-C2	-2.31	1.18	1.23
45	5	1677	PSU	C1'-C5	2.31	1.55	1.50
49	9	814	5MU	C6-C5	2.31	1.38	1.34
45	5	1792	PSU	C1'-C5	2.31	1.55	1.50
45	5	3734	PSU	C6-N1	-2.31	1.32	1.36
49	9	1830	UR3	O2-C2	-2.31	1.18	1.22
45	5	1781	PSU	C4-C5	-2.31	1.37	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	4494	OMG	C5-C6	2.30	1.52	1.47
45	5	1782	PSU	O2-C2	-2.30	1.18	1.23
49	9	822	PSU	O2-C2	-2.30	1.18	1.23
45	5	4403	PSU	O4'-C1'	-2.30	1.40	1.43
45	5	2632	PSU	O2-C2	-2.30	1.18	1.23
45	5	2876	OMG	C5-C6	2.30	1.52	1.47
45	5	3734	PSU	C1'-C5	2.30	1.55	1.50
45	5	4442	PSU	C4-C5	-2.30	1.38	1.44
45	5	1744	PSU	O2-C2	-2.30	1.18	1.23
49	9	1081	PSU	O2-C2	-2.29	1.18	1.23
45	5	4420	PSU	C1'-C5	2.29	1.55	1.50
49	9	1081	PSU	C1'-C5	2.29	1.55	1.50
45	5	4532	PSU	C4-C5	-2.29	1.38	1.44
49	9	1710	OMC	C5-C4	2.29	1.48	1.42
45	5	2363	A2M	C1'-N9	-2.29	1.44	1.49
49	9	823	PSU	C4-C5	-2.29	1.38	1.44
45	5	4423	PSU	C6-N1	-2.28	1.32	1.36
45	5	1781	PSU	C6-N1	-2.28	1.32	1.36
45	5	1860	PSU	C6-N1	-2.28	1.32	1.36
49	9	612	PSU	C4-C5	-2.28	1.38	1.44
45	5	4299	PSU	O2-C2	-2.28	1.18	1.23
49	9	814	5MU	C2-N3	-2.28	1.34	1.38
45	5	3792	OMG	C2-N1	2.28	1.43	1.37
45	5	4296	PSU	O2-C2	-2.27	1.18	1.23
45	5	2422	OMC	C5-C4	2.27	1.48	1.42
45	5	2861	OMC	C5-C4	2.27	1.48	1.42
45	5	4637	OMG	O6-C6	-2.27	1.18	1.23
45	5	4499	OMG	O6-C6	-2.27	1.18	1.23
45	5	3695	PSU	O2-C2	-2.26	1.18	1.23
45	5	4370	OMG	O6-C6	-2.26	1.18	1.23
45	5	4353	PSU	C4-C5	-2.26	1.38	1.44
45	5	2424	OMG	O6-C6	-2.26	1.18	1.23
45	5	4457	PSU	C4-C5	-2.26	1.38	1.44
45	5	3762	PSU	C1'-C5	2.25	1.55	1.50
45	5	1677	PSU	C6-N1	-2.25	1.32	1.36
49	9	166	A2M	C2-N3	2.25	1.35	1.32
45	5	3825	A2M	C1'-N9	-2.25	1.44	1.49
45	5	3762	PSU	O2-C2	-2.25	1.18	1.23
49	9	612	PSU	C1'-C5	2.25	1.55	1.50
45	5	3851	PSU	O2-C2	-2.25	1.18	1.23
45	5	3887	OMC	C5-C4	2.25	1.48	1.42
45	5	4403	PSU	C4-C5	-2.24	1.38	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	1862	PSU	C4-C5	-2.24	1.38	1.44
45	5	3853	PSU	C4-C5	-2.24	1.38	1.44
49	9	1703	OMC	C5-C4	2.24	1.48	1.42
45	5	2365	OMC	C5-C4	2.24	1.48	1.42
45	5	4530	UR3	O2-C2	-2.23	1.18	1.22
49	9	1243	PSU	C4-C5	-2.23	1.38	1.44
45	5	1792	PSU	O2-C2	-2.22	1.18	1.23
49	9	1337	4AC	O7-C7	-2.21	1.18	1.23
45	5	4423	PSU	O2-C2	-2.21	1.18	1.23
45	5	2508	PSU	O2-C2	-2.21	1.18	1.23
45	5	2804	OMC	C5-C4	2.21	1.48	1.42
45	5	3718	A2M	C1'-N9	-2.20	1.44	1.49
45	5	4628	PSU	C4-C5	-2.20	1.38	1.44
45	5	4579	PSU	O2-C2	-2.20	1.18	1.23
45	5	3724	A2M	C1'-N9	-2.20	1.44	1.49
45	5	1316	OMG	O6-C6	-2.19	1.18	1.23
49	9	612	PSU	O2-C2	-2.19	1.18	1.23
49	9	27	A2M	C2-N3	2.19	1.35	1.32
45	5	3760	A2M	C2-N3	2.19	1.35	1.32
45	5	3853	PSU	C1'-C5	2.19	1.55	1.50
45	5	1782	PSU	C6-N1	-2.18	1.32	1.36
45	5	2508	PSU	C4-C5	-2.18	1.38	1.44
49	9	1851	MA6	C2-N3	2.18	1.35	1.32
45	5	1792	PSU	O4'-C1'	-2.18	1.40	1.43
45	5	2824	OMC	C5-C4	2.18	1.48	1.42
45	5	4353	PSU	O2-C2	-2.18	1.18	1.23
45	5	4494	OMG	O6-C6	-2.18	1.18	1.23
45	5	3825	A2M	C2-N3	2.18	1.35	1.32
49	9	1243	PSU	O2-C2	-2.18	1.18	1.23
45	5	3715	PSU	O2-C2	-2.17	1.18	1.23
49	9	814	5MU	C4-C5	2.17	1.48	1.44
45	5	2815	A2M	C1'-N9	-2.16	1.44	1.49
49	9	1830	UR3	O4-C4	-2.16	1.19	1.23
45	5	3764	PSU	O2-C2	-2.16	1.18	1.23
45	5	1782	PSU	C1'-C5	2.15	1.55	1.50
49	9	1830	UR3	C5-C4	2.15	1.49	1.43
45	5	3792	OMG	O6-C6	-2.15	1.18	1.23
49	9	159	A2M	C1'-N9	-2.15	1.44	1.49
45	5	4442	PSU	O2-C2	-2.15	1.18	1.23
45	5	4536	OMC	C5-C4	2.15	1.47	1.42
49	9	1081	PSU	C4-C5	-2.15	1.38	1.44
45	5	4220	6MZ	C2-N3	2.14	1.35	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	9	119	PSU	O2-C2	-2.14	1.18	1.23
45	5	4530	UR3	C5-C4	2.14	1.49	1.43
45	5	4623	OMG	O6-C6	-2.14	1.18	1.23
45	5	4571	A2M	C2-N3	2.14	1.35	1.32
45	5	3734	PSU	O2-C2	-2.14	1.18	1.23
45	5	3627	OMG	O6-C6	-2.14	1.18	1.23
49	9	823	PSU	O2-C2	-2.13	1.18	1.23
45	5	3764	PSU	C4-C5	-2.13	1.38	1.44
45	5	3715	PSU	C4-C5	-2.13	1.38	1.44
49	9	1678	A2M	C1'-N9	-2.13	1.44	1.49
49	9	119	PSU	C1'-C5	2.12	1.55	1.50
45	5	1522	OMG	O6-C6	-2.12	1.18	1.23
45	5	3760	A2M	C1'-N9	-2.12	1.44	1.49
45	5	1534	A2M	C1'-N9	-2.12	1.44	1.49
45	5	4293	PSU	O4'-C1'	-2.11	1.40	1.43
45	5	2508	PSU	C1'-C5	2.11	1.55	1.50
45	5	3695	PSU	C4-C5	-2.11	1.38	1.44
45	5	3724	A2M	C2-N3	2.10	1.35	1.32
45	5	1781	PSU	C1'-C5	2.10	1.55	1.50
45	5	373	OMG	O6-C6	-2.09	1.18	1.23
45	5	4618	OMG	O6-C6	-2.09	1.18	1.23
45	5	1744	PSU	C4-C5	-2.09	1.38	1.44
45	5	4521	PSU	C4-C5	-2.09	1.38	1.44
49	9	484	A2M	C1'-N9	-2.09	1.44	1.49
45	5	2876	OMG	O6-C6	-2.08	1.18	1.23
45	5	4500	PSU	O2-C2	-2.08	1.18	1.23
45	5	1683	PSU	O4'-C1'	-2.08	1.41	1.43
49	9	823	PSU	C1'-C5	2.08	1.55	1.50
49	9	119	PSU	C4-C5	-2.08	1.38	1.44
45	5	1781	PSU	O2-C2	-2.08	1.19	1.23
45	5	1860	PSU	C1'-C5	2.08	1.55	1.50
45	5	1860	PSU	C4-C5	-2.07	1.38	1.44
45	5	4403	PSU	C1'-C5	2.07	1.54	1.50
45	5	3853	PSU	O4'-C1'	-2.07	1.41	1.43
45	5	4296	PSU	C4-C5	-2.07	1.38	1.44
49	9	509	OMG	O6-C6	-2.07	1.18	1.23
45	5	4196	OMG	O6-C6	-2.07	1.18	1.23
49	9	1219	B8Q	O2-C2	-2.07	1.18	1.22
45	5	4423	PSU	C4-C5	-2.07	1.38	1.44
49	9	1081	PSU	O4'-C1'	-2.07	1.41	1.43
45	5	1860	PSU	O2-C2	-2.06	1.19	1.23
49	9	814	5MU	C2-N1	2.06	1.41	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	5	4392	OMG	O6-C6	-2.06	1.18	1.23
45	5	3818	UY1	O2-C2	-2.06	1.19	1.23
45	5	1534	A2M	C2-N3	2.05	1.35	1.32
45	5	4299	PSU	C1'-C5	2.05	1.54	1.50
45	5	4521	PSU	C1'-C5	2.05	1.54	1.50
45	5	4628	PSU	C1'-C5	2.05	1.54	1.50
49	9	683	OMG	O6-C6	-2.05	1.18	1.23
45	5	3818	UY1	O4'-C1'	-2.05	1.41	1.43
45	5	4456	OMC	C5-C4	2.04	1.47	1.42
45	5	4500	PSU	C1'-C5	2.04	1.54	1.50
49	9	644	OMG	O6-C6	-2.04	1.18	1.23
45	5	4420	PSU	O2-C2	-2.04	1.19	1.23
45	5	2787	A2M	C1'-N9	-2.04	1.44	1.49
47	8	75	OMG	O6-C6	-2.04	1.18	1.23
49	9	484	A2M	C2-N3	2.04	1.35	1.32
45	5	4353	PSU	O4'-C1'	-2.04	1.41	1.43
45	5	2351	OMC	C5-C4	2.03	1.47	1.42
45	5	4423	PSU	C1'-C5	2.03	1.54	1.50
45	5	1625	OMG	O6-C6	-2.03	1.18	1.23
45	5	1862	PSU	C1'-C5	2.03	1.54	1.50
45	5	3841	OMC	C5-C4	2.03	1.47	1.42
45	5	1792	PSU	C4-C5	-2.03	1.38	1.44
45	5	1677	PSU	O2-C2	-2.02	1.19	1.23
45	5	1782	PSU	C4-C5	-2.02	1.38	1.44
49	9	1031	A2M	C2-N3	2.02	1.35	1.32
49	9	159	A2M	C2-N3	2.01	1.35	1.32
49	9	1850	MA6	C2-N3	2.01	1.35	1.32
45	5	1781	PSU	O4'-C1'	-2.01	1.41	1.43
45	5	3715	PSU	C1'-C5	2.01	1.54	1.50
45	5	4442	PSU	C1'-C5	2.01	1.54	1.50
45	5	4457	PSU	C1'-C5	2.00	1.54	1.50
49	9	1248	B8N	C32-C33	2.00	1.57	1.53

