



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 01:01 PM UTC

PDB ID : 6LKQ / pdb_00006lkq
Title : The Structural Basis for Inhibition of Ribosomal Translocation by Viomycin
Authors : Zhang, L.; Wang, Y.H.; Lancaster, L.; Zhou, J.; Noller, H.F.
Deposited on : 2019-12-20
Resolution : 3.10 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp>

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:

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

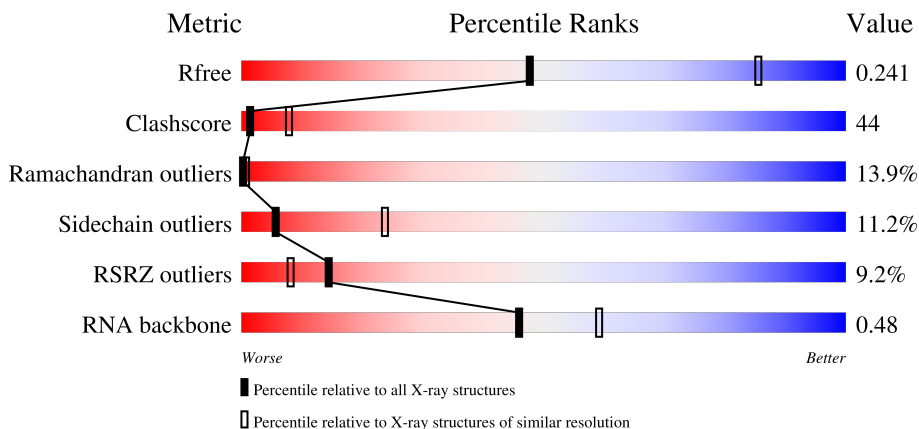
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.10 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)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1456 (3.10-3.10)
Clashscore	190562	1539 (3.10-3.10)
Ramachandran outliers	187476	1467 (3.10-3.10)
Sidechain outliers	187428	1467 (3.10-3.10)
RSRZ outliers	180081	1456 (3.10-3.10)
RNA backbone	3983	1022 (3.32-2.88)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	218	14% 21% 54% 22%
2	B	206	13% 17% 63% 18%
3	C	205	21% 18% 54% 26%
4	D	150	10% 28% 48% 21%

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Mol	Chain	Length	Quality of chain
5	E	100	
6	F	151	
7	G	129	
8	H	127	
9	I	98	
10	J	117	
11	K	123	
12	L	114	
13	M	100	
14	N	88	
15	O	82	
16	P	80	
17	Q	55	
18	R	79	
19	S	85	
20	T	51	
21	U	271	
22	V	209	
23	W	201	
24	X	177	
25	Y	176	
26	Z	141	
27	0	142	
28	1	122	
29	2	143	

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Mol	Chain	Length	Quality of chain
30	3	136	
31	4	120	
32	5	116	
33	6	114	
34	8	117	
35	9	103	
36	a	110	
37	b	93	
38	c	102	
39	d	94	
40	e	79	
41	f	77	
42	g	63	
43	h	58	
44	i	56	
45	j	50	
46	k	46	
47	l	64	
48	m	38	
49	n	163	
50	o	30	
50	p	30	
50	q	30	
50	r	30	
51	s	1532	

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Mol	Chain	Length	Quality of chain
52	t	2903	
53	u	118	
54	v	525	
55	w	6	
56	7	6	
56	AA	6	
56	BA	6	
56	y	6	
56	z	6	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
56	KBE	AA	1	-	-	-	X
56	UAL	AA	5	-	-	X	-
56	5OH	z	6	-	-	X	-

2 Entry composition [i](#)

There are 56 unique types of molecules in this entry. The entry contains 146817 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	218	Total	C	N	O	S	0	0	0
			1702	1079	305	312	6			

- Molecule 2 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	206	Total	C	N	O	S	0	0	0
			1625	1028	305	289	3			

- Molecule 3 is a protein called 30S ribosomal protein S4.

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

- Molecule 4 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	150	Total	C	N	O	S	0	0	0
			1106	687	211	202	6			

- Molecule 5 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	100	Total	C	N	O	S	0	0	0
			818	515	148	149	6			

- Molecule 6 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	151	Total	C	N	O	S	0	0	0
			1182	735	227	216	4			

- Molecule 7 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			

- Molecule 8 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			

- Molecule 9 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	98	Total	C	N	O	S	0	0	0
			787	493	150	143	1			

- Molecule 10 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			

- Molecule 11 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			

- Molecule 12 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	114	Total	C	N	O	S	0	0	0
			884	546	178	157	3			

- Molecule 13 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			

- Molecule 14 is a protein called 30S ribosomal protein S15.

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

- Molecule 15 is a protein called 30S ribosomal protein S16.

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

- Molecule 16 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	80	Total	C	N	O	S	0	0	0
			649	411	121	114	3			

- Molecule 17 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	Q	55	Total	C	N	O	0	0	0
			456	288	86	82			

- Molecule 18 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	R	79	Total	C	N	O	S	0	0	0
			638	408	120	108	2			

- Molecule 19 is a protein called 30S ribosomal protein S20.

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

- Molecule 20 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	51	Total	C	N	O	S	0	0	0
			426	265	86	74	1			

- Molecule 21 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	U	271	Total	C	N	O	S	0	0	0
			2083	1288	423	365	7			

- Molecule 22 is a protein called 50S ribosomal protein L3.

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

- Molecule 23 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	W	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			

- Molecule 24 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	X	177	Total	C	N	O	S	0	0	0
			1411	899	249	257	6			

- Molecule 25 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	Y	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			

- Molecule 26 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			

- Molecule 27 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	0	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			

- Molecule 28 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	1	122	Total	C	N	O	S	0	0	0
			939	587	180	166	6			

- Molecule 29 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	2	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			

- Molecule 30 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	3	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			

- Molecule 31 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	4	120	Total	C	N	O	S	0	0	0
			961	593	196	167	5			

- Molecule 32 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
32	5	116	Total	C	N	O	0	0	0
			892	552	178	162			

- Molecule 33 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	6	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			

- Molecule 34 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
34	8	117	Total	C	N	O	0	0	0
			947	604	192	151			

- Molecule 35 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	9	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			

- Molecule 36 is a protein called 50S ribosomal protein L22.

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

- Molecule 37 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	b	93	Total	C	N	O	S	0	0	0
			739	466	139	132	2			

- Molecule 38 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	c	102	Total	C	N	O		0	0	0
			780	492	146	142				

- Molecule 39 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	d	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			

- Molecule 40 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	e	79	Total	C	N	O	S	0	0	0
			596	367	120	108	1			

- Molecule 41 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	f	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			

- Molecule 42 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	g	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			

- Molecule 43 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	h	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			

- Molecule 44 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	i	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			

- Molecule 45 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	j	50	Total	C	N	O	S	0	0	0
			410	263	75	72				

- Molecule 46 is a protein called 50S ribosomal protein L34.

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

- Molecule 47 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	l	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			

- Molecule 48 is a protein called 50S ribosomal protein L36.

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

- Molecule 49 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	n	163	Total	C	N	O	S	0	0	0
			1234	779	219	229	7			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
n	85	LEU	SER	conflict	UNP A0A1X3LA41
n	160	GLU	ASP	conflict	UNP A0A1X3LA41

- Molecule 50 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	o	30	Total	C	N	O	S	0	0	0
			228	144	33	48	3			
50	p	30	Total	C	N	O	S	0	0	0
			228	144	33	48	3			
50	q	30	Total	C	N	O	S	0	0	0
			228	144	33	48	3			
50	r	30	Total	C	N	O	S	0	0	0
			228	144	33	48	3			

- Molecule 51 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	s	1532	Total	C	N	O	P	0	0	0
			32870	14661	6031	10647	1531			

- Molecule 52 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	t	2850	Total	C	N	O	P	0	0	0
			61183	27295	11261	19778	2849			

- Molecule 53 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	u	118	Total	C	N	O	P	0	0	0
			2526	1126	464	819	117			

- Molecule 54 is a protein called Peptide chain release factor 3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	v	525	Total	C	N	O	S	0	0	0
			4144	2617	722	783	22			

- Molecule 55 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	w	6	Total	C	N	O	P	0	0	0
			126	58	24	39	5			

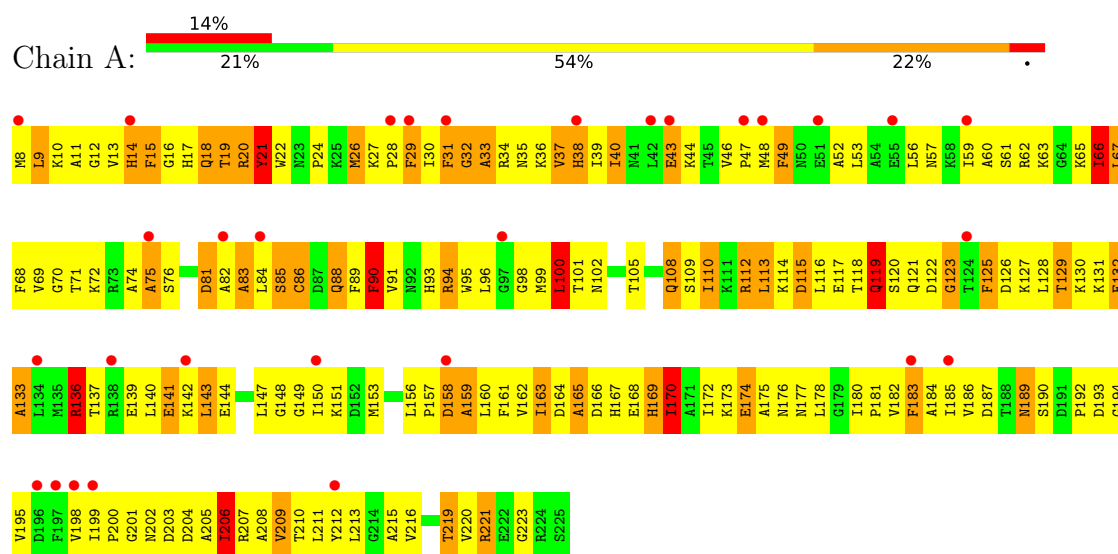
- Molecule 56 is a protein called Viomycin.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
56	y	6	Total	C	N	O	0	0	0
			48	25	13	10			
56	z	6	Total	C	N	O	0	0	0
			48	25	13	10			
56	7	6	Total	C	N	O	0	0	0
			48	25	13	10			
56	AA	6	Total	C	N	O	0	0	0
			48	25	13	10			
56	BA	6	Total	C	N	O	0	0	0
			48	25	13	10			

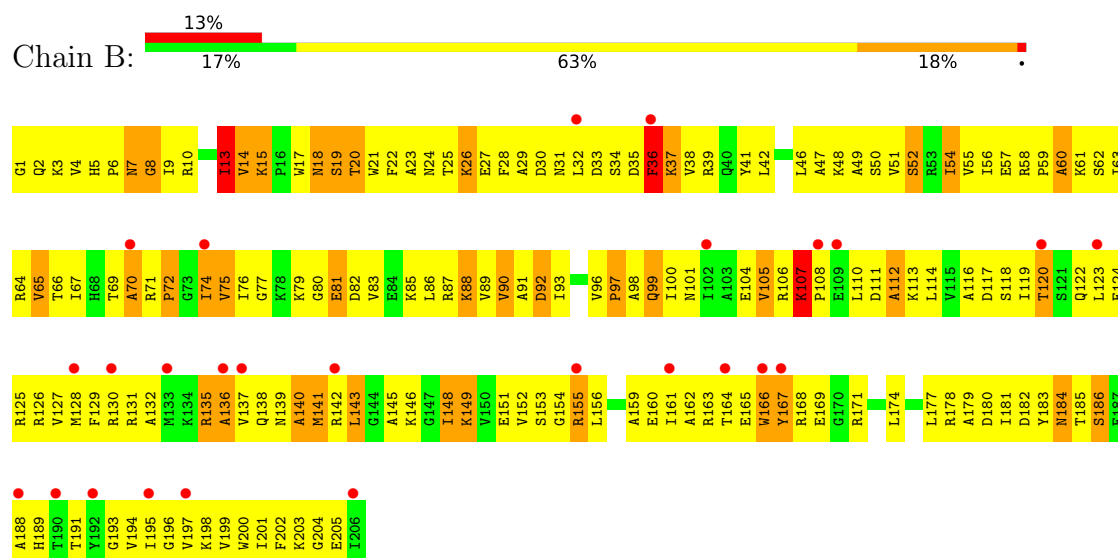
3 Residue-property plots

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 electron 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 dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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.

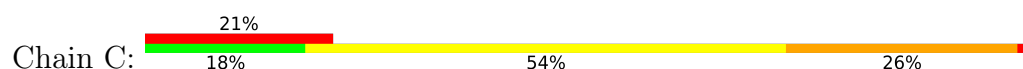
• Molecule 1: 30S ribosomal protein S2

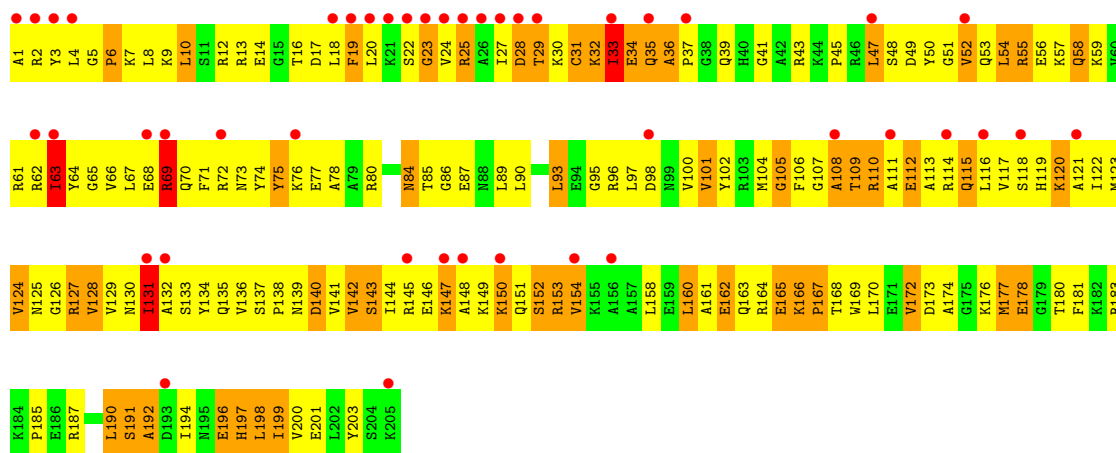


• Molecule 2: 30S ribosomal protein S3

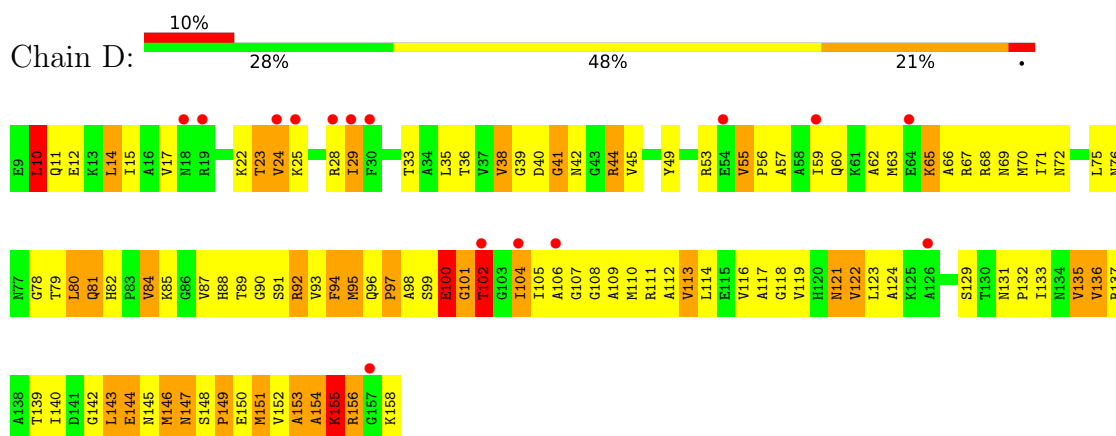


• Molecule 3: 30S ribosomal protein S4

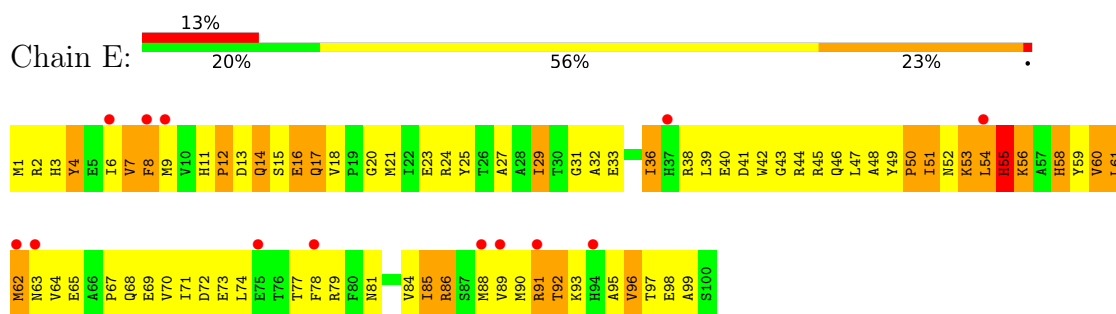




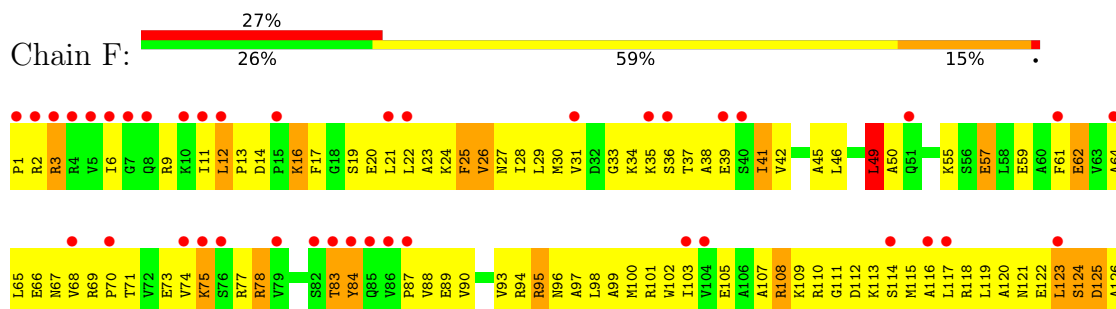
• Molecule 4: 30S ribosomal protein S5



• Molecule 5: 30S ribosomal protein S6

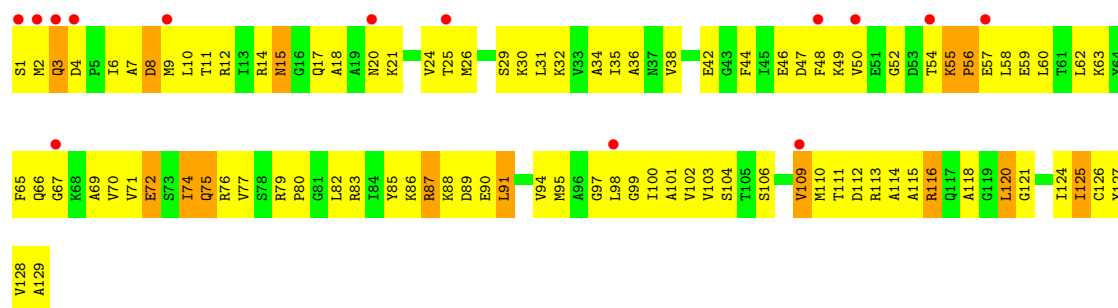


• Molecule 6: 30S ribosomal protein S7

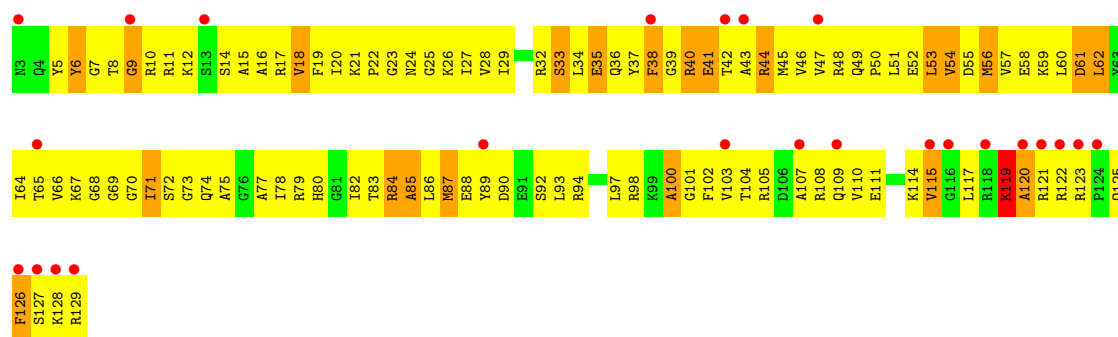




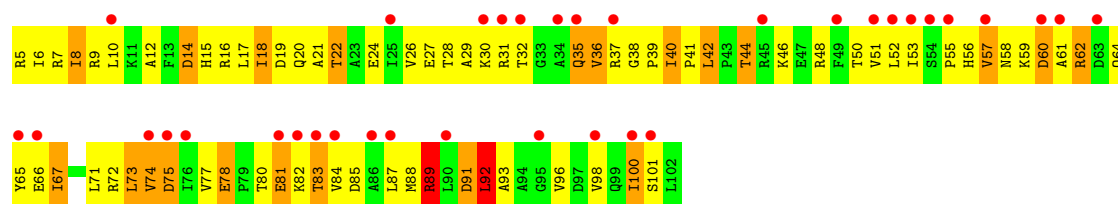
• Molecule 7: 30S ribosomal protein S8



• Molecule 8: 30S ribosomal protein S9



• Molecule 9: 30S ribosomal protein S10

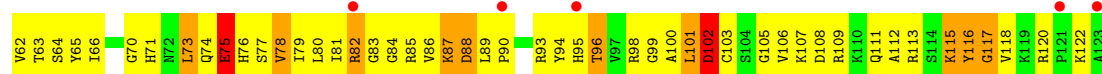


• Molecule 10: 30S ribosomal protein S11

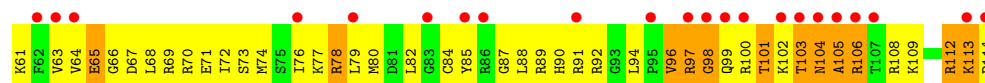
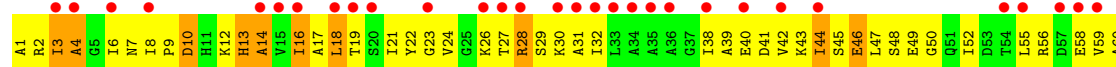




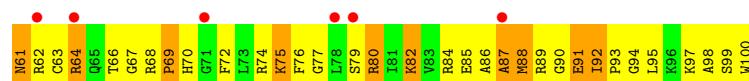
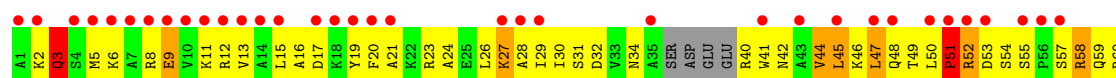
- Molecule 11: 30S ribosomal protein S12



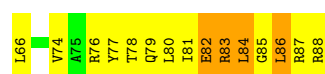
- Molecule 12: 30S ribosomal protein S13



- Molecule 13: 30S ribosomal protein S14

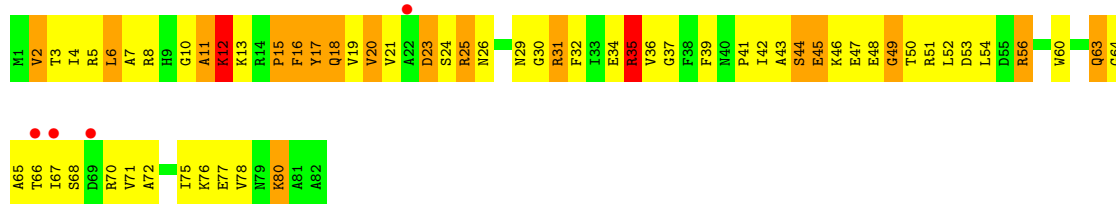


- Molecule 14: 30S ribosomal protein S15

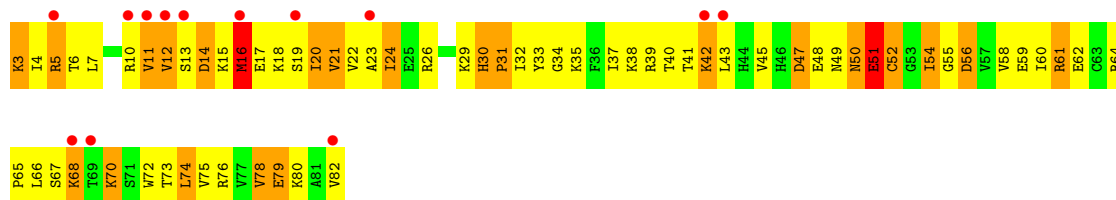
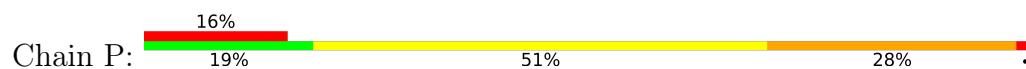


- Molecule 15: 30S ribosomal protein S16





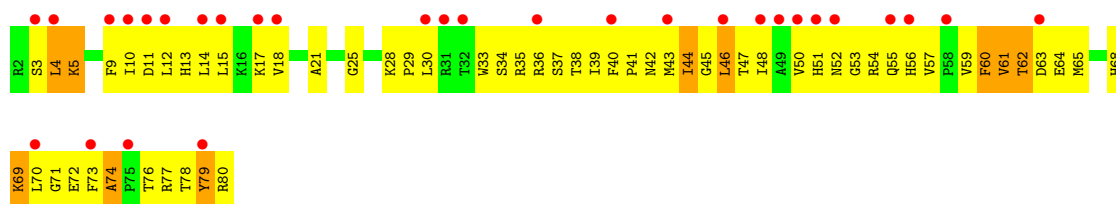
• Molecule 16: 30S ribosomal protein S17



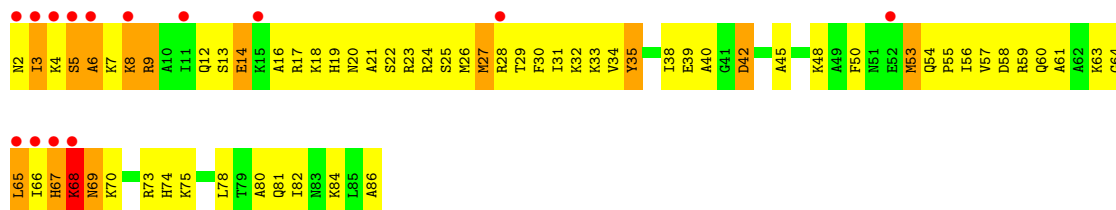
• Molecule 17: 30S ribosomal protein S18



• Molecule 18: 30S ribosomal protein S19

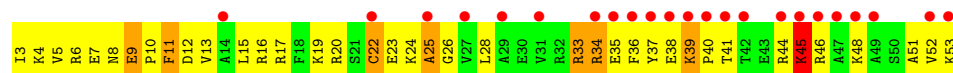


• Molecule 19: 30S ribosomal protein S20

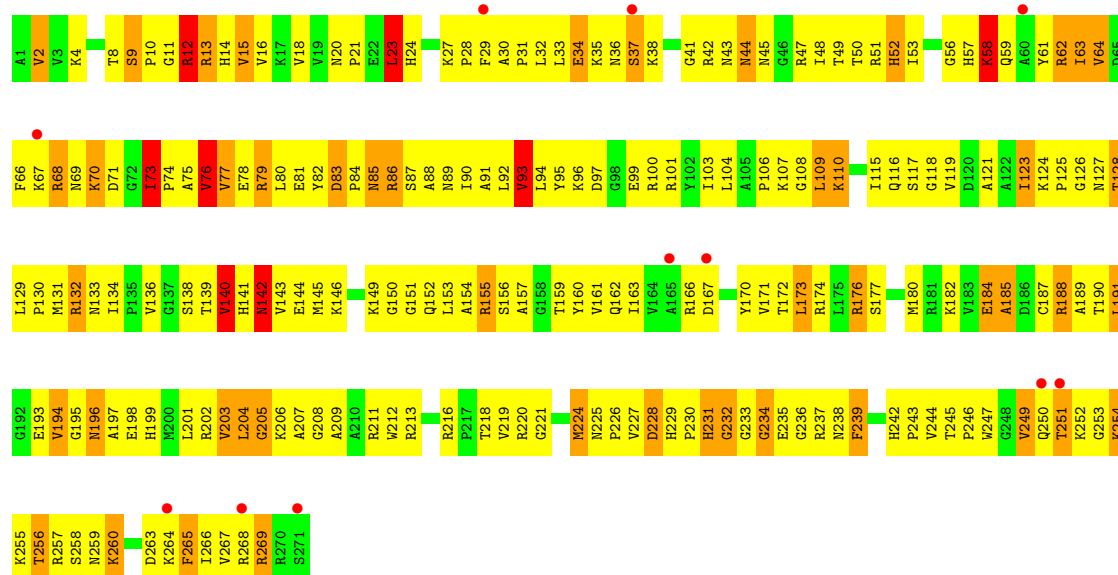


• Molecule 20: 30S ribosomal protein S21

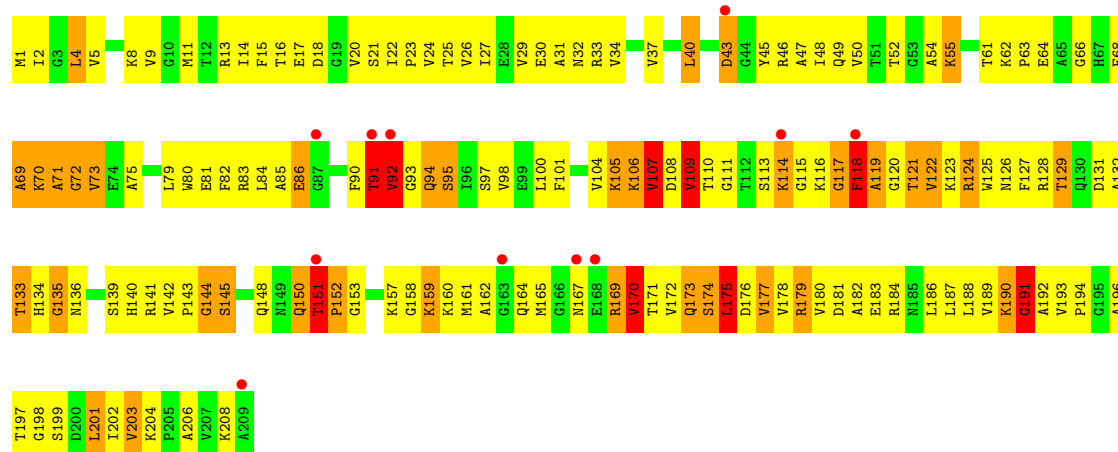




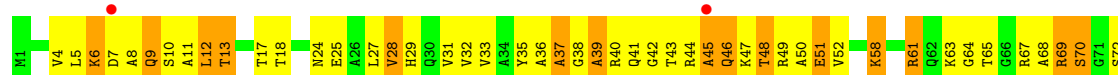
• Molecule 21: 50S ribosomal protein L2

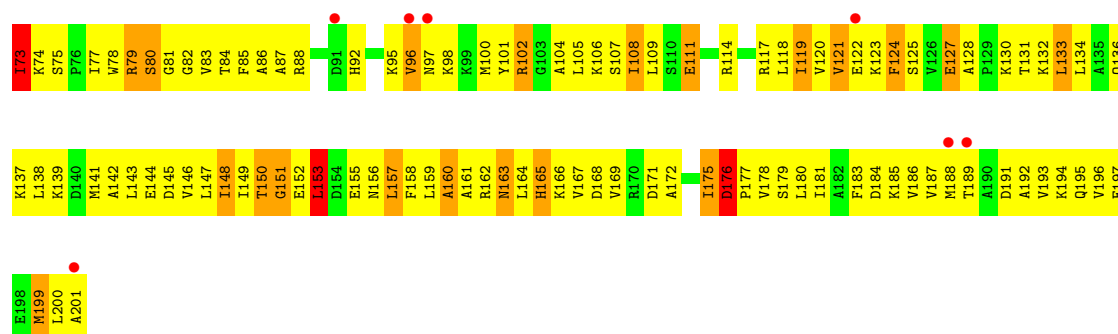


• Molecule 22: 50S ribosomal protein L3

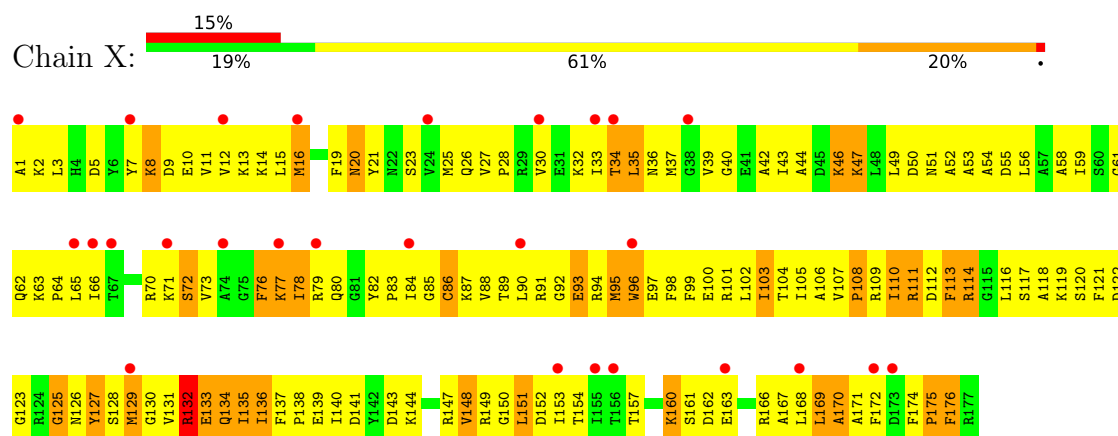


• Molecule 23: 50S ribosomal protein L4

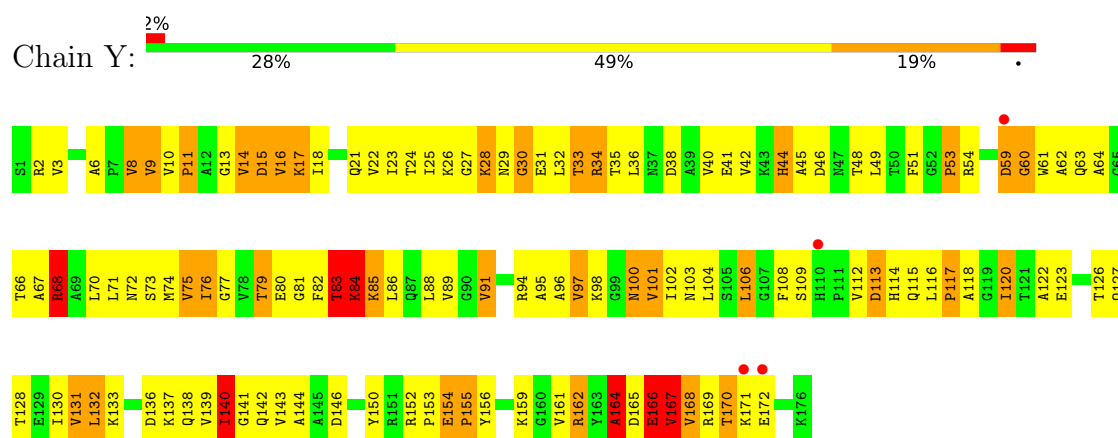




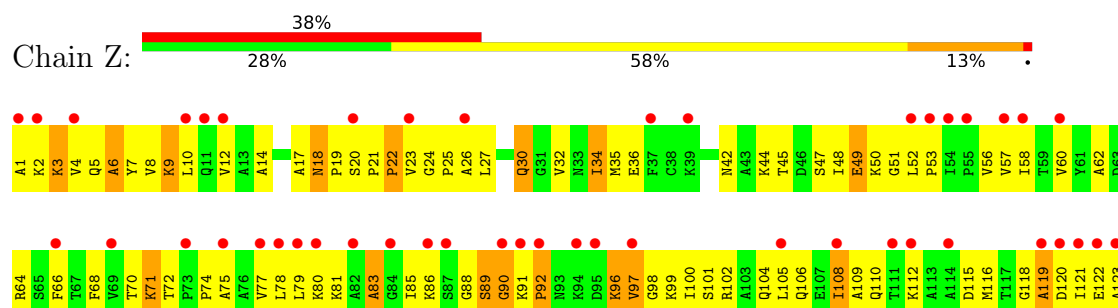
• Molecule 24: 50S ribosomal protein L5



• Molecule 25: 50S ribosomal protein L6

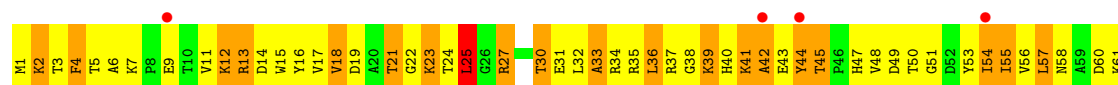


• Molecule 26: 50S ribosomal protein L11

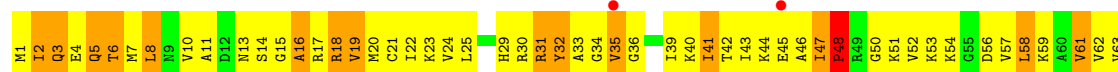




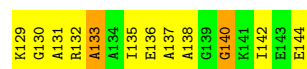
• Molecule 27: 50S ribosomal protein L13



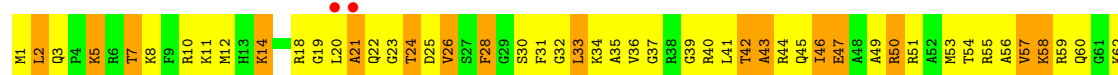
• Molecule 28: 50S ribosomal protein L14

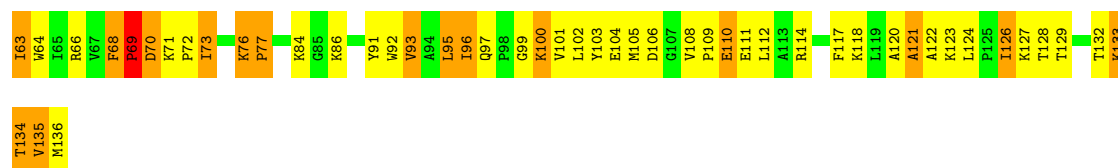


• Molecule 29: 50S ribosomal protein L15

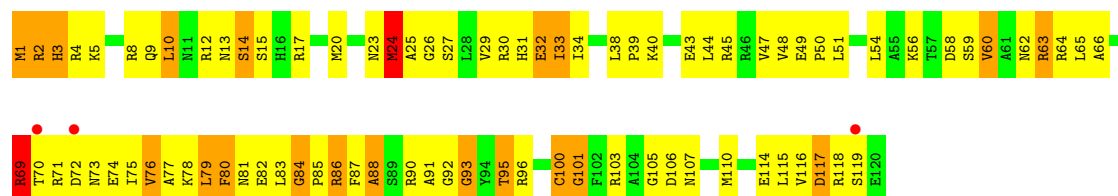


• Molecule 30: 50S ribosomal protein L16

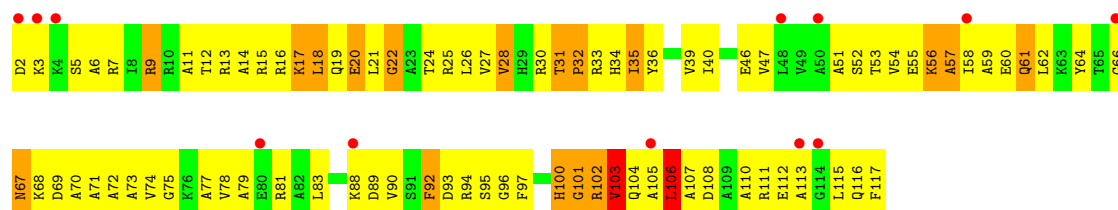




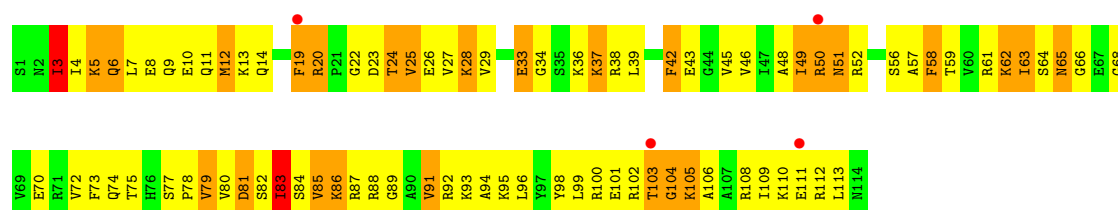
• Molecule 31: 50S ribosomal protein L17



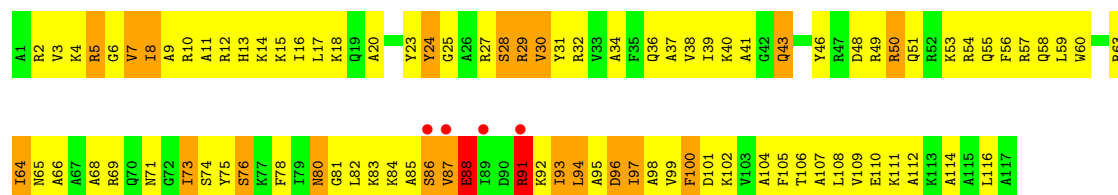
• Molecule 32: 50S ribosomal protein L18



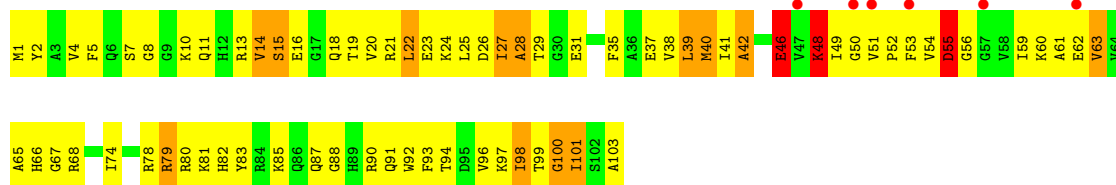
• Molecule 33: 50S ribosomal protein L19



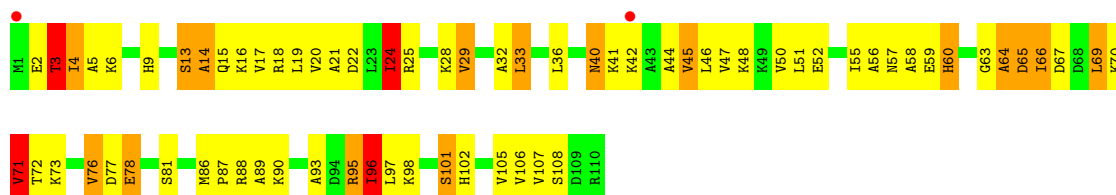
• Molecule 34: 50S ribosomal protein L20



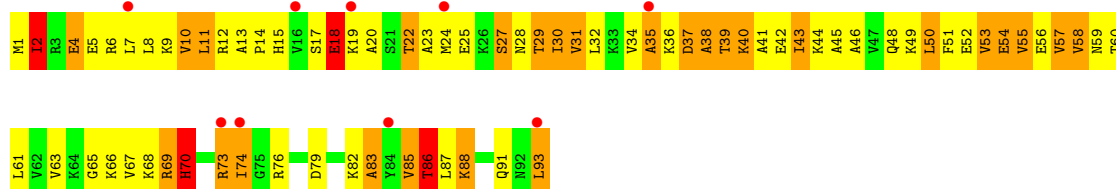
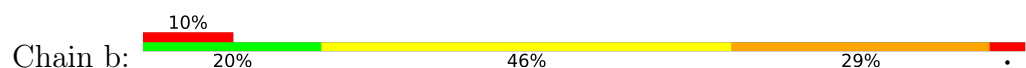
• Molecule 35: 50S ribosomal protein L21



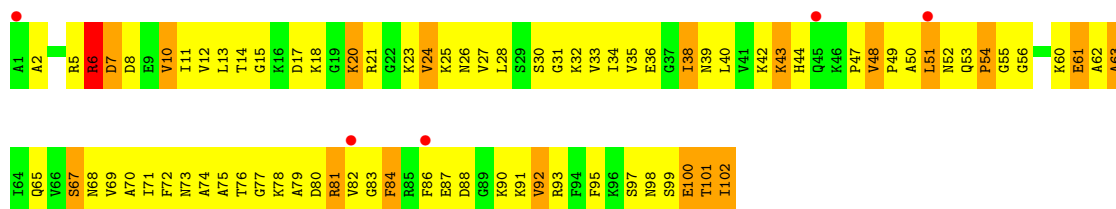
• Molecule 36: 50S ribosomal protein L22



• Molecule 37: 50S ribosomal protein L23



• Molecule 38: 50S ribosomal protein L24

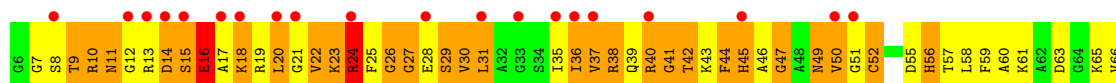


• Molecule 39: 50S ribosomal protein L25

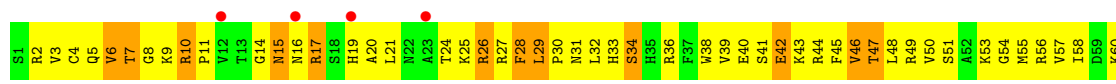
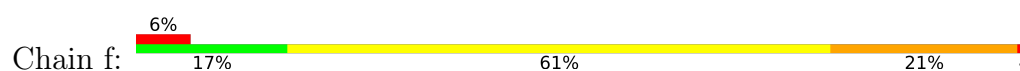




• Molecule 40: 50S ribosomal protein L27



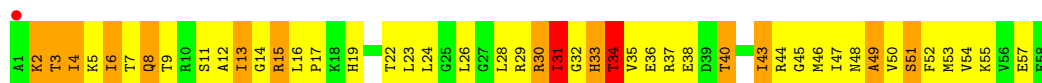
• Molecule 41: 50S ribosomal protein L28



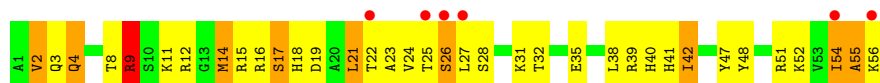
• Molecule 42: 50S ribosomal protein L29



• Molecule 43: 50S ribosomal protein L30



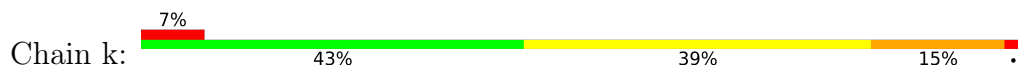
• Molecule 44: 50S ribosomal protein L32



• Molecule 45: 50S ribosomal protein L33



- Molecule 46: 50S ribosomal protein L34



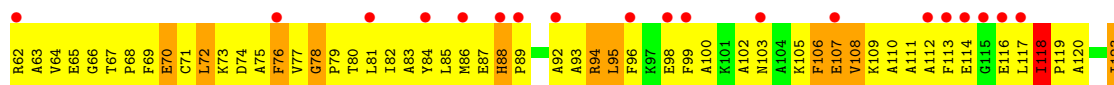
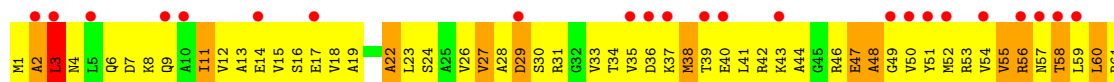
- Molecule 47: 50S ribosomal protein L35



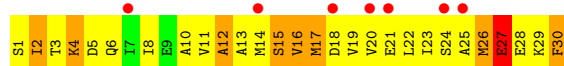
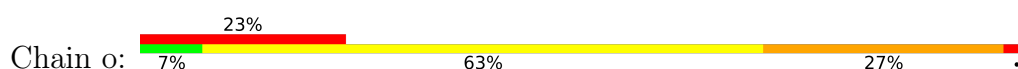
- Molecule 48: 50S ribosomal protein L36



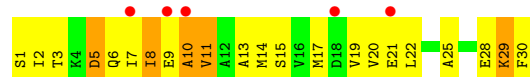
- Molecule 49: 50S ribosomal protein L10



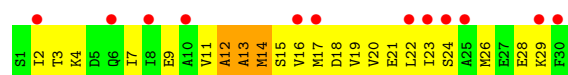
- Molecule 50: 50S ribosomal protein L7/L12



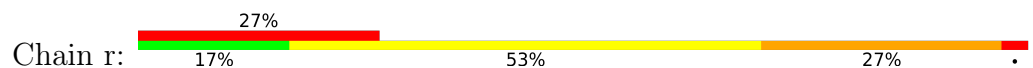
- Molecule 50: 50S ribosomal protein L7/L12



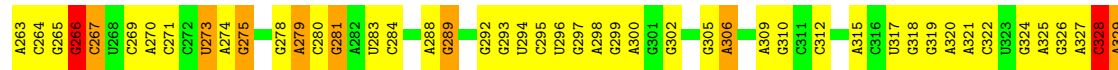
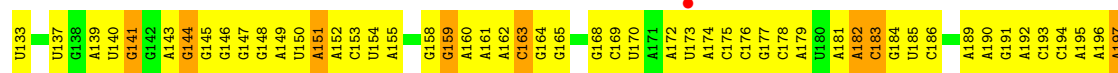
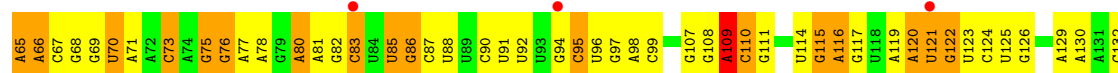
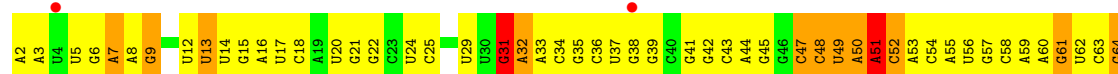
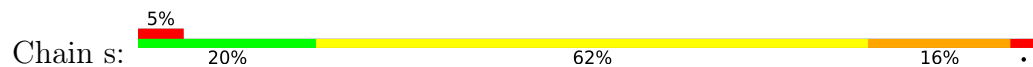
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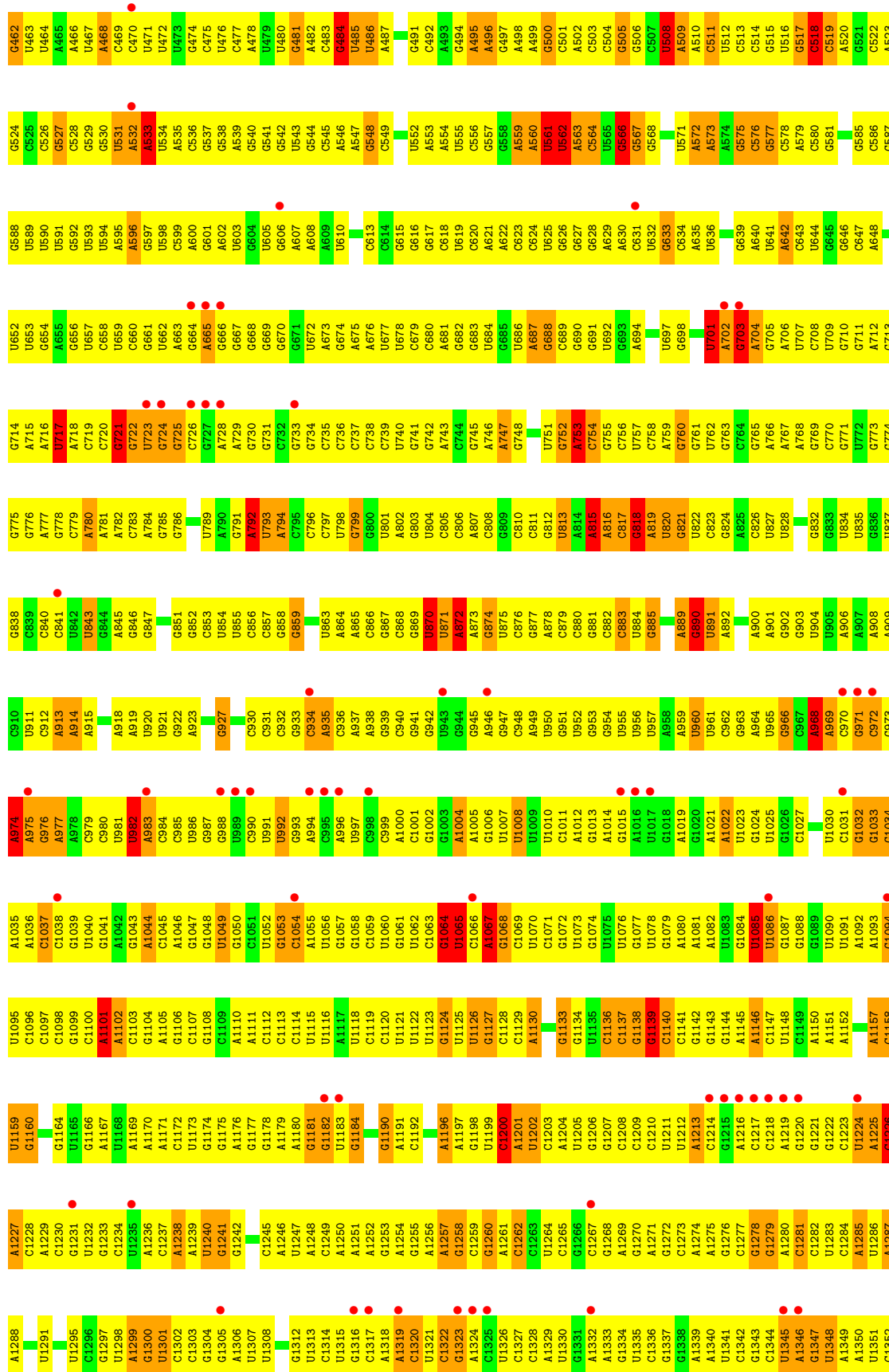


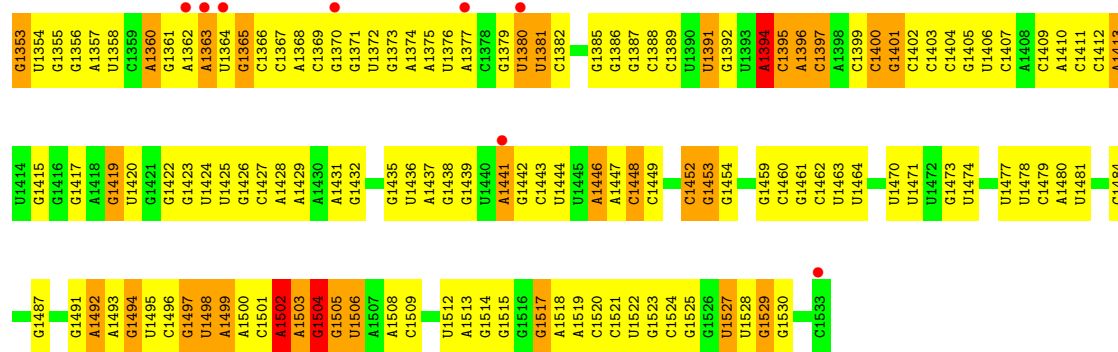
- Molecule 50: 50S ribosomal protein L7/L12



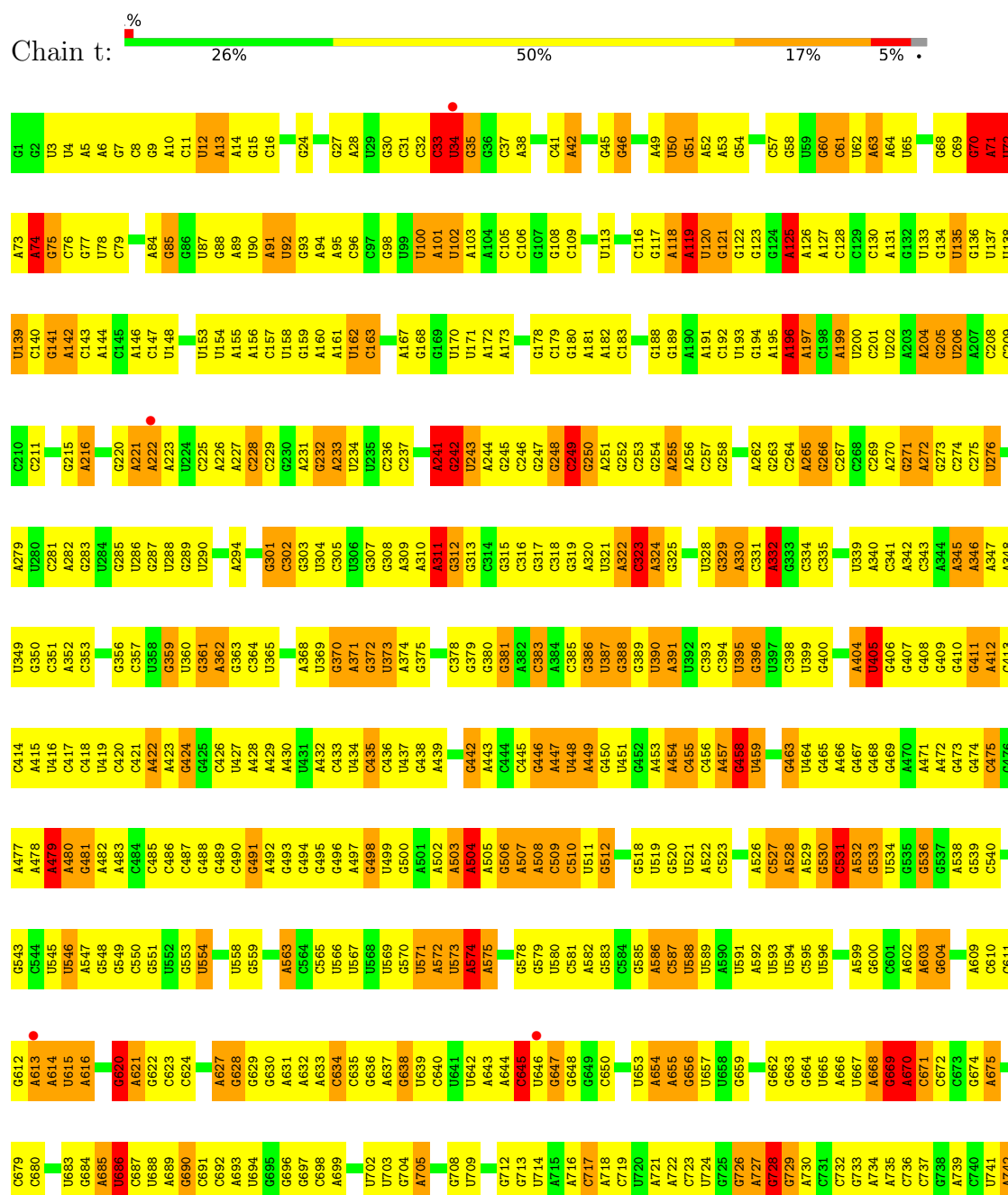
- Molecule 51: 16S ribosomal RNA





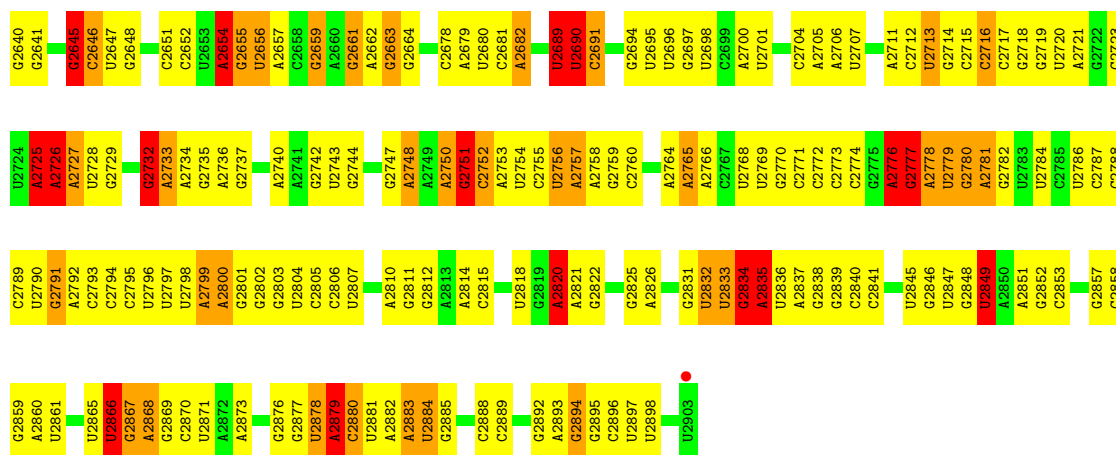


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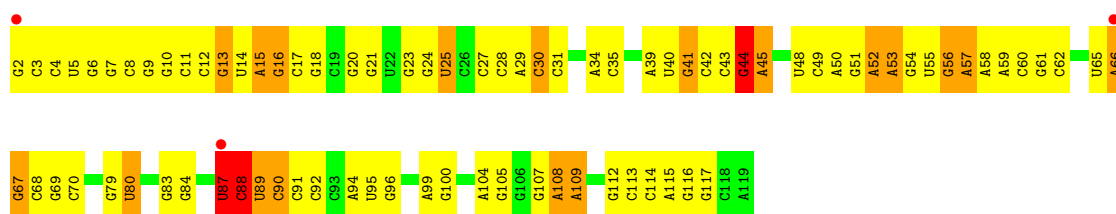


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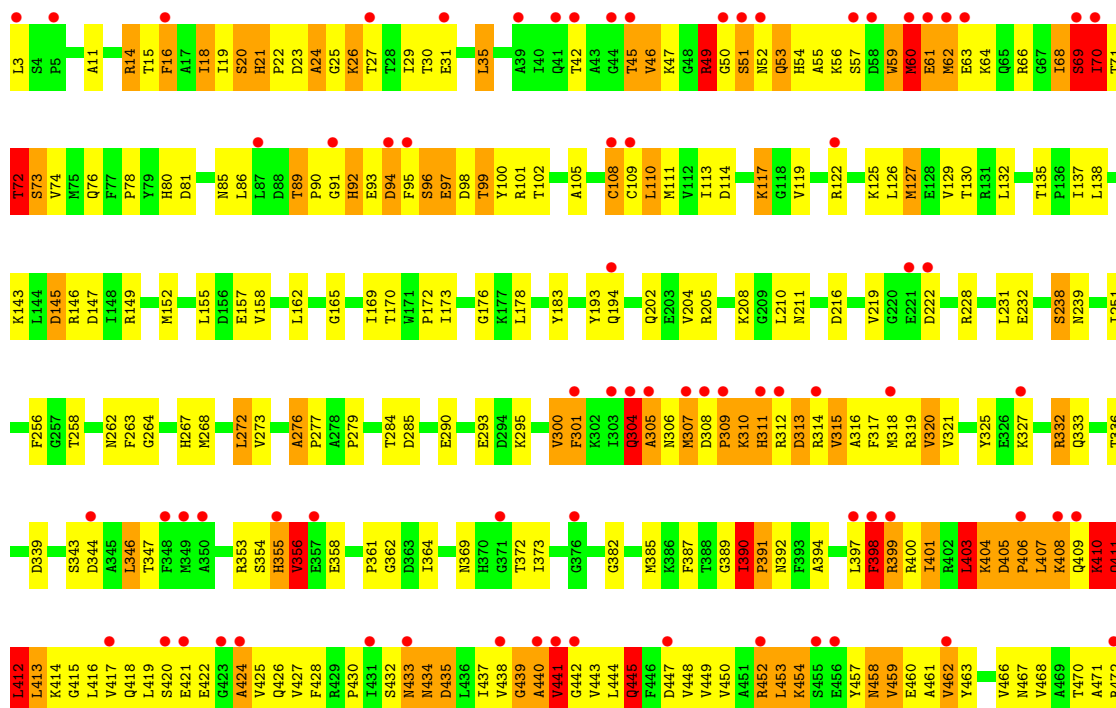
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U1683	G1684	C1685	U1688	U1689	C1694	C1695	U1692	U1693	A1694	C1695	U1696	C1698	A1699	A1700	A1701	G1706	G1707	C1708	U1709	G1710	A1711	U1712	A1713	U1714	U1715	G1716	U1720	G1721	A1722	G1723	G1724	U1725	G1726	C1727	G1728	U1729	C1730	G1731	G1732	C1733	G1734	A1735	U1736	G1737	C1738	A1739	U1740	G1743	A1744	A1745	A1746	U1747	C1748	A1749	G1750	U1751	C1752												
G1753	A1754	U1757	U1758	C1759	C1760	C1761	C1762	C1763	C1764	U1765	U1772	A1773	C1774	C1775	C1776	U1777	U1778	U1779	A1780	U1781	U1782	U1783	U1784	U1785	U1786	U1787	U1788	A1789	C1790	A1791	G1792	C1793	A1794	C1795	U1796	G1797	U1798	C1800	C1801	A1802	A1803	C1804	A1805	U1808	A1809	G1810	G1811	U1812	G1813	G1814	A1815	C1816	U1817	A1818	A1819														
U1820	A1821	C1822	G1824	U1827	G1828	C1830	C1833	G1839	G1842	C1843	C1844	G1845	C1846	A1847	A1848	G1849	G1850	U1851	U1852	A1853	A1854	U1855	U1856	U1857	C1858	U1859	G1860	G1863	G1864	U1865	U1866	U1869	C1870	A1871	A1872	G1873	C1874	G1875	A1876	U1880	G1884	U1885	U1886	C1887	C1893	C1894	C1895	U1896	C1961	C1962	U1963	C1965																	
A1899	A1900	A1901	C1902	G1903	G1904	G1905	G1906	G1910	U1911	A1912	A1913	C1914	U1915	A1916	U1917	U1918	A1919	G1920	G1921	U1922	U1923	C1924	G1925	U1926	A1927	U1928	G1929	U1930	U1931	A1932	G1933	C1934	G1935	A1936	A1937	A1938	U1939	U1940	C1941	C1942	U1943	U1944	G1945	U1946	C1947	G1950	A1953	G1954	U1955	U1956	C1961	C1962	U1963	C1965															
A1966	C1967	G1968	A1969	U1970	U1971	G1972	G1973	C1974	C1975	G1980	A1981	U1982	G1983	U1989	U1991	G1992	U1993	C1996	G1997	A1998	C1999	C2000	C2001	G2002	C2006	A2009	G2010	G2011	G2012	A2013	A2014	A2015	U2016	U2017	G2018	A2019	A2020	C2021	U2022	C2023	G2024	C2025	U2026	G2027	U2028	A2030	G2032	G2033	U2034	C2035	G2036	A2037																	
U2038	U2039	G2040	A2041	A2042	C2043	C2044	G2045	G2046	G2049	C2050	A2051	A2052	C2053	A2054	C2055	G2056	A2060	A2061	A2062	C2063	C2064	C2065	U2068	G2069	A2070	A2071	C2072	C2073	U2074	U2075	U2076	U2077	U2079	A2082	G2083	G2087	A2088	C2089	A2090	C2091	U2092	G2093	A2094	A2097	U2098	A2101	G2102	C2103	G2104	U2105	U2106	G2107																	
A2108	U2109	G	U	U	G	U	A	A	C	A	G	G	C	C	A	A	C	U2179	U2180	U2181	U2182	A2183	U2184	U2185	G2186	U2187	U2188	U2189	G2190	A2191	U2192	U2195	C2196	U2197	A2198	A2199	C2200	G2201	U2202	U2203	G2204	A2205	C2206	C2207	U2210	A2211	A2212	U2213	U2214	G2215	G2216	G2217	U2218	U2219	U2220	G	A	C	C	C	A								
C2232	U2233	G2234	G2237	G2238	G2239	U2240	A2241	G2242	U2243	U2244	U2245	G2246	A2247	U2248	U2249	G2250	G2251	C2258	U2259	C2260	C2261	U2262	G2263	C2264	U2265	A2266	A2267	A2268	G2269	U2270	G2271	U2272	A2273	A2274	G2275	G2276	G2277	G2278	G2279	G2280	A2281	G2282	C2283	A2284	G2285	G2286	A2287	A2288	G2289	G2290	U2291	U2292	G2293	G2294	G2295	U2296	A2297												
A2298	U2299	C2300	G2301	G2302	G2303	G2304	U2305	C2306	G2307	G2308	A2309	C2310	A2311	U2312	G2313	A2314	G2315	G2316	A2317	G2318	G2319	U2320	U2321	A2322	G2323	U2324	G2325	C2326	A2327	A2328	U2329	U2330	G2331	C2332	A2333	U2334	A2335	A2336	G2337	C2338	G2339	A2340	G2341	G2342	U2343	U2344	G2345	A2346	G2347	U2348	G2349	G2350	G2351	A2352	G2353	G2354	U2355	U2356											
C2359	G2360	G2361	G2362	G2363	G2364	G2365	A2369	G2370	G2371	G2372	G2373	C2374	G2375	A2376	G2377	G2378	G2379	G2380	A2381	G2382	G2383	U2384	C2385	A2386	U2387	A2388	G2389	U2390	G2391	A2392	U2393	G2394	G2395	G2396	G2397	U2401	U2402	C2403	A2406	A2407	U2408	G2409	C2410	A2411	A2412	G2413	C2416	G2417	A2418	U2419	C2420	U2423	A2425																
A2426	G2427	G2428	A2429	A2430	A2433	A2434	A2435	G2436	G2437	U2438	A2439	C2440	U2441	C2442	G2443	G2444	U2447	A2448	U2449	A2450	A2451	C2452	A2453	G2458	A2459	U2460	A2461	U2466	G2467	C2468	G2469	A2470	A2471	G2472	U2473	A2476	U2477	A2478	U2479	C2480	G2481	A2482	C2483	G2484	G2485	U2489	G2490	U2491	U2492	A2495	G2496	U2497																	
U2500	G2501	G2502	G2503	G2504	G2505	U2506	U2511	G2512	G2513	U2514	A2438	U2515	G2516	A2441	G2517	G2518	A2443	G2519	C2520	G2526	G2527	G2528	U2529	A2450	A2451	C2529	A2530	A2531	G2532	U2533	A2458	G2534	C2535	U2460	A2461	U2537	G2538	G2539	A2466	G2540	A2468	A2469	A2541	G2542	A2471	U2613	A2614	U2615	G2616	U2617	G2618	G2619	C2620	G2621	G2624	U2625	G2626	U2627	G2628	A2635	G2636	U2637	G2638	U2639					

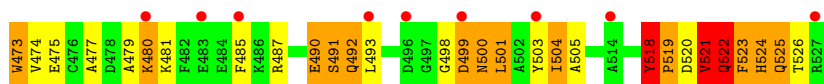


• Molecule 53: 5S ribosomal RNA

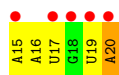
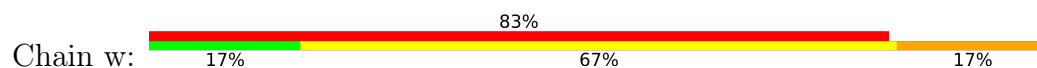


• Molecule 54: Peptide chain release factor 3

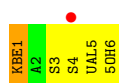




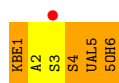
- Molecule 55: messenger RNA



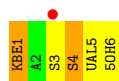
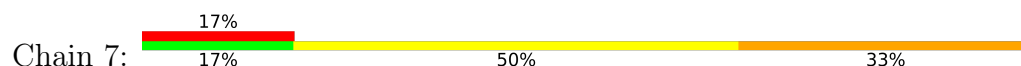
- Molecule 56: Viomycin



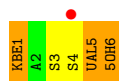
- Molecule 56: Viomycin



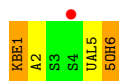
- Molecule 56: Viomycin



- Molecule 56: Viomycin



- Molecule 56: Viomycin



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	257.60Å 312.90Å 328.60Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	100.00 – 3.10 100.00 – 3.10	Depositor EDS
% Data completeness (in resolution range)	100.0 (100.00-3.10) 100.0 (100.00-3.10)	Depositor EDS
R_{merge}	0.20	Depositor
R_{sym}	0.10	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.34 (at 3.01Å)	Xtriage
Refinement program	PHENIX 1.6	Depositor
R, R_{free}	0.210 , 0.240 0.238 , 0.241	Depositor DCC
R_{free} test set	26311 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å ²)	64.1	Xtriage
Anisotropy	0.241	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 91.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.27$	Xtriage
Estimated twinning fraction	0.020 for -h,l,k	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	146817	wwPDB-VP
Average B, all atoms (Å ²)	100.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.42% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: DPP, KBE, 5OH, UAL

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	0.42	1/1732 (0.1%)	0.98	10/2333 (0.4%)
2	B	0.42	0/1652	0.99	10/2225 (0.4%)
3	C	0.43	0/1665	0.97	7/2227 (0.3%)
4	D	0.49	0/1119	1.04	9/1504 (0.6%)
5	E	0.41	0/836	0.83	0/1128
6	F	0.35	0/1196	0.95	7/1602 (0.4%)
7	G	0.41	0/989	1.02	8/1326 (0.6%)
8	H	0.37	0/1034	0.91	4/1375 (0.3%)
9	I	0.45	0/797	0.95	3/1077 (0.3%)
10	J	0.41	0/893	0.94	2/1205 (0.2%)
11	K	0.55	0/969	1.19	7/1300 (0.5%)
12	L	0.34	0/893	0.87	1/1193 (0.1%)
13	M	0.38	0/785	0.93	2/1043 (0.2%)
14	N	0.37	0/722	0.89	2/964 (0.2%)
15	O	0.46	0/659	1.00	4/884 (0.5%)
16	P	0.40	0/658	1.03	5/881 (0.6%)
17	Q	0.45	0/463	0.95	2/621 (0.3%)
18	R	0.36	0/653	0.90	0/877
19	S	0.43	0/671	0.95	2/888 (0.2%)
20	T	0.44	0/431	1.03	3/570 (0.5%)
21	U	0.59	0/2122	1.27	22/2852 (0.8%)
22	V	0.65	0/1586	1.16	10/2134 (0.5%)
23	W	0.51	0/1571	1.07	12/2113 (0.6%)
24	X	0.35	0/1435	0.92	5/1926 (0.3%)
25	Y	0.51	0/1343	1.08	11/1816 (0.6%)
26	Z	0.36	0/1046	0.91	3/1410 (0.2%)
27	0	0.61	0/1152	1.13	11/1551 (0.7%)
28	1	0.67	0/948	1.17	9/1268 (0.7%)
29	2	0.49	0/1054	1.16	11/1403 (0.8%)
30	3	0.56	0/1093	1.14	12/1460 (0.8%)
31	4	0.59	0/974	1.18	7/1301 (0.5%)
32	5	0.39	0/902	0.97	3/1209 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	6	0.56	0/929	1.19	12/1242 (1.0%)
34	8	0.57	0/960	1.08	7/1278 (0.5%)
35	9	0.47	0/829	1.04	4/1107 (0.4%)
36	a	0.63	0/864	1.12	4/1156 (0.3%)
37	b	0.58	0/745	1.17	7/994 (0.7%)
38	c	0.47	0/788	1.11	7/1051 (0.7%)
39	d	0.43	0/766	0.86	1/1025 (0.1%)
40	e	0.60	0/603	1.14	6/797 (0.8%)
41	f	0.48	0/635	1.09	4/848 (0.5%)
42	g	0.43	0/510	1.08	6/677 (0.9%)
43	h	0.51	0/453	1.05	1/605 (0.2%)
44	i	0.61	0/450	1.12	3/599 (0.5%)
45	j	0.45	0/417	0.82	0/554
46	k	0.62	0/380	1.19	5/498 (1.0%)
47	l	0.47	0/513	0.93	2/676 (0.3%)
48	m	0.61	0/303	1.27	2/397 (0.5%)
49	n	0.37	0/1248	0.99	11/1679 (0.7%)
50	o	0.42	0/228	1.02	1/304 (0.3%)
50	p	0.36	0/228	0.72	0/304
50	q	0.41	0/228	0.98	2/304 (0.7%)
50	r	0.37	0/228	1.29	6/304 (2.0%)
51	s	0.36	0/36806	0.75	63/57419 (0.1%)
52	t	0.43	0/68523	0.86	206/106893 (0.2%)
53	u	0.34	0/2825	0.70	7/4406 (0.2%)
54	v	0.62	7/4221 (0.2%)	1.10	29/5702 (0.5%)
55	w	0.30	0/141	0.72	0/218
56	7	1.17	0/11	1.13	0/13
56	AA	1.70	0/11	1.38	0/13
56	BA	1.24	0/11	0.99	0/13
56	y	1.50	0/11	1.14	0/13
56	z	1.58	0/11	2.10	0/13
All	All	0.44	8/158919 (0.0%)	0.89	600/236768 (0.3%)

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
51	s	0	29
52	t	0	109
53	u	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
54	v	0	2
All	All	0	141

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
54	v	25	GLY	C-N	9.66	1.45	1.33
54	v	72	THR	C-O	8.58	1.34	1.24
54	v	26	LYS	C-N	-6.56	1.25	1.34
54	v	72	THR	CA-CB	6.09	1.63	1.53
54	v	70	ILE	CA-CB	5.82	1.62	1.54
54	v	73	SER	N-CA	-5.33	1.38	1.45
54	v	24	ALA	C-N	5.31	1.41	1.33
1	A	19	THR	CA-C	5.10	1.55	1.52

All (600) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	a	24	ILE	N-CA-C	13.29	123.24	111.81
21	U	44	ASN	N-CA-C	-12.86	97.62	113.18
48	m	15	LYS	N-CA-C	11.64	129.37	111.56
50	r	7	ILE	N-CA-C	-10.41	103.82	113.71
21	U	63	ILE	N-CA-C	10.23	120.04	110.42
40	e	38	ARG	N-CA-C	-10.15	99.25	112.24
33	6	6	GLN	N-CA-C	-10.14	97.44	112.04
21	U	76	VAL	N-CA-C	10.13	121.79	112.17
23	W	39	ALA	N-CA-C	-10.03	101.04	113.18
52	t	2654	A	C2'-C3'-O3'	9.53	123.79	109.50
32	5	103	VAL	N-CA-C	-9.46	102.69	111.67
22	V	152	PRO	N-CA-C	-9.13	100.15	113.75
21	U	251	THR	N-CA-C	-9.12	95.62	109.94
34	8	7	VAL	N-CA-C	-9.11	102.98	111.45
52	t	1340	U	N1-C1'-C2'	9.06	127.59	114.00
9	I	21	ALA	N-CA-C	-8.86	102.99	113.88
44	i	35	GLU	N-CA-C	8.85	122.74	110.35
37	b	85	VAL	N-CA-C	8.82	119.62	110.72
40	e	40	ARG	N-CA-C	-8.72	101.66	112.47
52	t	119	A	C2'-C3'-O3'	8.69	122.53	109.50
42	g	59	GLU	N-CA-C	-8.56	102.74	113.01
52	t	974	G	N9-C1'-C2'	8.51	126.77	114.00
29	2	92	LEU	N-CA-C	-8.47	100.69	111.02
27	0	27	ARG	N-CA-C	-8.46	102.94	113.18

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	t	70	G	N9-C1'-C2'	8.43	126.65	114.00
37	b	2	ILE	N-CA-C	-8.22	105.90	113.71
52	t	1247	A	C2'-C3'-O3'	8.21	121.82	109.50
21	U	12	ARG	N-CA-C	-8.19	102.84	113.17
31	4	69	ARG	N-CA-C	-8.15	97.72	110.36
54	v	522	GLN	CA-C-N	8.15	136.37	121.70
54	v	522	GLN	C-N-CA	8.15	136.37	121.70
52	t	2447	G	N9-C1'-C2'	8.14	126.22	114.00
1	A	83	ALA	N-CA-C	-8.13	102.36	111.14
46	k	6	GLN	CA-C-N	8.08	129.94	119.84
46	k	6	GLN	C-N-CA	8.08	129.94	119.84
52	t	2732	G	N9-C1'-C2'	8.08	126.12	114.00
22	V	151	THR	CA-C-N	-8.06	110.13	119.32
22	V	151	THR	C-N-CA	-8.06	110.13	119.32
52	t	2820	A	C4'-C3'-O3'	-8.02	100.97	113.00
21	U	213	ARG	N-CA-C	-7.98	103.11	112.92
48	m	22	VAL	N-CA-C	7.98	119.34	108.17
49	n	134	GLU	N-CA-C	-7.97	99.90	111.30
52	t	686	U	N1-C1'-C2'	7.96	125.95	114.00
54	v	26	LYS	O-C-N	7.96	131.84	122.20
54	v	491	SER	N-CA-C	7.93	119.56	111.07
52	t	1668	A	C2'-C3'-O3'	-7.90	97.65	109.50
52	t	728	G	N9-C1'-C2'	7.83	125.74	114.00
51	s	1085	U	N1-C1'-C2'	7.80	123.71	112.00
29	2	80	SER	N-CA-C	-7.78	102.76	111.71
38	c	84	PHE	N-CA-C	7.77	120.72	109.14
28	1	2	ILE	N-CA-C	7.74	117.74	111.62
52	t	1025	G	N9-C1'-C2'	7.73	125.59	114.00
37	b	9	LYS	N-CA-C	-7.72	102.07	112.26
25	Y	140	ILE	N-CA-C	-7.70	103.03	110.42
52	t	249	C	N1-C1'-C2'	7.68	125.52	114.00
52	t	2030	A	N9-C1'-C2'	7.66	125.48	114.00
52	t	1250	G	N9-C1'-C2'	7.63	125.44	114.00
52	t	1237	A	N9-C1'-C2'	7.62	125.43	114.00
31	4	48	VAL	N-CA-C	7.62	117.69	110.30
24	X	170	ALA	N-CA-C	-7.59	103.81	113.23
52	t	1706	C	C2'-C3'-O3'	-7.56	98.15	109.50
40	e	21	GLY	N-CA-C	-7.55	98.42	111.57
52	t	784	G	C4'-C3'-O3'	-7.54	101.69	113.00
25	Y	154	GLU	CA-C-N	7.54	129.26	119.84
25	Y	154	GLU	C-N-CA	7.54	129.26	119.84
2	B	70	ALA	N-CA-C	-7.51	104.11	113.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	T	17	ARG	N-CA-C	-7.50	103.43	112.59
23	W	58	LYS	CA-C-N	7.50	127.87	119.32
23	W	58	LYS	C-N-CA	7.50	127.87	119.32
7	G	120	LEU	N-CA-C	7.47	114.91	108.78
23	W	37	ALA	N-CA-C	-7.47	100.89	110.53
52	t	527	C	C2'-C3'-O3'	7.42	120.64	109.50
52	t	792	A	N9-C1'-C2'	7.42	125.12	114.00
29	2	104	GLN	N-CA-C	7.39	118.98	111.07
14	N	44	GLU	N-CA-C	-7.36	98.38	109.94
42	g	16	THR	N-CA-C	-7.36	103.76	112.89
6	F	136	LYS	N-CA-C	-7.36	103.77	112.89
23	W	160	ALA	N-CA-C	-7.34	98.64	110.32
42	g	47	ARG	N-CA-C	-7.30	102.92	111.03
15	O	25	ARG	N-CA-C	7.27	119.21	111.28
1	A	109	SER	N-CA-C	-7.26	103.38	112.90
24	X	78	ILE	N-CA-C	7.25	119.25	108.96
22	V	117	GLY	N-CA-C	7.23	124.04	113.48
2	B	204	GLY	N-CA-C	7.22	124.45	110.73
52	t	2566	A	N9-C1'-C2'	7.22	124.83	114.00
52	t	1828	G	N9-C1'-C2'	7.21	124.81	114.00
3	C	136	VAL	N-CA-C	7.17	117.72	108.12
52	t	34	U	C2'-C3'-O3'	7.16	120.25	109.50
33	6	51	ASN	N-CA-C	7.16	119.28	110.91
52	t	746	U	N1-C1'-C2'	7.16	124.74	114.00
23	W	48	THR	N-CA-C	-7.15	99.94	110.52
52	t	1134	A	N9-C1'-C2'	7.15	122.72	112.00
11	K	25	ALA	N-CA-C	-7.14	101.38	111.24
29	2	95	LEU	N-CA-C	-7.13	103.24	112.23
21	U	15	VAL	N-CA-C	7.13	118.22	109.30
29	2	55	MET	CA-C-N	7.12	128.74	119.84
29	2	55	MET	C-N-CA	7.12	128.74	119.84
52	t	995	C	N1-C1'-C2'	7.08	122.62	112.00
29	2	68	SER	N-CA-C	7.07	118.64	111.07
29	2	100	ILE	N-CA-C	-7.06	106.42	113.20
16	P	14	ASP	N-CA-C	-7.06	104.30	113.12
52	t	1820	U	N1-C1'-C2'	7.04	124.56	114.00
35	9	42	ALA	N-CA-C	7.04	120.04	108.99
52	t	1252	G	N9-C1'-C2'	7.03	124.55	114.00
16	P	30	HIS	CA-C-N	7.02	128.62	119.84
16	P	30	HIS	C-N-CA	7.02	128.62	119.84
52	t	1955	U	N1-C1'-C2'	7.01	124.52	114.00
52	t	1567	G	C2'-C3'-O3'	7.00	120.01	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	3	42	THR	N-CA-C	6.98	122.55	111.81
52	t	2491	U	N1-C1'-C2'	6.97	122.45	112.00
52	t	1966	A	C4'-C3'-O3'	-6.96	98.97	109.40
54	v	276	ALA	CA-C-N	6.92	126.96	119.90
54	v	276	ALA	C-N-CA	6.92	126.96	119.90
51	s	31	G	C2'-C3'-O3'	6.91	119.87	109.50
3	C	110	ARG	N-CA-C	-6.87	104.88	113.20
52	t	2447	G	C4'-C3'-O3'	-6.86	99.11	109.40
52	t	1340	U	C4'-C3'-O3'	-6.84	99.14	109.40
52	t	1210	G	N9-C1'-C2'	6.83	124.25	114.00
54	v	25	GLY	O-C-N	-6.83	113.82	122.70
52	t	1311	G	N9-C1'-C2'	6.81	124.21	114.00
51	s	1126	U	N1-C1'-C2'	6.79	122.19	112.00
54	v	208	LYS	N-CA-C	6.79	118.37	110.97
51	s	115	G	C2'-C3'-O3'	6.77	119.66	109.50
13	M	92	ILE	CA-C-N	6.77	128.31	119.84
13	M	92	ILE	C-N-CA	6.77	128.31	119.84
31	4	79	LEU	N-CA-C	-6.76	100.02	110.10
33	6	49	ILE	N-CA-C	6.76	119.27	108.85
54	v	69	SER	N-CA-C	6.76	125.21	110.80
52	t	2879	A	C2'-C3'-O3'	-6.76	99.36	109.50
50	r	25	ALA	N-CA-C	-6.75	105.02	113.18
19	S	9	ARG	N-CA-C	-6.75	104.53	112.89
54	v	491	SER	CA-C-N	6.74	133.84	121.70
54	v	491	SER	C-N-CA	6.74	133.84	121.70
52	t	2581	G	C2'-C3'-O3'	-6.74	99.39	109.50
52	t	1626	A	C4'-C3'-O3'	-6.73	102.90	113.00
28	1	95	ILE	N-CA-C	-6.73	104.45	111.58
11	K	54	VAL	N-CA-C	6.71	117.56	108.17
50	r	22	LEU	N-CA-C	-6.69	105.65	113.88
21	U	93	VAL	N-CA-C	6.69	123.25	109.34
51	s	872	A	N9-C1'-C2'	6.67	124.00	114.00
8	H	85	ALA	N-CA-C	-6.66	105.72	114.31
30	3	68	PHE	CA-C-N	6.63	128.13	119.84
30	3	68	PHE	C-N-CA	6.63	128.13	119.84
30	3	57	VAL	N-CA-C	-6.62	106.01	111.91
17	Q	53	GLN	N-CA-C	-6.62	104.09	111.71
52	t	1781	U	N1-C1'-C2'	6.62	123.93	114.00
21	U	203	VAL	N-CA-C	6.60	119.56	112.96
52	t	1937	A	N9-C1'-C2'	6.59	123.89	114.00
21	U	62	ARG	N-CA-C	-6.58	99.87	110.32
1	A	119	GLN	N-CA-C	-6.57	106.22	114.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	140	ALA	N-CA-C	-6.56	105.40	113.41
34	8	28	SER	N-CA-C	-6.56	107.14	114.62
52	t	1966	A	N9-C1'-C2'	6.56	123.84	114.00
30	3	10	ARG	N-CA-C	6.55	118.42	111.28
30	3	25	ASP	N-CA-C	6.55	117.77	108.74
31	4	115	LEU	N-CA-C	-6.53	101.29	110.50
35	9	46	GLU	N-CA-C	6.53	119.79	109.81
52	t	1130	U	C2'-C3'-O3'	6.52	119.28	109.50
52	t	2866	U	C4'-C3'-O3'	6.51	119.17	109.40
11	K	82	ARG	N-CA-C	6.50	119.20	108.48
52	t	1312	U	C2'-C3'-O3'	-6.50	99.76	109.50
52	t	2384	U	N1-C1'-C2'	6.49	123.73	114.00
52	t	503	A	C2'-C3'-O3'	6.49	119.23	109.50
10	J	63	GLN	N-CA-C	-6.48	105.39	113.55
51	s	703	G	C2'-C3'-O3'	-6.48	103.98	113.70
52	t	1272	A	C2'-C3'-O3'	-6.48	99.79	109.50
25	Y	165	ASP	N-CA-C	-6.47	106.11	112.97
52	t	645	C	N1-C1'-C2'	6.46	121.69	112.00
46	k	4	THR	N-CA-C	6.44	118.88	111.02
21	U	140	VAL	N-CA-C	6.43	122.71	109.34
52	t	1312	U	C4'-C3'-O3'	6.41	119.01	109.40
52	t	2198	A	N9-C1'-C2'	6.40	121.61	112.00
53	u	88	C	C2'-C3'-O3'	-6.40	104.10	113.70
52	t	332	A	N9-C1'-C2'	6.38	123.57	114.00
52	t	827	U	C2'-C3'-O3'	-6.37	104.15	113.70
40	e	67	LYS	N-CA-C	6.36	120.69	111.02
28	1	121	GLU	N-CA-C	6.36	118.44	108.96
33	6	10	GLU	N-CA-C	-6.34	105.53	113.20
37	b	35	ALA	CB-CA-C	-6.34	109.25	116.54
53	u	44	G	C2'-C3'-O3'	-6.33	104.21	113.70
52	t	2777	G	C2'-C3'-O3'	-6.31	104.23	113.70
51	s	818	G	N9-C1'-C2'	6.31	123.47	114.00
52	t	242	G	C2'-C3'-O3'	6.31	118.97	109.50
7	G	55	LYS	CA-C-N	6.30	127.72	119.84
7	G	55	LYS	C-N-CA	6.30	127.72	119.84
31	4	47	VAL	N-CA-C	6.29	116.47	110.74
1	A	66	ILE	N-CA-C	6.29	117.00	111.90
52	t	458	G	N9-C1'-C2'	6.29	121.44	112.00
52	t	2022	U	C5'-C4'-C3'	-6.29	105.77	115.20
52	t	1490	A	N9-C1'-C2'	6.28	123.43	114.00
33	6	91	VAL	CB-CA-C	-6.28	104.73	110.63
52	t	221	A	C2'-C3'-O3'	-6.27	104.30	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	t	1131	G	N9-C1'-C2'	6.26	123.39	114.00
52	t	746	U	C2'-C3'-O3'	6.25	118.88	109.50
52	t	1962	C	C2'-C3'-O3'	-6.25	104.33	113.70
4	D	147	ASN	N-CA-C	6.25	118.61	110.43
52	t	1944	U	C4'-C3'-O3'	6.24	118.75	109.40
52	t	2406	A	C2'-C3'-O3'	-6.23	104.36	113.70
52	t	2566	A	C4'-C3'-O3'	-6.23	100.06	109.40
44	i	9	ARG	N-CA-C	-6.22	104.60	111.82
52	t	1210	G	C4'-C3'-O3'	-6.22	100.08	109.40
54	v	89	THR	CA-C-N	6.20	127.59	119.84
54	v	89	THR	C-N-CA	6.20	127.59	119.84
52	t	2490	G	N9-C1'-C2'	6.20	123.30	114.00
52	t	957	C	C2'-C3'-O3'	6.19	118.79	109.50
43	h	33	HIS	N-CA-C	6.19	117.70	111.07
51	s	1124	G	C4'-C3'-O3'	-6.19	103.71	113.00
33	6	81	ASP	CB-CA-C	-6.19	109.45	116.63
52	t	1251	C	C4'-C3'-O3'	6.18	118.67	109.40
50	r	10	ALA	N-CA-C	-6.18	105.74	113.28
51	s	1504	G	N9-C1'-C2'	6.18	123.26	114.00
54	v	21	HIS	N-CA-C	-6.17	101.78	110.29
30	3	63	ILE	N-CA-C	6.16	116.89	107.77
52	t	1970	A	N9-C1'-C2'	6.16	123.24	114.00
51	s	717	U	N1-C1'-C2'	6.16	121.23	112.00
49	n	76	PHE	N-CA-C	-6.15	105.80	113.55
2	B	99	GLN	N-CA-C	-6.14	99.98	109.14
54	v	26	LYS	CA-C-N	-6.14	110.98	120.31
54	v	26	LYS	C-N-CA	-6.14	110.98	120.31
20	T	45	LYS	N-CA-C	-6.14	105.92	113.41
52	t	1332	G	N9-C1'-C2'	6.13	123.19	114.00
23	W	199	MET	N-CA-C	-6.11	105.68	113.02
53	u	66	A	C2'-C3'-O3'	-6.11	104.53	113.70
52	t	1250	G	C4'-C3'-O3'	-6.11	100.23	109.40
52	t	506	G	N9-C1'-C2'	6.11	123.16	114.00
54	v	346	LEU	N-CA-C	6.10	118.64	110.35
52	t	1428	C	N1-C1'-C2'	6.09	123.14	114.00
41	f	46	VAL	N-CA-C	6.09	115.11	106.53
27	0	112	GLY	N-CA-C	6.09	124.76	112.34
52	t	1653	G	N9-C1'-C2'	6.08	123.12	114.00
52	t	669	G	C4'-C3'-O3'	-6.08	103.88	113.00
51	s	818	G	C2'-C3'-O3'	6.07	118.60	109.50
21	U	86	ARG	N-CA-C	6.06	118.39	109.24
52	t	72	U	N1-C1'-C2'	6.06	123.09	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	t	1237	A	C4'-C3'-O3'	-6.06	100.31	109.40
52	t	2654	A	N9-C1'-C2'	6.05	123.08	114.00
52	t	669	G	C2'-C3'-O3'	-6.04	104.64	113.70
1	A	133	ALA	N-CA-C	-6.03	104.92	112.93
25	Y	100	ASN	N-CA-C	-6.02	104.45	112.94
49	n	16	SER	N-CA-C	-6.02	104.64	112.23
11	K	115	LYS	N-CA-C	-6.02	101.03	110.36
27	0	111	LYS	N-CA-C	6.02	123.62	110.80
15	O	56	ARG	N-CA-C	-6.01	105.98	113.55
52	t	2726	A	C2'-C3'-O3'	5.98	118.48	109.50
33	6	24	THR	N-CA-C	-5.98	100.10	109.25
52	t	669	G	N9-C1'-C2'	5.98	120.97	112.00
34	8	30	VAL	N-CA-C	5.97	116.90	108.36
25	Y	106	LEU	N-CA-C	5.96	118.51	110.88
52	t	2517	C	C4'-C3'-O3'	-5.96	100.47	109.40
52	t	2346	A	N9-C1'-C2'	5.95	122.93	114.00
6	F	125	ASP	N-CA-C	-5.94	106.38	113.21
31	4	100	CYS	N-CA-C	-5.94	107.26	114.75
3	C	131	ILE	N-CA-C	5.93	116.98	107.73
52	t	2502	G	N9-C1'-C2'	5.93	120.90	112.00
52	t	1142	A	C4'-C3'-O3'	-5.92	104.11	113.00
50	o	12	ALA	N-CA-C	-5.92	105.77	112.87
34	8	91	ARG	N-CA-C	5.92	123.41	110.80
38	c	31	GLY	N-CA-C	-5.92	107.00	115.64
51	s	1065	U	N1-C1'-C2'	5.92	122.88	114.00
52	t	119	A	N9-C1'-C2'	5.92	122.88	114.00
27	0	124	VAL	N-CA-C	5.91	121.64	109.34
54	v	73	SER	CA-CB-OG	5.91	122.91	111.10
2	B	75	VAL	N-CA-C	-5.90	107.00	113.43
7	G	91	LEU	CA-C-N	5.90	125.66	119.76
7	G	91	LEU	C-N-CA	5.90	125.66	119.76
34	8	64	ILE	CB-CA-C	-5.90	103.43	112.05
41	f	28	PHE	N-CA-C	-5.89	99.58	109.07
1	A	90	PHE	N-CA-C	5.88	116.32	108.38
9	I	20	GLN	N-CA-C	-5.88	104.60	113.89
28	1	71	ARG	CA-C-N	5.88	127.18	119.84
28	1	71	ARG	C-N-CA	5.88	127.18	119.84
51	s	315	A	N9-C1'-C2'	5.87	120.81	112.00
54	v	408	LYS	CA-C-N	5.87	132.26	121.70
54	v	408	LYS	C-N-CA	5.87	132.26	121.70
51	s	266	G	N9-C1'-C2'	5.86	122.80	114.00
49	n	75	ALA	N-CA-C	-5.85	105.99	113.01

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	t	405	U	C2'-C3'-O3'	-5.85	104.92	113.70
52	t	1757	A	C4'-C3'-O3'	-5.85	104.22	113.00
11	K	26	CYS	CA-C-N	5.85	127.15	119.84
11	K	26	CYS	C-N-CA	5.85	127.15	119.84
52	t	1634	A	N9-C1'-C2'	5.85	122.77	114.00
52	t	196	A	N9-C1'-C2'	5.84	122.77	114.00
52	t	1212	G	C4'-C3'-O3'	-5.84	104.23	113.00
49	n	137	ALA	N-CA-C	-5.84	105.99	113.23
53	u	56	G	C2'-C3'-O3'	-5.83	104.95	113.70
52	t	2287	A	N9-C1'-C2'	5.83	120.74	112.00
46	k	3	ARG	N-CA-C	5.82	119.03	110.59
23	W	121	VAL	N-CA-C	5.82	116.67	108.17
52	t	1340	U	O4'-C1'-C2'	5.82	111.62	105.80
24	X	169	LEU	N-CA-C	-5.81	105.08	114.09
28	l	29	HIS	N-CA-C	5.81	119.95	112.86
51	s	1101	A	C2'-C3'-O3'	5.81	118.21	109.50
51	s	518	C	C2'-C3'-O3'	-5.80	100.80	109.50
36	a	98	LYS	N-CA-C	-5.80	98.26	108.23
3	C	47	LEU	N-CA-C	5.79	118.37	110.55
52	t	1936	A	C4'-C3'-O3'	-5.79	100.71	109.40
53	u	52	A	C2'-C3'-O3'	-5.79	105.01	113.70
54	v	498	GLY	N-CA-C	-5.79	106.79	114.95
15	O	35	ARG	N-CA-C	-5.79	102.72	110.24
52	t	1940	U	N1-C1'-C2'	5.78	122.68	114.00
52	t	1667	G	C4'-C3'-O3'	-5.78	100.73	109.40
9	I	22	THR	N-CA-C	-5.78	104.58	111.69
51	s	328	C	N1-C1'-C2'	5.78	122.67	114.00
52	t	1780	A	C4'-C3'-O3'	-5.77	100.74	109.40
49	n	138	ARG	N-CA-C	-5.77	106.28	113.38
17	Q	71	ASP	N-CA-C	-5.76	105.44	112.88
52	t	2249	U	N1-C1'-C2'	5.76	122.64	114.00
52	t	792	A	C4'-C3'-O3'	-5.76	100.77	109.40
52	t	199	A	N9-C1'-C2'	5.75	122.62	114.00
2	B	18	ASN	N-CA-C	-5.74	106.62	113.97
4	D	136	VAL	N-CA-C	-5.74	104.76	110.62
52	t	793	A	N9-C1'-C2'	5.74	120.60	112.00
54	v	475	GLU	N-CA-C	5.73	119.03	110.14
52	t	506	G	C4'-C3'-O3'	-5.73	100.81	109.40
7	G	71	VAL	N-CA-C	5.72	115.49	107.37
51	s	982	U	C2'-C3'-O3'	5.72	118.08	109.50
52	t	859	G	N9-C1'-C2'	5.72	120.58	112.00
52	t	1252	G	O4'-C1'-C2'	5.71	111.52	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	t	1128	G	N9-C1'-C2'	5.71	122.57	114.00
22	V	105	LYS	N-CA-C	-5.71	106.86	113.88
35	9	14	VAL	N-CA-C	5.71	117.39	109.29
6	F	137	ARG	N-CA-C	-5.70	106.66	113.21
51	s	109	A	C2'-C3'-O3'	-5.70	100.95	109.50
54	v	439	GLY	CA-C-N	5.70	131.96	121.70
54	v	439	GLY	C-N-CA	5.70	131.96	121.70
52	t	1250	G	C2'-C3'-O3'	5.69	118.04	109.50
51	s	1049	U	C4'-C3'-O3'	-5.69	104.47	113.00
41	f	15	ASN	N-CA-C	5.69	118.20	110.35
8	H	18	VAL	N-CA-C	5.68	116.05	107.75
52	t	1253	A	N9-C1'-C2'	5.68	122.52	114.00
52	t	1618	A	C2'-C3'-O3'	-5.68	100.98	109.50
52	t	2835	A	C2'-C3'-O3'	-5.67	100.99	109.50
38	c	24	VAL	N-CA-C	5.66	115.41	107.37
52	t	60	G	C2'-C3'-O3'	5.66	117.99	109.50
52	t	249	C	C4'-C3'-O3'	-5.65	100.92	109.40
37	b	83	ALA	N-CA-C	5.63	122.80	110.80
22	V	191	GLY	N-CA-C	5.62	126.51	113.18
52	t	739	A	C2'-C3'-O3'	-5.62	101.07	109.50
51	s	388	G	C4'-C3'-O3'	-5.61	104.59	113.00
51	s	484	G	C2'-C3'-O3'	5.61	117.91	109.50
26	Z	109	ALA	N-CA-C	-5.60	105.76	112.59
52	t	2060	A	C4'-C3'-O3'	-5.60	104.60	113.00
23	W	128	ALA	N-CA-C	5.58	113.15	108.13
38	c	67	SER	N-CA-C	-5.58	106.32	113.02
52	t	670	A	N9-C1'-C2'	5.58	122.37	114.00
52	t	2345	G	C2'-C3'-O3'	-5.58	101.13	109.50
23	W	133	LEU	N-CA-C	-5.58	104.89	110.97
27	0	42	ALA	N-CA-C	-5.58	103.33	111.30
51	s	721	G	C2'-C3'-O3'	5.58	117.86	109.50
21	U	83	ASP	CA-C-N	5.57	125.67	119.32
21	U	83	ASP	C-N-CA	5.57	125.67	119.32
33	6	3	ILE	N-CA-C	-5.57	105.19	110.42
52	t	1626	A	N9-C1'-C2'	5.57	120.35	112.00
52	t	2725	A	O4'-C1'-C2'	5.57	111.37	105.80
51	s	47	C	N1-C1'-C2'	5.56	122.34	114.00
52	t	479	A	N9-C1'-C2'	5.56	122.34	114.00
51	s	438	U	C4'-C3'-O3'	-5.55	104.67	113.00
25	Y	6	ALA	CA-C-N	5.55	125.53	120.03
25	Y	6	ALA	C-N-CA	5.55	125.53	120.03
4	D	84	VAL	N-CA-C	5.55	115.59	108.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
21	U	58	LYS	N-CA-C	5.55	122.62	110.80
51	s	1200	C	N1-C1'-C2'	5.55	120.33	112.00
52	t	323	C	N1-C1'-C2'	5.55	122.33	114.00
52	t	1938	A	N9-C1'-C2'	5.55	122.33	114.00
2	B	141	MET	N-CA-C	-5.55	104.87	111.69
49	n	38	MET	N-CA-C	-5.55	105.82	112.59
52	t	1247	A	N9-C1'-C2'	5.55	122.32	114.00
52	t	1732	C	C2'-C3'-O3'	-5.54	105.39	113.70
51	s	974	A	C2'-C3'-O3'	-5.54	105.39	113.70
1	A	60	ALA	N-CA-C	-5.54	106.60	113.19
52	t	1940	U	C4'-C3'-O3'	-5.53	101.10	109.40
52	t	1980	G	C4'-C3'-O3'	5.53	117.70	109.40
4	D	65	LYS	N-CA-C	-5.53	105.25	111.28
51	s	701	U	C2'-C3'-O3'	-5.53	105.41	113.70
32	5	92	PHE	N-CA-C	5.52	118.54	109.76
52	t	2751	G	N9-C1'-C2'	5.52	122.28	114.00
51	s	1190	G	C4'-C3'-O3'	-5.51	104.73	113.00
1	A	112	ARG	N-CA-C	-5.51	106.91	113.97
14	N	43	ALA	N-CA-C	-5.51	104.49	111.11
42	g	52	ARG	N-CA-C	-5.51	104.11	112.04
52	t	1786	A	N9-C1'-C2'	5.50	122.26	114.00
7	G	125	ILE	N-CA-C	5.50	116.89	110.62
50	r	24	SER	N-CA-C	-5.50	106.57	113.28
32	5	25	ARG	N-CA-C	5.50	118.36	109.40
52	t	2629	U	C4'-C3'-O3'	-5.50	101.16	109.40
28	1	31	ARG	N-CA-C	5.49	117.13	111.03
2	B	125	ARG	N-CA-C	-5.49	107.15	112.97
23	W	176	ASP	CA-C-N	5.49	124.68	118.97
23	W	176	ASP	C-N-CA	5.49	124.68	118.97
52	t	2481	G	N9-C1'-C2'	5.49	120.23	112.00
28	1	5	GLN	N-CA-C	-5.49	99.11	110.80
52	t	2689	U	N1-C1'-C2'	5.48	122.22	114.00
25	Y	46	ASP	CB-CA-C	-5.48	109.78	117.23
34	8	80	ASN	N-CA-C	-5.48	105.21	111.07
51	s	533	A	N9-C1'-C2'	5.47	120.21	112.00
8	H	6	TYR	N-CA-C	5.46	117.10	108.96
21	U	85	ASN	N-CA-C	5.46	119.20	112.54
51	s	451	A	C2'-C3'-O3'	5.46	117.69	109.50
51	s	890	G	C2'-C3'-O3'	5.46	117.69	109.50
52	t	1458	U	C2'-C3'-O3'	5.46	117.69	109.50
52	t	774	G	N9-C1'-C2'	5.46	122.18	114.00
27	0	36	LEU	N-CA-C	-5.45	105.24	111.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	k	30	VAL	N-CA-C	-5.45	105.29	110.42
52	t	1758	U	N1-C1'-C2'	5.45	122.17	114.00
4	D	155	LYS	N-CA-C	-5.44	106.69	113.38
44	i	4	GLN	N-CA-C	-5.44	107.19	113.88
52	t	782	A	N9-C1'-C2'	5.44	122.15	114.00
11	K	23	LEU	N-CA-C	5.43	122.37	110.80
25	Y	164	ALA	N-CA-C	-5.43	99.24	110.80
4	D	143	LEU	N-CA-C	-5.42	105.45	111.36
4	D	151	MET	N-CA-C	-5.42	104.94	112.03
54	v	21	HIS	CA-C-N	5.42	126.61	119.84
54	v	21	HIS	C-N-CA	5.42	126.61	119.84
21	U	89	ASN	N-CA-C	-5.41	101.76	110.14
52	t	2426	A	C4'-C3'-O3'	5.41	117.51	109.40
39	d	48	MET	N-CA-C	-5.40	105.56	111.82
54	v	16	PHE	N-CA-C	5.40	117.18	109.14
12	L	106	ARG	N-CA-C	5.39	117.24	111.36
16	P	20	ILE	N-CA-C	5.39	116.12	107.98
52	t	1930	G	C2'-C3'-O3'	-5.39	105.61	113.70
40	e	44	PHE	N-CA-C	5.39	118.25	109.24
8	H	100	ALA	N-CA-C	-5.39	106.29	112.92
51	s	64	G	C2'-C3'-O3'	-5.39	105.62	113.70
10	J	85	VAL	N-CA-C	5.38	116.33	108.58
52	t	2645	G	C2'-C3'-O3'	-5.38	101.43	109.50
24	X	171	ALA	N-CA-C	-5.38	106.90	112.93
52	t	774	G	C2'-C3'-O3'	5.38	117.57	109.50
6	F	41	ILE	N-CA-C	-5.37	107.49	112.43
15	O	20	VAL	N-CA-C	5.37	115.44	108.35
4	D	92	ARG	N-CA-C	-5.37	100.95	109.76
30	3	50	ARG	N-CA-C	-5.37	105.34	111.14
50	q	16	VAL	N-CA-C	-5.37	104.16	111.89
37	b	35	ALA	N-CA-C	5.37	116.47	108.31
52	t	1602	U	C2'-C3'-O3'	-5.37	101.45	109.50
51	s	279	A	C2'-C3'-O3'	-5.36	105.66	113.70
51	s	1432	G	C4'-C3'-O3'	-5.36	104.95	113.00
47	l	21	PHE	N-CA-C	5.36	122.22	110.80
51	s	1363	A	N9-C1'-C2'	5.36	120.03	112.00
27	0	9	GLU	N-CA-C	5.35	117.87	111.71
52	t	1142	A	N9-C1'-C2'	5.35	120.03	112.00
52	t	2282	G	N9-C1'-C2'	5.35	122.03	114.00
33	6	62	LYS	N-CA-C	5.35	122.20	110.80
51	s	508	U	C2'-C3'-O3'	-5.35	101.48	109.50
2	B	37	LYS	N-CA-C	-5.35	106.92	113.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	t	2449	U	C4'-C3'-O3'	5.35	117.42	109.40
51	s	250	A	C2'-C3'-O3'	5.35	117.52	109.50
52	t	2490	G	C4'-C3'-O3'	-5.35	101.38	109.40
52	t	1900	A	C4'-C3'-O3'	-5.34	101.38	109.40
38	c	48	VAL	N-CA-C	5.34	113.71	107.89
52	t	685	A	N9-C1'-C2'	5.34	122.01	114.00
52	t	1300	G	C2'-C3'-O3'	-5.34	101.50	109.50
2	B	160	GLU	N-CA-C	-5.33	105.61	113.61
54	v	73	SER	CA-C-O	-5.33	115.34	121.47
27	0	82	GLY	N-CA-C	-5.33	100.55	113.18
52	t	750	A	C2'-C3'-O3'	-5.33	105.71	113.70
4	D	81	GLN	N-CA-C	-5.32	103.64	108.75
51	s	51	A	C2'-C3'-O3'	5.32	117.48	109.50
54	v	445	GLN	N-CA-C	-5.32	106.97	112.93
51	s	47	C	C2'-C3'-O3'	-5.32	101.53	109.50
52	t	404	A	C2'-C3'-O3'	5.32	117.47	109.50
31	4	76	VAL	N-CA-C	-5.31	104.45	111.09
6	F	49	LEU	N-CA-C	-5.31	106.85	113.38
47	l	30	HIS	N-CA-C	5.30	115.24	108.24
38	c	76	THR	N-CA-C	-5.30	106.78	113.20
52	t	1992	G	O4'-C1'-C2'	5.30	111.10	105.80
52	t	574	A	C2'-C3'-O3'	-5.30	101.56	109.50
3	C	199	ILE	N-CA-C	-5.29	107.67	112.96
51	s	1504	G	C4'-C3'-O3'	-5.29	101.47	109.40
28	1	66	LYS	N-CA-C	-5.29	105.57	112.23
52	t	1236	G	C4'-C3'-O3'	-5.29	101.47	109.40
52	t	1301	A	N9-C1'-C2'	5.29	121.93	114.00
52	t	2426	A	O4'-C1'-C2'	5.29	111.09	105.80
52	t	2638	G	N9-C1'-C2'	5.28	119.92	112.00
51	s	913	A	C2'-C3'-O3'	5.28	117.42	109.50
52	t	332	A	C4'-C3'-O3'	-5.28	101.48	109.40
52	t	2258	C	C3'-C2'-O2'	-5.28	106.68	114.60
7	G	8	ASP	N-CA-C	-5.28	105.99	112.90
50	q	14	MET	CB-CA-C	-5.28	109.51	115.79
52	t	811	U	C2'-C3'-O3'	-5.28	101.59	109.50
52	t	2035	G	N9-C1'-C2'	5.28	121.91	114.00
52	t	1838	C	C2'-C3'-O3'	-5.27	101.59	109.50
22	V	107	VAL	N-CA-C	5.26	120.29	109.34
24	X	127	TYR	N-CA-C	5.26	116.51	108.30
52	t	1020	A	C2'-C3'-O3'	5.26	117.40	109.50
33	6	85	VAL	N-CA-C	5.26	118.48	111.44
52	t	241	A	C4'-C3'-O3'	5.26	117.29	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	t	71	A	C2'-C3'-O3'	5.25	117.38	109.50
52	t	2713	U	N1-C1'-C2'	5.25	121.88	114.00
6	F	124	SER	N-CA-C	-5.25	106.38	112.89
51	s	753	A	C4'-C3'-O3'	5.25	117.27	109.40
6	F	123	LEU	N-CA-C	-5.24	105.68	111.71
49	n	118	ILE	CA-C-N	-5.24	113.29	119.84
49	n	118	ILE	C-N-CA	-5.24	113.29	119.84
52	t	1667	G	O4'-C1'-C2'	5.24	111.04	105.80
19	S	8	LYS	N-CA-C	-5.24	106.96	113.19
52	t	531	C	N1-C1'-C2'	5.24	121.86	114.00
26	Z	108	ILE	N-CA-C	-5.23	105.96	113.07
29	2	40	SER	N-CA-C	-5.23	99.66	110.80
30	3	21	ALA	N-CA-C	5.23	117.56	110.35
16	P	24	ILE	N-CA-C	5.23	116.02	107.24
26	Z	12	VAL	N-CA-C	5.22	116.30	111.81
1	A	113	LEU	N-CA-C	-5.22	105.67	111.36
27	0	7	LYS	CA-C-N	5.21	124.66	119.24
27	0	7	LYS	C-N-CA	5.21	124.66	119.24
51	s	367	U	N1-C1'-C2'	5.21	121.81	114.00
51	s	1200	C	C4'-C3'-O3'	-5.21	105.19	113.00
52	t	1801	A	C2'-C3'-O3'	-5.21	101.69	109.50
52	t	249	C	O4'-C1'-C2'	5.21	111.00	105.80
52	t	323	C	C4'-C3'-O3'	-5.20	101.60	109.40
52	t	1288	G	C2'-C3'-O3'	-5.19	101.71	109.50
51	s	344	A	N9-C1'-C2'	5.19	121.78	114.00
52	t	2212	A	C2'-C3'-O3'	-5.18	105.93	113.70
21	U	88	ALA	N-CA-C	5.18	116.61	110.19
29	2	26	GLY	N-CA-C	-5.17	107.87	114.85
52	t	2448	A	C4'-C3'-O3'	5.16	117.15	109.40
27	0	92	MET	N-CA-C	-5.16	105.56	111.14
33	6	12	MET	N-CA-C	5.16	118.36	110.20
52	t	1567	G	N9-C1'-C2'	5.16	121.74	114.00
36	a	78	GLU	N-CA-C	5.16	117.17	108.96
42	g	45	GLN	N-CA-C	-5.16	102.84	110.48
52	t	1008	A	C2'-C3'-O3'	-5.16	101.77	109.50
52	t	323	C	O4'-C1'-C2'	5.15	110.95	105.80
52	t	1780	A	O4'-C1'-C2'	5.15	110.95	105.80
51	s	870	U	N1-C1'-C2'	5.15	121.72	114.00
52	t	1980	G	C2'-C3'-O3'	-5.15	101.78	109.50
52	t	2458	G	C2'-C3'-O3'	-5.14	101.79	109.50
51	s	517	G	C4'-C3'-O3'	-5.14	105.30	113.00
52	t	775	G	C2'-C3'-O3'	-5.14	101.79	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	t	728	G	C3'-C2'-O2'	-5.13	106.90	114.60
30	3	76	LYS	CA-C-N	5.13	126.25	119.84
30	3	76	LYS	C-N-CA	5.13	126.25	119.84
22	V	176	ASP	N-CA-C	5.12	117.74	110.10
53	u	87	U	C2'-C3'-O3'	-5.12	106.02	113.70
51	s	109	A	N9-C1'-C2'	5.12	121.68	114.00
49	n	156	ALA	N-CA-C	-5.12	105.93	113.61
21	U	253	GLY	N-CA-C	5.12	125.30	113.18
51	s	315	A	C4'-C3'-O3'	-5.12	105.33	113.00
36	a	6	LYS	N-CA-C	5.11	117.15	109.23
20	T	11	PHE	N-CA-C	5.11	117.92	109.85
22	V	135	GLY	N-CA-C	5.11	122.16	115.47
52	t	2849	U	C4'-C3'-O3'	-5.11	105.34	113.00
51	s	1432	G	N9-C1'-C2'	5.11	119.66	112.00
52	t	458	G	C5'-C4'-C3'	5.11	123.66	116.00
52	t	973	A	C2'-C3'-O3'	-5.11	101.84	109.50
52	t	2051	A	N9-C1'-C2'	5.10	121.65	114.00
53	u	108	A	C2'-C3'-O3'	-5.10	106.06	113.70
21	U	13	ARG	N-CA-C	5.09	117.61	111.40
35	9	15	SER	N-CA-C	-5.09	101.46	109.50
52	t	2654	A	O4'-C1'-C2'	5.09	110.89	105.80
21	U	73	ILE	N-CA-C	5.08	113.43	107.89
52	t	788	A	C4'-C3'-O3'	-5.08	101.78	109.40
52	t	829	A	N9-C1'-C2'	5.08	121.62	114.00
52	t	1943	U	O4'-C1'-C2'	5.08	110.88	105.80
51	s	1279	G	N9-C1'-C2'	5.08	119.62	112.00
29	2	137	ALA	N-CA-C	-5.08	107.11	113.15
51	s	792	A	C2'-C3'-O3'	-5.07	101.89	109.50
51	s	1126	U	C4'-C3'-O3'	-5.07	105.39	113.00
34	8	24	TYR	N-CA-C	5.07	117.08	110.43
51	s	561	U	C4'-C3'-O3'	-5.07	105.39	113.00
51	s	562	U	C2'-C3'-O3'	-5.07	101.89	109.50
3	C	49	ASP	N-CA-C	-5.07	106.20	112.38
52	t	2629	U	O4'-C1'-C2'	5.07	110.87	105.80
30	3	106	ASP	N-CA-C	5.06	121.58	110.80
52	t	620	G	C2'-C3'-O3'	-5.06	101.92	109.50
52	t	504	A	N9-C1'-C2'	5.05	119.58	112.00
52	t	1757	A	N9-C1'-C2'	5.05	119.58	112.00
52	t	1667	G	N9-C1'-C2'	5.05	121.58	114.00
49	n	27	VAL	N-CA-C	5.05	115.12	107.75
52	t	125	A	C2'-C3'-O3'	-5.05	101.93	109.50
52	t	442	G	C4'-C3'-O3'	5.05	116.97	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	t	2776	A	C4'-C3'-O3'	5.05	116.97	109.40
25	Y	109	SER	N-CA-C	-5.04	107.62	112.97
52	t	746	U	C4'-C3'-O3'	-5.04	101.84	109.40
52	t	670	A	O4'-C1'-C2'	5.04	110.84	105.80
51	s	1139	G	N9-C1'-C2'	5.04	121.56	114.00
52	t	748	G	N9-C1'-C2'	5.04	119.56	112.00
52	t	1900	A	C2'-C3'-O3'	5.04	117.06	109.50
51	s	815	A	C4'-C3'-O3'	-5.04	101.85	109.40
52	t	2529	G	C4'-C3'-O3'	-5.03	105.45	113.00
40	e	20	LEU	N-CA-C	-5.03	108.41	114.75
33	6	66	GLY	N-CA-C	-5.03	101.26	113.18
50	r	9	GLU	N-CA-C	-5.03	107.14	113.28
51	s	561	U	N1-C1'-C2'	5.03	119.54	112.00
52	t	2061	G	C4'-C3'-O3'	-5.03	105.46	113.00
52	t	984	A	C2'-C3'-O3'	-5.02	106.16	113.70
51	s	244	U	N1-C1'-C2'	5.02	121.53	114.00
41	f	66	VAL	N-CA-C	5.02	115.14	110.42
52	t	1954	G	C4'-C3'-O3'	-5.02	101.87	109.40
42	g	50	VAL	N-CA-C	-5.01	104.82	111.09
38	c	14	THR	N-CA-C	5.01	116.86	108.99
51	s	1394	A	C2'-C3'-O3'	-5.01	101.98	109.50
52	t	1324	G	N9-C1'-C2'	5.01	121.52	114.00
3	C	112	GLU	N-CA-C	-5.01	107.00	113.01
22	V	109	VAL	CB-CA-C	-5.01	103.08	111.29
51	s	280	C	C4'-C3'-O3'	-5.01	105.49	113.00
51	s	1226	C	C2'-C3'-O3'	-5.01	106.19	113.70
37	b	22	THR	N-CA-C	5.00	116.73	111.28
52	t	2017	U	C2'-C3'-O3'	-5.00	106.19	113.70
1	A	19	THR	N-CA-C	5.00	116.73	108.48
21	U	205	GLY	N-CA-C	5.00	122.78	115.08

There are no chirality outliers.

All (141) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
51	s	1064	G	Sidechain
51	s	1065	U	Sidechain
51	s	1067	A	Sidechain
51	s	1077	G	Sidechain
51	s	1085	U	Sidechain
51	s	1139	G	Sidechain
51	s	1181	G	Sidechain

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Mol	Chain	Res	Type	Group
51	s	1184	G	Sidechain
51	s	1200	C	Sidechain
51	s	1345	U	Sidechain
51	s	1391	U	Sidechain
51	s	1502	A	Sidechain
51	s	1527	U	Sidechain
51	s	266	G	Sidechain
51	s	362	G	Sidechain
51	s	388	G	Sidechain
51	s	428	G	Sidechain
51	s	51	A	Sidechain
51	s	527	G	Sidechain
51	s	533	A	Sidechain
51	s	566	G	Sidechain
51	s	7	A	Sidechain
51	s	717	U	Sidechain
51	s	760	G	Sidechain
51	s	780	A	Sidechain
51	s	863	U	Sidechain
51	s	870	U	Sidechain
51	s	883	C	Sidechain
51	s	968	A	Sidechain
52	t	100	U	Sidechain
52	t	1025	G	Sidechain
52	t	1125	G	Sidechain
52	t	1131	G	Sidechain
52	t	1134	A	Sidechain
52	t	1142	A	Sidechain
52	t	1156	A	Sidechain
52	t	1162	G	Sidechain
52	t	1203	U	Sidechain
52	t	1210	G	Sidechain
52	t	1247	A	Sidechain
52	t	1250	G	Sidechain
52	t	1266	G	Sidechain
52	t	1267	U	Sidechain
52	t	1270	C	Sidechain
52	t	1272	A	Sidechain
52	t	1280	G	Sidechain
52	t	1287	A	Sidechain
52	t	1306	C	Sidechain
52	t	1311	G	Sidechain

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Mol	Chain	Res	Type	Group
52	t	1325	U	Sidechain
52	t	1340	U	Sidechain
52	t	1383	A	Sidechain
52	t	1434	A	Sidechain
52	t	1567	G	Sidechain
52	t	1608	A	Sidechain
52	t	1613	G	Sidechain
52	t	1626	A	Sidechain
52	t	1632	A	Sidechain
52	t	1772	A	Sidechain
52	t	1775	U	Sidechain
52	t	1781	U	Sidechain
52	t	1818	U	Sidechain
52	t	1820	U	Sidechain
52	t	1828	G	Sidechain
52	t	1955	U	Sidechain
52	t	1966	A	Sidechain
52	t	1992	G	Sidechain
52	t	1996	C	Sidechain
52	t	2009	A	Sidechain
52	t	2012	G	Sidechain
52	t	2027	G	Sidechain
52	t	2030	A	Sidechain
52	t	2041	U	Sidechain
52	t	2074	U	Sidechain
52	t	2220	U	Sidechain
52	t	2243	U	Sidechain
52	t	2244	U	Sidechain
52	t	2267	A	Sidechain
52	t	2324	U	Sidechain
52	t	2384	U	Sidechain
52	t	2426	A	Sidechain
52	t	2449	U	Sidechain
52	t	2477	U	Sidechain
52	t	2481	G	Sidechain
52	t	2491	U	Sidechain
52	t	2495	G	Sidechain
52	t	2554	U	Sidechain
52	t	2572	A	Sidechain
52	t	2581	G	Sidechain
52	t	2587	A	Sidechain
52	t	2597	G	Sidechain

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Mol	Chain	Res	Type	Group
52	t	2609	U	Sidechain
52	t	2629	U	Sidechain
52	t	2645	G	Sidechain
52	t	2654	A	Sidechain
52	t	2659	G	Sidechain
52	t	2661	G	Sidechain
52	t	2690	U	Sidechain
52	t	2732	G	Sidechain
52	t	2777	G	Sidechain
52	t	2832	U	Sidechain
52	t	2834	G	Sidechain
52	t	2878	U	Sidechain
52	t	311	A	Sidechain
52	t	33	C	Sidechain
52	t	381	G	Sidechain
52	t	454	A	Sidechain
52	t	458	G	Sidechain
52	t	463	G	Sidechain
52	t	498	G	Sidechain
52	t	512	G	Sidechain
52	t	536	G	Sidechain
52	t	554	U	Sidechain
52	t	603	A	Sidechain
52	t	670	A	Sidechain
52	t	675	A	Sidechain
52	t	690	G	Sidechain
52	t	70	G	Sidechain
52	t	726	G	Sidechain
52	t	728	G	Sidechain
52	t	74	A	Sidechain
52	t	742	A	Sidechain
52	t	749	A	Sidechain
52	t	755	U	Sidechain
52	t	760	G	Sidechain
52	t	761	A	Sidechain
52	t	763	G	Sidechain
52	t	770	G	Sidechain
52	t	792	A	Sidechain
52	t	796	C	Sidechain
52	t	802	A	Sidechain
52	t	830	G	Sidechain
52	t	859	G	Sidechain

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Mol	Chain	Res	Type	Group
52	t	910	A	Sidechain
52	t	945	A	Sidechain
52	t	979	A	Sidechain
52	t	983	A	Sidechain
52	t	995	C	Sidechain
53	u	80	U	Sidechain
54	v	410	LYS	Peptide
54	v	411	GLN	Peptide

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	1702	0	1724	276	0
2	B	1625	0	1699	239	0
3	C	1643	0	1710	297	0
4	D	1106	0	1148	191	0
5	E	818	0	808	136	0
6	F	1182	0	1240	156	0
7	G	979	0	1034	152	0
8	H	1022	0	1070	176	0
9	I	787	0	828	134	0
10	J	877	0	887	139	0
11	K	955	0	1019	169	0
12	L	884	0	944	155	0
13	M	774	0	827	149	0
14	N	714	0	737	69	0
15	O	649	0	666	91	0
16	P	649	0	691	110	0
17	Q	456	0	478	70	0
18	R	638	0	665	97	0
19	S	665	0	714	102	0
20	T	426	0	449	78	0
21	U	2083	0	2157	302	0
22	V	1565	0	1616	238	0
23	W	1552	0	1619	241	0
24	X	1411	0	1447	219	0
25	Y	1323	0	1374	181	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	Z	1032	0	1088	134	0
27	0	1129	0	1162	185	0
28	1	939	0	1012	127	0
29	2	1045	0	1117	151	0
30	3	1074	0	1157	130	0
31	4	961	0	1000	114	0
32	5	892	0	923	113	0
33	6	917	0	965	128	0
34	8	947	0	1022	185	0
35	9	816	0	839	117	0
36	a	857	0	922	105	0
37	b	739	0	807	140	0
38	c	780	0	834	89	0
39	d	753	0	780	83	0
40	e	596	0	610	193	0
41	f	625	0	655	79	0
42	g	509	0	543	73	0
43	h	449	0	491	64	0
44	i	444	0	461	37	0
45	j	410	0	440	51	0
46	k	377	0	418	40	0
47	l	504	0	574	61	0
48	m	302	0	340	55	0
49	n	1234	0	1290	283	0
50	o	228	0	237	68	0
50	p	228	0	237	38	0
50	q	228	0	237	44	0
50	r	228	0	237	57	0
51	s	32870	0	16543	1809	0
52	t	61183	0	30777	2580	0
53	u	2526	0	1282	125	0
54	v	4144	0	4129	283	0
55	w	126	0	66	5	0
56	7	48	0	40	8	0
56	AA	48	0	40	7	0
56	BA	48	0	41	4	0
56	y	48	0	40	5	0
56	z	48	0	41	13	0
All	All	146817	0	100948	10896	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 44.