All (495) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	9	1850	MA6	N1-C6-N6	-17.26	96.89	116.83
49	9	1851	MA6	N1-C6-N6	-16.65	97.60	116.83
49	9	1806	M7A	C5-C6-N6	13.89	147.35	123.75
45	5	1534	A2M	C5-C6-N6	11.40	137.67	120.31
49	9	1806	M7A	N6-C6-N1	-11.38	93.02	118.38
49	9	484	A2M	C5-C6-N6	11.24	137.43	120.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	9	1031	A2M	C5-C6-N6	11.17	137.33	120.31
45	5	1524	A2M	C5-C6-N6	11.15	137.30	120.31
45	5	3718	A2M	C5-C6-N6	11.14	137.28	120.31
45	5	2815	A2M	C5-C6-N6	11.13	137.26	120.31
45	5	2363	A2M	C5-C6-N6	11.11	137.24	120.31
49	9	668	A2M	C5-C6-N6	11.04	137.12	120.31
45	5	3785	A2M	C5-C6-N6	11.02	137.10	120.31
45	5	3760	A2M	C5-C6-N6	11.01	137.08	120.31
49	9	159	A2M	C5-C6-N6	10.94	136.97	120.31
49	9	1678	A2M	C5-C6-N6	10.86	136.86	120.31
45	5	1871	A2M	C5-C6-N6	10.81	136.78	120.31
45	5	1326	A2M	C5-C6-N6	10.77	136.72	120.31
45	5	3867	A2M	C5-C6-N6	10.73	136.65	120.31
45	5	3830	A2M	C5-C6-N6	10.70	136.62	120.31
45	5	400	A2M	C5-C6-N6	10.70	136.61	120.31
45	5	4523	A2M	C5-C6-N6	10.66	136.55	120.31
45	5	2787	A2M	C5-C6-N6	10.58	136.42	120.31
45	5	398	A2M	C5-C6-N6	10.56	136.40	120.31
45	5	3724	A2M	C5-C6-N6	10.54	136.37	120.31
49	9	27	A2M	C5-C6-N6	10.43	136.21	120.31
45	5	4571	A2M	C5-C6-N6	10.37	136.11	120.31
45	5	3825	A2M	C5-C6-N6	10.37	136.11	120.31
49	9	166	A2M	C5-C6-N6	9.91	135.41	120.31
45	5	1524	A2M	C4'-O4'-C1'	-9.55	101.18	109.92
49	9	1850	MA6	C1'-N9-C4	-9.27	110.36	126.64
49	9	1851	MA6	C1'-N9-C4	-8.91	110.98	126.64
49	9	1678	A2M	C4'-O4'-C1'	-8.76	101.90	109.92
45	5	2815	A2M	N6-C6-N1	-7.50	102.31	118.33
45	5	2363	A2M	N6-C6-N1	-7.48	102.35	118.33
45	5	1534	A2M	N6-C6-N1	-7.37	102.59	118.33
49	9	1678	A2M	N6-C6-N1	-7.37	102.60	118.33
49	9	484	A2M	N6-C6-N1	-7.34	102.66	118.33
45	5	3785	A2M	N6-C6-N1	-7.33	102.67	118.33
49	9	1031	A2M	N6-C6-N1	-7.32	102.70	118.33
45	5	3718	A2M	N6-C6-N1	-7.29	102.75	118.33
45	5	3760	A2M	N6-C6-N1	-7.26	102.82	118.33
45	5	3785	A2M	C4'-O4'-C1'	-7.25	103.29	109.92
49	9	668	A2M	N6-C6-N1	-7.18	103.00	118.33
49	9	159	A2M	N6-C6-N1	-7.16	103.04	118.33
45	5	400	A2M	N6-C6-N1	-7.15	103.06	118.33
45	5	1524	A2M	N6-C6-N1	-7.14	103.07	118.33
45	5	3867	A2M	N6-C6-N1	-7.08	103.21	118.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	5	3830	A2M	N6-C6-N1	-7.06	103.25	118.33
45	5	1326	A2M	N6-C6-N1	-7.01	103.37	118.33
45	5	4523	A2M	N6-C6-N1	-6.98	103.42	118.33
45	5	2787	A2M	N6-C6-N1	-6.94	103.50	118.33
45	5	1524	A2M	N3-C2-N1	-6.92	119.28	128.67
45	5	398	A2M	N6-C6-N1	-6.84	103.72	118.33
45	5	3825	A2M	N6-C6-N1	-6.83	103.74	118.33
45	5	4571	A2M	N6-C6-N1	-6.82	103.76	118.33
45	5	3724	A2M	N6-C6-N1	-6.73	103.96	118.33
45	5	1871	A2M	N6-C6-N1	-6.71	103.99	118.33
45	5	1326	A2M	N3-C2-N1	-6.71	119.57	128.67
49	9	27	A2M	N6-C6-N1	-6.68	104.06	118.33
49	9	166	A2M	N6-C6-N1	-6.57	104.30	118.33
45	5	4220	6MZ	N3-C2-N1	-6.51	119.83	128.67
45	5	1871	A2M	N3-C2-N1	-6.49	119.86	128.67
45	5	4571	A2M	N3-C2-N1	-6.41	119.98	128.67
45	5	398	A2M	N3-C2-N1	-6.40	119.99	128.67
49	9	166	A2M	N3-C2-N1	-6.37	120.02	128.67
49	9	1832	6MZ	N3-C2-N1	-6.37	120.03	128.67
45	5	400	A2M	N3-C2-N1	-6.34	120.07	128.67
45	5	3760	A2M	N3-C2-N1	-6.27	120.16	128.67
49	9	1678	A2M	N3-C2-N1	-6.26	120.18	128.67
45	5	2815	A2M	N3-C2-N1	-6.24	120.20	128.67
45	5	3830	A2M	N3-C2-N1	-6.20	120.26	128.67
45	5	2363	A2M	N3-C2-N1	-6.19	120.27	128.67
45	5	4523	A2M	N3-C2-N1	-6.19	120.27	128.67
45	5	1534	A2M	N3-C2-N1	-6.16	120.31	128.67
49	9	27	A2M	N3-C2-N1	-6.13	120.35	128.67
45	5	237	B9B	N3-C2-N1	-6.12	119.43	127.21
45	5	3724	A2M	N3-C2-N1	-6.12	120.37	128.67
45	5	1744	PSU	N1-C2-N3	6.12	121.62	115.17
49	9	1851	MA6	N3-C2-N1	-6.10	120.39	128.67
49	9	1031	A2M	N3-C2-N1	-6.08	120.41	128.67
49	9	484	A2M	N3-C2-N1	-6.06	120.44	128.67
45	5	4293	PSU	N1-C2-N3	6.03	121.53	115.17
45	5	2787	A2M	N3-C2-N1	-6.02	120.50	128.67
49	9	1850	MA6	N3-C2-N1	-5.98	120.55	128.67
45	5	3853	PSU	N1-C2-N3	5.97	121.47	115.17
45	5	4296	PSU	N1-C2-N3	5.96	121.45	115.17
49	9	668	A2M	N3-C2-N1	-5.93	120.62	128.67
45	5	3867	A2M	N3-C2-N1	-5.93	120.63	128.67
45	5	4457	PSU	N1-C2-N3	5.92	121.41	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	5	4620	OMU	C4-N3-C2	-5.91	119.28	126.61
45	5	4498	OMU	C4-N3-C2	-5.87	119.33	126.61
49	9	1243	PSU	N1-C2-N3	5.87	121.36	115.17
45	5	4628	PSU	N1-C2-N3	5.86	121.35	115.17
45	5	4552	PSU	N1-C2-N3	5.85	121.34	115.17
45	5	3825	A2M	N3-C2-N1	-5.85	120.73	128.67
45	5	1862	PSU	N1-C2-N3	5.83	121.32	115.17
45	5	3785	A2M	N3-C2-N1	-5.83	120.77	128.67
45	5	1792	PSU	N1-C2-N3	5.80	121.28	115.17
45	5	2837	OMU	C4-N3-C2	-5.80	119.42	126.61
45	5	1517	2MG	N1-C2-N2	5.79	122.47	116.56
45	5	2632	PSU	N1-C2-N3	5.78	121.27	115.17
45	5	3762	PSU	N1-C2-N3	5.77	121.25	115.17
45	5	4530	UR3	C4-N3-C2	-5.77	119.94	124.58
45	5	3925	OMU	C4-N3-C2	-5.75	119.47	126.61
45	5	4299	PSU	N1-C2-N3	5.74	121.22	115.17
45	5	4521	PSU	N1-C2-N3	5.73	121.21	115.17
49	9	159	A2M	N3-C2-N1	-5.69	120.95	128.67
45	5	3851	PSU	N1-C2-N3	5.69	121.17	115.17
45	5	3718	A2M	N3-C2-N1	-5.68	120.96	128.67
45	5	4532	PSU	N1-C2-N3	5.68	121.16	115.17
49	9	1081	PSU	N1-C2-N3	5.67	121.15	115.17
45	5	1683	PSU	N1-C2-N3	5.67	121.15	115.17
45	5	4353	PSU	N1-C2-N3	5.66	121.14	115.17
45	5	2508	PSU	N1-C2-N3	5.65	121.13	115.17
45	5	1782	PSU	N1-C2-N3	5.62	121.10	115.17
45	5	1677	PSU	N1-C2-N3	5.60	121.07	115.17
45	5	4361	PSU	N1-C2-N3	5.57	121.05	115.17
49	9	822	PSU	N1-C2-N3	5.57	121.04	115.17
49	9	121	OMU	C4-N3-C2	-5.55	119.72	126.61
45	5	3715	PSU	N1-C2-N3	5.55	121.02	115.17
45	5	4423	PSU	N1-C2-N3	5.55	121.02	115.17
45	5	4227	OMU	C4-N3-C2	-5.53	119.75	126.61
45	5	4500	PSU	N1-C2-N3	5.53	121.00	115.17
49	9	119	PSU	N1-C2-N3	5.51	120.98	115.17
49	9	1248	B8N	C5-C4-N3	5.51	126.16	116.15
45	5	4306	OMU	C4-N3-C2	-5.49	119.80	126.61
45	5	3734	PSU	N1-C2-N3	5.46	120.93	115.17
49	9	823	PSU	N1-C2-N3	5.46	120.92	115.17
49	9	814	5MU	N3-C2-N1	5.45	121.98	114.89
45	5	3639	PSU	N1-C2-N3	5.44	120.90	115.17
49	9	668	A2M	C4'-O4'-C1'	-5.43	104.95	109.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	9	814	5MU	C4-N3-C2	-5.43	120.22	127.34
45	5	4442	PSU	N1-C2-N3	5.42	120.89	115.17
45	5	4579	PSU	N1-C2-N3	5.42	120.88	115.17
49	9	1806	M7A	N3-C2-N1	-5.42	120.38	128.58
45	5	4420	PSU	N1-C2-N3	5.40	120.87	115.17
45	5	3920	PSU	N1-C2-N3	5.37	120.83	115.17
45	5	3695	PSU	N1-C2-N3	5.33	120.80	115.17
49	9	1830	UR3	C4-N3-C2	-5.31	120.31	124.58
45	5	1781	PSU	N1-C2-N3	5.30	120.76	115.17
45	5	1860	PSU	N1-C2-N3	5.29	120.75	115.17
49	9	612	PSU	N1-C2-N3	5.26	120.72	115.17
49	9	1806	M7A	N3-C4-N9	5.24	133.43	126.88
45	5	4403	PSU	N1-C2-N3	5.24	120.69	115.17
45	5	3764	PSU	N1-C2-N3	5.03	120.48	115.17
49	9	1806	M7A	C4-N9-C1'	-4.98	115.03	126.63
45	5	3818	UY1	C4-N3-C2	-4.94	119.57	126.37
45	5	3867	A2M	O4'-C1'-N9	-4.93	102.21	108.75
49	9	116	OMU	C4-N3-C2	-4.88	120.56	126.61
49	9	1832	6MZ	C2-N1-C6	4.84	120.36	116.60
45	5	3867	A2M	C4'-O4'-C1'	-4.83	105.50	109.92
45	5	1322	1MA	N1-C2-N3	-4.76	119.95	125.90
49	9	1248	B8N	C4-N3-C2	-4.75	119.77	125.62
49	9	1219	B8Q	N3-C2-N1	4.58	123.54	117.16
45	5	1326	A2M	C4'-O4'-C1'	-4.45	105.85	109.92
45	5	237	B9B	C1'-N9-C4	-4.43	118.86	126.64
49	9	159	A2M	C4'-O4'-C1'	-4.31	105.97	109.92
45	5	4498	OMU	N3-C2-N1	4.29	120.47	114.89
45	5	4457	PSU	C4-N3-C2	-4.29	120.46	126.37
49	9	1248	B8N	C1'-C5-C4	4.25	124.06	117.61
49	9	823	PSU	C4-N3-C2	-4.24	120.52	126.37
45	5	1744	PSU	C4-N3-C2	-4.23	120.54	126.37
45	5	3925	OMU	N3-C2-N1	4.23	120.40	114.89
45	5	4628	PSU	O2-C2-N1	-4.22	118.44	122.79
45	5	1782	PSU	C4-N3-C2	-4.21	120.57	126.37
45	5	1862	PSU	C4-N3-C2	-4.21	120.58	126.37
45	5	4353	PSU	C4-N3-C2	-4.18	120.61	126.37
45	5	4296	PSU	C4-N3-C2	-4.16	120.64	126.37
45	5	2363	A2M	C4'-O4'-C1'	-4.15	106.13	109.92
49	9	121	OMU	N3-C2-N1	4.13	120.26	114.89
49	9	119	PSU	C4-N3-C2	-4.11	120.71	126.37
45	5	4620	OMU	N3-C2-N1	4.11	120.24	114.89
45	5	237	B9B	N2-C2-N3	4.10	124.19	117.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	5	4220	6MZ	C2-N1-C6	4.10	119.78	116.60
49	9	822	PSU	C4-N3-C2	-4.09	120.74	126.37
49	9	1243	PSU	C4-N3-C2	-4.08	120.75	126.37
49	9	1219	B8Q	C31-N3-C4	4.08	121.82	114.76
45	5	4521	PSU	C4-N3-C2	-4.07	120.76	126.37
45	5	4299	PSU	C4-N3-C2	-4.06	120.78	126.37
45	5	4442	PSU	C4-N3-C2	-4.06	120.78	126.37
49	9	814	5MU	C5-C4-N3	4.06	118.85	115.32
45	5	3830	A2M	C4'-O4'-C1'	-4.05	106.22	109.92
45	5	3762	PSU	C4-N3-C2	-4.03	120.81	126.37
45	5	4293	PSU	C4-N3-C2	-4.03	120.82	126.37
45	5	2837	OMU	N3-C2-N1	4.03	120.13	114.89
45	5	4500	PSU	C4-N3-C2	-4.02	120.84	126.37
45	5	4552	PSU	C4-N3-C2	-4.00	120.86	126.37
45	5	2632	PSU	C4-N3-C2	-4.00	120.87	126.37
45	5	1683	PSU	C4-N3-C2	-3.99	120.88	126.37
45	5	3853	PSU	C4-N3-C2	-3.97	120.90	126.37
45	5	1871	A2M	C4'-O4'-C1'	-3.96	106.30	109.92
45	5	4532	PSU	C4-N3-C2	-3.96	120.91	126.37
49	9	814	5MU	O4-C4-C5	-3.96	120.38	124.92
45	5	4361	PSU	C4-N3-C2	-3.95	120.93	126.37
45	5	3818	UY1	N1-C2-N3	3.94	119.32	115.17
45	5	3695	PSU	C4-N3-C2	-3.93	120.95	126.37
45	5	3762	PSU	O2-C2-N1	-3.92	118.75	122.79
45	5	3715	PSU	C4-N3-C2	-3.92	120.98	126.37
45	5	1792	PSU	C4-N3-C2	-3.92	120.98	126.37
45	5	3851	PSU	C4-N3-C2	-3.91	120.99	126.37
45	5	4296	PSU	O2-C2-N1	-3.90	118.77	122.79
45	5	4423	PSU	C4-N3-C2	-3.88	121.03	126.37
45	5	3853	PSU	O2-C2-N1	-3.87	118.80	122.79
45	5	3734	PSU	C4-N3-C2	-3.86	121.06	126.37
45	5	4306	OMU	N3-C2-N1	3.85	119.91	114.89
45	5	4227	OMU	C5-C4-N3	3.85	120.19	114.80
49	9	814	5MU	C5-C6-N1	-3.84	119.14	123.31
45	5	1781	PSU	C4-N3-C2	-3.83	121.09	126.37
49	9	1248	B8N	N3-C2-N1	3.83	121.39	116.72
45	5	1860	PSU	C4-N3-C2	-3.80	121.14	126.37
45	5	3639	PSU	C4-N3-C2	-3.79	121.14	126.37
49	9	612	PSU	C4-N3-C2	-3.79	121.15	126.37
45	5	237	B9B	C2-N3-C4	3.79	119.57	115.48
45	5	4552	PSU	O2-C2-N1	-3.77	118.90	122.79
45	5	3920	PSU	C4-N3-C2	-3.76	121.19	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	5	2508	PSU	C4-N3-C2	-3.72	121.24	126.37
45	5	4420	PSU	C4-N3-C2	-3.72	121.24	126.37
49	9	1081	PSU	C4-N3-C2	-3.71	121.25	126.37
49	9	27	A2M	C4'-O4'-C1'	-3.68	106.55	109.92
49	9	668	A2M	O4'-C1'-N9	-3.68	103.87	108.75
45	5	1677	PSU	C4-N3-C2	-3.66	121.33	126.37
45	5	4403	PSU	C4-N3-C2	-3.65	121.34	126.37
45	5	4530	UR3	C5-C4-N3	3.62	119.81	115.04
45	5	4628	PSU	C4-N3-C2	-3.62	121.39	126.37
49	9	568	E3C	C4-N3-C2	-3.61	115.50	122.00
49	9	1243	PSU	O2-C2-N1	-3.60	119.07	122.79
45	5	2837	OMU	C5-C4-N3	3.60	119.84	114.80
45	5	3764	PSU	C4-N3-C2	-3.58	121.44	126.37
45	5	3715	PSU	O2-C2-N1	-3.55	119.12	122.79
45	5	1744	PSU	O2-C2-N1	-3.53	119.14	122.79
45	5	1677	PSU	O2-C2-N1	-3.53	119.15	122.79
49	9	612	PSU	O2-C2-N1	-3.53	119.15	122.79
45	5	3639	PSU	O2-C2-N1	-3.51	119.16	122.79
45	5	4620	OMU	C5-C4-N3	3.50	119.71	114.80
45	5	4523	A2M	C4'-O4'-C1'	-3.48	106.74	109.92
45	5	2508	PSU	O2-C2-N1	-3.45	119.23	122.79
45	5	1322	1MA	C5-C6-N1	3.45	118.91	113.95
45	5	4498	OMU	C5-C4-N3	3.43	119.61	114.80
45	5	4227	OMU	N3-C2-N1	3.43	119.36	114.89
49	9	568	E3C	C31-N3-C2	3.42	121.78	117.49
49	9	822	PSU	O2-C2-N1	-3.42	119.27	122.79
45	5	3785	A2M	O4'-C1'-N9	3.41	113.27	108.75
45	5	4532	PSU	O2-C2-N1	-3.39	119.29	122.79
49	9	116	OMU	N3-C2-N1	3.38	119.29	114.89
45	5	1683	PSU	O2-C2-N1	-3.36	119.33	122.79
45	5	3818	UY1	C6-C5-C4	3.35	120.44	118.17
45	5	4579	PSU	C4-N3-C2	-3.35	121.76	126.37
49	9	121	OMU	C5-C4-N3	3.35	119.48	114.80
45	5	1792	PSU	O2-C2-N1	-3.34	119.34	122.79
45	5	3925	OMU	C5-C4-N3	3.33	119.46	114.80
45	5	4579	PSU	O2-C2-N1	-3.31	119.37	122.79
49	9	644	OMG	C8-N7-C5	3.31	108.19	102.55
45	5	4423	PSU	O2-C2-N1	-3.31	119.37	122.79
45	5	237	B9B	O6-C6-N1	-3.31	117.40	120.23
45	5	4306	OMU	C5-C4-N3	3.30	119.42	114.80
45	5	4361	PSU	O2-C2-N1	-3.30	119.39	122.79
49	9	116	OMU	C5-C4-N3	3.30	119.42	114.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	5	4403	PSU	O2-C2-N1	-3.29	119.40	122.79
45	5	3782	5MC	C5-C6-N1	-3.28	119.75	123.31
45	5	4637	OMG	C8-N7-C5	3.28	108.13	102.55
45	5	3734	PSU	O2-C2-N1	-3.26	119.43	122.79
45	5	2424	OMG	C5-C6-N1	3.25	120.28	114.07
49	9	1081	PSU	O2-C2-N1	-3.25	119.44	122.79
45	5	2632	PSU	O2-C2-N1	-3.24	119.44	122.79
45	5	4457	PSU	O2-C2-N1	-3.24	119.45	122.79
45	5	1316	OMG	C8-N7-C5	3.24	108.06	102.55
45	5	4637	OMG	C5-C6-N1	3.22	120.21	114.07
49	9	683	OMG	C8-N7-C5	3.21	108.01	102.55
45	5	4370	OMG	C5-C6-N1	3.19	120.16	114.07
45	5	4499	OMG	C5-C6-N1	3.19	120.16	114.07
45	5	4420	PSU	O2-C2-N1	-3.19	119.50	122.79
45	5	1322	1MA	C8-N7-C5	3.19	107.97	102.55
49	9	1830	UR3	C5-C4-N3	3.18	119.23	115.04
45	5	2824	OMC	CM2-O2'-C2'	3.18	122.63	114.47
45	5	4447	5MC	C5-C4-N3	-3.17	118.50	121.75
45	5	2837	OMU	O4-C4-C5	-3.17	119.69	125.16
45	5	3920	PSU	O2-C2-N1	-3.16	119.53	122.79
45	5	3899	OMG	C5-C6-N1	3.16	120.10	114.07
49	9	121	OMU	O4-C4-C5	-3.16	119.71	125.16
45	5	3724	A2M	C4'-O4'-C1'	-3.15	107.04	109.92
45	5	4370	OMG	C2-N1-C6	-3.11	119.41	125.11
45	5	2424	OMG	C2-N1-C6	-3.11	119.42	125.11
45	5	2876	OMG	C2-N1-C6	-3.10	119.43	125.11
45	5	1517	2MG	C8-N7-C5	3.10	107.83	102.55
49	9	1806	M7A	C2-N3-C4	3.10	119.41	111.83
45	5	2364	OMG	C5-C6-N1	3.10	119.98	114.07
45	5	1522	OMG	C8-N7-C5	3.09	107.82	102.55
49	9	119	PSU	O2-C2-N1	-3.09	119.60	122.79
49	9	1806	M7A	C71-N7-C5	-3.08	110.58	123.44
45	5	4392	OMG	C2-N1-C6	-3.08	119.47	125.11
45	5	4299	PSU	O2-C2-N1	-3.08	119.61	122.79
45	5	3627	OMG	C5-C6-N1	3.08	119.94	114.07
45	5	2876	OMG	C5-C6-N1	3.07	119.93	114.07
49	9	1031	A2M	C4'-O4'-C1'	-3.07	107.12	109.92
47	8	75	OMG	C8-N7-C5	3.06	107.76	102.55
45	5	4620	OMU	O4-C4-C5	-3.05	119.90	125.16
45	5	3764	PSU	O2-C2-N1	-3.05	119.64	122.79
45	5	4623	OMG	C8-N7-C5	3.05	107.74	102.55
45	5	1625	OMG	C8-N7-C5	3.04	107.73	102.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	5	4228	OMG	C8-N7-C5	3.04	107.72	102.55
45	5	4499	OMG	C2-N1-C6	-3.03	119.56	125.11
45	5	4521	PSU	O2-C2-N1	-3.03	119.66	122.79
45	5	4392	OMG	C8-N7-C5	3.02	107.70	102.55
45	5	3899	OMG	C2-N1-C6	-3.01	119.60	125.11
49	9	823	PSU	O2-C2-N1	-3.01	119.69	122.79
45	5	3792	OMG	C8-N7-C5	3.00	107.66	102.55
45	5	3695	PSU	O2-C2-N1	-3.00	119.70	122.79
45	5	373	OMG	C8-N7-C5	2.99	107.65	102.55
45	5	3627	OMG	C8-N7-C5	2.99	107.64	102.55
45	5	1517	2MG	C5-C6-N1	2.99	119.77	114.07
45	5	4499	OMG	C8-N7-C5	2.98	107.62	102.55
45	5	2364	OMG	C2-N1-C6	-2.98	119.66	125.11
45	5	2364	OMG	C8-N7-C5	2.97	107.61	102.55
45	5	3718	A2M	C4'-O4'-C1'	-2.97	107.20	109.92
48	v	715	DDE	CAU-CBW-CBI	-2.97	105.41	111.22
45	5	1316	OMG	C5-C6-N1	2.96	119.72	114.07
45	5	4623	OMG	C2-N1-C6	-2.96	119.69	125.11
45	5	1326	A2M	O4'-C1'-N9	-2.96	104.82	108.75
49	9	644	OMG	C5-C6-N1	2.95	119.71	114.07
49	9	509	OMG	C8-N7-C5	2.95	107.58	102.55
45	5	4392	OMG	C5-C6-N1	2.95	119.70	114.07
45	5	1625	OMG	C2-N1-C6	-2.95	119.71	125.11
45	5	4196	OMG	C5-C6-N1	2.95	119.69	114.07
45	5	1522	OMG	C2-N1-C6	-2.93	119.74	125.11
45	5	4494	OMG	C5-C6-N1	2.93	119.66	114.07
45	5	4227	OMU	O4-C4-C5	-2.93	120.12	125.16
45	5	1316	OMG	C2-N1-C6	-2.92	119.76	125.11
45	5	4500	PSU	O2-C2-N1	-2.92	119.78	122.79
45	5	3925	OMU	O4-C4-C5	-2.92	120.13	125.16
45	5	4370	OMG	C8-N7-C5	2.91	107.51	102.55
45	5	3792	OMG	C5-C6-N1	2.91	119.63	114.07
45	5	4228	OMG	C2-N1-C6	-2.91	119.79	125.11
45	5	1782	PSU	O2-C2-N1	-2.91	119.79	122.79
45	5	4196	OMG	C2-N1-C6	-2.90	119.81	125.11
45	5	4442	PSU	O2-C2-N1	-2.89	119.81	122.79
45	5	3760	A2M	C4'-O4'-C1'	-2.89	107.28	109.92
49	9	683	OMG	C2-N1-C6	-2.88	119.83	125.11
45	5	3627	OMG	C2-N1-C6	-2.88	119.84	125.11
45	5	4228	OMG	C5-C6-N1	2.88	119.56	114.07
45	5	4306	OMU	O4-C4-C5	-2.87	120.21	125.16
49	9	1374	5MC	C5-C6-N1	-2.86	120.21	123.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	5	4623	OMG	C5-C6-N1	2.86	119.52	114.07
45	5	4353	PSU	O2-C2-N1	-2.85	119.85	122.79
45	5	1860	PSU	O2-C2-N1	-2.85	119.85	122.79
49	9	509	OMG	C2-N1-C6	-2.84	119.90	125.11
45	5	4293	PSU	O2-C2-N1	-2.84	119.86	122.79
45	5	4618	OMG	C5-C6-N1	2.84	119.50	114.07
45	5	1524	A2M	O4'-C4'-C3'	-2.84	99.51	105.15
49	9	683	OMG	C5-C6-N1	2.84	119.49	114.07
45	5	4618	OMG	C8-N7-C5	2.84	107.38	102.55
45	5	2424	OMG	C8-N7-C5	2.83	107.37	102.55
45	5	1522	OMG	C5-C6-N1	2.83	119.47	114.07
45	5	1781	PSU	O2-C2-N1	-2.83	119.87	122.79
45	5	4494	OMG	C8-N7-C5	2.83	107.36	102.55
49	9	1851	MA6	C2-N1-C6	2.82	119.61	116.84
45	5	1862	PSU	O2-C2-N1	-2.81	119.89	122.79
49	9	1248	B8N	C31-N3-C4	2.81	121.16	117.18
45	5	4620	OMU	O2-C2-N1	-2.81	119.14	122.80
45	5	4447	5MC	C5-C6-N1	-2.81	120.26	123.31
45	5	4196	OMG	C8-N7-C5	2.81	107.33	102.55
45	5	1625	OMG	C5-C6-N1	2.79	119.40	114.07
45	5	4220	6MZ	C9-N6-C6	-2.79	120.26	122.85
47	8	75	OMG	C5-C6-N1	2.77	119.36	114.07
45	5	4494	OMG	C2-N1-C6	-2.77	120.04	125.11
45	5	373	OMG	C5-C6-N1	2.77	119.35	114.07
49	9	1248	B8N	O4-C4-N3	-2.76	115.51	119.99
49	9	116	OMU	O4-C4-C5	-2.75	120.42	125.16
45	5	3899	OMG	C8-N7-C5	2.75	107.23	102.55
49	9	814	5MU	O2-C2-N1	-2.74	119.23	122.80
45	5	4637	OMG	C2-N1-C6	-2.74	120.09	125.11
45	5	3925	OMU	O2-C2-N1	-2.73	119.24	122.80
45	5	1862	PSU	C5-C6-N1	-2.73	118.35	122.14
45	5	1534	A2M	O4'-C1'-C2'	-2.72	101.97	106.61
47	8	75	OMG	C2-N1-C6	-2.71	120.15	125.11
45	5	2876	OMG	C8-N7-C5	2.71	107.17	102.55
45	5	3785	A2M	O4'-C1'-C2'	-2.70	102.00	106.61
45	5	4498	OMU	O4-C4-C5	-2.70	120.50	125.16
49	9	509	OMG	C5-C6-N1	2.70	119.22	114.07
49	9	1806	M7A	C5-C4-N3	-2.69	120.34	126.56
45	5	3792	OMG	C2-N1-C6	-2.68	120.20	125.11
49	9	1850	MA6	C2-N1-C6	2.68	119.47	116.84
45	5	4618	OMG	C2-N1-C6	-2.66	120.24	125.11
49	9	568	E3C	O2-C2-N3	-2.66	118.70	122.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	9	1219	B8Q	O2-C2-N3	-2.66	119.22	122.95
45	5	400	A2M	C4'-O4'-C1'	-2.65	107.50	109.92
45	5	4571	A2M	C4'-O4'-C1'	-2.64	107.51	109.92
49	9	1842	4AC	N4-C4-N3	2.64	118.15	113.87
49	9	27	A2M	O4'-C1'-N9	-2.63	105.26	108.75
49	9	644	OMG	C2-N1-C6	-2.62	120.31	125.11
45	5	3841	OMC	CM2-O2'-C2'	2.62	121.21	114.47
45	5	3851	PSU	O2-C2-N1	-2.62	120.09	122.79
49	9	1374	5MC	C5-C4-N3	-2.59	119.10	121.75
45	5	3818	UY1	C6-N1-C2	-2.58	120.30	122.69
49	9	121	OMU	O2-C2-N1	-2.58	119.44	122.80
45	5	1782	PSU	C5-C6-N1	-2.57	118.58	122.14
45	5	373	OMG	C2-N1-C6	-2.56	120.42	125.11
45	5	2837	OMU	O2-C2-N1	-2.55	119.47	122.80
49	9	823	PSU	C5-C6-N1	-2.55	118.60	122.14
49	9	119	PSU	C5-C6-N1	-2.50	118.67	122.14
49	9	814	5MU	C5M-C5-C6	-2.50	119.47	122.85
45	5	398	A2M	O4'-C1'-N9	2.49	112.05	108.75
45	5	4353	PSU	C5-C6-N1	-2.49	118.68	122.14
49	9	1219	B8Q	C31-N3-C2	2.49	121.61	117.70
49	9	1219	B8Q	O2-C2-N1	-2.49	117.23	122.78
45	5	4296	PSU	C5-C6-N1	-2.48	118.70	122.14
45	5	4500	PSU	C5-C6-N1	-2.47	118.71	122.14
45	5	1860	PSU	C5-C6-N1	-2.47	118.72	122.14
45	5	4521	PSU	C5-C6-N1	-2.46	118.72	122.14
49	9	1248	B8N	O4-C4-C5	-2.46	118.33	122.58
45	5	1534	A2M	O4'-C1'-N9	-2.45	105.50	108.75
49	9	116	OMU	CM2-O2'-C2'	2.44	120.75	114.47
45	5	4536	OMC	C2'-C1'-N1	-2.43	109.64	114.24
49	9	1830	UR3	C6-N1-C2	-2.42	119.82	121.80
45	5	1781	PSU	C5-C6-N1	-2.42	118.79	122.14
45	5	3851	PSU	C5-C6-N1	-2.42	118.79	122.14
45	5	4293	PSU	C5-C6-N1	-2.41	118.80	122.14
45	5	4442	PSU	C5-C6-N1	-2.41	118.80	122.14
45	5	4530	UR3	C6-N1-C2	-2.40	119.84	121.80
45	5	1744	PSU	C5-C6-N1	-2.39	118.82	122.14
45	5	4532	PSU	C5-C6-N1	-2.39	118.82	122.14
45	5	2815	A2M	C4'-O4'-C1'	-2.38	107.74	109.92
45	5	4457	PSU	C5-C6-N1	-2.37	118.85	122.14
45	5	2876	OMG	O6-C6-C5	-2.35	119.65	124.32
45	5	4498	OMU	O2-C2-N1	-2.35	119.73	122.80
45	5	398	A2M	C4'-O4'-C1'	-2.35	107.77	109.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	9	1337	4AC	C6-C5-C4	2.33	119.81	117.00
45	5	3782	5MC	C5-C4-N3	-2.33	119.37	121.75
49	9	1842	4AC	CM7-C7-N4	2.33	119.03	115.27
49	9	814	5MU	C5M-C5-C4	2.31	121.25	118.78
49	9	1337	4AC	C5-C4-N3	-2.31	118.99	122.60
49	9	1243	PSU	C5-C6-N1	-2.31	118.94	122.14
45	5	4628	PSU	C6-N1-C2	-2.29	120.57	122.69
45	5	4420	PSU	C5-C6-N1	-2.24	119.03	122.14
45	5	4552	PSU	C5-C6-N1	-2.23	119.04	122.14
49	9	1842	4AC	C6-C5-C4	2.23	119.68	117.00
49	9	1842	4AC	C5-C4-N3	-2.22	119.12	122.60
45	5	2632	PSU	C5-C6-N1	-2.22	119.06	122.14
45	5	4403	PSU	O4'-C1'-C2'	2.22	108.22	105.15
49	9	668	A2M	C3'-C2'-C1'	2.21	107.05	102.81
45	5	1677	PSU	C5-C6-N1	-2.20	119.09	122.14
49	9	822	PSU	C5-C6-N1	-2.20	119.09	122.14
45	5	4361	PSU	C5-C6-N1	-2.19	119.10	122.14
45	5	3869	OMC	CM2-O2'-C2'	2.19	120.09	114.47
45	5	3920	PSU	O4-C4-C5	-2.19	118.58	124.01
45	5	3734	PSU	C5-C6-N1	-2.18	119.11	122.14
45	5	4423	PSU	C5-C6-N1	-2.18	119.11	122.14
49	9	1832	6MZ	C6-C5-C4	2.18	119.99	117.68
45	5	4299	PSU	C5-C6-N1	-2.17	119.12	122.14
45	5	3715	PSU	C5-C6-N1	-2.16	119.15	122.14
45	5	4618	OMG	N2-C2-N1	2.15	121.30	116.76
45	5	4306	OMU	O2-C2-N1	-2.15	120.00	122.80
45	5	3639	PSU	O4-C4-C5	-2.15	118.67	124.01
45	5	398	A2M	C1'-N9-C4	-2.14	122.89	126.64
45	5	1340	OMC	N4-C4-N3	2.13	121.72	117.91
45	5	1517	2MG	O6-C6-C5	-2.12	120.11	124.32
49	9	1830	UR3	C1'-N1-C2	2.12	120.51	117.04
49	9	568	E3C	C1'-N1-C2	2.12	120.51	117.04
49	9	612	PSU	O4'-C1'-C2'	2.12	108.08	105.15
49	9	116	OMU	O2-C2-N1	-2.11	120.05	122.80
49	9	1337	4AC	CM7-C7-N4	2.10	118.66	115.27
45	5	4530	UR3	C3U-N3-C4	2.10	120.78	117.87
45	5	1683	PSU	O4-C4-C5	-2.10	118.80	124.01
45	5	4571	A2M	C5'-C4'-C3'	-2.09	107.68	115.21
45	5	373	OMG	N1-C2-N3	-2.09	119.49	123.32
45	5	4361	PSU	O4-C4-C5	-2.08	118.83	124.01
49	9	1337	4AC	N4-C4-N3	2.08	117.25	113.87
45	5	4637	OMG	N1-C2-N3	-2.08	119.51	123.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	5	3818	UY1	O2-C2-N1	-2.08	120.65	122.79
45	5	4392	OMG	O6-C6-C5	-2.07	120.21	124.32
49	9	166	A2M	C3'-C2'-C1'	2.06	106.76	102.81
45	5	3764	PSU	O4'-C1'-C2'	2.06	108.00	105.15
45	5	3830	A2M	O4'-C1'-N9	-2.05	106.02	108.75
49	9	121	OMU	C1'-N1-C2	2.05	121.28	117.59
45	5	1625	OMG	O6-C6-C5	-2.05	120.26	124.32
45	5	3762	PSU	C5-C6-N1	-2.05	119.30	122.14
49	9	644	OMG	N1-C2-N3	-2.04	119.58	123.32
45	5	3825	A2M	C4'-O4'-C1'	-2.04	108.06	109.92
45	5	3851	PSU	O4-C4-C5	-2.04	118.95	124.01
45	5	4403	PSU	C5-C6-N1	-2.03	119.32	122.14
49	9	823	PSU	O4-C4-C5	-2.03	118.96	124.01
45	5	4579	PSU	C6-N1-C2	-2.03	120.81	122.69
45	5	4299	PSU	O4-C4-C5	-2.03	118.97	124.01
45	5	1517	2MG	N2-C2-N3	-2.03	117.93	120.51
45	5	2424	OMG	O6-C6-C5	-2.03	120.30	124.32
45	5	1792	PSU	C5-C6-N1	-2.03	119.33	122.14
45	5	3920	PSU	C5-C6-N1	-2.02	119.33	122.14
45	5	4447	5MC	C1'-N1-C6	2.02	124.48	121.15
45	5	4353	PSU	O4'-C1'-C2'	2.01	107.93	105.15
45	5	3792	OMG	O6-C6-C5	-2.01	120.34	124.32
45	5	1781	PSU	O4-C4-C5	-2.01	119.02	124.01
45	5	2508	PSU	C5-C6-N1	-2.01	119.35	122.14
45	5	3869	OMC	N4-C4-N3	2.01	121.50	117.91
45	5	3899	OMG	O6-C6-C5	-2.00	120.35	124.32
45	5	4494	OMG	O6-C6-C5	-2.00	120.35	124.32