All (10896) 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)
25:Y:84:LYS:HG3	25:Y:132:LEU:N	1.52	1.24
51:s:158:G:H2'	51:s:159:G:H5''	1.24	1.19
52:t:1784:A:H4'	52:t:1785:A:O5'	1.44	1.18
52:t:1073:A:H3'	52:t:1074:G:H5''	1.17	1.16
12:L:27:THR:HG21	51:s:1328:C:H5''	1.27	1.14
34:8:63:ARG:HH12	34:8:96:ASP:HA	1.03	1.14
11:K:102:ASP:OD1	54:v:407:LEU:HD11	1.46	1.14
49:n:55:VAL:HG13	52:t:1084:A:H5'	1.19	1.14
27:0:81:ILE:HG23	27:0:82:GLY:H	1.11	1.13
25:Y:84:LYS:HG3	25:Y:132:LEU:H	0.98	1.13
52:t:45:G:H5''	52:t:46:G:H5'	1.20	1.11
50:r:2:ILE:HD13	50:r:3:THR:H	1.15	1.11
4:D:105:ILE:HD11	4:D:123:LEU:HG	1.21	1.10
52:t:2657:A:OP2	54:v:146:ARG:NH1	1.84	1.10
51:s:497:G:OP2	54:v:480:LYS:HE3	1.52	1.10
34:8:63:ARG:NH1	34:8:96:ASP:HA	1.65	1.09
52:t:637:A:H4'	52:t:638:G:O5'	1.47	1.09
33:6:63:ILE:HA	33:6:68:GLY:HA2	1.21	1.09
37:b:29:THR:HA	37:b:86:THR:HA	1.35	1.09
1:A:32:GLY:HA3	1:A:39:ILE:H	0.99	1.08
40:e:9:THR:HG23	40:e:10:ARG:HD3	1.26	1.08
50:o:13:ALA:HA	50:o:17:MET:HE3	1.33	1.08
37:b:10:VAL:HG23	37:b:11:LEU:H	1.01	1.07
3:C:145:ARG:HH11	3:C:147:LYS:HE3	1.19	1.06
40:e:37:VAL:HG12	40:e:38:ARG:H	1.18	1.06
10:J:23:HIS:HB3	10:J:30:ILE:HG23	1.30	1.06
21:U:141:HIS:HB2	21:U:190:THR:HB	1.32	1.06
51:s:872:A:O2'	51:s:873:A:H3'	1.54	1.06
10:J:87:GLY:H	10:J:113:THR:HG22	0.93	1.05
52:t:2776:A:H4'	52:t:2777:G:O5'	1.56	1.05
31:4:101:GLY:HA2	31:4:110:MET:H	1.20	1.05
5:E:6:ILE:HG22	5:E:7:VAL:H	1.19	1.04
49:n:44:ALA:HA	49:n:48:ALA:HB3	1.34	1.04
52:t:1929:G:H4'	52:t:1930:G:OP1	1.55	1.04
52:t:2790:U:H4'	52:t:2791:G:OP1	1.52	1.04
1:A:96:LEU:HB2	1:A:99:MET:HE3	1.39	1.04
51:s:975:A:H5'	51:s:976:G:H5'	1.31	1.04
44:i:9:ARG:HB2	44:i:12:ARG:NH2	1.70	1.04
27:0:24:THR:HA	27:0:63:ALA:HB3	1.38	1.04
43:h:8:GLN:HG2	43:h:31:ILE:HA	1.37	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:142:VAL:HG22	3:C:143:SER:H	1.18	1.03
21:U:172:THR:HG22	21:U:182:LYS:HD3	1.36	1.03
22:V:106:LYS:HB3	22:V:206:ALA:HB3	1.40	1.03
52:t:2426:A:H4'	52:t:2427:C:OP2	1.55	1.02
52:t:979:A:H2'	52:t:982:C:H42	1.19	1.02
52:t:1205:A:H4'	52:t:1206:G:OP2	1.52	1.02
49:n:58:THR:HB	49:n:82:ILE:HB	1.39	1.01
28:1:18:ARG:HB2	28:1:45:GLU:HG3	1.42	1.01
36:a:59:GLU:HA	36:a:64:ALA:HB2	1.38	1.01
31:4:20:MET:HE2	52:t:1277:G:H5'	1.40	1.01
40:e:18:LYS:HG3	40:e:19:ARG:H	1.18	1.01
40:e:28:GLU:HB3	40:e:31:LEU:HD21	1.41	1.01
49:n:61:ARG:H	49:n:61:ARG:HD2	1.22	1.01
35:9:49:ILE:HD12	35:9:52:PRO:HA	1.43	1.01
51:s:1354:U:H2'	51:s:1355:G:C8	1.96	1.01
18:R:52:ASN:HD22	18:R:74:ALA:HB1	1.23	1.00
45:j:33:LEU:H	45:j:51:ALA:HB3	1.27	1.00
50:o:11:VAL:HG21	50:r:15:SER:HB2	1.42	1.00
2:B:76:ILE:HA	2:B:83:VAL:HG23	1.43	1.00
27:0:2:LYS:H	27:0:2:LYS:HD3	1.25	1.00
50:o:14:MET:HB2	50:r:12:ALA:HA	1.43	1.00
51:s:129:A:HO2'	51:s:130:A:H8	1.03	1.00
10:J:87:GLY:N	10:J:113:THR:HG22	1.77	1.00
11:K:11:ARG:HB3	51:s:562:U:O2'	1.62	1.00
18:R:37:SER:HB2	18:R:70:LEU:HD12	1.42	1.00
52:t:2638:G:H1'	52:t:2778:A:H61	1.25	0.99
1:A:20:ARG:HA	1:A:20:ARG:NH1	1.78	0.99
7:G:103:VAL:HG12	7:G:124:ILE:HG22	1.45	0.98
49:n:144:LYS:HB3	49:n:147:SER:HB2	1.44	0.98
37:b:44:LYS:O	37:b:48:GLN:HG2	1.62	0.98
22:V:40:LEU:H	22:V:40:LEU:HD12	1.25	0.98
51:s:1124:G:H2'	51:s:1145:A:N6	1.77	0.98
52:t:84:A:H4'	52:t:85:G:O5'	1.60	0.98
37:b:39:THR:HB	37:b:42:GLU:HB2	1.45	0.98
51:s:792:A:O2'	51:s:794:A:N7	1.96	0.98
8:H:69:GLY:H	51:s:1250:A:H4'	1.25	0.98
18:R:76:THR:HG21	51:s:1221:G:H4'	1.46	0.98
51:s:753:A:H4'	51:s:754:C:O5'	1.63	0.98
51:s:1139:G:H5'	51:s:1140:C:OP1	1.64	0.98
52:t:136:G:H1	52:t:143:C:H42	1.11	0.97
25:Y:83:THR:HA	25:Y:84:LYS:NZ	1.80	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:2:79:LEU:H	29:2:113:ALA:HB3	1.23	0.97
3:C:109:THR:HG23	3:C:112:GLU:H	1.28	0.97
23:W:131:THR:HG22	23:W:160:ALA:HA	1.46	0.97
51:s:1396:A:H4'	51:s:1397:C:O5'	1.64	0.97
1:A:220:VAL:H	1:A:221:ARG:NH2	1.60	0.97
15:O:35:ARG:HB3	15:O:35:ARG:HH11	1.29	0.97
40:e:23:LYS:HD3	52:t:855:G:H1'	1.43	0.97
54:v:411:GLN:H	54:v:414:LYS:HB3	1.29	0.97
52:t:2503:A:H4'	52:t:2504:U:OP1	1.62	0.97
54:v:59:TRP:NE1	54:v:69:SER:OG	1.98	0.97
31:4:24:MET:HE1	31:4:40:LYS:HB3	1.46	0.97
52:t:265:A:H4'	52:t:266:G:OP1	1.61	0.97
3:C:23:GLY:HA3	51:s:409:U:OP1	1.63	0.96
45:j:7:LYS:HA	45:j:23:THR:HG22	1.43	0.96
27:0:43:GLU:O	27:0:45:THR:N	1.98	0.96
49:n:2:ALA:HB3	49:n:6:GLN:HB2	1.47	0.96
2:B:104:GLU:HG2	2:B:105:VAL:H	1.30	0.96
12:L:12:LYS:HB2	12:L:17:ALA:HB2	1.47	0.96
50:o:12:ALA:HA	50:r:14:MET:HB3	1.46	0.96
52:t:1142:A:O2'	52:t:1143:A:H3'	1.64	0.96
1:A:32:GLY:HA3	1:A:39:ILE:N	1.81	0.96
52:t:161:A:H3'	52:t:162:U:H5''	1.45	0.96
52:t:434:U:H4'	52:t:435:C:OP1	1.61	0.96
54:v:61:GLU:HG3	54:v:64:LYS:HE3	1.45	0.96
13:M:8:ARG:HB3	13:M:12:ARG:HH12	1.29	0.96
15:O:46:LYS:HD2	15:O:47:GLU:N	1.80	0.96
52:t:27:G:HO2'	52:t:28:A:H8	1.09	0.95
52:t:1063:G:H1	52:t:1075:C:H42	1.13	0.95
54:v:19:ILE:HA	54:v:26:LYS:CE	1.96	0.95
9:I:57:VAL:HG22	9:I:58:ASN:H	1.28	0.95
45:j:7:LYS:HE3	47:l:33:THR:HG21	1.45	0.95
49:n:55:VAL:HA	52:t:1084:A:OP1	1.65	0.95
51:s:1053:G:O6	51:s:1199:U:H2'	1.64	0.95
22:V:118:PHE:HD2	22:V:119:ALA:H	1.13	0.95
40:e:37:VAL:HB	40:e:38:ARG:NH1	1.81	0.95
33:6:50:ARG:HB2	33:6:56:SER:HB3	1.48	0.95
16:P:3:LYS:HG3	16:P:6:THR:HG23	1.48	0.95
25:Y:8:VAL:HG12	25:Y:49:LEU:HB2	1.47	0.95
51:s:351:G:H4'	51:s:352:C:OP1	1.67	0.95
4:D:105:ILE:HG13	4:D:123:LEU:HA	1.48	0.95
52:t:2302:U:H2'	52:t:2303:G:H8	1.32	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:17:ARG:HG3	8:H:65:THR:HB	1.47	0.95
34:8:63:ARG:HH12	34:8:96:ASP:CA	1.80	0.95
39:d:72:VAL:HG12	39:d:93:ARG:HA	1.48	0.94
9:I:8:ILE:HG12	9:I:100:ILE:HG22	1.47	0.94
2:B:119:ILE:HA	2:B:122:GLN:HG3	1.48	0.94
12:L:3:ILE:HG22	12:L:56:ARG:HE	1.30	0.94
52:t:1061:U:H1'	52:t:1070:A:H1'	1.49	0.94
52:t:2328:A:H2'	52:t:2329:U:C6	2.03	0.94
5:E:47:LEU:HD13	5:E:51:ILE:HG22	1.46	0.94
5:E:81:ASN:HB3	5:E:84:VAL:HG12	1.50	0.94
52:t:1779:U:H5	52:t:1784:A:N7	1.66	0.94
52:t:1970:A:H5''	52:t:1971:U:OP1	1.66	0.94
35:9:41:ILE:O	35:9:46:GLU:HB2	1.68	0.94
2:B:185:THR:HG22	2:B:186:SER:H	1.31	0.94
3:C:73:ASN:HA	3:C:76:LYS:HE2	1.49	0.94
9:I:100:ILE:HD13	9:I:100:ILE:H	1.32	0.94
28:1:64:ARG:HH12	28:1:101:GLY:HA3	1.33	0.94
51:s:605:U:H2'	51:s:606:G:H8	1.33	0.94
52:t:1996:C:H4'	52:t:1997:C:OP1	1.68	0.94
52:t:2402:U:O2'	52:t:2403:C:H5''	1.68	0.94
54:v:26:LYS:HE2	54:v:89:THR:OG1	1.68	0.94
5:E:64:VAL:HG12	5:E:65:GLU:H	1.32	0.94
13:M:42:ASN:HD21	13:M:46:LYS:HE2	1.32	0.94
52:t:1060:U:H1'	52:t:1062:G:OP2	1.68	0.94
54:v:70:ILE:HG23	54:v:95:PHE:HZ	1.31	0.94
25:Y:66:THR:HG22	52:t:2747:G:O2'	1.68	0.93
38:c:65:GLN:HB2	38:c:68:ASN:ND2	1.83	0.93
52:t:1964:G:H4'	52:t:1965:C:OP2	1.68	0.93
32:5:31:THR:HG23	32:5:34:HIS:H	1.29	0.93
54:v:20:SER:H	54:v:26:LYS:NZ	1.65	0.93
40:e:24:ARG:HD3	40:e:65:LYS:HD3	1.51	0.93
3:C:36:ALA:HA	3:C:41:GLY:HA3	1.46	0.93
23:W:79:ARG:HG2	23:W:80:SER:H	1.34	0.93
10:J:84:MET:HE3	10:J:112:VAL:HG11	1.50	0.93
10:J:110:THR:HG22	20:T:4:LYS:HA	1.51	0.93
23:W:161:ALA:HA	23:W:164:LEU:HB2	1.49	0.93
40:e:37:VAL:HB	40:e:38:ARG:HH11	1.34	0.93
52:t:634:C:H2'	52:t:635:C:H6	1.33	0.93
35:9:14:VAL:HG21	35:9:98:ILE:HG13	1.49	0.93
40:e:59:PHE:CE2	52:t:2365:G:H4'	2.04	0.93
3:C:160:LEU:H	3:C:160:LEU:HD23	1.32	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:158:G:C2'	51:s:159:G:H5''	1.97	0.92
52:t:41:C:H2'	52:t:42:A:O4'	1.69	0.92
3:C:137:SER:HB3	3:C:138:PRO:HD2	1.51	0.92
5:E:36:ILE:HD13	5:E:36:ILE:H	1.32	0.92
30:3:1:MET:O	30:3:2:LEU:HB2	1.70	0.92
34:8:91:ARG:NH1	35:9:10:LYS:HB3	1.84	0.92
52:t:1286:A:H4'	52:t:1287:A:OP1	1.66	0.92
4:D:110:MET:HG3	4:D:139:THR:HG21	1.51	0.92
34:8:5:ARG:HA	34:8:8:ILE:HD11	1.49	0.92
13:M:21:ALA:H	13:M:24:ALA:HB3	1.34	0.92
20:T:13:VAL:HG13	20:T:15:LEU:HG	1.50	0.92
22:V:116:LYS:HG3	22:V:165:MET:HE2	1.51	0.92
24:X:110:ILE:HD11	24:X:136:ILE:HD13	1.51	0.92
50:o:24:SER:HA	50:o:27:GLU:HB2	1.50	0.92
52:t:1130:U:O2'	52:t:1131:G:H8	1.51	0.92
24:X:39:VAL:HG21	24:X:42:ALA:HB2	1.52	0.92
42:g:50:VAL:O	42:g:54:LYS:HG3	1.70	0.92
54:v:412:LEU:HB2	54:v:459:VAL:HG11	1.52	0.92
51:s:820:U:H4'	51:s:821:G:OP2	1.70	0.92
25:Y:33:THR:H	25:Y:34:ARG:HH11	1.14	0.91
38:c:82:VAL:HG12	38:c:83:GLY:H	1.33	0.91
52:t:1133:A:H4'	52:t:1134:A:O5'	1.69	0.91
22:V:15:PHE:H	33:6:11:GLN:HE22	0.95	0.91
37:b:29:THR:CA	37:b:86:THR:HA	1.99	0.91
51:s:403:C:H2'	51:s:404:G:C8	2.06	0.91
23:W:27:LEU:O	23:W:31:VAL:HG23	1.71	0.91
51:s:664:G:H22	51:s:741:G:H1	1.15	0.91
1:A:209:VAL:HG23	1:A:210:THR:H	1.35	0.91
25:Y:166:GLU:O	25:Y:167:VAL:HG13	1.70	0.91
32:5:100:HIS:O	32:5:104:GLN:HB3	1.70	0.91
40:e:72:GLY:HA3	53:u:12:C:C6	2.06	0.91
51:s:374:A:H5''	51:s:452:A:H2	1.32	0.91
12:L:28:ARG:HB3	12:L:28:ARG:HH11	1.36	0.91
12:L:47:LEU:HD21	12:L:52:ILE:HB	1.48	0.91
27:0:31:GLU:HG3	27:0:142:ILE:HG21	1.52	0.91
51:s:1347:G:N2	51:s:1373:G:H2'	1.85	0.91
2:B:28:PHE:HD1	13:M:75:LYS:HE2	1.35	0.91
26:Z:52:LEU:HD21	26:Z:81:LYS:HE2	1.51	0.91
49:n:22:ALA:HB3	49:n:87:GLU:HB2	1.49	0.91
34:8:68:ALA:HB1	34:8:73:ILE:HG23	1.50	0.91
22:V:118:PHE:HD2	22:V:119:ALA:N	1.69	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:q:18:ASP:HA	50:q:21:GLU:HB2	1.53	0.91
51:s:60:A:H4'	51:s:61:G:O5'	1.70	0.91
51:s:403:C:H2'	51:s:404:G:H8	1.35	0.91
51:s:818:G:HO2'	51:s:820:U:H5	0.92	0.91
52:t:232:G:H4'	52:t:233:A:OP1	1.71	0.91
52:t:2502:G:H5'	52:t:2503:A:H5''	1.53	0.91
29:2:48:ARG:HD2	52:t:666:A:H4'	1.53	0.90
52:t:135:U:H3	52:t:144:A:H61	1.02	0.90
20:T:34:ARG:NH1	20:T:39:LYS:HE3	1.86	0.90
31:4:8:ARG:HD3	52:t:1652:A:OP1	1.70	0.90
47:l:16:THR:HG21	47:l:48:MET:HE1	1.53	0.90
2:B:36:PHE:HA	2:B:39:ARG:HD2	1.54	0.90
52:t:704:G:H2'	52:t:726:G:H22	1.36	0.90
52:t:2834:G:H2'	52:t:2879:A:H61	1.36	0.90
37:b:18:GLU:HG2	52:t:1392:A:H61	1.36	0.90
18:R:38:THR:HG22	18:R:39:ILE:H	1.34	0.90
51:s:412:A:H5'	51:s:413:G:OP1	1.71	0.90
22:V:15:PHE:N	33:6:11:GLN:HE22	1.70	0.90
51:s:1033:G:H2'	51:s:1034:G:H5''	1.54	0.90
37:b:15:HIS:HB3	37:b:31:VAL:HG22	1.51	0.90
5:E:89:VAL:HG22	5:E:90:MET:H	1.33	0.90
51:s:429:U:O2'	51:s:430:A:H5''	1.70	0.90
23:W:175:ILE:HD11	23:W:180:LEU:HG	1.54	0.90
52:t:1678:A:H2'	52:t:1679:A:H8	1.36	0.89
6:F:107:ALA:HB1	6:F:115:MET:HE1	1.53	0.89
52:t:1815:A:H4'	52:t:1816:C:OP1	1.72	0.89
22:V:120:GLY:HA2	22:V:162:ALA:HA	1.53	0.89
23:W:73:ILE:HD13	23:W:73:ILE:O	1.72	0.89
40:e:30:VAL:HG12	52:t:2353:G:H1'	1.54	0.89
52:t:2519:U:H4'	52:t:2520:C:OP1	1.70	0.89
34:8:91:ARG:HH11	35:9:11:GLN:H	1.14	0.89
42:g:2:LYS:HB2	52:t:102:U:H3	1.35	0.89
47:l:3:ILE:HD12	52:t:666:A:H1'	1.53	0.89
31:4:79:LEU:O	31:4:80:PHE:HB2	1.72	0.89
37:b:10:VAL:HG23	37:b:11:LEU:N	1.82	0.89
51:s:1354:U:H2'	51:s:1355:G:H8	1.34	0.89
51:s:1369:C:H2'	51:s:1370:G:C8	2.08	0.89
52:t:876:C:H42	52:t:900:A:N6	1.70	0.89
6:F:12:LEU:H	6:F:12:LEU:HD22	1.38	0.89
24:X:134:GLN:HG2	24:X:135:ILE:H	1.37	0.89
51:s:1054:C:H1'	51:s:1196:A:N7	1.87	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:528:A:N1	52:t:2042:A:H2'	1.88	0.89
13:M:3:GLN:H	13:M:3:GLN:HE21	1.21	0.89
52:t:900:A:H2'	52:t:901:C:H5''	1.55	0.89
34:8:91:ARG:NH1	35:9:11:GLN:H	1.71	0.89
1:A:156:LEU:HD12	1:A:180:ILE:HD11	1.55	0.88
51:s:1219:A:H2'	51:s:1220:G:H8	1.37	0.88
1:A:141:GLU:HA	1:A:144:GLU:HB2	1.55	0.88
15:O:46:LYS:HD2	15:O:47:GLU:H	1.37	0.88
22:V:15:PHE:H	33:6:11:GLN:NE2	1.70	0.88
29:2:77:ILE:HD11	29:2:101:ILE:HD11	1.54	0.88
13:M:12:ARG:HG2	13:M:53:ASP:HB3	1.53	0.88
39:d:80:HIS:HD2	39:d:83:LYS:HB2	1.38	0.88
52:t:454:A:H4'	52:t:455:C:OP2	1.71	0.88
51:s:204:G:H3'	51:s:205:A:H5''	1.56	0.88
7:G:1:SER:N	51:s:877:G:H21	1.71	0.88
12:L:32:ILE:HG23	12:L:58:GLU:HG2	1.53	0.88
22:V:119:ALA:HB1	22:V:123:LYS:HB3	1.56	0.88
46:k:19:ARG:HD3	52:t:125:A:OP2	1.74	0.88
3:C:7:LYS:HB2	3:C:20:LEU:HD13	1.54	0.88
51:s:1218:C:H2'	51:s:1219:A:C8	2.08	0.88
52:t:875:G:H2'	52:t:876:C:H5''	1.56	0.88
52:t:45:G:C5'	52:t:46:G:H5'	2.04	0.88
5:E:15:SER:O	5:E:18:VAL:HG23	1.73	0.88
12:L:90:HIS:NE2	51:s:1308:U:H4'	1.88	0.88
16:P:16:MET:HB2	16:P:19:SER:HB3	1.53	0.88
22:V:24:VAL:HA	22:V:191:GLY:H	1.38	0.88
27:O:45:THR:HG21	27:O:50:THR:HG21	1.56	0.88
44:i:31:LYS:HB3	52:t:2885:G:H21	1.38	0.88
25:Y:23:ILE:HD11	25:Y:42:VAL:HG11	1.56	0.87
31:4:38:LEU:HB3	31:4:39:PRO:HD3	1.56	0.87
34:8:57:ARG:HA	34:8:60:TRP:CE3	2.08	0.87
51:s:677:U:H3	51:s:713:G:H22	1.19	0.87
51:s:728:A:H2'	51:s:729:A:C8	2.09	0.87
9:I:80:THR:HB	9:I:83:THR:HB	1.56	0.87
21:U:23:LEU:HD13	21:U:24:HIS:H	1.40	0.87
31:4:101:GLY:HA2	31:4:110:MET:N	1.88	0.87
12:L:89:ARG:HG3	12:L:96:VAL:HA	1.55	0.87
52:t:2146:C:H4'	52:t:2147:A:O5'	1.74	0.87
4:D:156:ARG:HH22	7:G:113:ARG:HH12	1.21	0.87
24:X:64:PRO:HA	24:X:88:VAL:HG22	1.56	0.87
40:e:16:GLU:HG3	52:t:2356:U:H4'	1.56	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:o:26:MET:HE2	50:o:29:LYS:HE2	1.57	0.87
52:t:947:A:HO2'	52:t:984:A:H2	0.92	0.87
52:t:2103:C:H42	52:t:2186:G:H1	1.20	0.87
7:G:10:LEU:HB3	7:G:74:ILE:HD12	1.55	0.87
18:R:52:ASN:HB2	18:R:76:THR:HG22	1.56	0.87
24:X:46:LYS:HE2	24:X:46:LYS:H	1.36	0.87
25:Y:8:VAL:CG1	25:Y:49:LEU:HB2	2.04	0.87
51:s:73:C:H42	51:s:97:G:H1	0.90	0.87
27:0:2:LYS:HD3	27:0:2:LYS:N	1.89	0.87
51:s:746:A:H2'	51:s:747:A:C8	2.10	0.87
2:B:168:ARG:HG2	2:B:169:GLU:N	1.89	0.87
9:I:10:LEU:HD11	9:I:98:VAL:HG12	1.55	0.87
11:K:34:THR:HG22	11:K:35:ARG:HG2	1.57	0.87
22:V:68:PHE:HB3	22:V:73:VAL:HG13	1.56	0.87
33:6:88:ARG:HB3	33:6:112:ARG:HD3	1.54	0.87
35:9:49:ILE:O	35:9:49:ILE:HG13	1.75	0.87
3:C:191:SER:HA	3:C:194:ILE:HD11	1.54	0.87
4:D:156:ARG:C	4:D:158:LYS:H	1.83	0.87
52:t:281:C:H42	52:t:359:G:H1	1.23	0.87
52:t:529:A:H4'	52:t:530:G:OP1	1.75	0.87
27:0:3:THR:HB	27:0:44:TYR:OH	1.73	0.86
28:1:10:VAL:HG21	28:1:16:ALA:HB1	1.58	0.86
51:s:73:C:N4	51:s:97:G:H1	1.72	0.86
4:D:121:ASN:ND2	4:D:122:VAL:H	1.72	0.86
13:M:21:ALA:H	13:M:24:ALA:CB	1.88	0.86
50:r:2:ILE:CD1	50:r:3:THR:H	1.87	0.86
2:B:135:ARG:HA	2:B:135:ARG:HE	1.38	0.86
34:8:32:ARG:HH22	52:t:1252:G:H1'	1.38	0.86
49:n:1:MET:HA	49:n:6:GLN:HE22	1.37	0.86
54:v:416:LEU:HB3	54:v:427:VAL:HG11	1.55	0.86
36:a:19:LEU:HB3	44:i:21:LEU:HD11	1.56	0.86
52:t:372:G:O2'	52:t:373:U:OP2	1.92	0.86
52:t:634:C:H2'	52:t:635:C:C6	2.09	0.86
22:V:145:SER:HA	52:t:2052:A:OP1	1.75	0.86
29:2:74:THR:HG22	29:2:107:PHE:HB2	1.57	0.86
34:8:4:LYS:HE3	52:t:1199:U:H5'	1.57	0.86
52:t:800:A:H4'	52:t:801:G:O5'	1.73	0.86
52:t:1324:G:H1'	52:t:1616:A:N6	1.88	0.86
53:u:30:C:H2'	53:u:31:C:H5'	1.58	0.86
33:6:5:LYS:O	33:6:9:GLN:HG2	1.76	0.86
51:s:373:A:H1'	51:s:481:G:H1'	1.57	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2720:U:H2'	52:t:2721:A:H8	1.38	0.86
34:8:23:TYR:HB3	34:8:27:ARG:HB3	1.58	0.86
51:s:963:G:H2'	51:s:964:A:H8	1.41	0.86
52:t:704:G:H1'	52:t:727:A:N6	1.90	0.86
37:b:32:LEU:H	37:b:83:ALA:HB3	1.39	0.86
52:t:275:C:H2'	52:t:276:U:H4'	1.58	0.86
37:b:50:LEU:H	37:b:50:LEU:HD12	1.39	0.86
40:e:23:LYS:HD2	40:e:24:ARG:N	1.90	0.86
51:s:428:G:H4'	51:s:429:U:O5'	1.73	0.86
54:v:59:TRP:NE1	54:v:69:SER:HG	1.72	0.86
44:i:31:LYS:HB3	52:t:2885:G:N2	1.90	0.86
4:D:84:VAL:HG22	4:D:85:LYS:H	1.41	0.85
26:Z:3:LYS:HD3	26:Z:4:VAL:HG23	1.58	0.85
49:n:78:GLY:H	49:n:79:PRO:HD3	1.39	0.85
52:t:545:U:H2'	52:t:546:U:H5'	1.58	0.85
52:t:1179:G:H2'	52:t:1180:U:H4'	1.56	0.85
1:A:71:THR:HG22	1:A:72:LYS:H	1.39	0.85
34:8:5:ARG:HD2	52:t:1250:G:H5''	1.56	0.85
49:n:78:GLY:H	49:n:79:PRO:CD	1.89	0.85
51:s:1052:U:H5'	51:s:1053:G:OP2	1.76	0.85
52:t:2756:U:H1'	52:t:2757:A:H5''	1.58	0.85
54:v:59:TRP:O	54:v:64:LYS:HD2	1.77	0.85
35:9:28:ALA:HB3	35:9:31:GLU:HG3	1.59	0.85
37:b:10:VAL:CG2	37:b:11:LEU:H	1.88	0.85
2:B:106:ARG:HD3	2:B:106:ARG:H	1.42	0.85
31:4:33:ILE:HG23	31:4:114:GLU:HB3	1.58	0.85
41:f:32:LEU:HD23	41:f:49:ARG:HG2	1.56	0.85
52:t:2720:U:H2'	52:t:2721:A:C8	2.12	0.85
7:G:110:MET:HE2	7:G:114:ALA:HB1	1.58	0.85
13:M:8:ARG:O	13:M:12:ARG:HG3	1.75	0.85
49:n:96:PHE:HB3	49:n:125:ARG:HH12	1.40	0.85
23:W:43:THR:HA	52:t:38:A:O2'	1.75	0.85
46:k:34:ARG:HG2	46:k:34:ARG:HH11	1.42	0.85
11:K:53:ARG:HG3	11:K:63:THR:HG22	1.56	0.85
26:Z:14:ALA:HB3	26:Z:51:GLY:H	1.42	0.85
40:e:18:LYS:HG3	40:e:19:ARG:N	1.91	0.85
51:s:1007:U:H3	51:s:1022:A:H61	1.23	0.85
54:v:439:GLY:HA2	54:v:440:ALA:HB2	1.56	0.85
18:R:52:ASN:ND2	18:R:74:ALA:HB1	1.91	0.85
25:Y:94:ARG:HH12	25:Y:96:ALA:HB2	1.41	0.85
52:t:833:A:H2'	52:t:834:G:H8	1.41	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1567:G:O2'	52:t:1568:G:OP2	1.95	0.85
52:t:2314:A:H2'	52:t:2315:G:H8	1.42	0.85
42:g:41:HIS:CE1	52:t:96:C:H4'	2.12	0.85
16:P:11:VAL:HG12	16:P:12:VAL:H	1.41	0.85
42:g:31:GLN:HG2	42:g:37:LEU:HB2	1.58	0.85
52:t:2328:A:H2'	52:t:2329:U:H6	1.42	0.85
38:c:73:ASN:HA	38:c:95:PHE:HE2	1.42	0.84
48:m:14:CYS:HA	48:m:27:CYS:HA	1.59	0.84
51:s:738:C:H2'	51:s:739:C:C6	2.12	0.84
21:U:154:ALA:HB2	21:U:161:VAL:HG23	1.58	0.84
51:s:959:A:H2'	51:s:960:U:H4'	1.58	0.84
2:B:42:LEU:HD21	2:B:67:ILE:HD11	1.59	0.84
8:H:83:THR:HG22	8:H:97:LEU:HD21	1.58	0.84
10:J:87:GLY:H	10:J:113:THR:CG2	1.85	0.84
27:O:111:LYS:N	27:O:111:LYS:HD3	1.91	0.84
40:e:49:ASN:HB2	40:e:60:ALA:HA	1.57	0.84
8:H:23:GLY:H	8:H:61:ASP:H	1.21	0.84
23:W:18:THR:HG22	23:W:106:LYS:HE3	1.58	0.84
26:Z:27:LEU:HD11	26:Z:34:ILE:HG13	1.58	0.84
34:8:63:ARG:CZ	34:8:96:ASP:HA	2.07	0.84
51:s:1452:C:H4'	51:s:1453:G:C2	2.12	0.84
5:E:38:ARG:NH1	5:E:61:LEU:HD21	1.92	0.84
9:I:7:ARG:HD3	9:I:75:ASP:OD1	1.78	0.84
11:K:102:ASP:OD1	54:v:407:LEU:CD1	2.25	0.84
34:8:60:TRP:CE2	34:8:93:ILE:HB	2.12	0.84
40:e:76:ARG:HG3	40:e:76:ARG:HH21	1.42	0.84
54:v:19:ILE:CA	54:v:26:LYS:HE3	2.08	0.84
4:D:76:ASN:HB2	4:D:81:GLN:HE21	1.40	0.84
14:N:28:VAL:HG11	14:N:66:LEU:HD21	1.57	0.84
37:b:39:THR:HB	37:b:42:GLU:CB	2.06	0.84
52:t:1073:A:C3'	52:t:1074:G:H5''	2.06	0.84
1:A:153:MET:SD	1:A:157:PRO:HG3	2.17	0.84
13:M:26:LEU:HA	13:M:30:ILE:HD12	1.59	0.84
23:W:31:VAL:HG21	23:W:104:ALA:HB2	1.57	0.84
43:h:8:GLN:HB3	43:h:32:GLY:H	1.41	0.84
5:E:3:HIS:HB2	5:E:92:THR:HG23	1.58	0.84
9:I:18:ILE:HD12	9:I:72:ARG:HG2	1.59	0.84
34:8:24:TYR:O	34:8:27:ARG:HB2	1.77	0.84
52:t:2756:U:H4'	52:t:2757:A:O5'	1.78	0.84
52:t:2840:C:H2'	52:t:2841:C:C6	2.12	0.84
8:H:33:SER:HB3	8:H:36:GLN:HG3	1.60	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2779:U:H5''	52:t:2780:G:H3'	1.60	0.84
23:W:127:GLU:CD	23:W:127:GLU:H	1.84	0.83
52:t:1482:G:H1	52:t:1507:C:H42	1.22	0.83
47:l:5:THR:HG22	47:l:62:PRO:HD2	1.60	0.83
52:t:783:A:H8	52:t:784:G:H4'	1.42	0.83
47:l:31:ILE:O	47:l:35:LYS:HE3	1.77	0.83
2:B:66:THR:HA	2:B:101:ASN:HB2	1.58	0.83
11:K:3:VAL:HG23	11:K:4:ASN:H	1.43	0.83
18:R:35:ARG:HG2	18:R:50:VAL:HG11	1.60	0.83
52:t:171:U:H2'	52:t:172:A:C8	2.13	0.83
2:B:112:ALA:HB1	2:B:184:ASN:HB2	1.60	0.83
28:1:71:ARG:HG3	28:1:105:ARG:HH21	1.41	0.83
30:3:43:ALA:HA	30:3:46:ILE:HG12	1.59	0.83
52:t:1072:C:H42	52:t:1093:G:H1	1.26	0.83
33:6:5:LYS:H	33:6:8:GLU:HG3	1.42	0.83
49:n:55:VAL:HG22	52:t:1084:A:OP2	1.79	0.83
51:s:1259:C:H3'	51:s:1260:G:H5''	1.59	0.83
51:s:1399:C:H4'	51:s:1400:C:O5'	1.79	0.83
3:C:31:CYS:O	3:C:32:LYS:HB2	1.76	0.83
4:D:156:ARG:NH2	7:G:113:ARG:HH12	1.75	0.83
22:V:107:VAL:H	22:V:206:ALA:H	1.24	0.83
10:J:82:GLU:HB3	10:J:107:THR:HB	1.61	0.83
17:Q:57:ALA:HA	17:Q:60:ARG:HD3	1.61	0.83
45:j:9:LYS:H	45:j:9:LYS:HD3	1.44	0.83
21:U:159:THR:O	21:U:194:VAL:HG12	1.77	0.83
26:Z:101:SER:HA	26:Z:139:VAL:HG23	1.60	0.83
27:0:6:ALA:HB3	27:0:45:THR:HG21	1.60	0.83
33:6:50:ARG:HB3	33:6:57:ALA:N	1.93	0.83
48:m:3:VAL:HG21	52:t:2539:C:H5'	1.58	0.83
52:t:2585:U:O2'	52:t:2586:U:H5'	1.78	0.83
2:B:86:LEU:O	2:B:90:VAL:HG23	1.79	0.82
10:J:107:THR:HG22	10:J:108:ASN:ND2	1.94	0.82
26:Z:90:GLY:O	26:Z:92:PRO:HD3	1.78	0.82
51:s:977:A:H1'	51:s:982:U:O4	1.77	0.82
54:v:70:ILE:O	54:v:95:PHE:HE2	1.61	0.82
1:A:96:LEU:CB	1:A:99:MET:HE3	2.09	0.82
5:E:91:ARG:HG3	5:E:92:THR:H	1.42	0.82
47:l:56:LEU:HD21	52:t:834:G:H5'	1.61	0.82
3:C:200:VAL:HG12	4:D:102:THR:HG23	1.61	0.82
29:2:41:ARG:HD2	52:t:805:G:OP2	1.80	0.82
52:t:1072:C:N4	52:t:1093:G:H1	1.77	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:6:63:ILE:CA	33:6:68:GLY:HA2	2.05	0.82
3:C:61:ARG:HG2	3:C:71:PHE:CD2	2.14	0.82
22:V:110:THR:OG1	22:V:171:THR:HG22	1.77	0.82
37:b:19:LYS:HB2	37:b:23:ALA:HB2	1.62	0.82
52:t:135:U:H3	52:t:144:A:N6	1.78	0.82
51:s:1126:U:H1'	51:s:1281:C:H1'	1.62	0.82
52:t:2302:U:H2'	52:t:2303:G:C8	2.14	0.82
52:t:893:C:H2'	52:t:894:U:O4'	1.79	0.82
27:0:73:VAL:HG23	27:0:74:TYR:H	1.42	0.82
28:1:21:CYS:HB2	28:1:39:ILE:HD11	1.61	0.82
51:s:539:A:H2'	51:s:540:G:H8	1.45	0.82
1:A:72:LYS:HG3	1:A:74:ALA:HB3	1.60	0.82
40:e:28:GLU:H	40:e:31:LEU:HD11	1.45	0.82
52:t:27:G:O2'	52:t:28:A:H8	1.61	0.82
52:t:1454:C:H3'	52:t:1454:C:OP2	1.80	0.82
52:t:2473:U:O2	52:t:2473:U:H2'	1.79	0.82
6:F:98:LEU:HD23	6:F:101:ARG:HH22	1.43	0.82
51:s:1303:C:H2'	51:s:1304:G:O4'	1.80	0.82
54:v:101:ARG:HG2	54:v:391:PRO:HD2	1.62	0.82
25:Y:34:ARG:HD3	25:Y:34:ARG:N	1.95	0.81
3:C:96:ARG:HB3	3:C:98:ASP:OD1	1.80	0.81
48:m:6:SER:HB2	52:t:1031:G:H4'	1.61	0.81
52:t:42:A:H61	52:t:437:U:H3	1.28	0.81
52:t:1497:U:H5''	52:t:1498:C:OP2	1.79	0.81
16:P:76:ARG:NH1	16:P:78:VAL:HG22	1.95	0.81
18:R:45:GLY:H	18:R:61:VAL:HG23	1.44	0.81
24:X:37:MET:HG2	24:X:151:LEU:HD23	1.60	0.81
26:Z:20:SER:HB3	26:Z:21:PRO:HD3	1.60	0.81
28:1:39:ILE:HG23	28:1:41:ILE:HD13	1.61	0.81
28:1:97:THR:C	28:1:98:ARG:HE	1.88	0.81
37:b:69:ARG:NE	37:b:70:HIS:H	1.77	0.81
39:d:80:HIS:CD2	39:d:83:LYS:HB2	2.15	0.81
50:q:11:VAL:HG13	50:r:29:LYS:HZ1	1.45	0.81
51:s:160:A:H2'	51:s:161:A:O4'	1.78	0.81
52:t:62:U:H4'	52:t:63:A:OP1	1.78	0.81
52:t:158:U:H2'	52:t:159:G:H5'	1.60	0.81
35:9:41:ILE:HD11	35:9:54:VAL:HG21	1.61	0.81
51:s:197:A:H4'	51:s:198:G:O5'	1.78	0.81
51:s:1157:A:N6	51:s:1178:G:H1'	1.96	0.81
52:t:670:A:H4'	52:t:671:C:O5'	1.81	0.81
4:D:110:MET:O	4:D:114:LEU:HD23	1.79	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:54:THR:HG23	7:G:55:LYS:HG3	1.62	0.81
16:P:16:MET:HE2	16:P:20:ILE:HA	1.60	0.81
20:T:38:GLU:OE2	20:T:41:THR:HG21	1.81	0.81
29:2:79:LEU:N	29:2:113:ALA:HB3	1.96	0.81
37:b:12:ARG:HH11	37:b:12:ARG:HG3	1.43	0.81
49:n:117:LEU:O	49:n:119:PRO:HD2	1.81	0.81
21:U:203:VAL:O	21:U:204:LEU:HB2	1.81	0.81
36:a:25:ARG:NH1	36:a:25:ARG:HB2	1.95	0.81
51:s:55:A:H2	54:v:311:HIS:CG	1.97	0.81
51:s:366:A:H4'	51:s:367:U:OP1	1.81	0.81
51:s:662:U:H2'	51:s:663:A:C8	2.15	0.81
1:A:105:THR:HA	1:A:108:GLN:NE2	1.95	0.81
26:Z:89:SER:HA	26:Z:135:MET:HB3	1.63	0.81
37:b:32:LEU:HD23	37:b:83:ALA:CB	2.10	0.81
49:n:95:LEU:HD22	49:n:95:LEU:H	1.46	0.81
50:r:15:SER:HA	50:r:18:ASP:HB3	1.61	0.81
52:t:704:G:H2'	52:t:726:G:N2	1.95	0.81
52:t:2345:G:H4'	52:t:2346:A:O5'	1.80	0.81
9:I:12:ALA:HB3	9:I:18:ILE:HG12	1.63	0.81
18:R:62:THR:HG22	18:R:63:ASP:H	1.45	0.81
24:X:46:LYS:H	24:X:46:LYS:CE	1.92	0.81
29:2:98:ALA:O	29:2:100:ILE:HG23	1.81	0.81
30:3:42:THR:OG1	30:3:45:GLN:HG3	1.81	0.81
37:b:39:THR:O	37:b:39:THR:HG22	1.81	0.81
37:b:48:GLN:O	37:b:52:GLU:HA	1.81	0.81
49:n:35:VAL:HA	49:n:38:MET:HB2	1.63	0.81
52:t:307:G:N2	52:t:309:A:H3'	1.94	0.81
2:B:162:ALA:HB2	51:s:1056:U:H5'	1.60	0.81
22:V:148:GLN:HB2	22:V:152:PRO:HG2	1.62	0.81
52:t:2333:A:H4'	52:t:2334:U:O5'	1.78	0.81
54:v:19:ILE:C	54:v:26:LYS:HE3	2.05	0.81
18:R:45:GLY:N	18:R:61:VAL:HG23	1.95	0.80
22:V:114:LYS:N	22:V:114:LYS:HE3	1.95	0.80
27:0:88:THR:HG22	27:0:91:GLU:OE2	1.81	0.80
5:E:91:ARG:HB3	5:E:93:LYS:HZ3	1.46	0.80
23:W:175:ILE:HD11	23:W:180:LEU:CG	2.11	0.80
27:0:81:ILE:HG23	27:0:82:GLY:N	1.94	0.80
50:o:11:VAL:HG21	50:r:15:SER:CB	2.12	0.80
52:t:2638:G:H1'	52:t:2778:A:N6	1.96	0.80
54:v:70:ILE:HG22	54:v:71:THR:N	1.95	0.80
23:W:161:ALA:H	23:W:164:LEU:HD13	1.45	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:e:24:ARG:HD3	40:e:65:LYS:CD	2.11	0.80
52:t:2262:U:H2'	52:t:2263:C:H6	1.47	0.80
27:0:78:THR:HG22	52:t:2641:G:H5''	1.63	0.80
34:8:63:ARG:HH22	34:8:96:ASP:CA	1.95	0.80
51:s:600:A:H2'	51:s:601:G:H8	1.43	0.80
8:H:98:ARG:HG3	8:H:103:VAL:HG21	1.63	0.80
33:6:96:LEU:O	33:6:99:LEU:HD23	1.80	0.80
49:n:33:VAL:HG12	49:n:34:THR:H	1.43	0.80
51:s:94:G:H5''	51:s:95:C:OP1	1.82	0.80
13:M:48:GLN:NE2	51:s:1317:C:H4'	1.96	0.80
52:t:1779:U:C5	52:t:1784:A:N7	2.50	0.80
19:S:8:LYS:O	19:S:12:GLN:HB2	1.81	0.80
51:s:251:G:H4'	51:s:252:U:O5'	1.79	0.80
51:s:963:G:H2'	51:s:964:A:C8	2.16	0.80
22:V:47:ALA:HB2	22:V:83:ARG:HA	1.63	0.80
47:l:3:ILE:CD1	52:t:666:A:H1'	2.12	0.80
50:p:1:SER:HB2	50:p:6:GLN:NE2	1.97	0.80
52:t:762:U:H4'	52:t:763:G:O5'	1.80	0.80
52:t:1290:C:H2'	52:t:1291:C:H6	1.44	0.80
11:K:113:ARG:NH2	11:K:120:ARG:HG2	1.97	0.80
14:N:77:TYR:O	14:N:81:ILE:HG13	1.82	0.80
18:R:53:GLY:HA2	51:s:1220:G:H21	1.46	0.80
21:U:128:THR:C	21:U:129:LEU:HD12	2.06	0.80
29:2:111:ILE:HG22	29:2:112:LEU:N	1.97	0.80
35:9:60:LYS:HB2	35:9:100:GLY:HA3	1.63	0.80
3:C:127:ARG:H	3:C:127:ARG:HD3	1.46	0.80
3:C:130:ASN:HB3	51:s:619:U:H3	1.46	0.80
19:S:27:MET:HE1	19:S:57:VAL:HA	1.61	0.80
9:I:50:THR:HG22	9:I:64:GLN:HG2	1.63	0.79
21:U:155:ARG:HB2	52:t:1818:U:H3'	1.64	0.79
40:e:30:VAL:CG1	52:t:2353:G:H1'	2.12	0.79
48:m:36:ARG:HG2	48:m:37:GLN:H	1.48	0.79
52:t:2092:U:H4'	52:t:2093:G:O5'	1.82	0.79
53:u:15:A:H1'	53:u:109:A:C8	2.17	0.79
14:N:52:ARG:O	14:N:55:LEU:HB3	1.82	0.79
27:0:111:LYS:HG2	27:0:112:GLY:H	1.46	0.79
52:t:242:G:O2'	52:t:243:U:OP2	2.00	0.79
52:t:1847:A:H2'	52:t:1848:A:C8	2.17	0.79
16:P:12:VAL:HG11	16:P:21:VAL:HG22	1.63	0.79
35:9:28:ALA:O	35:9:63:VAL:HG11	1.82	0.79
51:s:274:A:HO2'	51:s:275:G:H8	1.27	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:679:C:O2'	52:t:680:C:H5'	1.82	0.79
11:K:49:ARG:HH12	51:s:523:A:H61	1.29	0.79
22:V:141:ARG:NH2	52:t:1998:A:OP2	2.16	0.79
31:4:103:ARG:HG3	52:t:1287:A:OP2	1.82	0.79
45:j:27:ARG:O	45:j:30:PRO:HD3	1.82	0.79
51:s:738:C:H2'	51:s:739:C:H6	1.45	0.79
28:1:97:THR:HB	28:1:98:ARG:HH21	1.46	0.79
50:o:13:ALA:O	50:o:14:MET:HG2	1.81	0.79
26:Z:9:LYS:NZ	52:t:1061:U:H5''	1.96	0.79
26:Z:120:ASP:HB3	26:Z:123:ALA:HB3	1.64	0.79
27:0:64:VAL:O	27:0:65:THR:HB	1.81	0.79
34:8:94:LEU:C	34:8:96:ASP:H	1.91	0.79
35:9:61:ALA:HB2	35:9:98:ILE:HA	1.62	0.79
49:n:58:THR:CB	49:n:82:ILE:HB	2.11	0.79
49:n:59:LEU:HB2	49:n:62:ARG:HB2	1.63	0.79
51:s:579:A:H2'	51:s:580:C:H6	1.48	0.79
52:t:2258:C:O2'	52:t:2427:C:OP2	2.00	0.79
25:Y:84:LYS:CG	25:Y:132:LEU:H	1.90	0.79
30:3:23:GLY:O	30:3:101:VAL:HG12	1.82	0.79
47:l:22:LYS:HA	47:l:47:ALA:O	1.83	0.79
52:t:729:G:H4'	52:t:763:G:H5'	1.65	0.79
52:t:2834:G:H2'	52:t:2879:A:N6	1.97	0.79
12:L:13:HIS:HB2	12:L:16:ILE:HD12	1.63	0.79
20:T:9:GLU:HB2	20:T:10:PRO:HD3	1.64	0.79
52:t:1212:G:H2'	52:t:1236:G:H22	1.47	0.79
1:A:69:VAL:HB	1:A:162:VAL:HG12	1.65	0.79
1:A:114:LYS:HA	1:A:117:GLU:HG2	1.65	0.79
3:C:67:LEU:O	3:C:71:PHE:HB2	1.83	0.79
4:D:149:PRO:O	4:D:152:VAL:HG13	1.82	0.79
21:U:141:HIS:CB	21:U:190:THR:HB	2.11	0.79
34:8:60:TRP:O	34:8:64:ILE:HG12	1.82	0.79
43:h:24:LEU:HD21	52:t:930:G:H1'	1.65	0.79
49:n:24:SER:HB2	49:n:116:GLU:CD	2.08	0.79
52:t:667:U:H2'	52:t:668:A:O4'	1.83	0.79
37:b:2:ILE:HD11	52:t:141:G:H1	1.48	0.78
50:q:17:MET:HB3	50:q:21:GLU:OE2	1.83	0.78
52:t:783:A:C8	52:t:784:G:H4'	2.18	0.78
1:A:127:LYS:HG3	1:A:128:LEU:H	1.47	0.78
5:E:64:VAL:HG12	5:E:65:GLU:N	1.97	0.78
6:F:65:LEU:HG	6:F:69:ARG:NE	1.98	0.78
34:8:49:ARG:HH11	34:8:49:ARG:HG3	1.47	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:m:7:VAL:HG23	48:m:8:LYS:H	1.48	0.78
52:t:205:G:O2'	52:t:206:U:OP2	1.99	0.78
52:t:371:A:H1'	52:t:373:U:C6	2.18	0.78
52:t:833:A:H2'	52:t:834:G:C8	2.18	0.78
12:L:113:LYS:HB2	12:L:114:PRO:HD3	1.64	0.78
18:R:77:ARG:HD2	51:s:1225:A:H1'	1.64	0.78
23:W:147:LEU:HB3	23:W:186:VAL:HG23	1.64	0.78
51:s:458:U:H3	51:s:474:G:H1	1.31	0.78
51:s:1065:U:H5''	51:s:1190:G:N2	1.97	0.78
53:u:24:G:O6	53:u:56:G:H2'	1.82	0.78
10:J:43:TRP:NE1	51:s:686:U:H1'	1.99	0.78
13:M:8:ARG:HB3	13:M:12:ARG:NH1	1.98	0.78
22:V:118:PHE:CD2	22:V:119:ALA:N	2.47	0.78
25:Y:104:LEU:HB2	25:Y:112:VAL:CG2	2.14	0.78
27:O:111:LYS:HD3	27:O:111:LYS:H	1.48	0.78
34:8:40:LYS:HA	34:8:43:GLN:HG3	1.65	0.78
51:s:499:A:H4'	51:s:500:G:OP1	1.83	0.78
52:t:693:A:H2'	52:t:694:U:C6	2.18	0.78
2:B:28:PHE:CD1	13:M:75:LYS:HE2	2.18	0.78
13:M:3:GLN:HE21	13:M:3:GLN:N	1.80	0.78
18:R:54:ARG:HG3	18:R:55:GLN:H	1.48	0.78
19:S:32:LYS:HE2	51:s:1439:G:OP2	1.82	0.78
21:U:75:ALA:HB1	21:U:93:VAL:HG22	1.66	0.78
51:s:55:A:C2	54:v:311:HIS:CG	2.57	0.78
54:v:20:SER:H	54:v:26:LYS:HZ1	1.26	0.78
3:C:69:ARG:HB2	51:s:546:A:OP1	1.84	0.78
4:D:121:ASN:CG	4:D:122:VAL:H	1.90	0.78
28:1:71:ARG:CG	28:1:105:ARG:HH21	1.97	0.78
40:e:37:VAL:HG13	40:e:55:ASP:O	1.83	0.78
21:U:229:HIS:ND1	21:U:230:PRO:HD2	1.99	0.78
29:2:132:ARG:HG3	29:2:142:ILE:HG13	1.65	0.78
34:8:63:ARG:NH2	34:8:96:ASP:HA	1.99	0.78
46:k:34:ARG:HB3	46:k:42:LEU:HD13	1.66	0.78
52:t:1533:C:H42	52:t:1538:G:H1	1.32	0.78
7:G:77:VAL:HG11	7:G:124:ILE:HD11	1.64	0.78
8:H:56:MET:SD	8:H:57:VAL:N	2.56	0.78
15:O:21:VAL:HG21	15:O:60:TRP:CD1	2.18	0.78
26:Z:126:ARG:O	26:Z:129:GLU:HB2	1.83	0.78
54:v:238:SER:OG	54:v:239:ASN:N	2.12	0.78
3:C:142:VAL:HG22	3:C:143:SER:N	1.99	0.78
23:W:108:ILE:HD13	29:2:2:ARG:NH2	1.98	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:72:THR:HG21	26:Z:112:LYS:HA	1.65	0.78
48:m:11:CYS:HB3	48:m:33:HIS:CE1	2.18	0.78
50:o:16:VAL:HG13	50:r:11:VAL:HG11	1.65	0.78
51:s:922:G:H2'	51:s:923:A:C8	2.19	0.78
7:G:74:ILE:HG12	7:G:128:VAL:HG22	1.66	0.78
14:N:63:ARG:HG2	14:N:87:ARG:HH12	1.47	0.78
17:Q:63:TYR:CE1	51:s:673:A:H1'	2.18	0.78
21:U:245:THR:HG22	52:t:1824:G:O2'	1.84	0.78
24:X:3:LEU:HG	24:X:100:GLU:HB2	1.66	0.78
24:X:106:ALA:HB1	24:X:136:ILE:HD12	1.65	0.78
27:0:81:ILE:CG2	27:0:82:GLY:H	1.92	0.78
52:t:693:A:H2'	52:t:694:U:H6	1.47	0.78
52:t:2547:A:H2'	52:t:2548:U:C6	2.19	0.78
10:J:60:PHE:O	10:J:64:VAL:HG13	1.83	0.77
12:L:70:ARG:HA	12:L:73:SER:HB2	1.66	0.77
17:Q:54:LEU:O	17:Q:58:ILE:HD13	1.85	0.77
34:8:3:VAL:HG22	52:t:1199:U:H1'	1.66	0.77
51:s:327:A:H4'	51:s:328:C:OP1	1.82	0.77
52:t:1111:A:O2'	52:t:1112:G:O4'	2.02	0.77
1:A:18:GLN:HG2	1:A:189:ASN:HD22	1.49	0.77
2:B:54:ILE:HD13	2:B:54:ILE:H	1.49	0.77
3:C:62:ARG:NH2	3:C:65:GLY:HA2	1.99	0.77
10:J:127:ARG:HD2	51:s:1506:U:O2	1.83	0.77
36:a:41:LYS:HE2	52:t:2009:A:OP1	1.83	0.77
41:f:30:PRO:HB2	41:f:32:LEU:CD1	2.14	0.77
10:J:22:ILE:HD11	10:J:85:VAL:HG13	1.64	0.77
12:L:76:ILE:HG22	12:L:80:MET:HE2	1.66	0.77
13:M:16:ALA:HA	13:M:54:SER:OG	1.84	0.77
31:4:12:ARG:CZ	31:4:20:MET:HE1	2.13	0.77
32:5:31:THR:HG21	53:u:28:C:OP1	1.84	0.77
52:t:947:A:O2'	52:t:984:A:H2	1.67	0.77
52:t:1758:U:H5''	52:t:1759:A:OP2	1.83	0.77
51:s:429:U:H3	51:s:431:A:H62	1.33	0.77
52:t:1073:A:H3'	52:t:1074:G:C5'	2.09	0.77
3:C:68:GLU:HG3	51:s:545:C:H5'	1.64	0.77
7:G:111:THR:H	7:G:114:ALA:HB3	1.49	0.77
3:C:62:ARG:HA	3:C:62:ARG:NE	1.96	0.77
12:L:14:ALA:O	12:L:18:LEU:HD23	1.85	0.77
17:Q:64:LEU:HB2	17:Q:66:LEU:HG	1.66	0.77
22:V:69:ALA:O	22:V:71:ALA:N	2.18	0.77
36:a:20:VAL:HG11	36:a:47:VAL:HG11	1.67	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:e:19:ARG:HH12	52:t:922:C:H1'	1.48	0.77
51:s:1067:A:H4'	51:s:1068:G:O5'	1.85	0.77
52:t:1107:G:H2'	52:t:1108:U:H6	1.48	0.77
8:H:24:ASN:HB2	8:H:26:LYS:HE3	1.66	0.77
21:U:255:LYS:HA	52:t:1797:G:O3'	1.84	0.77
51:s:1001:C:H2'	51:s:1002:G:H8	1.50	0.77
52:t:189:G:H1	52:t:205:G:HO2'	1.32	0.77
5:E:25:TYR:O	5:E:29:ILE:HG12	1.84	0.77
22:V:68:PHE:CB	22:V:73:VAL:HG13	2.13	0.77
36:a:59:GLU:HA	36:a:64:ALA:CB	2.13	0.77
51:s:512:U:H2'	51:s:513:C:H6	1.49	0.77
52:t:1943:U:H4'	52:t:1944:U:O5'	1.85	0.77
21:U:180:MET:HB2	21:U:268:ARG:H	1.48	0.77
25:Y:83:THR:HG22	25:Y:84:LYS:HZ1	1.50	0.77
40:e:9:THR:HG23	40:e:10:ARG:CD	2.09	0.77
52:t:136:G:H1	52:t:143:C:N4	1.83	0.77
6:F:23:ALA:O	6:F:26:VAL:HG22	1.84	0.77
7:G:82:LEU:HD12	11:K:3:VAL:HG11	1.66	0.77
21:U:68:ARG:HB3	21:U:68:ARG:HH11	1.50	0.77
27:0:32:LEU:HD22	27:0:54:ILE:HG13	1.66	0.77
37:b:18:GLU:HG2	52:t:1392:A:N6	1.99	0.77
49:n:52:MET:SD	49:n:87:GLU:HG2	2.25	0.77
51:s:274:A:H4'	51:s:275:G:O5'	1.82	0.77
51:s:815:A:H4'	51:s:817:C:C4	2.20	0.77
1:A:166:ASP:OD2	1:A:190:SER:HA	1.85	0.76
16:P:54:ILE:HD13	16:P:55:GLY:N	1.98	0.76
52:t:614:A:O2'	52:t:615:U:H5'	1.85	0.76
11:K:49:ARG:H	11:K:49:ARG:HD2	1.49	0.76
21:U:216:ARG:HG3	21:U:216:ARG:HH11	1.50	0.76
29:2:69:ARG:HB3	29:2:69:ARG:NH1	2.00	0.76
52:t:1045:C:C5'	52:t:1046:A:H5'	2.14	0.76
12:L:38:ILE:HG13	12:L:55:LEU:HD21	1.66	0.76
25:Y:66:THR:HG23	52:t:2748:A:H1'	1.66	0.76
25:Y:116:LEU:HD12	25:Y:120:ILE:CG2	2.15	0.76
30:3:96:ILE:HD11	30:3:126:ILE:HD12	1.68	0.76
54:v:62:MET:HG2	54:v:454:LYS:HG2	1.65	0.76
11:K:49:ARG:HG2	11:K:89:LEU:HD21	1.66	0.76
22:V:171:THR:HG23	52:t:2773:C:OP1	1.84	0.76
50:o:18:ASP:O	50:o:22:LEU:HG	1.85	0.76
54:v:20:SER:N	54:v:26:LYS:NZ	2.32	0.76
1:A:20:ARG:HA	1:A:20:ARG:CZ	2.14	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:29:ILE:HD13	4:D:29:ILE:O	1.86	0.76
6:F:115:MET:HE3	6:F:115:MET:O	1.86	0.76
27:O:58:ASN:HB3	27:O:61:LYS:HE2	1.68	0.76
39:d:30:ILE:HD13	39:d:40:ILE:HD12	1.66	0.76
49:n:162:LYS:HZ2	50:q:15:SER:HB2	1.50	0.76
51:s:977:A:H3'	51:s:977:A:N3	2.01	0.76
52:t:1594:U:H2'	52:t:1595:C:C6	2.21	0.76
54:v:355:HIS:HA	54:v:356:VAL:HG23	1.68	0.76
5:E:89:VAL:HG22	5:E:90:MET:N	2.00	0.76
13:M:53:ASP:HA	13:M:58:ARG:HG2	1.66	0.76
21:U:108:GLY:C	21:U:109:LEU:HD23	2.10	0.76
27:O:32:LEU:CD2	27:O:54:ILE:HG13	2.16	0.76
50:r:2:ILE:HD13	50:r:3:THR:N	1.99	0.76
52:t:91:A:H4'	52:t:92:U:O5'	1.83	0.76
54:v:19:ILE:CA	54:v:26:LYS:CE	2.62	0.76
10:J:86:LYS:HB2	10:J:112:VAL:HG23	1.68	0.76
15:O:6:LEU:HB3	15:O:17:TYR:HB3	1.67	0.76
21:U:58:LYS:CG	52:t:1568:G:H4'	2.16	0.76
37:b:29:THR:HA	37:b:86:THR:CA	2.14	0.76
48:m:4:ARG:HG3	48:m:6:SER:O	1.85	0.76
51:s:934:C:H5'	51:s:935:A:OP1	1.84	0.76
52:t:1510:G:O2'	52:t:1511:G:H5'	1.85	0.76
5:E:6:ILE:HG22	5:E:7:VAL:N	1.97	0.76
6:F:24:LYS:O	6:F:28:ILE:HG12	1.84	0.76
10:J:43:TRP:HE1	51:s:686:U:H1'	1.50	0.76
25:Y:10:VAL:HG11	25:Y:16:VAL:HG21	1.68	0.76
26:Z:56:VAL:HG21	26:Z:68:PHE:HD2	1.48	0.76
27:O:16:TYR:O	27:O:55:ILE:HG22	1.84	0.76
52:t:142:A:H2'	52:t:143:C:C6	2.21	0.76
9:I:15:HIS:HD2	51:s:1152:A:H5'	1.50	0.76
15:O:46:LYS:CD	15:O:47:GLU:H	1.98	0.76
16:P:76:ARG:HH12	16:P:78:VAL:HG22	1.49	0.76
22:V:27:ILE:HD12	22:V:201:LEU:HD23	1.65	0.76
24:X:73:VAL:HG22	24:X:78:ILE:HD11	1.66	0.76
52:t:13:A:O2'	52:t:15:G:N7	2.19	0.76
52:t:859:G:H2'	52:t:916:G:O6	1.85	0.76
52:t:979:A:H2'	52:t:982:C:N4	1.99	0.76
9:I:40:ILE:HD12	51:s:1124:G:H4'	1.68	0.76
11:K:66:ILE:HD13	11:K:96:THR:HG21	1.66	0.76
16:P:12:VAL:CG1	16:P:21:VAL:HG13	2.15	0.76
22:V:186:LEU:HD21	33:6:3:ILE:HD11	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:84:LYS:HE3	25:Y:131:VAL:HG23	1.68	0.76
33:6:28:LYS:N	33:6:28:LYS:HE3	2.01	0.76
37:b:50:LEU:HD12	37:b:50:LEU:N	2.01	0.76
40:e:30:VAL:HG11	52:t:2352:A:C6	2.20	0.76
40:e:37:VAL:HG12	40:e:38:ARG:N	1.96	0.76
52:t:34:U:O2'	52:t:35:G:OP1	2.04	0.76
52:t:780:G:H21	52:t:783:A:H62	1.34	0.76
5:E:38:ARG:HH11	5:E:61:LEU:HD21	1.49	0.75
9:I:10:LEU:CD1	9:I:98:VAL:HG12	2.16	0.75
15:O:10:GLY:HA3	15:O:15:PRO:HA	1.67	0.75
18:R:72:GLU:HG2	51:s:1320:C:O2'	1.85	0.75
21:U:139:THR:O	21:U:161:VAL:O	2.04	0.75
27:0:24:THR:CA	27:0:63:ALA:HB3	2.16	0.75
41:f:39:VAL:C	41:f:41:SER:H	1.91	0.75
46:k:21:ARG:HD3	46:k:30:VAL:HG11	1.68	0.75
49:n:1:MET:HA	49:n:6:GLN:NE2	2.01	0.75
51:s:55:A:C2	54:v:310:LYS:O	2.39	0.75
51:s:366:A:O2'	51:s:394:G:N2	2.17	0.75
52:t:2348:U:O2'	52:t:2349:G:H5'	1.85	0.75
2:B:35:ASP:OD1	2:B:56:ILE:HG21	1.84	0.75
26:Z:53:PRO:HG2	26:Z:77:VAL:HG11	1.68	0.75
34:8:64:ILE:HD12	34:8:95:ALA:HB3	1.66	0.75
3:C:109:THR:HG21	51:s:408:A:OP1	1.86	0.75
6:F:94:ARG:CZ	6:F:98:LEU:HD21	2.15	0.75
24:X:72:SER:HB2	24:X:80:GLN:N	2.01	0.75
27:0:117:ALA:HA	27:0:120:ARG:NH2	2.00	0.75
32:5:102:ARG:HG2	53:u:49:C:OP1	1.85	0.75
44:i:9:ARG:HH21	44:i:9:ARG:HG3	1.51	0.75
51:s:1355:G:H2'	51:s:1356:G:H8	1.50	0.75
51:s:1479:C:O2'	51:s:1480:A:H5'	1.86	0.75
7:G:12:ARG:HH21	51:s:826:C:H5'	1.50	0.75
23:W:106:LYS:HG3	23:W:200:LEU:HD12	1.69	0.75
24:X:39:VAL:HG13	24:X:40:GLY:H	1.52	0.75
27:0:1:MET:HB3	27:0:2:LYS:HD3	1.67	0.75
52:t:1060:U:H4'	52:t:1061:U:O5'	1.85	0.75
54:v:399:ARG:HH12	54:v:448:VAL:HG11	1.52	0.75
1:A:101:THR:HG21	51:s:1101:A:H61	1.51	0.75
4:D:81:GLN:H	4:D:146:MET:CE	1.99	0.75
4:D:149:PRO:HG2	4:D:150:GLU:H	1.50	0.75
6:F:145:GLU:HA	6:F:148:LYS:HB2	1.68	0.75
10:J:111:ASP:H	20:T:3:ILE:HG22	1.52	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:1:76:VAL:HB	33:6:72:VAL:CG2	2.16	0.75
52:t:1510:G:H2'	52:t:1511:G:O4'	1.86	0.75
52:t:2781:A:H5''	52:t:2782:G:H5'	1.69	0.75
8:H:123:ARG:HB3	51:s:1343:G:O3'	1.86	0.75
21:U:209:ALA:HA	21:U:212:TRP:NE1	2.01	0.75
27:0:56:VAL:O	27:0:124:VAL:O	2.04	0.75
33:6:63:ILE:HA	33:6:68:GLY:CA	2.10	0.75
34:8:91:ARG:HD3	35:9:11:GLN:HG3	1.67	0.75
41:f:14:GLY:O	41:f:26:ARG:HG3	1.87	0.75
52:t:361:G:O2'	52:t:362:A:H5'	1.87	0.75
54:v:70:ILE:O	54:v:95:PHE:CE2	2.40	0.75
2:B:104:GLU:HG2	2:B:105:VAL:N	1.99	0.75
6:F:130:LYS:N	6:F:134:VAL:HG21	2.01	0.75
21:U:259:ASN:O	21:U:260:LYS:HB2	1.87	0.75
22:V:49:GLN:CD	22:V:79:LEU:HD23	2.11	0.75
42:g:2:LYS:O	42:g:5:GLU:HB2	1.86	0.75
51:s:204:G:C3'	51:s:205:A:H5''	2.17	0.75
51:s:429:U:H4'	51:s:430:A:O5'	1.86	0.75
52:t:654:A:N3	52:t:654:A:H5'	2.01	0.75
52:t:1484:U:H2'	52:t:1485:U:C6	2.21	0.75
3:C:146:GLU:HG3	3:C:149:LYS:HE2	1.68	0.75
10:J:61:ALA:HA	10:J:64:VAL:HG22	1.69	0.75
25:Y:88:LEU:HD22	25:Y:161:VAL:HG22	1.69	0.75
37:b:43:ILE:HD11	37:b:58:VAL:HG21	1.69	0.75
38:c:82:VAL:HG12	38:c:83:GLY:N	2.01	0.75
51:s:382:A:H2'	51:s:383:A:H8	1.52	0.75
30:3:132:THR:HG22	30:3:134:THR:H	1.52	0.75
40:e:18:LYS:NZ	52:t:858:G:H4'	2.02	0.75
47:l:38:LYS:HA	47:l:41:ARG:HH22	1.51	0.75
51:s:1171:A:H2'	51:s:1172:C:C6	2.22	0.75
52:t:465:G:H2'	52:t:466:A:C8	2.22	0.75
52:t:645:C:O2	52:t:645:C:H2'	1.87	0.75
52:t:2243:U:H2'	52:t:2244:U:C6	2.22	0.75
52:t:2840:C:H2'	52:t:2841:C:H6	1.48	0.75
54:v:522:GLN:HB2	54:v:523:PHE:HB2	1.68	0.75
17:Q:54:LEU:C	17:Q:58:ILE:HD13	2.12	0.74
22:V:114:LYS:HE2	52:t:2680:U:OP2	1.87	0.74
29:2:111:ILE:CG2	29:2:112:LEU:N	2.50	0.74
28:1:16:ALA:HB2	28:1:86:LEU:HD11	1.69	0.74
30:3:26:VAL:HA	30:3:104:GLU:OE1	1.86	0.74
50:o:11:VAL:HG13	50:r:14:MET:HB2	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:171:U:H2'	52:t:172:A:H8	1.51	0.74
3:C:10:LEU:HD21	3:C:62:ARG:HG3	1.68	0.74
8:H:48:ARG:C	8:H:48:ARG:HD3	2.12	0.74
11:K:66:ILE:HG21	11:K:71:HIS:CD2	2.23	0.74
32:5:9:ARG:HD2	32:5:9:ARG:O	1.87	0.74
40:e:19:ARG:O	40:e:20:LEU:HD23	1.88	0.74
40:e:59:PHE:CZ	52:t:2365:G:H4'	2.23	0.74
51:s:952:U:H2'	51:s:953:G:C8	2.22	0.74
51:s:1015:G:O2'	51:s:1218:C:H4'	1.85	0.74
3:C:61:ARG:HG2	3:C:71:PHE:HD2	1.51	0.74
7:G:110:MET:HE1	7:G:118:ALA:HB2	1.69	0.74
13:M:23:ARG:O	13:M:26:LEU:HD13	1.86	0.74
18:R:77:ARG:HH11	51:s:1222:G:H5''	1.53	0.74
21:U:28:PRO:HB2	21:U:33:LEU:HD21	1.68	0.74
30:3:102:LEU:HD22	30:3:102:LEU:H	1.53	0.74
51:s:711:G:O2'	51:s:712:A:H5'	1.87	0.74
52:t:1063:G:H1	52:t:1075:C:N4	1.83	0.74
52:t:2645:G:H4'	52:t:2732:G:O2'	1.87	0.74
1:A:163:ILE:HG23	1:A:164:ASP:H	1.50	0.74
13:M:55:SER:HB3	13:M:58:ARG:HB2	1.69	0.74
13:M:82:LYS:HE2	13:M:82:LYS:HA	1.69	0.74
26:Z:83:ALA:HB1	26:Z:100:ILE:HD11	1.69	0.74
51:s:206:C:C2'	51:s:207:C:H5'	2.18	0.74
51:s:834:U:H2'	51:s:835:U:H6	1.51	0.74
51:s:952:U:H2'	51:s:953:G:H8	1.52	0.74
52:t:1775:U:H2'	52:t:1776:G:H5'	1.69	0.74
52:t:2210:U:H4'	52:t:2211:A:C5'	2.17	0.74
36:a:33:LEU:HD22	36:a:51:LEU:HD23	1.69	0.74
51:s:1157:A:H61	51:s:1178:G:H1'	1.50	0.74
2:B:33:ASP:OD1	13:M:64:ARG:HG2	1.88	0.74
4:D:110:MET:HE1	4:D:124:ALA:HB1	1.69	0.74
22:V:52:THR:HG22	22:V:80:TRP:HZ3	1.53	0.74
27:0:88:THR:HG22	27:0:91:GLU:CD	2.13	0.74
40:e:28:GLU:HB3	40:e:31:LEU:CD2	2.17	0.74
49:n:58:THR:HG21	49:n:82:ILE:H	1.53	0.74
49:n:162:LYS:HZ2	50:q:19:VAL:HG21	1.53	0.74
51:s:51:A:O2'	51:s:52:C:OP2	2.06	0.74
52:t:2681:C:H5'	52:t:2682:A:OP1	1.88	0.74
1:A:205:ALA:HB3	1:A:208:ALA:HB3	1.69	0.74
30:3:36:VAL:HB	30:3:127:LYS:O	1.86	0.74
52:t:1460:U:H5''	52:t:1461:C:OP2	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2320:U:H4'	52:t:2321:U:C6	2.22	0.74
54:v:70:ILE:HG23	54:v:95:PHE:CZ	2.18	0.74
5:E:73:GLU:O	5:E:77:THR:HG23	1.88	0.74
30:3:37:GLY:HA3	30:3:126:ILE:HG13	1.68	0.74
33:6:91:VAL:HG11	33:6:96:LEU:HD21	1.67	0.74
51:s:890:G:O2'	51:s:891:U:OP2	2.05	0.74
51:s:970:C:O2	51:s:1231:G:H1'	1.88	0.74
51:s:1007:U:H2'	51:s:1008:U:H5''	1.68	0.74
52:t:70:G:H2'	52:t:113:U:O2'	1.87	0.74
52:t:1290:C:H2'	52:t:1291:C:C6	2.22	0.74
54:v:19:ILE:HA	54:v:26:LYS:HE2	1.69	0.74
2:B:3:LYS:HZ2	51:s:1191:A:H5''	1.53	0.74
19:S:3:ILE:H	19:S:3:ILE:HD12	1.51	0.74
21:U:100:ARG:HG2	21:U:100:ARG:HH11	1.51	0.74
22:V:107:VAL:HG21	22:V:177:VAL:HG13	1.69	0.74
23:W:45:ALA:O	23:W:46:GLN:HG2	1.87	0.74
23:W:176:ASP:OD1	23:W:178:VAL:HG12	1.88	0.74
29:2:22:GLY:O	29:2:25:SER:HB3	1.87	0.74
40:e:40:ARG:N	40:e:56:HIS:HB3	2.03	0.74
51:s:566:G:H4'	51:s:567:G:OP1	1.86	0.74
51:s:1043:G:H2'	51:s:1044:A:C8	2.23	0.74
3:C:200:VAL:CG1	4:D:102:THR:HG23	2.17	0.73
12:L:27:THR:CG2	51:s:1328:C:H5''	2.12	0.73
22:V:114:LYS:HE3	22:V:114:LYS:O	1.87	0.73
25:Y:83:THR:CG2	25:Y:84:LYS:HZ1	2.01	0.73
38:c:2:ALA:HB3	38:c:5:ARG:HH21	1.51	0.73
40:e:40:ARG:H	40:e:56:HIS:HB3	1.53	0.73
45:j:8:ILE:HG21	45:j:51:ALA:HA	1.69	0.73
47:l:38:LYS:HA	47:l:41:ARG:NH2	2.03	0.73
51:s:1046:A:H2'	51:s:1047:G:H8	1.53	0.73
51:s:1203:C:H2'	51:s:1204:A:C8	2.23	0.73
52:t:753:A:H2'	52:t:754:U:H6	1.52	0.73
2:B:122:GLN:O	2:B:127:VAL:HG22	1.88	0.73
3:C:29:THR:HG22	3:C:30:LYS:H	1.54	0.73
3:C:146:GLU:HA	3:C:149:LYS:HE2	1.69	0.73
4:D:105:ILE:HD11	4:D:123:LEU:CG	2.09	0.73
10:J:107:THR:C	10:J:108:ASN:HD22	1.95	0.73
29:2:26:GLY:C	29:2:27:LEU:HD12	2.13	0.73
51:s:451:A:O2'	51:s:452:A:OP2	2.06	0.73
52:t:2655:G:C8	54:v:50:GLY:HA3	2.23	0.73
4:D:106:ALA:HB1	4:D:110:MET:HE2	1.69	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:22:VAL:HG12	16:P:23:ALA:N	2.02	0.73
25:Y:83:THR:HA	25:Y:84:LYS:HZ1	1.50	0.73
51:s:66:A:H4'	51:s:173:U:C4	2.23	0.73
54:v:493:LEU:HD23	54:v:503:TYR:HA	1.70	0.73
5:E:9:MET:HA	5:E:58:HIS:O	1.87	0.73
24:X:43:ILE:HD12	24:X:44:ALA:N	2.03	0.73
29:2:105:ILE:H	29:2:105:ILE:HD12	1.52	0.73
36:a:3:THR:OG1	36:a:58:ALA:HB2	1.88	0.73
40:e:39:GLN:C	40:e:41:GLY:N	2.42	0.73
51:s:452:A:H62	51:s:480:U:H3	1.35	0.73
52:t:31:C:C2'	52:t:32:C:H5'	2.17	0.73
52:t:386:G:H4'	52:t:387:U:OP2	1.88	0.73
52:t:1962:C:H4'	52:t:1963:U:OP1	1.87	0.73
4:D:131:ASN:O	4:D:135:VAL:HG13	1.88	0.73
16:P:37:ILE:HG21	16:P:39:ARG:NH1	2.04	0.73
28:1:41:ILE:HG23	28:1:42:THR:N	2.02	0.73
28:1:87:LEU:HD13	28:1:92:GLU:HB3	1.70	0.73
32:5:79:ALA:O	32:5:83:LEU:HD23	1.88	0.73
35:9:14:VAL:HG22	35:9:15:SER:N	2.03	0.73
50:p:29:LYS:HD3	50:r:15:SER:OG	1.89	0.73
51:s:150:U:H2'	51:s:151:A:H8	1.54	0.73
51:s:243:A:H4'	51:s:244:U:O5'	1.88	0.73
51:s:1452:C:H4'	51:s:1453:G:N2	2.03	0.73
32:5:31:THR:HG23	32:5:34:HIS:N	2.04	0.73
51:s:24:U:O2'	51:s:25:C:H5'	1.89	0.73
51:s:658:C:O2'	51:s:659:U:H5'	1.89	0.73
52:t:1107:G:H2'	52:t:1108:U:C6	2.23	0.73
1:A:220:VAL:N	1:A:221:ARG:NH2	2.37	0.73
3:C:196:GLU:O	3:C:199:ILE:HG22	1.88	0.73
7:G:1:SER:H2	51:s:877:G:H21	1.33	0.73
8:H:93:LEU:HD12	8:H:94:ARG:N	2.04	0.73
9:I:18:ILE:HG23	9:I:72:ARG:HE	1.54	0.73
25:Y:33:THR:C	25:Y:34:ARG:HD3	2.14	0.73
51:s:203:G:H1	51:s:214:C:H42	1.35	0.73
51:s:337:G:H2'	51:s:338:A:C8	2.24	0.73
51:s:913:A:OP1	56:z:4:SER:HB3	1.88	0.73
52:t:322:A:H1'	52:t:339:U:O2	1.89	0.73
53:u:27:C:H2'	53:u:28:C:H6	1.53	0.73
3:C:124:VAL:C	3:C:126:GLY:H	1.97	0.73
4:D:143:LEU:O	4:D:146:MET:HB3	1.89	0.73
13:M:50:LEU:HB3	13:M:51:PRO:HD2	1.71	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:237:ARG:HG3	52:t:2591:C:OP1	1.88	0.73
33:6:49:ILE:HG23	33:6:50:ARG:HG3	1.69	0.73
47:l:44:ARG:H	47:l:45:PRO:HD2	1.54	0.73
1:A:101:THR:HG22	1:A:174:GLU:OE1	1.88	0.73
6:F:98:LEU:HA	6:F:101:ARG:HH12	1.53	0.73
15:O:12:LYS:HG3	15:O:13:LYS:HG2	1.71	0.73
30:3:71:LYS:HD2	30:3:95:LEU:HD13	1.71	0.73
49:n:144:LYS:CB	49:n:147:SER:HB2	2.18	0.73
51:s:805:C:H2'	51:s:806:C:H6	1.53	0.73
52:t:2210:U:H4'	52:t:2211:A:O5'	1.88	0.73
52:t:2286:G:H4'	52:t:2287:A:O4'	1.87	0.73
52:t:2725:A:O2'	52:t:2726:A:H3'	1.88	0.73
2:B:1:GLY:HA3	51:s:1060:U:C4	2.23	0.73
5:E:47:LEU:HD23	5:E:59:TYR:OH	1.89	0.73
21:U:58:LYS:HG2	52:t:1568:G:H4'	1.71	0.73
23:W:111:GLU:HA	23:W:114:ARG:NH1	2.04	0.73
35:9:1:MET:HA	35:9:42:ALA:O	1.89	0.73
35:9:39:LEU:HA	35:9:49:ILE:HG21	1.69	0.73
49:n:81:LEU:HD23	49:n:82:ILE:N	2.04	0.73
52:t:782:A:H5'	52:t:783:A:C2	2.24	0.73
52:t:2287:A:O2'	52:t:2288:A:H3'	1.89	0.73
9:I:66:GLU:HB3	13:M:98:ALA:HB2	1.70	0.72
14:N:42:PHE:CE1	14:N:55:LEU:HD22	2.23	0.72
46:k:5:PHE:CD1	46:k:7:PRO:HD3	2.23	0.72
49:n:103:ASN:HB3	49:n:110:ALA:HB2	1.71	0.72
51:s:206:C:H42	51:s:213:G:H1	1.37	0.72
51:s:629:A:H2'	51:s:630:A:O4'	1.89	0.72
52:t:796:C:H2'	52:t:797:G:C8	2.24	0.72
52:t:936:A:H2'	52:t:937:C:C6	2.24	0.72
52:t:1170:C:H2'	52:t:1171:G:O4'	1.88	0.72
1:A:113:LEU:HD13	1:A:143:LEU:HD13	1.70	0.72
6:F:36:SER:HB3	51:s:1291:U:OP1	1.90	0.72
31:4:96:ARG:HH22	31:4:116:VAL:HG23	1.53	0.72
31:4:101:GLY:CA	31:4:110:MET:H	1.97	0.72
36:a:25:ARG:CB	36:a:25:ARG:HH11	2.02	0.72
36:a:57:ASN:HD21	52:t:494:G:H21	1.37	0.72
36:a:72:THR:O	36:a:73:LYS:HD2	1.89	0.72
40:e:28:GLU:HB3	40:e:31:LEU:HD11	1.70	0.72
40:e:51:GLY:HA2	40:e:59:PHE:CZ	2.24	0.72
50:o:2:ILE:O	50:o:2:ILE:HG22	1.88	0.72
51:s:211:G:C2	51:s:212:G:H1'	2.24	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:1219:A:H2'	51:s:1220:G:C8	2.22	0.72
51:s:1239:A:H4'	51:s:1240:U:C5'	2.19	0.72
52:t:1698:A:H4'	52:t:1699:G:O5'	1.89	0.72
52:t:1858:A:H8	52:t:1858:A:OP2	1.72	0.72
1:A:163:ILE:HG23	1:A:164:ASP:N	2.03	0.72
2:B:143:LEU:HD23	2:B:143:LEU:H	1.52	0.72
3:C:109:THR:HG23	3:C:112:GLU:N	2.04	0.72
27:0:93:ILE:O	27:0:97:PRO:HG3	1.89	0.72
33:6:105:LYS:HA	33:6:108:ARG:HH21	1.54	0.72
35:9:49:ILE:HD12	35:9:53:PHE:H	1.53	0.72
40:e:39:GLN:HG2	40:e:41:GLY:H	1.54	0.72