There are no chirality outliers.

All (154) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
48	v	715	DDE	CAU-CAT-CE1-NE2
48	v	715	DDE	CBI-CBW-NCB-CAB
48	v	715	DDE	CBI-CBW-NCB-CAC
48	v	715	DDE	CBI-CBW-NCB-CAA
48	v	715	DDE	CAU-CBW-NCB-CAB
48	v	715	DDE	CAU-CBW-NCB-CAC
48	v	715	DDE	CAU-CBW-NCB-CAA
45	5	237	B9B	C5-C6-O6-C61
45	5	237	B9B	N1-C6-O6-C61
45	5	1524	A2M	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
45	5	1534	A2M	C3'-C2'-O2'-CM'
45	5	1625	OMG	O4'-C4'-C5'-O5'
45	5	1625	OMG	C3'-C4'-C5'-O5'
45	5	1677	PSU	C2'-C1'-C5-C4
45	5	1781	PSU	C3'-C4'-C5'-O5'
45	5	1781	PSU	O4'-C4'-C5'-O5'
45	5	2363	A2M	O4'-C4'-C5'-O5'
45	5	2424	OMG	O4'-C4'-C5'-O5'
45	5	2824	OMC	C1'-C2'-O2'-CM2
45	5	2876	OMG	O4'-C4'-C5'-O5'
45	5	2876	OMG	C3'-C4'-C5'-O5'
45	5	3627	OMG	C1'-C2'-O2'-CM2
45	5	3701	OMC	C2'-C1'-N1-C2
45	5	3701	OMC	C2'-C1'-N1-C6
45	5	3792	OMG	O4'-C4'-C5'-O5'
45	5	3818	UY1	C3'-C4'-C5'-O5'
45	5	3841	OMC	C1'-C2'-O2'-CM2
45	5	3869	OMC	C1'-C2'-O2'-CM2
45	5	4220	6MZ	C5-C6-N6-C9
45	5	4220	6MZ	N1-C6-N6-C9
45	5	4420	PSU	C2'-C1'-C5-C4
45	5	4618	OMG	C1'-C2'-O2'-CM2
45	5	4620	OMU	C1'-C2'-O2'-CM2
45	5	4623	OMG	C1'-C2'-O2'-CM2
49	9	116	OMU	C1'-C2'-O2'-CM2
49	9	116	OMU	C3'-C2'-O2'-CM2
49	9	116	OMU	O4'-C4'-C5'-O5'
49	9	121	OMU	C1'-C2'-O2'-CM2
49	9	159	A2M	C4'-C5'-O5'-P
49	9	166	A2M	O4'-C4'-C5'-O5'
49	9	517	OMC	C1'-C2'-O2'-CM2
49	9	568	E3C	O4'-C1'-N1-C2
49	9	568	E3C	O4'-C1'-N1-C6
49	9	822	PSU	O4'-C4'-C5'-O5'
49	9	1081	PSU	C2'-C1'-C5-C4
49	9	1081	PSU	C2'-C1'-C5-C6
49	9	1081	PSU	O4'-C4'-C5'-O5'
49	9	1081	PSU	C4'-C5'-O5'-P
49	9	1248	B8N	N34-C33-C34-O35
49	9	1851	MA6	O4'-C4'-C5'-O5'
45	5	2364	OMG	O4'-C4'-C5'-O5'
49	9	116	OMU	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
49	9	166	A2M	C3'-C4'-C5'-O5'
49	9	568	E3C	O4'-C4'-C5'-O5'
49	9	1081	PSU	C3'-C4'-C5'-O5'
49	9	1248	B8N	O4'-C4'-C5'-O5'
49	9	1678	A2M	O4'-C4'-C5'-O5'
49	9	1703	OMC	O4'-C4'-C5'-O5'
49	9	1806	M7A	O4'-C4'-C5'-O5'
45	5	1524	A2M	C3'-C4'-C5'-O5'
45	5	2363	A2M	C3'-C4'-C5'-O5'
45	5	2424	OMG	C3'-C4'-C5'-O5'
45	5	3818	UY1	O4'-C4'-C5'-O5'
45	5	4500	PSU	O4'-C4'-C5'-O5'
49	9	159	A2M	C3'-C4'-C5'-O5'
49	9	517	OMC	C3'-C4'-C5'-O5'
49	9	517	OMC	O4'-C4'-C5'-O5'
49	9	568	E3C	C3'-C4'-C5'-O5'
49	9	1031	A2M	O4'-C4'-C5'-O5'
49	9	1031	A2M	C3'-C4'-C5'-O5'
49	9	1850	MA6	N1-C6-N6-C9
49	9	1248	B8N	N34-C33-C34-O36
45	5	3792	OMG	C3'-C4'-C5'-O5'
45	5	4500	PSU	C3'-C4'-C5'-O5'
49	9	1243	PSU	O4'-C4'-C5'-O5'
49	9	1851	MA6	C3'-C4'-C5'-O5'
45	5	4447	5MC	C2'-C1'-N1-C6
45	5	3869	OMC	C3'-C4'-C5'-O5'
45	5	4637	OMG	C3'-C4'-C5'-O5'
49	9	121	OMU	C3'-C4'-C5'-O5'
49	9	822	PSU	C3'-C4'-C5'-O5'
49	9	1806	M7A	C3'-C4'-C5'-O5'
49	9	1851	MA6	N1-C6-N6-C9
45	5	3785	A2M	C3'-C4'-C5'-O5'
45	5	3869	OMC	O4'-C4'-C5'-O5'
45	5	4637	OMG	O4'-C4'-C5'-O5'
49	9	159	A2M	O4'-C4'-C5'-O5'
49	9	1703	OMC	C3'-C4'-C5'-O5'
45	5	3785	A2M	O4'-C4'-C5'-O5'
45	5	3825	A2M	O4'-C4'-C5'-O5'
49	9	121	OMU	O4'-C4'-C5'-O5'
45	5	3825	A2M	C3'-C4'-C5'-O5'
49	9	1248	B8N	C3'-C4'-C5'-O5'
49	9	1830	UR3	O4'-C1'-N1-C6

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Mol	Chain	Res	Type	Atoms
49	9	1830	UR3	O4'-C1'-N1-C2
45	5	2364	OMG	C3'-C4'-C5'-O5'
45	5	4532	PSU	C3'-C4'-C5'-O5'
45	5	4532	PSU	O4'-C4'-C5'-O5'
45	5	2815	A2M	O4'-C4'-C5'-O5'
45	5	2364	OMG	C1'-C2'-O2'-CM2
45	5	2804	OMC	C3'-C4'-C5'-O5'
45	5	2804	OMC	O4'-C4'-C5'-O5'
45	5	4370	OMG	C3'-C4'-C5'-O5'
49	9	1248	B8N	C31-C32-C33-N34
45	5	4447	5MC	C2'-C1'-N1-C2
45	5	4447	5MC	O4'-C1'-N1-C6
45	5	2365	OMC	C3'-C4'-C5'-O5'
49	9	174	OMC	C3'-C4'-C5'-O5'
45	5	4370	OMG	O4'-C4'-C5'-O5'
49	9	174	OMC	O4'-C4'-C5'-O5'
49	9	1850	MA6	C5-C6-N6-C9
49	9	1851	MA6	C5-C6-N6-C10
45	5	4447	5MC	O4'-C1'-N1-C2
49	9	174	OMC	C3'-C2'-O2'-CM2
45	5	1326	A2M	C4'-C5'-O5'-P
45	5	1677	PSU	O4'-C1'-C5-C4
45	5	3695	PSU	O4'-C1'-C5-C4
49	9	119	PSU	O4'-C1'-C5-C4
49	9	1248	B8N	O4'-C1'-C5-C4
45	5	4620	OMU	C3'-C4'-C5'-O5'
47	8	75	OMG	O4'-C4'-C5'-O5'
47	8	75	OMG	C3'-C4'-C5'-O5'
45	5	2365	OMC	O4'-C4'-C5'-O5'
49	9	1806	M7A	C2'-C1'-N9-C8
45	5	3701	OMC	O4'-C1'-N1-C6
45	5	398	A2M	O4'-C4'-C5'-O5'
45	5	1316	OMG	C3'-C4'-C5'-O5'
45	5	1326	A2M	C3'-C4'-C5'-O5'
49	9	1678	A2M	C3'-C4'-C5'-O5'
45	5	3701	OMC	O4'-C1'-N1-C2
45	5	373	OMG	C4'-C5'-O5'-P
49	9	612	PSU	C4'-C5'-O5'-P
49	9	1243	PSU	C3'-C4'-C5'-O5'
49	9	1248	B8N	C32-C33-C34-O36
45	5	1534	A2M	C4'-C5'-O5'-P
45	5	3887	OMC	C4'-C5'-O5'-P

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Mol	Chain	Res	Type	Atoms
45	5	1677	PSU	O4'-C1'-C5-C6
45	5	3695	PSU	O4'-C1'-C5-C6
49	9	1248	B8N	O4'-C1'-C5-C6
45	5	3701	OMC	C3'-C2'-O2'-CM2
45	5	2508	PSU	O4'-C4'-C5'-O5'
45	5	3695	PSU	C3'-C4'-C5'-O5'
45	5	1677	PSU	C2'-C1'-C5-C6
45	5	4420	PSU	C2'-C1'-C5-C6
45	5	2422	OMC	O4'-C4'-C5'-O5'
45	5	3760	A2M	O4'-C4'-C5'-O5'
49	9	1248	B8N	C32-C33-C34-O35
45	5	4392	OMG	C3'-C2'-O2'-CM2
45	5	1316	OMG	O4'-C4'-C5'-O5'
45	5	1862	PSU	O4'-C4'-C5'-O5'
45	5	2351	OMC	O4'-C4'-C5'-O5'
49	9	1248	B8N	C32-C31-N3-C4
49	9	644	OMG	C4'-C5'-O5'-P
49	9	1850	MA6	C3'-C4'-C5'-O5'

There are no ring outliers.