51:s:915:A:P	56:z:6:5OH:HRA	2.29	0.72
8:H:33:SER:HB3	8:H:36:GLN:CG	2.18	0.72
21:U:205:GLY:HA2	52:t:1791:A:O2'	1.90	0.72
22:V:101:PHE:O	22:V:180:VAL:HG21	1.89	0.72
24:X:110:ILE:CD1	24:X:136:ILE:HD13	2.19	0.72
27:0:41:LYS:N	34:8:66:ALA:HB1	2.04	0.72
28:1:24:VAL:HG13	28:1:33:ALA:HB2	1.71	0.72
28:1:122:VAL:O	28:1:122:VAL:HG12	1.88	0.72
33:6:58:PHE:H	33:6:58:PHE:HD2	1.37	0.72
40:e:75:ASN:O	40:e:76:ARG:HB2	1.87	0.72
52:t:42:A:N6	52:t:437:U:H3	1.86	0.72
2:B:185:THR:HG22	2:B:186:SER:N	2.03	0.72
10:J:22:ILE:HD11	10:J:85:VAL:HA	1.71	0.72
16:P:14:ASP:HB2	16:P:54:ILE:HB	1.70	0.72
22:V:98:VAL:HG12	22:V:180:VAL:HG13	1.72	0.72
23:W:101:TYR:CE2	23:W:105:LEU:HD11	2.23	0.72
27:0:55:ILE:HD13	27:0:55:ILE:C	2.14	0.72
33:6:104:GLY:O	33:6:106:ALA:N	2.23	0.72
40:e:37:VAL:CB	40:e:38:ARG:HH11	2.02	0.72
42:g:41:HIS:ND1	52:t:96:C:H4'	2.05	0.72
51:s:1159:U:H4'	51:s:1160:G:OP1	1.89	0.72
52:t:1509:A:H2'	52:t:1510:G:C8	2.24	0.72
52:t:2304:G:H22	52:t:2312:U:H3	1.34	0.72
7:G:109:VAL:HG12	7:G:110:MET:H	1.52	0.72
15:O:76:LYS:O	15:O:76:LYS:HD3	1.89	0.72
21:U:83:ASP:OD2	21:U:90:ILE:HD11	1.90	0.72
26:Z:126:ARG:HA	26:Z:129:GLU:CD	2.14	0.72
37:b:50:LEU:H	37:b:50:LEU:CD1	2.01	0.72
37:b:73:ARG:O	37:b:74:ILE:HB	1.89	0.72
40:e:49:ASN:HB3	40:e:81:ILE:HG12	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:r:17:MET:O	50:r:21:GLU:HG3	1.89	0.72
51:s:204:G:H3'	51:s:205:A:C5'	2.19	0.72
51:s:206:C:H2'	51:s:207:C:H5'	1.72	0.72
51:s:1007:U:H3	51:s:1022:A:N6	1.86	0.72
51:s:1491:G:H5'	51:s:1492:A:OP2	1.89	0.72
52:t:2199:A:H2'	52:t:2199:A:N3	2.04	0.72
53:u:66:A:O2'	53:u:67:G:H5''	1.89	0.72
54:v:59:TRP:CE3	54:v:59:TRP:HA	2.24	0.72
4:D:155:LYS:HD2	4:D:156:ARG:N	2.05	0.72
13:M:68:ARG:HH11	13:M:68:ARG:HG2	1.52	0.72
24:X:147:ARG:HG2	24:X:148:VAL:HG22	1.72	0.72
25:Y:120:ILE:HD11	25:Y:140:ILE:HA	1.71	0.72
35:9:49:ILE:CD1	35:9:53:PHE:H	2.03	0.72
38:c:86:PHE:CD1	38:c:101:THR:HG21	2.25	0.72
40:e:39:GLN:C	40:e:41:GLY:H	1.95	0.72
40:e:67:LYS:O	40:e:68:PHE:HB2	1.90	0.72
50:o:15:SER:HB3	50:r:11:VAL:HG13	1.72	0.72
52:t:27:G:N2	52:t:512:G:O2'	2.18	0.72
52:t:162:U:H4'	52:t:163:C:OP1	1.89	0.72
52:t:2489:U:H2'	52:t:2490:G:O4'	1.88	0.72
52:t:2869:G:H2'	52:t:2870:C:C6	2.25	0.72
8:H:71:ILE:HD12	8:H:71:ILE:H	1.54	0.72
13:M:76:PHE:HE2	13:M:95:LEU:HD22	1.54	0.72
15:O:12:LYS:HG2	51:s:43:C:OP1	1.89	0.72
20:T:3:ILE:HG23	20:T:19:LYS:NZ	2.04	0.72
24:X:37:MET:CG	24:X:151:LEU:HD23	2.19	0.72
25:Y:22:VAL:HG22	25:Y:36:LEU:CD1	2.20	0.72
27:0:45:THR:CG2	27:0:50:THR:HG21	2.19	0.72
38:c:44:HIS:HD2	52:t:483:A:C8	2.07	0.72
43:h:53:MET:O	43:h:54:VAL:HG13	1.89	0.72
51:s:1129:C:H2'	51:s:1139:G:C6	2.23	0.72
51:s:1137:C:H5'	51:s:1138:G:OP1	1.89	0.72
52:t:1099:G:H2'	52:t:1100:C:O4'	1.89	0.72
54:v:300:VAL:H	54:v:318:MET:HG3	1.54	0.72
20:T:48:LYS:HD2	20:T:51:ALA:HB3	1.72	0.72
26:Z:96:LYS:H	26:Z:96:LYS:HD2	1.54	0.72
29:2:29:LYS:C	29:2:31:GLY:H	1.98	0.72
40:e:22:VAL:HG23	52:t:856:G:O2'	1.90	0.72
50:r:2:ILE:HD12	50:r:5:ASP:H	1.55	0.72
52:t:2238:G:H5''	52:t:2239:G:OP1	1.89	0.72
1:A:161:PHE:HA	1:A:183:PHE:O	1.90	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:166:TRP:HE3	2:B:166:TRP:H	1.38	0.72
5:E:85:ILE:H	5:E:85:ILE:HD13	1.53	0.72
12:L:73:SER:HA	12:L:76:ILE:CG1	2.19	0.72
16:P:12:VAL:HG11	16:P:21:VAL:HG13	1.70	0.72
22:V:91:THR:C	22:V:93:GLY:H	1.97	0.72
33:6:25:VAL:HG23	33:6:85:VAL:HA	1.72	0.72
49:n:137:ALA:O	49:n:141:ALA:HB2	1.89	0.72
51:s:1439:G:H1	51:s:1462:C:H42	1.37	0.72
52:t:1028:A:N6	52:t:1125:G:H2'	2.04	0.72
54:v:76:GLN:HE21	54:v:85:ASN:HD21	1.37	0.72
20:T:39:LYS:N	20:T:40:PRO:CD	2.52	0.71
21:U:12:ARG:HH11	21:U:12:ARG:HG3	1.55	0.71
21:U:38:LYS:HE2	21:U:56:GLY:O	1.90	0.71
22:V:151:THR:O	22:V:152:PRO:C	2.30	0.71
38:c:6:ARG:HD3	52:t:85:G:OP2	1.89	0.71
40:e:39:GLN:HG3	40:e:42:THR:N	2.04	0.71
51:s:539:A:H2'	51:s:540:G:C8	2.24	0.71
54:v:312:ARG:O	54:v:314:ARG:N	2.22	0.71
4:D:148:SER:HB2	4:D:151:MET:HB2	1.71	0.71
12:L:6:ILE:HD12	12:L:7:ASN:N	2.05	0.71
15:O:7:ALA:HB1	15:O:29:ASN:OD1	1.89	0.71
19:S:50:PHE:O	19:S:53:MET:HG3	1.89	0.71
23:W:178:VAL:HG13	23:W:179:SER:N	2.04	0.71
28:1:121:GLU:HG2	28:1:122:VAL:N	2.05	0.71
31:4:10:LEU:O	31:4:12:ARG:HG3	1.91	0.71
40:e:23:LYS:HE2	52:t:923:G:N3	2.05	0.71
49:n:87:GLU:CD	49:n:95:LEU:HG	2.15	0.71
50:r:13:ALA:O	50:r:18:ASP:HB2	1.90	0.71
51:s:8:A:H4'	51:s:9:G:OP1	1.90	0.71
51:s:641:U:O2'	51:s:642:A:H8	1.73	0.71
2:B:39:ARG:NH1	2:B:54:ILE:HG12	2.05	0.71
10:J:24:ALA:HB3	10:J:87:GLY:O	1.89	0.71
32:5:100:HIS:H	32:5:103:VAL:CG2	2.03	0.71
32:5:101:GLY:HA3	53:u:49:C:OP1	1.91	0.71
51:s:109:A:H2'	51:s:326:G:N2	2.05	0.71
51:s:505:G:H2'	51:s:506:G:H8	1.55	0.71
51:s:971:G:C5	51:s:1365:G:H5'	2.25	0.71
52:t:1735:A:H2'	52:t:1736:U:O4'	1.89	0.71
2:B:120:THR:HG23	2:B:188:ALA:HB2	1.73	0.71
3:C:145:ARG:NH1	3:C:147:LYS:HE3	2.02	0.71
4:D:100:GLU:HA	4:D:121:ASN:CB	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:28:ASN:ND2	10:J:56:LYS:HD2	2.04	0.71
26:Z:48:ILE:HD12	26:Z:49:GLU:N	2.06	0.71
36:a:20:VAL:CG1	36:a:47:VAL:HG11	2.20	0.71
37:b:50:LEU:O	37:b:51:PHE:HB2	1.89	0.71
51:s:58:C:O2'	51:s:59:A:H5'	1.90	0.71
51:s:936:C:H2'	51:s:937:A:O4'	1.90	0.71
52:t:395:U:O2'	52:t:396:G:C8	2.43	0.71
52:t:1045:C:H5''	52:t:1046:A:H5'	1.72	0.71
12:L:89:ARG:HH11	12:L:94:LEU:HB3	1.55	0.71
23:W:31:VAL:HG21	23:W:104:ALA:CB	2.20	0.71
23:W:75:SER:OG	23:W:77:ILE:HG12	1.90	0.71
24:X:35:LEU:HB3	24:X:153:ILE:HG22	1.73	0.71
49:n:162:LYS:NZ	50:q:19:VAL:HG21	2.05	0.71
52:t:404:A:O2'	52:t:405:U:OP2	2.07	0.71
52:t:1809:A:H2'	52:t:1810:A:C8	2.25	0.71
1:A:18:GLN:HG2	1:A:189:ASN:HB3	1.71	0.71
3:C:43:ARG:O	3:C:45:PRO:HD3	1.91	0.71
3:C:54:LEU:HD23	3:C:54:LEU:C	2.16	0.71
3:C:75:TYR:CE2	3:C:203:TYR:HB2	2.26	0.71
15:O:46:LYS:HZ2	15:O:48:GLU:H	1.38	0.71
21:U:151:GLY:C	21:U:152:GLN:HG3	2.15	0.71
22:V:40:LEU:H	22:V:40:LEU:CD1	2.03	0.71
23:W:7:ASP:CG	23:W:8:ALA:H	1.99	0.71
31:4:20:MET:HE2	52:t:1277:G:C5'	2.20	0.71
34:8:63:ARG:HH22	34:8:96:ASP:HA	1.52	0.71
40:e:52:CYS:HA	40:e:57:THR:O	1.91	0.71
45:j:8:ILE:HD12	45:j:24:LYS:HG2	1.71	0.71
48:m:6:SER:HB2	52:t:1031:G:C4'	2.21	0.71
48:m:15:LYS:O	48:m:16:ILE:HB	1.89	0.71
51:s:382:A:H2'	51:s:383:A:C8	2.24	0.71
51:s:509:A:N3	51:s:543:U:O2'	2.22	0.71
52:t:883:G:H2'	52:t:884:U:C6	2.25	0.71
52:t:1857:G:O2'	52:t:1858:A:P	2.49	0.71
54:v:92:HIS:HB3	54:v:95:PHE:HB3	1.71	0.71
4:D:104:ILE:HA	4:D:121:ASN:O	1.90	0.71
16:P:11:VAL:HG23	16:P:56:ASP:O	1.91	0.71
23:W:119:ILE:HD11	23:W:187:VAL:HG22	1.73	0.71
27:0:2:LYS:H	27:0:2:LYS:CD	2.03	0.71
35:9:38:VAL:HG23	35:9:54:VAL:HG22	1.72	0.71
36:a:13:SER:CB	36:a:16:LYS:HG3	2.19	0.71
40:e:71:LYS:N	40:e:71:LYS:HD2	2.06	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:j:34:GLU:HG2	45:j:49:LYS:HG3	1.71	0.71
51:s:328:C:H2'	51:s:328:C:O2	1.88	0.71
52:t:1367:A:H2'	52:t:1368:G:H5'	1.71	0.71
52:t:2425:A:H5''	52:t:2426:A:H3'	1.70	0.71
53:u:91:C:H2'	53:u:92:C:H6	1.55	0.71
54:v:60:MET:SD	54:v:61:GLU:N	2.64	0.71
31:4:56:LYS:HD2	31:4:88:ALA:HA	1.71	0.71
40:e:37:VAL:CG1	40:e:38:ARG:H	2.00	0.71
49:n:53:ARG:O	49:n:85:LEU:HD12	1.90	0.71
51:s:57:G:H2'	51:s:58:C:C6	2.25	0.71
51:s:497:G:OP2	54:v:480:LYS:CE	2.35	0.71
53:u:2:G:N3	53:u:2:G:H2'	2.04	0.71
2:B:107:LYS:NZ	2:B:107:LYS:HB2	2.06	0.71
9:I:56:HIS:HD2	51:s:973:G:H1'	1.56	0.71
27:0:45:THR:OG1	27:0:48:VAL:HB	1.89	0.71
31:4:4:ARG:O	52:t:2873:A:O2'	2.08	0.71
37:b:54:GLU:O	37:b:55:VAL:HB	1.91	0.71
51:s:834:U:H2'	51:s:835:U:C6	2.26	0.71
52:t:368:A:H2'	52:t:369:U:O4'	1.89	0.71
52:t:1266:G:O2'	52:t:1267:U:P	2.48	0.71
1:A:22:TRP:CZ3	1:A:24:PRO:HA	2.26	0.71
11:K:49:ARG:HH22	51:s:522:C:H41	1.38	0.71
16:P:11:VAL:HG12	16:P:12:VAL:N	2.06	0.71
18:R:28:LYS:HB3	18:R:29:PRO:HD2	1.71	0.71
29:2:85:VAL:HG21	29:2:94:THR:HG22	1.72	0.71
32:5:100:HIS:H	32:5:103:VAL:HG23	1.56	0.71
37:b:12:ARG:HG2	37:b:35:ALA:H	1.56	0.71
52:t:31:C:H2'	52:t:32:C:H5'	1.72	0.71
52:t:51:G:H1'	52:t:118:A:N6	2.05	0.71
52:t:167:A:H2'	52:t:168:G:O4'	1.90	0.71
24:X:161:SER:OG	24:X:163:GLU:HB3	1.91	0.70
31:4:31:HIS:CD2	52:t:1279:G:H4'	2.26	0.70
37:b:69:ARG:O	37:b:74:ILE:HD12	1.91	0.70
49:n:58:THR:C	49:n:60:LEU:H	1.98	0.70
51:s:411:A:C5	51:s:413:G:H1'	2.25	0.70
51:s:965:U:H5''	51:s:966:G:OP1	1.91	0.70
51:s:1126:U:H2'	51:s:1126:U:O2	1.91	0.70
51:s:1441:A:H62	51:s:1461:G:H21	1.38	0.70
52:t:479:A:H4'	52:t:480:A:H5'	1.73	0.70
52:t:1936:A:N6	52:t:1963:U:H3	1.88	0.70
53:u:40:U:H5''	53:u:41:G:OP2	1.89	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:u:49:C:H2'	53:u:50:A:C8	2.26	0.70
15:O:35:ARG:HB3	15:O:35:ARG:NH1	2.06	0.70
19:S:4:LYS:C	19:S:4:LYS:HD3	2.16	0.70
22:V:91:THR:O	22:V:93:GLY:N	2.19	0.70
22:V:136:ASN:HD21	22:V:139:SER:HB2	1.55	0.70
29:2:81:ASP:O	29:2:82:LEU:HD23	1.91	0.70
52:t:1545:A:H2'	52:t:1546:G:O4'	1.91	0.70
52:t:1559:U:H4'	52:t:1560:G:OP2	1.89	0.70
52:t:2103:C:N4	52:t:2186:G:H1	1.87	0.70
1:A:108:GLN:H	1:A:108:GLN:CD	1.99	0.70
21:U:140:VAL:CG1	21:U:189:ALA:HB1	2.20	0.70
24:X:32:LYS:HD2	24:X:89:THR:HG23	1.73	0.70
32:5:11:ALA:HB2	32:5:96:GLY:N	2.06	0.70
40:e:28:GLU:H	40:e:31:LEU:CD1	2.05	0.70
51:s:1441:A:H62	51:s:1461:G:N2	1.90	0.70
52:t:196:A:H2'	52:t:805:G:O6	1.90	0.70
52:t:986:C:H2'	52:t:987:C:H6	1.56	0.70
52:t:1062:G:H2'	52:t:1063:G:C8	2.27	0.70
52:t:2273:A:H2'	52:t:2274:A:C8	2.27	0.70
3:C:64:TYR:CD2	3:C:93:LEU:HD22	2.27	0.70
5:E:6:ILE:HD12	5:E:62:MET:HG2	1.73	0.70
5:E:90:MET:HG2	5:E:91:ARG:H	1.56	0.70
17:Q:56:ARG:NH1	51:s:735:C:OP1	2.23	0.70
19:S:50:PHE:HA	19:S:53:MET:HG2	1.73	0.70
28:1:47:ILE:HG23	28:1:48:PRO:HD2	1.72	0.70
33:6:22:GLY:O	33:6:109:ILE:HD11	1.91	0.70
41:f:31:ASN:OD1	41:f:33:HIS:NE2	2.24	0.70
45:j:33:LEU:H	45:j:51:ALA:CB	2.03	0.70
51:s:484:G:H4'	51:s:485:U:O5'	1.91	0.70
51:s:1493:A:H5'	51:s:1494:G:OP2	1.90	0.70
52:t:1501:G:O2'	52:t:1502:A:H5'	1.90	0.70
21:U:257:ARG:HG3	21:U:269:ARG:HH22	1.57	0.70
24:X:25:MET:C	24:X:27:VAL:H	2.00	0.70
24:X:58:ALA:HB1	24:X:139:GLU:HB3	1.72	0.70
27:0:17:VAL:HG23	27:0:137:PRO:HB2	1.74	0.70
29:2:111:ILE:CG2	29:2:112:LEU:H	2.03	0.70
38:c:73:ASN:HA	38:c:95:PHE:CE2	2.24	0.70
51:s:600:A:H2'	51:s:601:G:C8	2.26	0.70
51:s:971:G:C6	51:s:1365:G:H5'	2.26	0.70
51:s:1439:G:N2	51:s:1462:C:N3	2.39	0.70
52:t:2327:A:H3'	52:t:2328:A:H8	1.56	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:36:ILE:H	5:E:36:ILE:CD1	2.05	0.70
7:G:110:MET:SD	7:G:115:ALA:HA	2.30	0.70
23:W:37:ALA:C	23:W:39:ALA:H	1.97	0.70
28:1:73:ASP:O	33:6:74:GLN:HG3	1.92	0.70
43:h:23:LEU:HD12	43:h:28:LEU:HD12	1.72	0.70
51:s:1090:U:H2'	51:s:1091:U:H6	1.55	0.70
4:D:82:HIS:CG	7:G:95:MET:HE2	2.27	0.70
11:K:62:VAL:HG21	11:K:94:TYR:CE2	2.27	0.70
34:8:91:ARG:HH21	34:8:93:ILE:HG21	1.56	0.70
51:s:169:C:O2'	51:s:170:U:H5'	1.92	0.70
51:s:821:G:H2'	51:s:822:U:C6	2.26	0.70
52:t:1061:U:O2'	52:t:1070:A:H4'	1.92	0.70
52:t:1851:U:H2'	52:t:1852:U:O4'	1.91	0.70
52:t:2108:A:H3'	52:t:2180:U:H5	1.57	0.70
54:v:500:ASN:HB2	54:v:501:LEU:HG	1.74	0.70
4:D:106:ALA:HB2	4:D:124:ALA:HB3	1.73	0.70
9:I:22:THR:OG1	9:I:72:ARG:HG3	1.92	0.70
22:V:90:PHE:O	22:V:94:GLN:HB2	1.92	0.70
23:W:165:HIS:HB2	52:t:1205:A:N1	2.06	0.70
24:X:175:PRO:O	24:X:176:PHE:HB2	1.90	0.70
29:2:66:PHE:HB3	52:t:631:A:O2'	1.91	0.70
51:s:182:A:N7	51:s:184:G:C5	2.60	0.70
51:s:409:U:H2'	51:s:410:G:C8	2.27	0.70
52:t:2308:G:H2'	52:t:2310:C:H41	1.57	0.70
1:A:112:ARG:HH11	1:A:112:ARG:HG3	1.56	0.70
3:C:16:THR:HG22	3:C:17:ASP:H	1.56	0.70
11:K:49:ARG:HH11	11:K:89:LEU:HD21	1.54	0.70
16:P:13:SER:HB3	16:P:16:MET:HE1	1.74	0.70
21:U:68:ARG:HB3	21:U:68:ARG:NH1	2.06	0.70
34:8:63:ARG:HH11	34:8:99:VAL:HG23	1.57	0.70
34:8:71:ASN:HB3	34:8:109:VAL:HG11	1.74	0.70
34:8:91:ARG:HH11	35:9:11:GLN:N	1.89	0.70
52:t:221:A:H5''	52:t:222:A:O5'	1.92	0.70
52:t:1918:A:O2'	52:t:1919:A:N7	2.24	0.70
7:G:3:GLN:HA	51:s:587:G:H4'	1.74	0.70
8:H:111:GLU:HG2	8:H:114:LYS:HZ2	1.57	0.70
10:J:23:HIS:HB3	10:J:30:ILE:CG2	2.14	0.70
21:U:143:VAL:O	21:U:151:GLY:HA2	1.91	0.70
22:V:106:LYS:HB3	22:V:206:ALA:CB	2.18	0.70
24:X:72:SER:H	24:X:80:GLN:HB2	1.57	0.70
40:e:40:ARG:HB2	40:e:56:HIS:ND1	2.07	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:59:LEU:O	49:n:61:ARG:N	2.24	0.70
51:s:672:U:H2'	51:s:673:A:C8	2.27	0.70
52:t:1563:U:H2'	52:t:1564:C:C6	2.27	0.70
52:t:1680:U:H2'	52:t:1681:G:O4'	1.91	0.70
52:t:2852:G:H2'	52:t:2853:C:C6	2.27	0.70
1:A:141:GLU:CA	1:A:144:GLU:HB2	2.22	0.69
2:B:6:PRO:HB3	2:B:174:LEU:HD11	1.74	0.69
3:C:84:ASN:ND2	3:C:86:GLY:H	1.90	0.69
9:I:8:ILE:O	9:I:8:ILE:HG22	1.92	0.69
22:V:46:ARG:HH22	22:V:86:GLU:H	1.40	0.69
22:V:69:ALA:HA	22:V:73:VAL:HG22	1.74	0.69
25:Y:122:ALA:HB2	25:Y:132:LEU:HB3	1.74	0.69
33:6:104:GLY:C	33:6:106:ALA:H	2.00	0.69
34:8:91:ARG:HH12	35:9:10:LYS:HB3	1.57	0.69
35:9:24:LYS:HA	35:9:94:THR:HG23	1.74	0.69
51:s:914:A:O3'	56:z:6:5OH:HRA	1.91	0.69
51:s:1129:C:H2'	51:s:1139:G:O6	1.92	0.69
52:t:2146:C:O2	52:t:2146:C:H2'	1.91	0.69
52:t:2277:G:C3'	52:t:2278:A:H5''	2.22	0.69
2:B:155:ARG:NH2	51:s:1055:A:H1'	2.06	0.69
24:X:87:LYS:NZ	52:t:2314:A:OP1	2.24	0.69
26:Z:139:VAL:HG22	26:Z:141:ASP:H	1.57	0.69
52:t:458:G:O2'	52:t:459:U:P	2.49	0.69
52:t:775:G:H4'	52:t:776:G:O5'	1.92	0.69
52:t:1757:A:H3'	52:t:1758:U:H5'	1.74	0.69
10:J:22:ILE:HG22	10:J:31:VAL:HG22	1.73	0.69
21:U:69:ASN:O	21:U:71:ASP:N	2.25	0.69
29:2:127:VAL:HG11	29:2:142:ILE:HG21	1.75	0.69
49:n:55:VAL:CG1	49:n:57:ASN:HD21	2.04	0.69
52:t:2101:A:H2	52:t:2188:U:H3	1.37	0.69
3:C:109:THR:HG21	51:s:408:A:P	2.32	0.69
4:D:105:ILE:CG1	4:D:123:LEU:HA	2.22	0.69
8:H:50:PRO:HD3	8:H:79:ARG:HG2	1.74	0.69
8:H:64:ILE:HG21	8:H:78:ILE:HD12	1.74	0.69
18:R:35:ARG:HH21	18:R:74:ALA:HB3	1.57	0.69
23:W:79:ARG:HG2	23:W:80:SER:N	2.06	0.69
27:0:58:ASN:HA	27:0:126:ALA:O	1.91	0.69
46:k:5:PHE:CE1	46:k:7:PRO:HD3	2.27	0.69
49:n:136:ILE:HD12	49:n:136:ILE:H	1.55	0.69
51:s:815:A:H5''	51:s:817:C:N4	2.07	0.69
52:t:500:G:N2	52:t:502:A:H3'	2.08	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2277:G:H2'	52:t:2278:A:H5''	1.74	0.69
1:A:90:PHE:HD2	1:A:149:GLY:HA3	1.56	0.69
6:F:49:LEU:HD21	6:F:123:LEU:HD12	1.75	0.69
12:L:68:LEU:HD12	12:L:71:GLU:HB3	1.74	0.69
16:P:18:LYS:HD2	51:s:255:G:H4'	1.74	0.69
21:U:75:ALA:HB3	21:U:115:ILE:HG22	1.75	0.69
40:e:23:LYS:HD3	52:t:855:G:C1'	2.21	0.69
51:s:1258:G:H2'	51:s:1259:C:H6	1.58	0.69
54:v:399:ARG:HH22	54:v:448:VAL:HG21	1.57	0.69
2:B:18:ASN:H	13:M:90:GLY:HA3	1.57	0.69
8:H:15:ALA:O	8:H:66:VAL:HG23	1.92	0.69
9:I:5:ARG:O	9:I:6:ILE:HD13	1.92	0.69
12:L:89:ARG:HH11	12:L:94:LEU:CB	2.06	0.69
13:M:68:ARG:HH12	13:M:70:HIS:HB2	1.56	0.69
16:P:64:ARG:HB3	51:s:129:A:O2'	1.92	0.69
23:W:32:VAL:HG23	23:W:33:VAL:N	2.07	0.69
25:Y:66:THR:HG21	52:t:2757:A:N1	2.08	0.69
40:e:23:LYS:HG2	52:t:855:G:N3	2.08	0.69
40:e:30:VAL:HG23	40:e:60:ALA:O	1.93	0.69
45:j:49:LYS:HG2	45:j:50:GLU:H	1.57	0.69
51:s:299:G:H2'	51:s:300:A:C8	2.27	0.69
51:s:1070:U:O2'	51:s:1071:C:H5'	1.92	0.69
52:t:849:A:H2'	52:t:850:U:C6	2.26	0.69
52:t:1348:C:H2'	52:t:1349:C:H5'	1.74	0.69
52:t:2246:G:C2	52:t:2426:A:H1'	2.27	0.69
54:v:138:LEU:HD11	54:v:272:LEU:HD23	1.73	0.69
1:A:90:PHE:CD2	1:A:149:GLY:HA3	2.27	0.69
4:D:100:GLU:HA	4:D:121:ASN:HB2	1.74	0.69
4:D:152:VAL:O	4:D:154:ALA:N	2.26	0.69
9:I:41:PRO:O	9:I:42:LEU:HB2	1.91	0.69
9:I:44:THR:OG1	51:s:1151:A:H5''	1.92	0.69
23:W:178:VAL:HG13	23:W:179:SER:H	1.57	0.69
24:X:117:SER:C	24:X:119:LYS:H	2.01	0.69
28:1:64:ARG:HH12	28:1:101:GLY:CA	2.05	0.69
41:f:27:ARG:HH22	52:t:1365:A:P	2.16	0.69
51:s:265:G:N2	51:s:267:C:H5''	2.08	0.69
51:s:817:C:H4'	51:s:818:G:O5'	1.92	0.69
52:t:215:G:C4'	52:t:216:A:H4'	2.22	0.69
52:t:1482:G:H1	52:t:1507:C:N4	1.90	0.69
3:C:69:ARG:NE	3:C:69:ARG:HA	2.08	0.69
4:D:15:ILE:HG23	4:D:109:ALA:HA	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:29:PHE:CE2	21:U:31:PRO:HG2	2.28	0.69
21:U:80:LEU:HD13	21:U:109:LEU:HD12	1.75	0.69
23:W:165:HIS:CE1	52:t:1205:A:H2'	2.27	0.69
31:4:79:LEU:O	31:4:80:PHE:CB	2.40	0.69
31:4:83:LEU:H	31:4:83:LEU:HD12	1.58	0.69
32:5:40:ILE:HG12	32:5:47:VAL:HG12	1.74	0.69
34:8:91:ARG:CD	52:t:996:A:H4'	2.22	0.69
42:g:2:LYS:CB	52:t:102:U:H3	2.05	0.69
44:i:15:ARG:NE	52:t:1266:G:OP1	2.22	0.69
49:n:14:GLU:OE2	49:n:55:VAL:HB	1.93	0.69
51:s:81:A:N7	51:s:83:C:N4	2.41	0.69
51:s:915:A:OP1	56:z:6:5OH:HRA	1.93	0.69
51:s:1251:A:H2'	51:s:1252:A:H8	1.57	0.69
52:t:273:G:H2'	52:t:274:C:C6	2.28	0.69
52:t:877:A:H3'	52:t:895:U:O4	1.93	0.69
52:t:943:A:O2'	52:t:944:C:H5'	1.93	0.69
52:t:974:G:O2'	52:t:975:A:C8	2.45	0.69
52:t:1165:A:H2'	52:t:1166:G:H8	1.58	0.69
52:t:2314:A:H2'	52:t:2315:G:C8	2.27	0.69
2:B:50:SER:HB3	2:B:71:ARG:HB3	1.75	0.69
21:U:43:ASN:ND2	21:U:45:ASN:HB2	2.07	0.69
23:W:152:GLU:O	23:W:153:LEU:HG	1.93	0.69
28:1:113:MET:O	28:1:116:ILE:HG13	1.92	0.69
38:c:5:ARG:O	38:c:6:ARG:O	2.11	0.69
39:d:70:ILE:HD12	39:d:70:ILE:N	2.08	0.69
51:s:1070:U:H2'	51:s:1071:C:H6	1.57	0.69
2:B:149:LYS:HD2	2:B:200:TRP:CE3	2.27	0.69
4:D:124:ALA:O	51:s:8:A:H5'	1.92	0.69
10:J:30:ILE:HA	10:J:45:THR:HB	1.75	0.69
11:K:24:GLU:HB2	11:K:26:CYS:SG	2.32	0.69
17:Q:21:ASP:OD1	17:Q:23:LYS:HG3	1.93	0.69
32:5:51:ALA:HB3	32:5:78:VAL:CG1	2.22	0.69
33:6:83:ILE:HD13	33:6:83:ILE:C	2.17	0.69
34:8:60:TRP:O	34:8:63:ARG:HG3	1.92	0.69
35:9:14:VAL:HG23	35:9:18:GLN:NE2	2.07	0.69
49:n:93:ALA:HA	49:n:129:LEU:HB3	1.74	0.69
51:s:821:G:H2'	51:s:822:U:H6	1.57	0.69
51:s:1203:C:H2'	51:s:1204:A:H8	1.55	0.69
52:t:68:G:H2'	52:t:69:C:H6	1.58	0.69
52:t:511:U:H2'	52:t:512:G:H5'	1.75	0.69
52:t:2246:G:N2	52:t:2426:A:H1'	2.07	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2489:U:O2	52:t:2491:U:C4	2.46	0.69
1:A:96:LEU:HB2	1:A:99:MET:CE	2.21	0.68
3:C:121:ALA:HA	3:C:145:ARG:HG3	1.76	0.68
16:P:37:ILE:HG21	16:P:39:ARG:HH11	1.57	0.68
21:U:67:LYS:HG2	21:U:150:GLY:HA2	1.74	0.68
33:6:50:ARG:HB2	33:6:56:SER:CB	2.21	0.68
33:6:50:ARG:CB	33:6:57:ALA:N	2.55	0.68
34:8:87:VAL:HB	35:9:52:PRO:HD3	1.75	0.68
50:o:4:LYS:HA	50:o:4:LYS:HE2	1.74	0.68
51:s:374:A:H5''	51:s:452:A:C2	2.23	0.68
51:s:703:G:H5'	51:s:704:A:OP1	1.94	0.68
52:t:2848:G:O2'	52:t:2849:U:H5'	1.93	0.68
4:D:89:THR:HG22	4:D:90:GLY:N	2.07	0.68
10:J:22:ILE:HD13	10:J:22:ILE:H	1.58	0.68
11:K:2:THR:HB	11:K:5:GLN:HG3	1.75	0.68
15:O:50:THR:HG22	15:O:52:LEU:HD11	1.75	0.68
21:U:49:THR:OG1	52:t:1813:G:H1'	1.92	0.68
36:a:4:ILE:HD11	52:t:495:G:H5''	1.75	0.68
51:s:940:C:H2'	51:s:941:G:C8	2.28	0.68
52:t:215:G:H4'	52:t:216:A:H4'	1.73	0.68
4:D:33:THR:HB	4:D:49:TYR:CE2	2.28	0.68
8:H:18:VAL:HG22	8:H:64:ILE:HD12	1.73	0.68
20:T:4:LYS:O	20:T:4:LYS:HD2	1.92	0.68
22:V:182:ALA:O	22:V:183:GLU:HG3	1.94	0.68
24:X:91:ARG:HD2	53:u:43:C:O2	1.93	0.68
34:8:17:LEU:HD12	34:8:28:SER:O	1.94	0.68
41:f:77:TYR:HD1	41:f:77:TYR:C	2.00	0.68
52:t:2602:A:H4'	52:t:2603:G:OP2	1.92	0.68
1:A:128:LEU:O	1:A:129:THR:HG23	1.93	0.68
8:H:108:ARG:O	8:H:109:GLN:HG2	1.93	0.68
11:K:43:LYS:HD3	11:K:43:LYS:H	1.59	0.68
13:M:90:GLY:O	13:M:92:ILE:N	2.27	0.68
19:S:27:MET:HE2	19:S:31:ILE:HD11	1.73	0.68
22:V:52:THR:HG22	22:V:80:TRP:CZ3	2.26	0.68
22:V:120:GLY:HA2	22:V:162:ALA:CA	2.24	0.68
29:2:96:LYS:HD3	29:2:103:ILE:HA	1.74	0.68
31:4:96:ARG:NH2	31:4:116:VAL:HG23	2.08	0.68
43:h:31:ILE:O	43:h:31:ILE:HG12	1.92	0.68
51:s:450:G:N7	51:s:481:G:O6	2.26	0.68
51:s:674:G:H2'	51:s:675:A:H8	1.58	0.68
51:s:721:G:H4'	51:s:722:G:O5'	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:1067:A:O2'	51:s:1068:G:C8	2.47	0.68
52:t:2655:G:O2'	52:t:2656:U:P	2.52	0.68
2:B:4:VAL:HB	51:s:1190:G:OP2	1.94	0.68
2:B:54:ILE:HD13	2:B:54:ILE:N	2.08	0.68
4:D:10:LEU:HG	4:D:11:GLN:H	1.58	0.68
5:E:85:ILE:HD13	5:E:85:ILE:N	2.08	0.68
7:G:30:LYS:HG2	51:s:590:U:OP1	1.94	0.68
18:R:62:THR:HG22	18:R:63:ASP:N	2.07	0.68
21:U:75:ALA:HB3	21:U:115:ILE:CG2	2.24	0.68
21:U:94:LEU:HB2	21:U:100:ARG:HD3	1.76	0.68
51:s:1304:G:H21	51:s:1333:A:H62	1.41	0.68
1:A:19:THR:HG23	1:A:20:ARG:H	1.58	0.68
3:C:111:ALA:HB3	51:s:408:A:OP1	1.94	0.68
21:U:48:ILE:HG13	52:t:779:U:OP1	1.94	0.68
23:W:41:GLN:HE21	23:W:43:THR:HG21	1.59	0.68
24:X:21:TYR:HB3	24:X:26:GLN:HB3	1.75	0.68
49:n:136:ILE:HD11	50:o:30:PHE:HZ	1.59	0.68
51:s:66:A:H4'	51:s:173:U:C5	2.28	0.68
51:s:579:A:H2'	51:s:580:C:C6	2.28	0.68
52:t:321:U:O2'	52:t:340:A:O2'	2.11	0.68
52:t:736:C:H2'	52:t:737:C:H6	1.58	0.68
52:t:1559:U:O2	52:t:1559:U:H2'	1.93	0.68
52:t:2149:U:H2'	52:t:2150:C:H4'	1.76	0.68
20:T:33:ARG:CD	20:T:34:ARG:H	2.05	0.68
21:U:32:LEU:HD22	21:U:63:ILE:HB	1.74	0.68
32:5:35:ILE:HG22	32:5:53:THR:HG23	1.75	0.68
44:i:24:VAL:C	44:i:26:SER:H	2.02	0.68
48:m:27:CYS:HB3	48:m:33:HIS:HB2	1.76	0.68
50:q:14:MET:HB2	50:q:17:MET:HB2	1.75	0.68
51:s:207:C:H2'	51:s:208:U:C5	2.28	0.68
1:A:46:VAL:HB	1:A:47:PRO:HD3	1.74	0.68
3:C:35:GLN:O	3:C:36:ALA:HB2	1.92	0.68
5:E:39:LEU:O	5:E:40:GLU:HG3	1.94	0.68
9:I:67:ILE:HG12	13:M:94:GLY:O	1.93	0.68
9:I:89:ARG:NH1	9:I:89:ARG:HB2	2.09	0.68
13:M:46:LYS:C	13:M:48:GLN:H	2.02	0.68
24:X:168:LEU:O	24:X:169:LEU:HD12	1.94	0.68
47:l:56:LEU:HD21	52:t:834:G:C5'	2.23	0.68
51:s:1136:C:O2	51:s:1136:C:H2'	1.93	0.68
51:s:1441:A:N6	51:s:1461:G:H21	1.92	0.68
52:t:62:U:C4'	52:t:63:A:OP1	2.42	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:528:A:C2	52:t:2043:C:H4'	2.29	0.68
52:t:753:A:H2'	52:t:754:U:C6	2.29	0.68
52:t:1911:U:H2'	52:t:1918:A:N1	2.09	0.68
3:C:56:GLU:O	3:C:59:LYS:HB3	1.93	0.68
3:C:86:GLY:HA3	3:C:196:GLU:HB3	1.75	0.68
4:D:63:MET:O	4:D:66:ALA:HB3	1.94	0.68
6:F:66:GLU:N	6:F:69:ARG:HH21	1.92	0.68
6:F:121:ASN:O	6:F:125:ASP:HB2	1.94	0.68
21:U:23:LEU:CD1	21:U:24:HIS:H	2.07	0.68
29:2:81:ASP:O	29:2:83:ALA:N	2.26	0.68
32:5:102:ARG:HA	32:5:105:ALA:HB3	1.76	0.68
51:s:220:G:H2'	51:s:221:C:H6	1.59	0.68
51:s:328:C:O2'	51:s:329:A:OP2	2.11	0.68
51:s:1124:G:H2'	51:s:1145:A:H61	1.57	0.68
52:t:531:C:H5''	52:t:532:A:O4'	1.94	0.68
52:t:1020:A:O2'	52:t:1021:A:OP2	2.11	0.68
52:t:2837:A:H2'	52:t:2838:G:H8	1.59	0.68
3:C:16:THR:HG22	3:C:17:ASP:N	2.09	0.68
18:R:48:ILE:HD12	18:R:48:ILE:O	1.94	0.68
19:S:38:ILE:C	19:S:40:ALA:H	2.02	0.68
20:T:45:LYS:HE3	20:T:45:LYS:HA	1.76	0.68
21:U:16:VAL:HB	21:U:203:VAL:HG23	1.76	0.68
37:b:67:VAL:C	37:b:68:LYS:HG2	2.19	0.68
41:f:77:TYR:C	41:f:77:TYR:CD1	2.71	0.68
52:t:1682:G:H2'	52:t:1683:U:C6	2.29	0.68
5:E:6:ILE:CG2	5:E:7:VAL:H	2.02	0.67
12:L:21:ILE:O	12:L:24:VAL:HG22	1.95	0.67
15:O:53:ASP:HB3	15:O:56:ARG:HB2	1.76	0.67
23:W:5:LEU:HD12	23:W:10:SER:HB3	1.75	0.67
23:W:153:LEU:HD23	23:W:171:ASP:HB3	1.76	0.67
24:X:76:PHE:CE1	52:t:2310:C:H2'	2.28	0.67
24:X:92:GLY:O	24:X:95:MET:HB3	1.94	0.67
34:8:32:ARG:NH2	52:t:1252:G:H1'	2.07	0.67
37:b:39:THR:O	37:b:41:ALA:N	2.27	0.67
38:c:15:GLY:HA2	52:t:309:A:H4'	1.76	0.67
51:s:216:U:H2'	51:s:217:C:C6	2.29	0.67
51:s:1493:A:H5''	56:y:3:SER:OG	1.94	0.67
52:t:2016:U:H2'	52:t:2017:U:C6	2.28	0.67
54:v:472:ARG:HG3	54:v:504:ILE:H	1.59	0.67
2:B:156:LEU:HD11	2:B:163:ARG:O	1.93	0.67
5:E:3:HIS:CB	5:E:92:THR:HG23	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:42:TRP:CZ2	5:E:61:LEU:HB2	2.28	0.67
19:S:65:LEU:C	19:S:65:LEU:HD12	2.18	0.67
21:U:93:VAL:HB	21:U:103:ILE:HD13	1.74	0.67
23:W:43:THR:HA	52:t:38:A:HO2'	1.58	0.67
24:X:25:MET:HE2	24:X:25:MET:HA	1.76	0.67
43:h:5:LYS:N	43:h:5:LYS:HD2	2.09	0.67
51:s:1355:G:H2'	51:s:1356:G:C8	2.29	0.67
52:t:289:G:O2'	52:t:290:U:H5'	1.94	0.67
54:v:18:ILE:HG12	54:v:110:LEU:HD23	1.74	0.67
1:A:26:MET:HE3	1:A:29:PHE:CD2	2.29	0.67
2:B:10:ARG:NH2	2:B:181:ILE:HD12	2.09	0.67
24:X:39:VAL:HG13	24:X:40:GLY:N	2.09	0.67
25:Y:64:ALA:O	25:Y:67:ALA:HB3	1.95	0.67
33:6:50:ARG:CB	33:6:57:ALA:H	2.07	0.67
34:8:91:ARG:HD3	35:9:11:GLN:CG	2.24	0.67
37:b:73:ARG:HA	37:b:73:ARG:HH21	1.59	0.67
49:n:38:MET:O	49:n:42:ARG:HD2	1.95	0.67
51:s:792:A:H4'	51:s:793:U:O5'	1.95	0.67
52:t:2262:U:H2'	52:t:2263:C:C6	2.28	0.67
53:u:87:U:OP2	53:u:88:C:H5	1.77	0.67
54:v:80:HIS:ND1	54:v:81:ASP:OD1	2.27	0.67
1:A:148:GLY:O	1:A:151:LYS:HE2	1.94	0.67
8:H:90:ASP:OD2	8:H:92:SER:HB3	1.95	0.67
28:1:40:LYS:O	28:1:41:ILE:HD12	1.95	0.67
34:8:49:ARG:HG3	34:8:49:ARG:NH1	2.07	0.67
43:h:43:ILE:O	43:h:47:ILE:HG12	1.94	0.67
50:o:15:SER:HB3	50:r:11:VAL:CG1	2.24	0.67
51:s:328:C:O2'	51:s:329:A:P	2.52	0.67
51:s:397:A:N7	51:s:547:A:O2'	2.24	0.67
52:t:271:G:H4'	52:t:272:A:OP1	1.93	0.67
52:t:932:U:O2'	52:t:934:U:C4	2.47	0.67
52:t:2867:G:O2'	52:t:2868:A:OP2	2.12	0.67
54:v:399:ARG:NE	54:v:445:GLN:OE1	2.20	0.67
3:C:172:VAL:HG22	3:C:173:ASP:N	2.09	0.67
7:G:1:SER:HA	51:s:824:G:H1'	1.75	0.67
7:G:10:LEU:HD13	7:G:74:ILE:CD1	2.24	0.67
7:G:52:GLY:HA3	7:G:57:GLU:H	1.59	0.67
9:I:35:GLN:CG	9:I:78:GLU:HB2	2.24	0.67
12:L:89:ARG:HB3	12:L:94:LEU:O	1.94	0.67
19:S:78:LEU:O	19:S:82:ILE:HG23	1.94	0.67
21:U:58:LYS:CB	52:t:1568:G:H4'	2.25	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:14:ILE:HD11	22:V:22:ILE:HD12	1.75	0.67
25:Y:89:VAL:HG21	25:Y:162:ARG:NE	2.09	0.67
37:b:54:GLU:HB3	37:b:88:LYS:CG	2.25	0.67
48:m:36:ARG:HG2	48:m:37:GLN:N	2.06	0.67
49:n:29:ASP:HB2	49:n:56:ARG:NH2	2.09	0.67
51:s:47:C:H4'	51:s:48:C:O5'	1.95	0.67
51:s:246:A:H4'	51:s:247:G:OP1	1.94	0.67
51:s:274:A:O2'	51:s:275:G:H8	1.77	0.67
51:s:1125:U:OP2	51:s:1145:A:N6	2.27	0.67
1:A:114:LYS:HA	1:A:117:GLU:OE2	1.93	0.67
3:C:7:LYS:HG2	51:s:430:A:OP2	1.94	0.67
14:N:31:LEU:O	14:N:35:ILE:HG13	1.95	0.67
26:Z:89:SER:HA	26:Z:135:MET:CB	2.25	0.67
32:5:26:LEU:HD23	32:5:92:PHE:CD1	2.30	0.67
34:8:63:ARG:HH22	34:8:96:ASP:N	1.92	0.67
35:9:39:LEU:O	35:9:40:MET:HB2	1.94	0.67
35:9:101:ILE:O	35:9:101:ILE:HG22	1.94	0.67
40:e:39:GLN:NE2	40:e:43:LYS:HB2	2.10	0.67
51:s:770:C:O2'	51:s:771:G:H5'	1.95	0.67
51:s:920:U:H2'	51:s:921:U:C6	2.29	0.67
51:s:1021:A:H2'	51:s:1022:A:H5''	1.75	0.67
52:t:755:U:H2'	52:t:756:A:C8	2.30	0.67
52:t:2402:U:C2'	52:t:2403:C:H5''	2.24	0.67
54:v:130:THR:HG21	54:v:137:ILE:HD11	1.77	0.67
54:v:307:MET:HG3	54:v:308:ASP:HA	1.77	0.67
54:v:474:VAL:HG22	54:v:501:LEU:HD12	1.75	0.67
7:G:29:SER:HB3	7:G:32:LYS:HG3	1.76	0.67
7:G:46:GLU:N	7:G:63:LYS:HG3	2.09	0.67
12:L:78:ARG:O	12:L:82:LEU:HG	1.95	0.67
24:X:36:ASN:O	24:X:151:LEU:HB2	1.95	0.67
30:3:28:PHE:HB3	30:3:64:TRP:CE2	2.30	0.67
36:a:13:SER:HB3	36:a:16:LYS:HG3	1.76	0.67
45:j:9:LYS:HE2	45:j:50:GLU:OE2	1.95	0.67
49:n:37:LYS:CE	52:t:1085:A:H62	2.08	0.67
49:n:82:ILE:HG22	49:n:83:ALA:N	2.08	0.67
51:s:184:G:H2'	51:s:185:U:C6	2.30	0.67
51:s:414:A:H2'	51:s:415:A:C8	2.30	0.67
51:s:599:C:H2'	51:s:600:A:C8	2.29	0.67
51:s:1086:U:C4	51:s:1099:G:N2	2.63	0.67
51:s:1340:A:H2'	51:s:1341:U:O4'	1.94	0.67
52:t:1745:A:O2'	52:t:1746:A:H5'	1.93	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:56:LEU:O	1:A:56:LEU:HD13	1.95	0.67
10:J:54:SER:HB3	51:s:694:A:OP1	1.95	0.67
21:U:115:ILE:HD11	21:U:126:GLY:O	1.95	0.67
25:Y:76:ILE:O	25:Y:76:ILE:HD13	1.93	0.67
25:Y:155:PRO:O	25:Y:170:THR:HA	1.95	0.67
29:2:135:ILE:HG21	29:2:142:ILE:HD11	1.77	0.67
49:n:67:THR:N	49:n:68:PRO:HD3	2.10	0.67
50:o:11:VAL:CG2	50:r:15:SER:H	2.08	0.67
50:p:3:THR:HA	50:p:6:GLN:HB2	1.77	0.67
51:s:66:A:H5'	51:s:173:U:O4	1.95	0.67
51:s:527:G:O2'	51:s:535:A:N1	2.25	0.67
52:t:545:U:C2'	52:t:546:U:H5'	2.24	0.67
5:E:9:MET:HG3	5:E:85:ILE:HG12	1.75	0.67
5:E:64:VAL:CG1	5:E:65:GLU:H	2.06	0.67
8:H:105:ARG:HG3	51:s:1118:U:C5'	2.24	0.67
11:K:21:PRO:O	11:K:23:LEU:N	2.28	0.67
12:L:102:LYS:HA	51:s:1226:C:C4	2.30	0.67
18:R:57:VAL:HG21	18:R:74:ALA:HA	1.75	0.67
28:1:18:ARG:HB2	28:1:45:GLU:CG	2.23	0.67
42:g:39:GLN:HB2	42:g:42:LEU:HD13	1.77	0.67
51:s:1514:G:H2'	51:s:1515:G:C8	2.30	0.67
52:t:2271:G:H2'	52:t:2272:U:C6	2.30	0.67
52:t:2406:A:H4'	52:t:2407:A:H5''	1.76	0.67
1:A:165:ALA:HB3	1:A:190:SER:HB3	1.77	0.67
21:U:23:LEU:HD11	21:U:82:TYR:N	2.08	0.67
21:U:146:LYS:HB2	21:U:149:LYS:HB2	1.75	0.67
23:W:147:LEU:O	23:W:168:ASP:O	2.13	0.67
36:a:69:LEU:HA	36:a:108:SER:O	1.94	0.67
37:b:22:THR:HA	37:b:25:GLU:HB2	1.77	0.67
40:e:35:ILE:O	40:e:37:VAL:N	2.28	0.67
52:t:286:U:H2'	52:t:287:G:C8	2.30	0.67
52:t:633:A:H2'	52:t:634:C:H5'	1.75	0.67
52:t:768:G:O2'	52:t:769:U:H5'	1.95	0.67
52:t:2033:A:O2'	52:t:2035:G:OP2	2.12	0.67
22:V:133:THR:HG23	22:V:134:HIS:N	2.09	0.66
26:Z:100:ILE:HG23	26:Z:104:GLN:HB2	1.77	0.66
28:1:21:CYS:CB	28:1:39:ILE:HD11	2.24	0.66
28:1:91:SER:O	28:1:92:GLU:C	2.38	0.66
32:5:26:LEU:HD23	32:5:92:PHE:HD1	1.60	0.66
48:m:1:MET:HB2	48:m:34:LYS:O	1.95	0.66
52:t:997:G:O2'	52:t:998:C:H5'	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1692:U:H2'	52:t:1694:C:C5	2.30	0.66
52:t:1849:G:H2'	52:t:1850:G:H8	1.60	0.66
52:t:1968:G:N2	56:7:1:KBE:HNZA	1.91	0.66
52:t:2834:G:O6	52:t:2879:A:H2'	1.95	0.66
1:A:212:TYR:HA	1:A:215:ALA:HB3	1.76	0.66
20:T:24:LYS:C	20:T:26:GLY:H	2.02	0.66
21:U:143:VAL:HB	21:U:153:LEU:HB2	1.76	0.66
22:V:11:MET:HE1	22:V:192:ALA:HA	1.78	0.66
25:Y:9:VAL:O	25:Y:11:PRO:HD3	1.95	0.66
25:Y:33:THR:N	25:Y:34:ARG:HH11	1.89	0.66
30:3:96:ILE:HD11	30:3:126:ILE:CD1	2.25	0.66
37:b:70:HIS:HD2	37:b:73:ARG:HB2	1.60	0.66
43:h:2:LYS:HE2	43:h:2:LYS:HA	1.76	0.66
51:s:62:U:O2'	51:s:379:C:H1'	1.96	0.66
51:s:977:A:O3'	51:s:980:C:N4	2.27	0.66
51:s:1360:A:H2'	51:s:1361:G:C8	2.31	0.66
52:t:479:A:H4'	52:t:480:A:C5'	2.24	0.66
54:v:472:ARG:HD2	54:v:503:TYR:HB3	1.76	0.66
7:G:109:VAL:HG12	7:G:110:MET:N	2.10	0.66
8:H:11:ARG:HA	8:H:105:ARG:NH1	2.09	0.66
21:U:8:THR:O	21:U:9:SER:HB3	1.95	0.66
22:V:68:PHE:CD2	22:V:75:ALA:HA	2.31	0.66
23:W:161:ALA:C	23:W:163:ASN:H	2.02	0.66
27:0:44:TYR:HD2	34:8:63:ARG:HD3	1.61	0.66
33:6:112:ARG:C	33:6:113:LEU:HD23	2.20	0.66
49:n:26:VAL:HG13	49:n:82:ILE:HG23	1.77	0.66
51:s:962:C:H4'	51:s:1201:A:N6	2.10	0.66
51:s:1129:C:O2'	51:s:1130:A:N7	2.28	0.66
52:t:1183:U:H2'	52:t:1184:U:C6	2.31	0.66
52:t:1212:G:H2'	52:t:1236:G:N2	2.09	0.66
52:t:2888:C:H2'	52:t:2889:C:H6	1.60	0.66
54:v:108:CYS:SG	54:v:109:CYS:N	2.68	0.66
54:v:403:LEU:HD12	54:v:407:LEU:HD23	1.76	0.66
1:A:81:ASP:C	1:A:83:ALA:H	2.03	0.66
2:B:33:ASP:O	2:B:37:LYS:HB2	1.95	0.66
5:E:86:ARG:NH1	5:E:88:MET:HE3	2.10	0.66
9:I:80:THR:HB	9:I:83:THR:CB	2.25	0.66
16:P:74:LEU:C	16:P:74:LEU:HD12	2.21	0.66
20:T:39:LYS:N	20:T:40:PRO:HD2	2.09	0.66
22:V:118:PHE:O	22:V:120:GLY:N	2.27	0.66
23:W:136:GLN:HE22	23:W:139:LYS:HD3	1.61	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:76:ILE:HA	25:Y:79:THR:HB	1.75	0.66
25:Y:102:ILE:HG13	25:Y:116:LEU:HD21	1.76	0.66
26:Z:100:ILE:HD13	26:Z:105:LEU:HD11	1.77	0.66
27:O:99:ARG:O	27:O:103:ILE:HG23	1.95	0.66
40:e:37:VAL:CB	40:e:38:ARG:NH1	2.58	0.66
49:n:29:ASP:C	49:n:108:VAL:HG11	2.21	0.66
51:s:495:A:H4'	51:s:496:A:O5'	1.95	0.66
51:s:1169:A:H2'	51:s:1170:A:H8	1.61	0.66
52:t:732:C:H2'	52:t:733:G:O4'	1.95	0.66
52:t:1592:C:H2'	52:t:1593:A:C8	2.30	0.66
52:t:1673:G:H2'	52:t:1674:G:H5'	1.78	0.66
54:v:210:LEU:O	54:v:228:ARG:NH1	2.28	0.66
4:D:44:ARG:HG2	4:D:72:ASN:OD1	1.94	0.66
7:G:10:LEU:HD22	7:G:74:ILE:HD11	1.76	0.66
8:H:69:GLY:N	51:s:1250:A:H4'	2.05	0.66
9:I:57:VAL:HG22	9:I:58:ASN:N	2.08	0.66
23:W:44:ARG:HH21	23:W:44:ARG:HG3	1.60	0.66
27:O:124:VAL:O	27:O:125:TYR:HB2	1.95	0.66
32:5:51:ALA:HB3	32:5:78:VAL:HG12	1.76	0.66
36:a:4:ILE:HG12	36:a:5:ALA:N	2.09	0.66
48:m:14:CYS:SG	48:m:33:HIS:ND1	2.68	0.66
49:n:37:LYS:HZ3	52:t:1084:A:N6	1.92	0.66
49:n:157:ALA:O	49:n:161:ALA:HB3	1.96	0.66
51:s:868:C:H2'	51:s:869:G:O4'	1.96	0.66
51:s:889:A:H4'	51:s:890:G:OP1	1.95	0.66
52:t:2051:A:H61	52:t:2614:A:H2'	1.61	0.66
2:B:106:ARG:HD3	2:B:106:ARG:N	2.10	0.66
11:K:112:ALA:HB2	51:s:503:C:OP2	1.96	0.66
13:M:21:ALA:N	13:M:24:ALA:HB3	2.08	0.66
19:S:75:LYS:HD3	51:s:186:C:O4'	1.96	0.66
20:T:36:PHE:HB3	20:T:40:PRO:HD3	1.77	0.66
22:V:14:ILE:O	22:V:14:ILE:HD12	1.95	0.66
27:O:21:THR:H	27:O:23:LYS:NZ	1.94	0.66
29:2:30:THR:O	29:2:33:ARG:HG2	1.95	0.66
49:n:34:THR:O	49:n:38:MET:HG2	1.96	0.66
51:s:97:G:H2'	51:s:98:A:O4'	1.95	0.66
51:s:514:C:H2'	51:s:515:G:C8	2.30	0.66
53:u:40:U:O2'	53:u:43:C:C5	2.48	0.66
1:A:14:HIS:CG	1:A:14:HIS:O	2.49	0.66
4:D:82:HIS:ND1	7:G:95:MET:HE2	2.11	0.66
8:H:123:ARG:HH21	8:H:123:ARG:HG2	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:18:LEU:O	12:L:24:VAL:HG21	1.96	0.66
24:X:55:ASP:HA	24:X:140:ILE:HD11	1.77	0.66
29:2:127:VAL:HG12	29:2:132:ARG:HH21	1.60	0.66
37:b:1:MET:HE1	37:b:5:GLU:HB2	1.78	0.66
46:k:34:ARG:HB3	46:k:42:LEU:CD1	2.25	0.66
51:s:1324:A:C4'	51:s:1362:A:H4'	2.26	0.66
52:t:272:A:H61	52:t:365:U:H3	1.42	0.66
52:t:394:C:H2'	52:t:395:U:O4'	1.95	0.66
52:t:627:A:H4'	52:t:628:G:H5'	1.77	0.66
52:t:1378:A:O2'	52:t:1379:U:H3'	1.96	0.66
1:A:160:LEU:HD12	1:A:161:PHE:H	1.60	0.66
6:F:115:MET:HE2	6:F:119:LEU:HB2	1.78	0.66
7:G:34:ALA:O	7:G:38:VAL:HG23	1.96	0.66
16:P:79:GLU:C	16:P:80:LYS:HD3	2.20	0.66
24:X:46:LYS:HE2	24:X:46:LYS:N	2.09	0.66
40:e:28:GLU:CB	40:e:31:LEU:HD21	2.20	0.66
51:s:563:A:O2'	51:s:566:G:O2'	2.13	0.66
51:s:941:G:N2	51:s:942:G:H1'	2.10	0.66
52:t:796:C:H2'	52:t:797:G:H8	1.60	0.66
52:t:1275:A:H4'	52:t:1276:A:O5'	1.96	0.66
54:v:522:GLN:CB	54:v:523:PHE:HB2	2.26	0.66
1:A:110:ILE:N	1:A:110:ILE:HD12	2.11	0.66
2:B:15:LYS:HE3	2:B:180:ASP:OD1	1.96	0.66
2:B:110:LEU:HD21	2:B:143:LEU:HG	1.77	0.66
3:C:23:GLY:O	3:C:160:LEU:HD13	1.96	0.66
12:L:90:HIS:CE1	12:L:108:ARG:HH21	2.14	0.66
12:L:96:VAL:N	51:s:1308:U:OP1	2.27	0.66
21:U:199:HIS:HD2	52:t:1820:U:O2'	1.78	0.66
23:W:175:ILE:HG23	23:W:175:ILE:O	1.96	0.66
24:X:102:LEU:HD22	24:X:106:ALA:HB3	1.78	0.66
31:4:2:ARG:HG2	31:4:2:ARG:HH11	1.61	0.66
31:4:70:THR:HB	31:4:75:ILE:HD11	1.78	0.66
36:a:13:SER:O	36:a:14:ALA:HB3	1.96	0.66
36:a:25:ARG:NH1	36:a:25:ARG:CB	2.59	0.66
37:b:32:LEU:H	37:b:83:ALA:CB	2.08	0.66
49:n:143:MET:C	49:n:145:GLU:H	2.04	0.66
50:q:11:VAL:HG13	50:r:29:LYS:NZ	2.10	0.66
52:t:809:G:H2'	52:t:810:U:H6	1.60	0.66
52:t:1126:A:H8	52:t:1126:A:OP1	1.79	0.66
52:t:1130:U:O2'	52:t:1131:G:C8	2.43	0.66
52:t:2103:C:H2'	52:t:2104:C:C6	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:44:LYS:O	1:A:48:MET:HB2	1.96	0.66
10:J:125:LYS:O	20:T:33:ARG:CZ	2.44	0.66
16:P:51:GLU:H	16:P:51:GLU:CD	2.03	0.66
19:S:29:THR:O	19:S:33:LYS:HE3	1.95	0.66
21:U:80:LEU:CD1	21:U:109:LEU:HD12	2.26	0.66
21:U:116:GLN:HG2	21:U:117:SER:H	1.61	0.66
23:W:48:THR:HG22	23:W:86:ALA:HB3	1.77	0.66
23:W:119:ILE:HD13	23:W:119:ILE:H	1.61	0.66
23:W:131:THR:CG2	23:W:160:ALA:HA	2.23	0.66
29:2:29:LYS:O	29:2:31:GLY:N	2.29	0.66
31:4:73:ASN:O	31:4:76:VAL:HG12	1.96	0.66
37:b:28:ASN:OD1	37:b:29:THR:HG22	1.96	0.66
43:h:24:LEU:HD23	43:h:24:LEU:C	2.21	0.66
49:n:37:LYS:HB3	49:n:41:LEU:HD12	1.77	0.66
49:n:146:ALA:O	49:n:150:LYS:HE3	1.95	0.66
51:s:641:U:O2'	51:s:642:A:C8	2.46	0.66
51:s:818:G:H3'	51:s:819:A:C5'	2.25	0.66
51:s:968:A:H2	51:s:1061:G:H21	1.44	0.66
51:s:1096:C:H2'	51:s:1097:C:C6	2.31	0.66
51:s:1491:G:C5'	51:s:1492:A:OP2	2.44	0.66
52:t:100:U:H4'	52:t:101:A:O5'	1.96	0.66
54:v:64:LYS:HE2	54:v:71:THR:H	1.60	0.66
10:J:93:GLU:O	10:J:96:ILE:HG13	1.96	0.65
19:S:21:ALA:O	19:S:25:SER:HB2	1.96	0.65
23:W:36:ALA:O	23:W:39:ALA:HB3	1.96	0.65
27:0:22:GLY:O	27:0:63:ALA:HB2	1.96	0.65
34:8:60:TRP:CZ2	34:8:93:ILE:HB	2.30	0.65
51:s:715:A:H2'	51:s:716:A:C8	2.30	0.65
51:s:715:A:H2'	51:s:716:A:H8	1.61	0.65
51:s:1251:A:H2'	51:s:1252:A:C8	2.31	0.65
51:s:1435:G:H2'	51:s:1436:U:C6	2.31	0.65
52:t:71:A:O2'	52:t:72:U:OP2	2.13	0.65
52:t:528:A:C2	52:t:2042:A:H2'	2.31	0.65
52:t:1713:A:H4'	52:t:1714:U:OP1	1.96	0.65
52:t:2155:U:H2'	52:t:2156:G:N2	2.11	0.65
2:B:1:GLY:HA3	51:s:1060:U:C5	2.32	0.65
24:X:37:MET:HB2	24:X:86:CYS:SG	2.36	0.65
25:Y:137:LYS:HA	25:Y:140:ILE:HD11	1.76	0.65
34:8:91:ARG:CZ	52:t:996:A:H5'	2.25	0.65
36:a:18:ARG:HG3	36:a:76:VAL:HG13	1.77	0.65
37:b:54:GLU:HB3	37:b:88:LYS:HG3	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:2:A:N6	51:s:3:A:N1	2.44	0.65
51:s:812:G:O2'	51:s:813:U:P	2.54	0.65
52:t:936:A:H2'	52:t:937:C:H6	1.61	0.65
53:u:59:A:H2'	53:u:60:C:H6	1.61	0.65
2:B:179:ALA:HB1	2:B:202:PHE:HE1	1.60	0.65
7:G:24:VAL:HG23	7:G:62:LEU:HD21	1.78	0.65
9:I:5:ARG:HA	9:I:5:ARG:HH11	1.62	0.65
20:T:3:ILE:HG22	20:T:3:ILE:O	1.97	0.65
21:U:80:LEU:HD21	21:U:109:LEU:HB2	1.79	0.65
23:W:147:LEU:HD23	23:W:183:PHE:CE1	2.31	0.65
24:X:55:ASP:HB3	24:X:59:ILE:HD11	1.77	0.65
24:X:55:ASP:O	24:X:59:ILE:HG13	1.96	0.65
28:1:19:VAL:CG2	28:1:41:ILE:HG13	2.25	0.65
39:d:63:ILE:HG22	39:d:70:ILE:HD13	1.77	0.65
51:s:1032:G:C2'	51:s:1033:G:H5'	2.26	0.65
51:s:1347:G:H22	51:s:1373:G:H2'	1.61	0.65
52:t:995:C:O2'	52:t:996:A:OP2	2.15	0.65
53:u:39:A:H2'	53:u:40:U:C6	2.31	0.65
5:E:38:ARG:HH21	5:E:96:VAL:HG23	1.61	0.65
13:M:8:ARG:CB	13:M:12:ARG:HH12	2.05	0.65
18:R:29:PRO:HA	18:R:47:THR:O	1.96	0.65
21:U:252:LYS:HE3	52:t:1901:A:OP2	1.97	0.65
35:9:49:ILE:HD12	35:9:52:PRO:CA	2.25	0.65
42:g:47:ARG:HH21	42:g:47:ARG:HG3	1.59	0.65
43:h:8:GLN:CG	43:h:31:ILE:HA	2.19	0.65
49:n:55:VAL:HG13	52:t:1084:A:C5'	2.12	0.65
51:s:512:U:H2'	51:s:513:C:C6	2.32	0.65
52:t:275:C:H2'	52:t:276:U:C4'	2.25	0.65
52:t:1775:U:O4	52:t:1789:A:H2	1.80	0.65
52:t:2320:U:H4'	52:t:2321:U:H6	1.60	0.65
54:v:403:LEU:HG	54:v:412:LEU:HG	1.77	0.65
2:B:177:LEU:HD22	2:B:177:LEU:H	1.60	0.65
3:C:104:MET:HG2	3:C:170:LEU:HD22	1.79	0.65
12:L:101:THR:HG22	12:L:105:ALA:CB	2.27	0.65
12:L:109:LYS:HE2	51:s:1227:A:OP2	1.95	0.65
21:U:93:VAL:HG13	21:U:94:LEU:N	2.10	0.65
21:U:219:VAL:HG12	21:U:224:MET:CE	2.27	0.65
22:V:5:VAL:HG22	22:V:202:ILE:HD13	1.78	0.65
34:8:57:ARG:NH1	52:t:1154:G:OP2	2.29	0.65
41:f:76:LYS:HG3	41:f:77:TYR:H	1.62	0.65
51:s:542:G:O2'	51:s:543:U:H5'	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:372:G:HO2'	52:t:373:U:P	2.19	0.65
52:t:630:G:N2	52:t:633:A:OP2	2.27	0.65
52:t:1458:U:H4'	52:t:1459:G:O5'	1.97	0.65
52:t:2502:G:H5'	52:t:2503:A:C5'	2.25	0.65
1:A:66:ILE:HD12	1:A:66:ILE:N	2.11	0.65
3:C:172:VAL:HG22	3:C:173:ASP:H	1.62	0.65
9:I:71:LEU:O	9:I:72:ARG:HD3	1.97	0.65
18:R:11:ASP:OD1	18:R:34:SER:HB2	1.96	0.65
18:R:13:HIS:O	18:R:17:LYS:HE2	1.96	0.65
22:V:64:GLU:O	22:V:68:PHE:HD1	1.80	0.65
22:V:116:LYS:HG3	22:V:165:MET:CE	2.27	0.65
25:Y:53:PRO:HD3	25:Y:61:TRP:CZ3	2.32	0.65
30:3:35:ALA:HB3	30:3:99:GLY:H	1.61	0.65
36:a:60:HIS:ND1	36:a:60:HIS:O	2.29	0.65
39:d:4:ILE:HG21	39:d:47:VAL:HG22	1.78	0.65
52:t:2325:G:OP1	52:t:2325:G:H3'	1.96	0.65
54:v:401:ILE:HD11	54:v:438:VAL:HG21	1.78	0.65
1:A:49:PHE:HB2	1:A:212:TYR:OH	1.96	0.65
3:C:124:VAL:HG11	3:C:134:TYR:CE2	2.31	0.65
10:J:57:SER:O	10:J:90:PRO:HG3	1.97	0.65
11:K:115:LYS:C	11:K:117:GLY:H	2.05	0.65
16:P:5:ARG:NH1	16:P:5:ARG:HB3	2.12	0.65
16:P:60:ILE:HG22	16:P:72:TRP:HE3	1.60	0.65
18:R:13:HIS:CE1	51:s:1014:A:H4'	2.32	0.65
25:Y:15:ASP:OD2	25:Y:26:LYS:HG2	1.95	0.65
36:a:86:MET:HE3	36:a:87:PRO:HD2	1.78	0.65
39:d:72:VAL:HG21	39:d:91:PHE:HB3	1.77	0.65
41:f:33:HIS:O	41:f:34:SER:C	2.40	0.65
49:n:44:ALA:HA	49:n:48:ALA:CB	2.19	0.65
51:s:461:A:H2'	51:s:461:A:N3	2.10	0.65
51:s:548:G:H2'	51:s:549:C:O4'	1.97	0.65
52:t:1288:G:C4	52:t:1327:A:C2	2.84	0.65
3:C:97:LEU:HD22	3:C:117:VAL:HG11	1.77	0.65
20:T:39:LYS:HB3	20:T:39:LYS:HZ3	1.60	0.65
28:1:21:CYS:SG	28:1:39:ILE:HD11	2.36	0.65
28:1:70:ARG:O	28:1:71:ARG:HB2	1.95	0.65
30:3:57:VAL:HA	30:3:112:LEU:HD21	1.79	0.65
35:9:39:LEU:HB3	35:9:49:ILE:HD13	1.78	0.65
37:b:10:VAL:O	37:b:12:ARG:HD2	1.97	0.65
39:d:31:TYR:O	39:d:92:VAL:HA	1.97	0.65
45:j:10:LEU:HB2	45:j:20:TYR:HB2	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:810:C:O2'	51:s:811:C:H5'	1.97	0.65
51:s:951:G:O2'	51:s:972:C:N4	2.29	0.65
51:s:1426:G:H2'	51:s:1427:C:O4'	1.97	0.65
52:t:120:U:H4'	52:t:121:G:O5'	1.95	0.65
52:t:613:A:H3'	52:t:614:A:H5''	1.78	0.65
52:t:1708:C:H2'	52:t:1709:U:C6	2.31	0.65
1:A:19:THR:HA	1:A:37:VAL:HG23	1.78	0.65
2:B:32:LEU:HD23	13:M:76:PHE:O	1.97	0.65
10:J:20:ALA:HA	10:J:33:ILE:HD13	1.79	0.65
12:L:77:LYS:HA	12:L:80:MET:HE3	1.79	0.65
13:M:46:LYS:O	18:R:12:LEU:HD11	1.97	0.65
19:S:63:LYS:HE2	51:s:196:A:OP1	1.97	0.65
21:U:66:PHE:HB3	21:U:150:GLY:O	1.96	0.65
21:U:255:LYS:O	21:U:257:ARG:N	2.30	0.65
24:X:33:ILE:HD13	24:X:95:MET:HG3	1.78	0.65
27:0:21:THR:HA	27:0:61:LYS:O	1.96	0.65
31:4:31:HIS:HD2	52:t:1279:G:H4'	1.60	0.65
31:4:65:LEU:HD11	31:4:69:ARG:NH2	2.11	0.65
33:6:24:THR:CG2	33:6:87:ARG:HB3	2.27	0.65
34:8:91:ARG:HD3	35:9:11:GLN:CB	2.27	0.65
35:9:21:ARG:C	35:9:22:LEU:HD23	2.22	0.65
37:b:34:VAL:HG23	37:b:34:VAL:O	1.96	0.65
41:f:71:ARG:NH1	41:f:71:ARG:HB2	2.11	0.65
49:n:57:ASN:C	49:n:59:LEU:H	2.05	0.65
51:s:184:G:H2'	51:s:185:U:H6	1.60	0.65
51:s:982:U:O2'	51:s:983:A:OP2	2.14	0.65
51:s:1068:G:H2'	51:s:1069:C:H5'	1.78	0.65
52:t:613:A:H3'	52:t:614:A:C5'	2.26	0.65
52:t:1678:A:H2'	52:t:1679:A:C8	2.25	0.65
52:t:2315:G:O2'	52:t:2316:G:H5'	1.95	0.65
5:E:18:VAL:HG21	5:E:58:HIS:CD2	2.32	0.65
6:F:67:ASN:HD22	6:F:129:ASN:HB3	1.62	0.65
7:G:6:ILE:HD11	7:G:31:LEU:HD23	1.78	0.65
19:S:2:ASN:O	19:S:4:LYS:N	2.30	0.65
21:U:156:SER:O	21:U:194:VAL:HG11	1.97	0.65
23:W:159:LEU:N	23:W:159:LEU:HD12	2.12	0.65
26:Z:48:ILE:O	26:Z:49:GLU:HB2	1.96	0.65
36:a:13:SER:O	36:a:14:ALA:CB	2.45	0.65
51:s:1298:U:H5'	51:s:1299:A:C8	2.32	0.65
51:s:1322:C:O2'	51:s:1323:G:H5'	1.97	0.65
54:v:19:ILE:HB	54:v:126:LEU:HD13	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:445:GLN:O	54:v:463:TYR:OH	2.11	0.65
15:O:6:LEU:HD13	15:O:71:VAL:HG22	1.78	0.64
23:W:98:LYS:O	23:W:102:ARG:HG2	1.97	0.64
33:6:56:SER:O	33:6:75:THR:HG22	1.96	0.64
39:d:78:GLN:O	39:d:87:GLN:HB2	1.97	0.64
43:h:15:ARG:N	43:h:15:ARG:HH11	1.94	0.64
47:l:29:ARG:HD2	52:t:2394:C:OP2	1.96	0.64
49:n:34:THR:HG23	52:t:1055:G:O3'	1.97	0.64
49:n:123:ILE:HD13	49:n:124:ASP:N	2.12	0.64
51:s:55:A:N3	54:v:310:LYS:O	2.30	0.64
51:s:1170:A:H2'	51:s:1171:A:O4'	1.97	0.64
52:t:205:G:O2'	52:t:206:U:P	2.55	0.64
52:t:435:C:H2'	52:t:436:C:H5'	1.78	0.64
52:t:654:A:N3	52:t:654:A:H3'	2.11	0.64
52:t:2138:G:N3	52:t:2138:G:H2'	2.12	0.64
52:t:2811:G:H2'	52:t:2812:G:O4'	1.96	0.64
1:A:15:PHE:O	1:A:40:ILE:HG12	1.98	0.64
3:C:131:ILE:HD13	3:C:131:ILE:H	1.61	0.64
8:H:86:LEU:O	8:H:86:LEU:HD23	1.96	0.64
11:K:88:ASP:HB3	11:K:89:LEU:HD22	1.79	0.64
13:M:40:ARG:HH12	13:M:44:VAL:CG2	2.10	0.64
21:U:100:ARG:O	21:U:101:ARG:HG3	1.98	0.64
23:W:87:ALA:O	23:W:88:ARG:HD3	1.98	0.64
27:0:6:ALA:CB	27:0:45:THR:HG21	2.26	0.64
28:1:63:VAL:O	28:1:64:ARG:HG3	1.98	0.64
28:1:80:ASP:OD2	33:6:61:ARG:NH1	2.28	0.64
48:m:19:ARG:NH1	52:t:2755:C:C4	2.65	0.64
51:s:577:G:H2'	51:s:578:C:H6	1.63	0.64
51:s:729:A:H2'	51:s:730:G:H8	1.60	0.64
51:s:1067:A:N1	51:s:1108:G:O2'	2.30	0.64
52:t:282:A:H2'	52:t:283:G:C8	2.32	0.64
52:t:2519:U:C4'	52:t:2520:C:OP1	2.45	0.64
4:D:81:GLN:CD	4:D:149:PRO:HG3	2.23	0.64
11:K:25:ALA:HB1	51:s:554:A:H5'	1.78	0.64
11:K:66:ILE:HD13	11:K:96:THR:CG2	2.27	0.64
13:M:86:ALA:HB1	13:M:91:GLU:CB	2.27	0.64
21:U:58:LYS:HB3	52:t:1568:G:H4'	1.78	0.64
22:V:114:LYS:HE2	52:t:2680:U:P	2.38	0.64
23:W:153:LEU:C	23:W:153:LEU:HD12	2.21	0.64
24:X:3:LEU:HD23	24:X:100:GLU:OE2	1.96	0.64
27:0:17:VAL:CG1	27:0:57:LEU:HD23	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:3:18:ARG:HG3	53:u:90:C:H5'	1.77	0.64
32:5:36:TYR:HA	32:5:52:SER:HB3	1.79	0.64
33:6:25:VAL:HG22	33:6:84:SER:O	1.97	0.64
35:9:68:ARG:NH1	35:9:90:ARG:HD3	2.12	0.64
39:d:62:THR:HA	39:d:71:LYS:HA	1.80	0.64
42:g:37:LEU:HD23	42:g:37:LEU:C	2.23	0.64
51:s:605:U:H2'	51:s:606:G:C8	2.23	0.64
51:s:672:U:H2'	51:s:673:A:H8	1.59	0.64
51:s:801:U:O2'	51:s:802:A:H5'	1.97	0.64
52:t:1584:U:H2'	52:t:1585:C:H5'	1.79	0.64
52:t:2277:G:C2'	52:t:2278:A:H5''	2.27	0.64
54:v:158:VAL:HG13	54:v:162:LEU:HD12	1.79	0.64
2:B:96:VAL:HB	2:B:97:PRO:HD2	1.80	0.64
9:I:35:GLN:CG	9:I:77:VAL:HB	2.28	0.64
11:K:66:ILE:HG21	11:K:71:HIS:HD2	1.61	0.64
12:L:100:ARG:O	12:L:101:THR:HG23	1.97	0.64
16:P:47:ASP:OD2	16:P:47:ASP:N	2.30	0.64
21:U:136:VAL:HG23	21:U:166:ARG:NH2	2.12	0.64
25:Y:115:GLN:CD	25:Y:115:GLN:H	2.05	0.64
27:0:12:LYS:O	27:0:13:ARG:HB2	1.96	0.64
33:6:28:LYS:HE3	33:6:28:LYS:H	1.62	0.64
50:o:19:VAL:O	50:o:23:ILE:HG12	1.97	0.64
50:q:12:ALA:O	50:q:14:MET:N	2.31	0.64
50:r:3:THR:O	50:r:7:ILE:HG13	1.96	0.64
51:s:181:A:O2'	51:s:182:A:O5'	2.15	0.64
52:t:204:A:H4'	52:t:205:G:OP1	1.96	0.64
52:t:780:G:N2	52:t:783:A:H62	1.95	0.64
52:t:1059:G:H5''	52:t:1060:U:H3'	1.77	0.64
2:B:52:SER:HB3	2:B:114:LEU:HG	1.79	0.64
6:F:99:ALA:O	6:F:103:ILE:HG13	1.98	0.64
7:G:79:ARG:HB2	7:G:80:PRO:HD2	1.80	0.64
10:J:43:TRP:CE2	51:s:686:U:H1'	2.32	0.64
21:U:142:ASN:HA	21:U:153:LEU:O	1.98	0.64
24:X:23:SER:C	24:X:25:MET:H	2.05	0.64
36:a:13:SER:OG	36:a:16:LYS:N	2.22	0.64
43:h:11:SER:HB3	52:t:988:A:P	2.37	0.64
50:o:13:ALA:O	50:o:17:MET:HB2	1.97	0.64
51:s:477:C:H2'	51:s:478:A:C8	2.32	0.64
51:s:1101:A:H4'	51:s:1102:A:O5'	1.96	0.64
51:s:1225:A:N3	51:s:1225:A:H2'	2.12	0.64
52:t:1786:A:O2'	52:t:1938:A:N6	2.29	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2689:U:H5''	52:t:2690:U:OP2	1.97	0.64
53:u:12:C:H4'	53:u:13:G:OP1	1.95	0.64
1:A:18:GLN:HG2	1:A:189:ASN:ND2	2.12	0.64
2:B:119:ILE:HG13	2:B:132:ALA:HB1	1.80	0.64
9:I:42:LEU:HD11	9:I:73:LEU:HD23	1.79	0.64
15:O:7:ALA:O	15:O:17:TYR:HA	1.97	0.64
15:O:52:LEU:O	15:O:54:LEU:HD12	1.98	0.64
23:W:130:LYS:HB2	23:W:133:LEU:HD12	1.79	0.64
23:W:136:GLN:NE2	23:W:139:LYS:HD3	2.11	0.64
24:X:116:LEU:HD23	24:X:175:PRO:HB2	1.79	0.64
25:Y:22:VAL:HG22	25:Y:36:LEU:HD12	1.79	0.64
32:5:66:GLY:HA3	32:5:102:ARG:NH1	2.12	0.64
32:5:88:LYS:O	32:5:89:ASP:HB2	1.97	0.64
40:e:19:ARG:NH2	40:e:22:VAL:HG21	2.13	0.64
40:e:20:LEU:CD1	52:t:2355:G:H4'	2.28	0.64
49:n:78:GLY:N	49:n:79:PRO:CD	2.58	0.64
50:o:22:LEU:HA	50:o:25:ALA:HB3	1.79	0.64
51:s:7:A:H1'	51:s:298:A:C8	2.33	0.64
51:s:205:A:OP1	51:s:205:A:H4'	1.98	0.64
51:s:452:A:N6	51:s:480:U:N3	2.45	0.64
52:t:1211:C:H4'	52:t:1212:G:OP2	1.98	0.64
52:t:1536:C:H5'	52:t:1537:G:OP1	1.96	0.64
52:t:2733:A:O2'	52:t:2734:A:H5'	1.98	0.64
54:v:149:ARG:NH1	54:v:157:GLU:OE1	2.31	0.64
2:B:21:TRP:CE2	13:M:93:PRO:HG2	2.33	0.64
4:D:114:LEU:O	4:D:119:VAL:HG22	1.96	0.64
6:F:14:ASP:H	6:F:19:SER:H	1.45	0.64
11:K:33:CYS:HB3	11:K:76:HIS:O	1.98	0.64
12:L:82:LEU:HD22	18:R:65:MET:SD	2.37	0.64
12:L:84:CYS:HB3	18:R:73:PHE:CZ	2.33	0.64