88 monomers are involved in 149 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
45	5	1340	OMC	1	0
45	5	2422	OMC	2	0
49	9	27	A2M	4	0
45	5	4403	PSU	1	0
45	5	4420	PSU	1	0
45	5	4456	OMC	1	0
45	5	4628	PSU	1	0
45	5	3853	PSU	2	0
49	9	1374	5MC	1	0
45	5	1517	2MG	1	0
45	5	3724	A2M	1	0
49	9	814	5MU	2	0
45	5	4521	PSU	1	0
45	5	4637	OMG	3	0
49	9	119	PSU	4	0
45	5	4500	PSU	2	0
49	9	1337	4AC	4	0
45	5	4499	OMG	1	0
45	5	2363	A2M	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
45	5	3782	5MC	1	0
45	5	2861	OMC	1	0
45	5	3762	PSU	1	0
45	5	4530	UR3	1	0
45	5	4392	OMG	1	0
49	9	1081	PSU	1	0
45	5	3734	PSU	1	0
45	5	3627	OMG	1	0
49	9	484	A2M	2	0
45	5	4196	OMG	1	0
45	5	3920	PSU	1	0
45	5	3718	A2M	2	0
45	5	4623	OMG	3	0
49	9	166	A2M	3	0
49	9	121	OMU	2	0
45	5	3715	PSU	1	0
49	9	1031	A2M	1	0
45	5	4457	PSU	1	0
49	9	683	OMG	1	0
48	v	715	DDE	4	0
49	9	612	PSU	2	0
45	5	400	A2M	2	0
49	9	1243	PSU	1	0
45	5	2824	OMC	1	0
49	9	116	OMU	2	0
45	5	373	OMG	1	0
49	9	668	A2M	1	0
49	9	644	OMG	1	0
45	5	4620	OMU	3	0
45	5	4447	5MC	2	0
45	5	2632	PSU	1	0
45	5	2876	OMG	1	0
49	9	509	OMG	3	0
45	5	1326	A2M	1	0
45	5	2424	OMG	2	0
45	5	3808	OMC	1	0
45	5	4370	OMG	1	0
47	8	75	OMG	2	0
45	5	4296	PSU	1	0
45	5	4536	OMC	1	0
45	5	4220	6MZ	2	0
45	5	2364	OMG	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
45	5	3869	OMC	2	0
45	5	1524	A2M	2	0
45	5	1625	OMG	2	0
45	5	3867	A2M	4	0
45	5	3785	A2M	3	0
45	5	3695	PSU	1	0
45	5	1316	OMG	2	0
45	5	4361	PSU	1	0
45	5	2351	OMC	2	0
45	5	3818	UY1	2	0
45	5	4442	PSU	1	0
45	5	237	B9B	2	0
45	5	3792	OMG	1	0
45	5	2365	OMC	3	0
45	5	3639	PSU	1	0
45	5	1871	A2M	1	0
45	5	4532	PSU	2	0
49	9	1842	4AC	5	0
49	9	1850	MA6	2	0
49	9	159	A2M	2	0
45	5	1862	PSU	1	0
49	9	1830	UR3	1	0
45	5	1322	1MA	4	0
49	9	517	OMC	2	0
45	5	1534	A2M	3	0
49	9	1806	M7A	1	0
49	9	1851	MA6	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 286 ligands modelled in this entry, 284 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the

expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
88	GDP	v	900	-	25,30,30	0.95	1 (4%)	30,47,47	1.21	3 (10%)
89	34G	9	1957	-	39,39,39	1.79	9 (23%)	51,56,56	2.39	22 (43%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
88	GDP	v	900	-	-	5/12/32/32	0/3/3/3
89	34G	9	1957	-	-	8/14/49/49	0/5/5/5

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
89	9	1957	34G	CBC-CBG	5.90	1.57	1.52
89	9	1957	34G	CBD-CBH	3.78	1.57	1.52
89	9	1957	34G	CAO-CBG	3.55	1.57	1.53
89	9	1957	34G	CAQ-NBI	2.80	1.51	1.47
89	9	1957	34G	CAM-CAX	2.78	1.55	1.51
88	v	900	GDP	C6-N1	-2.74	1.33	1.37
89	9	1957	34G	CAQ-CBE	2.34	1.56	1.53
89	9	1957	34G	OAS-CAY	2.33	1.40	1.37
89	9	1957	34G	CAO-CBF	2.26	1.58	1.53
89	9	1957	34G	CAP-CBH	2.24	1.56	1.53

All (25) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
89	9	1957	34G	CAN-NBI-CAQ	6.23	122.29	110.32
89	9	1957	34G	CAX-CBD-CBH	-5.74	114.17	121.58
89	9	1957	34G	CAW-CBC-CBG	-4.70	115.74	121.38
89	9	1957	34G	CAK-CAL-CAW	4.22	118.13	110.66
89	9	1957	34G	CAP-CBH-CBD	-4.03	107.34	113.07
89	9	1957	34G	CAN-CAM-CAX	3.63	117.61	111.34
89	9	1957	34G	CAM-CAX-CBD	-3.63	115.74	121.11
89	9	1957	34G	CAQ-NBI-CBH	3.38	115.05	110.12
89	9	1957	34G	CAI-CBD-CBH	3.29	124.57	119.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
89	9	1957	34G	OAT-CAZ-CBB	3.00	119.47	115.40
89	9	1957	34G	OAU-CBA-CAY	2.93	119.38	115.40
88	v	900	GDP	C8-N7-C5	2.86	107.42	102.55
89	9	1957	34G	CAC-OAT-CAZ	-2.75	113.47	117.51
89	9	1957	34G	OAV-CBB-CAZ	2.75	119.14	115.40
89	9	1957	34G	CAD-OAU-CBA	-2.55	113.77	117.51
89	9	1957	34G	OAT-CAZ-CAG	-2.53	119.72	124.08
89	9	1957	34G	OAS-CAY-CBA	2.53	118.83	115.40
89	9	1957	34G	CAK-NAR-CBG	-2.48	106.65	111.51
89	9	1957	34G	CAP-CBF-CBE	-2.47	106.52	110.57
89	9	1957	34G	OAU-CBA-CAH	-2.38	119.98	124.08
89	9	1957	34G	CBF-CAO-CBG	-2.37	105.87	113.47
88	v	900	GDP	O4'-C1'-N9	2.31	111.81	108.75
88	v	900	GDP	C5-C6-N1	2.29	118.45	114.07
89	9	1957	34G	CAL-CAK-NAR	2.12	111.90	109.02
89	9	1957	34G	CAM-CAX-CAG	2.12	124.10	119.91

There are no chirality outliers.

All (13) torsion outliers are listed below:

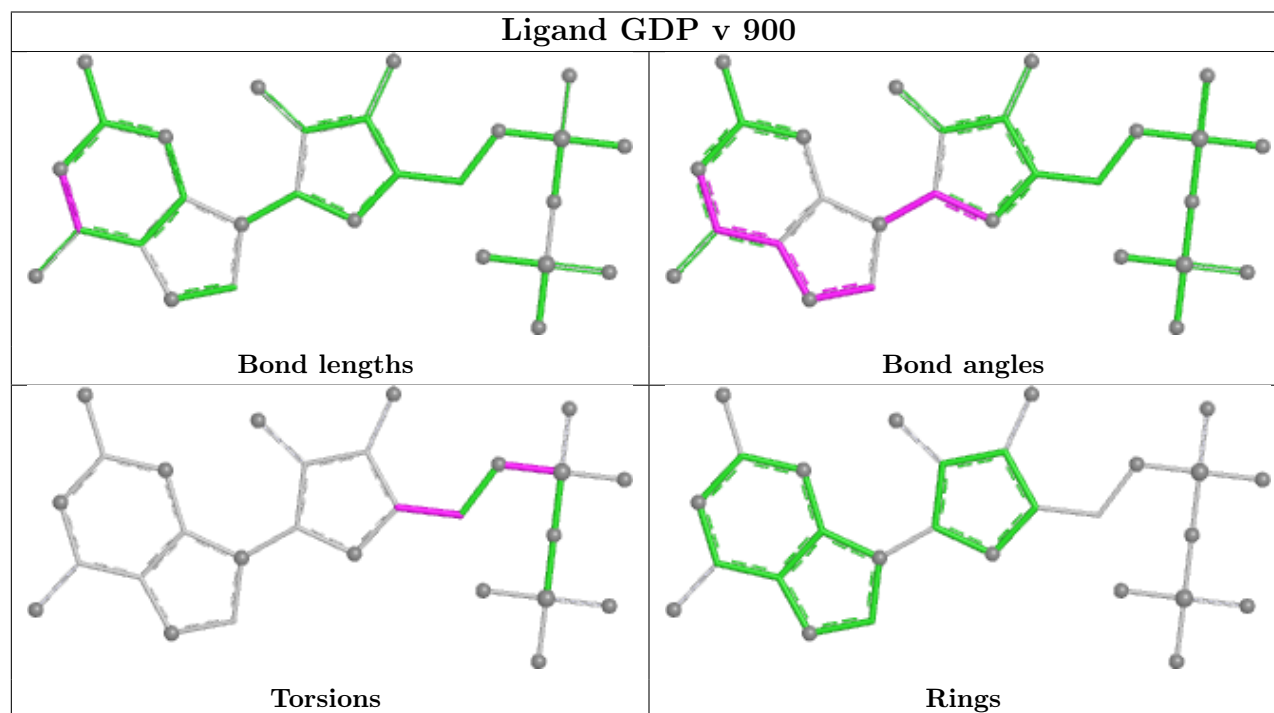
Mol	Chain	Res	Type	Atoms
88	v	900	GDP	C5'-O5'-PA-O3A
88	v	900	GDP	C5'-O5'-PA-O2A
89	9	1957	34G	CAA-CAJ-CBE-CAQ
89	9	1957	34G	CBF-CAO-CBG-NAR
89	9	1957	34G	CBF-CAO-CBG-CBC
89	9	1957	34G	CAH-CBA-OAU-CAD
89	9	1957	34G	CAG-CAZ-OAT-CAC
89	9	1957	34G	CAA-CAJ-CBE-CBF
89	9	1957	34G	CAY-CBA-OAU-CAD
89	9	1957	34G	CBB-CAZ-OAT-CAC
88	v	900	GDP	O4'-C4'-C5'-O5'
88	v	900	GDP	C5'-O5'-PA-O1A
88	v	900	GDP	C3'-C4'-C5'-O5'

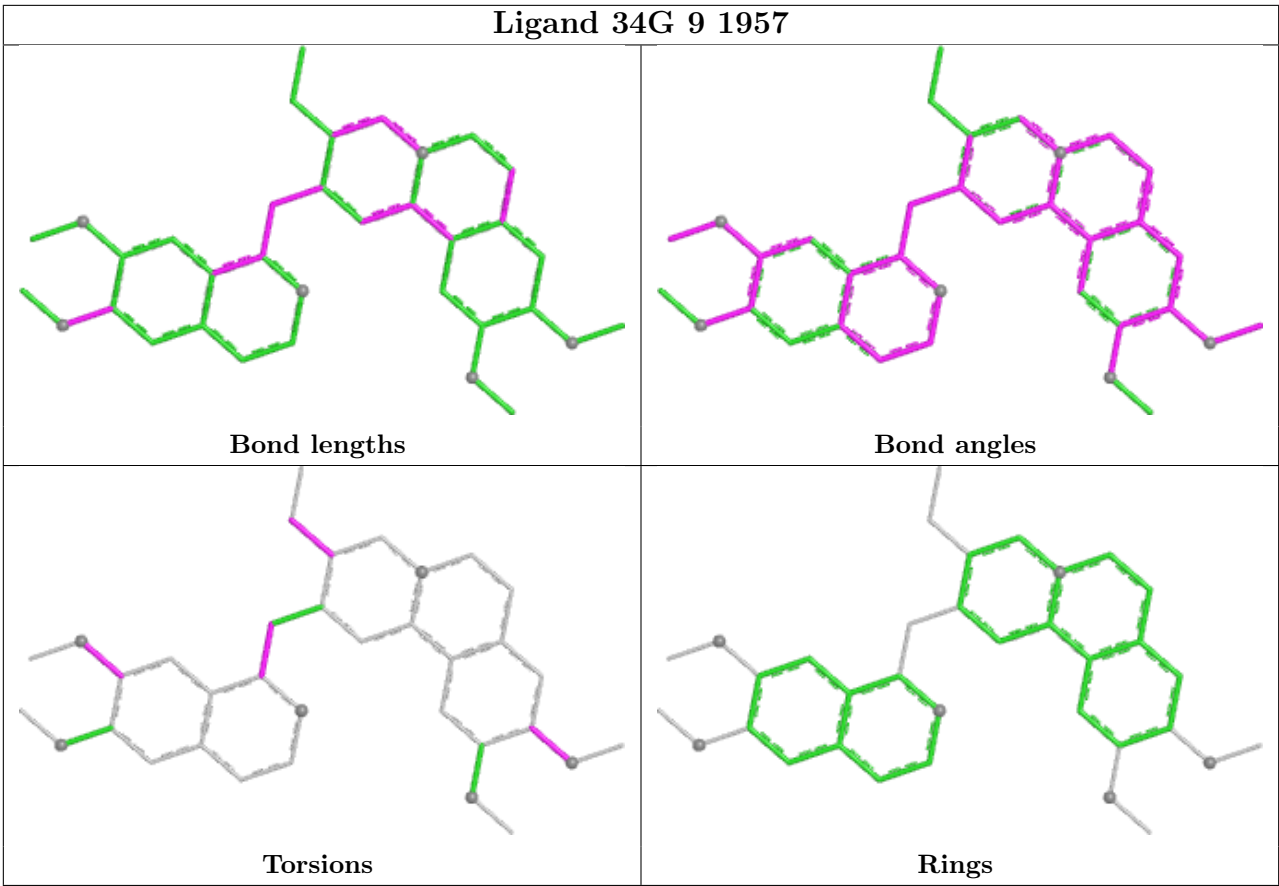
There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is

within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
45	5	21
49	9	4
83	3	2
85	2	1
81	ff	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	5	2113:G	O3'	2258:C	P	42.68
1	5	1219:G	O3'	1233:G	P	19.25

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	5	523:C	O3'	638:G	P	17.08
1	5	1406(C):G	O3'	1411:C	P	16.39
1	5	4138:C	O3'	4146:G	P	15.58
1	5	990:C	O3'	1064:G	P	15.56
1	5	4101:C	O3'	4107:G	P	15.09
1	5	1696:C	O3'	1720:C	P	14.92
1	5	760:G	O3'	904:C	P	14.69
1	5	5022:U	O3'	5028:G	P	14.35
1	5	4777:C	O3'	4859:C	P	13.59
1	5	1364:U	O3'	1368:A	P	13.13
1	5	182:G	O3'	189:G	P	12.90
1	5	2901:G	O3'	3597:G	P	12.90
1	5	3948:C	O3'	4065:G	P	11.91
1	5	1180:C	O3'	1183:C	P	11.36
1	5	1100:U	O3'	1168:G	P	8.05
1	5	512:U	O3'	515:C	P	7.40
1	5	4729:A	O3'	4735:G	P	6.85
1	5	4740:G	O3'	4743:G	P	6.77
1	5	500:G	O3'	504:G	P	5.80
1	9	322:C	O3'	323:C	P	5.43
1	9	309:G	O3'	310:C	P	4.88
1	2	16:C	O3'	18:G	P	4.77
1	3	16:C	O3'	18:U	P	4.58
1	9	798:G	O3'	799:U	P	4.56
1	3	49:C	O3'	50:A	P	3.37
1	ff	149:CYS	C	150:PHE	N	3.25
1	9	304:C	O3'	305:U	P	3.15

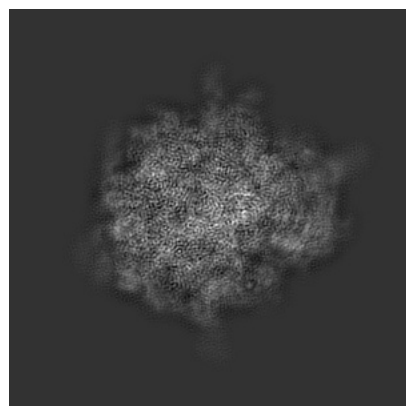
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-43189. These allow visual inspection of the internal detail of the map and identification of artifacts.

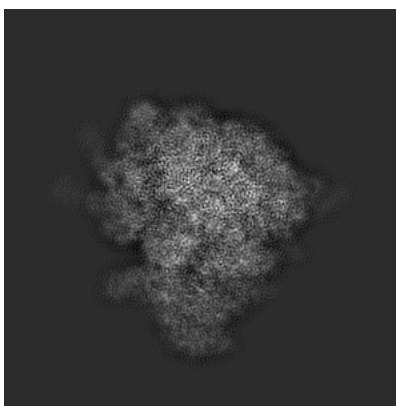
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

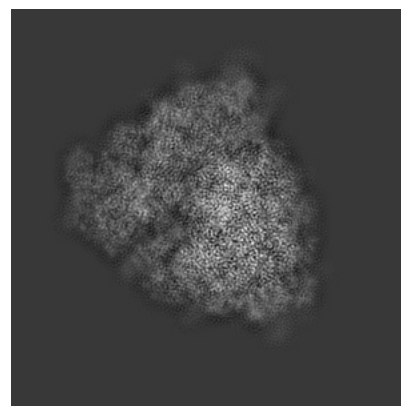
6.1.1 Primary map



X

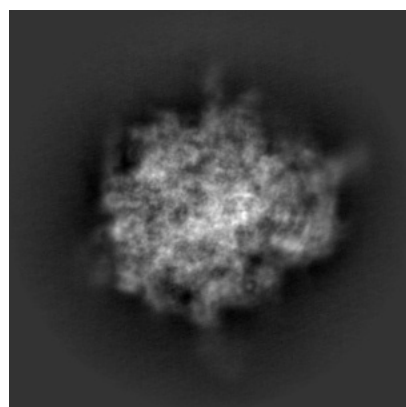


Y

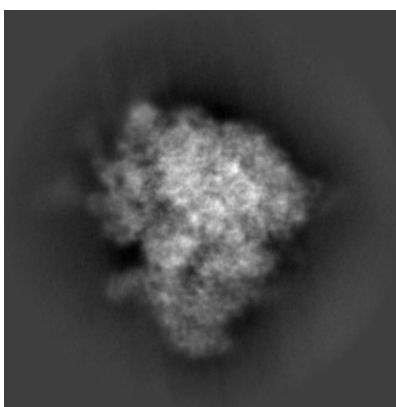


Z

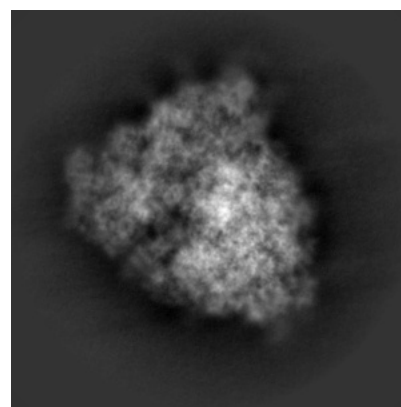
6.1.2 Raw map



X



Y

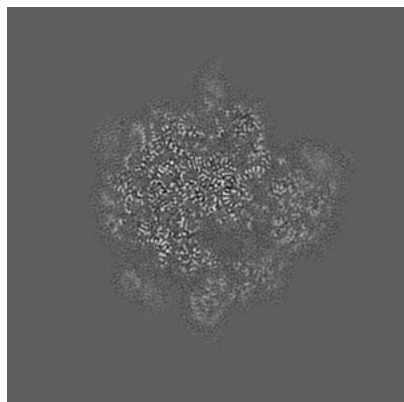


Z

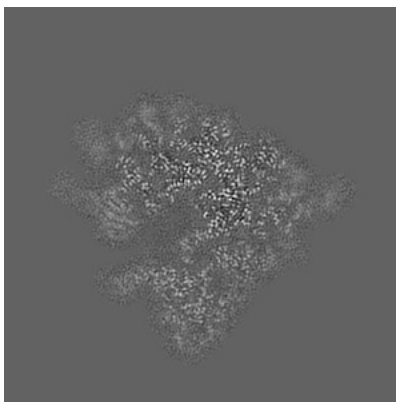
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

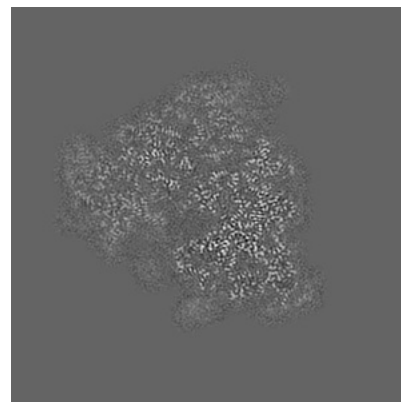
6.2.1 Primary map



X Index: 160

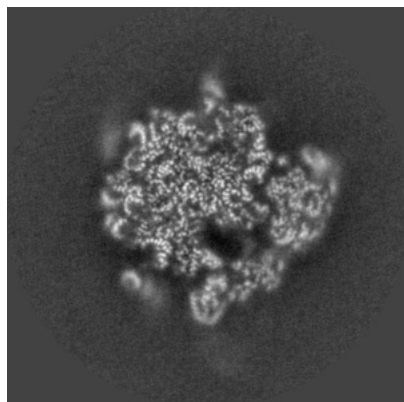


Y Index: 160

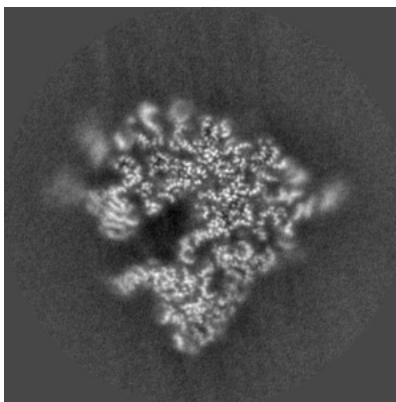


Z Index: 160

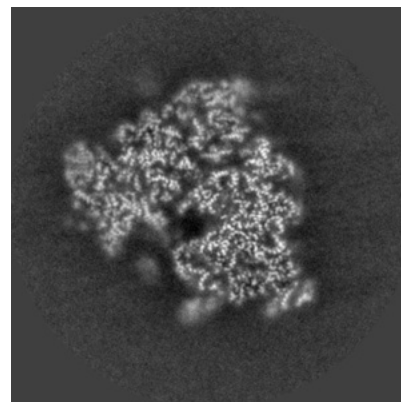
6.2.2 Raw map



X Index: 160



Y Index: 160

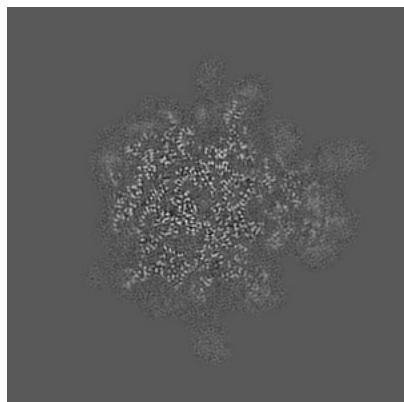


Z Index: 160

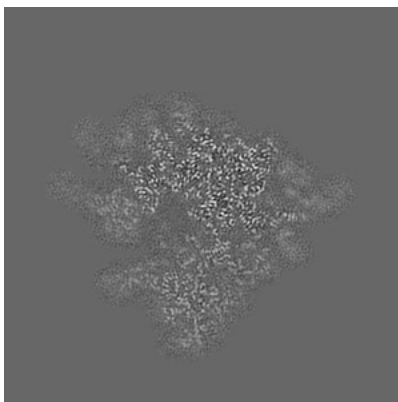
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

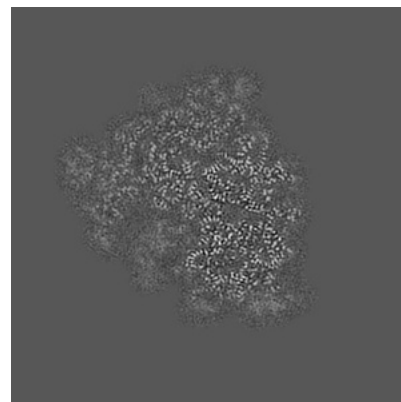
6.3.1 Primary map



X Index: 177

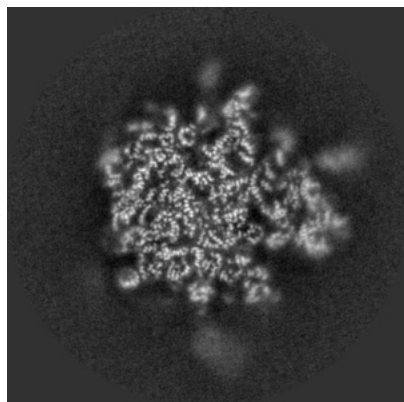


Y Index: 165

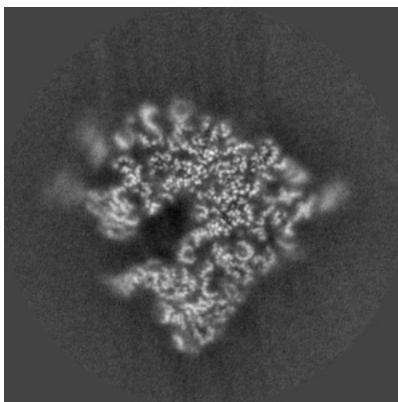


Z Index: 171

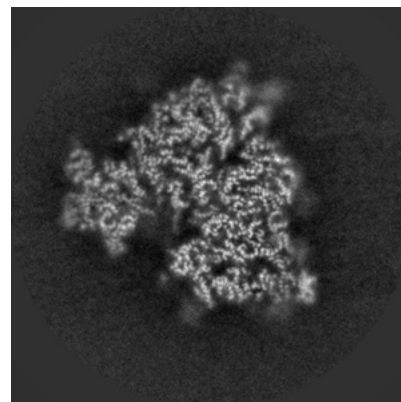
6.3.2 Raw map



X Index: 175



Y Index: 161

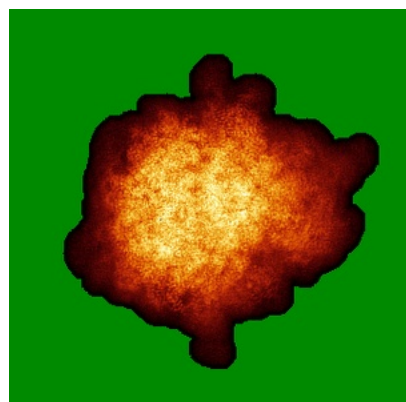


Z Index: 153

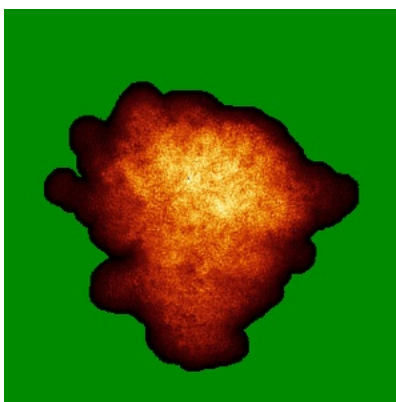
The images above show the largest variance slices of the map in three orthogonal directions.