16:P:20:ILE:HG23	16:P:20:ILE:O	1.96	0.64
20:T:33:ARG:HD3	20:T:34:ARG:HB2	1.77	0.64
28:1:121:GLU:HG2	28:1:122:VAL:H	1.59	0.64
49:n:27:VAL:HG13	49:n:110:ALA:HA	1.79	0.64
52:t:447:A:N1	52:t:454:A:H2'	2.13	0.64
52:t:1857:G:N2	52:t:1884:G:H2'	2.13	0.64
52:t:1859:U:H2'	52:t:1860:G:C8	2.32	0.64
1:A:68:PHE:H	1:A:90:PHE:HA	1.63	0.64
6:F:114:SER:HB3	6:F:117:LEU:HD12	1.80	0.64
9:I:35:GLN:HG2	9:I:78:GLU:HB2	1.78	0.64
13:M:68:ARG:NH1	13:M:70:HIS:HB2	2.11	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:22:VAL:HG12	16:P:23:ALA:H	1.61	0.64
17:Q:25:ILE:HD13	17:Q:25:ILE:N	2.12	0.64
20:T:36:PHE:HD1	20:T:39:LYS:HZ1	1.45	0.64
22:V:148:GLN:O	52:t:2052:A:H4'	1.97	0.64
28:1:23:LYS:HB3	28:1:40:LYS:HB3	1.79	0.64
29:2:119:PRO:HG3	29:2:138:ALA:O	1.98	0.64
33:6:91:VAL:O	33:6:92:ARG:C	2.41	0.64
37:b:11:LEU:HA	37:b:34:VAL:HG12	1.78	0.64
40:e:23:LYS:HG2	52:t:855:G:H21	1.62	0.64
51:s:337:G:H2'	51:s:338:A:H8	1.63	0.64
51:s:1380:U:H4'	51:s:1381:U:OP1	1.98	0.64
52:t:621:A:H2'	52:t:622:G:H5'	1.79	0.64
52:t:1420:A:H5'	52:t:1421:G:OP2	1.98	0.64
52:t:1859:U:H2'	52:t:1860:G:H8	1.62	0.64
1:A:21:TYR:HD1	1:A:21:TYR:H	1.44	0.64
8:H:5:TYR:HB2	8:H:20:ILE:HB	1.79	0.64
11:K:49:ARG:NH2	51:s:522:C:H41	1.95	0.64
23:W:48:THR:N	23:W:51:GLU:HG3	2.13	0.64
25:Y:14:VAL:HA	25:Y:26:LYS:O	1.98	0.64
28:1:5:GLN:O	28:1:6:THR:CB	2.46	0.64
31:4:116:VAL:HG13	31:4:116:VAL:O	1.96	0.64
37:b:4:GLU:OE1	37:b:6:ARG:HG3	1.98	0.64
49:n:136:ILE:HG23	49:n:139:LEU:HD12	1.80	0.64
51:s:1259:C:C3'	51:s:1260:G:H5''	2.27	0.64
51:s:1517:G:OP1	56:7:4:SER:OG	2.12	0.64
52:t:1668:A:H2'	52:t:1674:G:N7	2.13	0.64
1:A:170:ILE:HG23	51:s:1101:A:N7	2.13	0.64
2:B:171:ARG:HG3	51:s:1106:G:O3'	1.98	0.64
4:D:110:MET:HG3	4:D:139:THR:CG2	2.27	0.64
13:M:42:ASN:ND2	13:M:46:LYS:HE2	2.08	0.64
18:R:69:LYS:NZ	51:s:1319:A:H5'	2.12	0.64
21:U:86:ARG:NH2	52:t:1817:G:OP1	2.25	0.64
24:X:73:VAL:HG23	24:X:76:PHE:HB2	1.78	0.64
33:6:61:ARG:HD2	33:6:70:GLU:OE1	1.98	0.64
35:9:90:ARG:O	35:9:91:GLN:HB3	1.98	0.64
37:b:2:ILE:N	37:b:2:ILE:HD12	2.13	0.64
43:h:5:LYS:HD3	43:h:57:GLU:O	1.98	0.64
45:j:33:LEU:HG	45:j:35:LEU:HD22	1.79	0.64
49:n:30:SER:O	49:n:108:VAL:HG13	1.98	0.64
49:n:123:ILE:HD13	49:n:123:ILE:C	2.23	0.64
49:n:136:ILE:HD12	49:n:136:ILE:N	2.13	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:1251:A:O2'	51:s:1252:A:H5'	1.98	0.64
5:E:68:GLN:O	5:E:72:ASP:HB2	1.97	0.63
6:F:50:ALA:HB2	6:F:57:GLU:OE2	1.98	0.63
10:J:16:SER:HA	10:J:77:GLY:O	1.97	0.63
12:L:32:ILE:CG2	12:L:58:GLU:HG2	2.26	0.63
12:L:78:ARG:HH22	12:L:79:LEU:HD21	1.62	0.63
16:P:7:LEU:O	16:P:59:GLU:HA	1.99	0.63
21:U:84:PRO:HG2	52:t:1567:G:H3'	1.78	0.63
25:Y:66:THR:HG22	52:t:2747:G:HO2'	1.63	0.63
30:3:11:LYS:HD3	30:3:86:LYS:HD3	1.79	0.63
34:8:8:ILE:HD12	34:8:9:ALA:N	2.12	0.63
35:9:37:GLU:HB2	35:9:53:PHE:CE1	2.33	0.63
49:n:7:ASP:O	49:n:11:ILE:HG12	1.98	0.63
51:s:1062:U:H2'	51:s:1063:C:C6	2.32	0.63
52:t:363:G:H2'	52:t:364:C:C6	2.32	0.63
54:v:56:LYS:HB2	54:v:57:SER:HA	1.80	0.63
3:C:51:GLY:C	3:C:53:GLN:H	2.06	0.63
3:C:74:TYR:O	3:C:77:GLU:HB3	1.98	0.63
3:C:190:LEU:HD12	3:C:190:LEU:O	1.98	0.63
9:I:83:THR:O	9:I:87:LEU:HB2	1.98	0.63
26:Z:34:ILE:N	26:Z:34:ILE:HD12	2.13	0.63
32:5:20:GLU:HG2	32:5:21:LEU:N	2.13	0.63
37:b:1:MET:C	37:b:2:ILE:HD12	2.22	0.63
41:f:39:VAL:HG21	41:f:42:GLU:HB3	1.79	0.63
51:s:598:U:H2'	51:s:599:C:C6	2.32	0.63
51:s:731:G:H5'	51:s:766:A:H4'	1.81	0.63
52:t:531:C:H5'	52:t:532:A:C4	2.33	0.63
52:t:804:A:H5''	52:t:805:G:OP1	1.98	0.63
52:t:2591:C:H2'	52:t:2592:G:C8	2.33	0.63
52:t:2655:G:H8	54:v:50:GLY:HA3	1.61	0.63
1:A:49:PHE:C	1:A:49:PHE:CD1	2.76	0.63
1:A:163:ILE:HG13	1:A:164:ASP:H	1.63	0.63
1:A:220:VAL:H	1:A:221:ARG:HH22	1.44	0.63
8:H:23:GLY:H	8:H:61:ASP:N	1.96	0.63
20:T:39:LYS:HZ3	20:T:39:LYS:CB	2.11	0.63
21:U:180:MET:HB3	21:U:267:VAL:HB	1.80	0.63
33:6:50:ARG:HA	33:6:57:ALA:H	1.63	0.63
50:p:8:ILE:O	50:p:8:ILE:HG22	1.97	0.63
50:q:18:ASP:C	50:q:20:VAL:H	2.04	0.63
50:r:4:LYS:O	50:r:8:ILE:HD13	1.97	0.63
51:s:154:U:O2'	51:s:155:A:H5'	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:1014:A:H2'	51:s:1015:G:O4'	1.98	0.63
51:s:1304:G:N2	51:s:1333:A:H62	1.96	0.63
52:t:2061:G:H5'	52:t:2503:A:C2	2.34	0.63
3:C:29:THR:HG22	3:C:30:LYS:N	2.13	0.63
3:C:185:PRO:HB2	3:C:190:LEU:HD21	1.81	0.63
4:D:111:ARG:O	4:D:114:LEU:HB2	1.99	0.63
11:K:4:ASN:O	11:K:8:ARG:HG3	1.97	0.63
13:M:51:PRO:O	13:M:52:ARG:HB2	1.98	0.63
22:V:29:VAL:HB	22:V:98:VAL:HG22	1.80	0.63
26:Z:4:VAL:HG22	26:Z:7:TYR:OH	1.99	0.63
26:Z:9:LYS:HZ1	52:t:1061:U:H5''	1.62	0.63
29:2:68:SER:O	29:2:69:ARG:HB2	1.98	0.63
33:6:64:SER:O	33:6:65:ASN:C	2.42	0.63
35:9:20:VAL:HG23	35:9:22:LEU:HD21	1.81	0.63
40:e:18:LYS:CG	40:e:19:ARG:H	2.04	0.63
45:j:7:LYS:NZ	52:t:2420:C:H5''	2.13	0.63
49:n:85:LEU:HD22	49:n:99:PHE:CZ	2.33	0.63
51:s:193:C:O2'	51:s:194:C:H5'	1.99	0.63
51:s:251:G:N1	51:s:266:G:O6	2.31	0.63
52:t:458:G:C2'	52:t:459:U:OP2	2.46	0.63
3:C:169:TRP:CD1	3:C:185:PRO:HD3	2.34	0.63
6:F:25:PHE:HD2	6:F:25:PHE:C	2.06	0.63
8:H:17:ARG:NH1	51:s:1147:C:O2	2.31	0.63
9:I:42:LEU:HD12	9:I:71:LEU:HB3	1.81	0.63
12:L:89:ARG:NH1	12:L:94:LEU:HD13	2.13	0.63
19:S:66:ILE:HG13	19:S:70:LYS:HE3	1.80	0.63
21:U:76:VAL:CG2	21:U:96:LYS:HD3	2.29	0.63
22:V:108:ASP:O	22:V:109:VAL:HB	1.98	0.63
26:Z:96:LYS:HD2	26:Z:96:LYS:N	2.12	0.63
29:2:93:ASN:C	29:2:95:LEU:H	2.05	0.63
46:k:34:ARG:HG2	46:k:34:ARG:NH1	2.13	0.63
51:s:438:U:H2'	51:s:494:G:H1	1.62	0.63
51:s:789:U:O3'	55:w:15:A:N6	2.32	0.63
51:s:990:C:H2'	51:s:991:U:O4'	1.98	0.63
52:t:771:G:H2'	52:t:772:C:H6	1.63	0.63
52:t:1238:G:O2'	52:t:1239:G:H5'	1.99	0.63
1:A:131:LYS:C	1:A:133:ALA:H	2.07	0.63
5:E:86:ARG:CZ	17:Q:63:TYR:HB3	2.28	0.63
7:G:1:SER:N	51:s:877:G:N2	2.45	0.63
7:G:77:VAL:HG11	7:G:124:ILE:CD1	2.29	0.63
7:G:124:ILE:O	7:G:124:ILE:HG13	1.97	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:29:PHE:CD2	21:U:31:PRO:HG2	2.33	0.63
26:Z:57:VAL:HG23	26:Z:71:LYS:NZ	2.14	0.63
30:3:41:LEU:HD12	30:3:96:ILE:HG21	1.81	0.63
31:4:45:ARG:NH1	52:t:2838:G:H1'	2.13	0.63
36:a:24:ILE:HG13	36:a:32:ALA:HB1	1.80	0.63
38:c:43:LYS:HE3	52:t:481:G:P	2.39	0.63
39:d:79:ARG:O	39:d:87:GLN:HG3	1.98	0.63
50:o:1:SER:OG	50:p:17:MET:HE2	1.98	0.63
51:s:858:G:O2'	51:s:859:G:H5''	1.97	0.63
51:s:969:A:O2'	51:s:970:C:H5'	1.99	0.63
51:s:1169:A:H2'	51:s:1170:A:C8	2.33	0.63
52:t:685:A:H4'	52:t:686:U:O5'	1.98	0.63
1:A:113:LEU:HD13	1:A:143:LEU:CD1	2.29	0.63
3:C:6:PRO:HG2	51:s:428:G:OP2	1.99	0.63
3:C:144:ILE:HD12	3:C:177:MET:HE2	1.81	0.63
4:D:35:LEU:HD21	4:D:136:VAL:HG11	1.81	0.63
7:G:14:ARG:HB2	7:G:74:ILE:CG2	2.29	0.63
9:I:12:ALA:CB	9:I:18:ILE:HG12	2.28	0.63
13:M:40:ARG:HG2	13:M:40:ARG:HH11	1.63	0.63
17:Q:43:ILE:O	17:Q:43:ILE:HG22	1.98	0.63
21:U:95:TYR:CE1	21:U:101:ARG:HD2	2.34	0.63
50:p:29:LYS:HB3	50:r:19:VAL:HG21	1.79	0.63
51:s:938:A:C2	51:s:1376:U:H1'	2.34	0.63
51:s:1068:G:C2'	51:s:1069:C:H5'	2.29	0.63
52:t:340:A:H2'	52:t:341:C:H5'	1.80	0.63
52:t:438:G:H2'	52:t:439:A:C8	2.34	0.63
52:t:508:A:H4'	52:t:509:C:OP2	1.99	0.63
52:t:615:U:H4'	52:t:616:A:OP2	1.99	0.63
52:t:1045:C:H1'	52:t:1047:G:C2	2.34	0.63
52:t:1274:A:N3	52:t:1297:C:H1'	2.14	0.63
52:t:2789:C:H2'	52:t:2893:A:N7	2.14	0.63
52:t:2837:A:H2'	52:t:2838:G:C8	2.33	0.63
53:u:59:A:H2'	53:u:60:C:C6	2.34	0.63
53:u:61:G:H2'	53:u:62:C:C6	2.33	0.63
4:D:110:MET:O	4:D:110:MET:HG2	1.98	0.63
4:D:152:VAL:HG11	7:G:98:LEU:HD22	1.81	0.63
11:K:23:LEU:CG	11:K:24:GLU:H	2.12	0.63
18:R:35:ARG:HB3	18:R:71:GLY:CA	2.29	0.63
27:0:99:ARG:HD2	27:0:102:GLU:OE1	1.98	0.63
29:2:108:ALA:HB3	29:2:125:LEU:HD22	1.81	0.63
51:s:372:C:H5'	51:s:373:A:OP1	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1112:G:O2'	52:t:1113:U:H5'	1.99	0.63
52:t:2104:C:H2'	52:t:2105:U:O4'	1.99	0.63
52:t:2197:U:O2'	52:t:2198:A:C8	2.52	0.63
54:v:21:HIS:HD2	54:v:122:ARG:H	1.47	0.63
1:A:17:HIS:CD2	1:A:202:ASN:HD21	2.17	0.63
2:B:139:ASN:HA	2:B:142:ARG:HB2	1.81	0.63
13:M:47:LEU:O	13:M:47:LEU:HD23	1.98	0.63
15:O:44:SER:O	15:O:46:LYS:HG3	1.99	0.63
16:P:58:VAL:HG22	16:P:59:GLU:N	2.14	0.63
21:U:227:VAL:HG23	21:U:228:ASP:N	2.14	0.63
24:X:37:MET:HE1	24:X:52:ALA:HA	1.81	0.63
27:0:98:GLU:O	27:0:102:GLU:HG3	1.99	0.63
34:8:64:ILE:HD12	34:8:95:ALA:CB	2.28	0.63
51:s:598:U:H2'	51:s:599:C:H6	1.64	0.63
52:t:31:C:O2'	52:t:32:C:H5'	1.99	0.63
52:t:49:A:H5''	52:t:50:U:H3'	1.80	0.63
52:t:309:A:N3	52:t:329:G:O2'	2.31	0.63
52:t:458:G:HO2'	52:t:459:U:P	2.22	0.63
52:t:771:G:C4	52:t:772:C:C5	2.87	0.63
54:v:59:TRP:CD2	54:v:64:LYS:HD3	2.34	0.63
4:D:12:GLU:HB2	4:D:63:MET:HE2	1.80	0.62
10:J:126:ARG:O	20:T:33:ARG:NH1	2.26	0.62
12:L:7:ASN:ND2	12:L:9:PRO:HD3	2.14	0.62
18:R:39:ILE:HG13	18:R:68:HIS:O	1.98	0.62
23:W:51:GLU:OE2	23:W:88:ARG:NH1	2.31	0.62
23:W:84:THR:HG22	23:W:85:PHE:CE2	2.34	0.62
28:1:98:ARG:O	28:1:99:ILE:HD12	1.99	0.62
29:2:28:GLY:O	29:2:29:LYS:O	2.17	0.62
34:8:91:ARG:HD2	52:t:996:A:H4'	1.81	0.62
43:h:8:GLN:HG2	43:h:31:ILE:CA	2.23	0.62
49:n:17:GLU:O	49:n:86:MET:HE3	1.99	0.62
49:n:111:ALA:O	49:n:114:GLU:HG3	1.98	0.62
52:t:2859:G:H2'	52:t:2860:A:C8	2.33	0.62
1:A:32:GLY:CA	1:A:39:ILE:H	1.93	0.62
2:B:148:ILE:HD13	2:B:148:ILE:C	2.25	0.62
3:C:84:ASN:HB3	3:C:87:GLU:HG2	1.81	0.62
12:L:106:ARG:NH1	12:L:109:LYS:HD3	2.14	0.62
24:X:1:ALA:HA	24:X:5:ASP:OD1	1.99	0.62
25:Y:3:VAL:O	25:Y:68:ARG:HG3	1.99	0.62
32:5:111:ARG:C	32:5:111:ARG:HD3	2.24	0.62
37:b:59:ASN:O	37:b:83:ALA:O	2.17	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:h:6:ILE:HD13	43:h:47:ILE:HD12	1.82	0.62
49:n:23:LEU:HD13	49:n:92:ALA:O	1.99	0.62
51:s:555:U:H2'	51:s:556:C:C6	2.33	0.62
51:s:1504:G:H4'	51:s:1505:G:C4	2.34	0.62
52:t:1313:U:H4'	52:t:1332:G:H4'	1.80	0.62
52:t:2286:G:H5''	52:t:2287:A:O5'	1.98	0.62
52:t:2296:U:H5''	52:t:2297:A:OP1	1.98	0.62
52:t:2726:A:O2'	52:t:2727:A:OP1	2.17	0.62
2:B:82:ASP:O	2:B:85:LYS:HG2	1.99	0.62
3:C:117:VAL:HA	3:C:122:ILE:CG1	2.29	0.62
9:I:48:ARG:HG3	9:I:66:GLU:HB2	1.80	0.62
13:M:3:GLN:HA	13:M:6:LYS:HD3	1.79	0.62
18:R:35:ARG:HG2	18:R:50:VAL:CG1	2.29	0.62
21:U:242:HIS:O	21:U:244:VAL:HG13	1.99	0.62
25:Y:76:ILE:HD13	25:Y:76:ILE:C	2.25	0.62
28:1:97:THR:HB	28:1:98:ARG:NH2	2.12	0.62
29:2:82:LEU:C	29:2:84:LYS:H	2.06	0.62
32:5:52:SER:OG	32:5:54:VAL:HG12	1.99	0.62
51:s:1033:G:C2'	51:s:1034:G:H5''	2.27	0.62
51:s:1410:A:H2'	51:s:1411:C:C6	2.34	0.62
52:t:74:A:H4'	52:t:75:G:O5'	1.99	0.62
52:t:324:A:H2'	52:t:325:G:O4'	1.99	0.62
52:t:586:A:C2	52:t:1254:A:C2	2.87	0.62
52:t:1266:G:O2'	52:t:1267:U:OP2	2.16	0.62
52:t:2449:U:H3'	52:t:2449:U:OP2	1.98	0.62
52:t:2700:A:H2'	52:t:2701:U:C6	2.33	0.62
53:u:30:C:C2'	53:u:31:C:H5'	2.29	0.62
54:v:59:TRP:CZ2	54:v:69:SER:CB	2.81	0.62
1:A:66:ILE:HB	1:A:88:GLN:HB2	1.80	0.62
1:A:210:THR:HA	1:A:213:LEU:HB3	1.81	0.62
2:B:32:LEU:HD11	13:M:92:ILE:HG12	1.80	0.62
3:C:73:ASN:CA	3:C:76:LYS:HE2	2.27	0.62
4:D:156:ARG:HH22	7:G:113:ARG:NH1	1.96	0.62
7:G:14:ARG:HB2	7:G:74:ILE:HG22	1.80	0.62
23:W:151:GLY:N	23:W:189:THR:HG21	2.15	0.62
49:n:48:ALA:HB1	49:n:51:TYR:HE2	1.65	0.62
51:s:332:G:O2'	51:s:333:U:H5'	2.00	0.62
51:s:413:G:N2	51:s:428:G:O2'	2.33	0.62
51:s:713:G:H2'	51:s:714:G:C8	2.34	0.62
51:s:1031:C:H4'	51:s:1032:G:C2	2.34	0.62
51:s:1255:G:H21	51:s:1258:G:N2	1.97	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:225:C:H2'	52:t:226:A:O4'	1.99	0.62
52:t:531:C:C5	52:t:2035:G:C2	2.87	0.62
52:t:1018:U:H2'	52:t:1019:U:H6	1.64	0.62
52:t:1138:G:H2'	52:t:1139:G:O4'	1.99	0.62
54:v:304:GLN:O	54:v:306:ASN:N	2.32	0.62
2:B:129:PHE:CZ	2:B:156:LEU:HB3	2.34	0.62
7:G:25:THR:HG22	7:G:59:GLU:HB2	1.81	0.62
8:H:123:ARG:O	51:s:1343:G:H4'	1.99	0.62
11:K:86:VAL:HG12	11:K:89:LEU:HD23	1.81	0.62
16:P:58:VAL:HG22	16:P:59:GLU:H	1.63	0.62
17:Q:37:LYS:HD3	20:T:22:CYS:SG	2.40	0.62
21:U:180:MET:CB	21:U:267:VAL:HB	2.28	0.62
21:U:255:LYS:C	21:U:257:ARG:H	2.07	0.62
30:3:22:GLN:C	30:3:24:THR:H	2.06	0.62
35:9:26:ASP:O	35:9:27:ILE:HD12	1.99	0.62
37:b:32:LEU:N	37:b:83:ALA:HB3	2.10	0.62
38:c:99:SER:O	38:c:101:THR:N	2.32	0.62
39:d:26:PHE:CE1	39:d:89:ILE:HD13	2.34	0.62
51:s:203:G:H1	51:s:214:C:N4	1.98	0.62
51:s:509:A:H2'	51:s:510:A:C8	2.35	0.62
51:s:1259:C:H3'	51:s:1260:G:C5'	2.30	0.62
51:s:1513:A:H2'	51:s:1514:G:C8	2.35	0.62
52:t:696:G:O2'	52:t:697:G:H5'	1.99	0.62
52:t:729:G:H5''	52:t:763:G:OP2	2.00	0.62
52:t:1128:G:N7	52:t:2490:G:H5'	2.15	0.62
3:C:57:LYS:HG3	3:C:58:GLN:N	2.15	0.62
3:C:142:VAL:O	3:C:143:SER:HB3	1.98	0.62
5:E:91:ARG:HB3	5:E:93:LYS:NZ	2.13	0.62
6:F:122:GLU:HA	6:F:125:ASP:HB3	1.82	0.62
13:M:20:PHE:HB2	13:M:54:SER:OG	2.00	0.62
21:U:149:LYS:HD2	52:t:2204:G:H4'	1.80	0.62
24:X:110:ILE:O	24:X:110:ILE:HG22	1.98	0.62
24:X:149:ARG:HG2	24:X:150:GLY:H	1.64	0.62
27:0:69:ARG:NH1	27:0:69:ARG:HB2	2.14	0.62
27:0:73:VAL:HG23	27:0:74:TYR:N	2.13	0.62
29:2:40:SER:O	29:2:41:ARG:O	2.18	0.62
30:3:53:MET:HE1	30:3:103:TYR:CD2	2.34	0.62
33:6:27:VAL:HG22	33:6:83:ILE:HG12	1.80	0.62
33:6:50:ARG:CA	33:6:57:ALA:H	2.11	0.62
40:e:14:ASP:O	40:e:15:SER:HB2	2.00	0.62
41:f:62:GLY:O	41:f:66:VAL:HG23	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:p:2:ILE:O	50:p:6:GLN:HG3	1.99	0.62
51:s:283:U:H2'	51:s:284:C:O4'	2.00	0.62
51:s:321:A:O2'	51:s:322:C:H5'	2.00	0.62
51:s:1087:G:N2	51:s:1099:G:H1'	2.15	0.62
51:s:1239:A:H4'	51:s:1240:U:H5''	1.81	0.62
51:s:1258:G:H2'	51:s:1259:C:C6	2.34	0.62
52:t:419:U:H2'	52:t:420:C:H6	1.65	0.62
52:t:1188:U:O2'	52:t:1189:A:H5'	1.99	0.62
52:t:1873:G:H2'	52:t:1874:C:H6	1.65	0.62
52:t:2287:A:HO2'	52:t:2288:A:H3'	1.64	0.62
53:u:91:C:H2'	53:u:92:C:C6	2.33	0.62
2:B:153:SER:CB	2:B:164:THR:HG22	2.30	0.62
3:C:2:ARG:HG2	3:C:2:ARG:HH11	1.63	0.62
9:I:80:THR:HG22	9:I:82:LYS:H	1.64	0.62
11:K:23:LEU:C	11:K:25:ALA:H	2.08	0.62
21:U:15:VAL:HG22	21:U:204:LEU:O	2.00	0.62
21:U:51:ARG:NH2	21:U:246:PRO:HG2	2.15	0.62
22:V:91:THR:C	22:V:93:GLY:N	2.58	0.62
24:X:78:ILE:C	24:X:78:ILE:HD12	2.24	0.62
25:Y:66:THR:CG2	52:t:2748:A:H1'	2.28	0.62
25:Y:132:LEU:N	25:Y:132:LEU:HD23	2.15	0.62
29:2:78:ARG:HB3	29:2:113:ALA:CB	2.30	0.62
29:2:129:LYS:HG3	52:t:636:G:OP1	1.99	0.62
32:5:11:ALA:HB3	32:5:15:ARG:HH12	1.63	0.62
37:b:28:ASN:HA	37:b:91:GLN:OE1	2.00	0.62
40:e:44:PHE:O	40:e:78:PHE:HA	1.99	0.62
42:g:46:VAL:O	42:g:50:VAL:HG23	2.00	0.62
51:s:372:C:H4'	51:s:373:A:OP1	1.99	0.62
51:s:753:A:H4'	51:s:754:C:C5'	2.30	0.62
52:t:977:G:O2'	52:t:978:G:H5'	1.99	0.62
52:t:1179:G:C5	52:t:1180:U:H1'	2.34	0.62
52:t:2327:A:H3'	52:t:2328:A:C8	2.34	0.62
2:B:35:ASP:O	2:B:38:VAL:HG22	2.00	0.62
4:D:55:VAL:HB	4:D:56:PRO:CD	2.30	0.62
7:G:9:MET:HE1	7:G:32:LYS:HB3	1.82	0.62
17:Q:21:ASP:HB3	17:Q:24:ASP:OD1	1.98	0.62
20:T:37:TYR:O	20:T:37:TYR:HD2	1.81	0.62
23:W:46:GLN:HG3	23:W:86:ALA:HA	1.81	0.62
30:3:136:MET:OXT	30:3:136:MET:HG2	1.99	0.62
31:4:12:ARG:NE	31:4:20:MET:HE1	2.14	0.62
34:8:78:PHE:CE2	34:8:82:LEU:HD11	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:c:13:LEU:HG	38:c:68:ASN:O	1.99	0.62
51:s:33:A:H2'	51:s:34:C:C6	2.33	0.62
51:s:1255:G:O2'	51:s:1258:G:H1'	2.00	0.62
1:A:22:TRP:CH2	1:A:24:PRO:HA	2.35	0.62
2:B:194:VAL:HG23	51:s:1205:U:O2'	2.00	0.62
5:E:6:ILE:H	5:E:62:MET:HB3	1.64	0.62
12:L:31:ALA:C	12:L:32:ILE:HD12	2.25	0.62
20:T:33:ARG:CG	20:T:34:ARG:H	2.12	0.62
21:U:84:PRO:CG	52:t:1567:G:H3'	2.29	0.62
31:4:34:ILE:HD11	31:4:44:LEU:CD2	2.29	0.62
39:d:30:ILE:HD11	39:d:91:PHE:HD1	1.65	0.62
43:h:38:GLU:HB2	43:h:40:THR:HG22	1.82	0.62
43:h:43:ILE:C	43:h:43:ILE:HD12	2.24	0.62
48:m:11:CYS:HB3	48:m:33:HIS:ND1	2.15	0.62
49:n:117:LEU:O	49:n:118:ILE:HB	2.00	0.62
49:n:144:LYS:HD2	49:n:148:ALA:HB2	1.82	0.62
51:s:818:G:O2'	51:s:819:A:OP1	2.18	0.62
52:t:486:C:H2'	52:t:487:C:C6	2.34	0.62
52:t:910:A:N1	52:t:2277:G:H1'	2.15	0.62
52:t:1708:C:H2'	52:t:1709:U:H6	1.64	0.62
52:t:1970:A:C5'	52:t:1971:U:OP1	2.44	0.62
55:w:15:A:H2'	55:w:15:A:N3	2.14	0.62
2:B:26:LYS:HZ2	51:s:1257:A:P	2.23	0.62
3:C:34:GLU:O	3:C:37:PRO:HD3	2.00	0.62
8:H:111:GLU:HG2	8:H:114:LYS:NZ	2.14	0.62
16:P:12:VAL:HG12	16:P:21:VAL:O	1.99	0.62
29:2:19:LEU:HD22	52:t:587:C:H2'	1.81	0.62
30:3:33:LEU:HD21	30:3:128:THR:HB	1.80	0.62
34:8:96:ASP:C	34:8:98:ALA:N	2.55	0.62
43:h:3:THR:HA	43:h:37:ARG:O	2.00	0.62
51:s:1229:A:H8	51:s:1229:A:O5'	1.83	0.62
54:v:314:ARG:CZ	54:v:421:GLU:HB2	2.29	0.62
2:B:22:PHE:C	2:B:22:PHE:CD2	2.78	0.61
4:D:84:VAL:HG22	4:D:85:LYS:N	2.13	0.61
4:D:155:LYS:HB2	7:G:70:VAL:HG13	1.81	0.61
8:H:105:ARG:HG3	51:s:1118:U:H5''	1.82	0.61
10:J:126:ARG:HH21	51:s:796:C:H4'	1.65	0.61
11:K:23:LEU:O	11:K:25:ALA:N	2.32	0.61
12:L:14:ALA:HB2	12:L:42:VAL:HG23	1.80	0.61
21:U:13:ARG:HG2	21:U:14:HIS:ND1	2.15	0.61
24:X:105:ILE:HD12	24:X:106:ALA:N	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:94:ARG:NH1	25:Y:96:ALA:HB2	2.13	0.61
28:1:115:ILE:HD12	28:1:115:ILE:H	1.64	0.61
29:2:89:VAL:HA	29:2:121:THR:HG23	1.81	0.61
41:f:7:THR:HG21	41:f:53:LYS:HD3	1.82	0.61
51:s:56:U:H2'	51:s:57:G:C8	2.35	0.61
51:s:505:G:H2'	51:s:506:G:C8	2.35	0.61
51:s:1343:G:H2'	51:s:1344:C:C6	2.34	0.61
52:t:2021:C:O2'	52:t:2022:U:OP1	2.18	0.61
1:A:70:GLY:HA2	1:A:163:ILE:HG22	1.81	0.61
1:A:163:ILE:HG13	1:A:164:ASP:N	2.15	0.61
4:D:80:LEU:HD23	4:D:122:VAL:CG1	2.30	0.61
8:H:110:VAL:HG21	51:s:1370:G:O5'	2.00	0.61
18:R:18:VAL:HG21	18:R:43:MET:HE3	1.82	0.61
21:U:33:LEU:O	21:U:34:GLU:HB3	1.99	0.61
24:X:65:LEU:O	24:X:86:CYS:HA	1.98	0.61
25:Y:60:GLY:O	25:Y:61:TRP:HB2	2.00	0.61
30:3:135:VAL:HG12	30:3:136:MET:H	1.65	0.61
34:8:64:ILE:CD1	34:8:95:ALA:HB3	2.30	0.61
40:e:30:VAL:HG11	52:t:2352:A:N1	2.15	0.61
42:g:56:LEU:C	42:g:58:ASN:H	2.08	0.61
47:l:31:ILE:HD11	47:l:34:LYS:HD2	1.81	0.61
49:n:57:ASN:O	49:n:63:ALA:HB2	2.00	0.61
51:s:184:G:H5'	51:s:224:U:O2'	1.99	0.61
51:s:208:U:O4	51:s:210:C:H1'	1.99	0.61
51:s:499:A:O2'	51:s:500:G:C8	2.53	0.61
51:s:1370:G:C2	51:s:1371:G:N7	2.69	0.61
52:t:819:A:H5'	52:t:973:A:N1	2.15	0.61
52:t:999:U:O2'	52:t:1000:A:H5'	1.99	0.61
52:t:1111:A:O2'	52:t:1112:G:O5'	2.18	0.61
52:t:1260:A:O2'	52:t:1261:C:H5'	2.00	0.61
52:t:1715:G:N2	52:t:1744:A:OP2	2.33	0.61
52:t:2063:C:O2	52:t:2450:A:N1	2.33	0.61
3:C:2:ARG:NH2	3:C:114:ARG:HD2	2.15	0.61
4:D:135:VAL:O	4:D:139:THR:HG23	2.00	0.61
9:I:56:HIS:ND1	51:s:1199:U:H4'	2.15	0.61
11:K:20:VAL:HB	11:K:94:TYR:HE1	1.65	0.61
15:O:48:GLU:HG3	15:O:49:GLY:H	1.64	0.61
24:X:134:GLN:O	24:X:136:ILE:N	2.28	0.61
29:2:78:ARG:CZ	29:2:113:ALA:HB1	2.29	0.61
34:8:78:PHE:CZ	34:8:82:LEU:HD11	2.35	0.61
34:8:91:ARG:HH21	34:8:93:ILE:CD1	2.13	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:e:24:ARG:HD2	40:e:24:ARG:C	2.25	0.61
49:n:35:VAL:O	49:n:39:THR:HG23	2.00	0.61
51:s:87:C:H2'	51:s:88:U:O4'	2.00	0.61
51:s:109:A:H2'	51:s:326:G:H21	1.64	0.61
51:s:380:G:N2	51:s:384:G:C6	2.68	0.61
52:t:279:A:N6	52:t:361:G:H1'	2.15	0.61
52:t:287:G:O2'	52:t:288:U:H5'	2.00	0.61
52:t:845:A:H3'	52:t:845:A:N3	2.15	0.61
52:t:1838:C:N4	52:t:1899:A:O5'	2.34	0.61
52:t:2147:A:H5'	52:t:2148:G:H5'	1.82	0.61
1:A:20:ARG:HA	1:A:20:ARG:HH11	1.63	0.61
7:G:7:ALA:HB2	7:G:76:ARG:HH11	1.65	0.61
9:I:46:LYS:HE2	51:s:1253:G:OP1	2.00	0.61
10:J:76:TYR:HD1	10:J:76:TYR:H	1.46	0.61
12:L:68:LEU:HA	12:L:71:GLU:CB	2.30	0.61
16:P:3:LYS:HG3	16:P:6:THR:CG2	2.26	0.61
21:U:93:VAL:HB	21:U:103:ILE:CD1	2.30	0.61
23:W:12:LEU:O	23:W:12:LEU:HD13	1.99	0.61
28:1:8:LEU:HD23	28:1:8:LEU:N	2.15	0.61
28:1:40:LYS:HE2	52:t:2561:U:O3'	2.01	0.61
35:9:49:ILE:HD12	35:9:53:PHE:N	2.15	0.61
40:e:17:ALA:HA	40:e:35:ILE:HG23	1.82	0.61
40:e:35:ILE:O	40:e:37:VAL:HG23	2.00	0.61
41:f:29:LEU:HD23	52:t:2231:U:OP1	2.00	0.61
47:l:16:THR:HG23	47:l:20:GLY:C	2.25	0.61
48:m:7:VAL:HG23	48:m:8:LYS:N	2.14	0.61
51:s:119:A:H5'	51:s:120:A:OP1	2.00	0.61
51:s:930:C:O2'	51:s:931:C:H5'	2.01	0.61
52:t:178:G:O2'	52:t:179:C:H5'	2.00	0.61
52:t:1990:C:H2'	52:t:1991:U:C6	2.36	0.61
52:t:2888:C:H2'	52:t:2889:C:C6	2.35	0.61
2:B:91:ALA:HB2	2:B:98:ALA:HB3	1.82	0.61
3:C:58:GLN:HE21	51:s:544:G:P	2.23	0.61
7:G:1:SER:H1	51:s:877:G:N2	1.98	0.61
12:L:67:ASP:O	12:L:71:GLU:HB2	2.01	0.61
13:M:40:ARG:HH12	13:M:44:VAL:HG21	1.65	0.61
15:O:72:ALA:HA	15:O:75:ILE:HD12	1.82	0.61
22:V:118:PHE:CG	52:t:1654:A:O2'	2.53	0.61
25:Y:83:THR:C	25:Y:84:LYS:HD3	2.24	0.61
36:a:71:VAL:O	36:a:71:VAL:HG22	2.01	0.61
37:b:13:ALA:O	37:b:32:LEU:HB2	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:c:44:HIS:HD2	52:t:483:A:N7	1.99	0.61
40:e:49:ASN:HB3	40:e:81:ILE:CG1	2.31	0.61
47:l:12:ARG:NH1	52:t:250:G:OP2	2.33	0.61
50:p:25:ALA:O	50:p:28:GLU:HG2	2.01	0.61
51:s:1033:G:H2'	51:s:1034:G:C5'	2.28	0.61
52:t:1087:G:C4	52:t:1089:A:H1'	2.36	0.61
52:t:2584:U:C2'	52:t:2585:U:H5'	2.29	0.61
52:t:2734:A:H2'	52:t:2735:G:H5'	1.82	0.61
3:C:57:LYS:HB3	3:C:199:ILE:HG13	1.81	0.61
4:D:11:GLN:HB3	4:D:39:GLY:O	2.01	0.61
4:D:121:ASN:CG	4:D:122:VAL:N	2.58	0.61
11:K:24:GLU:O	11:K:25:ALA:C	2.40	0.61
14:N:77:TYR:CZ	14:N:81:ILE:HD11	2.36	0.61
22:V:110:THR:OG1	22:V:171:THR:CG2	2.49	0.61
23:W:159:LEU:HD23	52:t:321:U:C1'	2.31	0.61
26:Z:126:ARG:HA	26:Z:129:GLU:OE2	2.01	0.61
34:8:63:ARG:NH1	34:8:99:VAL:HG23	2.16	0.61
35:9:48:LYS:O	35:9:54:VAL:HG12	2.01	0.61
45:j:49:LYS:O	45:j:50:GLU:HB3	1.99	0.61
51:s:545:C:H2'	51:s:546:A:H5'	1.82	0.61
51:s:617:G:H1	51:s:623:C:H42	1.47	0.61
52:t:587:C:C6	52:t:671:C:H1'	2.35	0.61
52:t:1536:C:H1'	52:t:1537:G:N2	2.15	0.61
52:t:1710:G:H4'	52:t:2858:C:N3	2.15	0.61
52:t:1923:U:H2'	52:t:1924:C:C6	2.35	0.61
52:t:2379:G:H2'	52:t:2380:C:C6	2.36	0.61
54:v:59:TRP:HA	54:v:59:TRP:HE3	1.65	0.61
1:A:102:ASN:ND2	1:A:105:THR:HB	2.16	0.61
2:B:20:THR:O	2:B:57:GLU:HA	1.99	0.61
7:G:94:VAL:HB	7:G:99:GLY:O	2.00	0.61
9:I:62:ARG:NH2	51:s:1366:C:O2'	2.34	0.61
21:U:123:ILE:HG23	21:U:123:ILE:O	2.01	0.61
23:W:149:ILE:O	23:W:188:MET:HA	2.00	0.61
23:W:175:ILE:CD1	23:W:180:LEU:HG	2.30	0.61
25:Y:28:LYS:HD3	25:Y:79:THR:O	1.99	0.61
25:Y:67:ALA:O	25:Y:68:ARG:C	2.43	0.61
26:Z:102:ARG:HB2	26:Z:141:ASP:OD2	2.00	0.61
27:0:21:THR:H	27:0:23:LYS:HZ3	1.46	0.61
34:8:91:ARG:NH2	34:8:93:ILE:HG21	2.15	0.61
37:b:45:ALA:O	37:b:48:GLN:HB2	2.00	0.61
42:g:39:GLN:HG3	42:g:42:LEU:HD22	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:m:19:ARG:O	48:m:20:ASP:HB2	1.99	0.61
51:s:201:G:H2'	51:s:202:G:O4'	2.01	0.61
51:s:946:A:H2'	51:s:947:G:C8	2.35	0.61
52:t:450:G:O6	52:t:453:A:OP1	2.19	0.61
52:t:1313:U:O2	52:t:1313:U:H2'	2.00	0.61
2:B:3:LYS:NZ	51:s:1191:A:H5''	2.15	0.61
9:I:48:ARG:HG3	9:I:66:GLU:CB	2.31	0.61
11:K:47:ALA:O	11:K:48:LEU:HD12	1.99	0.61
11:K:49:ARG:HH12	51:s:523:A:N6	1.97	0.61
21:U:12:ARG:HH11	21:U:12:ARG:CG	2.14	0.61
21:U:159:THR:HG21	52:t:1819:A:OP1	2.01	0.61
23:W:111:GLU:HA	23:W:114:ARG:HH12	1.65	0.61
25:Y:89:VAL:HG21	25:Y:162:ARG:HE	1.63	0.61
30:3:135:VAL:HG12	30:3:136:MET:N	2.16	0.61
32:5:30:ARG:HH22	53:u:48:U:P	2.23	0.61
37:b:7:LEU:O	37:b:8:LEU:HD22	2.00	0.61
38:c:82:VAL:CG1	38:c:83:GLY:H	2.10	0.61
40:e:24:ARG:HA	40:e:65:LYS:HB3	1.82	0.61
40:e:72:GLY:HA3	53:u:12:C:N1	2.16	0.61
50:p:3:THR:O	50:p:7:ILE:HG12	2.00	0.61
51:s:514:C:H2'	51:s:515:G:H8	1.66	0.61
51:s:1422:G:C2	51:s:1423:G:C8	2.89	0.61
51:s:1462:C:H2'	51:s:1463:U:O4'	2.01	0.61
4:D:15:ILE:HD11	4:D:112:ALA:HB3	1.81	0.61
6:F:25:PHE:C	6:F:25:PHE:CD2	2.77	0.61
11:K:54:VAL:HG21	11:K:79:ILE:HD11	1.81	0.61
20:T:3:ILE:HG23	20:T:19:LYS:HZ2	1.63	0.61
23:W:7:ASP:OD1	23:W:8:ALA:N	2.32	0.61
23:W:10:SER:O	23:W:11:ALA:HB3	2.01	0.61
24:X:125:GLY:HA2	24:X:162:ASP:HA	1.83	0.61
29:2:47:ARG:HH22	52:t:195:A:H5''	1.65	0.61
30:3:55:ARG:NH1	52:t:2470:G:OP1	2.33	0.61
37:b:43:ILE:HG13	37:b:44:LYS:N	2.16	0.61
46:k:5:PHE:CZ	46:k:7:PRO:HB3	2.36	0.61
48:m:3:VAL:HG21	52:t:2539:C:C5'	2.28	0.61
50:p:29:LYS:NZ	50:r:15:SER:HB3	2.15	0.61
51:s:418:C:O5'	51:s:418:C:H6	1.84	0.61
51:s:1514:G:H2'	51:s:1515:G:H8	1.65	0.61
52:t:583:G:N2	52:t:1258:U:C2	2.69	0.61
52:t:1111:A:O2'	52:t:1112:G:P	2.59	0.61
52:t:1286:A:O2'	52:t:1288:G:OP2	2.17	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:432:SER:O	54:v:434:ASN:N	2.34	0.61
2:B:178:ARG:HH11	51:s:1112:C:H1'	1.66	0.61
3:C:101:VAL:HG21	3:C:117:VAL:CG2	2.31	0.61
8:H:110:VAL:HG21	51:s:1370:G:P	2.40	0.61
9:I:100:ILE:HD13	9:I:100:ILE:N	2.09	0.61
12:L:3:ILE:HD12	12:L:3:ILE:O	2.01	0.61
22:V:118:PHE:CE1	52:t:1654:A:H4'	2.35	0.61
22:V:129:THR:HB	52:t:1997:C:OP2	2.00	0.61
25:Y:30:GLY:O	25:Y:32:LEU:N	2.34	0.61
25:Y:82:PHE:HB3	25:Y:140:ILE:CD1	2.31	0.61
38:c:27:VAL:HG23	38:c:33:VAL:HG12	1.82	0.61
45:j:3:GLY:C	45:j:4:ILE:HD13	2.26	0.61
47:l:26:ALA:HB1	52:t:2392:A:O3'	2.01	0.61
50:p:7:ILE:C	50:p:9:GLU:H	2.09	0.61
51:s:815:A:H62	51:s:1509:C:H1'	1.65	0.61
51:s:890:G:O2'	51:s:891:U:P	2.58	0.61
51:s:1206:G:H2'	51:s:1207:G:O4'	2.00	0.61
51:s:1324:A:H4'	51:s:1362:A:H4'	1.83	0.61
52:t:704:G:H1'	52:t:727:A:H62	1.62	0.61
52:t:857:G:H2'	52:t:858:G:O4'	2.01	0.61
52:t:995:C:H6	52:t:995:C:H5'	1.66	0.61
52:t:1847:A:H2'	52:t:1848:A:N7	2.16	0.61
4:D:152:VAL:O	4:D:156:ARG:HB2	2.01	0.60
8:H:117:LEU:HB3	8:H:122:ARG:O	2.01	0.60
9:I:35:GLN:HG3	9:I:77:VAL:HB	1.82	0.60
10:J:22:ILE:CD1	10:J:85:VAL:HA	2.30	0.60
11:K:62:VAL:HG21	11:K:94:TYR:CD2	2.35	0.60
12:L:106:ARG:HH12	12:L:109:LYS:HD3	1.66	0.60
13:M:68:ARG:HH22	51:s:974:A:P	2.24	0.60
21:U:250:GLN:H	21:U:250:GLN:CD	2.09	0.60
25:Y:24:THR:HG23	25:Y:34:ARG:HB3	1.83	0.60
43:h:40:THR:HG23	43:h:43:ILE:HG23	1.82	0.60
51:s:1211:U:H1'	51:s:1213:A:C2	2.35	0.60
52:t:127:A:H5''	52:t:128:C:O4'	2.01	0.60
52:t:312:G:H2'	52:t:313:G:H8	1.65	0.60
52:t:448:U:H4'	52:t:449:A:OP2	2.01	0.60
52:t:741:U:O2'	52:t:742:A:H5'	2.01	0.60
52:t:849:A:H2'	52:t:850:U:H6	1.66	0.60
52:t:876:C:N4	52:t:900:A:N6	2.47	0.60
52:t:1481:U:O2'	52:t:1482:G:H4'	2.01	0.60
52:t:2152:G:H2'	52:t:2153:C:O4'	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2742:G:C2'	52:t:2743:U:H5'	2.31	0.60
8:H:79:ARG:O	8:H:79:ARG:HD2	2.01	0.60
21:U:255:LYS:O	52:t:1797:G:O3'	2.19	0.60
22:V:121:THR:O	22:V:122:VAL:HB	2.00	0.60
23:W:48:THR:H	23:W:51:GLU:HG3	1.65	0.60
23:W:101:TYR:CE2	52:t:616:A:H4'	2.36	0.60
25:Y:27:GLY:O	25:Y:28:LYS:C	2.43	0.60
26:Z:100:ILE:O	26:Z:139:VAL:HA	2.01	0.60
27:O:6:ALA:HB3	27:O:45:THR:CG2	2.31	0.60
27:O:30:THR:HG21	52:t:1005:C:O2'	2.02	0.60
30:3:42:THR:O	30:3:44:ARG:N	2.34	0.60
30:3:44:ARG:HG2	52:t:2484:G:OP1	2.01	0.60
38:c:18:LYS:O	38:c:18:LYS:HD2	2.00	0.60
43:h:29:ARG:H	43:h:33:HIS:CD2	2.18	0.60
49:n:26:VAL:HG22	49:n:84:TYR:CD1	2.36	0.60
51:s:675:A:O2'	51:s:676:A:H5'	2.01	0.60
51:s:940:C:H2'	51:s:941:G:H8	1.65	0.60
52:t:1450:G:H21	52:t:1452:G:H1	1.49	0.60
3:C:53:GLN:HA	3:C:198:LEU:HD22	1.84	0.60
3:C:75:TYR:CD1	3:C:75:TYR:C	2.80	0.60
6:F:64:ALA:O	6:F:126:ALA:HB1	2.01	0.60
7:G:4:ASP:CG	7:G:76:ARG:HH12	2.09	0.60
7:G:52:GLY:HA3	7:G:56:PRO:HA	1.82	0.60
11:K:3:VAL:HG23	11:K:4:ASN:N	2.14	0.60
11:K:8:ARG:HH22	51:s:881:G:P	2.23	0.60
12:L:90:HIS:CE1	51:s:1308:U:H4'	2.36	0.60
13:M:12:ARG:HG2	13:M:53:ASP:CB	2.28	0.60
24:X:16:MET:O	24:X:20:ASN:HA	2.01	0.60
25:Y:117:PRO:HD2	25:Y:120:ILE:CG2	2.32	0.60
27:O:103:ILE:HG13	27:O:104:ALA:N	2.14	0.60
29:2:78:ARG:HB3	29:2:78:ARG:NH2	2.16	0.60
33:6:83:ILE:O	33:6:83:ILE:HG23	2.00	0.60
34:8:36:GLN:O	34:8:39:ILE:HG22	2.00	0.60
49:n:52:MET:HE2	49:n:95:LEU:HD12	1.82	0.60
51:s:64:G:C2	51:s:67:C:N4	2.69	0.60
52:t:1794:A:H2'	52:t:1795:C:C6	2.35	0.60
54:v:20:SER:OG	54:v:24:ALA:HB3	2.01	0.60
2:B:13:ILE:O	2:B:15:LYS:N	2.34	0.60
2:B:137:VAL:HA	2:B:148:ILE:HD12	1.82	0.60
3:C:9:LYS:HD2	51:s:428:G:OP2	2.02	0.60
10:J:43:TRP:CZ2	51:s:686:U:H1'	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:86:LYS:HG3	10:J:112:VAL:O	2.01	0.60
14:N:16:ARG:NH2	14:N:76:ARG:HH12	2.00	0.60
21:U:219:VAL:HG21	52:t:782:A:C8	2.37	0.60
22:V:14:ILE:HD12	22:V:14:ILE:C	2.26	0.60
24:X:3:LEU:HD23	24:X:100:GLU:CD	2.26	0.60
29:2:64:PHE:C	29:2:64:PHE:CD1	2.80	0.60
30:3:84:LYS:N	52:t:2275:C:O2'	2.32	0.60
35:9:29:THR:HG23	35:9:65:ALA:HA	1.82	0.60
37:b:22:THR:O	37:b:25:GLU:HB3	2.01	0.60
50:q:28:GLU:C	50:q:29:LYS:HG3	2.26	0.60
51:s:999:C:H42	51:s:1041:G:H1	1.48	0.60
52:t:120:U:H5'	52:t:122:G:OP2	2.00	0.60
52:t:776:G:H4'	52:t:777:G:O5'	2.02	0.60
52:t:1475:G:O2'	52:t:1476:U:P	2.59	0.60
52:t:1585:C:H2'	52:t:1586:A:O4'	2.01	0.60
52:t:1622:G:O2'	52:t:1623:G:H5'	2.01	0.60
52:t:1682:G:H2'	52:t:1683:U:H6	1.64	0.60
3:C:73:ASN:HA	3:C:76:LYS:CE	2.25	0.60
3:C:109:THR:HG21	51:s:408:A:O5'	2.02	0.60
11:K:49:ARG:HG2	11:K:49:ARG:HH11	1.66	0.60
11:K:56:LEU:HD11	11:K:81:ILE:HD11	1.83	0.60
11:K:86:VAL:CG1	11:K:89:LEU:HD23	2.30	0.60
21:U:124:LYS:HB3	21:U:127:ASN:ND2	2.15	0.60
23:W:199:MET:O	23:W:200:LEU:HD22	2.00	0.60
24:X:82:TYR:HD2	24:X:83:PRO:HD2	1.64	0.60
25:Y:33:THR:H	25:Y:34:ARG:NH1	1.93	0.60
25:Y:82:PHE:HB3	25:Y:140:ILE:HD13	1.83	0.60
25:Y:83:THR:HA	25:Y:84:LYS:HZ3	1.62	0.60
32:5:31:THR:O	32:5:33:ARG:N	2.35	0.60
32:5:57:ALA:C	32:5:58:ILE:HD12	2.27	0.60
36:a:90:LYS:HA	52:t:751:A:H5'	1.84	0.60
42:g:3:ALA:C	42:g:5:GLU:H	2.07	0.60
48:m:16:ILE:CD1	48:m:25:VAL:HG22	2.32	0.60
51:s:390:U:O2'	51:s:391:G:H5'	2.01	0.60
51:s:634:C:H2'	51:s:635:A:H8	1.66	0.60
51:s:1159:U:C4'	51:s:1160:G:OP1	2.48	0.60
51:s:1396:A:C4'	51:s:1397:C:O5'	2.45	0.60
52:t:655:A:O2'	52:t:656:G:C8	2.55	0.60
52:t:787:C:H3'	52:t:791:C:N4	2.16	0.60
52:t:1857:G:O2'	52:t:1858:A:OP2	2.20	0.60
52:t:2290:G:H2'	52:t:2291:U:C6	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:71:PHE:HE1	3:C:89:LEU:HD21	1.66	0.60
5:E:13:ASP:O	5:E:15:SER:N	2.35	0.60
7:G:101:ALA:HB3	7:G:112:ASP:HB3	1.82	0.60
11:K:49:ARG:HD2	11:K:49:ARG:N	2.17	0.60
15:O:71:VAL:O	15:O:75:ILE:HG13	2.00	0.60
17:Q:54:LEU:HD13	17:Q:58:ILE:HD11	1.83	0.60
25:Y:94:ARG:HG3	25:Y:127:GLN:CG	2.32	0.60
32:5:33:ARG:NH1	53:u:52:A:C5	2.70	0.60
44:i:54:ILE:HG22	44:i:54:ILE:O	2.01	0.60
51:s:184:G:O4'	51:s:224:U:H4'	2.02	0.60
51:s:265:G:O2'	51:s:266:G:H5'	2.01	0.60
51:s:319:G:O2'	51:s:320:A:H5'	2.01	0.60
52:t:1533:C:N4	52:t:1538:G:H1	1.98	0.60
52:t:1853:A:N1	52:t:2087:G:H1'	2.16	0.60
56:AA:3:SER:O	56:AA:5:UAL:N	2.35	0.60
4:D:156:ARG:NH2	7:G:113:ARG:NH1	2.48	0.60
6:F:50:ALA:HB2	6:F:57:GLU:CD	2.25	0.60
19:S:53:MET:HG3	19:S:54:GLN:N	2.15	0.60
23:W:77:ILE:HG13	23:W:78:TRP:HE3	1.65	0.60
23:W:163:ASN:ND2	52:t:320:A:N3	2.50	0.60
24:X:33:ILE:HD13	24:X:95:MET:CG	2.32	0.60
34:8:23:TYR:CB	34:8:27:ARG:HB3	2.31	0.60
49:n:59:LEU:HG	49:n:62:ARG:HD2	1.82	0.60
50:o:3:THR:HG22	50:o:6:GLN:HB2	1.83	0.60
51:s:66:A:C4'	51:s:173:U:C4	2.85	0.60
51:s:173:U:H5'	51:s:197:A:O4'	2.01	0.60
51:s:309:A:H2'	51:s:310:G:H8	1.67	0.60
51:s:938:A:N3	51:s:1376:U:H1'	2.15	0.60
51:s:1316:G:N2	51:s:1319:A:C8	2.69	0.60
52:t:511:U:H4'	52:t:1235:G:H4'	1.84	0.60
52:t:1533:C:O2	52:t:1533:C:H2'	2.01	0.60
52:t:2892:G:H5''	52:t:2894:G:N2	2.17	0.60
54:v:300:VAL:HG12	54:v:301:PHE:H	1.66	0.60
54:v:472:ARG:HH21	54:v:505:ALA:HB2	1.66	0.60
2:B:183:TYR:HD1	2:B:199:VAL:O	1.84	0.60
2:B:196:GLY:HA3	51:s:1057:G:O3'	2.02	0.60
5:E:97:THR:HG22	5:E:98:GLU:N	2.17	0.60
7:G:17:GLN:NE2	7:G:69:ALA:HB1	2.17	0.60
10:J:35:ASP:OD1	10:J:37:GLN:HB2	2.01	0.60
15:O:68:SER:HB2	15:O:71:VAL:HG23	1.84	0.60
21:U:50:THR:HG21	52:t:1814:G:H4'	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:151:GLY:H	23:W:189:THR:HG21	1.67	0.60
28:1:2:ILE:O	28:1:3:GLN:HG2	2.01	0.60
35:9:10:LYS:HE3	52:t:994:C:O2	2.01	0.60
36:a:73:LYS:HA	36:a:73:LYS:HE3	1.83	0.60
41:f:73:ARG:HG3	41:f:74:GLY:N	2.17	0.60
49:n:2:ALA:HB3	49:n:6:GLN:CB	2.28	0.60
49:n:74:ASP:HA	49:n:77:VAL:HB	1.82	0.60
51:s:676:A:H2'	51:s:677:U:C6	2.37	0.60
51:s:994:A:H1'	51:s:1217:C:H5'	1.84	0.60
52:t:170:U:O2'	52:t:171:U:H5'	2.02	0.60
52:t:421:C:O2'	52:t:422:A:P	2.59	0.60
52:t:697:G:H2'	52:t:698:C:C6	2.37	0.60
2:B:10:ARG:HH21	2:B:181:ILE:HD12	1.67	0.60
3:C:124:VAL:O	3:C:126:GLY:N	2.30	0.60
10:J:117:HIS:O	51:s:717:U:O2'	2.18	0.60
12:L:7:ASN:HD22	12:L:21:ILE:CD1	2.14	0.60
20:T:48:LYS:HG2	51:s:723:U:O5'	2.02	0.60
22:V:66:GLY:O	22:V:69:ALA:HB3	2.02	0.60
24:X:12:VAL:HG13	24:X:13:LYS:N	2.16	0.60
26:Z:4:VAL:HG21	52:t:1099:G:OP1	2.01	0.60
26:Z:57:VAL:HG12	26:Z:58:ILE:N	2.17	0.60
26:Z:116:MET:HG3	26:Z:124:MET:HE2	1.83	0.60
30:3:35:ALA:O	30:3:36:VAL:HB	2.01	0.60
34:8:55:GLN:OE1	52:t:559:G:H1'	2.01	0.60
34:8:97:ILE:HD11	34:8:108:LEU:HD12	1.83	0.60
40:e:70:VAL:HA	40:e:76:ARG:O	2.01	0.60
49:n:38:MET:O	49:n:42:ARG:HB2	2.02	0.60
51:s:752:G:H1'	51:s:754:C:N4	2.16	0.60
51:s:1517:G:P	56:7:4:SER:HA	2.42	0.60
52:t:155:A:H2'	52:t:156:A:C8	2.36	0.60
52:t:372:G:H4'	52:t:373:U:O5'	2.01	0.60
52:t:825:A:O2'	52:t:826:U:H5'	2.01	0.60
52:t:1033:U:H5'	52:t:1034:G:OP2	2.02	0.60
52:t:1812:U:H2'	52:t:1813:G:C8	2.36	0.60
52:t:1870:C:H5''	52:t:1871:A:OP2	2.01	0.60
52:t:2298:A:H2'	52:t:2299:U:O4'	2.02	0.60
52:t:2867:G:O2'	52:t:2868:A:P	2.60	0.60
54:v:20:SER:H	54:v:26:LYS:HZ2	1.47	0.60
54:v:23:ASP:OD2	54:v:68:ILE:HD13	2.02	0.60
54:v:53:GLN:O	54:v:55:ALA:N	2.32	0.60
54:v:59:TRP:CZ2	54:v:69:SER:OG	2.54	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:63:GLU:HB2	54:v:450:VAL:HG11	1.83	0.60
54:v:427:VAL:HG12	54:v:438:VAL:HG22	1.83	0.60
54:v:518:TYR:CD1	54:v:519:PRO:HA	2.36	0.60
2:B:152:VAL:HA	2:B:196:GLY:O	2.02	0.60
4:D:56:PRO:HG2	4:D:57:ALA:H	1.67	0.60
5:E:97:THR:HG22	5:E:98:GLU:H	1.66	0.60
9:I:29:ALA:C	9:I:31:ARG:H	2.08	0.60
10:J:70:ALA:O	10:J:73:VAL:HG22	2.02	0.60
16:P:11:VAL:CG1	16:P:12:VAL:H	2.07	0.60
18:R:36:ARG:HD3	51:s:1318:A:O2'	2.01	0.60
24:X:26:GLN:HA	53:u:57:A:H1'	1.84	0.60
27:0:21:THR:HG23	27:0:61:LYS:HE3	1.84	0.60
30:3:108:VAL:CG1	30:3:112:LEU:HB3	2.32	0.60
34:8:15:LYS:O	34:8:18:LYS:HB3	2.02	0.60
37:b:70:HIS:CD2	37:b:73:ARG:HB2	2.36	0.60
38:c:11:ILE:HG13	38:c:20:LYS:O	2.01	0.60
38:c:78:LYS:HG2	38:c:79:ALA:H	1.66	0.60
40:e:72:GLY:O	40:e:74:LYS:N	2.35	0.60
45:j:29:LYS:HZ2	52:t:2286:G:H3'	1.66	0.60
51:s:452:A:N6	51:s:480:U:C2	2.70	0.60
51:s:634:C:H2'	51:s:635:A:C8	2.37	0.60
52:t:68:G:H2'	52:t:69:C:C6	2.37	0.60
52:t:945:A:H5'	52:t:946:C:OP2	2.01	0.60
52:t:1020:A:H4'	52:t:1021:A:O5'	2.02	0.60
52:t:1458:U:O2'	52:t:1459:G:OP2	2.14	0.60
52:t:1715:G:O2'	52:t:1716:U:C6	2.54	0.60
52:t:1930:G:H5'	56:BA:1:KBE:HEA	1.82	0.60
52:t:2191:A:H2'	52:t:2192:U:H6	1.65	0.60
54:v:18:ILE:O	54:v:26:LYS:HE2	2.02	0.60
54:v:35:LEU:HD11	54:v:262:ASN:HD21	1.67	0.60
1:A:121:GLN:H	1:A:121:GLN:CD	2.10	0.59
1:A:219:THR:N	1:A:221:ARG:HH22	2.00	0.59
2:B:21:TRP:HB3	2:B:58:ARG:H	1.67	0.59
3:C:12:ARG:NH2	51:s:427:U:OP1	2.34	0.59
4:D:10:LEU:HD23	4:D:10:LEU:H	1.67	0.59
6:F:77:ARG:HG2	6:F:77:ARG:HH11	1.67	0.59
8:H:10:ARG:HB2	8:H:15:ALA:HA	1.84	0.59
8:H:12:LYS:HA	8:H:109:GLN:OE1	2.02	0.59
8:H:16:ALA:CB	8:H:66:VAL:HB	2.32	0.59
18:R:80:ARG:HG2	18:R:80:ARG:HH11	1.67	0.59
21:U:58:LYS:HB3	52:t:1568:G:C4'	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:146:VAL:HA	23:W:185:LYS:O	2.01	0.59
26:Z:19:PRO:HB2	26:Z:22:PRO:HD2	1.83	0.59
31:4:72:ASP:HB3	31:4:75:ILE:HG12	1.83	0.59
38:c:44:HIS:CD2	52:t:483:A:C8	2.88	0.59
40:e:20:LEU:HD13	52:t:2355:G:H4'	1.84	0.59
48:m:11:CYS:SG	48:m:14:CYS:N	2.75	0.59
50:q:14:MET:HE2	50:q:14:MET:HA	1.83	0.59
51:s:16:A:O2'	51:s:17:U:H5'	2.02	0.59
51:s:462:G:H1	51:s:470:C:H42	1.50	0.59
51:s:1347:G:O2'	51:s:1348:U:OP2	2.19	0.59
52:t:511:U:C2'	52:t:512:G:H5'	2.31	0.59
52:t:1378:A:O2'	52:t:1379:U:O5'	2.20	0.59
52:t:2070:A:H2'	52:t:2071:A:C8	2.37	0.59
52:t:2750:A:O2'	52:t:2752:C:N4	2.36	0.59
54:v:522:GLN:HB2	54:v:524:HIS:H	1.67	0.59
9:I:59:LYS:HG3	9:I:60:ASP:N	2.15	0.59
9:I:73:LEU:HD12	9:I:75:ASP:HB2	1.83	0.59
11:K:65:TYR:O	11:K:96:THR:HG23	2.02	0.59
19:S:24:ARG:O	19:S:27:MET:HB3	2.01	0.59
21:U:180:MET:HB2	21:U:268:ARG:N	2.16	0.59
24:X:25:MET:C	24:X:27:VAL:N	2.58	0.59
24:X:98:PHE:O	24:X:102:LEU:HB2	2.01	0.59
29:2:111:ILE:HD11	52:t:636:G:C6	2.37	0.59
29:2:132:ARG:O	29:2:136:GLU:HG3	2.01	0.59
33:6:50:ARG:CB	33:6:56:SER:HB3	2.27	0.59
35:9:100:GLY:O	35:9:101:ILE:HB	2.02	0.59
42:g:37:LEU:HD21	42:g:39:GLN:O	2.02	0.59
44:i:16:ARG:HA	44:i:19:ASP:OD1	2.02	0.59
47:l:44:ARG:N	47:l:45:PRO:HD2	2.16	0.59
51:s:115:G:O2'	51:s:116:A:OP2	2.20	0.59
51:s:954:G:C2	51:s:1228:C:N4	2.69	0.59
52:t:269:C:H2'	52:t:270:A:H8	1.66	0.59
52:t:323:C:O2'	52:t:1205:A:N6	2.35	0.59
52:t:665:U:H2'	52:t:666:A:H8	1.66	0.59
52:t:1939:U:H3'	52:t:1940:U:H5'	1.83	0.59
52:t:2591:C:H2'	52:t:2592:G:H8	1.67	0.59
53:u:25:U:O5'	53:u:25:U:H6	1.84	0.59
54:v:59:TRP:CE2	54:v:69:SER:OG	2.45	0.59
1:A:81:ASP:C	1:A:83:ALA:N	2.59	0.59
9:I:65:TYR:HB3	13:M:95:LEU:HD11	1.83	0.59
11:K:29:LYS:C	11:K:80:LEU:HD12	2.28	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:25:GLU:HG3	14:N:80:LEU:HD22	1.83	0.59
15:O:63:GLN:HG3	51:s:227:G:O2'	2.00	0.59
20:T:36:PHE:HD1	20:T:39:LYS:NZ	1.99	0.59
21:U:257:ARG:HB2	52:t:1798:U:OP1	2.02	0.59
23:W:61:ARG:NH1	23:W:64:GLY:HA3	2.18	0.59
25:Y:36:LEU:HD22	25:Y:36:LEU:N	2.16	0.59
26:Z:112:LYS:HD3	26:Z:116:MET:HE3	1.83	0.59
29:2:61:LEU:HD22	29:2:61:LEU:H	1.66	0.59
30:3:35:ALA:O	30:3:127:LYS:O	2.20	0.59
32:5:56:LYS:O	32:5:60:GLU:HB2	2.03	0.59
34:8:8:ILE:HD12	34:8:9:ALA:H	1.66	0.59
39:d:61:LEU:O	39:d:71:LYS:HA	2.02	0.59
44:i:3:GLN:HA	52:t:2615:U:C2	2.37	0.59
49:n:144:LYS:O	49:n:146:ALA:N	2.36	0.59
50:o:24:SER:C	50:o:26:MET:H	2.09	0.59
51:s:865:A:H5'	51:s:1078:U:O4	2.03	0.59
51:s:1046:A:H2'	51:s:1047:G:C8	2.36	0.59
52:t:1130:U:HO2'	52:t:1131:G:H8	1.49	0.59
52:t:1943:U:C5	52:t:1945:G:O4'	2.55	0.59
52:t:1944:U:H1'	52:t:1955:U:H4'	1.84	0.59
52:t:2321:U:H5'	52:t:2322:A:OP2	2.02	0.59
54:v:105:ALA:O	54:v:319:ARG:NH1	2.32	0.59
1:A:183:PHE:HD2	1:A:183:PHE:N	2.00	0.59
1:A:202:ASN:CG	1:A:205:ALA:HB2	2.28	0.59
1:A:206:ILE:HG12	1:A:207:ARG:N	2.17	0.59
4:D:14:LEU:HB3	4:D:36:THR:HG22	1.84	0.59
18:R:36:ARG:HH21	51:s:1220:G:H5''	1.66	0.59
21:U:50:THR:HG22	21:U:53:ILE:CG1	2.33	0.59
21:U:63:ILE:HG22	21:U:64:VAL:N	2.18	0.59
22:V:4:LEU:HD23	22:V:29:VAL:HG11	1.83	0.59
23:W:176:ASP:OD1	23:W:176:ASP:C	2.44	0.59
32:5:90:VAL:O	32:5:117:PHE:HB3	2.03	0.59
34:8:91:ARG:HH21	34:8:93:ILE:CG2	2.14	0.59
35:9:80:ARG:NH2	52:t:572:A:OP2	2.35	0.59
39:d:35:GLU:HB2	39:d:93:ARG:NH1	2.17	0.59
41:f:67:LEU:N	41:f:67:LEU:HD23	2.17	0.59
50:p:7:ILE:O	50:p:11:VAL:HG23	2.01	0.59
51:s:197:A:H1'	51:s:198:G:O4'	2.03	0.59
52:t:191:A:H2'	52:t:192:C:C6	2.37	0.59
52:t:368:A:O2'	52:t:369:U:H5'	2.02	0.59
52:t:532:A:HO2'	52:t:2021:C:N4	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1131:G:O2'	52:t:1133:A:N7	2.36	0.59
52:t:1734:G:H2'	52:t:1735:A:C8	2.38	0.59
52:t:1983:G:O2'	52:t:2606:C:H5''	2.03	0.59
52:t:2071:A:H2'	52:t:2072:C:C6	2.37	0.59
52:t:2458:G:O2'	52:t:2460:U:O4	2.19	0.59
52:t:2726:A:O2'	52:t:2727:A:P	2.60	0.59
3:C:147:LYS:O	3:C:149:LYS:N	2.30	0.59
4:D:139:THR:O	4:D:142:GLY:N	2.36	0.59
5:E:47:LEU:HD13	5:E:51:ILE:CG2	2.28	0.59
6:F:94:ARG:NH1	6:F:98:LEU:HD21	2.17	0.59
14:N:25:GLU:OE2	14:N:76:ARG:HD2	2.03	0.59
15:O:2:VAL:O	15:O:65:ALA:HB1	2.02	0.59
19:S:53:MET:O	19:S:56:ILE:HG22	2.03	0.59
23:W:148:ILE:CD1	23:W:187:VAL:HG21	2.32	0.59
27:O:24:THR:OG1	27:O:27:ARG:HB2	2.02	0.59
39:d:89:ILE:HD12	39:d:89:ILE:N	2.18	0.59
51:s:672:U:O2'	51:s:673:A:H5'	2.03	0.59
51:s:1101:A:O2'	51:s:1102:A:OP2	2.19	0.59
51:s:1372:U:H2'	51:s:1373:G:H5'	1.84	0.59
52:t:1355:G:H2'	52:t:1356:G:H8	1.67	0.59
52:t:2500:U:O2	52:t:2504:U:C5	2.56	0.59
52:t:2758:A:H2'	52:t:2759:G:H5'	1.84	0.59
54:v:19:ILE:O	54:v:20:SER:HB3	2.03	0.59
1:A:67:LEU:HD12	1:A:157:PRO:HG2	1.85	0.59
8:H:49:GLN:HA	8:H:52:GLU:HG3	1.83	0.59
15:O:20:VAL:CG2	15:O:32:PHE:HB2	2.33	0.59
19:S:6:ALA:O	19:S:9:ARG:HB2	2.01	0.59
25:Y:156:TYR:CD1	52:t:2531:A:H4'	2.37	0.59
33:6:77:SER:OG	33:6:79:VAL:HG22	2.03	0.59
39:d:6:ALA:HB2	39:d:42:LEU:HD23	1.85	0.59
40:e:28:GLU:CB	40:e:31:LEU:HD11	2.33	0.59
40:e:31:LEU:HD22	52:t:2354:C:H4'	1.83	0.59
51:s:687:A:H4'	51:s:688:G:O5'	2.03	0.59
52:t:637:A:C4'	52:t:638:G:O5'	2.36	0.59
52:t:1873:G:H2'	52:t:1874:C:C6	2.38	0.59
52:t:2389:G:H5''	52:t:2390:U:O4'	2.02	0.59
2:B:76:ILE:HG13	2:B:83:VAL:HG21	1.85	0.59
5:E:62:MET:O	5:E:63:ASN:HB2	2.02	0.59
6:F:12:LEU:H	6:F:12:LEU:CD2	2.14	0.59
7:G:115:ALA:O	7:G:118:ALA:HB3	2.03	0.59
13:M:86:ALA:HB1	13:M:91:GLU:HB2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:19:VAL:HG12	15:O:37:GLY:C	2.27	0.59
18:R:10:ILE:HG22	18:R:37:SER:HB3	1.84	0.59
20:T:33:ARG:HD3	20:T:34:ARG:H	1.67	0.59
21:U:141:HIS:HB2	21:U:190:THR:CB	2.21	0.59
30:3:43:ALA:CA	30:3:46:ILE:HG12	2.33	0.59
32:5:111:ARG:C	32:5:113:ALA:H	2.10	0.59
37:b:69:ARG:CZ	37:b:70:HIS:H	2.15	0.59
49:n:148:ALA:C	49:n:150:LYS:H	2.10	0.59
51:s:769:G:O2'	51:s:770:C:H5'	2.03	0.59
51:s:1126:U:H1'	51:s:1281:C:C1'	2.31	0.59
52:t:1022:G:N2	52:t:1142:A:H2	2.00	0.59
52:t:1071:G:H1'	52:t:1089:A:N7	2.17	0.59
52:t:2033:A:O2'	52:t:2034:U:P	2.61	0.59
52:t:2225:A:H4'	52:t:2226:C:O5'	2.02	0.59
3:C:63:ILE:HG23	3:C:63:ILE:O	2.03	0.59
5:E:38:ARG:HH11	5:E:61:LEU:CD2	2.15	0.59
21:U:229:HIS:ND1	21:U:230:PRO:CD	2.66	0.59
23:W:108:ILE:HD13	29:2:2:ARG:HH22	1.68	0.59
26:Z:5:GLN:O	26:Z:6:ALA:HB2	2.02	0.59
26:Z:78:LEU:HD22	26:Z:81:LYS:HE3	1.84	0.59
27:O:65:THR:HG23	52:t:1141:U:C6	2.38	0.59
34:8:27:ARG:HH11	34:8:27:ARG:HG3	1.68	0.59
40:e:23:LYS:CD	52:t:855:G:H1'	2.28	0.59
47:l:26:ALA:HA	52:t:2393:U:OP1	2.03	0.59
50:r:2:ILE:CD1	50:r:3:THR:N	2.62	0.59
51:s:55:A:N7	51:s:56:U:C4	2.71	0.59
51:s:355:C:N4	51:s:356:A:N6	2.50	0.59
51:s:1129:C:H5''	51:s:1130:A:OP1	2.02	0.59
51:s:1314:C:H2'	51:s:1315:U:H6	1.66	0.59
52:t:265:A:O2'	52:t:266:G:O4'	2.20	0.59
52:t:1590:A:H2'	52:t:1591:A:C8	2.38	0.59
52:t:1693:U:O5'	52:t:1694:C:H5	1.86	0.59
52:t:1910:G:O2'	52:t:1911:U:H5'	2.03	0.59
52:t:2697:G:C2	52:t:2711:A:C2	2.91	0.59
21:U:4:LYS:HG2	21:U:16:VAL:HG22	1.85	0.59
26:Z:79:LEU:HD11	26:Z:132:ALA:HA	1.83	0.59
29:2:74:THR:CG2	29:2:107:PHE:HB2	2.30	0.59
29:2:79:LEU:HA	29:2:82:LEU:HD22	1.85	0.59
31:4:40:LYS:NZ	52:t:1651:G:OP1	2.35	0.59
36:a:63:GLY:O	36:a:64:ALA:HB3	2.03	0.59
37:b:2:ILE:CD1	52:t:141:G:H1	2.15	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:b:5:GLU:O	37:b:8:LEU:HB2	2.03	0.59
37:b:5:GLU:OE1	42:g:18:LEU:HD11	2.03	0.59
42:g:56:LEU:O	42:g:58:ASN:N	2.34	0.59
43:h:52:PHE:CD2	53:u:83:G:H4'	2.37	0.59
44:i:42:ILE:HG12	44:i:48:TYR:HB2	1.85	0.59
46:k:9:VAL:HG12	52:t:1309:G:OP1	2.03	0.59
50:o:11:VAL:HG11	50:r:15:SER:HB3	1.83	0.59
50:p:28:GLU:C	50:p:29:LYS:HG3	2.28	0.59
50:q:14:MET:O	50:q:18:ASP:HB2	2.03	0.59
51:s:468:A:H5''	51:s:469:C:H5	1.68	0.59
51:s:541:G:H2'	51:s:542:G:H8	1.68	0.59
51:s:697:U:H2'	51:s:698:G:H5'	1.85	0.59
51:s:994:A:H61	51:s:1047:G:H1'	1.68	0.59
52:t:227:A:C6	52:t:2407:A:H1'	2.38	0.59
52:t:467:G:O2'	52:t:468:G:H5'	2.03	0.59
52:t:533:G:H2'	52:t:534:U:C6	2.38	0.59
52:t:1083:U:O2	52:t:1086:A:N1	2.35	0.59
52:t:1657:U:H2'	52:t:1658:C:H6	1.68	0.59
52:t:1794:A:H1'	52:t:1900:A:C2	2.38	0.59
52:t:2155:U:H2'	52:t:2156:G:C2	2.38	0.59
53:u:44:G:H5'	53:u:45:A:OP1	2.03	0.59
54:v:56:LYS:H	54:v:57:SER:HB3	1.68	0.59
5:E:85:ILE:O	5:E:86:ARG:C	2.45	0.59
6:F:39:GLU:HA	6:F:42:VAL:CG2	2.33	0.59
8:H:21:LYS:O	8:H:23:GLY:N	2.36	0.59
8:H:80:HIS:HE1	8:H:105:ARG:HG2	1.68	0.59
12:L:4:ALA:HB2	12:L:59:VAL:HG11	1.83	0.59
12:L:28:ARG:HH11	12:L:28:ARG:CB	2.10	0.59
15:O:20:VAL:HG21	15:O:32:PHE:CG	2.38	0.59
21:U:140:VAL:HA	21:U:190:THR:O	2.03	0.59
21:U:163:ILE:HD13	21:U:173:LEU:HD23	1.84	0.59
22:V:20:VAL:HG22	28:1:72:PRO:HB2	1.85	0.59
22:V:144:GLY:HA2	52:t:2578:G:H1'	1.85	0.59
24:X:76:PHE:O	24:X:77:LYS:HB2	2.03	0.59
34:8:91:ARG:HD3	35:9:11:GLN:HB2	1.83	0.59
34:8:91:ARG:HE	34:8:93:ILE:CG2	2.16	0.59
36:a:96:ILE:HG13	36:a:96:ILE:O	2.00	0.59
38:c:2:ALA:HB3	38:c:5:ARG:NH2	2.18	0.59
39:d:29:ILE:C	39:d:30:ILE:HD12	2.27	0.59
51:s:137:U:H3	51:s:226:G:H1	1.51	0.59
51:s:705:G:H2'	51:s:706:A:H5'	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:975:A:C5'	51:s:976:G:H5'	2.20	0.59
51:s:1001:C:H2'	51:s:1002:G:C8	2.35	0.59
51:s:1242:G:H1	51:s:1295:U:H3	1.48	0.59
52:t:1061:U:O2'	52:t:1062:G:OP1	2.20	0.59
52:t:1353:A:H2'	52:t:1354:A:C8	2.38	0.59
52:t:1847:A:H8	52:t:1848:A:H62	1.48	0.59
52:t:1968:G:N2	56:7:1:KBE:NZ	2.50	0.59
52:t:2869:G:H2'	52:t:2870:C:H6	1.68	0.59
54:v:401:ILE:HG22	54:v:461:ALA:HB1	1.84	0.59
1:A:219:THR:H	1:A:221:ARG:NH2	2.00	0.58
2:B:178:ARG:NH1	51:s:1112:C:H1'	2.18	0.58
3:C:95:GLY:HA3	3:C:135:GLN:HE22	1.68	0.58
3:C:131:ILE:O	3:C:131:ILE:HG12	2.03	0.58
3:C:131:ILE:HG21	51:s:620:C:N3	2.17	0.58
3:C:190:LEU:O	3:C:191:SER:HB2	2.01	0.58
9:I:9:ARG:NH2	51:s:1279:G:H5''	2.18	0.58
9:I:19:ASP:OD2	9:I:72:ARG:NH2	2.36	0.58
12:L:47:LEU:HD21	12:L:52:ILE:CB	2.27	0.58
21:U:177:SER:HB3	52:t:1819:A:H2'	1.83	0.58
22:V:37:VAL:HG23	22:V:91:THR:HB	1.85	0.58
24:X:112:ASP:CG	24:X:114:ARG:HH11	2.10	0.58
34:8:91:ARG:HH21	34:8:93:ILE:HD12	1.66	0.58
35:9:49:ILE:O	35:9:50:GLY:C	2.46	0.58
36:a:40:ASN:HD22	36:a:40:ASN:N	2.01	0.58
50:q:3:THR:HB	50:r:21:GLU:HG2	1.84	0.58
51:s:1054:C:O2'	51:s:1055:A:H5''	2.02	0.58
51:s:1054:C:OP2	51:s:1197:A:OP2	2.20	0.58
52:t:154:U:H2'	52:t:155:A:H8	1.67	0.58
52:t:197:A:N6	52:t:2430:A:H2'	2.18	0.58
52:t:413:C:H4'	52:t:1880:U:O2'	2.02	0.58
52:t:573:U:H4'	52:t:574:A:OP1	2.03	0.58
52:t:685:A:H5''	52:t:686:U:H5''	1.85	0.58
52:t:712:G:H2'	52:t:713:G:H5'	1.85	0.58
53:u:27:C:H2'	53:u:28:C:C6	2.36	0.58
2:B:29:ALA:HB2	13:M:74:ARG:O	2.02	0.58
9:I:80:THR:HG22	9:I:83:THR:H	1.68	0.58
10:J:75:GLU:C	10:J:77:GLY:H	2.10	0.58
10:J:115:ILE:N	10:J:115:ILE:HD12	2.19	0.58
11:K:113:ARG:HH22	11:K:120:ARG:HG2	1.68	0.58
12:L:99:GLN:NE2	51:s:1307:U:OP1	2.36	0.58
14:N:45:HIS:C	14:N:47:LYS:H	2.11	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:21:VAL:HG11	15:O:60:TRP:CE2	2.38	0.58
17:Q:33:THR:HG23	17:Q:35:SER:H	1.66	0.58
18:R:48:ILE:CD1	18:R:59:VAL:HB	2.34	0.58
19:S:53:MET:HA	19:S:56:ILE:HG22	1.84	0.58
23:W:47:LYS:HB3	23:W:51:GLU:HB2	1.84	0.58
27:O:33:ALA:HA	27:O:36:LEU:HD23	1.85	0.58
31:4:106:ASP:O	31:4:107:ASN:HB3	2.03	0.58
34:8:96:ASP:C	34:8:98:ALA:H	2.11	0.58
50:r:24:SER:HA	50:r:27:GLU:HG3	1.84	0.58
51:s:501:C:H2'	51:s:502:A:C8	2.37	0.58