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

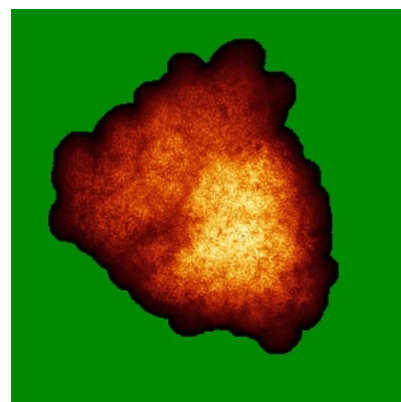
6.4.1 Primary map



X

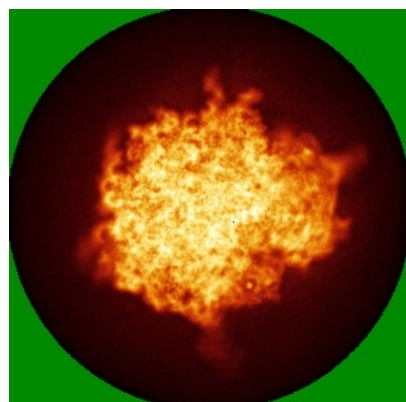


Y

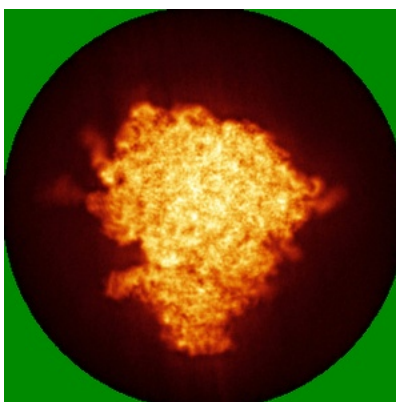


Z

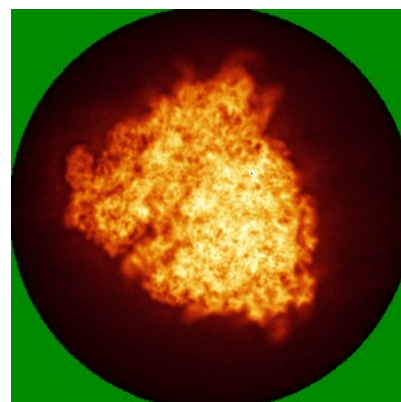
6.4.2 Raw map



X



Y

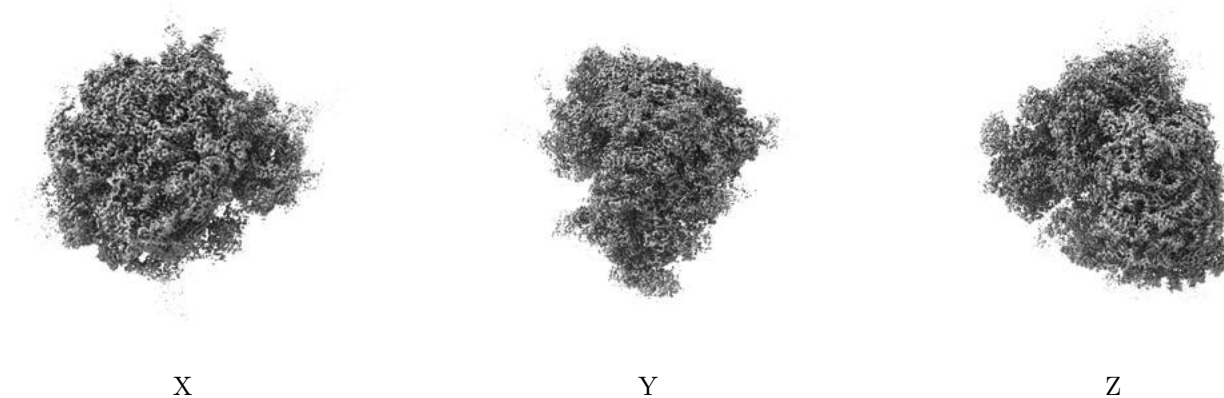


Z

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



The images above show the 3D surface view of the map at the recommended contour level 0.14. 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



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

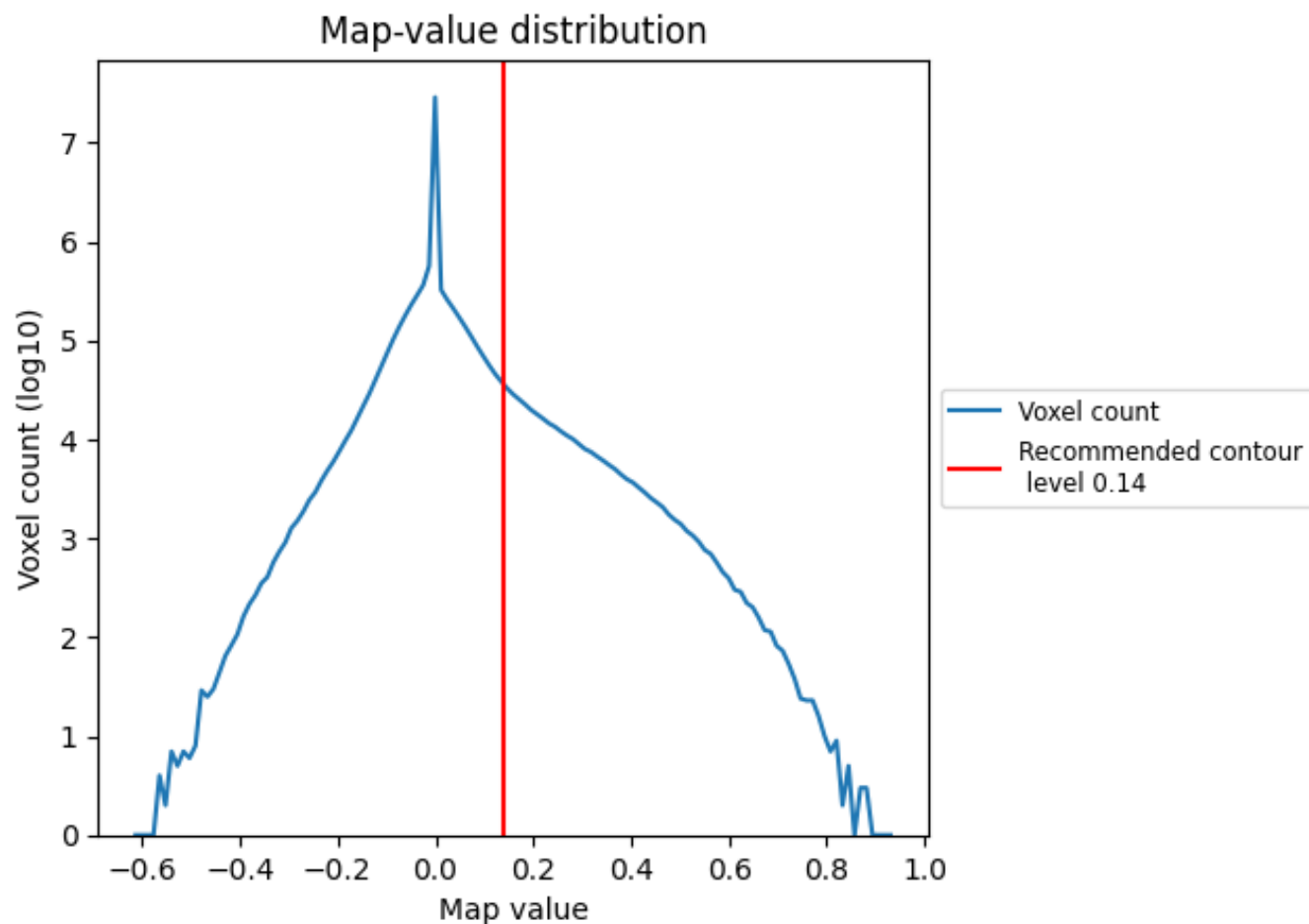
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

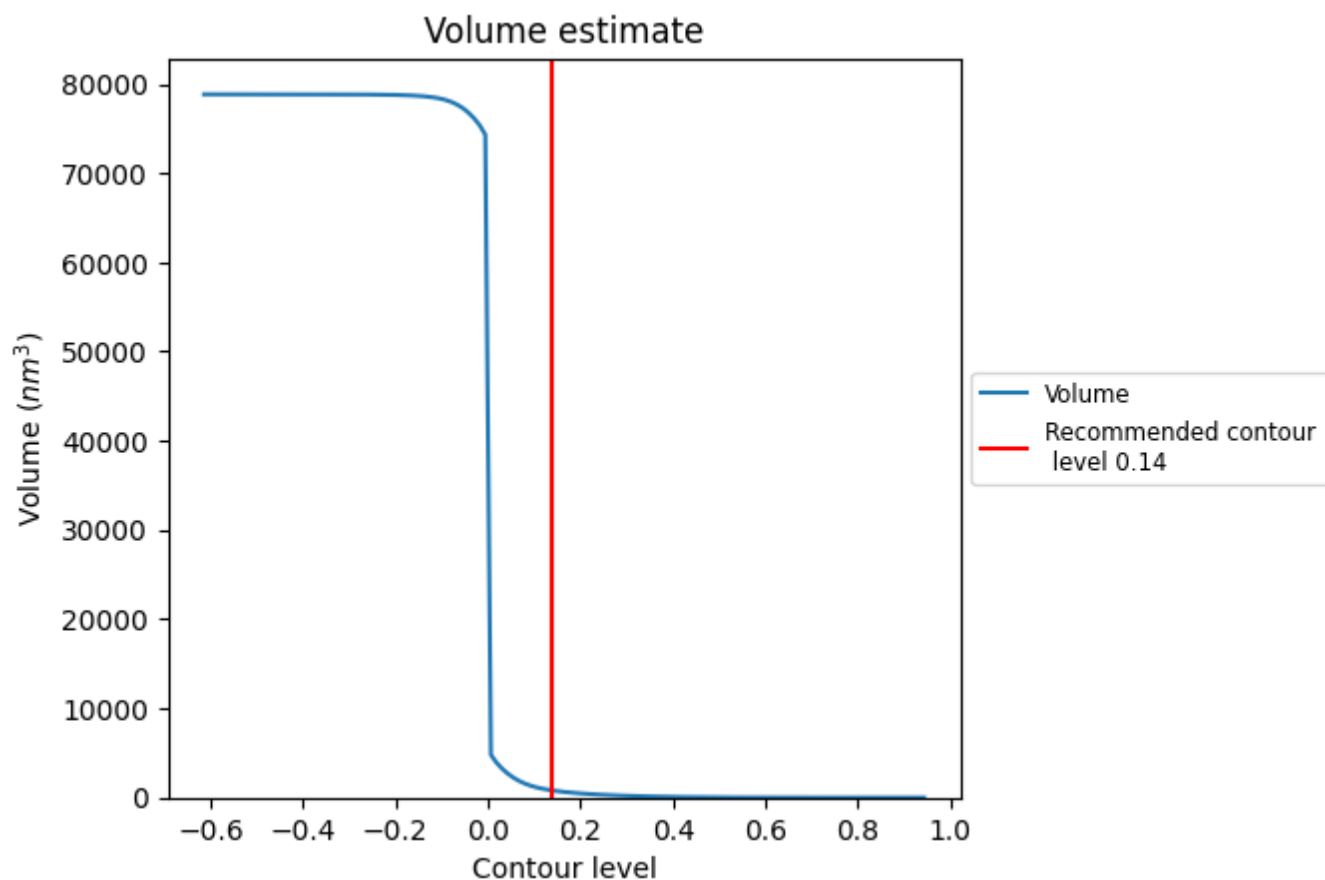
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

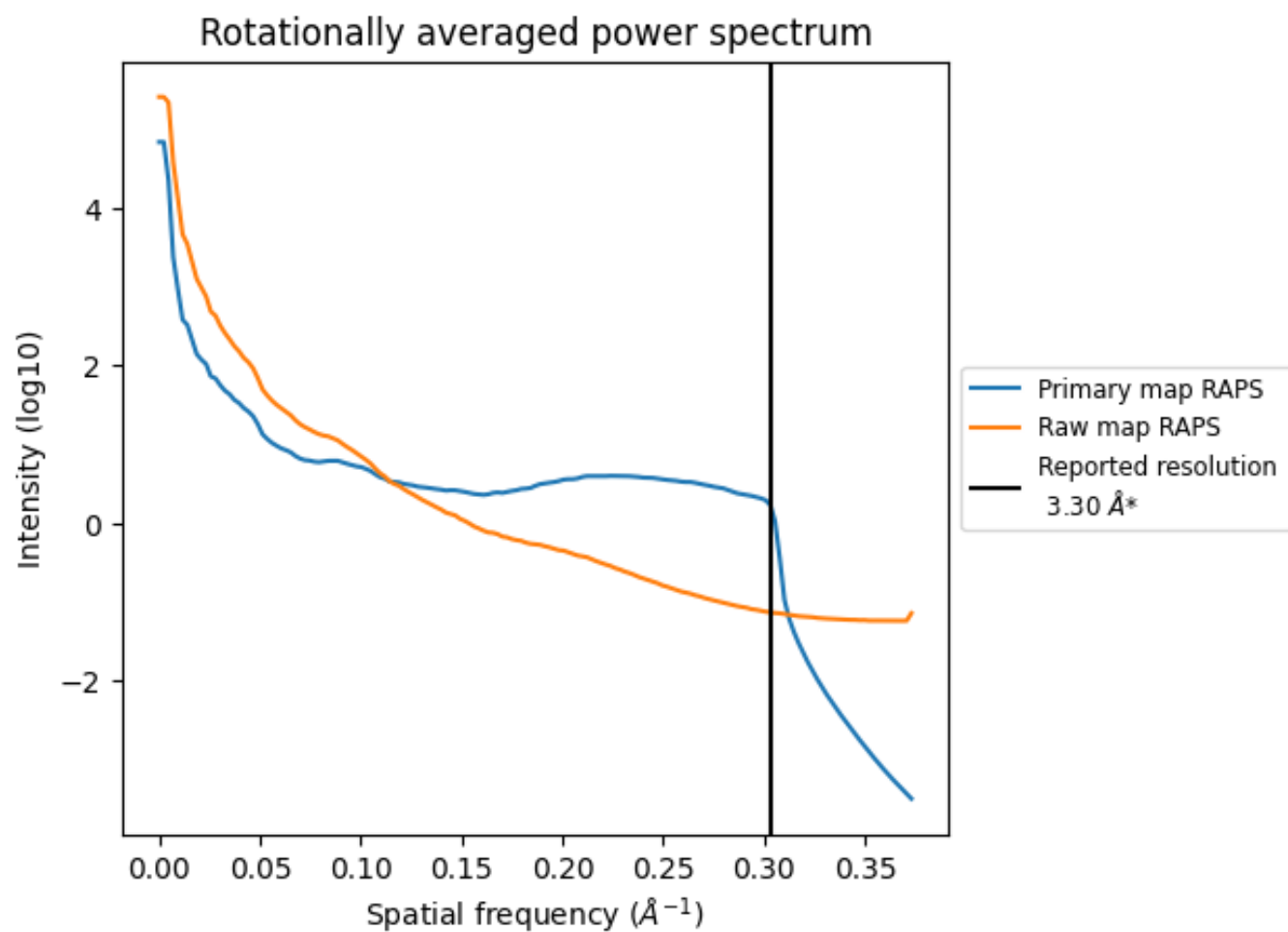
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 793 nm^3 ; this corresponds to an approximate mass of 717 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