51:s:1521:C:C2	51:s:1522:U:C5	2.91	0.58
52:t:273:G:H2'	52:t:274:C:H6	1.68	0.58
52:t:825:A:H2'	52:t:826:U:H6	1.68	0.58
52:t:1204:A:H4'	52:t:1205:A:O5'	2.03	0.58
52:t:1510:G:C2'	52:t:1511:G:H5'	2.33	0.58
5:E:45:ARG:HG2	5:E:46:GLN:N	2.18	0.58
5:E:92:THR:C	5:E:93:LYS:HD3	2.27	0.58
6:F:94:ARG:HH11	6:F:94:ARG:HG3	1.69	0.58
11:K:17:LYS:HG3	11:K:17:LYS:O	2.03	0.58
13:M:82:LYS:O	13:M:85:GLU:HB2	2.03	0.58
15:O:5:ARG:HA	15:O:71:VAL:HG21	1.85	0.58
27:O:42:ALA:C	27:O:44:TYR:N	2.52	0.58
28:1:14:SER:O	28:1:52:VAL:HG22	2.03	0.58
31:4:13:ASN:O	31:4:15:SER:N	2.36	0.58
32:5:70:ALA:O	32:5:73:ALA:HB3	2.03	0.58
51:s:250:A:O2'	51:s:251:G:OP2	2.21	0.58
51:s:321:A:H61	51:s:332:G:H1	1.52	0.58
51:s:512:U:C2	51:s:513:C:C5	2.91	0.58
51:s:1171:A:H2'	51:s:1172:C:H6	1.68	0.58
52:t:197:A:H62	52:t:2430:A:H2'	1.67	0.58
52:t:1292:G:H2'	52:t:1293:C:C6	2.39	0.58
52:t:1849:G:H2'	52:t:1850:G:C8	2.37	0.58
52:t:2241:A:H2'	52:t:2242:G:C8	2.39	0.58
52:t:2638:G:O2'	52:t:2639:A:C8	2.56	0.58
1:A:162:VAL:HG22	1:A:184:ALA:CB	2.33	0.58
2:B:27:GLU:O	2:B:31:ASN:ND2	2.34	0.58
4:D:87:VAL:HG12	4:D:92:ARG:HA	1.86	0.58
7:G:48:PHE:O	7:G:49:LYS:HG3	2.03	0.58
10:J:114:PRO:C	10:J:115:ILE:HD12	2.29	0.58
14:N:49:HIS:O	14:N:52:ARG:HB3	2.02	0.58
16:P:10:ARG:O	16:P:22:VAL:HG13	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:140:VAL:HG11	21:U:189:ALA:HB1	1.84	0.58
22:V:169:ARG:C	22:V:170:VAL:HG13	2.29	0.58
23:W:46:GLN:HG3	23:W:87:ALA:H	1.68	0.58
25:Y:100:ASN:O	25:Y:116:LEU:HD23	2.02	0.58
28:1:7:MET:SD	28:1:20:MET:HB2	2.42	0.58
33:6:33:GLU:OE1	51:s:345:C:O3'	2.22	0.58
47:l:16:THR:HG21	47:l:48:MET:CE	2.30	0.58
49:n:6:GLN:O	49:n:9:GLN:HB3	2.03	0.58
49:n:136:ILE:HG13	49:n:139:LEU:HD12	1.84	0.58
51:s:32:A:OP2	51:s:398:U:H1'	2.04	0.58
51:s:141:G:H4'	51:s:141:G:OP1	2.03	0.58
51:s:827:U:O4	51:s:870:U:H1'	2.03	0.58
51:s:947:G:H1	51:s:1234:C:H42	1.51	0.58
51:s:982:U:H4'	51:s:983:A:O5'	2.03	0.58
51:s:1007:U:C2'	51:s:1008:U:H5''	2.33	0.58
52:t:172:A:H2'	52:t:173:A:C8	2.38	0.58
52:t:465:G:C6	52:t:466:A:N6	2.72	0.58
52:t:609:A:H2'	52:t:610:C:O4'	2.03	0.58
52:t:1131:G:C8	52:t:2025:C:H4'	2.38	0.58
52:t:1470:A:H2'	52:t:1471:G:H5'	1.86	0.58
52:t:1647:U:H5''	52:t:1648:U:OP1	2.03	0.58
52:t:2519:U:H2'	52:t:2541:A:H61	1.68	0.58
1:A:94:ARG:HG2	51:s:1100:C:OP2	2.04	0.58
2:B:54:ILE:HG12	2:B:54:ILE:O	2.04	0.58
2:B:168:ARG:HG2	2:B:169:GLU:H	1.69	0.58
4:D:63:MET:HA	4:D:66:ALA:HB3	1.85	0.58
13:M:68:ARG:HG2	13:M:68:ARG:NH1	2.18	0.58
21:U:172:THR:CG2	21:U:182:LYS:HD3	2.23	0.58
22:V:71:ALA:O	22:V:72:GLY:C	2.45	0.58
24:X:39:VAL:CG1	24:X:49:LEU:HD13	2.33	0.58
25:Y:97:VAL:HG22	25:Y:102:ILE:HG12	1.84	0.58
26:Z:10:LEU:HD11	52:t:1070:A:N6	2.18	0.58
30:3:68:PHE:CD1	30:3:69:PRO:HD2	2.37	0.58
32:5:94:ARG:HH12	52:t:2294:G:P	2.26	0.58
39:d:21:ARG:HA	39:d:25:LYS:O	2.03	0.58
49:n:58:THR:HG23	52:t:1107:G:OP1	2.04	0.58
51:s:175:C:O2'	51:s:176:C:H5'	2.03	0.58
51:s:340:U:O2	51:s:350:G:N2	2.37	0.58
51:s:376:G:H2'	51:s:377:G:H8	1.68	0.58
51:s:1036:A:H3'	51:s:1037:C:C6	2.39	0.58
52:t:1063:G:H2'	52:t:1064:C:O4'	2.01	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1141:U:H4'	52:t:1142:A:O4'	2.03	0.58
52:t:1340:U:O2'	52:t:1602:U:H2'	2.03	0.58
52:t:2260:C:H2'	52:t:2261:C:H6	1.67	0.58
1:A:112:ARG:HG3	1:A:112:ARG:NH1	2.16	0.58
3:C:10:LEU:CD2	3:C:62:ARG:HG3	2.33	0.58
4:D:156:ARG:C	4:D:158:LYS:N	2.54	0.58
6:F:137:ARG:HG2	6:F:141:HIS:CE1	2.38	0.58
7:G:14:ARG:NH1	51:s:875:U:O2'	2.37	0.58
8:H:87:MET:SD	8:H:88:GLU:N	2.76	0.58
11:K:23:LEU:HB3	11:K:58:ASN:ND2	2.19	0.58
11:K:101:LEU:H	11:K:101:LEU:HD12	1.69	0.58
13:M:13:VAL:HG22	13:M:59:GLN:HE21	1.69	0.58
22:V:114:LYS:O	22:V:114:LYS:CE	2.52	0.58
22:V:140:HIS:H	22:V:140:HIS:CD2	2.20	0.58
23:W:58:LYS:HE2	52:t:675:A:OP1	2.03	0.58
26:Z:96:LYS:H	26:Z:96:LYS:CD	2.15	0.58
34:8:13:HIS:O	34:8:17:LEU:HD23	2.03	0.58
34:8:40:LYS:O	34:8:43:GLN:HG3	2.04	0.58
40:e:76:ARG:HG3	40:e:76:ARG:NH2	2.14	0.58
43:h:5:LYS:HD2	43:h:5:LYS:H	1.68	0.58
49:n:108:VAL:HG12	49:n:109:LYS:N	2.19	0.58
50:o:21:GLU:O	50:o:25:ALA:HB2	2.02	0.58
51:s:913:A:H4'	51:s:914:A:O5'	2.03	0.58
51:s:1409:C:H4'	52:t:1915:U:O4	2.04	0.58
52:t:370:G:H4'	52:t:371:A:OP2	2.03	0.58
52:t:1618:A:H2'	52:t:1618:A:N3	2.19	0.58
52:t:1795:C:H2'	52:t:1796:U:O4'	2.03	0.58
52:t:2291:U:H2'	52:t:2292:U:C6	2.37	0.58
53:u:95:U:H2'	53:u:96:G:C8	2.39	0.58
1:A:212:TYR:O	1:A:216:VAL:HG23	2.02	0.58
6:F:49:LEU:O	6:F:49:LEU:HD13	2.03	0.58
8:H:88:GLU:OE2	8:H:89:TYR:N	2.37	0.58
10:J:71:ASP:O	10:J:72:ALA:HB3	2.02	0.58
12:L:66:GLY:HA2	12:L:69:ARG:HD2	1.86	0.58
14:N:24:THR:O	14:N:28:VAL:HG23	2.03	0.58
23:W:145:ASP:HB3	23:W:184:ASP:HB2	1.84	0.58
29:2:95:LEU:O	29:2:100:ILE:HG12	2.04	0.58
32:5:36:TYR:HA	32:5:52:SER:CB	2.33	0.58
33:6:13:LYS:NZ	33:6:80:VAL:HB	2.18	0.58
38:c:80:ASP:OD1	38:c:95:PHE:HD2	1.87	0.58
50:o:29:LYS:HB2	50:o:30:PHE:CD1	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:p:19:VAL:C	50:p:21:GLU:H	2.10	0.58
51:s:29:U:H5'	51:s:296:U:OP1	2.04	0.58
51:s:959:A:C2'	51:s:960:U:H4'	2.30	0.58
51:s:1494:G:O6	56:y:1:KBE:HAA	2.03	0.58
52:t:119:A:O2'	52:t:120:U:OP2	2.20	0.58
52:t:136:G:N1	52:t:142:A:N6	2.51	0.58
52:t:1224:U:H2'	52:t:1225:G:C8	2.38	0.58
52:t:1289:C:O2	52:t:1289:C:H2'	2.02	0.58
52:t:1715:G:N2	52:t:1743:G:H2'	2.18	0.58
52:t:1921:G:O2'	52:t:1922:G:H5'	2.02	0.58
52:t:2426:A:C4'	52:t:2427:C:OP2	2.41	0.58
52:t:2438:U:O2'	52:t:2439:A:H5''	2.03	0.58
52:t:2849:U:O2'	52:t:2866:U:O2	2.19	0.58
1:A:130:LYS:O	1:A:133:ALA:HB3	2.04	0.58
2:B:185:THR:CG2	2:B:186:SER:H	2.11	0.58
3:C:57:LYS:C	3:C:59:LYS:N	2.59	0.58
4:D:81:GLN:O	4:D:82:HIS:C	2.47	0.58
5:E:68:GLN:O	5:E:71:ILE:HG22	2.03	0.58
6:F:142:ARG:HG3	6:F:142:ARG:HH11	1.68	0.58
7:G:1:SER:H1	51:s:877:G:H21	1.49	0.58
7:G:74:ILE:HD13	7:G:74:ILE:C	2.28	0.58
9:I:39:PRO:C	9:I:40:ILE:HD13	2.29	0.58
10:J:43:TRP:HE1	51:s:686:U:C1'	2.15	0.58
12:L:92:ARG:HG2	12:L:92:ARG:HH11	1.68	0.58
21:U:100:ARG:HH11	21:U:100:ARG:CG	2.17	0.58
21:U:157:ALA:HA	21:U:194:VAL:HG22	1.84	0.58
23:W:29:HIS:O	23:W:32:VAL:HG22	2.03	0.58
23:W:32:VAL:CG2	23:W:33:VAL:N	2.66	0.58
26:Z:74:PRO:HG2	26:Z:77:VAL:HG22	1.86	0.58
49:n:33:VAL:HG12	49:n:34:THR:N	2.15	0.58
49:n:54:VAL:HG22	49:n:54:VAL:O	2.04	0.58
51:s:1260:G:OP1	51:s:1284:C:H4'	2.03	0.58
51:s:1340:A:O2'	51:s:1341:U:H5'	2.02	0.58
52:t:371:A:H4'	52:t:372:G:O5'	2.03	0.58
52:t:915:C:O2	53:u:100:G:H4'	2.04	0.58
52:t:2319:G:HO2'	52:t:2320:U:H6	1.52	0.58
52:t:2726:A:HO2'	52:t:2727:A:P	2.26	0.58
54:v:314:ARG:NH2	54:v:418:GLN:HA	2.19	0.58
1:A:40:ILE:HD12	1:A:201:GLY:HA2	1.86	0.58
1:A:219:THR:N	1:A:221:ARG:NH2	2.51	0.58
5:E:38:ARG:HG3	5:E:39:LEU:H	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:38:ARG:HG3	5:E:39:LEU:N	2.19	0.58
7:G:103:VAL:HG12	7:G:124:ILE:CG2	2.28	0.58
8:H:66:VAL:HG22	8:H:67:LYS:N	2.18	0.58
13:M:52:ARG:HG3	13:M:58:ARG:HH12	1.68	0.58
13:M:70:HIS:CE1	51:s:974:A:H1'	2.39	0.58
25:Y:120:ILE:HD11	25:Y:140:ILE:CG2	2.33	0.58
26:Z:56:VAL:HB	26:Z:70:THR:HB	1.84	0.58
26:Z:128:ILE:C	26:Z:130:GLY:H	2.12	0.58
27:O:24:THR:HA	27:O:63:ALA:CB	2.24	0.58
28:1:15:GLY:O	28:1:17:ARG:N	2.37	0.58
29:2:105:ILE:HD12	29:2:105:ILE:N	2.19	0.58
33:6:94:ALA:O	33:6:95:LYS:HD2	2.04	0.58
40:e:23:LYS:HD2	40:e:24:ARG:H	1.65	0.58
51:s:96:U:H2'	51:s:97:G:C8	2.39	0.58
51:s:476:U:H2'	51:s:477:C:C6	2.38	0.58
51:s:949:A:H1'	51:s:1364:U:H3	1.69	0.58
52:t:1285:A:N6	52:t:1329:U:C6	2.71	0.58
53:u:14:U:O2'	53:u:107:G:H4'	2.04	0.58
54:v:448:VAL:HG13	54:v:452:ARG:HH21	1.68	0.58
4:D:155:LYS:CB	7:G:70:VAL:HG13	2.34	0.58
8:H:98:ARG:HG2	8:H:98:ARG:HH11	1.68	0.58
8:H:128:LYS:HG3	8:H:129:ARG:H	1.69	0.58
12:L:1:ALA:O	12:L:3:ILE:HG13	2.03	0.58
12:L:68:LEU:HA	12:L:71:GLU:HB2	1.86	0.58
16:P:15:LYS:HE2	51:s:274:A:H4'	1.85	0.58
21:U:227:VAL:HG23	21:U:228:ASP:OD1	2.04	0.58
22:V:66:GLY:HA3	52:t:2786:U:O2'	2.04	0.58
24:X:134:GLN:HG2	24:X:135:ILE:N	2.14	0.58
25:Y:142:GLN:HG3	25:Y:146:ASP:OD2	2.04	0.58
27:O:27:ARG:HG2	27:O:27:ARG:HH11	1.68	0.58
35:9:61:ALA:HB1	35:9:98:ILE:H	1.68	0.58
49:n:61:ARG:HD2	49:n:61:ARG:N	2.06	0.58
51:s:269:C:H2'	51:s:270:A:C8	2.39	0.58
51:s:760:G:H2'	51:s:761:G:H5'	1.85	0.58
51:s:818:G:H3'	51:s:819:A:H5''	1.84	0.58
52:t:161:A:C3'	52:t:162:U:H5''	2.26	0.58
52:t:1936:A:C8	52:t:1945:G:C6	2.92	0.58
52:t:2040:G:H2'	52:t:2041:U:C6	2.38	0.58
52:t:2425:A:H5'	52:t:2427:C:C6	2.39	0.58
54:v:97:GLU:O	54:v:99:THR:N	2.37	0.58
1:A:49:PHE:CD1	1:A:53:LEU:HD23	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:2:ARG:HG2	3:C:2:ARG:NH1	2.19	0.57
3:C:36:ALA:H	3:C:37:PRO:HD3	1.68	0.57
4:D:22:LYS:O	4:D:23:THR:C	2.47	0.57
6:F:74:VAL:O	6:F:75:LYS:HB2	2.04	0.57
8:H:121:ARG:HH12	51:s:1346:A:H5'	1.69	0.57
11:K:23:LEU:HG	11:K:24:GLU:N	2.18	0.57
22:V:68:PHE:O	22:V:73:VAL:HG22	2.04	0.57
27:0:4:PHE:O	27:0:44:TYR:HE1	1.87	0.57
28:1:102:PRO:HB3	28:1:121:GLU:HB3	1.86	0.57
42:g:56:LEU:C	42:g:58:ASN:N	2.59	0.57
51:s:35:G:H2'	51:s:36:C:C6	2.38	0.57
51:s:140:U:H2'	51:s:141:G:O4'	2.04	0.57
51:s:204:G:C2'	51:s:205:A:H5''	2.34	0.57
51:s:1032:G:H2'	51:s:1033:G:H5'	1.85	0.57
51:s:1256:A:C5	51:s:1278:G:N3	2.72	0.57
52:t:747:U:O2	52:t:2014:A:H1'	2.04	0.57
52:t:974:G:O2'	52:t:975:A:H8	1.83	0.57
52:t:1306:C:O2	52:t:1306:C:H2'	2.04	0.57
52:t:1789:A:H2'	52:t:1790:C:O4'	2.04	0.57
52:t:2343:U:HO2'	52:t:2373:G:HO2'	1.46	0.57
53:u:34:A:N6	53:u:44:G:H2'	2.19	0.57
1:A:170:ILE:HG22	1:A:174:GLU:OE2	2.04	0.57
4:D:93:VAL:HG22	4:D:95:MET:HE3	1.84	0.57
5:E:64:VAL:CG1	5:E:65:GLU:N	2.67	0.57
5:E:91:ARG:HG3	5:E:92:THR:N	2.17	0.57
8:H:66:VAL:HG11	8:H:78:ILE:HD11	1.85	0.57
9:I:27:GLU:HA	9:I:30:LYS:HE2	1.85	0.57
10:J:124:LYS:O	10:J:125:LYS:O	2.22	0.57
11:K:11:ARG:HB3	51:s:562:U:HO2'	1.66	0.57
13:M:53:ASP:HA	13:M:58:ARG:NH1	2.19	0.57
17:Q:58:ILE:HG22	17:Q:62:ARG:HH21	1.69	0.57
21:U:63:ILE:O	21:U:64:VAL:HB	2.03	0.57
21:U:77:VAL:HA	21:U:93:VAL:HA	1.85	0.57
21:U:219:VAL:HG12	21:U:224:MET:HE2	1.84	0.57
23:W:24:ASN:O	23:W:28:VAL:HG12	2.04	0.57
23:W:165:HIS:HB2	52:t:1205:A:C2	2.39	0.57
24:X:73:VAL:H	24:X:78:ILE:HD12	1.69	0.57
26:Z:17:ALA:O	26:Z:18:ASN:C	2.47	0.57
29:2:105:ILE:H	29:2:105:ILE:CD1	2.16	0.57
30:3:84:LYS:H	52:t:2275:C:HO2'	1.49	0.57
34:8:30:VAL:CG1	52:t:580:U:O3'	2.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:e:47:GLY:HA3	40:e:80:SER:HB3	1.84	0.57
47:l:3:ILE:O	47:l:63:TYR:HE2	1.87	0.57
51:s:676:A:H2'	51:s:677:U:H6	1.69	0.57
51:s:890:G:HO2'	51:s:891:U:P	2.27	0.57
52:t:64:A:H2'	52:t:65:U:C6	2.39	0.57
52:t:691:C:O2'	52:t:692:C:H5'	2.04	0.57
52:t:1932:A:O5'	56:AA:5:UAL:N2	2.37	0.57
53:u:49:C:H2'	53:u:50:A:H8	1.68	0.57
1:A:202:ASN:ND2	1:A:205:ALA:HB2	2.19	0.57
4:D:93:VAL:HG21	4:D:110:MET:SD	2.44	0.57
7:G:46:GLU:O	7:G:47:ASP:HB3	2.05	0.57
10:J:63:GLN:HG3	10:J:98:ALA:HB2	1.86	0.57
15:O:80:LYS:HB2	15:O:80:LYS:NZ	2.20	0.57
17:Q:26:ALA:O	17:Q:29:LYS:HG2	2.05	0.57
20:T:24:LYS:O	20:T:26:GLY:N	2.36	0.57
22:V:68:PHE:HB3	22:V:73:VAL:CG1	2.31	0.57
23:W:160:ALA:O	23:W:161:ALA:HB3	2.04	0.57
24:X:116:LEU:HD11	24:X:129:MET:SD	2.43	0.57
27:O:96:ARG:NH2	27:O:99:ARG:HD3	2.18	0.57
32:5:7:ARG:HD2	32:5:97:PHE:CE1	2.39	0.57
37:b:19:LYS:O	37:b:23:ALA:N	2.35	0.57
37:b:44:LYS:HG3	37:b:55:VAL:HG11	1.86	0.57
49:n:58:THR:HB	49:n:82:ILE:CB	2.26	0.57
51:s:468:A:H5'	51:s:469:C:OP2	2.03	0.57
51:s:607:A:H2'	51:s:608:A:C8	2.39	0.57
52:t:179:C:H2'	52:t:180:G:O4'	2.04	0.57
52:t:712:G:C2'	52:t:713:G:H5'	2.33	0.57
52:t:2344:U:H4'	52:t:2345:G:OP1	2.04	0.57
54:v:68:ILE:HG23	54:v:68:ILE:O	2.03	0.57
2:B:39:ARG:CZ	2:B:56:ILE:HD13	2.34	0.57
2:B:183:TYR:HE1	2:B:198:LYS:HB3	1.69	0.57
3:C:114:ARG:O	3:C:116:LEU:N	2.37	0.57
3:C:137:SER:HB3	3:C:138:PRO:CD	2.28	0.57
4:D:71:ILE:CD1	4:D:144:GLU:HG3	2.34	0.57
10:J:16:SER:OG	10:J:17:ASP:N	2.37	0.57
16:P:22:VAL:CG1	16:P:23:ALA:H	2.17	0.57
17:Q:67:LEU:HD12	17:Q:67:LEU:N	2.19	0.57
21:U:94:LEU:HA	21:U:100:ARG:HA	1.85	0.57
22:V:1:MET:HG3	22:V:2:ILE:H	1.69	0.57
23:W:37:ALA:C	23:W:39:ALA:N	2.62	0.57
27:O:21:THR:N	27:O:23:LYS:NZ	2.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:1:6:THR:HA	52:t:1667:G:OP1	2.04	0.57
29:2:69:ARG:HB3	29:2:69:ARG:HH11	1.69	0.57
30:3:97:GLN:OE1	30:3:97:GLN:N	2.38	0.57
32:5:7:ARG:NH1	32:5:95:SER:O	2.37	0.57
39:d:63:ILE:O	39:d:69:GLU:HA	2.04	0.57
40:e:41:GLY:HA3	52:t:2331:G:O3'	2.04	0.57
41:f:39:VAL:HG23	41:f:40:GLU:N	2.20	0.57
50:o:29:LYS:HD2	50:o:29:LYS:C	2.29	0.57
51:s:194:C:O2'	51:s:195:A:H5'	2.05	0.57
51:s:1086:U:O4	51:s:1100:C:O2	2.22	0.57
51:s:1494:G:N7	56:y:1:KBE:HG	2.19	0.57
52:t:627:A:H4'	52:t:628:G:OP1	2.05	0.57
52:t:755:U:H2'	52:t:756:A:H8	1.69	0.57
52:t:1142:A:C2'	52:t:1143:A:H3'	2.35	0.57
52:t:1266:G:C2'	52:t:1267:U:OP2	2.53	0.57
52:t:1964:G:C4'	52:t:1965:C:OP2	2.50	0.57
52:t:2199:A:H5'	52:t:2200:C:OP2	2.05	0.57
52:t:2788:C:H2'	52:t:2789:C:C6	2.40	0.57
54:v:307:MET:HE2	54:v:309:PRO:HD3	1.85	0.57
54:v:399:ARG:HG3	54:v:438:VAL:O	2.05	0.57
1:A:39:ILE:N	1:A:39:ILE:HD12	2.20	0.57
2:B:75:VAL:C	2:B:76:ILE:HD12	2.30	0.57
12:L:72:ILE:O	12:L:76:ILE:HG12	2.04	0.57
12:L:94:LEU:HD13	51:s:1226:C:OP1	2.03	0.57
14:N:3:SER:OG	14:N:5:GLU:HG3	2.05	0.57
16:P:37:ILE:CG2	16:P:39:ARG:HH11	2.18	0.57
16:P:60:ILE:HD13	16:P:74:LEU:HA	1.87	0.57
24:X:72:SER:HB2	24:X:80:GLN:H	1.68	0.57
26:Z:125:THR:O	26:Z:129:GLU:HG3	2.05	0.57
26:Z:130:GLY:C	26:Z:132:ALA:H	2.12	0.57
30:3:110:GLU:O	30:3:110:GLU:HG2	2.04	0.57
31:4:71:ARG:NH1	52:t:2707:U:O2	2.36	0.57
32:5:11:ALA:O	32:5:15:ARG:HG3	2.04	0.57
33:6:33:GLU:HG3	33:6:34:GLY:H	1.70	0.57
40:e:40:ARG:HB2	40:e:56:HIS:CG	2.39	0.57
49:n:9:GLN:HE22	49:n:13:ALA:CB	2.17	0.57
51:s:975:A:O2'	51:s:1358:U:O4'	2.23	0.57
52:t:162:U:C4'	52:t:163:C:OP1	2.53	0.57
52:t:227:A:C5	52:t:2407:A:H1'	2.39	0.57
2:B:179:ALA:HB1	2:B:202:PHE:CE1	2.38	0.57
3:C:33:ILE:O	3:C:34:GLU:HB2	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:34:GLU:HB3	3:C:35:GLN:NE2	2.19	0.57
4:D:14:LEU:HD12	4:D:14:LEU:O	2.03	0.57
5:E:62:MET:HG3	5:E:64:VAL:HG23	1.86	0.57
6:F:98:LEU:HA	6:F:101:ARG:NH1	2.20	0.57
6:F:117:LEU:C	6:F:119:LEU:H	2.10	0.57
7:G:12:ARG:HH11	7:G:26:MET:CB	2.17	0.57
7:G:74:ILE:HD13	7:G:75:GLN:N	2.19	0.57
8:H:6:TYR:CG	8:H:7:GLY:N	2.72	0.57
8:H:10:ARG:CB	8:H:15:ALA:HA	2.35	0.57
8:H:57:VAL:HG12	8:H:58:GLU:HG2	1.87	0.57
9:I:40:ILE:HG12	9:I:73:LEU:HB3	1.86	0.57
9:I:56:HIS:CD2	51:s:973:G:H1'	2.38	0.57
16:P:62:GLU:OE2	51:s:235:C:H1'	2.05	0.57
21:U:90:ILE:HG22	21:U:91:ALA:N	2.19	0.57
22:V:181:ASP:OD1	22:V:182:ALA:O	2.22	0.57
24:X:110:ILE:HG12	24:X:136:ILE:HG21	1.86	0.57
26:Z:97:VAL:HG12	26:Z:98:GLY:H	1.69	0.57
33:6:36:LYS:O	33:6:37:LYS:HB3	2.04	0.57
34:8:40:LYS:CA	34:8:43:GLN:HG3	2.34	0.57
37:b:12:ARG:HG3	37:b:12:ARG:NH1	2.18	0.57
40:e:19:ARG:NH1	40:e:22:VAL:HG11	2.19	0.57
40:e:23:LYS:HB3	52:t:856:G:H1'	1.85	0.57
40:e:23:LYS:O	40:e:25:PHE:N	2.37	0.57
47:l:26:ALA:O	47:l:27:ASN:HB2	2.03	0.57
50:p:25:ALA:HA	50:p:28:GLU:OE1	2.03	0.57
51:s:682:G:N2	51:s:709:U:C2	2.73	0.57
51:s:977:A:C5'	51:s:1362:A:H61	2.17	0.57
51:s:1448:C:H2'	51:s:1449:C:C6	2.39	0.57
52:t:492:A:H2'	52:t:493:G:O4'	2.05	0.57
52:t:603:A:H4'	52:t:604:G:OP1	2.04	0.57
52:t:876:C:H42	52:t:900:A:H62	1.49	0.57
2:B:2:GLN:HG2	51:s:1191:A:OP1	2.04	0.57
2:B:185:THR:O	2:B:186:SER:HB2	2.04	0.57
3:C:54:LEU:HD23	3:C:55:ARG:N	2.20	0.57
3:C:57:LYS:C	3:C:59:LYS:H	2.13	0.57
3:C:62:ARG:C	3:C:64:TYR:H	2.13	0.57
3:C:97:LEU:O	3:C:101:VAL:HG23	2.03	0.57
8:H:6:TYR:HE2	8:H:17:ARG:HB2	1.70	0.57
9:I:81:GLU:CD	9:I:81:GLU:H	2.09	0.57
11:K:115:LYS:C	11:K:117:GLY:N	2.62	0.57
12:L:14:ALA:HB3	12:L:40:GLU:O	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:63:TYR:HE1	51:s:673:A:H1'	1.67	0.57
20:T:7:GLU:HB3	20:T:11:PHE:HB3	1.87	0.57
24:X:98:PHE:HA	24:X:101:ARG:HG2	1.87	0.57
26:Z:71:LYS:HD3	26:Z:71:LYS:N	2.19	0.57
27:0:47:HIS:CG	52:t:536:G:H21	2.22	0.57
28:1:35:VAL:HG12	28:1:36:GLY:N	2.19	0.57
31:4:74:GLU:HB2	52:t:1453:A:N6	2.20	0.57
31:4:82:GLU:O	31:4:85:PRO:HD2	2.04	0.57
34:8:50:ARG:HG2	34:8:50:ARG:HH11	1.69	0.57
35:9:83:TYR:CE2	52:t:1187:G:H5''	2.39	0.57
35:9:93:PHE:C	35:9:93:PHE:CD1	2.83	0.57
36:a:45:VAL:HG23	36:a:46:LEU:HD23	1.85	0.57
38:c:82:VAL:CG1	38:c:93:ARG:HB3	2.35	0.57
51:s:48:C:H6	51:s:365:U:O4	1.88	0.57
51:s:329:A:H4'	51:s:330:C:OP1	2.00	0.57
51:s:1070:U:H2'	51:s:1071:C:C6	2.38	0.57
51:s:1524:C:H2'	51:s:1525:G:C8	2.40	0.57
52:t:351:C:H2'	52:t:352:A:C8	2.39	0.57
52:t:859:G:O2'	52:t:860:U:P	2.62	0.57
52:t:1436:G:H2'	52:t:1437:C:O4'	2.03	0.57
52:t:2009:A:O2'	52:t:2010:G:H5'	2.04	0.57
52:t:2225:A:O2'	52:t:2226:C:OP2	2.16	0.57
1:A:183:PHE:N	1:A:183:PHE:CD2	2.71	0.57
5:E:67:PRO:HG2	5:E:70:VAL:HG22	1.86	0.57
6:F:108:ARG:HG3	6:F:108:ARG:HH11	1.69	0.57
8:H:47:VAL:O	8:H:50:PRO:HD2	2.04	0.57
12:L:48:SER:C	12:L:50:GLY:H	2.12	0.57
18:R:77:ARG:NH1	51:s:1222:G:H5''	2.17	0.57
21:U:52:HIS:CE1	21:U:218:THR:HG23	2.40	0.57
21:U:170:TYR:HE2	21:U:184:GLU:HG2	1.69	0.57
23:W:130:LYS:HB2	23:W:133:LEU:CD1	2.35	0.57
25:Y:59:ASP:HB3	25:Y:63:GLN:HG2	1.87	0.57
34:8:50:ARG:H	34:8:50:ARG:HD2	1.70	0.57
43:h:44:ARG:HA	43:h:47:ILE:HG12	1.86	0.57
50:o:2:ILE:O	50:o:4:LYS:HE3	2.05	0.57
50:r:2:ILE:CD1	50:r:5:ASP:HB2	2.34	0.57
51:s:75:G:H3'	51:s:76:G:H8	1.69	0.57
51:s:77:A:N6	51:s:91:U:O4	2.36	0.57
51:s:1412:C:H2'	51:s:1413:A:C8	2.38	0.57
52:t:1857:G:H1'	52:t:1885:A:H62	1.70	0.57
52:t:2228:G:H2'	52:t:2229:U:C6	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:132:ALA:O	2:B:135:ARG:HB2	2.05	0.57
9:I:80:THR:HG22	9:I:82:LYS:N	2.19	0.57
11:K:55:ARG:HG3	11:K:55:ARG:HH21	1.68	0.57
14:N:78:THR:HA	14:N:81:ILE:HD12	1.86	0.57
16:P:22:VAL:CG1	16:P:23:ALA:N	2.67	0.57
17:Q:69:TYR:CE2	51:s:674:G:H1'	2.40	0.57
20:T:24:LYS:HG2	20:T:25:ALA:H	1.70	0.57
20:T:34:ARG:HD3	20:T:39:LYS:HZ1	1.69	0.57
26:Z:128:ILE:H	26:Z:128:ILE:HD12	1.69	0.57
28:1:5:GLN:O	28:1:6:THR:HB	2.04	0.57
29:2:37:GLY:HA2	52:t:831:G:H5''	1.87	0.57
30:3:5:LYS:HG3	52:t:871:U:OP1	2.05	0.57
49:n:95:LEU:HD13	49:n:98:GLU:OE1	2.04	0.57
51:s:47:C:C6	51:s:365:U:H2'	2.40	0.57
51:s:197:A:O2'	51:s:198:G:O4'	2.23	0.57
51:s:579:A:C4	51:s:580:C:C5	2.93	0.57
52:t:9:G:O2'	52:t:2800:A:N6	2.38	0.57
52:t:406:G:O5'	52:t:406:G:H8	1.86	0.57
52:t:1745:A:H2'	52:t:1746:A:O4'	2.04	0.57
52:t:1838:C:H41	52:t:1899:A:P	2.27	0.57
52:t:2803:G:H2'	52:t:2804:U:H6	1.69	0.57
3:C:13:ARG:HG2	3:C:55:ARG:NH2	2.20	0.57
5:E:3:HIS:C	5:E:4:TYR:HD2	2.13	0.57
8:H:122:ARG:NH1	51:s:1343:G:H1'	2.20	0.57
9:I:12:ALA:HB2	9:I:96:VAL:HG13	1.85	0.57
10:J:88:PRO:HD3	20:T:28:LEU:HD13	1.85	0.57
11:K:82:ARG:HG2	51:s:552:U:H4'	1.85	0.57
12:L:89:ARG:NH1	12:L:94:LEU:HB3	2.20	0.57
16:P:11:VAL:HG12	16:P:13:SER:H	1.70	0.57
18:R:38:THR:HG22	18:R:39:ILE:N	2.13	0.57
22:V:8:LYS:HB2	22:V:201:LEU:CD2	2.35	0.57
27:0:74:TYR:HB2	27:0:87:ALA:O	2.04	0.57
29:2:79:LEU:O	29:2:82:LEU:HD23	2.05	0.57
32:5:46:GLU:HA	53:u:113:C:H1'	1.87	0.57
34:8:81:GLY:HA2	34:8:116:LEU:HD13	1.86	0.57
36:a:57:ASN:HD21	52:t:494:G:N2	2.02	0.57
37:b:49:LYS:HE2	52:t:139:U:O4	2.05	0.57
51:s:931:C:H2'	51:s:932:C:H6	1.70	0.57
52:t:1652:A:C2	52:t:2006:C:N3	2.73	0.57
52:t:2895:G:H2'	52:t:2896:C:C6	2.39	0.57
1:A:26:MET:HE3	1:A:29:PHE:HD2	1.68	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:71:PHE:O	3:C:74:TYR:HB2	2.05	0.56
3:C:151:GLN:H	3:C:154:VAL:HG12	1.69	0.56
6:F:9:ARG:HG3	6:F:9:ARG:O	2.05	0.56
7:G:42:GLU:HG3	7:G:100:ILE:HG21	1.86	0.56
10:J:28:ASN:HA	10:J:56:LYS:O	2.04	0.56
15:O:51:ARG:C	15:O:52:LEU:HD12	2.30	0.56
16:P:76:ARG:HH12	16:P:78:VAL:CG2	2.17	0.56
20:T:33:ARG:CD	20:T:34:ARG:HB2	2.35	0.56
21:U:203:VAL:O	52:t:1792:G:OP1	2.23	0.56
24:X:71:LYS:HA	24:X:80:GLN:HG3	1.86	0.56
31:4:8:ARG:HB2	31:4:43:GLU:OE1	2.05	0.56
34:8:2:ARG:HA	52:t:1248:G:H2'	1.86	0.56
34:8:34:ALA:O	34:8:38:VAL:HG23	2.05	0.56
37:b:19:LYS:O	37:b:23:ALA:HB3	2.05	0.56
51:s:279:A:H5'	51:s:281:G:O4'	2.05	0.56
52:t:1179:G:C2'	52:t:1180:U:H4'	2.30	0.56
52:t:1378:A:C4	52:t:1380:G:N7	2.73	0.56
52:t:2104:C:H41	52:t:2184:A:N6	2.03	0.56
1:A:89:PHE:CD2	1:A:153:MET:HB2	2.40	0.56
2:B:17:TRP:HE1	13:M:95:LEU:H	1.53	0.56
2:B:41:TYR:OH	2:B:89:VAL:HG21	2.04	0.56
4:D:65:LYS:O	4:D:68:ARG:O	2.22	0.56
6:F:1:PRO:HG2	51:s:1379:G:O6	2.05	0.56
6:F:98:LEU:HD23	6:F:101:ARG:NH2	2.16	0.56
8:H:24:ASN:O	8:H:61:ASP:HA	2.05	0.56
12:L:43:LYS:C	12:L:45:SER:H	2.13	0.56
21:U:20:ASN:O	21:U:23:LEU:HB2	2.04	0.56
21:U:116:GLN:HG2	21:U:117:SER:N	2.20	0.56
24:X:131:VAL:HG22	24:X:151:LEU:O	2.04	0.56
26:Z:24:GLY:C	26:Z:26:ALA:H	2.13	0.56
28:1:121:GLU:HG2	28:1:122:VAL:HG23	1.87	0.56
31:4:78:LYS:HG2	31:4:83:LEU:CD1	2.36	0.56
37:b:43:ILE:HD11	37:b:58:VAL:CG2	2.33	0.56
37:b:50:LEU:C	37:b:52:GLU:H	2.14	0.56
40:e:37:VAL:CG1	40:e:38:ARG:HH11	2.18	0.56
49:n:23:LEU:HB2	49:n:87:GLU:OE2	2.05	0.56
51:s:17:U:H2'	51:s:18:C:C6	2.40	0.56
51:s:320:A:C2	51:s:321:A:C4	2.94	0.56
51:s:737:C:H2'	51:s:738:C:C6	2.40	0.56
51:s:755:G:H2'	51:s:756:C:C6	2.40	0.56
52:t:1302:A:H5'	52:t:1608:A:OP2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1818:U:O2'	52:t:1819:A:P	2.63	0.56
52:t:2756:U:C1'	52:t:2757:A:H5''	2.33	0.56
1:A:71:THR:HG22	1:A:72:LYS:N	2.14	0.56
1:A:105:THR:HA	1:A:108:GLN:HE22	1.69	0.56
2:B:119:ILE:HA	2:B:122:GLN:CG	2.26	0.56
3:C:29:THR:HB	3:C:30:LYS:HD3	1.87	0.56
4:D:76:ASN:CB	4:D:81:GLN:HE21	2.16	0.56
4:D:152:VAL:CA	4:D:155:LYS:HZ2	2.17	0.56
9:I:15:HIS:CD2	51:s:1152:A:H5'	2.36	0.56
9:I:28:THR:O	9:I:31:ARG:HB3	2.05	0.56
10:J:92:ARG:HH21	20:T:19:LYS:HG3	1.70	0.56
11:K:23:LEU:HB3	11:K:58:ASN:HD22	1.70	0.56
12:L:19:THR:HA	12:L:24:VAL:HG23	1.88	0.56
13:M:49:THR:CG2	18:R:12:LEU:HD12	2.35	0.56
17:Q:61:ALA:CB	17:Q:66:LEU:HD12	2.36	0.56
18:R:4:LEU:HG	51:s:1319:A:OP1	2.05	0.56
21:U:155:ARG:HG3	21:U:155:ARG:NH1	2.21	0.56
24:X:70:ARG:HD2	52:t:2298:A:OP1	2.05	0.56
25:Y:156:TYR:CE1	52:t:2531:A:H4'	2.39	0.56
28:1:41:ILE:HG23	28:1:42:THR:H	1.70	0.56
30:3:50:ARG:HA	30:3:53:MET:HE3	1.87	0.56
30:3:84:LYS:HA	52:t:2275:C:O2'	2.05	0.56
32:5:61:GLN:O	32:5:62:LEU:HD23	2.05	0.56
32:5:67:ASN:C	32:5:69:ASP:H	2.13	0.56
34:8:104:ALA:HA	35:9:46:GLU:OE2	2.04	0.56
37:b:19:LYS:O	37:b:20:ALA:C	2.48	0.56
40:e:39:GLN:HG2	40:e:40:ARG:N	2.20	0.56
41:f:50:VAL:HG12	41:f:51:SER:O	2.06	0.56
44:i:39:ARG:HG2	44:i:40:HIS:CE1	2.40	0.56
47:l:2:LYS:NZ	52:t:241:A:O2'	2.36	0.56
49:n:58:THR:C	49:n:60:LEU:N	2.59	0.56
49:n:60:LEU:HB2	49:n:61:ARG:HD2	1.87	0.56
51:s:132:C:H2'	51:s:133:U:O4'	2.06	0.56
51:s:158:G:C3'	51:s:159:G:H5''	2.34	0.56
51:s:579:A:H5'	51:s:728:A:H1'	1.87	0.56
51:s:740:U:O2'	51:s:741:G:H5'	2.05	0.56
51:s:1006:G:H2'	51:s:1007:U:O4'	2.06	0.56
51:s:1234:C:C1'	51:s:1364:U:H1'	2.35	0.56
51:s:1335:U:OP1	51:s:1336:C:H5'	2.05	0.56
51:s:1353:G:H2'	51:s:1354:U:H6	1.70	0.56
51:s:1426:G:O2'	51:s:1427:C:H5'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:37:C:H4'	52:t:451:U:OP1	2.05	0.56
52:t:247:G:H4'	52:t:386:G:C5	2.40	0.56
52:t:809:G:C5	52:t:810:U:C5	2.94	0.56
52:t:995:C:H5'	52:t:995:C:C6	2.40	0.56
52:t:1205:A:H5''	52:t:1206:G:C8	2.41	0.56
52:t:1363:C:O2'	52:t:1809:A:H1'	2.05	0.56
52:t:1656:C:H2'	52:t:1657:U:C6	2.40	0.56
52:t:1859:U:H6	52:t:1859:U:O5'	1.87	0.56
52:t:1954:G:O2'	52:t:1955:U:OP2	2.24	0.56
52:t:2221:G:O2'	52:t:2222:C:H5'	2.05	0.56
52:t:2804:U:H2'	52:t:2805:C:C6	2.41	0.56
54:v:71:THR:HG22	54:v:72:THR:H	1.70	0.56
54:v:394:ALA:HB2	54:v:525:GLN:HG2	1.86	0.56
1:A:18:GLN:CG	1:A:189:ASN:HB3	2.35	0.56
1:A:98:GLY:HA2	1:A:101:THR:HG22	1.86	0.56
2:B:85:LYS:O	2:B:88:LYS:HB3	2.04	0.56
7:G:15:ASN:O	7:G:18:ALA:HB3	2.05	0.56
8:H:105:ARG:HG3	51:s:1118:U:H5'	1.86	0.56
8:H:117:LEU:HD12	8:H:120:ALA:O	2.05	0.56
11:K:33:CYS:HA	11:K:54:VAL:HA	1.86	0.56
11:K:43:LYS:H	11:K:43:LYS:CD	2.18	0.56
17:Q:33:THR:C	17:Q:35:SER:H	2.14	0.56
19:S:19:HIS:O	19:S:23:ARG:HG2	2.05	0.56
21:U:265:PHE:N	21:U:265:PHE:CD1	2.74	0.56
24:X:139:GLU:CD	24:X:139:GLU:H	2.13	0.56
25:Y:73:SER:HA	25:Y:76:ILE:CG2	2.35	0.56
26:Z:70:THR:C	26:Z:71:LYS:HD3	2.31	0.56
26:Z:127:SER:OG	26:Z:128:ILE:HD12	2.04	0.56
29:2:68:SER:O	29:2:69:ARG:CB	2.54	0.56
33:6:105:LYS:HA	33:6:108:ARG:CD	2.35	0.56
36:a:25:ARG:HH11	36:a:25:ARG:HB3	1.70	0.56
44:i:28:SER:HB3	52:t:2885:G:O6	2.04	0.56
46:k:21:ARG:HD3	46:k:30:VAL:CG1	2.35	0.56
51:s:511:C:O2'	51:s:512:U:O5'	2.24	0.56
51:s:819:A:H5''	51:s:820:U:OP2	2.05	0.56
51:s:968:A:O2'	51:s:969:A:P	2.63	0.56
51:s:1065:U:H5''	51:s:1190:G:H21	1.70	0.56
51:s:1096:C:H2'	51:s:1097:C:H6	1.68	0.56
52:t:191:A:H2'	52:t:192:C:H6	1.68	0.56
52:t:1363:C:H2'	52:t:1364:G:H8	1.69	0.56
52:t:1487:U:H2'	52:t:1488:C:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2197:U:O2'	52:t:2198:A:O5'	2.23	0.56
52:t:2230:G:H2'	52:t:2231:U:C6	2.40	0.56
3:C:47:LEU:HG	3:C:52:VAL:HG13	1.87	0.56
4:D:55:VAL:HB	4:D:56:PRO:HD3	1.88	0.56
7:G:12:ARG:HE	51:s:826:C:H5'	1.70	0.56
8:H:16:ALA:HB2	8:H:66:VAL:HB	1.87	0.56
11:K:75:GLU:OE1	11:K:75:GLU:HA	2.06	0.56
11:K:115:LYS:HB2	11:K:116:TYR:CD2	2.40	0.56
20:T:34:ARG:HH11	20:T:39:LYS:HE3	1.70	0.56
21:U:125:PRO:HA	21:U:191:LEU:HB3	1.88	0.56
21:U:160:TYR:CD1	21:U:160:TYR:C	2.84	0.56
22:V:90:PHE:O	22:V:92:VAL:N	2.39	0.56
23:W:41:GLN:HE21	23:W:43:THR:CG2	2.18	0.56
26:Z:14:ALA:HB3	26:Z:52:LEU:H	1.70	0.56
31:4:2:ARG:HG2	31:4:2:ARG:NH1	2.20	0.56
32:5:77:ALA:O	32:5:81:ARG:HG3	2.05	0.56
39:d:72:VAL:HB	39:d:92:VAL:O	2.06	0.56
48:m:5:ALA:HB3	52:t:2466:C:H5'	1.87	0.56
51:s:412:A:H4'	51:s:413:G:O5'	2.05	0.56
51:s:531:U:O5'	51:s:532:A:OP1	2.23	0.56
51:s:837:U:H2'	51:s:838:G:C8	2.41	0.56
51:s:846:G:H2'	51:s:847:G:H8	1.70	0.56
51:s:1369:C:H2'	51:s:1370:G:H8	1.66	0.56
52:t:108:G:C2'	52:t:109:C:H5'	2.36	0.56
52:t:878:A:N6	52:t:900:A:H1'	2.20	0.56
52:t:1258:U:H2'	52:t:1259:G:C8	2.40	0.56
52:t:1373:A:C5'	52:t:2212:A:H1'	2.36	0.56
52:t:1509:A:O2'	52:t:1510:G:O4'	2.17	0.56
52:t:1996:C:C4'	52:t:1997:C:OP1	2.50	0.56
52:t:2146:C:H5''	52:t:2147:A:OP1	2.05	0.56
54:v:108:CYS:HA	54:v:135:THR:HG23	1.88	0.56
2:B:162:ALA:HB2	51:s:1056:U:C5'	2.33	0.56
6:F:77:ARG:O	6:F:78:ARG:HB2	2.05	0.56
8:H:126:PHE:H	8:H:126:PHE:HD2	1.52	0.56
10:J:111:ASP:H	20:T:3:ILE:CG2	2.18	0.56
11:K:53:ARG:CG	11:K:63:THR:HG22	2.30	0.56
17:Q:61:ALA:HB1	17:Q:66:LEU:HD12	1.86	0.56
26:Z:53:PRO:HG2	26:Z:77:VAL:HG21	1.86	0.56
37:b:22:THR:HA	37:b:25:GLU:CB	2.35	0.56
41:f:16:ASN:HB2	41:f:24:THR:HB	1.87	0.56
49:n:162:LYS:NZ	50:q:15:SER:HB2	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:69:G:H5'	51:s:70:U:OP1	2.06	0.56
51:s:107:G:H2'	51:s:108:G:H5'	1.88	0.56
51:s:914:A:OP1	56:z:2:DPP:HA	2.06	0.56
51:s:1133:G:H2'	51:s:1134:G:C8	2.40	0.56
51:s:1211:U:H1'	51:s:1213:A:N3	2.21	0.56
51:s:1216:A:H2'	51:s:1217:C:C6	2.41	0.56
52:t:30:G:H2'	52:t:31:C:O4'	2.05	0.56
52:t:363:G:H2'	52:t:364:C:H6	1.69	0.56
52:t:588:U:O4	52:t:670:A:H1'	2.06	0.56
52:t:1432:G:H2'	52:t:1433:A:C8	2.41	0.56
52:t:2778:A:H4'	52:t:2779:U:OP2	2.04	0.56
1:A:164:ASP:HB3	1:A:167:HIS:HB3	1.88	0.56
4:D:17:VAL:HG13	4:D:17:VAL:O	2.06	0.56
4:D:63:MET:O	4:D:67:ARG:HG2	2.05	0.56
4:D:152:VAL:HB	4:D:156:ARG:HG3	1.88	0.56
5:E:70:VAL:HG23	5:E:71:ILE:N	2.21	0.56
6:F:23:ALA:O	6:F:24:LYS:C	2.49	0.56
7:G:10:LEU:HD13	7:G:74:ILE:HD11	1.87	0.56
8:H:29:ILE:CB	8:H:64:ILE:HB	2.35	0.56
13:M:92:ILE:HB	13:M:95:LEU:HD23	1.86	0.56
26:Z:97:VAL:HG12	26:Z:98:GLY:N	2.21	0.56
27:0:17:VAL:HG22	27:0:55:ILE:CG2	2.36	0.56
33:6:4:ILE:HG22	33:6:5:LYS:N	2.21	0.56
33:6:52:ARG:NH2	52:t:2720:U:OP1	2.39	0.56
36:a:13:SER:HB2	52:t:1266:G:O6	2.06	0.56
40:e:39:GLN:O	52:t:2331:G:O2'	2.16	0.56
41:f:50:VAL:HG12	41:f:51:SER:N	2.21	0.56
41:f:55:MET:HA	41:f:58:ILE:HG12	1.87	0.56
42:g:31:GLN:HG3	42:g:36:GLN:HB2	1.86	0.56
43:h:4:ILE:HD13	43:h:4:ILE:N	2.21	0.56
48:m:9:LYS:HD3	48:m:9:LYS:N	2.20	0.56
48:m:9:LYS:HG3	48:m:16:ILE:HG13	1.87	0.56
49:n:106:PHE:CG	49:n:107:GLU:N	2.71	0.56
49:n:143:MET:C	49:n:145:GLU:N	2.62	0.56
51:s:328:C:O2	51:s:328:C:C2'	2.54	0.56
51:s:381:C:O2	51:s:381:C:H2'	2.06	0.56
51:s:501:C:H2'	51:s:502:A:H8	1.71	0.56
51:s:962:C:H4'	51:s:1201:A:H62	1.71	0.56
52:t:74:A:O2'	52:t:75:G:OP2	2.24	0.56
52:t:153:U:H6	52:t:153:U:O5'	1.89	0.56
52:t:383:C:H5'	52:t:385:C:OP2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:788:A:OP1	52:t:791:C:N4	2.37	0.56
52:t:1417:C:O2'	52:t:1587:G:O2'	2.22	0.56
52:t:2852:G:H2'	52:t:2853:C:H6	1.67	0.56
54:v:47:LYS:HE2	54:v:66:ARG:O	2.06	0.56
6:F:115:MET:CE	6:F:119:LEU:HB2	2.36	0.56
7:G:12:ARG:HH21	51:s:826:C:C5'	2.19	0.56
7:G:82:LEU:HD23	7:G:82:LEU:C	2.31	0.56
17:Q:44:THR:OG1	17:Q:46:THR:HG22	2.06	0.56
22:V:171:THR:CG2	52:t:2773:C:OP1	2.54	0.56
29:2:61:LEU:HG	47:l:23:HIS:ND1	2.21	0.56
29:2:78:ARG:NH2	29:2:113:ALA:HB1	2.20	0.56
39:d:6:ALA:HB1	39:d:41:GLU:O	2.05	0.56
42:g:8:GLU:O	42:g:12:GLU:HB2	2.05	0.56
42:g:45:GLN:O	42:g:46:VAL:HB	2.05	0.56
49:n:44:ALA:CA	49:n:48:ALA:HB3	2.23	0.56
50:o:17:MET:O	50:o:21:GLU:HG3	2.06	0.56
51:s:68:G:C5	51:s:69:G:H1'	2.41	0.56
51:s:292:G:OP2	51:s:305:G:N2	2.28	0.56
51:s:1210:C:O4'	51:s:1214:C:N4	2.38	0.56
52:t:1383:A:H1'	52:t:1405:U:O2'	2.05	0.56
52:t:2282:G:H5''	52:t:2389:G:H1'	1.87	0.56
52:t:2305:U:H2'	52:t:2306:C:C6	2.40	0.56
52:t:2326:C:C6	52:t:2326:C:H3'	2.41	0.56
54:v:453:LEU:HD13	54:v:458:ASN:HA	1.86	0.56
7:G:4:ASP:OD1	7:G:76:ARG:NH1	2.39	0.56
13:M:27:LYS:O	13:M:31:SER:HB2	2.05	0.56
21:U:143:VAL:HG12	21:U:144:GLU:N	2.21	0.56
21:U:231:HIS:O	21:U:232:GLY:O	2.24	0.56
24:X:128:SER:HA	24:X:154:THR:HA	1.86	0.56
26:Z:56:VAL:HG21	26:Z:68:PHE:CD2	2.37	0.56
26:Z:120:ASP:OD1	26:Z:122:GLU:HB3	2.06	0.56
29:2:115:GLU:O	29:2:116:VAL:HB	2.06	0.56
33:6:33:GLU:CD	51:s:345:C:O3'	2.48	0.56
34:8:91:ARG:NH1	35:9:11:GLN:N	2.48	0.56
36:a:60:HIS:CD2	52:t:486:C:H4'	2.41	0.56
40:e:17:ALA:HB1	40:e:36:ILE:HG13	1.88	0.56
48:m:27:CYS:CB	48:m:33:HIS:HB2	2.35	0.56
51:s:41:G:H2'	51:s:42:G:C8	2.41	0.56
51:s:120:A:O2'	51:s:122:G:N7	2.31	0.56
51:s:174:A:O2'	51:s:175:C:H5'	2.06	0.56
51:s:206:C:H2'	51:s:207:C:C5'	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:687:A:H61	51:s:703:G:H1'	1.69	0.56
51:s:688:G:O2'	51:s:689:C:H5'	2.06	0.56
51:s:1405:G:O4'	51:s:1519:A:H4'	2.06	0.56
52:t:1348:C:C2'	52:t:1349:C:H5'	2.36	0.56
52:t:1378:A:HO2'	52:t:1379:U:H3'	1.69	0.56
52:t:1416:G:O2'	52:t:1417:C:O4'	2.24	0.56
52:t:2584:U:H2'	52:t:2585:U:H5'	1.88	0.56
54:v:26:LYS:CE	54:v:89:THR:O	2.54	0.56
54:v:525:GLN:HE21	54:v:525:GLN:N	2.04	0.56
2:B:35:ASP:C	2:B:37:LYS:H	2.14	0.56
10:J:30:ILE:HD13	10:J:30:ILE:O	2.06	0.56
10:J:80:ASN:HB3	10:J:105:ARG:HB3	1.88	0.56
11:K:14:LYS:HG3	11:K:14:LYS:O	2.05	0.56
11:K:111:GLN:HB2	51:s:538:G:OP2	2.05	0.56
19:S:55:PRO:HB3	51:s:193:C:H4'	1.88	0.56
20:T:33:ARG:HE	20:T:34:ARG:HB2	1.70	0.56
22:V:113:SER:C	22:V:114:LYS:HE3	2.30	0.56
23:W:35:TYR:CE2	23:W:176:ASP:HB2	2.40	0.56
23:W:161:ALA:N	23:W:164:LEU:HD13	2.20	0.56
30:3:20:LEU:HD22	30:3:20:LEU:N	2.21	0.56
30:3:33:LEU:CD2	30:3:128:THR:HB	2.36	0.56
31:4:12:ARG:NE	31:4:20:MET:CE	2.69	0.56
32:5:68:LYS:HE2	53:u:49:C:O3'	2.06	0.56
34:8:10:ARG:HH21	34:8:14:LYS:CA	2.18	0.56
39:d:2:PHE:HA	39:d:50:MET:HE2	1.88	0.56
41:f:68:ALA:HA	41:f:71:ARG:HH12	1.71	0.56
43:h:35:VAL:HG21	43:h:37:ARG:CZ	2.36	0.56
45:j:12:SER:HA	45:j:48:TYR:CD1	2.41	0.56
47:l:33:THR:HG23	47:l:34:LYS:N	2.21	0.56
48:m:3:VAL:CG2	52:t:2539:C:H5'	2.31	0.56
49:n:15:VAL:O	49:n:15:VAL:HG12	2.06	0.56
51:s:357:G:O2'	54:v:311:HIS:CE1	2.59	0.56
51:s:948:C:O2'	51:s:949:A:H5'	2.06	0.56
51:s:1264:U:H1'	51:s:1272:G:H22	1.70	0.56
52:t:246:C:H2'	52:t:247:G:H5'	1.88	0.56
52:t:587:C:H5''	52:t:588:U:H5'	1.88	0.56
52:t:1857:G:H1'	52:t:1885:A:N6	2.21	0.56
52:t:2051:A:N6	52:t:2614:A:H2'	2.21	0.56
54:v:428:PHE:HB2	54:v:437:ILE:HB	1.87	0.56
1:A:101:THR:HG21	51:s:1101:A:N6	2.19	0.55
1:A:185:ILE:HA	1:A:199:ILE:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:30:MET:HE3	6:F:33:GLY:HA2	1.87	0.55
7:G:88:LYS:HG3	7:G:89:ASP:OD1	2.07	0.55
10:J:109:ILE:O	20:T:5:VAL:HG22	2.04	0.55
11:K:42:LYS:HE2	11:K:90:PRO:HG3	1.88	0.55
26:Z:101:SER:HB3	26:Z:140:GLU:HB2	1.87	0.55
40:e:46:ALA:O	40:e:47:GLY:O	2.25	0.55
42:g:18:LEU:O	42:g:18:LEU:HD13	2.06	0.55
43:h:7:THR:O	43:h:54:VAL:HA	2.05	0.55
51:s:81:A:N1	51:s:88:U:O4	2.39	0.55
51:s:1022:A:H2'	51:s:1023:U:O4'	2.07	0.55
51:s:1035:A:H2'	51:s:1036:A:O4'	2.06	0.55
51:s:1058:G:H2'	51:s:1059:C:O4'	2.06	0.55
51:s:1145:A:O2'	51:s:1146:A:H8	1.88	0.55
51:s:1239:A:H1'	51:s:1241:G:C8	2.42	0.55
52:t:170:U:H2'	52:t:171:U:O4'	2.05	0.55
52:t:466:A:H2'	52:t:467:G:H5'	1.87	0.55
52:t:723:C:O2'	52:t:724:U:H5'	2.06	0.55
52:t:1091:G:H2'	52:t:1092:C:H6	1.70	0.55
52:t:1712:U:H2'	52:t:1713:A:N7	2.21	0.55
1:A:157:PRO:C	1:A:159:ALA:H	2.13	0.55
6:F:3:ARG:HB2	6:F:3:ARG:HH11	1.71	0.55
8:H:60:LEU:N	8:H:60:LEU:HD23	2.22	0.55
11:K:86:VAL:O	11:K:88:ASP:N	2.39	0.55
11:K:105:GLY:HA3	11:K:117:GLY:O	2.06	0.55
21:U:219:VAL:CG1	21:U:224:MET:HE2	2.36	0.55
21:U:237:ARG:O	21:U:238:ASN:HB2	2.05	0.55
22:V:197:THR:HG22	22:V:198:GLY:N	2.19	0.55
25:Y:9:VAL:O	25:Y:9:VAL:HG13	2.07	0.55
25:Y:84:LYS:HE2	25:Y:84:LYS:N	2.21	0.55
27:0:78:THR:CG2	52:t:2641:G:H5''	2.36	0.55
27:0:124:VAL:O	27:0:125:TYR:CB	2.54	0.55
39:d:19:ARG:HD3	53:u:94:A:OP1	2.06	0.55
40:e:28:GLU:HB3	40:e:31:LEU:CD1	2.36	0.55
45:j:33:LEU:N	45:j:51:ALA:HB3	2.09	0.55
49:n:95:LEU:H	49:n:95:LEU:CD2	2.17	0.55
51:s:426:U:H2'	51:s:427:U:C6	2.41	0.55
51:s:1222:G:O2'	51:s:1223:C:H5'	2.06	0.55
51:s:1324:A:O4'	51:s:1362:A:H4'	2.07	0.55
52:t:33:C:N4	52:t:446:G:O2'	2.36	0.55
52:t:1341:G:H3'	52:t:1397:U:O2	2.06	0.55
52:t:2857:G:N2	52:t:2861:U:N3	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:u:18:G:H1	53:u:65:U:H3	1.52	0.55
54:v:20:SER:N	54:v:26:LYS:HZ1	2.00	0.55
1:A:221:ARG:HG2	1:A:221:ARG:HH11	1.71	0.55
3:C:61:ARG:CZ	3:C:68:GLU:HG2	2.36	0.55
4:D:59:ILE:O	4:D:62:ALA:HB3	2.06	0.55
9:I:46:LYS:O	9:I:46:LYS:HG2	2.06	0.55
12:L:98:GLY:HA2	51:s:1322:C:OP2	2.05	0.55
14:N:18:ALA:O	14:N:19:ASN:HB2	2.04	0.55
14:N:63:ARG:HG2	14:N:87:ARG:HH22	1.72	0.55
23:W:32:VAL:O	23:W:35:TYR:HB3	2.06	0.55
24:X:89:THR:O	24:X:90:LEU:HD13	2.05	0.55
24:X:151:LEU:HA	52:t:2305:U:C4	2.42	0.55
26:Z:1:ALA:C	26:Z:2:LYS:HD3	2.31	0.55
26:Z:51:GLY:C	26:Z:52:LEU:HD12	2.31	0.55
27:0:25:LEU:HD22	27:0:25:LEU:C	2.31	0.55
32:5:117:PHE:O	52:t:2377:A:H4'	2.06	0.55
34:8:10:ARG:HH21	34:8:14:LYS:CB	2.19	0.55
37:b:61:LEU:HD12	37:b:61:LEU:C	2.32	0.55
42:g:3:ALA:C	42:g:5:GLU:N	2.65	0.55
49:n:136:ILE:H	49:n:136:ILE:CD1	2.20	0.55
51:s:504:C:H5'	51:s:510:A:N6	2.22	0.55
51:s:566:G:C4'	51:s:567:G:OP1	2.54	0.55
51:s:726:C:H42	51:s:731:G:H1	1.54	0.55
51:s:1159:U:O2	51:s:1182:G:N3	2.39	0.55
52:t:255:A:H2'	52:t:256:A:O4'	2.07	0.55
52:t:579:G:H2'	52:t:580:U:C6	2.41	0.55
52:t:653:U:H2'	52:t:654:A:H5''	1.89	0.55
52:t:2832:U:O4	52:t:2883:A:H5''	2.05	0.55
53:u:4:C:H42	53:u:116:G:H1	1.54	0.55
1:A:170:ILE:HD13	1:A:170:ILE:H	1.71	0.55
3:C:69:ARG:HA	3:C:69:ARG:HE	1.71	0.55
15:O:76:LYS:C	15:O:78:VAL:H	2.15	0.55
19:S:73:ARG:HD3	51:s:263:A:OP1	2.06	0.55
22:V:45:TYR:CD1	22:V:45:TYR:N	2.75	0.55
23:W:5:LEU:HD13	23:W:122:GLU:HG3	1.89	0.55
23:W:178:VAL:CG1	23:W:179:SER:H	2.19	0.55
25:Y:130:ILE:HG22	25:Y:132:LEU:HD22	1.88	0.55
27:0:55:ILE:HD13	27:0:56:VAL:N	2.20	0.55
28:1:5:GLN:HG3	52:t:1669:A:C8	2.42	0.55
29:2:93:ASN:O	29:2:94:THR:HB	2.06	0.55
29:2:99:ASN:ND2	52:t:621:A:OP2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:6:59:THR:OG1	33:6:72:VAL:HG12	2.06	0.55
33:6:105:LYS:CA	33:6:108:ARG:HH21	2.18	0.55
45:j:51:ALA:O	45:j:52:LYS:HB2	2.05	0.55
49:n:11:ILE:O	49:n:15:VAL:HG23	2.06	0.55
49:n:136:ILE:HA	49:n:139:LEU:CG	2.37	0.55
51:s:501:C:H1'	51:s:549:C:O2'	2.06	0.55
52:t:108:G:O2'	52:t:109:C:H5'	2.06	0.55
52:t:158:U:C2'	52:t:159:G:H5'	2.34	0.55
52:t:753:A:C4	52:t:754:U:C5	2.94	0.55
52:t:882:G:H2'	52:t:883:G:C8	2.42	0.55
52:t:1093:G:H1'	52:t:1098:A:N6	2.21	0.55
52:t:1387:A:H5'	52:t:1469:A:H1'	1.87	0.55
52:t:1812:U:H2'	52:t:1813:G:H8	1.71	0.55
6:F:143:MET:O	6:F:143:MET:HE3	2.05	0.55
15:O:5:ARG:HH12	51:s:377:G:H5'	1.71	0.55
15:O:76:LYS:C	15:O:78:VAL:N	2.64	0.55
21:U:155:ARG:NH1	52:t:1818:U:C6	2.75	0.55
21:U:221:GLY:O	21:U:232:GLY:N	2.38	0.55
25:Y:51:PHE:CE2	25:Y:68:ARG:HA	2.41	0.55
29:2:50:PHE:CD1	29:2:50:PHE:C	2.85	0.55
31:4:30:ARG:HG2	31:4:31:HIS:ND1	2.22	0.55
36:a:96:ILE:HA	52:t:2013:A:OP1	2.06	0.55
40:e:24:ARG:HD3	40:e:65:LYS:CG	2.37	0.55
40:e:47:GLY:C	40:e:49:ASN:N	2.62	0.55
46:k:13:ASN:ND2	52:t:125:A:N3	2.53	0.55
47:l:21:PHE:O	47:l:22:LYS:O	2.24	0.55
49:n:59:LEU:H	49:n:59:LEU:HD22	1.71	0.55
51:s:125:U:O2'	51:s:126:G:H5'	2.06	0.55
51:s:499:A:C4'	51:s:500:G:OP1	2.52	0.55
51:s:647:C:O2'	51:s:648:A:H5'	2.06	0.55
51:s:706:A:O2'	51:s:707:U:H5'	2.06	0.55
51:s:1239:A:H1'	51:s:1241:G:N7	2.22	0.55
51:s:1300:G:HO2'	51:s:1301:U:P	2.28	0.55
51:s:1326:U:O2'	51:s:1327:C:H5'	2.05	0.55
51:s:1327:C:H2'	51:s:1328:C:C6	2.41	0.55
51:s:1343:G:H2'	51:s:1344:C:H6	1.72	0.55
51:s:1347:G:C2'	51:s:1348:U:OP2	2.54	0.55
52:t:494:G:H2'	52:t:495:G:H8	1.70	0.55
52:t:685:A:H5''	52:t:686:U:OP1	2.06	0.55
52:t:1373:A:H5'	52:t:2212:A:H1'	1.87	0.55
52:t:1436:G:O2'	52:t:1515:A:N1	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2033:A:C2'	52:t:2035:G:OP2	2.53	0.55
52:t:2682:A:H61	52:t:2728:U:H1'	1.72	0.55
1:A:99:MET:O	1:A:100:LEU:HD22	2.07	0.55
2:B:107:LYS:HB2	2:B:107:LYS:HZ2	1.71	0.55
3:C:124:VAL:C	3:C:126:GLY:N	2.63	0.55
5:E:86:ARG:HH12	5:E:88:MET:HE3	1.69	0.55
9:I:89:ARG:HB2	9:I:89:ARG:HH11	1.71	0.55
11:K:23:LEU:HG	11:K:24:GLU:H	1.70	0.55
12:L:7:ASN:CG	12:L:9:PRO:HD3	2.32	0.55
22:V:107:VAL:HG21	22:V:177:VAL:CG1	2.36	0.55
24:X:58:ALA:O	24:X:139:GLU:HG2	2.06	0.55
29:2:47:ARG:NH1	52:t:196:A:OP2	2.39	0.55
34:8:3:VAL:HG22	52:t:1199:U:C1'	2.36	0.55
49:n:158:VAL:HG11	50:q:23:ILE:HG13	1.88	0.55
50:q:19:VAL:O	50:q:23:ILE:HD12	2.06	0.55
51:s:334:C:H2'	51:s:335:C:H6	1.72	0.55
51:s:673:A:H2'	51:s:674:G:C8	2.42	0.55
51:s:784:A:H2'	51:s:785:G:O4'	2.07	0.55
52:t:31:C:H42	52:t:474:G:H1	1.55	0.55
52:t:503:A:O2'	52:t:504:A:OP2	2.25	0.55
52:t:1930:G:C2'	52:t:1931:U:OP2	2.54	0.55
1:A:143:LEU:HB2	1:A:147:LEU:HD12	1.87	0.55
3:C:25:ARG:NH1	3:C:30:LYS:HE3	2.21	0.55
3:C:149:LYS:O	3:C:150:LYS:C	2.49	0.55
3:C:167:PRO:HG2	3:C:170:LEU:HD21	1.87	0.55
4:D:44:ARG:HA	4:D:71:ILE:O	2.06	0.55
13:M:82:LYS:CE	13:M:85:GLU:HG3	2.37	0.55
17:Q:44:THR:C	17:Q:46:THR:H	2.15	0.55
29:2:64:PHE:C	29:2:64:PHE:HD1	2.13	0.55
32:5:75:GLY:HA3	32:5:106:LEU:HD12	1.89	0.55
41:f:17:ARG:NH2	52:t:381:G:OP1	2.40	0.55
50:q:24:SER:OG	50:r:4:LYS:HE2	2.07	0.55
51:s:547:A:H4'	51:s:548:G:O5'	2.07	0.55
51:s:1202:U:O2	51:s:1203:C:O4'	2.25	0.55
51:s:1253:G:O2'	51:s:1254:A:H5'	2.07	0.55
51:s:1314:C:H2'	51:s:1315:U:C6	2.41	0.55
51:s:1372:U:C2'	51:s:1373:G:H5'	2.37	0.55
52:t:372:G:O2'	52:t:373:U:P	2.63	0.55
52:t:679:C:H2'	52:t:680:C:H6	1.72	0.55
52:t:1477:A:H2'	52:t:1478:G:O4'	2.07	0.55
52:t:1654:A:O2'	52:t:1655:A:H5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2468:A:HO2'	52:t:2469:A:H8	1.55	0.55
54:v:399:ARG:CZ	54:v:445:GLN:HB3	2.37	0.55
1:A:61:SER:C	1:A:63:LYS:H	2.14	0.55
2:B:162:ALA:CB	51:s:1056:U:H5'	2.35	0.55
11:K:43:LYS:N	11:K:44:PRO:HD2	2.22	0.55
16:P:61:ARG:HG2	16:P:73:THR:O	2.06	0.55
25:Y:132:LEU:H	25:Y:132:LEU:HD23	1.72	0.55
34:8:7:VAL:HG23	34:8:8:ILE:N	2.21	0.55
34:8:16:ILE:HG23	34:8:38:VAL:HG21	1.88	0.55
37:b:43:ILE:CD1	37:b:58:VAL:HG21	2.35	0.55
51:s:47:C:H5''	51:s:48:C:OP1	2.07	0.55
51:s:372:C:C4'	51:s:373:A:OP1	2.54	0.55
51:s:962:C:H2'	51:s:963:G:C8	2.41	0.55
52:t:188:G:N2	52:t:209:C:C2	2.74	0.55
52:t:645:C:N4	52:t:2350:C:O2'	2.40	0.55
52:t:819:A:OP2	52:t:1187:G:N2	2.33	0.55
52:t:1020:A:H8	52:t:1020:A:O5'	1.90	0.55
52:t:1327:A:H2'	52:t:1328:A:O4'	2.07	0.55
52:t:1680:U:O2'	52:t:1681:G:H5'	2.06	0.55
52:t:1964:G:O2'	52:t:1967:C:OP2	2.25	0.55
52:t:2318:G:H2'	52:t:2319:G:O4'	2.07	0.55
54:v:26:LYS:CD	54:v:89:THR:O	2.55	0.55
54:v:472:ARG:HG3	54:v:504:ILE:HA	1.89	0.55
1:A:209:VAL:HG23	1:A:210:THR:N	2.14	0.55
3:C:2:ARG:HB2	3:C:4:LEU:CD1	2.36	0.55
3:C:61:ARG:NH1	3:C:68:GLU:HG2	2.22	0.55
5:E:1:MET:HE2	5:E:67:PRO:HB3	1.88	0.55
5:E:41:ASP:C	5:E:43:GLY:H	2.14	0.55
6:F:69:ARG:HD2	6:F:96:ASN:HA	1.89	0.55
10:J:75:GLU:O	10:J:77:GLY:N	2.39	0.55
11:K:78:VAL:HG21	54:v:407:LEU:HB2	1.88	0.55
14:N:2:LEU:HD22	14:N:34:GLN:HG2	1.88	0.55
19:S:27:MET:CE	19:S:57:VAL:HG22	2.36	0.55
20:T:37:TYR:CD1	51:s:1525:G:H5''	2.42	0.55
21:U:106:PRO:HG2	21:U:109:LEU:H	1.71	0.55
21:U:259:ASN:O	21:U:260:LYS:CB	2.55	0.55
22:V:107:VAL:HA	22:V:204:LYS:O	2.07	0.55
22:V:181:ASP:OD1	22:V:184:ARG:HB2	2.07	0.55
24:X:37:MET:HA	24:X:151:LEU:HB3	1.87	0.55
27:0:58:ASN:CB	27:0:61:LYS:HE2	2.36	0.55
29:2:57:LEU:O	29:2:61:LEU:HD22	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:4:93:GLY:N	52:t:2880:C:O2	2.39	0.55
34:8:4:LYS:HE3	52:t:1199:U:C5'	2.32	0.55
45:j:11:VAL:HA	45:j:19:PHE:HB3	1.89	0.55
45:j:37:LYS:HB2	45:j:48:TYR:CE2	2.42	0.55
49:n:61:ARG:H	49:n:61:ARG:CD	2.01	0.55
49:n:82:ILE:CG2	49:n:83:ALA:N	2.69	0.55
51:s:198:G:O2'	51:s:199:A:H5'	2.06	0.55
51:s:451:A:H4'	51:s:452:A:O5'	2.06	0.55
51:s:552:U:O2'	51:s:553:A:H5'	2.06	0.55
52:t:205:G:C2'	52:t:206:U:OP2	2.54	0.55
52:t:323:C:HO2'	52:t:324:A:P	2.30	0.55
52:t:378:C:O2'	52:t:379:G:H5'	2.07	0.55
52:t:1019:U:N3	52:t:1142:A:N6	2.54	0.55
52:t:1495:A:H2'	52:t:1496:A:C8	2.42	0.55
53:u:66:A:H5''	53:u:67:G:OP1	2.07	0.55
54:v:72:THR:HG21	54:v:102:THR:HG21	1.89	0.55
1:A:114:LYS:HA	1:A:117:GLU:CG	2.36	0.55
1:A:207:ARG:CB	1:A:207:ARG:HH11	2.20	0.55
2:B:46:LEU:O	2:B:49:ALA:HB3	2.06	0.55
2:B:155:ARG:NE	2:B:159:ALA:O	2.40	0.55
3:C:10:LEU:HD11	3:C:62:ARG:HG3	1.88	0.55
3:C:14:GLU:OE1	3:C:59:LYS:HB2	2.07	0.55
3:C:143:SER:HA	3:C:178:GLU:HA	1.89	0.55
3:C:185:PRO:HB2	3:C:190:LEU:CD2	2.37	0.55
3:C:191:SER:O	3:C:192:ALA:CB	2.54	0.55
5:E:7:VAL:HG12	5:E:88:MET:O	2.07	0.55
5:E:71:ILE:O	5:E:74:LEU:HB3	2.07	0.55
8:H:75:ALA:O	8:H:78:ILE:HB	2.07	0.55
9:I:80:THR:HB	9:I:83:THR:CG2	2.37	0.55
12:L:27:THR:HG21	51:s:1328:C:C5'	2.18	0.55
16:P:10:ARG:O	16:P:11:VAL:O	2.25	0.55
18:R:51:HIS:HB2	18:R:56:HIS:NE2	2.21	0.55
22:V:21:SER:H	28:1:73:ASP:HA	1.72	0.55
23:W:188:MET:SD	23:W:193:VAL:HG22	2.47	0.55
27:0:25:LEU:O	27:0:25:LEU:HD13	2.06	0.55
27:0:47:HIS:ND1	27:0:48:VAL:HG23	2.22	0.55
38:c:80:ASP:OD1	38:c:95:PHE:CD2	2.60	0.55
42:g:43:LEU:O	42:g:44:LYS:C	2.50	0.55
42:g:51:ALA:HB1	52:t:72:U:O2'	2.07	0.55
50:o:11:VAL:HG22	50:r:15:SER:H	1.72	0.55
50:r:21:GLU:O	50:r:25:ALA:HB2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:755:G:H2'	51:s:756:C:H6	1.72	0.55
51:s:984:C:O5'	51:s:984:C:H6	1.89	0.55
51:s:1347:G:O2'	51:s:1348:U:P	2.65	0.55
52:t:387:U:H4'	52:t:388:G:O5'	2.06	0.55
52:t:1779:U:C2	52:t:1783:A:N7	2.75	0.55
52:t:2224:G:H4'	52:t:2226:C:O2	2.06	0.55
52:t:2345:G:H2'	52:t:2381:A:N3	2.22	0.55
52:t:2646:C:H2'	52:t:2647:U:O4'	2.07	0.55
52:t:2803:G:H2'	52:t:2804:U:C6	2.42	0.55
1:A:53:LEU:HD21	1:A:212:TYR:OH	2.07	0.54
2:B:5:HIS:NE2	2:B:183:TYR:CE2	2.75	0.54
2:B:120:THR:CG2	2:B:188:ALA:HB2	2.37	0.54
9:I:52:LEU:HD23	9:I:62:ARG:CG	2.37	0.54
19:S:54:GLN:HB3	19:S:55:PRO:HD3	1.88	0.54
22:V:119:ALA:HB2	22:V:123:LYS:HD3	1.89	0.54
23:W:8:ALA:O	23:W:9:GLN:C	2.50	0.54
34:8:76:SER:OG	52:t:1011:G:H5''	2.07	0.54
37:b:18:GLU:CG	52:t:1392:A:H61	2.16	0.54
39:d:80:HIS:HD2	39:d:83:LYS:CB	2.16	0.54
44:i:4:GLN:HG3	52:t:2054:A:C2	2.42	0.54
49:n:57:ASN:O	49:n:59:LEU:N	2.39	0.54
49:n:136:ILE:HA	49:n:139:LEU:HD12	1.89	0.54
51:s:1264:U:H1'	51:s:1272:G:N2	2.22	0.54
51:s:1346:A:HO2'	51:s:1347:G:P	2.29	0.54
52:t:458:G:N2	52:t:469:G:H2'	2.23	0.54
52:t:519:U:H2'	52:t:520:G:H8	1.72	0.54
52:t:553:G:H2'	52:t:554:U:O4'	2.07	0.54
52:t:1105:U:O2'	52:t:1106:G:H5'	2.07	0.54
52:t:2319:G:O2'	52:t:2320:U:O4'	2.24	0.54
54:v:472:ARG:HA	54:v:473:TRP:HB2	1.89	0.54
2:B:199:VAL:HG22	2:B:200:TRP:N	2.22	0.54
3:C:115:GLN:HE22	51:s:406:G:H21	1.56	0.54
4:D:137:ARG:CZ	51:s:1078:U:H4'	2.37	0.54
5:E:45:ARG:O	5:E:56:LYS:HA	2.07	0.54
5:E:49:TYR:CE1	17:Q:65:SER:HA	2.42	0.54
6:F:145:GLU:HG3	6:F:148:LYS:HE2	1.90	0.54
8:H:64:ILE:HG22	8:H:65:THR:N	2.22	0.54
20:T:52:VAL:HG13	20:T:53:LYS:N	2.22	0.54
24:X:32:LYS:C	24:X:33:ILE:HD12	2.32	0.54
24:X:64:PRO:HA	24:X:88:VAL:CG2	2.32	0.54
25:Y:29:ASN:OD1	25:Y:30:GLY:N	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:2:55:MET:HA	29:2:55:MET:HE3	1.89	0.54
31:4:49:GLU:OE2	31:4:95:THR:HB	2.07	0.54
31:4:69:ARG:O	31:4:71:ARG:N	2.36	0.54
35:9:61:ALA:CB	35:9:98:ILE:HA	2.36	0.54
35:9:88:GLY:O	52:t:1224:U:H4'	2.07	0.54
39:d:80:HIS:HB3	39:d:83:LYS:O	2.07	0.54
51:s:50:A:N6	51:s:361:G:H4'	2.22	0.54
51:s:197:A:N6	51:s:221:C:H5'	2.22	0.54
51:s:607:A:H2'	51:s:608:A:H8	1.71	0.54
51:s:971:G:H2'	51:s:1365:G:O2'	2.07	0.54
51:s:1006:G:H2'	51:s:1007:U:C6	2.42	0.54
51:s:1121:U:O2'	51:s:1122:U:H5'	2.07	0.54
52:t:1045:C:H5'	52:t:1047:G:O4'	2.06	0.54
52:t:1259:G:O2'	52:t:1260:A:H5'	2.07	0.54
52:t:1773:A:N7	52:t:1829:A:H1'	2.22	0.54
53:u:28:C:H42	53:u:56:G:H1	1.53	0.54
3:C:97:LEU:HD12	3:C:134:TYR:HD2	1.72	0.54
3:C:105:GLY:C	3:C:107:GLY:H	2.16	0.54
4:D:56:PRO:HA	4:D:59:ILE:HG12	1.87	0.54
6:F:12:LEU:HD22	6:F:12:LEU:N	2.18	0.54
6:F:132:THR:O	6:F:136:LYS:HB2	2.08	0.54
15:O:16:PHE:CE2	51:s:625:U:H4'	2.43	0.54
15:O:50:THR:CG2	15:O:52:LEU:HD11	2.36	0.54
21:U:141:HIS:N	21:U:190:THR:O	2.34	0.54
24:X:123:GLY:HA2	24:X:162:ASP:OD2	2.08	0.54
24:X:162:ASP:O	24:X:166:ARG:N	2.39	0.54
28:1:41:ILE:CG2	28:1:42:THR:N	2.69	0.54
28:1:121:GLU:CG	28:1:122:VAL:H	2.19	0.54
32:5:59:ALA:HA	32:5:62:LEU:HD12	1.90	0.54
38:c:95:PHE:CE1	38:c:102:ILE:HB	2.42	0.54
40:e:9:THR:OG1	40:e:10:ARG:N	2.40	0.54
46:k:34:ARG:NH1	46:k:39:ARG:HG2	2.21	0.54
49:n:37:LYS:NZ	52:t:1084:A:N6	2.56	0.54
49:n:55:VAL:CG1	52:t:1084:A:H5'	2.13	0.54
51:s:445:G:H2'	51:s:446:G:C8	2.42	0.54
52:t:340:A:C2'	52:t:341:C:H5'	2.37	0.54
52:t:368:A:C2'	52:t:369:U:H5'	2.37	0.54
52:t:1564:C:H2'	52:t:1565:C:C6	2.42	0.54
52:t:1783:A:C2	52:t:2587:A:C5	2.95	0.54
52:t:2291:U:H5''	52:t:2380:C:O2'	2.07	0.54
54:v:20:SER:N	54:v:26:LYS:HZ2	2.04	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:59:TRP:CZ2	54:v:69:SER:HB3	2.43	0.54
54:v:490:GLU:HA	54:v:493:LEU:HD12	1.89	0.54
3:C:57:LYS:HB2	3:C:199:ILE:HD11	1.89	0.54
8:H:40:ARG:O	8:H:44:ARG:HG2	2.07	0.54
11:K:23:LEU:HD12	11:K:24:GLU:H	1.73	0.54
11:K:30:ARG:NH1	51:s:363:A:OP2	2.41	0.54
13:M:52:ARG:HD2	51:s:1317:C:C4	2.42	0.54
16:P:76:ARG:HH12	16:P:78:VAL:HG13	1.71	0.54
19:S:34:VAL:O	19:S:38:ILE:HG12	2.08	0.54
21:U:93:VAL:CG1	21:U:94:LEU:N	2.70	0.54
22:V:128:ARG:NH1	52:t:2512:C:OP2	2.41	0.54
23:W:141:MET:O	23:W:142:ALA:HB3	2.07	0.54
24:X:11:VAL:HG11	24:X:172:PHE:HE1	1.72	0.54
24:X:167:ALA:HA	24:X:170:ALA:HB3	1.89	0.54
25:Y:94:ARG:HG3	25:Y:127:GLN:HG3	1.90	0.54
28:l:11:ALA:O	28:l:100:PHE:HD1	1.89	0.54
32:5:103:VAL:HG23	32:5:104:GLN:H	1.71	0.54
34:8:12:ARG:O	34:8:15:LYS:HB3	2.08	0.54
34:8:65:ASN:CG	34:8:75:TYR:HB2	2.31	0.54
47:l:35:LYS:HG2	47:l:39:ARG:HH22	1.73	0.54
49:n:26:VAL:HG13	49:n:82:ILE:CG2	2.37	0.54
50:r:11:VAL:HG12	50:r:11:VAL:O	2.08	0.54
51:s:429:U:H5'	51:s:430:A:OP1	2.07	0.54
51:s:481:G:OP1	51:s:481:G:H4'	2.06	0.54
51:s:977:A:H2	51:s:1362:A:N1	2.06	0.54
51:s:992:U:H5''	51:s:993:G:O5'	2.08	0.54
51:s:1002:G:H1	51:s:1038:C:H42	1.55	0.54
51:s:1300:G:O2'	51:s:1301:U:O5'	2.24	0.54
51:s:1323:G:O2'	51:s:1362:A:H1'	2.06	0.54
52:t:1011:G:H4'	52:t:1012:U:OP1	2.07	0.54
52:t:1157:G:H2'	52:t:1157:G:N3	2.22	0.54
52:t:1385:A:H1'	52:t:1386:C:C6	2.42	0.54
52:t:1503:A:N6	52:t:1504:A:N6	2.54	0.54
52:t:2191:A:H2'	52:t:2192:U:C6	2.42	0.54
52:t:2303:G:O2'	52:t:2304:G:H5'	2.07	0.54
52:t:2423:U:O2'	52:t:2425:A:H2'	2.07	0.54
1:A:202:ASN:OD1	1:A:204:ASP:N	2.40	0.54
2:B:76:ILE:HG22	2:B:80:GLY:H	1.72	0.54
3:C:68:GLU:O	3:C:72:ARG:HG2	2.07	0.54
3:C:131:ILE:C	3:C:133:SER:H	2.16	0.54
10:J:16:SER:O	10:J:78:ILE:HA	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:42:LYS:CE	11:K:90:PRO:HG3	2.36	0.54
13:M:2:LYS:NZ	51:s:983:A:H4'	2.22	0.54
13:M:5:MET:SD	13:M:8:ARG:HD2	2.48	0.54
18:R:35:ARG:HB3	18:R:71:GLY:HA3	1.89	0.54
23:W:44:ARG:HG3	23:W:44:ARG:NH2	2.23	0.54
24:X:117:SER:O	24:X:119:LYS:N	2.40	0.54
26:Z:21:PRO:HB2	26:Z:22:PRO:HD3	1.89	0.54
26:Z:115:ASP:O	26:Z:116:MET:HG2	2.07	0.54
27:0:37:ARG:HH21	52:t:1007:C:H5''	1.73	0.54
27:0:112:GLY:HA2	27:0:116:ARG:HH11	1.71	0.54
27:0:114:LEU:O	27:0:118:MET:HG3	2.08	0.54
28:1:43:ILE:HG12	28:1:56:ASP:HB2	1.89	0.54
29:2:29:LYS:HG2	29:2:30:THR:HG23	1.89	0.54
29:2:127:VAL:HG22	29:2:131:ALA:HB3	1.89	0.54
34:8:91:ARG:HH11	35:9:10:LYS:HB3	1.68	0.54
39:d:44:HIS:NE2	39:d:85:LYS:HB2	2.23	0.54
40:e:41:GLY:O	40:e:43:LYS:N	2.41	0.54
43:h:40:THR:O	43:h:43:ILE:HG13	2.07	0.54
51:s:265:G:C2'	51:s:266:G:H5'	2.38	0.54
51:s:652:U:O2'	51:s:653:U:H6	1.90	0.54
51:s:1069:C:H4'	51:s:1192:C:O2	2.08	0.54
51:s:1505:G:H5''	51:s:1506:U:O5'	2.08	0.54
52:t:941:A:H2'	52:t:942:G:C8	2.42	0.54
52:t:1169:A:H61	52:t:1180:U:H3	1.54	0.54
52:t:1669:A:O3'	52:t:2549:G:H5'	2.08	0.54
52:t:2870:C:H2'	52:t:2871:U:H6	1.72	0.54
54:v:473:TRP:HA	54:v:524:HIS:O	2.08	0.54
2:B:51:VAL:HG22	2:B:52:SER:H	1.73	0.54
3:C:63:ILE:HG22	3:C:64:TYR:HD1	1.72	0.54
4:D:56:PRO:O	4:D:59:ILE:HG12	2.07	0.54
4:D:112:ALA:C	4:D:114:LEU:H	2.16	0.54
7:G:116:ARG:HG2	7:G:116:ARG:HH11	1.71	0.54
8:H:12:LYS:HG2	51:s:1371:G:OP1	2.07	0.54
9:I:100:ILE:H	9:I:100:ILE:CD1	2.14	0.54
12:L:46:GLU:HG3	12:L:46:GLU:O	2.08	0.54
13:M:29:ILE:H	13:M:29:ILE:HD12	1.73	0.54
18:R:77:ARG:HE	51:s:1225:A:H4'	1.73	0.54
19:S:23:ARG:HH21	19:S:60:GLN:HE22	1.56	0.54
19:S:60:GLN:HB3	19:S:65:LEU:HG	1.89	0.54
23:W:63:LYS:HD2	52:t:2444:G:OP2	2.07	0.54
23:W:164:LEU:HB3	23:W:167:VAL:HG12	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:77:GLY:O	25:Y:81:GLY:HA2	2.07	0.54
26:Z:126:ARG:HB3	52:t:1080:A:O2'	2.08	0.54
27:0:44:TYR:CD2	34:8:63:ARG:HD3	2.42	0.54
28:1:19:VAL:HG21	28:1:41:ILE:CG1	2.37	0.54
29:2:109:LYS:HA	29:2:126:ARG:O	2.08	0.54
33:6:52:ARG:NH1	52:t:2845:U:O3'	2.40	0.54
41:f:60:LYS:HG2	41:f:61:LYS:N	2.23	0.54
42:g:2:LYS:N	42:g:2:LYS:HD2	2.23	0.54
45:j:7:LYS:HZ3	52:t:2420:C:H5''	1.72	0.54
48:m:9:LYS:CE	48:m:9:LYS:H	2.21	0.54
49:n:24:SER:HB2	49:n:116:GLU:OE2	2.08	0.54
49:n:37:LYS:HE2	52:t:1085:A:H62	1.73	0.54
51:s:88:U:O2	51:s:88:U:H2'	2.08	0.54
51:s:129:A:N3	51:s:130:A:N7	2.56	0.54
51:s:461:A:H3'	51:s:462:G:C5'	2.36	0.54
51:s:515:G:H2'	51:s:516:U:O4'	2.07	0.54
51:s:1224:U:N3	51:s:1322:C:O2	2.41	0.54
52:t:434:U:C4'	52:t:435:C:OP1	2.46	0.54
52:t:1094:U:H2'	52:t:1096:A:C8	2.43	0.54
52:t:1585:C:O2'	52:t:1586:A:H5'	2.08	0.54
52:t:1693:U:H4'	52:t:1694:C:OP2	2.06	0.54
52:t:1842:G:H1	52:t:1898:U:H3	1.56	0.54
52:t:2664:G:O6	54:v:49:ARG:NH2	2.41	0.54
52:t:2678:C:H2'	52:t:2679:A:O4'	2.07	0.54
54:v:479:ALA:O	54:v:481:LYS:N	2.39	0.54
1:A:207:ARG:O	1:A:211:LEU:HB2	2.07	0.54
3:C:47:LEU:HD12	3:C:51:GLY:HA3	1.90	0.54
3:C:63:ILE:HG22	3:C:64:TYR:CD1	2.43	0.54
11:K:115:LYS:O	11:K:117:GLY:N	2.41	0.54
21:U:119:VAL:HB	21:U:133:ASN:HD21	1.73	0.54
23:W:172:ALA:O	23:W:175:ILE:HG22	2.08	0.54
24:X:125:GLY:CA	24:X:162:ASP:HA	2.37	0.54
25:Y:168:VAL:HG23	25:Y:168:VAL:O	2.06	0.54
28:1:47:ILE:HG23	28:1:48:PRO:CD	2.37	0.54
33:6:24:THR:HG23	33:6:87:ARG:HB3	1.90	0.54
36:a:29:VAL:HG21	36:a:69:LEU:HB3	1.90	0.54
39:d:29:ILE:O	39:d:30:ILE:HD12	2.07	0.54
49:n:26:VAL:HG22	49:n:84:TYR:HD1	1.72	0.54
50:o:27:GLU:O	50:o:28:GLU:HB2	2.07	0.54
51:s:124:C:H2'	51:s:125:U:H6	1.73	0.54
51:s:817:C:H1'	51:s:819:A:H5'	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:1270:G:H2'	51:s:1271:A:H8	1.72	0.54
52:t:93:G:O2'	52:t:94:A:H5'	2.08	0.54
52:t:215:G:H4'	52:t:216:A:OP1	2.07	0.54
52:t:305:C:O5'	52:t:305:C:H6	1.90	0.54
52:t:2103:C:H2'	52:t:2104:C:H6	1.71	0.54
53:u:5:U:OP1	53:u:61:G:O2'	2.26	0.54
54:v:15:THR:OG1	54:v:362:GLY:O	2.13	0.54
1:A:206:ILE:HD13	1:A:206:ILE:N	2.22	0.54
3:C:97:LEU:HD13	3:C:129:VAL:HG11	1.89	0.54
4:D:82:HIS:NE2	4:D:146:MET:HG3	2.23	0.54
9:I:57:VAL:HG13	9:I:58:ASN:OD1	2.07	0.54
11:K:70:GLY:O	11:K:98:ARG:NH2	2.34	0.54
15:O:31:ARG:NH2	51:s:230:G:H5''	2.23	0.54
21:U:44:ASN:C	21:U:44:ASN:OD1	2.51	0.54
24:X:23:SER:OG	53:u:55:U:H4'	2.07	0.54
25:Y:66:THR:HG21	52:t:2757:A:H61	1.73	0.54
27:0:30:THR:HG22	27:0:31:GLU:N	2.22	0.54
27:0:32:LEU:O	27:0:33:ALA:C	2.51	0.54
28:1:105:ARG:H	28:1:105:ARG:HD3	1.70	0.54
29:2:124:GLY:O	29:2:125:LEU:HD23	2.08	0.54
30:3:43:ALA:O	30:3:47:GLU:N	2.40	0.54
30:3:43:ALA:O	30:3:47:GLU:HB2	2.08	0.54
33:6:50:ARG:HA	33:6:57:ALA:O	2.07	0.54
33:6:56:SER:C	33:6:75:THR:HG22	2.33	0.54
36:a:18:ARG:HG3	36:a:76:VAL:CG1	2.38	0.54
37:b:61:LEU:HG	37:b:82:LYS:HB2	1.89	0.54
40:e:49:ASN:HA	40:e:61:LYS:HB2	1.90	0.54
42:g:16:THR:O	42:g:20:ASN:HB2	2.07	0.54
51:s:610:U:O5'	51:s:610:U:H6	1.90	0.54
51:s:632:U:H5''	51:s:633:G:C8	2.43	0.54
51:s:819:A:H4'	51:s:820:U:OP2	2.07	0.54
52:t:498:G:O2'	52:t:499:U:H5'	2.07	0.54
52:t:995:C:O2'	52:t:996:A:P	2.66	0.54
52:t:1720:U:H2'	52:t:1721:G:O4'	2.08	0.54
52:t:2379:G:H2'	52:t:2380:C:H6	1.72	0.54
54:v:310:LYS:O	54:v:311:HIS:ND1	2.41	0.54
54:v:347:THR:O	54:v:354:SER:HB3	2.08	0.54
54:v:439:GLY:HA2	54:v:440:ALA:CB	2.33	0.54
2:B:148:ILE:HD13	2:B:149:LYS:N	2.22	0.54
3:C:8:LEU:HD23	51:s:430:A:P	2.48	0.54
6:F:114:SER:O	6:F:118:ARG:HG3	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:12:ARG:NH2	51:s:826:C:H5'	2.22	0.54
14:N:44:GLU:O	14:N:45:HIS:HB2	2.07	0.54
15:O:48:GLU:HG3	15:O:49:GLY:N	2.22	0.54
16:P:45:VAL:HG22	16:P:72:TRP:HB2	1.89	0.54
19:S:45:ALA:HA	19:S:48:LYS:HB2	1.89	0.54
22:V:125:TRP:CE3	22:V:160:LYS:HD3	2.43	0.54
23:W:35:TYR:O	23:W:39:ALA:HB2	2.08	0.54
23:W:146:VAL:HG23	23:W:167:VAL:HG23	1.89	0.54
24:X:30:VAL:CG2	24:X:33:ILE:HD11	2.38	0.54
24:X:107:VAL:HB	24:X:108:PRO:HD3	1.90	0.54
29:2:130:GLY:O	29:2:133:ALA:HB3	2.08	0.54
32:5:102:ARG:N	53:u:49:C:OP1	2.39	0.54
33:6:99:LEU:C	33:6:101:GLU:H	2.16	0.54
34:8:12:ARG:HH12	52:t:812:C:H4'	1.73	0.54
49:n:153:ARG:C	49:n:155:LEU:H	2.15	0.54
51:s:169:C:H2'	51:s:170:U:H6	1.73	0.54
51:s:356:A:H5''	51:s:367:U:C5	2.43	0.54
51:s:369:G:OP2	51:s:388:G:N2	2.33	0.54
51:s:424:G:O2'	51:s:425:G:H5'	2.07	0.54
51:s:884:U:H5''	51:s:885:G:OP1	2.08	0.54
52:t:866:A:O2'	52:t:867:C:H5'	2.08	0.54
52:t:1339:G:H21	52:t:1603:A:H1'	1.72	0.54
52:t:1443:U:H2'	52:t:1444:G:C8	2.43	0.54
52:t:1490:A:O2'	52:t:1491:G:OP1	2.24	0.54
52:t:2326:C:H3'	52:t:2326:C:H6	1.71	0.54
52:t:2564:A:OP1	52:t:2648:G:H4'	2.07	0.54
52:t:2584:U:O5'	52:t:2584:U:H6	1.91	0.54
3:C:35:GLN:O	3:C:36:ALA:CB	2.56	0.54
5:E:89:VAL:CG2	5:E:90:MET:H	2.13	0.54
10:J:76:TYR:N	10:J:76:TYR:CD1	2.75	0.54
11:K:66:ILE:CD1	11:K:96:THR:HG21	2.36	0.54
16:P:26:ARG:CZ	16:P:39:ARG:HB3	2.38	0.54
18:R:37:SER:O	18:R:70:LEU:HG	2.08	0.54
21:U:2:VAL:HG11	21:U:201:LEU:HD23	1.89	0.54
22:V:131:ASP:C	22:V:133:THR:H	2.16	0.54
23:W:178:VAL:CG1	23:W:179:SER:N	2.70	0.54
25:Y:76:ILE:HD12	25:Y:82:PHE:CZ	2.43	0.54
25:Y:84:LYS:HG2	25:Y:85:LYS:N	2.23	0.54
25:Y:139:VAL:O	25:Y:143:VAL:HG23	2.08	0.54
26:Z:92:PRO:HG2	52:t:1076:C:H1'	1.90	0.54
28:1:10:VAL:HG21	28:1:16:ALA:CB	2.33	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:2:127:VAL:CG1	29:2:132:ARG:HH21	2.20	0.54
30:3:18:ARG:HH22	52:t:953:G:P	2.30	0.54
30:3:53:MET:HE1	30:3:103:TYR:CE2	2.43	0.54
34:8:69:ARG:HH22	34:8:74:SER:HB2	1.73	0.54
50:o:25:ALA:O	50:o:26:MET:HB3	2.06	0.54
50:q:11:VAL:HG22	50:r:29:LYS:HZ2	1.72	0.54
51:s:264:C:H2'	51:s:265:G:H5'	1.90	0.54
51:s:697:U:C2'	51:s:698:G:H5'	2.38	0.54
51:s:976:G:C2	51:s:1363:A:C2	2.96	0.54
51:s:1234:C:H1'	51:s:1364:U:H1'	1.90	0.54
52:t:248:G:H5'	52:t:250:G:N7	2.23	0.54
52:t:655:A:O2'	52:t:656:G:O4'	2.24	0.54
52:t:846:U:O2'	52:t:847:U:H5''	2.08	0.54
52:t:1091:G:O2'	52:t:1092:C:H5'	2.08	0.54
52:t:1251:C:O2'	52:t:1252:G:H3'	2.08	0.54
52:t:2297:A:C2	52:t:2298:A:C8	2.96	0.54
54:v:19:ILE:C	54:v:26:LYS:CE	2.79	0.54
54:v:91:GLY:O	54:v:92:HIS:HB2	2.08	0.54
1:A:26:MET:SD	1:A:192:PRO:HD3	2.48	0.53
1:A:207:ARG:NH1	1:A:207:ARG:HB2	2.23	0.53
3:C:8:LEU:HB2	51:s:430:A:OP1	2.08	0.53
3:C:32:LYS:O	3:C:33:ILE:C	2.50	0.53
6:F:136:LYS:C	6:F:138:GLU:H	2.15	0.53
6:F:144:ALA:O	6:F:145:GLU:HB3	2.07	0.53
11:K:79:ILE:C	11:K:79:ILE:HD12	2.33	0.53
21:U:142:ASN:OD1	21:U:151:GLY:HA3	2.08	0.53
22:V:148:GLN:HB2	22:V:152:PRO:CG	2.34	0.53
26:Z:58:ILE:O	26:Z:60:VAL:HG23	2.08	0.53
27:0:15:TRP:CZ2	52:t:7:G:H4'	2.43	0.53
30:3:109:PRO:C	30:3:111:GLU:N	2.65	0.53
33:6:83:ILE:C	33:6:83:ILE:CD1	2.81	0.53
35:9:80:ARG:HD3	52:t:566:U:O4	2.08	0.53
38:c:10:VAL:HG12	38:c:71:ILE:HA	1.90	0.53
40:e:77:LYS:O	40:e:78:PHE:HB2	2.07	0.53
42:g:20:ASN:O	42:g:24:GLU:HB2	2.08	0.53
49:n:96:PHE:HB3	49:n:125:ARG:NH1	2.17	0.53
51:s:474:G:H2'	51:s:475:C:O4'	2.08	0.53
52:t:246:C:C2'	52:t:247:G:H5'	2.38	0.53
52:t:286:U:H2'	52:t:287:G:H8	1.72	0.53
52:t:455:C:N3	52:t:472:A:H2'	2.23	0.53
52:t:532:A:N7	52:t:2021:C:H2'	2.22	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:573:U:O3'	52:t:574:A:H3'	2.07	0.53
52:t:643:A:H2'	52:t:644:A:C8	2.44	0.53
52:t:697:G:O2'	52:t:698:C:H5'	2.07	0.53
52:t:866:A:O4'	52:t:914:G:N2	2.40	0.53
52:t:1258:U:H2'	52:t:1259:G:H8	1.73	0.53
52:t:2436:G:O2'	52:t:2598:A:N1	2.33	0.53
52:t:2602:A:H5''	52:t:2603:G:H5''	1.89	0.53
53:u:12:C:C4'	53:u:13:G:OP1	2.55	0.53
54:v:129:VAL:O	54:v:132:LEU:HB2	2.09	0.53
1:A:141:GLU:HA	1:A:144:GLU:CB	2.35	0.53
4:D:75:LEU:O	4:D:81:GLN:NE2	2.40	0.53
6:F:25:PHE:HB2	6:F:100:MET:SD	2.47	0.53
9:I:14:ASP:HB2	9:I:17:LEU:HB3	1.89	0.53
12:L:47:LEU:O	12:L:47:LEU:HD23	2.07	0.53
16:P:60:ILE:HG22	16:P:61:ARG:N	2.23	0.53
16:P:68:LYS:HD3	51:s:253:A:OP2	2.09	0.53
21:U:78:GLU:OE1	21:U:100:ARG:NE	2.41	0.53
21:U:206:LYS:NZ	52:t:729:G:OP2	2.34	0.53
22:V:92:VAL:O	22:V:93:GLY:C	2.50	0.53
23:W:138:LEU:HB3	23:W:143:LEU:O	2.08	0.53
23:W:149:ILE:HD11	23:W:172:ALA:HA	1.90	0.53
24:X:102:LEU:C	24:X:104:THR:H	2.16	0.53
27:O:64:VAL:O	27:O:65:THR:CB	2.56	0.53
28:1:113:MET:SD	28:1:116:ILE:HD11	2.48	0.53
30:3:73:ILE:HG21	30:3:91:TYR:CZ	2.42	0.53
32:5:52:SER:HA	32:5:74:VAL:HG11	1.89	0.53
36:a:4:ILE:HG22	36:a:106:VAL:HG22	1.90	0.53
38:c:21:ARG:CZ	38:c:72:PHE:CE2	2.91	0.53
38:c:65:GLN:HG3	52:t:328:U:O3'	2.09	0.53
41:f:5:GLN:HG2	41:f:75:GLU:OE2	2.09	0.53
49:n:29:ASP:HA	49:n:108:VAL:HG11	1.90	0.53
49:n:60:LEU:HD22	49:n:78:GLY:O	2.07	0.53
49:n:61:ARG:O	49:n:65:GLU:HB3	2.08	0.53
50:o:6:GLN:C	50:o:8:ILE:N	2.65	0.53
51:s:471:U:O2'	51:s:472:U:H5'	2.08	0.53
51:s:962:C:C4'	51:s:1201:A:N6	2.70	0.53
51:s:977:A:H5''	51:s:1362:A:H61	1.73	0.53
51:s:1084:G:C5	51:s:1085:U:C4	2.96	0.53
51:s:1237:C:O5'	51:s:1238:A:H5'	2.08	0.53
51:s:1256:A:H1'	51:s:1258:G:C5	2.42	0.53
52:t:458:G:O2'	52:t:459:U:OP2	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1585:C:C2'	52:t:1586:A:H5'	2.37	0.53
52:t:1664:A:H1'	52:t:2726:A:C2	2.43	0.53
52:t:1810:A:C8	52:t:1811:G:C8	2.97	0.53
53:u:31:C:O2	53:u:52:A:H2	1.91	0.53
54:v:472:ARG:HG3	54:v:504:ILE:N	2.22	0.53
2:B:108:PRO:CB	2:B:114:LEU:HD13	2.38	0.53
3:C:36:ALA:CA	3:C:41:GLY:HA3	2.29	0.53
3:C:141:VAL:HG12	3:C:180:THR:HG23	1.89	0.53
6:F:109:LYS:O	6:F:111:GLY:N	2.41	0.53
7:G:17:GLN:OE1	7:G:62:LEU:HD12	2.07	0.53
8:H:14:SER:HB3	8:H:74:GLN:HA	1.90	0.53
9:I:9:ARG:CZ	51:s:1279:G:H5''	2.38	0.53
15:O:17:TYR:CD1	15:O:17:TYR:N	2.72	0.53
21:U:119:VAL:HB	21:U:133:ASN:ND2	2.23	0.53
21:U:155:ARG:HG3	21:U:155:ARG:HH11	1.72	0.53
22:V:159:LYS:HD3	22:V:160:LYS:N	2.24	0.53
22:V:173:GLN:NE2	52:t:2771:C:O2'	2.41	0.53
23:W:148:ILE:HD13	23:W:187:VAL:HG21	1.90	0.53
25:Y:85:LYS:C	25:Y:86:LEU:HD12	2.33	0.53
26:Z:49:GLU:C	26:Z:50:LYS:HD3	2.32	0.53
29:2:40:SER:OG	29:2:41:ARG:N	2.39	0.53
29:2:116:VAL:HG13	29:2:116:VAL:O	2.09	0.53
32:5:92:PHE:HD2	52:t:2376:A:N1	2.06	0.53
34:8:85:ALA:O	34:8:88:GLU:HB2	2.08	0.53
36:a:72:THR:C	36:a:73:LYS:HD2	2.33	0.53
50:q:15:SER:C	50:q:17:MET:N	2.66	0.53
51:s:511:C:O2'	51:s:512:U:O4'	2.26	0.53
51:s:873:A:H4'	51:s:874:G:OP1	2.05	0.53
51:s:878:A:H2'	51:s:879:C:C6	2.44	0.53
51:s:1346:A:N3	51:s:1348:U:N3	2.56	0.53
52:t:342:A:H2'	52:t:343:C:O4'	2.07	0.53
52:t:974:G:H1'	52:t:975:A:C8	2.43	0.53
52:t:979:A:C2'	52:t:982:C:H42	2.07	0.53
52:t:1055:G:H2'	52:t:1056:G:C8	2.44	0.53
52:t:2197:U:O2'	52:t:2198:A:H8	1.92	0.53
52:t:2336:A:H4'	52:t:2337:G:OP2	2.05	0.53
52:t:2804:U:H2'	52:t:2805:C:H6	1.73	0.53
1:A:187:ASP:HB2	1:A:203:ASP:HB3	1.89	0.53
2:B:6:PRO:O	2:B:9:ILE:HG22	2.09	0.53
2:B:110:LEU:HD22	2:B:110:LEU:N	2.23	0.53
3:C:62:ARG:HH22	3:C:65:GLY:HA2	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:84:ASN:HB3	3:C:87:GLU:CD	2.34	0.53
3:C:139:ASN:O	3:C:140:ASP:C	2.51	0.53
4:D:104:ILE:N	4:D:121:ASN:O	2.41	0.53
6:F:35:LYS:O	6:F:39:GLU:HG2	2.09	0.53
12:L:14:ALA:HB2	12:L:42:VAL:CG2	2.39	0.53
12:L:101:THR:HG22	12:L:105:ALA:HB2	1.90	0.53
15:O:34:GLU:CD	15:O:56:ARG:HH21	2.16	0.53
16:P:12:VAL:HG11	16:P:21:VAL:CG1	2.39	0.53
18:R:35:ARG:HA	18:R:70:LEU:O	2.08	0.53
20:T:33:ARG:HD3	20:T:34:ARG:N	2.23	0.53
23:W:156:ASN:C	23:W:158:PHE:H	2.15	0.53
24:X:91:ARG:NE	53:u:45:A:O4'	2.41	0.53
27:O:132:HIS:O	27:O:133:ALA:C	2.51	0.53
30:3:109:PRO:O	30:3:111:GLU:N	2.41	0.53
34:8:91:ARG:CD	35:9:11:GLN:HG3	2.36	0.53
43:h:4:ILE:HD13	43:h:4:ILE:H	1.73	0.53
45:j:42:VAL:O	45:j:43:ARG:HB2	2.08	0.53
49:n:23:LEU:HD21	49:n:96:PHE:CD2	2.43	0.53
49:n:35:VAL:HG12	49:n:39:THR:HG23	1.90	0.53
51:s:193:C:H2'	51:s:194:C:H6	1.73	0.53
51:s:376:G:C2	51:s:389:A:C2	2.96	0.53
51:s:1090:U:O2'	51:s:1091:U:H5'	2.07	0.53
51:s:1239:A:H1'	51:s:1241:G:C5	2.43	0.53
51:s:1277:C:O2'	51:s:1279:G:H1'	2.08	0.53
51:s:1333:A:C8	51:s:1334:G:N7	2.77	0.53
51:s:1461:G:O2'	51:s:1462:C:H5'	2.08	0.53
51:s:1521:C:H2'	51:s:1522:U:H6	1.72	0.53
52:t:638:G:H2'	52:t:639:U:C6	2.43	0.53
52:t:822:G:O2'	52:t:823:C:H5'	2.08	0.53
52:t:829:A:N7	52:t:2247:A:O2'	2.40	0.53
52:t:843:G:H2'	52:t:844:A:C8	2.44	0.53
52:t:1536:C:H4'	52:t:1537:G:O5'	2.08	0.53
52:t:1848:A:H2'	52:t:1849:G:O4'	2.08	0.53
52:t:2226:C:H2'	52:t:2227:A:O4'	2.09	0.53
52:t:2831:G:H1'	52:t:2883:A:H2'	1.91	0.53
53:u:6:G:H1	53:u:114:C:H42	1.57	0.53
1:A:31:PHE:CD1	1:A:31:PHE:C	2.86	0.53
1:A:136:ARG:HH11	1:A:136:ARG:CG	2.21	0.53
3:C:117:VAL:HA	3:C:122:ILE:HG13	1.91	0.53
13:M:63:CYS:HB2	13:M:79:SER:OG	2.09	0.53
14:N:14:PHE:N	14:N:14:PHE:CD1	2.75	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:4:LEU:HD12	18:R:4:LEU:N	2.23	0.53
20:T:24:LYS:C	20:T:26:GLY:N	2.66	0.53
20:T:39:LYS:H	20:T:40:PRO:CD	2.21	0.53
22:V:30:GLU:O	22:V:31:ALA:C	2.52	0.53
22:V:90:PHE:C	22:V:92:VAL:H	2.16	0.53
23:W:43:THR:HB	52:t:38:A:N3	2.24	0.53
24:X:103:ILE:HA	24:X:107:VAL:HG21	1.91	0.53
25:Y:162:ARG:CZ	25:Y:168:VAL:HG11	2.39	0.53
29:2:127:VAL:CG2	29:2:131:ALA:HB3	2.38	0.53
41:f:32:LEU:HA	41:f:50:VAL:O	2.09	0.53
41:f:69:GLU:O	41:f:72:ALA:HB3	2.09	0.53
50:o:13:ALA:CA	50:o:17:MET:HE3	2.22	0.53
50:o:15:SER:CB	50:r:11:VAL:HG13	2.37	0.53
51:s:373:A:C1'	51:s:481:G:H1'	2.35	0.53
51:s:818:G:C3'	51:s:819:A:C5'	2.86	0.53
51:s:1350:A:H61	51:s:1373:G:N2	2.06	0.53
52:t:398:C:H5''	52:t:2090:A:O4'	2.08	0.53
52:t:880:G:H2'	52:t:880:G:N3	2.24	0.53
52:t:1261:C:C2'	52:t:1262:A:O5'	2.57	0.53
52:t:2282:G:C5'	52:t:2389:G:H1'	2.39	0.53
52:t:2736:A:H2'	52:t:2737:G:H8	1.74	0.53
3:C:109:THR:HG23	3:C:112:GLU:CB	2.38	0.53
3:C:142:VAL:CG2	3:C:143:SER:H	2.01	0.53
5:E:51:ILE:HD13	5:E:51:ILE:C	2.33	0.53
9:I:40:ILE:HG21	51:s:1125:U:C6	2.43	0.53
16:P:12:VAL:HG11	16:P:21:VAL:CG2	2.34	0.53
16:P:13:SER:HB3	16:P:16:MET:CE	2.38	0.53
20:T:41:THR:O	20:T:45:LYS:HB2	2.09	0.53
23:W:79:ARG:CG	23:W:80:SER:H	2.07	0.53
25:Y:104:LEU:HB2	25:Y:112:VAL:HG22	1.89	0.53
26:Z:14:ALA:O	26:Z:50:LYS:HB3	2.08	0.53
26:Z:118:GLY:O	26:Z:119:ALA:C	2.51	0.53
28:1:19:VAL:HG22	28:1:41:ILE:HG13	1.90	0.53
31:4:85:PRO:O	31:4:87:PHE:N	2.41	0.53
32:5:64:TYR:CD2	53:u:51:G:OP2	2.62	0.53
36:a:89:ALA:HB1	52:t:748:G:C8	2.43	0.53
38:c:12:VAL:HG21	38:c:38:ILE:HG21	1.90	0.53
40:e:18:LYS:H	40:e:36:ILE:CA	2.22	0.53
40:e:25:PHE:O	40:e:27:GLY:N	2.41	0.53
47:l:31:ILE:O	47:l:31:ILE:HG23	2.08	0.53
50:q:18:ASP:C	50:q:20:VAL:N	2.67	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:r:14:MET:O	50:r:18:ASP:N	2.37	0.53
51:s:33:A:H2'	51:s:34:C:H6	1.71	0.53
51:s:1036:A:H5'	51:s:1037:C:P	2.48	0.53
51:s:1064:G:N2	51:s:1190:G:O2'	2.41	0.53
51:s:1380:U:C4'	51:s:1381:U:OP1	2.57	0.53
51:s:1387:G:H2'	51:s:1388:C:C6	2.44	0.53
52:t:435:C:C2'	52:t:436:C:H5'	2.38	0.53
52:t:612:G:H21	52:t:616:A:H62	1.57	0.53
52:t:801:G:H5''	52:t:802:A:OP2	2.09	0.53
52:t:927:A:O2'	52:t:928:A:H5'	2.08	0.53
52:t:948:C:O2	52:t:984:A:O2'	2.26	0.53
52:t:1519:G:H2'	52:t:1520:U:O4'	2.08	0.53
52:t:2280:G:N3	52:t:2388:A:H2	2.07	0.53
52:t:2427:C:H5''	52:t:2428:G:OP1	2.08	0.53
52:t:2478:A:H2'	52:t:2479:U:O4'	2.08	0.53
52:t:2771:C:H2'	52:t:2772:C:C6	2.43	0.53
52:t:2880:C:C2	52:t:2881:U:C5	2.96	0.53
1:A:136:ARG:HH11	1:A:136:ARG:HG2	1.72	0.53
2:B:76:ILE:HD12	2:B:76:ILE:N	2.23	0.53
3:C:97:LEU:HD12	3:C:134:TYR:CD2	2.44	0.53
4:D:99:SER:O	4:D:101:GLY:N	2.42	0.53
8:H:27:ILE:HG23	8:H:62:LEU:HG	1.91	0.53
8:H:29:ILE:HB	8:H:64:ILE:HB	1.91	0.53
10:J:66:ALA:O	10:J:69:CYS:HB3	2.09	0.53
10:J:108:ASN:ND2	10:J:108:ASN:N	2.56	0.53
11:K:19:ASN:O	11:K:93:ARG:HD2	2.09	0.53
15:O:3:THR:HG23	15:O:66:THR:O	2.08	0.53
16:P:29:LYS:HD3	16:P:34:GLY:HA2	1.91	0.53
22:V:110:THR:CB	22:V:171:THR:HG22	2.38	0.53
22:V:151:THR:OG1	22:V:152:PRO:HD3	2.09	0.53
24:X:39:VAL:HG11	24:X:49:LEU:HD13	1.91	0.53
25:Y:32:LEU:HB2	25:Y:34:ARG:NH1	2.23	0.53
28:1:16:ALA:CB	28:1:86:LEU:HD11	2.37	0.53
33:6:23:ASP:O	33:6:46:VAL:HG23	2.08	0.53
35:9:14:VAL:HG22	35:9:15:SER:H	1.70	0.53
36:a:76:VAL:CG2	36:a:101:SER:HB2	2.39	0.53
39:d:75:GLN:HB2	39:d:92:VAL:HG23	1.91	0.53
40:e:18:LYS:HA	40:e:36:ILE:HB	1.91	0.53
41:f:3:VAL:HA	41:f:9:LYS:O	2.09	0.53
41:f:66:VAL:O	41:f:69:GLU:N	2.40	0.53
42:g:45:GLN:O	42:g:46:VAL:CB	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:937:A:H1'	51:s:1379:G:N2	2.24	0.53
51:s:1105:A:H2'	51:s:1106:G:H8	1.73	0.53
52:t:786:C:C2'	52:t:787:C:H5'	2.39	0.53
52:t:1019:U:H3	52:t:1142:A:H62	1.57	0.53
52:t:1671:U:H2'	52:t:1673:G:OP2	2.07	0.53
52:t:1940:U:O2'	52:t:1942:C:N4	2.37	0.53
52:t:2655:G:O2'	52:t:2656:U:OP1	2.27	0.53
54:v:522:GLN:HB2	54:v:523:PHE:CB	2.37	0.53
1:A:27:LYS:O	1:A:30:ILE:HG22	2.09	0.53
2:B:64:ARG:O	2:B:100:ILE:HA	2.08	0.53
3:C:151:GLN:O	3:C:153:ARG:N	2.33	0.53
3:C:169:TRP:HB2	3:C:183:ARG:O	2.08	0.53
6:F:101:ARG:HB3	6:F:101:ARG:HH11	1.73	0.53
9:I:35:GLN:HG2	9:I:78:GLU:N	2.24	0.53
13:M:52:ARG:HG3	13:M:58:ARG:NH1	2.23	0.53
15:O:11:ALA:O	15:O:12:LYS:C	2.51	0.53
20:T:33:ARG:NE	20:T:34:ARG:HB2	2.23	0.53
21:U:61:TYR:HA	21:U:85:ASN:HD21	1.73	0.53
23:W:125:SER:HA	23:W:157:LEU:HD22	1.91	0.53
25:Y:94:ARG:HD2	54:v:222:ASP:OD2	2.09	0.53
28:1:76:VAL:HB	33:6:72:VAL:HG22	1.90	0.53
30:3:109:PRO:C	30:3:111:GLU:H	2.17	0.53
32:5:11:ALA:HB3	32:5:15:ARG:NH1	2.24	0.53
36:a:96:ILE:O	36:a:96:ILE:CG1	2.57	0.53
39:d:3:THR:H	39:d:50:MET:HE1	1.73	0.53
40:e:39:GLN:O	40:e:41:GLY:N	2.42	0.53
46:k:12:ARG:NH1	52:t:465:G:OP1	2.38	0.53
49:n:41:LEU:HD13	52:t:1082:U:O2'	2.09	0.53
51:s:964:A:C2	51:s:969:A:H1'	2.43	0.53
51:s:1000:A:H2'	51:s:1001:C:O4'	2.09	0.53
52:t:241:A:N1	52:t:255:A:H5'	2.24	0.53
52:t:787:C:H3'	52:t:791:C:H41	1.73	0.53
52:t:2290:G:H2'	52:t:2291:U:H6	1.72	0.53
52:t:2406:A:H4'	52:t:2407:A:C5'	2.38	0.53
52:t:2473:U:O2	52:t:2473:U:C2'	2.53	0.53
52:t:2694:G:O2'	52:t:2695:U:H5'	2.08	0.53
54:v:45:THR:N	54:v:56:LYS:O	2.41	0.53
8:H:114:LYS:N	8:H:114:LYS:HD2	2.24	0.53
10:J:46:ALA:O	10:J:51:PHE:HE2	1.92	0.53
11:K:23:LEU:CD1	11:K:24:GLU:H	2.22	0.53
13:M:57:SER:C	13:M:59:GLN:H	2.17	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:159:LEU:HD23	52:t:321:U:N1	2.24	0.53
27:0:58:ASN:OD1	27:0:128:ASN:HA	2.08	0.53
29:2:63:LYS:NZ	52:t:249:C:H2'	2.24	0.53
29:2:135:ILE:HG21	29:2:142:ILE:CD1	2.38	0.53
35:9:14:VAL:CG2	35:9:15:SER:N	2.70	0.53
35:9:16:GLU:HA	35:9:98:ILE:HG22	1.91	0.53
36:a:44:ALA:O	36:a:47:VAL:HG12	2.09	0.53
42:g:38:GLN:O	52:t:95:A:H4'	2.09	0.53
45:j:16:THR:HG21	45:j:41:VAL:HG23	1.91	0.53
49:n:1:MET:HB3	49:n:6:GLN:OE1	2.09	0.53
49:n:63:ALA:O	49:n:67:THR:HG23	2.08	0.53
51:s:270:A:H2'	51:s:271:C:C6	2.44	0.53
52:t:466:A:C2'	52:t:467:G:H5'	2.38	0.53
52:t:764:A:H3'	52:t:765:C:H5'	1.90	0.53
52:t:1084:A:C2	52:t:1105:U:H1'	2.43	0.53
52:t:1301:A:O2'	52:t:1302:A:H3'	2.09	0.53
52:t:1418:G:H1'	52:t:1580:A:H61	1.73	0.53
52:t:2491:U:O2	52:t:2491:U:H2'	2.08	0.53
52:t:2543:G:H2'	52:t:2544:G:C8	2.44	0.53
52:t:2716:C:C2'	52:t:2717:C:H5'	2.39	0.53
52:t:2825:G:N3	52:t:2825:G:H5''	2.24	0.53
2:B:56:ILE:N	2:B:56:ILE:HD12	2.24	0.53
3:C:115:GLN:NE2	51:s:406:G:H21	2.06	0.53
7:G:9:MET:HE1	7:G:32:LYS:CB	2.38	0.53
9:I:40:ILE:HB	9:I:73:LEU:HB2	1.91	0.53
11:K:25:ALA:HB1	51:s:554:A:C5'	2.39	0.53
11:K:45:ASN:HA	51:s:529:G:O6	2.09	0.53
21:U:64:VAL:HG11	21:U:66:PHE:CE2	2.42	0.53
22:V:64:GLU:O	22:V:68:PHE:CD1	2.60	0.53
22:V:172:VAL:O	22:V:172:VAL:HG12	2.09	0.53
22:V:197:THR:CG2	22:V:198:GLY:N	2.72	0.53
25:Y:17:LYS:HB3	25:Y:24:THR:HB	1.90	0.53
30:3:34:LYS:HA	30:3:101:VAL:HA	1.91	0.53
35:9:26:ASP:C	35:9:27:ILE:HD12	2.34	0.53
39:d:53:LYS:C	39:d:55:GLU:H	2.17	0.53
40:e:18:LYS:HZ1	52:t:858:G:H4'	1.72	0.53
49:n:2:ALA:O	49:n:6:GLN:HB3	2.08	0.53
49:n:92:ALA:O	49:n:129:LEU:HD13	2.09	0.53
51:s:38:G:H4'	51:s:547:A:N6	2.24	0.53
51:s:616:G:H2'	51:s:617:G:H8	1.74	0.53
52:t:269:C:H2'	52:t:270:A:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1022:G:H22	52:t:1142:A:H2	1.56	0.53
52:t:1592:C:H2'	52:t:1593:A:H8	1.74	0.53
52:t:1737:G:C6	52:t:1738:G:N2	2.77	0.53
52:t:2060:A:O2'	52:t:2502:G:O4'	2.25	0.53
52:t:2229:U:H2'	52:t:2230:G:H8	1.73	0.53
53:u:10:G:C8	53:u:11:C:C5	2.97	0.53
54:v:300:VAL:O	54:v:301:PHE:HB3	2.09	0.53
1:A:212:TYR:HA	1:A:215:ALA:CB	2.39	0.52
2:B:70:ALA:CA	2:B:105:VAL:HB	2.40	0.52
2:B:120:THR:CB	2:B:188:ALA:HB2	2.39	0.52
4:D:104:ILE:CA	4:D:121:ASN:O	2.57	0.52
5:E:36:ILE:HD13	5:E:36:ILE:N	2.12	0.52
6:F:115:MET:HA	6:F:118:ARG:HD3	1.90	0.52
13:M:49:THR:HG23	18:R:12:LEU:HD12	1.92	0.52
14:N:77:TYR:CE2	14:N:81:ILE:HD11	2.45	0.52
16:P:59:GLU:O	16:P:60:ILE:HD13	2.09	0.52
17:Q:61:ALA:CB	17:Q:67:LEU:HD13	2.39	0.52
21:U:212:TRP:CZ3	52:t:1566:A:C6	2.97	0.52
25:Y:32:LEU:O	25:Y:33:THR:HG23	2.09	0.52
25:Y:34:ARG:HA	25:Y:74:MET:HE1	1.91	0.52
25:Y:83:THR:HG22	25:Y:84:LYS:NZ	2.23	0.52
26:Z:3:LYS:CD	26:Z:4:VAL:HG23	2.36	0.52
28:1:106:GLU:OE1	28:1:106:GLU:N	2.42	0.52
28:1:107:LEU:O	28:1:109:SER:N	2.39	0.52
31:4:9:GLN:HA	31:4:17:ARG:NH2	2.24	0.52
37:b:31:VAL:HA	37:b:83:ALA:HB3	1.91	0.52
37:b:32:LEU:HD23	37:b:83:ALA:HB2	1.91	0.52
38:c:80:ASP:OD1	38:c:95:PHE:HB3	2.09	0.52
40:e:8:SER:C	40:e:9:THR:HG22	2.35	0.52
48:m:14:CYS:HA	48:m:27:CYS:CA	2.35	0.52
51:s:182:A:H2'	51:s:183:C:H5''	1.91	0.52
51:s:220:G:H2'	51:s:221:C:C6	2.42	0.52
51:s:1113:C:H2'	51:s:1114:C:H6	1.74	0.52
51:s:1306:A:H2'	51:s:1307:U:O4'	2.09	0.52
51:s:1322:C:O2'	51:s:1323:G:C5'	2.57	0.52
52:t:244:A:H2'	52:t:245:G:O4'	2.09	0.52
52:t:1060:U:H5''	52:t:1061:U:OP1	2.10	0.52
52:t:1109:C:N4	52:t:1110:G:N2	2.58	0.52
52:t:1263:U:H2'	52:t:1264:A:C8	2.44	0.52
52:t:1621:U:H5''	52:t:1622:G:OP1	2.09	0.52
52:t:1622:G:C2	52:t:1623:G:C8	2.97	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1716:U:OP2	52:t:1743:G:N1	2.42	0.52
52:t:2728:U:H2'	52:t:2729:G:C8	2.44	0.52
53:u:15:A:H1'	53:u:109:A:N9	2.24	0.52
54:v:472:ARG:HG3	54:v:504:ILE:CA	2.39	0.52
1:A:72:LYS:O	1:A:72:LYS:HG2	2.09	0.52
8:H:43:ALA:HA	8:H:46:VAL:HG11	1.90	0.52
10:J:27:ASN:HA	10:J:57:SER:OG	2.10	0.52
10:J:96:ILE:C	10:J:96:ILE:HD12	2.34	0.52
17:Q:25:ILE:HD13	17:Q:25:ILE:H	1.74	0.52
22:V:169:ARG:O	22:V:170:VAL:HG13	2.09	0.52
24:X:132:ARG:O	24:X:133:GLU:HB3	2.10	0.52
24:X:135:ILE:C	24:X:137:PHE:H	2.16	0.52
45:j:36:LYS:HG2	45:j:47:ILE:HG12	1.91	0.52
49:n:55:VAL:HB	49:n:57:ASN:ND2	2.23	0.52
51:s:31:G:O2'	51:s:32:A:P	2.66	0.52
51:s:148:G:O2'	51:s:1446:A:N3	2.36	0.52
51:s:1039:G:H2'	51:s:1040:U:C6	2.44	0.52
51:s:1139:G:C5'	51:s:1140:C:OP1	2.49	0.52
51:s:1360:A:H2'	51:s:1361:G:H8	1.74	0.52
52:t:391:A:C6	52:t:411:G:C2	2.98	0.52
52:t:404:A:O2'	52:t:405:U:P	2.67	0.52
52:t:578:G:H5'	52:t:1254:A:OP1	2.09	0.52
52:t:669:G:H2'	52:t:669:G:N3	2.25	0.52
52:t:693:A:O2'	52:t:694:U:H5'	2.10	0.52
52:t:1814:G:C6	52:t:1815:A:C6	2.96	0.52
52:t:2079:U:H4'	52:t:2433:A:C2	2.44	0.52
52:t:2230:G:H2'	52:t:2231:U:H6	1.74	0.52
1:A:131:LYS:O	1:A:133:ALA:N	2.43	0.52
2:B:7:ASN:OD1	2:B:15:LYS:HG2	2.09	0.52
12:L:8:ILE:HD12	12:L:8:ILE:N	2.23	0.52
12:L:73:SER:HA	12:L:76:ILE:HG12	1.90	0.52
23:W:29:HIS:O	23:W:33:VAL:HG23	2.09	0.52
26:Z:118:GLY:O	26:Z:124:MET:HB3	2.08	0.52
27:0:23:LYS:HZ2	27:0:23:LYS:HB2	1.74	0.52
28:1:70:ARG:O	28:1:71:ARG:CB	2.57	0.52
28:1:121:GLU:CG	28:1:122:VAL:N	2.72	0.52
29:2:7:SER:HB2	29:2:8:PRO:HD2	1.90	0.52
29:2:87:GLY:O	29:2:89:VAL:N	2.40	0.52
30:3:54:THR:C	30:3:56:ALA:H	2.17	0.52
32:5:13:ARG:HD2	52:t:2334:U:O2'	2.09	0.52
33:6:4:ILE:O	33:6:5:LYS:CB	2.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:8:15:LYS:NZ	52:t:1226:A:OP1	2.38	0.52
34:8:24:TYR:CG	34:8:25:GLY:N	2.77	0.52
40:e:36:ILE:CG2	40:e:36:ILE:O	2.58	0.52
41:f:46:VAL:O	41:f:46:VAL:HG23	2.10	0.52
51:s:172:A:N7	51:s:174:A:N7	2.58	0.52
51:s:230:G:O2'	51:s:231:U:H5'	2.08	0.52
51:s:468:A:H3'	51:s:469:C:H6	1.73	0.52
51:s:827:U:H2'	51:s:870:U:O4	2.09	0.52
51:s:1011:C:N4	51:s:1019:A:N6	2.57	0.52
51:s:1221:G:H5''	51:s:1321:U:H3	1.72	0.52
52:t:7:G:H2'	52:t:8:C:O4'	2.09	0.52
52:t:485:C:O2'	52:t:486:C:H5'	2.09	0.52
52:t:580:U:O2'	52:t:581:C:H5'	2.09	0.52
52:t:858:G:O2'	52:t:2268:A:O2'	2.19	0.52
52:t:1775:U:C2'	52:t:1776:G:H5'	2.39	0.52
52:t:2210:U:H4'	52:t:2211:A:H5'	1.90	0.52
52:t:2326:C:H4'	52:t:2327:A:OP1	2.10	0.52
1:A:40:ILE:CD1	1:A:201:GLY:HA2	2.39	0.52
6:F:119:LEU:HD23	6:F:119:LEU:C	2.35	0.52
7:G:85:TYR:O	7:G:86:LYS:HD2	2.10	0.52
8:H:27:ILE:HG12	8:H:62:LEU:CD2	2.39	0.52
16:P:13:SER:O	16:P:16:MET:SD	2.68	0.52
21:U:42:ARG:HH12	52:t:691:C:H4'	1.74	0.52
22:V:63:PRO:HG3	52:t:2787:C:H1'	1.91	0.52
24:X:72:SER:OG	24:X:79:ARG:HA	2.09	0.52
25:Y:102:ILE:HG13	25:Y:116:LEU:CD2	2.38	0.52
26:Z:139:VAL:HG22	26:Z:141:ASP:HB2	1.92	0.52
27:0:44:TYR:O	27:0:44:TYR:HD1	1.92	0.52
29:2:99:ASN:CG	52:t:621:A:OP2	2.53	0.52
29:2:127:VAL:HG13	29:2:127:VAL:O	2.10	0.52
31:4:105:GLY:HA3	52:t:1287:A:N7	2.25	0.52
32:5:2:ASP:OD1	32:5:3:LYS:N	2.36	0.52
32:5:111:ARG:HA	32:5:115:LEU:O	2.09	0.52
33:6:62:LYS:O	33:6:63:ILE:HB	2.10	0.52
36:a:42:LYS:O	36:a:45:VAL:HG22	2.10	0.52
37:b:69:ARG:NH2	37:b:70:HIS:HA	2.24	0.52
40:e:10:ARG:O	40:e:11:ASN:HB2	2.08	0.52
49:n:47:GLU:O	49:n:48:ALA:HB2	2.09	0.52
51:s:207:C:H2'	51:s:208:U:C4	2.44	0.52
51:s:668:G:O2'	51:s:669:G:H5'	2.09	0.52
51:s:785:G:O2'	51:s:786:G:H5'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:970:C:O2	51:s:970:C:H2'	2.09	0.52
51:s:1265:C:N3	51:s:1270:G:O6	2.43	0.52
52:t:310:A:O2'	52:t:311:A:P	2.68	0.52
52:t:1019:U:C2	52:t:1142:A:N6	2.78	0.52
52:t:1499:C:O2'	52:t:1500:G:H5'	2.08	0.52
52:t:1618:A:N3	52:t:1618:A:C2'	2.72	0.52
52:t:1722:A:H2'	52:t:1723:G:C8	2.44	0.52
52:t:1954:G:O2'	52:t:1956:U:O4	2.23	0.52
52:t:2725:A:O2'	52:t:2726:A:O5'	2.27	0.52
1:A:110:ILE:HD12	1:A:110:ILE:H	1.75	0.52
2:B:117:ASP:C	2:B:119:ILE:H	2.18	0.52
6:F:25:PHE:HD2	6:F:25:PHE:O	1.92	0.52
7:G:6:ILE:C	7:G:8:ASP:H	2.17	0.52
10:J:124:LYS:C	10:J:124:LYS:HD3	2.34	0.52
11:K:23:LEU:CG	11:K:24:GLU:N	2.71	0.52
12:L:12:LYS:HB2	12:L:17:ALA:CB	2.30	0.52
13:M:68:ARG:NH2	51:s:974:A:OP2	2.40	0.52
15:O:21:VAL:HG11	15:O:60:TRP:CD2	2.45	0.52
21:U:209:ALA:HA	21:U:212:TRP:CE2	2.43	0.52
23:W:148:ILE:HA	23:W:187:VAL:HB	1.90	0.52
25:Y:9:VAL:HA	25:Y:48:THR:HA	1.92	0.52
25:Y:79:THR:HG22	25:Y:80:GLU:N	2.24	0.52
27:O:111:LYS:HG2	27:O:112:GLY:N	2.20	0.52
30:3:42:THR:HG22	30:3:93:VAL:HG23	1.91	0.52
30:3:133:LYS:O	30:3:134:THR:HG22	2.10	0.52
32:5:31:THR:C	32:5:33:ARG:H	2.17	0.52
33:6:27:VAL:CG2	33:6:83:ILE:HG12	2.40	0.52
34:8:2:ARG:NH2	52:t:449:A:H1'	2.25	0.52
34:8:58:GLN:HG3	52:t:1009:A:O4'	2.09	0.52
37:b:54:GLU:O	37:b:55:VAL:CB	2.56	0.52
49:n:81:LEU:HD23	49:n:81:LEU:C	2.34	0.52
49:n:118:ILE:HB	49:n:119:PRO:CD	2.39	0.52
51:s:451:A:N7	51:s:481:G:C2	2.78	0.52
51:s:501:C:O2'	51:s:502:A:H5'	2.10	0.52
51:s:518:C:H1'	51:s:529:G:C2	2.44	0.52
51:s:785:G:C2'	51:s:786:G:H5'	2.39	0.52
51:s:1405:G:O2'	51:s:1519:A:H5'	2.10	0.52
51:s:1410:A:H2'	51:s:1411:C:H6	1.75	0.52
52:t:685:A:H2'	52:t:773:U:O4	2.08	0.52
52:t:995:C:C2'	52:t:996:A:OP2	2.58	0.52
52:t:2401:U:H6	52:t:2401:U:O5'	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:u:95:U:H2'	53:u:96:G:H8	1.75	0.52
54:v:26:LYS:HD2	54:v:89:THR:O	2.09	0.52
54:v:408:LYS:HB3	54:v:409:GLN:O	2.08	0.52
1:A:24:PRO:C	1:A:26:MET:H	2.18	0.52
1:A:105:THR:HA	1:A:108:GLN:HE21	1.71	0.52
1:A:118:THR:HG22	1:A:118:THR:O	2.10	0.52
2:B:191:THR:O	51:s:1206:G:H4'	2.10	0.52
6:F:65:LEU:HD11	6:F:99:ALA:HB1	1.92	0.52
7:G:62:LEU:HD22	7:G:62:LEU:N	2.25	0.52
11:K:47:ALA:HB3	11:K:49:ARG:HE	1.74	0.52
17:Q:61:ALA:HB3	17:Q:67:LEU:HD13	1.92	0.52
18:R:48:ILE:HD11	18:R:59:VAL:HB	1.91	0.52
19:S:68:LYS:HB2	19:S:68:LYS:NZ	2.24	0.52
21:U:106:PRO:HB3	21:U:141:HIS:CE1	2.45	0.52
21:U:149:LYS:HE3	52:t:2204:G:O5'	2.09	0.52
21:U:157:ALA:HB1	21:U:196:ASN:HB3	1.90	0.52
22:V:70:LYS:O	22:V:71:ALA:HB2	2.10	0.52
23:W:150:THR:HA	23:W:189:THR:HG22	1.91	0.52
23:W:195:GLN:O	23:W:199:MET:HB2	2.09	0.52
24:X:121:PHE:HA	24:X:126:ASN:O	2.10	0.52
27:0:103:ILE:HD11	52:t:1139:G:OP1	2.09	0.52
30:3:108:VAL:HG11	30:3:112:LEU:HB3	1.92	0.52
32:5:66:GLY:H	32:5:70:ALA:HB3	1.75	0.52
33:6:45:VAL:HG12	33:6:46:VAL:N	2.24	0.52
36:a:24:ILE:CD1	36:a:36:LEU:HD13	2.38	0.52
37:b:10:VAL:O	37:b:11:LEU:C	2.52	0.52
40:e:17:ALA:O	40:e:18:LYS:CB	2.57	0.52
40:e:41:GLY:HA2	40:e:44:PHE:CE2	2.44	0.52
41:f:47:THR:O	41:f:48:LEU:HD23	2.10	0.52
46:k:27:GLY:O	46:k:30:VAL:HB	2.10	0.52
49:n:54:VAL:HA	49:n:84:TYR:O	2.08	0.52
51:s:3:A:H1'	51:s:613:C:H1'	1.91	0.52
51:s:61:G:H2'	51:s:62:U:O4'	2.10	0.52
51:s:141:G:H1	51:s:222:C:H42	1.57	0.52
51:s:264:C:C2'	51:s:265:G:H5'	2.40	0.52
51:s:373:A:C2	51:s:374:A:C8	2.98	0.52
51:s:1142:G:H2'	51:s:1143:G:H5'	1.91	0.52
51:s:1160:G:C6	51:s:1181:G:O6	2.63	0.52
52:t:795:C:H2'	52:t:796:C:H6	1.75	0.52
52:t:1022:G:N2	52:t:1142:A:C2	2.78	0.52
52:t:1973:G:O2'	52:t:1974:C:H5'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2638:G:O2'	52:t:2639:A:H8	1.91	0.52
2:B:159:ALA:HB1	2:B:161:ILE:HG12	1.91	0.52
4:D:76:ASN:O	4:D:79:THR:HG22	2.09	0.52
7:G:9:MET:CE	7:G:32:LYS:HB3	2.39	0.52
9:I:32:THR:CG2	9:I:83:THR:HA	2.40	0.52
9:I:81:GLU:CD	9:I:81:GLU:N	2.68	0.52
11:K:43:LYS:HD2	51:s:1492:A:OP2	2.10	0.52
15:O:20:VAL:HG21	15:O:32:PHE:HB2	1.91	0.52
22:V:157:LYS:HD2	27:0:79:GLY:O	2.09	0.52
26:Z:50:LYS:HD3	26:Z:50:LYS:N	2.24	0.52
26:Z:128:ILE:HD12	26:Z:128:ILE:N	2.25	0.52
27:0:3:THR:HG21	34:8:60:TRP:HE1	1.74	0.52
27:0:21:THR:HG22	27:0:22:GLY:N	2.25	0.52
27:0:60:ASP:OD1	27:0:60:ASP:N	2.43	0.52
32:5:58:ILE:HD12	32:5:58:ILE:N	2.25	0.52
37:b:69:ARG:HE	37:b:70:HIS:H	1.54	0.52
38:c:40:LEU:HA	38:c:60:LYS:O	2.09	0.52
39:d:26:PHE:CZ	39:d:42:LEU:HD12	2.45	0.52
42:g:58:ASN:C	42:g:60:LYS:N	2.67	0.52
48:m:9:LYS:H	48:m:9:LYS:CD	2.23	0.52
51:s:960:U:O4	51:s:1225:A:C4	2.62	0.52
51:s:1333:A:H3'	51:s:1334:G:H8	1.75	0.52
52:t:861:A:H2'	52:t:862:G:O4'	2.09	0.52
52:t:873:C:H2'	52:t:874:G:O4'	2.09	0.52
52:t:1130:U:O2'	52:t:1131:G:OP1	2.28	0.52
52:t:1935:G:H1'	52:t:1964:G:N2	2.24	0.52
54:v:70:ILE:O	54:v:90:PRO:HB3	2.09	0.52
54:v:499:ASP:O	54:v:500:ASN:HB3	2.10	0.52
1:A:100:LEU:HB3	1:A:174:GLU:HG2	1.92	0.52
2:B:116:ALA:HB1	2:B:186:SER:HB2	1.91	0.52
3:C:77:GLU:OE1	3:C:80:ARG:NH1	2.43	0.52
4:D:78:GLY:O	4:D:119:VAL:HA	2.10	0.52
5:E:24:ARG:O	5:E:27:ALA:HB3	2.10	0.52
8:H:48:ARG:HE	8:H:52:GLU:HA	1.75	0.52
12:L:66:GLY:HA2	12:L:69:ARG:CD	2.40	0.52
16:P:45:VAL:HG13	16:P:72:TRP:C	2.35	0.52
19:S:27:MET:HA	19:S:27:MET:HE3	1.92	0.52
19:S:33:LYS:N	19:S:33:LYS:HE2	2.25	0.52
20:T:13:VAL:HG13	20:T:15:LEU:CG	2.31	0.52
20:T:16:ARG:HD2	20:T:19:LYS:HE3	1.92	0.52
21:U:227:VAL:HG23	21:U:228:ASP:H	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:72:GLY:O	22:V:73:VAL:O	2.28	0.52
22:V:120:GLY:HA2	22:V:162:ALA:CB	2.40	0.52
22:V:157:LYS:HE3	52:t:2619:C:OP1	2.10	0.52
24:X:151:LEU:HA	52:t:2305:U:C5	2.45	0.52
25:Y:117:PRO:HD2	25:Y:120:ILE:HG21	1.90	0.52
28:1:23:LYS:HB3	28:1:40:LYS:CB	2.40	0.52
34:8:4:LYS:NZ	34:8:7:VAL:HG21	2.25	0.52
51:s:64:G:H2'	51:s:99:C:H41	1.75	0.52
51:s:120:A:H5''	51:s:121:U:OP1	2.10	0.52
51:s:123:U:OP1	51:s:312:C:H5'	2.10	0.52
51:s:129:A:O2'	51:s:130:A:H8	1.80	0.52
51:s:374:A:H2'	51:s:375:U:C6	2.44	0.52
51:s:646:G:O2'	51:s:647:C:H5'	2.09	0.52
51:s:945:G:N2	51:s:1337:G:N2	2.58	0.52
52:t:475:C:O5'	52:t:475:C:H6	1.92	0.52
52:t:1178:C:H2'	52:t:1179:G:C8	2.45	0.52
52:t:1475:G:O2'	52:t:1476:U:OP2	2.28	0.52
52:t:1503:A:N6	52:t:1504:A:H62	2.08	0.52
52:t:2286:G:C5'	52:t:2287:A:O4'	2.58	0.52
52:t:2719:G:O2'	52:t:2846:G:H4'	2.10	0.52
54:v:521:VAL:HG22	54:v:522:GLN:HG2	1.92	0.52
1:A:21:TYR:CD1	1:A:21:TYR:N	2.74	0.52
1:A:93:HIS:O	1:A:94:ARG:C	2.52	0.52
2:B:138:GLN:C	2:B:140:ALA:H	2.17	0.52
4:D:112:ALA:C	4:D:114:LEU:N	2.68	0.52
4:D:152:VAL:C	4:D:154:ALA:H	2.18	0.52
21:U:14:HIS:CD2	52:t:1829:A:O2'	2.63	0.52
22:V:8:LYS:HB2	22:V:201:LEU:HD21	1.92	0.52
22:V:97:SER:OG	22:V:98:VAL:N	2.41	0.52
22:V:182:ALA:C	22:V:183:GLU:HG3	2.35	0.52
23:W:147:LEU:CB	23:W:186:VAL:HG23	2.38	0.52
25:Y:2:ARG:O	25:Y:3:VAL:C	2.52	0.52
25:Y:61:TRP:O	25:Y:64:ALA:N	2.42	0.52
27:0:17:VAL:HG22	27:0:55:ILE:HG23	1.92	0.52
30:3:45:GLN:HE21	52:t:2485:G:H5''	1.75	0.52
34:8:69:ARG:NH2	34:8:74:SER:HB2	2.25	0.52
36:a:106:VAL:O	36:a:106:VAL:HG12	2.09	0.52
41:f:36:ARG:HA	41:f:47:THR:HA	1.92	0.52
43:h:23:LEU:HD21	43:h:53:MET:HE2	1.92	0.52
47:l:33:THR:HB	52:t:2420:C:OP1	2.10	0.52
47:l:44:ARG:HD3	52:t:2418:A:OP1	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:106:PHE:C	49:n:106:PHE:CD2	2.86	0.52
49:n:147:SER:O	49:n:150:LYS:N	2.41	0.52
50:o:2:ILE:O	50:o:2:ILE:CG2	2.58	0.52
51:s:152:A:H2'	51:s:153:C:H5'	1.92	0.52
51:s:519:C:N4	51:s:520:A:C6	2.78	0.52
51:s:526:C:C2'	51:s:527:G:H5'	2.39	0.52
51:s:701:U:O2	51:s:701:U:H2'	2.10	0.52
51:s:1271:A:O2'	51:s:1272:G:H5'	2.10	0.52
52:t:50:U:H4'	52:t:51:G:OP2	2.09	0.52
52:t:1031:G:H1	52:t:1123:C:H42	1.58	0.52
52:t:1268:A:H2'	52:t:1269:A:C8	2.44	0.52
52:t:1494:A:C2	52:t:1495:A:C4	2.97	0.52
52:t:1673:G:C2'	52:t:1674:G:H5'	2.39	0.52
52:t:2033:A:H2'	52:t:2035:G:OP2	2.10	0.52
52:t:2443:C:O2'	52:t:2444:G:H5'	2.09	0.52
2:B:30:ASP:O	2:B:34:SER:HB2	2.10	0.52
3:C:123:MET:HB3	3:C:128:VAL:HA	1.92	0.52
4:D:140:ILE:C	4:D:142:GLY:H	2.18	0.52
6:F:77:ARG:O	6:F:78:ARG:CB	2.57	0.52
6:F:123:LEU:O	6:F:123:LEU:HD13	2.09	0.52
11:K:118:VAL:O	51:s:36:C:H4'	2.10	0.52
11:K:120:ARG:NH1	51:s:500:G:H5''	2.25	0.52
12:L:47:LEU:HD23	12:L:47:LEU:C	2.35	0.52
12:L:73:SER:O	12:L:76:ILE:HB	2.10	0.52
13:M:21:ALA:N	13:M:24:ALA:CB	2.69	0.52
14:N:14:PHE:HD1	14:N:14:PHE:H	1.58	0.52
21:U:20:ASN:HB3	21:U:23:LEU:HB2	1.92	0.52
21:U:23:LEU:HD13	21:U:24:HIS:N	2.18	0.52
22:V:47:ALA:CB	22:V:83:ARG:HA	2.35	0.52
23:W:32:VAL:CG2	23:W:33:VAL:H	2.23	0.52
23:W:88:ARG:HG3	23:W:88:ARG:HH21	1.74	0.52
23:W:106:LYS:CG	23:W:200:LEU:HD12	2.39	0.52
24:X:117:SER:C	24:X:119:LYS:N	2.68	0.52
26:Z:52:LEU:HD21	26:Z:81:LYS:CE	2.34	0.52
27:0:64:VAL:HG13	27:0:65:THR:N	2.23	0.52
28:1:91:SER:O	28:1:93:GLN:HB2	2.09	0.52
30:3:14:LYS:CB	30:3:14:LYS:NZ	2.73	0.52
30:3:41:LEU:HB3	30:3:46:ILE:CG2	2.40	0.52
34:8:7:VAL:HG23	34:8:8:ILE:H	1.75	0.52
38:c:25:LYS:O	38:c:26:ASN:HB3	2.10	0.52
46:k:6:GLN:HB2	52:t:686:U:O2'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:129:LEU:H	49:n:130:PRO:HD2	1.74	0.52
51:s:51:A:N7	51:s:114:U:O2'	2.43	0.52
51:s:210:C:O2'	51:s:211:G:N2	2.43	0.52
51:s:211:G:N3	51:s:211:G:H5''	2.25	0.52
51:s:513:C:H2'	51:s:514:C:C6	2.45	0.52
51:s:592:G:H2'	51:s:593:U:H6	1.73	0.52
51:s:801:U:H2'	51:s:802:A:C8	2.45	0.52
51:s:1052:U:C5'	51:s:1053:G:OP2	2.55	0.52
51:s:1158:C:O2	51:s:1158:C:C2'	2.57	0.52
51:s:1345:U:H5''	51:s:1346:A:OP1	2.09	0.52
51:s:1353:G:H2'	51:s:1354:U:C6	2.44	0.52
52:t:233:A:O2'	52:t:234:U:H5'	2.10	0.52
52:t:308:G:N2	52:t:477:A:C8	2.78	0.52
52:t:345:A:O2'	52:t:346:A:N7	2.42	0.52
52:t:1464:G:H2'	52:t:1465:G:C8	2.45	0.52
52:t:1666:G:C2'	52:t:1667:G:H5'	2.40	0.52
52:t:2396:G:O2'	52:t:2397:G:H5'	2.10	0.52
52:t:2839:G:H2'	52:t:2840:C:C6	2.45	0.52
54:v:369:ASN:ND2	54:v:373:ILE:H	2.08	0.52
1:A:67:LEU:HD12	1:A:153:MET:HE1	1.91	0.51
3:C:143:SER:O	3:C:144:ILE:C	2.54	0.51
5:E:61:LEU:HG	5:E:62:MET:H	1.75	0.51
19:S:38:ILE:C	19:S:40:ALA:N	2.67	0.51
21:U:157:ALA:HA	21:U:194:VAL:CG2	2.40	0.51
23:W:28:VAL:O	23:W:32:VAL:HG13	2.10	0.51
23:W:52:VAL:HG11	23:W:81:GLY:HA3	1.92	0.51
24:X:53:ALA:O	24:X:64:PRO:HG2	2.11	0.51
27:0:27:ARG:HG2	27:0:27:ARG:NH1	2.23	0.51
28:1:108:ARG:CZ	28:1:113:MET:HE1	2.40	0.51
29:2:101:ILE:HG22	29:2:102:GLY:N	2.25	0.51
31:4:101:GLY:HA2	31:4:110:MET:CA	2.39	0.51
33:6:81:ASP:CG	33:6:82:SER:H	2.14	0.51
34:8:48:ASP:HA	34:8:51:GLN:HB2	1.91	0.51
39:d:30:ILE:O	39:d:37:PRO:HA	2.11	0.51
46:k:43:THR:O	46:k:44:VAL:CG2	2.59	0.51
51:s:204:G:C3'	51:s:205:A:C5'	2.85	0.51
51:s:438:U:H2'	51:s:494:G:N1	2.25	0.51
51:s:1129:C:O2'	51:s:1130:A:C8	2.63	0.51
51:s:1356:G:H2'	51:s:1357:A:C8	2.45	0.51
52:t:279:A:H61	52:t:361:G:H1'	1.74	0.51
52:t:1060:U:N3	52:t:1088:A:C2	2.78	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1236:G:O2'	52:t:1237:A:H8	1.94	0.51
52:t:2467:C:H2'	52:t:2468:A:O4'	2.09	0.51
54:v:290:GLU:HB2	54:v:293:GLU:HG3	1.92	0.51
1:A:182:VAL:C	1:A:183:PHE:HD2	2.17	0.51
4:D:80:LEU:HD12	4:D:146:MET:SD	2.50	0.51
4:D:121:ASN:O	4:D:122:VAL:O	2.28	0.51
5:E:6:ILE:O	5:E:7:VAL:HB	2.11	0.51
5:E:89:VAL:CG2	5:E:90:MET:N	2.72	0.51
6:F:124:SER:C	6:F:126:ALA:H	2.16	0.51
9:I:22:THR:C	9:I:24:GLU:H	2.18	0.51
12:L:85:TYR:HA	12:L:88:LEU:HD12	1.92	0.51
14:N:63:ARG:HG2	14:N:87:ARG:NH1	2.19	0.51
14:N:86:LEU:N	14:N:86:LEU:HD23	2.25	0.51
16:P:5:ARG:CB	16:P:5:ARG:HH11	2.24	0.51
20:T:20:ARG:HG2	20:T:20:ARG:HH11	1.75	0.51
21:U:58:LYS:O	21:U:59:GLN:HB2	2.10	0.51
21:U:75:ALA:HB1	21:U:93:VAL:CG2	2.38	0.51
24:X:82:TYR:HD2	24:X:83:PRO:CD	2.22	0.51
25:Y:84:LYS:CE	25:Y:131:VAL:HG23	2.40	0.51
27:0:4:PHE:CG	27:0:5:THR:N	2.78	0.51
27:0:114:LEU:HD12	52:t:558:U:H5'	1.91	0.51
30:3:54:THR:C	30:3:56:ALA:N	2.66	0.51
35:9:23:GLU:O	35:9:25:LEU:HD13	2.10	0.51
38:c:36:GLU:O	38:c:38:ILE:HG12	2.10	0.51
38:c:60:LYS:HG3	38:c:61:GLU:H	1.75	0.51
38:c:73:ASN:ND2	38:c:95:PHE:CD2	2.78	0.51
43:h:24:LEU:HD23	43:h:24:LEU:O	2.11	0.51
47:l:1:PRO:N	52:t:591:U:O2	2.43	0.51
50:o:12:ALA:HA	50:r:14:MET:CB	2.31	0.51
50:o:26:MET:HB2	50:o:29:LYS:HG2	1.92	0.51
51:s:151:A:H2'	51:s:151:A:N3	2.25	0.51
51:s:504:C:O4'	51:s:510:A:C2	2.63	0.51
51:s:991:U:H5''	51:s:992:U:OP1	2.10	0.51
52:t:5:A:H2'	52:t:6:A:C8	2.45	0.51
52:t:156:A:O2'	52:t:157:C:H5'	2.10	0.51
52:t:1434:A:H2'	52:t:1435:G:C8	2.44	0.51
54:v:470:THR:HA	54:v:471:ALA:HB3	1.91	0.51
2:B:46:LEU:HD22	2:B:75:VAL:HG13	1.92	0.51
2:B:59:PRO:HG2	2:B:62:SER:HB3	1.91	0.51
2:B:70:ALA:N	2:B:105:VAL:HB	2.25	0.51
2:B:154:GLY:O	2:B:156:LEU:HD12	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:4:TYR:CD1	5:E:71:ILE:HG12	2.45	0.51
6:F:144:ALA:C	6:F:146:ALA:H	2.18	0.51
12:L:66:GLY:HA2	12:L:69:ARG:CG	2.40	0.51
13:M:8:ARG:C	13:M:12:ARG:NH1	2.68	0.51
19:S:66:ILE:HD11	19:S:74:HIS:CD2	2.46	0.51
21:U:35:LYS:HZ3	21:U:37:SER:HB2	1.76	0.51
21:U:97:ASP:OD2	52:t:1491:G:H5'	2.10	0.51
21:U:140:VAL:HG13	21:U:189:ALA:HB1	1.93	0.51
22:V:113:SER:O	22:V:167:ASN:HA	2.09	0.51
24:X:89:THR:C	24:X:90:LEU:HD22	2.34	0.51
24:X:103:ILE:HA	24:X:107:VAL:CG2	2.41	0.51
26:Z:116:MET:C	26:Z:118:GLY:H	2.18	0.51
27:0:37:ARG:HG3	27:0:118:MET:HE1	1.91	0.51
30:3:43:ALA:C	30:3:45:GLN:N	2.67	0.51
30:3:114:ARG:HH21	30:3:114:ARG:HG3	1.76	0.51
34:8:91:ARG:NH2	34:8:93:ILE:HD12	2.25	0.51
35:9:78:ARG:O	35:9:79:ARG:C	2.53	0.51
40:e:49:ASN:HD22	40:e:80:SER:HA	1.75	0.51
47:l:16:THR:CG2	47:l:48:MET:HE1	2.33	0.51
51:s:208:U:H2'	51:s:209:U:H5''	1.91	0.51
51:s:247:G:C6	51:s:278:G:C2	2.99	0.51
51:s:918:A:H2'	51:s:919:A:C8	2.45	0.51
51:s:1157:A:H5'	51:s:1158:C:C6	2.46	0.51
51:s:1277:C:H1'	51:s:1282:C:O2	2.11	0.51
52:t:269:C:C2	52:t:270:A:N7	2.79	0.51
52:t:301:G:O2'	52:t:302:C:P	2.68	0.51
52:t:393:C:O2	52:t:393:C:H2'	2.08	0.51
52:t:1178:C:H2'	52:t:1179:G:N7	2.25	0.51
52:t:1356:G:C2	52:t:1357:C:C2	2.98	0.51
52:t:1815:A:C4'	52:t:1816:C:OP1	2.52	0.51
52:t:2228:G:H2'	52:t:2229:U:H6	1.76	0.51
52:t:2384:U:O2'	52:t:2385:C:OP1	2.26	0.51
52:t:2704:C:H2'	52:t:2705:A:O4'	2.10	0.51
52:t:2798:U:H5''	52:t:2799:A:OP1	2.09	0.51
53:u:83:G:H2'	53:u:84:G:O5'	2.11	0.51
2:B:177:LEU:H	2:B:177:LEU:CD2	2.23	0.51
3:C:138:PRO:O	3:C:139:ASN:HB2	2.10	0.51
6:F:59:GLU:C	6:F:61:PHE:H	2.17	0.51
8:H:62:LEU:N	8:H:62:LEU:HD23	2.25	0.51
9:I:87:LEU:C	9:I:87:LEU:HD13	2.34	0.51
10:J:22:ILE:HD11	10:J:85:VAL:CG1	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:25:SER:O	10:J:27:ASN:N	2.43	0.51
10:J:123:PRO:HB2	10:J:125:LYS:HG2	1.92	0.51
12:L:24:VAL:HG23	12:L:24:VAL:O	2.10	0.51
16:P:15:LYS:HE2	51:s:275:G:O5'	2.11	0.51
21:U:209:ALA:HA	21:U:212:TRP:CD1	2.45	0.51
21:U:229:HIS:CE1	21:U:230:PRO:HD2	2.46	0.51
27:0:65:THR:HG23	52:t:1141:U:C5	2.45	0.51
28:1:70:ARG:NH1	28:1:74:GLY:O	2.43	0.51
30:3:21:ALA:HB2	30:3:97:GLN:HG2	1.92	0.51
32:5:11:ALA:HB2	32:5:95:SER:C	2.35	0.51
34:8:32:ARG:NH2	52:t:1252:G:C1'	2.73	0.51
39:d:88:HIS:C	39:d:89:ILE:HD12	2.35	0.51
40:e:23:LYS:HG2	52:t:855:G:N2	2.24	0.51
42:g:58:ASN:C	42:g:60:LYS:H	2.18	0.51
43:h:26:LEU:HD21	43:h:47:ILE:HD13	1.93	0.51
49:n:93:ALA:O	49:n:94:ARG:C	2.52	0.51
50:r:7:ILE:O	50:r:11:VAL:HG23	2.09	0.51
51:s:453:G:C6	51:s:480:U:N3	2.78	0.51
51:s:979:C:OP2	51:s:980:C:H5	1.93	0.51
51:s:1052:U:H3	51:s:1206:G:H1	1.58	0.51
51:s:1126:U:C6	51:s:1281:C:O2	2.64	0.51
51:s:1438:G:H2'	51:s:1439:G:O4'	2.09	0.51
52:t:201:C:C2'	52:t:202:U:H5'	2.41	0.51
52:t:302:C:O2'	52:t:303:G:H5'	2.09	0.51
52:t:688:U:H5'	52:t:1780:A:C2	2.45	0.51
52:t:1307:A:C5	52:t:1308:A:C8	2.98	0.51
52:t:1307:A:C5	52:t:1308:A:N7	2.78	0.51
53:u:65:U:H3'	53:u:108:A:N6	2.25	0.51
53:u:104:A:H2'	53:u:105:G:O4'	2.11	0.51
54:v:59:TRP:HZ2	54:v:69:SER:HB3	1.75	0.51
54:v:173:ILE:HG21	54:v:219:VAL:HG11	1.93	0.51
1:A:86:CYS:HB2	1:A:88:GLN:NE2	2.26	0.51
2:B:149:LYS:HG3	2:B:149:LYS:O	2.10	0.51
5:E:63:ASN:HD22	5:E:95:ALA:HB1	1.76	0.51
8:H:59:LYS:HD2	8:H:60:LEU:HD22	1.92	0.51
11:K:23:LEU:HG	11:K:24:GLU:HG3	1.91	0.51
11:K:85:ARG:NH2	11:K:87:LYS:HG3	2.25	0.51
21:U:23:LEU:CD1	21:U:24:HIS:N	2.74	0.51
22:V:110:THR:HB	22:V:202:ILE:HB	1.93	0.51
24:X:30:VAL:HG21	24:X:33:ILE:HD11	1.92	0.51
31:4:54:LEU:HD11	31:4:62:ASN:OD1	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:6:19:PHE:O	33:6:20:ARG:CB	2.58	0.51
34:8:96:ASP:O	34:8:98:ALA:N	2.43	0.51
36:a:13:SER:HB3	36:a:16:LYS:NZ	2.26	0.51
37:b:10:VAL:O	37:b:12:ARG:N	2.43	0.51
37:b:69:ARG:HH21	37:b:70:HIS:HA	1.75	0.51
38:c:54:PRO:HG2	38:c:55:GLY:H	1.76	0.51
40:e:67:LYS:O	40:e:68:PHE:CB	2.58	0.51
50:o:16:VAL:O	50:o:20:VAL:HG23	2.10	0.51
51:s:812:G:O2'	51:s:813:U:OP2	2.27	0.51
51:s:940:C:C2	51:s:941:G:N7	2.78	0.51
51:s:975:A:N3	51:s:1357:A:H2	2.07	0.51
51:s:1129:C:H2'	51:s:1139:G:C5	2.46	0.51
51:s:1164:G:N2	51:s:1173:U:C2	2.79	0.51
51:s:1250:A:H2'	51:s:1251:A:C8	2.45	0.51
51:s:1284:C:C4	51:s:1285:A:N6	2.79	0.51
51:s:1336:C:O2'	51:s:1337:G:C5	2.59	0.51
52:t:154:U:H2'	52:t:155:A:C8	2.45	0.51
52:t:271:G:C4'	52:t:272:A:OP1	2.59	0.51
52:t:287:G:H2'	52:t:288:U:H6	1.76	0.51
52:t:320:A:H4'	52:t:322:A:N7	2.26	0.51
52:t:477:A:C6	52:t:478:A:C6	2.99	0.51