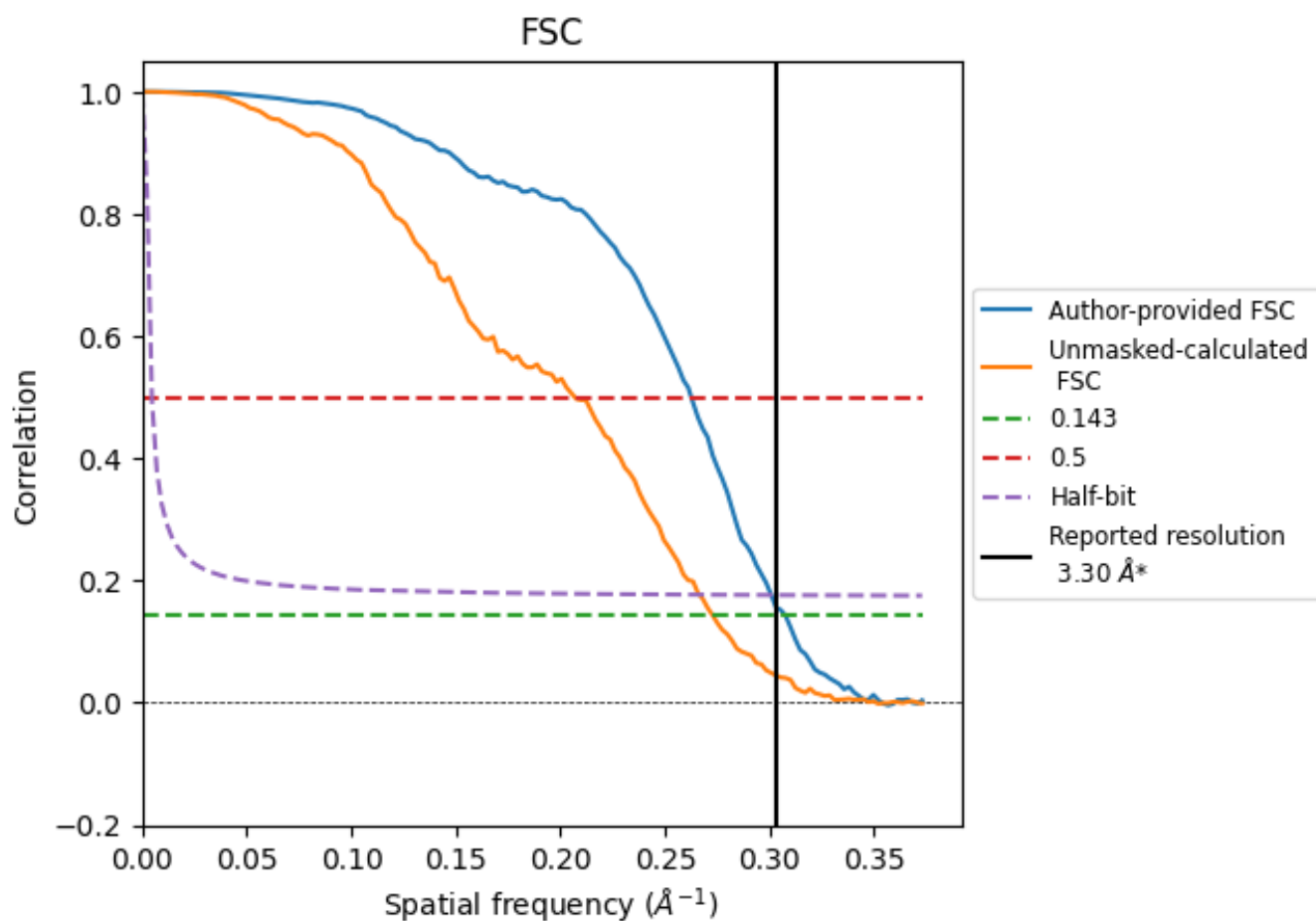


*Reported resolution corresponds to spatial frequency of 0.303 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.303 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

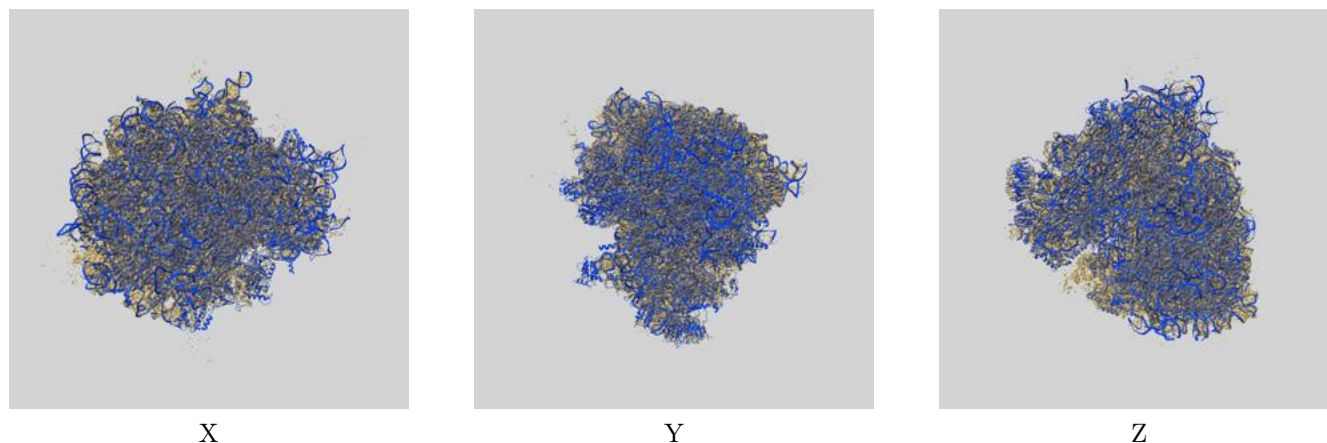
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	3.25	3.81	3.32
Unmasked-calculated*	3.67	4.83	3.75

*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 3.67 differs from the reported value 3.3 by more than 10 %

9 Map-model fit [i](#)

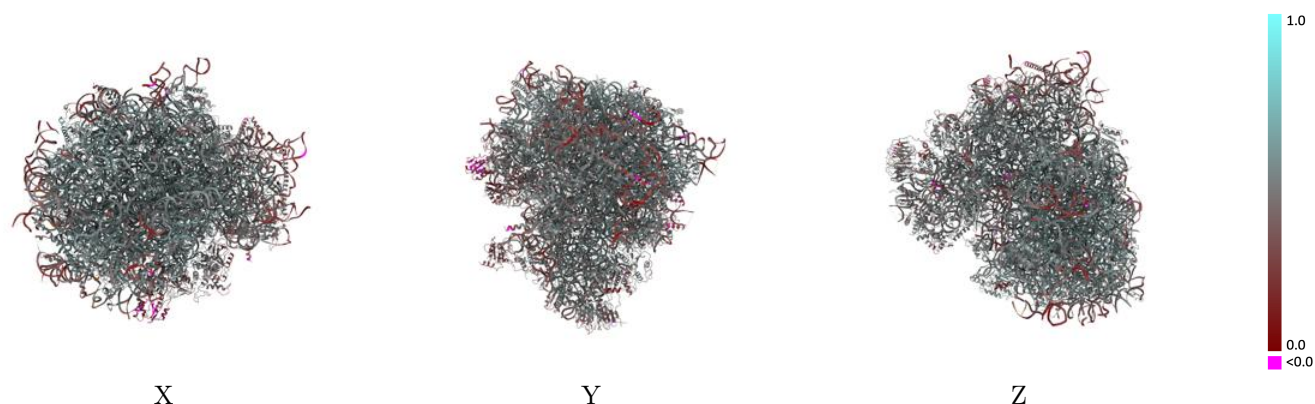
This section contains information regarding the fit between EMDB map EMD-43189 and PDB model 8VFT. Per-residue inclusion information can be found in section 3 on page 26.

9.1 Map-model overlay [i](#)



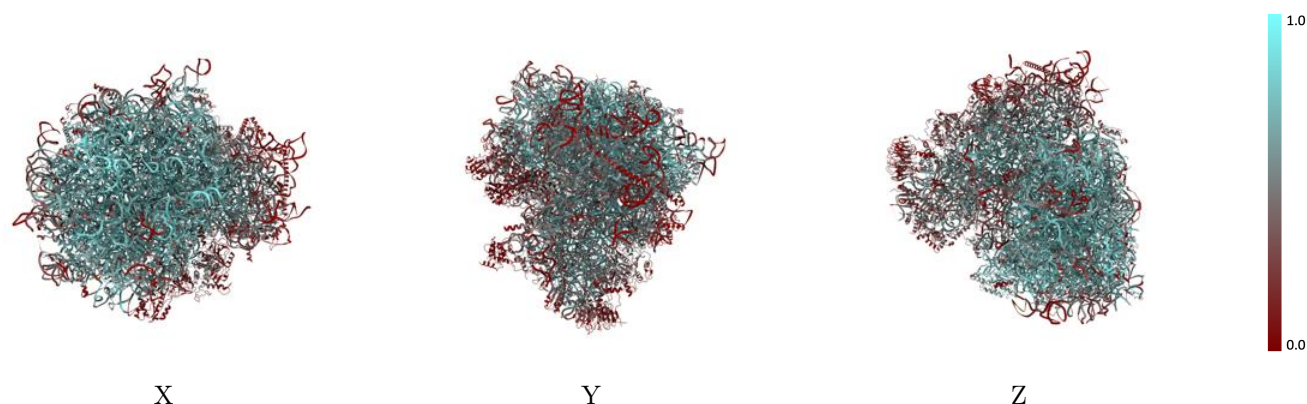
The images above show the 3D surface view of the map at the recommended contour level 0.14 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



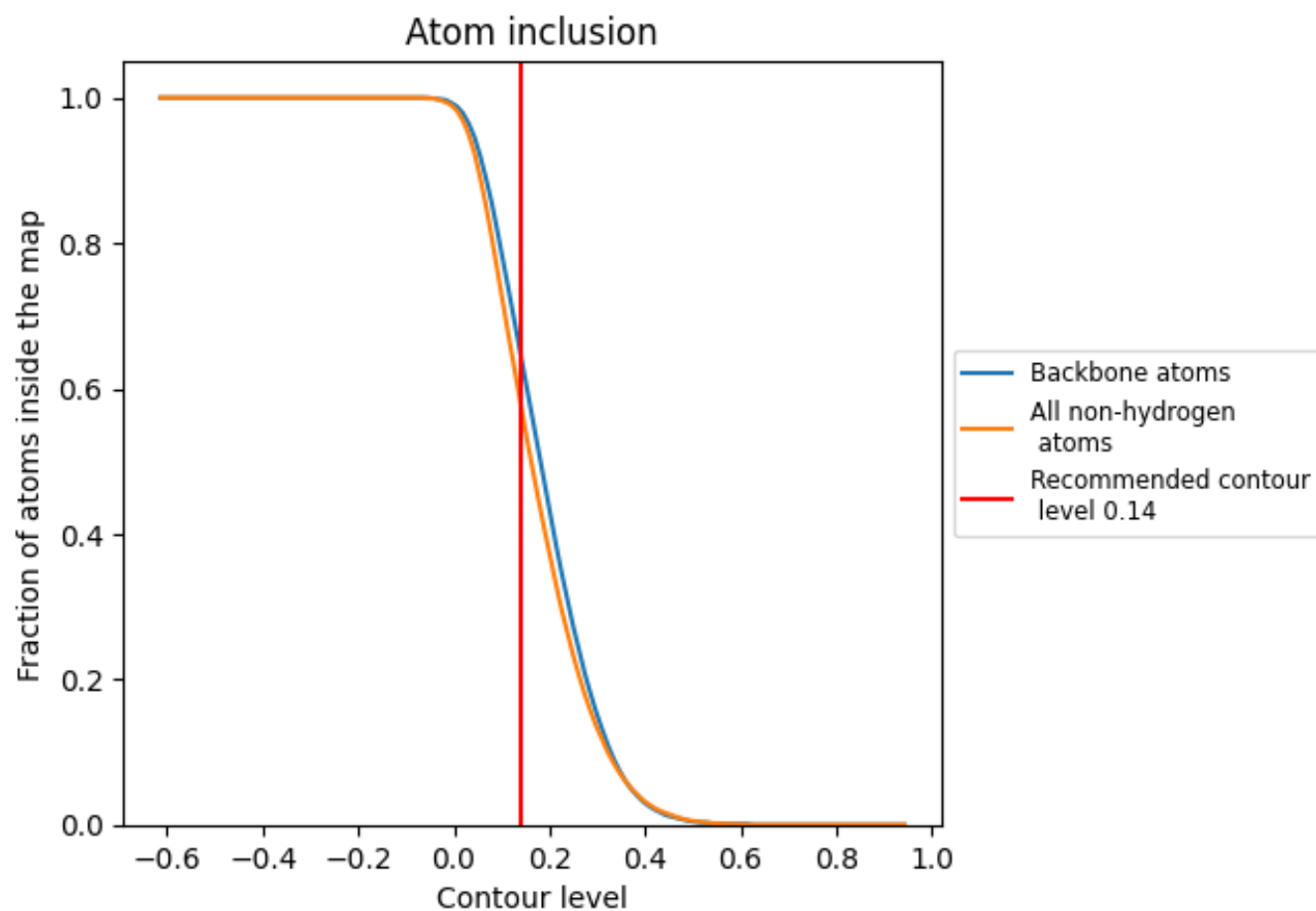
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.14).

9.4 Atom inclusion [i](#)



At the recommended contour level, 65% of all backbone atoms, 58% 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 (0.14) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5780	 0.4930
2	 0.3500	 0.4200
3	 0.4350	 0.4340
5	 0.6930	 0.4940
7	 0.7890	 0.5260
8	 0.7080	 0.4960
9	 0.5590	 0.4610
A	 0.7070	 0.5670
AA	 0.4150	 0.4890
B	 0.6700	 0.5550
BB	 0.4020	 0.5080
C	 0.6780	 0.5510
CC	 0.4620	 0.5120
D	 0.6170	 0.5350
DD	 0.3760	 0.4750
E	 0.5970	 0.5400
EE	 0.3650	 0.4970
F	 0.6790	 0.5540
FF	 0.3350	 0.4700
G	 0.5580	 0.5160
GG	 0.2490	 0.4410
H	 0.6000	 0.5320
HH	 0.2380	 0.4450
I	 0.6260	 0.5460
II	 0.4180	 0.4990
J	 0.5640	 0.5180
JJ	 0.3930	 0.4810
KK	 0.3720	 0.4840
L	 0.5950	 0.5300
LL	 0.4630	 0.5200
M	 0.6370	 0.5390
MM	 0.0390	 0.3330
N	 0.7410	 0.5720
NN	 0.4830	 0.5180
O	 0.6940	 0.5570



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Chain	Atom inclusion	Q-score
OO	 0.4600	 0.5040
P	 0.6860	 0.5550
PP	 0.3560	 0.4800
Q	 0.6790	 0.5640
QQ	 0.3790	 0.4830
R	 0.5880	 0.5230
RR	 0.3050	 0.4410
S	 0.6760	 0.5550
SS	 0.3380	 0.4590
T	 0.6100	 0.5370
TT	 0.3900	 0.4780
U	 0.4460	 0.4910
UU	 0.3400	 0.4720
V	 0.6350	 0.5550
VV	 0.3760	 0.4920
W	 0.6310	 0.5520
WW	 0.5080	 0.5230
X	 0.6310	 0.5450
XX	 0.5160	 0.5350
Y	 0.6280	 0.5450
YY	 0.2940	 0.4790
Z	 0.5880	 0.5300
ZZ	 0.2370	 0.4460
a	 0.7110	 0.5580
aa	 0.5270	 0.5200
b	 0.5230	 0.5030
bb	 0.3300	 0.4900
c	 0.6130	 0.5250
cc	 0.1260	 0.2290
d	 0.6470	 0.5440
dd	 0.5790	 0.5260
e	 0.6900	 0.5590
ee	 0.3970	 0.4730
f	 0.7300	 0.5720
ff	 0.0940	 0.3870
g	 0.6170	 0.5320
gg	 0.2000	 0.4340
h	 0.5960	 0.5370
i	 0.5650	 0.5080
j	 0.7430	 0.5650
k	 0.4970	 0.5040
l	 0.6720	 0.5390

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Chain	Atom inclusion	Q-score
m	 0.6490	 0.5560
n	 0.6520	 0.5460
o	 0.6280	 0.5600
p	 0.6210	 0.5410
r	 0.6690	 0.5510
s	 0.1230	 0.2650
t	 0.0660	 0.3450
v	 0.2620	 0.4440
w	 0.6280	 0.5140