52:t:742:A:H2'	52:t:743:A:C8	2.45	0.51
52:t:743:A:O2'	52:t:744:U:H5'	2.11	0.51
52:t:910:A:H2	52:t:2264:C:O2	1.93	0.51
52:t:1100:C:O5'	52:t:1100:C:H6	1.93	0.51
52:t:1656:C:H2'	52:t:1657:U:H6	1.76	0.51
52:t:1715:G:O2'	52:t:1716:U:H6	1.93	0.51
52:t:2051:A:H8	52:t:2051:A:OP2	1.92	0.51
52:t:2681:C:C5'	52:t:2682:A:OP1	2.58	0.51
54:v:290:GLU:N	54:v:293:GLU:OE2	2.44	0.51
1:A:90:PHE:H	1:A:149:GLY:HA3	1.76	0.51
1:A:172:ILE:HG23	1:A:182:VAL:HG11	1.91	0.51
4:D:22:LYS:O	4:D:22:LYS:HG2	2.10	0.51
6:F:102:TRP:O	6:F:105:GLU:N	2.44	0.51
8:H:23:GLY:C	8:H:24:ASN:HD22	2.18	0.51
8:H:67:LYS:N	8:H:67:LYS:HD3	2.25	0.51
13:M:44:VAL:O	13:M:46:LYS:N	2.44	0.51
16:P:80:LYS:HD3	16:P:80:LYS:N	2.26	0.51
22:V:170:VAL:HG22	22:V:170:VAL:O	2.09	0.51
23:W:148:ILE:HB	23:W:169:VAL:HG12	1.91	0.51
24:X:76:PHE:O	24:X:77:LYS:CB	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:3:22:GLN:C	30:3:24:THR:N	2.68	0.51
30:3:45:GLN:O	30:3:47:GLU:N	2.44	0.51
33:6:9:GLN:C	33:6:11:GLN:H	2.19	0.51
34:8:81:GLY:CA	34:8:116:LEU:HD13	2.41	0.51
39:d:8:VAL:O	39:d:8:VAL:HG23	2.10	0.51
39:d:63:ILE:CG2	39:d:70:ILE:HD13	2.41	0.51
40:e:39:GLN:HG3	40:e:42:THR:HB	1.91	0.51
51:s:595:A:O2'	51:s:596:A:P	2.69	0.51
51:s:871:U:H5''	51:s:872:A:OP2	2.11	0.51
51:s:986:U:H2'	51:s:987:G:O4'	2.10	0.51
51:s:1159:U:C5'	51:s:1160:G:OP1	2.59	0.51
51:s:1342:C:O2'	51:s:1343:G:H5'	2.10	0.51
51:s:1459:G:H2'	51:s:1460:C:H6	1.75	0.51
51:s:1477:U:H2'	51:s:1478:U:C6	2.46	0.51
52:t:27:G:O2'	52:t:28:A:C8	2.49	0.51
52:t:974:G:O2'	52:t:975:A:P	2.69	0.51
52:t:1239:G:H2'	52:t:1240:U:O4'	2.10	0.51
52:t:1311:G:OP2	52:t:1311:G:H8	1.94	0.51
52:t:1641:A:H2'	52:t:1642:G:O4'	2.10	0.51
53:u:56:G:H4'	53:u:57:A:H8	1.74	0.51
1:A:65:LYS:HD3	1:A:153:MET:CG	2.41	0.51
6:F:46:LEU:HD12	6:F:49:LEU:HB3	1.91	0.51
11:K:8:ARG:O	11:K:9:LYS:C	2.54	0.51
12:L:2:ARG:C	12:L:3:ILE:HG13	2.36	0.51
12:L:13:HIS:HB2	12:L:16:ILE:CD1	2.39	0.51
22:V:173:GLN:O	22:V:174:SER:O	2.28	0.51
23:W:45:ALA:HB2	52:t:37:C:O2'	2.09	0.51
23:W:193:VAL:O	23:W:193:VAL:HG12	2.11	0.51
24:X:65:LEU:HD22	53:u:42:C:C5	2.46	0.51
24:X:102:LEU:O	24:X:107:VAL:HG23	2.11	0.51
27:0:53:TYR:CE1	27:0:121:LYS:HG2	2.46	0.51
29:2:21:ARG:NH1	52:t:811:U:C4	2.79	0.51
29:2:127:VAL:HG11	29:2:132:ARG:HE	1.76	0.51
31:4:33:ILE:HG23	31:4:114:GLU:CB	2.33	0.51
33:6:89:GLY:C	33:6:112:ARG:HG3	2.36	0.51
35:9:7:SER:OG	35:9:22:LEU:HD13	2.10	0.51
35:9:8:GLY:O	52:t:1161:C:H1'	2.11	0.51
35:9:48:LYS:HD2	35:9:48:LYS:C	2.36	0.51
36:a:50:VAL:HG11	36:a:105:VAL:HG23	1.92	0.51
39:d:65:VAL:C	39:d:67:GLY:N	2.67	0.51
49:n:31:ARG:HA	52:t:1054:A:H4'	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:50:VAL:HG12	49:n:50:VAL:O	2.11	0.51
49:n:60:LEU:C	49:n:62:ARG:N	2.67	0.51
49:n:136:ILE:HA	49:n:139:LEU:HG	1.92	0.51
49:n:150:LYS:C	49:n:152:VAL:H	2.18	0.51
51:s:959:A:N7	51:s:960:U:H6	2.09	0.51
52:t:1252:G:O2'	52:t:1253:A:O4'	2.29	0.51
52:t:1399:C:H2'	52:t:1400:U:H6	1.76	0.51
52:t:1757:A:O2'	52:t:1758:U:OP1	2.23	0.51
52:t:1784:A:H4'	52:t:1785:A:C5'	2.38	0.51
52:t:2300:C:H2'	52:t:2301:C:C6	2.46	0.51
53:u:12:C:H5'	53:u:13:G:OP1	2.10	0.51
3:C:68:GLU:O	3:C:70:GLN:N	2.43	0.51
3:C:101:VAL:HG21	3:C:117:VAL:HG22	1.91	0.51
8:H:122:ARG:HH11	51:s:1343:G:H1'	1.76	0.51
11:K:1:ALA:HB3	11:K:5:GLN:OE1	2.10	0.51
11:K:43:LYS:N	51:s:1492:A:OP1	2.44	0.51
11:K:86:VAL:HG22	11:K:95:HIS:CE1	2.44	0.51
13:M:60:ARG:NH2	51:s:977:A:OP1	2.44	0.51
20:T:20:ARG:CZ	20:T:24:LYS:HE3	2.41	0.51
21:U:266:ILE:O	21:U:266:ILE:HG22	2.10	0.51
22:V:118:PHE:HZ	31:4:1:MET:HB3	1.75	0.51
22:V:170:VAL:O	22:V:170:VAL:CG2	2.56	0.51
23:W:159:LEU:N	23:W:159:LEU:CD1	2.74	0.51
32:5:51:ALA:HB3	32:5:78:VAL:HG13	1.93	0.51
34:8:2:ARG:HD3	52:t:446:G:OP1	2.11	0.51
34:8:49:ARG:NE	52:t:993:G:OP1	2.39	0.51
34:8:93:ILE:O	34:8:93:ILE:HG12	2.09	0.51
42:g:2:LYS:HB2	52:t:102:U:N3	2.16	0.51
45:j:33:LEU:HG	45:j:35:LEU:CD2	2.40	0.51
49:n:148:ALA:O	49:n:152:VAL:HG23	2.11	0.51
51:s:340:U:H2'	51:s:341:C:C6	2.44	0.51
51:s:376:G:H2'	51:s:377:G:C8	2.46	0.51
51:s:526:C:H2'	51:s:527:G:H5'	1.92	0.51
51:s:1099:G:H2'	51:s:1100:C:C6	2.45	0.51
52:t:767:U:O2'	52:t:768:G:H5'	2.10	0.51
52:t:794:A:H2'	52:t:795:C:C6	2.46	0.51
52:t:913:U:O2'	52:t:914:G:H5''	2.10	0.51
52:t:954:G:C5	52:t:955:U:C5	2.99	0.51
52:t:1268:A:H2'	52:t:1269:A:H8	1.76	0.51
52:t:1378:A:H4'	52:t:1379:U:OP1	2.10	0.51
52:t:1505:A:H2'	52:t:1506:U:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1608:A:O2'	52:t:1610:A:OP1	2.26	0.51
52:t:1667:G:O2'	52:t:1991:U:O4	2.26	0.51
52:t:1773:A:H2'	52:t:1774:C:H5'	1.93	0.51
52:t:2694:G:H2'	52:t:2695:U:H6	1.74	0.51
52:t:2851:A:H2'	52:t:2852:G:H8	1.76	0.51
53:u:6:G:H2'	53:u:7:G:C8	2.46	0.51
53:u:69:G:H2'	53:u:70:C:H5'	1.92	0.51
54:v:11:ALA:O	54:v:14:ARG:NH2	2.43	0.51
2:B:5:HIS:NE2	2:B:183:TYR:HE2	2.09	0.51
2:B:69:THR:H	2:B:105:VAL:HG23	1.75	0.51
2:B:120:THR:HG23	2:B:188:ALA:CB	2.41	0.51
3:C:84:ASN:HB3	3:C:87:GLU:CG	2.40	0.51
4:D:152:VAL:C	4:D:154:ALA:N	2.66	0.51
5:E:6:ILE:CD1	5:E:62:MET:HG2	2.39	0.51
6:F:93:VAL:O	6:F:97:ALA:HB2	2.11	0.51
6:F:115:MET:O	6:F:118:ARG:N	2.44	0.51
8:H:29:ILE:HD11	8:H:66:VAL:HG12	1.93	0.51
8:H:48:ARG:O	8:H:51:LEU:N	2.32	0.51
10:J:108:ASN:HD22	10:J:108:ASN:N	2.04	0.51
11:K:88:ASP:C	11:K:89:LEU:HD22	2.35	0.51
16:P:48:GLU:HA	16:P:48:GLU:OE1	2.10	0.51
18:R:69:LYS:HZ1	51:s:1319:A:H5'	1.75	0.51
21:U:106:PRO:O	21:U:109:LEU:HD22	2.11	0.51
22:V:27:ILE:HB	22:V:187:LEU:HB3	1.93	0.51
23:W:48:THR:C	23:W:50:ALA:N	2.68	0.51
24:X:147:ARG:O	24:X:148:VAL:C	2.54	0.51
33:6:105:LYS:HA	33:6:108:ARG:HD2	1.93	0.51
34:8:5:ARG:CD	52:t:1250:G:H5''	2.34	0.51
40:e:47:GLY:O	40:e:49:ASN:O	2.28	0.51
49:n:143:MET:HG3	49:n:143:MET:O	2.11	0.51
51:s:107:G:C2'	51:s:108:G:H5'	2.41	0.51
51:s:115:G:H4'	51:s:116:A:O5'	2.11	0.51
51:s:306:A:H5'	51:s:306:A:H8	1.75	0.51
51:s:1159:U:H5'	51:s:1160:G:OP1	2.10	0.51
52:t:527:C:O2'	52:t:528:A:OP2	2.20	0.51
52:t:1128:G:O2'	52:t:1129:A:O4'	2.28	0.51
52:t:1427:A:H4'	52:t:1428:C:O4'	2.09	0.51
52:t:1930:G:H2'	52:t:1931:U:OP2	2.11	0.51
1:A:53:LEU:H	1:A:53:LEU:CD2	2.24	0.51
3:C:97:LEU:HD22	3:C:117:VAL:CG1	2.41	0.51
4:D:100:GLU:O	4:D:102:THR:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:153:ALA:HA	4:D:156:ARG:O	2.11	0.51
6:F:122:GLU:HA	6:F:125:ASP:CB	2.40	0.51
10:J:126:ARG:HB2	20:T:33:ARG:NH1	2.26	0.51
11:K:101:LEU:HD12	11:K:101:LEU:N	2.23	0.51
11:K:101:LEU:N	11:K:101:LEU:CD1	2.73	0.51
12:L:76:ILE:O	12:L:80:MET:HG3	2.11	0.51
15:O:12:LYS:HB2	15:O:12:LYS:NZ	2.26	0.51
19:S:42:ASP:HB3	19:S:45:ALA:HB3	1.93	0.51
22:V:148:GLN:OE1	22:V:152:PRO:HG2	2.10	0.51
24:X:39:VAL:CG2	24:X:42:ALA:HB2	2.34	0.51
26:Z:123:ALA:C	26:Z:125:THR:H	2.17	0.51
27:0:49:ASP:C	27:0:49:ASP:OD2	2.54	0.51
27:0:116:ARG:HH22	52:t:528:A:H3'	1.76	0.51
33:6:99:LEU:O	33:6:101:GLU:N	2.44	0.51
35:9:38:VAL:HG11	35:9:59:ILE:HG13	1.93	0.51
37:b:8:LEU:CD1	37:b:46:ALA:HB2	2.41	0.51
37:b:50:LEU:HD23	42:g:26:PHE:CZ	2.46	0.51
42:g:41:HIS:NE2	42:g:42:LEU:HD13	2.26	0.51
49:n:55:VAL:HA	52:t:1084:A:P	2.50	0.51
50:o:26:MET:O	50:o:29:LYS:HG3	2.10	0.51
51:s:144:G:O2'	51:s:145:G:H5'	2.11	0.51
51:s:192:A:H5'	51:s:193:C:OP2	2.11	0.51
51:s:200:G:H22	51:s:218:U:H1'	1.76	0.51
51:s:431:A:O2'	51:s:432:A:H5'	2.12	0.51
51:s:702:A:H61	52:t:1846:G:H5''	1.76	0.51
51:s:714:G:H2'	51:s:715:A:C8	2.46	0.51
52:t:143:C:O5'	52:t:143:C:H6	1.94	0.51
52:t:395:U:O2'	52:t:396:G:N7	2.30	0.51
52:t:572:A:H5''	52:t:573:U:OP2	2.10	0.51
52:t:621:A:H2'	52:t:622:G:C5'	2.41	0.51
52:t:1019:U:H3	52:t:1142:A:N6	2.08	0.51
52:t:1425:G:H8	52:t:1425:G:O5'	1.94	0.51
52:t:2372:U:O2'	52:t:2373:G:H5'	2.11	0.51
1:A:65:LYS:HD3	1:A:153:MET:HG2	1.92	0.50
1:A:89:PHE:CE2	1:A:153:MET:HB2	2.46	0.50
2:B:131:ARG:O	2:B:135:ARG:HG2	2.11	0.50
3:C:126:GLY:O	3:C:127:ARG:C	2.54	0.50
3:C:173:ASP:OD2	3:C:176:LYS:HE2	2.10	0.50
5:E:21:MET:HE2	5:E:25:TYR:OH	2.11	0.50
6:F:31:VAL:HG11	51:s:1240:U:C4	2.46	0.50
6:F:69:ARG:HG3	6:F:95:ARG:HG2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:14:GLN:NE2	10:J:14:GLN:HA	2.25	0.50
12:L:102:LYS:HA	51:s:1226:C:N3	2.26	0.50
13:M:86:ALA:O	13:M:87:ALA:C	2.53	0.50
16:P:18:LYS:HA	16:P:47:ASP:CG	2.35	0.50
21:U:8:THR:O	21:U:9:SER:CB	2.59	0.50
21:U:251:THR:O	21:U:252:LYS:HB2	2.09	0.50
24:X:91:ARG:HA	24:X:95:MET:SD	2.51	0.50
32:5:31:THR:CG2	32:5:34:HIS:HB2	2.40	0.50
32:5:75:GLY:CA	32:5:106:LEU:HD12	2.41	0.50
33:6:52:ARG:NH2	52:t:2720:U:H5'	2.27	0.50
34:8:91:ARG:CB	34:8:94:LEU:HB2	2.41	0.50
35:9:19:THR:HG23	35:9:96:VAL:O	2.10	0.50
39:d:48:MET:O	39:d:51:GLN:HG3	2.11	0.50
40:e:30:VAL:HG21	52:t:2352:A:N1	2.26	0.50
47:l:7:ARG:HG2	52:t:246:C:H42	1.76	0.50
49:n:56:ARG:HG2	49:n:83:ALA:HB2	1.93	0.50
51:s:355:C:C4	51:s:356:A:N7	2.79	0.50
51:s:774:G:C2'	51:s:775:G:H5'	2.40	0.50
51:s:1067:A:O3'	51:s:1094:G:H5'	2.12	0.50
52:t:312:G:H2'	52:t:313:G:C8	2.46	0.50
52:t:938:G:H2'	52:t:939:G:H8	1.76	0.50
52:t:1212:G:C2'	52:t:1236:G:N2	2.73	0.50
52:t:1439:A:OP2	52:t:1440:U:O4	2.29	0.50
52:t:2350:C:H2'	52:t:2351:G:O4'	2.10	0.50
52:t:2384:U:HO2'	52:t:2385:C:P	2.35	0.50
52:t:2607:G:H2'	52:t:2608:G:O4'	2.11	0.50
53:u:8:C:H2'	53:u:9:G:O4'	2.11	0.50
54:v:437:ILE:HD12	54:v:504:ILE:HD13	1.92	0.50
1:A:96:LEU:CG	1:A:99:MET:HE3	2.41	0.50
2:B:54:ILE:N	2:B:54:ILE:CD1	2.72	0.50
4:D:152:VAL:C	4:D:156:ARG:HB2	2.36	0.50
8:H:17:ARG:HE	8:H:65:THR:CG2	2.24	0.50
9:I:59:LYS:HG3	9:I:60:ASP:OD1	2.11	0.50
11:K:62:VAL:HG21	11:K:94:TYR:HE2	1.73	0.50
15:O:67:ILE:HG21	15:O:75:ILE:HD11	1.94	0.50
18:R:30:LEU:N	18:R:30:LEU:HD12	2.26	0.50
19:S:66:ILE:O	19:S:70:LYS:HB3	2.11	0.50
22:V:61:THR:OG1	22:V:63:PRO:HD2	2.12	0.50
23:W:41:GLN:NE2	23:W:43:THR:HG21	2.25	0.50
23:W:156:ASN:C	23:W:158:PHE:N	2.69	0.50
26:Z:121:ILE:O	26:Z:124:MET:HG3	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:2:55:MET:HA	29:2:55:MET:CE	2.40	0.50
30:3:22:GLN:O	30:3:24:THR:HG22	2.11	0.50
30:3:127:LYS:NZ	52:t:1029:A:OP1	2.44	0.50
32:5:28:VAL:HG23	32:5:36:TYR:O	2.10	0.50
33:6:58:PHE:CD2	33:6:58:PHE:N	2.80	0.50
36:a:96:ILE:C	36:a:97:LEU:HD23	2.36	0.50
38:c:73:ASN:HD22	38:c:95:PHE:HE2	1.59	0.50
39:d:65:VAL:HG23	39:d:65:VAL:O	2.11	0.50
43:h:11:SER:OG	43:h:13:ILE:HG12	2.11	0.50
46:k:39:ARG:NH2	52:t:468:G:N7	2.59	0.50
49:n:35:VAL:HA	49:n:38:MET:CB	2.38	0.50
50:p:11:VAL:C	50:p:13:ALA:H	2.19	0.50
51:s:503:C:O5'	51:s:503:C:H6	1.93	0.50
51:s:1233:G:C6	51:s:1234:C:N4	2.79	0.50
51:s:1422:G:O2'	51:s:1423:G:H5'	2.11	0.50
51:s:1520:C:H2'	51:s:1521:C:C6	2.47	0.50
52:t:481:G:O2'	52:t:482:A:OP2	2.29	0.50
52:t:729:G:H2'	52:t:1775:U:H1'	1.94	0.50
52:t:1147:A:H2'	52:t:1148:U:C6	2.46	0.50
52:t:1313:U:O2	52:t:1313:U:C2'	2.59	0.50
52:t:1415:U:O2'	52:t:1416:G:H5'	2.12	0.50
1:A:140:LEU:C	1:A:142:LYS:N	2.68	0.50
1:A:207:ARG:HH11	1:A:207:ARG:HB2	1.77	0.50
2:B:76:ILE:HG13	2:B:83:VAL:CG2	2.42	0.50
4:D:75:LEU:HD21	4:D:118:GLY:O	2.11	0.50
4:D:80:LEU:HD23	4:D:122:VAL:HG11	1.94	0.50
6:F:71:THR:O	6:F:71:THR:HG22	2.12	0.50
7:G:63:LYS:HB2	7:G:70:VAL:HG21	1.93	0.50
9:I:18:ILE:HG23	9:I:72:ARG:NE	2.25	0.50
12:L:90:HIS:ND1	12:L:108:ARG:NH2	2.57	0.50
13:M:72:PHE:CE2	13:M:77:GLY:O	2.64	0.50
22:V:54:ALA:O	22:V:55:LYS:HB2	2.11	0.50
34:8:60:TRP:CD2	34:8:93:ILE:HB	2.47	0.50
40:e:38:ARG:NE	52:t:2387:U:H1'	2.26	0.50
42:g:14:LEU:HA	42:g:17:GLU:HB3	1.91	0.50
43:h:35:VAL:HG22	43:h:36:GLU:N	2.25	0.50
44:i:17:SER:HB3	52:t:15:G:H4'	1.93	0.50
44:i:51:ARG:HG2	44:i:52:LYS:N	2.26	0.50
49:n:27:VAL:O	49:n:83:ALA:HB3	2.12	0.50
49:n:71:CYS:HB3	49:n:74:ASP:OD2	2.12	0.50
50:p:2:ILE:N	50:p:2:ILE:HD12	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:2:A:N3	51:s:613:C:O2'	2.41	0.50
51:s:143:A:N3	51:s:143:A:H2'	2.25	0.50
51:s:158:G:H2'	51:s:159:G:C5'	2.18	0.50
51:s:192:A:H3'	51:s:193:C:C6	2.46	0.50
51:s:279:A:H4'	51:s:281:G:C8	2.46	0.50
51:s:355:C:H42	51:s:356:A:N6	2.10	0.50
51:s:687:A:N6	51:s:703:G:O2'	2.44	0.50
51:s:1039:G:O2'	51:s:1040:U:H5'	2.12	0.50
51:s:1053:G:O5'	51:s:1054:C:H5'	2.10	0.50
51:s:1085:U:H1'	51:s:1094:G:C6	2.46	0.50
51:s:1110:A:H8	51:s:1110:A:O5'	1.94	0.50
51:s:1417:G:N2	51:s:1484:C:N4	2.59	0.50
52:t:236:C:H2'	52:t:237:C:H6	1.76	0.50
52:t:569:U:OP1	52:t:945:A:H2'	2.11	0.50
52:t:935:C:H2'	52:t:936:A:H8	1.76	0.50
52:t:1279:G:O2'	52:t:1280:G:H5'	2.11	0.50
52:t:2602:A:H5''	52:t:2603:G:C5'	2.41	0.50
2:B:126:ARG:CZ	51:s:532:A:N7	2.74	0.50
6:F:94:ARG:O	6:F:98:LEU:HG	2.12	0.50
11:K:6:LEU:CD2	51:s:564:C:H5'	2.42	0.50
12:L:68:LEU:HA	12:L:71:GLU:HB3	1.92	0.50
13:M:5:MET:HE1	51:s:981:U:H5''	1.93	0.50
13:M:86:ALA:HA	13:M:91:GLU:HG3	1.93	0.50
15:O:21:VAL:HG21	15:O:60:TRP:NE1	2.26	0.50
15:O:68:SER:HB2	15:O:71:VAL:CG2	2.41	0.50
16:P:26:ARG:HG2	16:P:39:ARG:O	2.11	0.50
21:U:155:ARG:HH11	21:U:155:ARG:CG	2.23	0.50
22:V:135:GLY:O	52:t:2580:U:H5''	2.11	0.50
31:4:12:ARG:NH1	31:4:20:MET:HE1	2.26	0.50
40:e:17:ALA:HB1	40:e:36:ILE:HA	1.92	0.50
40:e:17:ALA:O	40:e:18:LYS:HB3	2.11	0.50
41:f:39:VAL:O	41:f:40:GLU:HB3	2.11	0.50
46:k:34:ARG:HH12	46:k:39:ARG:NE	2.10	0.50
48:m:16:ILE:HD13	48:m:25:VAL:HG22	1.92	0.50
49:n:105:LYS:O	49:n:106:PHE:HB3	2.11	0.50
51:s:372:C:N4	51:s:387:U:H2'	2.26	0.50
51:s:377:G:H2'	51:s:378:G:C8	2.46	0.50
51:s:398:U:H2'	51:s:399:G:O4'	2.11	0.50
51:s:477:C:H2'	51:s:478:A:H8	1.75	0.50
51:s:556:C:C2'	51:s:557:G:H5'	2.41	0.50
51:s:576:C:H5''	51:s:577:G:OP2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:728:A:H2'	51:s:729:A:H8	1.71	0.50
51:s:1005:A:H2'	51:s:1006:G:O4'	2.10	0.50
51:s:1144:G:H21	51:s:1146:A:H62	1.59	0.50
51:s:1350:A:N6	51:s:1373:G:N2	2.59	0.50
52:t:201:C:H2'	52:t:202:U:H5'	1.93	0.50
52:t:262:A:C2	52:t:430:A:N3	2.79	0.50
52:t:653:U:O5'	52:t:653:U:H6	1.95	0.50
52:t:811:U:C2	52:t:1251:C:C5	2.99	0.50
52:t:1111:A:N3	52:t:1112:G:H1'	2.26	0.50
52:t:1181:U:H3'	52:t:1181:U:C6	2.46	0.50
52:t:1268:A:C2	52:t:2013:A:C4	2.99	0.50
52:t:1784:A:C4'	52:t:1785:A:O5'	2.38	0.50
52:t:2514:U:H2'	52:t:2515:C:C6	2.46	0.50
1:A:114:LYS:C	1:A:116:LEU:H	2.18	0.50
2:B:106:ARG:H	2:B:106:ARG:CD	2.19	0.50
3:C:108:ALA:HB3	3:C:112:GLU:CD	2.37	0.50
4:D:82:HIS:HB3	7:G:95:MET:HB3	1.94	0.50
4:D:152:VAL:HB	4:D:156:ARG:CB	2.42	0.50
10:J:76:TYR:HD1	10:J:76:TYR:N	2.09	0.50
10:J:125:LYS:O	20:T:33:ARG:NH1	2.45	0.50
11:K:86:VAL:HG12	11:K:86:VAL:O	2.11	0.50
19:S:28:ARG:O	19:S:29:THR:C	2.53	0.50
24:X:82:TYR:CD2	24:X:83:PRO:HD2	2.45	0.50
24:X:169:LEU:HD23	24:X:174:PHE:CE1	2.46	0.50
34:8:4:LYS:NZ	52:t:1198:U:O3'	2.45	0.50
37:b:30:ILE:HD13	37:b:30:ILE:C	2.37	0.50
42:g:1:MET:O	42:g:5:GLU:HG2	2.11	0.50
43:h:7:THR:HG22	43:h:9:THR:H	1.76	0.50
48:m:4:ARG:HG3	48:m:6:SER:C	2.37	0.50
48:m:10:LEU:HD12	48:m:33:HIS:CD2	2.46	0.50
49:n:72:LEU:C	49:n:74:ASP:H	2.20	0.50
51:s:44:A:O2'	51:s:45:G:H5'	2.12	0.50
51:s:110:C:H2'	51:s:111:G:O4'	2.12	0.50
51:s:373:A:N3	51:s:374:A:C8	2.80	0.50
51:s:1126:U:H6	51:s:1281:C:O2	1.95	0.50
51:s:1236:A:O2'	51:s:1334:G:N2	2.45	0.50
51:s:1497:G:O2'	51:s:1518:A:N1	2.41	0.50
52:t:378:C:C2'	52:t:379:G:H5'	2.42	0.50
52:t:800:A:C4'	52:t:801:G:O5'	2.52	0.50
52:t:938:G:C2	52:t:939:G:N7	2.80	0.50
52:t:1181:U:H3'	52:t:1181:U:H6	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1411:U:H2'	52:t:1412:U:H6	1.76	0.50
52:t:1460:U:C5'	52:t:1461:C:OP2	2.59	0.50
52:t:1680:U:O2	52:t:1763:G:H3'	2.10	0.50
52:t:1757:A:C3'	52:t:1758:U:H5'	2.40	0.50
52:t:2742:G:H2'	52:t:2743:U:H5'	1.92	0.50
52:t:2780:G:H4'	52:t:2781:A:OP2	2.11	0.50
52:t:2807:U:O2	52:t:2892:G:C2	2.64	0.50
53:u:39:A:H2'	53:u:40:U:H6	1.74	0.50
55:w:20:A:N3	55:w:20:A:H2'	2.27	0.50
1:A:21:TYR:O	1:A:189:ASN:HB2	2.11	0.50
4:D:67:ARG:O	4:D:70:MET:HG3	2.12	0.50
6:F:20:GLU:O	6:F:23:ALA:N	2.44	0.50
6:F:108:ARG:HG3	6:F:108:ARG:NH1	2.27	0.50
11:K:78:VAL:HB	54:v:407:LEU:HD12	1.94	0.50
21:U:43:ASN:HB3	21:U:45:ASN:H	1.76	0.50
22:V:85:ALA:O	22:V:86:GLU:HB2	2.12	0.50
23:W:147:LEU:HD12	23:W:186:VAL:HG23	1.94	0.50
24:X:91:ARG:CZ	53:u:45:A:O4'	2.60	0.50
28:1:97:THR:C	28:1:98:ARG:NE	2.66	0.50
30:3:72:PRO:O	30:3:91:TYR:O	2.30	0.50
30:3:136:MET:HE2	39:d:57:TYR:CD2	2.46	0.50
34:8:101:ASP:OD1	34:8:104:ALA:HB2	2.11	0.50
40:e:8:SER:O	40:e:9:THR:HG22	2.10	0.50
40:e:38:ARG:HE	52:t:2387:U:H1'	1.77	0.50
40:e:45:HIS:HB2	40:e:50:VAL:HG13	1.93	0.50
41:f:4:CYS:SG	41:f:51:SER:N	2.83	0.50
49:n:8:LYS:O	49:n:11:ILE:HB	2.11	0.50
49:n:24:SER:CB	49:n:116:GLU:HB3	2.41	0.50
51:s:556:C:O2'	51:s:557:G:H5'	2.12	0.50
51:s:761:G:O2'	51:s:762:U:H5'	2.11	0.50
51:s:1087:G:H2'	51:s:1088:G:C8	2.46	0.50
51:s:1174:G:H2'	51:s:1175:G:H8	1.77	0.50
52:t:611:C:C2'	52:t:612:G:H5'	2.41	0.50
52:t:822:G:H2'	52:t:823:C:C6	2.46	0.50
52:t:1310:G:H2'	52:t:1311:G:O4'	2.11	0.50
52:t:1713:A:O2'	52:t:1715:G:H4'	2.12	0.50
52:t:2210:U:H5''	52:t:2211:A:OP1	2.12	0.50
52:t:2297:A:N3	52:t:2297:A:H2'	2.26	0.50
52:t:2469:A:N6	52:t:2481:G:O2'	2.45	0.50
52:t:2638:G:HO2'	52:t:2639:A:H8	1.50	0.50
52:t:2751:G:O2'	52:t:2752:C:OP1	2.22	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:49:PHE:CB	1:A:212:TYR:OH	2.59	0.50
1:A:72:LYS:C	1:A:74:ALA:H	2.20	0.50
5:E:50:PRO:HD2	17:Q:73:HIS:HB3	1.93	0.50
7:G:106:SER:HA	51:s:642:A:N7	2.27	0.50
8:H:12:LYS:HD3	51:s:1371:G:P	2.51	0.50
8:H:70:GLY:O	8:H:74:GLN:HG3	2.11	0.50
8:H:121:ARG:HB2	51:s:1349:A:OP1	2.12	0.50
10:J:52:ARG:O	10:J:55:ARG:HB2	2.12	0.50
10:J:108:ASN:HB3	20:T:6:ARG:HG2	1.93	0.50
17:Q:58:ILE:HD12	17:Q:58:ILE:N	2.27	0.50
18:R:11:ASP:OD1	18:R:13:HIS:NE2	2.44	0.50
22:V:25:THR:HB	22:V:189:VAL:CG2	2.42	0.50
22:V:27:ILE:CD1	22:V:201:LEU:HD23	2.40	0.50
24:X:23:SER:HB2	53:u:56:G:H5'	1.94	0.50
25:Y:83:THR:HA	25:Y:84:LYS:CE	2.41	0.50
27:0:17:VAL:HG12	27:0:18:VAL:N	2.27	0.50
29:2:78:ARG:HB3	29:2:78:ARG:HH21	1.75	0.50
30:3:57:VAL:HG12	30:3:112:LEU:HD23	1.92	0.50
31:4:79:LEU:O	31:4:80:PHE:CD2	2.64	0.50
32:5:78:VAL:HG23	32:5:79:ALA:N	2.26	0.50
33:6:26:GLU:OE1	33:6:86:LYS:HE2	2.12	0.50
36:a:45:VAL:CG2	36:a:46:LEU:N	2.74	0.50
40:e:25:PHE:O	40:e:26:GLY:C	2.53	0.50
40:e:37:VAL:HG13	40:e:55:ASP:C	2.36	0.50
40:e:76:ARG:NH2	40:e:76:ARG:CG	2.74	0.50
42:g:22:LEU:HG	42:g:23:ARG:CZ	2.42	0.50
45:j:47:ILE:HG22	45:j:48:TYR:N	2.26	0.50
47:l:16:THR:HG22	47:l:22:LYS:HD2	1.93	0.50
51:s:243:A:C2	51:s:245:U:H2'	2.47	0.50
51:s:680:C:O2'	51:s:681:A:H5'	2.11	0.50
51:s:683:G:O2'	51:s:684:U:H5'	2.12	0.50
51:s:1085:U:O2	51:s:1085:U:H2'	2.12	0.50
51:s:1339:A:H2'	51:s:1340:A:O4'	2.11	0.50
51:s:1428:A:H2'	51:s:1429:A:O4'	2.11	0.50
52:t:704:G:C2'	52:t:726:G:N2	2.73	0.50
52:t:822:G:H2'	52:t:823:C:H6	1.76	0.50
52:t:1049:C:O2'	52:t:1050:A:H5'	2.11	0.50
52:t:1439:A:N7	52:t:1552:A:H2	2.09	0.50
52:t:2766:A:C8	52:t:2766:A:O5'	2.65	0.50
1:A:98:GLY:HA2	1:A:101:THR:CG2	2.42	0.50
1:A:162:VAL:HG22	1:A:184:ALA:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:168:GLU:O	1:A:169:HIS:C	2.54	0.50
3:C:114:ARG:C	3:C:116:LEU:N	2.68	0.50
3:C:151:GLN:C	3:C:153:ARG:H	2.18	0.50
3:C:168:THR:HG22	3:C:183:ARG:HH21	1.77	0.50
4:D:23:THR:HA	4:D:28:ARG:HB3	1.94	0.50
7:G:86:LYS:HG3	7:G:90:GLU:HB3	1.94	0.50
10:J:30:ILE:HA	10:J:45:THR:CB	2.41	0.50
10:J:84:MET:CE	10:J:112:VAL:HG11	2.34	0.50
10:J:92:ARG:HH11	10:J:92:ARG:HG3	1.77	0.50
13:M:27:LYS:O	13:M:27:LYS:HD2	2.11	0.50
22:V:90:PHE:C	22:V:92:VAL:N	2.69	0.50
22:V:121:THR:HB	22:V:127:PHE:CD1	2.47	0.50
23:W:148:ILE:HD13	23:W:187:VAL:HB	1.94	0.50
23:W:158:PHE:HD1	23:W:159:LEU:HD12	1.77	0.50
25:Y:120:ILE:HD11	25:Y:140:ILE:HG23	1.93	0.50
27:0:12:LYS:O	27:0:13:ARG:CB	2.59	0.50
27:0:47:HIS:CE1	27:0:48:VAL:HG23	2.47	0.50
28:1:16:ALA:O	28:1:17:ARG:HB2	2.11	0.50
30:3:43:ALA:O	30:3:44:ARG:C	2.55	0.50
30:3:99:GLY:O	30:3:100:LYS:C	2.54	0.50
31:4:79:LEU:O	31:4:80:PHE:HD2	1.94	0.50
34:8:65:ASN:ND2	34:8:75:TYR:H	2.10	0.50
34:8:94:LEU:C	34:8:96:ASP:N	2.60	0.50
37:b:40:LYS:HD2	52:t:1599:U:OP2	2.12	0.50
39:d:26:PHE:C	39:d:26:PHE:CD1	2.88	0.50
41:f:27:ARG:NH2	52:t:1365:A:O5'	2.43	0.50
45:j:29:LYS:NZ	52:t:2286:G:H3'	2.25	0.50
48:m:9:LYS:N	48:m:9:LYS:CD	2.75	0.50
51:s:132:C:H2'	51:s:133:U:C6	2.46	0.50
51:s:674:G:O2'	51:s:675:A:H5'	2.12	0.50
51:s:911:U:H2'	51:s:912:C:C6	2.47	0.50
51:s:1127:G:O2'	51:s:1128:C:H5'	2.11	0.50
51:s:1270:G:H2'	51:s:1271:A:C8	2.47	0.50
52:t:620:G:H4'	52:t:621:A:O5'	2.12	0.50
52:t:777:G:H2'	52:t:778:G:H8	1.76	0.50
52:t:1452:G:HO2'	52:t:1453:A:P	2.34	0.50
52:t:1535:A:H5''	52:t:1536:C:OP2	2.11	0.50
52:t:1608:A:C5	52:t:1611:C:C4	2.99	0.50
52:t:1678:A:C2'	52:t:1679:A:H8	2.18	0.50
52:t:1722:A:H2'	52:t:1723:G:H8	1.77	0.50
52:t:2206:C:O2'	52:t:2207:C:H5'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:308:ASP:CG	54:v:309:PRO:HD2	2.37	0.50
54:v:333:GLN:NE2	54:v:372:THR:O	2.35	0.50
1:A:65:LYS:C	1:A:66:ILE:HD12	2.37	0.50
1:A:67:LEU:CG	1:A:153:MET:HE1	2.41	0.50
2:B:87:ARG:O	2:B:88:LYS:C	2.55	0.50
3:C:50:TYR:O	3:C:53:GLN:HB3	2.12	0.50
3:C:68:GLU:C	3:C:70:GLN:N	2.69	0.50
6:F:29:LEU:O	6:F:29:LEU:HD23	2.12	0.50
11:K:43:LYS:CD	51:s:1492:A:OP2	2.60	0.50
12:L:28:ARG:HD2	51:s:1328:C:O2'	2.12	0.50
12:L:96:VAL:CG2	51:s:1308:U:H5''	2.42	0.50
13:M:60:ARG:O	13:M:61:ASN:O	2.30	0.50
13:M:76:PHE:CE2	13:M:95:LEU:HD22	2.40	0.50
18:R:62:THR:CG2	18:R:63:ASP:N	2.72	0.50
19:S:22:SER:O	19:S:23:ARG:C	2.54	0.50
21:U:49:THR:HB	52:t:1805:A:N3	2.26	0.50
21:U:50:THR:HG22	21:U:53:ILE:HG12	1.94	0.50
22:V:133:THR:HG21	52:t:1993:U:H4'	1.94	0.50
23:W:7:ASP:CG	23:W:8:ALA:N	2.64	0.50
24:X:131:VAL:HG23	24:X:132:ARG:N	2.26	0.50
24:X:161:SER:C	24:X:163:GLU:N	2.65	0.50
25:Y:91:VAL:HG11	54:v:147:ASP:HB3	1.94	0.50
29:2:79:LEU:O	29:2:82:LEU:CD2	2.59	0.50
29:2:111:ILE:HG23	29:2:112:LEU:H	1.75	0.50
33:6:24:THR:HA	33:6:45:VAL:HA	1.94	0.50
38:c:30:SER:HB2	38:c:32:LYS:HD3	1.93	0.50
39:d:14:LYS:HE3	53:u:79:G:O6	2.12	0.50
45:j:39:ASP:O	45:j:43:ARG:N	2.37	0.50
46:k:43:THR:C	46:k:44:VAL:HG23	2.37	0.50
50:o:6:GLN:C	50:o:8:ILE:H	2.20	0.50
51:s:1302:C:H5''	51:s:1303:C:OP2	2.12	0.50
51:s:1498:U:OP2	55:w:16:A:O2'	2.26	0.50
52:t:486:C:H2'	52:t:487:C:H6	1.77	0.50
52:t:645:C:O2	52:t:645:C:C2'	2.58	0.50
52:t:892:A:H2'	52:t:893:C:O5'	2.12	0.50
52:t:899:A:HO2'	52:t:900:A:C1'	2.25	0.50
52:t:986:C:O2'	52:t:987:C:H5'	2.12	0.50
52:t:1142:A:N6	52:t:1144:A:C2	2.80	0.50
52:t:1301:A:O3'	52:t:1302:A:H3'	2.12	0.50
52:t:1535:A:OP2	52:t:1536:C:H5	1.95	0.50
52:t:1541:C:O2'	52:t:1542:U:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1800:C:C4	52:t:1818:U:O2	2.64	0.50
52:t:2152:G:O2'	52:t:2153:C:H5'	2.12	0.50
1:A:37:VAL:O	1:A:37:VAL:HG13	2.11	0.49
1:A:117:GLU:C	1:A:119:GLN:H	2.19	0.49
1:A:165:ALA:HB3	1:A:190:SER:CB	2.41	0.49
3:C:123:MET:CE	3:C:145:ARG:HD3	2.42	0.49
5:E:15:SER:O	5:E:16:GLU:C	2.56	0.49
5:E:52:ASN:O	5:E:53:LYS:CB	2.60	0.49
9:I:57:VAL:HG23	51:s:972:C:O2'	2.12	0.49
12:L:78:ARG:HG2	12:L:78:ARG:HH11	1.77	0.49
12:L:84:CYS:HB2	18:R:72:GLU:HB3	1.94	0.49
13:M:17:ASP:C	13:M:19:TYR:H	2.20	0.49
13:M:20:PHE:O	13:M:21:ALA:HB3	2.12	0.49
13:M:72:PHE:CD1	13:M:72:PHE:C	2.90	0.49
14:N:24:THR:HG23	14:N:65:LEU:CD1	2.42	0.49
14:N:77:TYR:OH	14:N:87:ARG:HG2	2.11	0.49
15:O:5:ARG:HB2	51:s:376:G:H5''	1.93	0.49
22:V:108:ASP:O	22:V:109:VAL:CB	2.61	0.49
22:V:173:GLN:NE2	22:V:208:LYS:HE3	2.27	0.49
23:W:117:ARG:HA	23:W:185:LYS:HE2	1.93	0.49
25:Y:84:LYS:CG	25:Y:85:LYS:H	2.24	0.49
28:1:1:MET:HE2	28:1:32:TYR:CD1	2.46	0.49
33:6:86:LYS:O	33:6:87:ARG:HB2	2.10	0.49
34:8:107:ALA:O	34:8:110:GLU:HB2	2.12	0.49
36:a:18:ARG:CG	36:a:76:VAL:HG13	2.41	0.49
44:i:16:ARG:C	44:i:18:HIS:H	2.19	0.49
48:m:1:MET:H1	52:t:2526:G:C2'	2.23	0.49
50:p:19:VAL:C	50:p:21:GLU:N	2.70	0.49
51:s:31:G:O2'	51:s:32:A:OP1	2.29	0.49
51:s:1386:G:H2'	51:s:1387:G:H8	1.76	0.49
52:t:76:C:O2'	52:t:77:G:H5'	2.11	0.49
52:t:247:G:H4'	52:t:386:G:C6	2.46	0.49
52:t:340:A:H2'	52:t:341:C:C5'	2.41	0.49
52:t:346:A:C2	52:t:347:A:H1'	2.47	0.49
52:t:688:U:O2'	52:t:689:A:H5'	2.12	0.49
52:t:910:A:H2'	52:t:911:A:C8	2.46	0.49
52:t:1642:G:O2'	52:t:1643:G:H5'	2.13	0.49
52:t:1709:U:H2'	52:t:1710:G:C8	2.46	0.49
52:t:1969:A:OP1	52:t:1969:A:H4'	2.12	0.49
52:t:2060:A:H1'	52:t:2502:G:H1'	1.94	0.49
52:t:2074:U:H2'	52:t:2075:U:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2199:A:H61	52:t:2226:C:N4	2.10	0.49
52:t:2656:U:OP1	54:v:146:ARG:NH2	2.45	0.49
52:t:2756:U:C4'	52:t:2757:A:O5'	2.56	0.49
1:A:216:VAL:O	1:A:220:VAL:HG23	2.12	0.49
3:C:127:ARG:H	3:C:127:ARG:CD	2.22	0.49
3:C:180:THR:HG22	3:C:181:PHE:N	2.27	0.49
7:G:6:ILE:HB	7:G:76:ARG:CZ	2.42	0.49
7:G:12:ARG:HH11	7:G:26:MET:HB3	1.77	0.49
7:G:109:VAL:O	7:G:110:MET:HG3	2.13	0.49
8:H:23:GLY:N	8:H:60:LEU:HA	2.27	0.49
8:H:48:ARG:NE	8:H:52:GLU:HA	2.27	0.49
8:H:61:ASP:C	8:H:62:LEU:HD23	2.36	0.49
21:U:35:LYS:NZ	21:U:37:SER:HB2	2.27	0.49
21:U:161:VAL:HG13	21:U:174:ARG:O	2.12	0.49
22:V:98:VAL:C	22:V:100:LEU:N	2.68	0.49
23:W:12:LEU:O	23:W:13:THR:HB	2.11	0.49
23:W:156:ASN:O	23:W:158:PHE:N	2.45	0.49
24:X:23:SER:C	24:X:25:MET:N	2.70	0.49
24:X:110:ILE:O	24:X:112:ASP:N	2.45	0.49
26:Z:56:VAL:HG22	26:Z:57:VAL:N	2.26	0.49
26:Z:100:ILE:CD1	26:Z:105:LEU:HD11	2.42	0.49
32:5:100:HIS:ND1	32:5:101:GLY:N	2.60	0.49
39:d:46:LYS:O	39:d:49:ASN:HB2	2.12	0.49
40:e:30:VAL:O	40:e:30:VAL:HG22	2.11	0.49
42:g:5:GLU:O	42:g:6:LEU:C	2.55	0.49
48:m:4:ARG:CG	48:m:6:SER:O	2.60	0.49
48:m:11:CYS:HB3	48:m:33:HIS:HD1	1.78	0.49
51:s:56:U:H2'	51:s:57:G:H8	1.76	0.49
51:s:193:C:H2'	51:s:194:C:C6	2.46	0.49
51:s:340:U:O2	51:s:350:G:C2	2.65	0.49
51:s:374:A:H2'	51:s:375:U:H6	1.77	0.49
51:s:819:A:C4'	51:s:820:U:OP2	2.60	0.49
51:s:927:G:O2'	51:s:1503:A:N7	2.44	0.49
52:t:123:G:O3'	52:t:1376:C:H4'	2.12	0.49
52:t:228:C:N4	52:t:2407:A:C2	2.80	0.49
52:t:385:C:O2'	52:t:388:G:N2	2.45	0.49
52:t:538:A:H2'	52:t:539:G:O4'	2.12	0.49
52:t:685:A:C2	52:t:689:A:C6	3.00	0.49
52:t:1827:U:H2'	52:t:1828:G:O4'	2.13	0.49
52:t:2075:U:H2'	52:t:2238:G:N2	2.26	0.49
52:t:2439:A:H4'	52:t:2440:C:O5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:u:11:C:O5'	53:u:11:C:H6	1.95	0.49
53:u:115:A:H2'	53:u:116:G:C8	2.47	0.49
54:v:407:LEU:HB3	54:v:409:GLN:HG3	1.94	0.49
1:A:72:LYS:HZ1	1:A:164:ASP:HB2	1.77	0.49
2:B:153:SER:HB2	2:B:164:THR:HG22	1.93	0.49
6:F:14:ASP:CB	6:F:22:LEU:HD13	2.42	0.49
8:H:78:ILE:O	8:H:82:ILE:HG13	2.12	0.49
10:J:20:ALA:HA	10:J:33:ILE:CD1	2.42	0.49
10:J:34:THR:OG1	10:J:38:GLY:C	2.55	0.49
11:K:23:LEU:C	11:K:25:ALA:N	2.70	0.49
12:L:22:TYR:OH	12:L:68:LEU:HG	2.12	0.49
13:M:5:MET:HE3	13:M:62:ARG:NH2	2.27	0.49
13:M:62:ARG:NH2	51:s:981:U:O3'	2.45	0.49
14:N:82:GLU:C	14:N:84:LEU:H	2.20	0.49
17:Q:58:ILE:CD1	17:Q:58:ILE:H	2.24	0.49
18:R:54:ARG:HG3	18:R:55:GLN:N	2.21	0.49
21:U:68:ARG:HH11	21:U:68:ARG:CB	2.23	0.49
22:V:106:LYS:C	22:V:107:VAL:HG23	2.37	0.49
24:X:73:VAL:H	24:X:78:ILE:CD1	2.26	0.49
26:Z:78:LEU:CD2	26:Z:81:LYS:HE3	2.41	0.49
36:a:93:ALA:HB2	52:t:1614:A:N1	2.27	0.49
39:d:53:LYS:O	39:d:55:GLU:N	2.44	0.49
39:d:69:GLU:C	39:d:70:ILE:HD12	2.38	0.49
40:e:70:VAL:C	40:e:71:LYS:HD2	2.38	0.49
49:n:23:LEU:HD11	49:n:96:PHE:CE2	2.48	0.49
51:s:1513:A:H2'	51:s:1514:G:H8	1.76	0.49
52:t:954:G:O2'	52:t:2274:A:N1	2.40	0.49
52:t:1855:U:O5'	52:t:1855:U:H6	1.95	0.49
52:t:1874:C:H2'	52:t:1875:G:O4'	2.12	0.49
52:t:2287:A:C8	52:t:2289:G:C8	3.00	0.49
52:t:2323:G:H2'	52:t:2324:U:O4'	2.13	0.49
52:t:2635:A:C2	52:t:2636:C:H1'	2.48	0.49
54:v:314:ARG:NH1	54:v:421:GLU:HB2	2.27	0.49
1:A:72:LYS:C	1:A:74:ALA:N	2.68	0.49
1:A:127:LYS:CG	1:A:128:LEU:H	2.23	0.49
1:A:157:PRO:O	1:A:159:ALA:N	2.35	0.49
3:C:61:ARG:HH21	3:C:67:LEU:HD22	1.78	0.49
3:C:178:GLU:O	3:C:178:GLU:HG3	2.12	0.49
5:E:6:ILE:CG1	5:E:62:MET:HG2	2.42	0.49
5:E:11:HIS:O	5:E:13:ASP:N	2.45	0.49
7:G:11:THR:O	7:G:15:ASN:HB2	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:24:ASN:HB2	8:H:26:LYS:HG2	1.95	0.49
10:J:73:VAL:C	10:J:75:GLU:H	2.20	0.49
10:J:107:THR:C	10:J:108:ASN:ND2	2.68	0.49
12:L:21:ILE:HB	12:L:24:VAL:CG2	2.43	0.49
20:T:52:VAL:HG13	20:T:53:LYS:H	1.76	0.49
21:U:104:LEU:N	21:U:104:LEU:HD12	2.27	0.49
21:U:131:MET:O	21:U:132:ARG:C	2.55	0.49
21:U:138:SER:O	21:U:162:GLN:HG3	2.12	0.49
22:V:85:ALA:O	22:V:86:GLU:CB	2.60	0.49
23:W:117:ARG:NH2	23:W:183:PHE:O	2.44	0.49
23:W:119:ILE:O	23:W:187:VAL:O	2.30	0.49
29:2:93:ASN:HA	29:2:96:LYS:HB2	1.94	0.49
30:3:57:VAL:HG12	30:3:112:LEU:CD2	2.42	0.49
31:4:59:SER:O	31:4:60:VAL:C	2.54	0.49
31:4:117:ASP:CG	31:4:118:ARG:H	2.20	0.49
35:9:80:ARG:O	35:9:81:LYS:HD3	2.12	0.49
40:e:72:GLY:N	40:e:73:PRO:HD2	2.28	0.49
44:i:12:ARG:HD2	44:i:16:ARG:NH1	2.26	0.49
49:n:74:ASP:C	49:n:76:PHE:H	2.20	0.49
49:n:116:GLU:HG2	49:n:117:LEU:H	1.78	0.49
50:o:16:VAL:HG13	50:r:11:VAL:CG1	2.39	0.49
50:o:24:SER:C	50:o:26:MET:N	2.71	0.49
50:p:29:LYS:HZ2	50:r:15:SER:HB3	1.77	0.49
51:s:559:A:H4'	51:s:560:A:O5'	2.11	0.49
51:s:692:U:H2'	51:s:694:A:OP2	2.12	0.49
51:s:718:A:C8	51:s:719:C:C5	3.00	0.49
51:s:758:C:H5'	51:s:880:C:H1'	1.94	0.49
51:s:1238:A:H2'	51:s:1239:A:H8	1.77	0.49
52:t:310:A:HO2'	52:t:311:A:P	2.36	0.49
52:t:409:G:H2'	52:t:410:G:C8	2.48	0.49
52:t:919:U:H2'	52:t:920:A:H5'	1.95	0.49
52:t:1369:G:H2'	52:t:1370:C:H6	1.77	0.49
52:t:1930:G:O2'	52:t:1931:U:H6	1.95	0.49
52:t:2138:G:N3	52:t:2138:G:C2'	2.76	0.49
52:t:2726:A:O2'	52:t:2727:A:H5'	2.12	0.49
53:u:40:U:H2'	53:u:43:C:OP2	2.13	0.49
2:B:19:SER:OG	2:B:39:ARG:NH2	2.44	0.49
3:C:3:TYR:O	3:C:4:LEU:HB2	2.12	0.49
5:E:1:MET:HE2	5:E:67:PRO:HD3	1.95	0.49
5:E:39:LEU:C	5:E:40:GLU:HG3	2.38	0.49
10:J:60:PHE:CZ	10:J:64:VAL:HG11	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:21:ALA:H	13:M:24:ALA:HB2	1.75	0.49
13:M:45:LEU:HD11	18:R:9:PHE:CE2	2.48	0.49
14:N:77:TYR:CE1	14:N:81:ILE:HD11	2.48	0.49
22:V:4:LEU:O	22:V:82:PHE:CZ	2.66	0.49
22:V:174:SER:O	22:V:175:LEU:HB2	2.12	0.49
23:W:46:GLN:O	23:W:86:ALA:HB1	2.12	0.49
23:W:148:ILE:HD13	23:W:187:VAL:CB	2.42	0.49
29:2:65:GLY:O	29:2:66:PHE:HB2	2.12	0.49
29:2:76:GLU:HB2	29:2:111:ILE:HD13	1.93	0.49
30:3:21:ALA:CB	30:3:100:LYS:H	2.25	0.49
31:4:87:PHE:O	31:4:90:ARG:N	2.45	0.49
35:9:31:GLU:H	35:9:63:VAL:CG1	2.25	0.49
49:n:33:VAL:N	49:n:36:ASP:OD1	2.43	0.49
49:n:38:MET:C	49:n:42:ARG:HB2	2.38	0.49
49:n:48:ALA:CB	49:n:51:TYR:HE2	2.25	0.49
49:n:103:ASN:CB	49:n:110:ALA:HB2	2.42	0.49
50:p:29:LYS:HB3	50:r:19:VAL:HG11	1.93	0.49
50:q:12:ALA:C	50:q:14:MET:N	2.71	0.49
50:r:15:SER:OG	50:r:19:VAL:HG23	2.13	0.49
51:s:32:A:H2'	51:s:33:A:C8	2.47	0.49
51:s:250:A:H4'	51:s:251:G:O5'	2.12	0.49
51:s:577:G:H2'	51:s:578:C:C6	2.46	0.49
51:s:721:G:O2'	51:s:722:G:OP2	2.24	0.49
51:s:774:G:O2'	51:s:775:G:H5'	2.13	0.49
51:s:1079:G:C2	51:s:1080:A:C6	3.00	0.49
51:s:1125:U:O2	51:s:1125:U:H2'	2.11	0.49
52:t:70:G:OP2	52:t:70:G:H8	1.95	0.49
52:t:208:C:H2'	52:t:209:C:C6	2.47	0.49
52:t:221:A:C2	52:t:265:A:O2'	2.66	0.49
52:t:569:U:H1'	52:t:947:A:O4'	2.13	0.49
52:t:1055:G:N2	52:t:1105:U:C4	2.80	0.49
52:t:1142:A:O2'	52:t:1143:A:O5'	2.30	0.49
52:t:1430:G:H2'	52:t:1431:A:C8	2.47	0.49
52:t:1814:G:C6	52:t:1815:A:N6	2.81	0.49
52:t:1930:G:O2'	52:t:1931:U:P	2.71	0.49
52:t:2328:A:C4	52:t:2329:U:C5	3.01	0.49
52:t:2556:C:H2'	52:t:2557:G:H5'	1.94	0.49
52:t:2747:G:N2	52:t:2748:A:N6	2.60	0.49
54:v:355:HIS:HA	54:v:356:VAL:CG2	2.41	0.49
3:C:102:TYR:HB2	3:C:113:ALA:CB	2.42	0.49
4:D:80:LEU:HA	4:D:146:MET:HE1	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:99:SER:O	4:D:100:GLU:C	2.55	0.49
6:F:16:LYS:HD3	6:F:17:PHE:HE1	1.78	0.49
6:F:38:ALA:O	6:F:42:VAL:HG23	2.12	0.49
6:F:150:PHE:N	6:F:150:PHE:CD1	2.80	0.49
7:G:11:THR:HG23	7:G:12:ARG:N	2.27	0.49
7:G:29:SER:O	7:G:32:LYS:HB2	2.13	0.49
7:G:94:VAL:CG2	7:G:101:ALA:HB2	2.43	0.49
9:I:19:ASP:HB3	9:I:72:ARG:NH2	2.28	0.49
12:L:90:HIS:HD1	12:L:108:ARG:NH2	2.10	0.49
13:M:29:ILE:O	13:M:34:ASN:ND2	2.45	0.49
14:N:53:ARG:NH1	51:s:579:A:O2'	2.46	0.49
21:U:166:ARG:HA	21:U:171:VAL:HA	1.94	0.49
21:U:176:ARG:HH21	21:U:176:ARG:CG	2.26	0.49
21:U:257:ARG:HG3	21:U:269:ARG:NH2	2.27	0.49
22:V:4:LEU:HD22	22:V:101:PHE:HE1	1.77	0.49
22:V:26:VAL:HG13	22:V:188:LEU:HD21	1.95	0.49
22:V:69:ALA:CA	22:V:73:VAL:HG22	2.41	0.49
23:W:45:ALA:CB	52:t:37:C:O2'	2.61	0.49
23:W:79:ARG:O	23:W:80:SER:C	2.55	0.49
26:Z:9:LYS:HZ2	52:t:1061:U:H5''	1.76	0.49
26:Z:128:ILE:O	26:Z:128:ILE:HG22	2.12	0.49
26:Z:133:ARG:C	26:Z:135:MET:H	2.20	0.49
27:0:73:VAL:O	27:0:74:TYR:HB2	2.12	0.49
28:1:4:GLU:C	28:1:5:GLN:HG2	2.37	0.49
29:2:76:GLU:C	29:2:77:ILE:HD12	2.38	0.49
30:3:86:LYS:NZ	52:t:955:U:OP1	2.46	0.49
35:9:18:GLN:O	35:9:97:LYS:O	2.29	0.49
39:d:70:ILE:O	39:d:71:LYS:HB3	2.11	0.49
39:d:80:HIS:ND1	39:d:81:PRO:HD2	2.27	0.49
43:h:26:LEU:O	43:h:37:ARG:NH1	2.45	0.49
46:k:5:PHE:HD1	52:t:1612:C:H4'	1.78	0.49
49:n:37:LYS:O	49:n:41:LEU:HB2	2.13	0.49
50:q:24:SER:C	50:q:26:MET:H	2.21	0.49
51:s:108:G:C2	51:s:109:A:H2	2.31	0.49
51:s:491:G:O2'	51:s:492:C:H5'	2.12	0.49
51:s:617:G:C2	51:s:618:C:C5	3.00	0.49
51:s:656:G:O2'	51:s:657:U:H5'	2.12	0.49
51:s:1104:G:O2'	51:s:1105:A:H5'	2.13	0.49
51:s:1234:C:O4'	51:s:1364:U:H1'	2.13	0.49
51:s:1236:A:H2'	51:s:1237:C:C6	2.47	0.49
52:t:123:G:H4'	52:t:1376:C:O5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:345:A:H5''	52:t:346:A:OP1	2.12	0.49
52:t:350:G:O2'	52:t:351:C:H5'	2.11	0.49
52:t:621:A:C2'	52:t:622:G:H5'	2.42	0.49
52:t:1091:G:H2'	52:t:1092:C:C6	2.47	0.49
52:t:1165:A:H2'	52:t:1166:G:C8	2.43	0.49
52:t:1465:G:H2'	52:t:1466:U:O4'	2.13	0.49
52:t:1747:U:H2'	52:t:1748:C:O4'	2.12	0.49
52:t:2224:G:H4'	52:t:2226:C:C2	2.48	0.49
52:t:2394:C:H2'	52:t:2395:C:O4'	2.13	0.49
52:t:2655:G:H4'	52:t:2656:U:OP2	2.12	0.49
54:v:91:GLY:HA2	54:v:122:ARG:NH1	2.28	0.49
54:v:211:ASN:HA	54:v:228:ARG:NH1	2.27	0.49
54:v:485:PHE:C	54:v:487:ARG:H	2.21	0.49
2:B:31:ASN:O	2:B:34:SER:HB3	2.12	0.49
2:B:38:VAL:HG12	2:B:93:ILE:HD12	1.93	0.49
2:B:67:ILE:CD1	2:B:100:ILE:HD11	2.43	0.49
2:B:118:SER:O	2:B:119:ILE:HD12	2.13	0.49
3:C:57:LYS:O	3:C:59:LYS:N	2.46	0.49
5:E:3:HIS:HB3	5:E:64:VAL:O	2.13	0.49
6:F:94:ARG:NH2	6:F:98:LEU:HD21	2.27	0.49
8:H:23:GLY:H	8:H:60:LEU:HA	1.77	0.49
8:H:41:GLU:O	8:H:42:THR:C	2.54	0.49
9:I:62:ARG:HH12	51:s:1367:C:P	2.34	0.49
15:O:19:VAL:HG22	15:O:36:VAL:CG1	2.43	0.49
21:U:216:ARG:HH11	21:U:216:ARG:CG	2.22	0.49
22:V:136:ASN:ND2	22:V:139:SER:HB2	2.27	0.49
23:W:73:ILE:O	23:W:73:ILE:CD1	2.52	0.49
23:W:100:MET:HE3	52:t:600:G:O4'	2.12	0.49
24:X:72:SER:HB2	24:X:80:GLN:HB2	1.94	0.49
24:X:160:LYS:HD2	24:X:160:LYS:N	2.25	0.49
25:Y:35:THR:C	25:Y:36:LEU:HD22	2.38	0.49
26:Z:75:ALA:HB3	26:Z:131:THR:HG21	1.94	0.49
29:2:27:LEU:HD12	29:2:27:LEU:N	2.27	0.49
30:3:36:VAL:HG21	30:3:129:THR:HB	1.94	0.49
49:n:24:SER:OG	49:n:116:GLU:HB3	2.13	0.49
51:s:119:A:N3	51:s:120:A:N6	2.61	0.49
51:s:300:A:O5'	51:s:300:A:H8	1.95	0.49
51:s:413:G:O2'	51:s:428:G:N2	2.46	0.49
51:s:731:G:C5'	51:s:766:A:H4'	2.41	0.49
51:s:773:G:C2	51:s:807:A:C2	3.01	0.49
51:s:805:C:O2'	51:s:806:C:H5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:1298:U:O2	51:s:1298:U:H2'	2.13	0.49
52:t:319:G:H2'	52:t:320:A:O4'	2.13	0.49
52:t:748:G:C8	52:t:750:A:C8	3.00	0.49
52:t:1140:C:O2'	52:t:1143:A:H2'	2.12	0.49
52:t:1858:A:OP2	52:t:1858:A:C8	2.60	0.49
52:t:2282:G:O2'	52:t:2390:U:O4	2.30	0.49
53:u:56:G:H4'	53:u:57:A:C8	2.48	0.49
54:v:408:LYS:HG2	54:v:409:GLN:HB2	1.95	0.49
56:z:3:SER:C	56:z:5:UAL:HN	2.20	0.49
1:A:53:LEU:H	1:A:53:LEU:HD22	1.78	0.49
1:A:170:ILE:H	1:A:170:ILE:CD1	2.25	0.49
2:B:136:ALA:O	2:B:140:ALA:HB2	2.13	0.49
4:D:91:SER:OG	4:D:129:SER:O	2.26	0.49
4:D:108:GLY:O	4:D:109:ALA:HB3	2.13	0.49
4:D:136:VAL:HG13	4:D:137:ARG:N	2.27	0.49
4:D:155:LYS:HD2	4:D:155:LYS:C	2.37	0.49
5:E:47:LEU:HD12	5:E:55:HIS:HA	1.94	0.49
6:F:45:ALA:CB	6:F:119:LEU:HD13	2.43	0.49
6:F:73:GLU:HA	6:F:140:VAL:CG1	2.43	0.49
7:G:3:GLN:CA	51:s:587:G:H4'	2.43	0.49
11:K:43:LYS:HG3	51:s:1492:A:H4'	1.94	0.49
12:L:28:ARG:HB3	12:L:28:ARG:NH1	2.17	0.49
13:M:40:ARG:NH1	13:M:44:VAL:HG21	2.28	0.49
24:X:34:THR:O	24:X:154:THR:N	2.44	0.49
25:Y:84:LYS:HB3	25:Y:132:LEU:O	2.12	0.49
27:0:102:GLU:O	27:0:106:LYS:HB2	2.12	0.49
31:4:87:PHE:O	31:4:88:ALA:C	2.56	0.49
32:5:115:LEU:HD23	32:5:117:PHE:HE2	1.78	0.49
34:8:40:LYS:HA	34:8:43:GLN:CG	2.40	0.49
35:9:60:LYS:HB2	35:9:100:GLY:CA	2.40	0.49
37:b:6:ARG:NH2	42:g:14:LEU:HD12	2.27	0.49
37:b:12:ARG:HH11	37:b:12:ARG:CG	2.20	0.49
37:b:39:THR:O	37:b:40:LYS:HB2	2.12	0.49
42:g:24:GLU:O	42:g:25:GLN:C	2.55	0.49
46:k:11:LYS:HE3	52:t:686:U:O2	2.12	0.49
50:o:11:VAL:HG22	50:o:11:VAL:O	2.12	0.49
51:s:49:U:O4	51:s:365:U:C5	2.66	0.49
51:s:80:A:H8	51:s:80:A:OP2	1.96	0.49
51:s:602:A:O2'	51:s:603:U:H5'	2.12	0.49
51:s:734:G:H2'	51:s:735:C:C6	2.48	0.49
51:s:811:C:O2'	51:s:901:A:N1	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:1106:G:H2'	51:s:1107:C:H6	1.78	0.49
51:s:1287:A:N6	51:s:1288:A:N6	2.60	0.49
51:s:1435:G:H2'	51:s:1436:U:H6	1.76	0.49
52:t:1499:C:H2'	52:t:1500:G:H8	1.78	0.49
52:t:1631:G:H1'	52:t:1635:A:N6	2.28	0.49
52:t:1657:U:O2'	52:t:1658:C:H5'	2.13	0.49
54:v:415:GLY:HA2	54:v:457:TYR:CZ	2.48	0.49
1:A:26:MET:HE3	1:A:29:PHE:CE2	2.48	0.49
2:B:124:GLU:OE1	2:B:189:HIS:N	2.46	0.49
3:C:2:ARG:CZ	3:C:114:ARG:HD2	2.43	0.49
4:D:79:THR:OG1	4:D:80:LEU:N	2.41	0.49
8:H:5:TYR:CB	8:H:20:ILE:HB	2.42	0.49
8:H:25:GLY:O	8:H:27:ILE:HG13	2.11	0.49
8:H:27:ILE:HG12	8:H:62:LEU:HD21	1.94	0.49
8:H:98:ARG:HG3	8:H:103:VAL:CG2	2.39	0.49
9:I:35:GLN:HG2	9:I:77:VAL:HB	1.95	0.49
11:K:100:ALA:O	11:K:101:LEU:C	2.54	0.49
13:M:45:LEU:O	13:M:46:LYS:HG2	2.13	0.49
14:N:16:ARG:NH2	14:N:76:ARG:NH1	2.61	0.49
19:S:5:SER:C	19:S:7:LYS:H	2.20	0.49
21:U:64:VAL:HG11	21:U:66:PHE:CZ	2.48	0.49
21:U:236:GLY:O	21:U:237:ARG:C	2.55	0.49
22:V:5:VAL:HG21	22:V:80:TRP:CE3	2.48	0.49
22:V:14:ILE:HA	33:6:11:GLN:OE1	2.13	0.49
23:W:5:LEU:O	23:W:7:ASP:N	2.46	0.49
25:Y:10:VAL:HG23	25:Y:10:VAL:O	2.13	0.49
30:3:84:LYS:CA	52:t:2275:C:O2'	2.61	0.49
31:4:76:VAL:O	31:4:79:LEU:O	2.31	0.49
35:9:37:GLU:HG2	35:9:37:GLU:O	2.13	0.49
38:c:73:ASN:O	38:c:74:ALA:HB3	2.12	0.49
39:d:65:VAL:HG23	39:d:68:LYS:HB2	1.94	0.49
41:f:44:ARG:NH2	41:f:77:TYR:HE1	2.11	0.49
43:h:36:GLU:O	43:h:37:ARG:HD2	2.13	0.49
45:j:35:LEU:N	45:j:35:LEU:HD23	2.27	0.49
47:l:57:VAL:O	47:l:58:ILE:C	2.56	0.49
51:s:202:G:N2	51:s:216:U:O2	2.45	0.49
51:s:1021:A:C2'	51:s:1022:A:H5''	2.42	0.49
52:t:570:G:H2'	52:t:2030:A:N7	2.28	0.49
52:t:594:U:H2'	52:t:595:C:C6	2.48	0.49
52:t:1107:G:O2'	52:t:1108:U:H5'	2.12	0.49
52:t:2061:G:N7	52:t:2501:C:H1'	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2747:G:O6	52:t:2755:C:H5''	2.13	0.49
52:t:2868:A:O2'	52:t:2869:G:H5'	2.13	0.49
53:u:5:U:H2'	53:u:6:G:C8	2.48	0.49
54:v:194:GLN:HB2	54:v:205:ARG:HH12	1.76	0.49
3:C:31:CYS:O	3:C:32:LYS:CB	2.55	0.49
3:C:64:TYR:CE1	3:C:93:LEU:HD13	2.48	0.49
6:F:45:ALA:HB2	6:F:116:ALA:HA	1.95	0.49
7:G:94:VAL:HG23	7:G:101:ALA:HB2	1.95	0.49
9:I:62:ARG:NH1	51:s:1367:C:H5'	2.28	0.49
13:M:44:VAL:HG23	13:M:45:LEU:N	2.28	0.49
16:P:42:LYS:NZ	16:P:42:LYS:HB3	2.28	0.49
21:U:70:LYS:NZ	21:U:97:ASP:OD1	2.46	0.49
22:V:93:GLY:C	22:V:95:SER:H	2.21	0.49
23:W:187:VAL:O	23:W:188:MET:HB3	2.12	0.49
24:X:93:GLU:C	24:X:95:MET:N	2.69	0.49
26:Z:128:ILE:C	26:Z:130:GLY:N	2.71	0.49
27:0:18:VAL:HG13	27:0:140:LEU:CD1	2.43	0.49
28:1:115:ILE:HD12	28:1:115:ILE:N	2.28	0.49
29:2:54:GLN:OE1	52:t:825:A:H1'	2.13	0.49
30:3:73:ILE:HD12	30:3:93:VAL:HB	1.93	0.49
33:6:111:GLU:CD	33:6:111:GLU:N	2.71	0.49
35:9:2:TYR:CE2	35:9:13:ARG:HD2	2.48	0.49
36:a:13:SER:OG	36:a:16:LYS:HG3	2.13	0.49
39:d:81:PRO:HD3	39:d:87:GLN:HE21	1.78	0.49
44:i:9:ARG:HB2	44:i:12:ARG:HH21	1.71	0.49
44:i:38:LEU:HB2	44:i:41:HIS:HB2	1.95	0.49
45:j:8:ILE:CG2	45:j:51:ALA:HA	2.40	0.49
48:m:36:ARG:O	48:m:37:GLN:O	2.31	0.49
49:n:55:VAL:CG1	49:n:57:ASN:ND2	2.74	0.49
49:n:55:VAL:HB	49:n:57:ASN:HD21	1.78	0.49
49:n:57:ASN:C	49:n:59:LEU:N	2.71	0.49
49:n:143:MET:O	49:n:145:GLU:N	2.46	0.49
51:s:543:U:O2'	51:s:544:G:H5'	2.13	0.49
51:s:714:G:O2'	51:s:715:A:H5'	2.12	0.49
51:s:812:G:O2'	51:s:813:U:H6	1.96	0.49
51:s:915:A:OP1	56:z:6:5OH:CR	2.61	0.49
51:s:1234:C:O4'	51:s:1364:U:O2'	2.24	0.49
51:s:1436:U:H2'	51:s:1437:A:C8	2.48	0.49
52:t:31:C:H2'	52:t:32:C:C5'	2.41	0.49
52:t:643:A:H2'	52:t:644:A:H8	1.76	0.49
52:t:1212:G:H1'	52:t:1237:A:H62	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2497:A:H8	52:t:2497:A:OP2	1.96	0.49
1:A:14:HIS:O	1:A:15:PHE:C	2.56	0.48
2:B:123:LEU:CD2	2:B:129:PHE:HB3	2.43	0.48
4:D:147:ASN:HB3	7:G:72:GLU:OE2	2.13	0.48
6:F:23:ALA:O	6:F:26:VAL:N	2.46	0.48
10:J:93:GLU:O	10:J:95:THR:N	2.46	0.48
11:K:1:ALA:HB2	51:s:568:G:O6	2.12	0.48
12:L:2:ARG:O	12:L:3:ILE:O	2.31	0.48
17:Q:70:THR:OG1	17:Q:71:ASP:N	2.44	0.48
18:R:62:THR:CG2	18:R:63:ASP:H	2.10	0.48
21:U:77:VAL:HG13	21:U:77:VAL:O	2.12	0.48
21:U:170:TYR:HE2	21:U:184:GLU:CG	2.25	0.48
22:V:9:VAL:HG22	22:V:26:VAL:O	2.13	0.48
22:V:33:ARG:NH2	22:V:33:ARG:HG3	2.29	0.48
28:1:92:GLU:OE1	28:1:92:GLU:N	2.42	0.48
30:3:136:MET:HE2	39:d:57:TYR:HD2	1.78	0.48
34:8:63:ARG:NH2	34:8:96:ASP:CA	2.65	0.48
36:a:17:VAL:O	36:a:18:ARG:C	2.55	0.48
37:b:28:ASN:O	37:b:29:THR:O	2.31	0.48
38:c:65:GLN:HB2	38:c:68:ASN:HD21	1.75	0.48
39:d:25:LYS:HD3	39:d:43:ASP:HA	1.94	0.48
39:d:53:LYS:C	39:d:55:GLU:N	2.71	0.48
40:e:49:ASN:ND2	40:e:80:SER:HA	2.27	0.48
48:m:16:ILE:HA	48:m:24:ARG:O	2.13	0.48
49:n:138:ARG:HH22	50:p:15:SER:HB2	1.77	0.48
51:s:34:C:H2'	51:s:35:G:C8	2.48	0.48
51:s:148:G:H1	51:s:174:A:H61	1.61	0.48
51:s:252:U:O4	51:s:253:A:N6	2.45	0.48
51:s:429:U:H3	51:s:431:A:N6	2.05	0.48
51:s:451:A:N6	51:s:481:G:C4	2.81	0.48
51:s:642:A:C6	51:s:643:C:N3	2.81	0.48
51:s:738:C:H2'	51:s:739:C:C5	2.47	0.48
51:s:738:C:C2	51:s:739:C:C5	3.01	0.48
51:s:1061:G:H2'	51:s:1062:U:O4'	2.13	0.48
51:s:1166:G:N1	51:s:1169:A:OP2	2.45	0.48
51:s:1374:A:H2'	51:s:1375:A:H8	1.77	0.48
52:t:763:G:C2'	52:t:764:A:H5''	2.42	0.48
52:t:818:G:OP2	52:t:1187:G:O6	2.31	0.48
52:t:999:U:H5''	52:t:1154:G:O6	2.13	0.48
52:t:1384:A:H1'	52:t:1405:U:H1'	1.95	0.48
52:t:1734:G:H2'	52:t:1735:A:H8	1.76	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1838:C:O2	52:t:1901:A:N6	2.46	0.48
52:t:2575:C:O2'	52:t:2578:G:N7	2.47	0.48
52:t:2833:U:O2'	52:t:2834:G:OP1	2.31	0.48
1:A:27:LYS:N	1:A:28:PRO:CD	2.76	0.48
3:C:8:LEU:HD23	51:s:430:A:OP1	2.12	0.48
5:E:38:ARG:NH2	5:E:63:ASN:ND2	2.61	0.48
8:H:48:ARG:HE	8:H:52:GLU:CA	2.26	0.48
9:I:42:LEU:CD1	9:I:71:LEU:HB3	2.43	0.48
10:J:22:ILE:H	10:J:22:ILE:CD1	2.26	0.48
11:K:8:ARG:O	11:K:10:PRO:N	2.46	0.48
11:K:29:LYS:O	11:K:80:LEU:HD12	2.13	0.48
13:M:24:ALA:C	13:M:26:LEU:H	2.20	0.48
13:M:66:THR:OG1	13:M:67:GLY:N	2.46	0.48
15:O:39:PHE:CD2	15:O:41:PRO:HD3	2.48	0.48
15:O:50:THR:HG22	15:O:52:LEU:CD1	2.43	0.48
16:P:51:GLU:OE1	16:P:51:GLU:N	2.36	0.48
19:S:2:ASN:O	19:S:3:ILE:C	2.56	0.48
19:S:53:MET:HE3	19:S:57:VAL:HG21	1.95	0.48
21:U:59:GLN:HG2	21:U:84:PRO:HB3	1.95	0.48
22:V:21:SER:CB	28:1:73:ASP:HA	2.43	0.48
23:W:46:GLN:HG3	23:W:87:ALA:N	2.27	0.48
23:W:84:THR:HG23	52:t:672:C:H4'	1.95	0.48
24:X:134:GLN:HB2	24:X:137:PHE:HD2	1.77	0.48
26:Z:35:MET:SD	26:Z:35:MET:O	2.71	0.48
27:0:39:LYS:HE2	52:t:1007:C:P	2.53	0.48
28:1:1:MET:HE2	28:1:32:TYR:CE1	2.48	0.48
28:1:2:ILE:O	28:1:3:GLN:O	2.32	0.48
34:8:91:ARG:HE	34:8:93:ILE:HG23	1.78	0.48
36:a:33:LEU:CD2	36:a:51:LEU:HD23	2.41	0.48
38:c:5:ARG:O	38:c:6:ARG:C	2.55	0.48
43:h:24:LEU:C	43:h:24:LEU:CD2	2.87	0.48
49:n:136:ILE:HG13	49:n:139:LEU:CD1	2.42	0.48
51:s:484:G:O2'	51:s:485:U:OP2	2.31	0.48
51:s:540:G:C2	51:s:541:G:C4	3.01	0.48
51:s:669:G:O2'	51:s:670:G:H5'	2.13	0.48
52:t:192:C:H2'	52:t:193:U:H5'	1.95	0.48
52:t:500:G:H22	52:t:502:A:H3'	1.76	0.48
52:t:1247:A:O2'	52:t:1248:G:P	2.71	0.48
52:t:1363:C:O2'	52:t:1364:G:H5'	2.13	0.48
52:t:1506:U:H2'	52:t:1507:C:C5	2.48	0.48
52:t:1654:A:H2'	52:t:1655:A:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1783:A:N1	52:t:2587:A:H2'	2.27	0.48
52:t:2033:A:O2'	52:t:2034:U:O5'	2.31	0.48
52:t:2326:C:C6	52:t:2326:C:C3'	2.96	0.48
52:t:2489:U:O2'	52:t:2518:A:N6	2.46	0.48
52:t:2601:C:C2	52:t:2603:G:N7	2.81	0.48
54:v:94:ASP:HB3	54:v:443:VAL:H	1.77	0.48
3:C:66:VAL:HG12	3:C:67:LEU:N	2.28	0.48
3:C:197:HIS:O	3:C:201:GLU:HG3	2.12	0.48
10:J:17:ASP:HA	10:J:80:ASN:O	2.13	0.48
12:L:91:ARG:HG2	12:L:91:ARG:O	2.12	0.48
18:R:59:VAL:HG12	18:R:60:PHE:N	2.27	0.48
21:U:50:THR:HG22	21:U:53:ILE:HG13	1.95	0.48
21:U:61:TYR:HA	21:U:85:ASN:ND2	2.28	0.48
21:U:216:ARG:NH2	52:t:781:A:OP1	2.45	0.48
22:V:4:LEU:N	22:V:4:LEU:CD1	2.76	0.48
22:V:120:GLY:O	22:V:121:THR:C	2.56	0.48
23:W:69:ARG:HB3	52:t:674:G:H4'	1.94	0.48
26:Z:101:SER:CA	26:Z:139:VAL:HG23	2.39	0.48
27:0:43:GLU:O	27:0:45:THR:CG2	2.62	0.48
27:0:65:THR:HG22	27:0:68:LYS:HE3	1.95	0.48
29:2:29:LYS:C	29:2:31:GLY:N	2.63	0.48
30:3:39:GLY:H	30:3:96:ILE:HD13	1.78	0.48
30:3:64:TRP:HB2	30:3:104:GLU:HB2	1.93	0.48
31:4:27:SER:HB3	31:4:34:ILE:HG21	1.94	0.48
31:4:32:GLU:C	31:4:33:ILE:HG13	2.38	0.48
32:5:34:HIS:CD2	32:5:53:THR:O	2.66	0.48
34:8:71:ASN:OD1	34:8:106:THR:HG23	2.13	0.48
38:c:51:LEU:O	38:c:52:ASN:HB3	2.11	0.48
38:c:65:GLN:O	38:c:68:ASN:HB2	2.12	0.48
41:f:20:ALA:O	41:f:21:LEU:HB2	2.13	0.48
42:g:2:LYS:HG2	52:t:102:U:O2	2.14	0.48
44:i:24:VAL:C	44:i:26:SER:N	2.71	0.48
51:s:12:U:H2'	51:s:13:U:H5''	1.95	0.48
51:s:628:G:H2'	51:s:629:A:C8	2.48	0.48
51:s:643:C:O2'	51:s:644:U:H5'	2.13	0.48
51:s:711:G:H2'	51:s:712:A:C8	2.48	0.48
51:s:927:G:N2	51:s:1391:U:H1'	2.29	0.48
51:s:1058:G:H2'	51:s:1059:C:H6	1.79	0.48
51:s:1208:C:H2'	51:s:1209:C:C6	2.49	0.48
52:t:108:G:HO2'	52:t:109:C:H5'	1.77	0.48
52:t:689:A:O2'	52:t:690:G:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:802:A:C5	52:t:803:U:C4	3.01	0.48
52:t:900:A:H2'	52:t:900:A:N3	2.29	0.48
52:t:1142:A:O2'	52:t:1143:A:C3'	2.51	0.48
52:t:1169:A:O2'	52:t:1170:C:H5'	2.13	0.48
52:t:1181:U:H2'	52:t:1182:G:H8	1.77	0.48
52:t:1269:A:H2'	52:t:1270:C:C6	2.47	0.48
52:t:1722:A:O5'	52:t:1722:A:H8	1.96	0.48
52:t:1913:A:O2'	52:t:1914:C:P	2.72	0.48
52:t:2533:U:H2'	52:t:2534:A:H5'	1.94	0.48
53:u:17:C:C2'	53:u:18:G:H5'	2.42	0.48
54:v:16:PHE:CZ	54:v:276:ALA:HB1	2.48	0.48
54:v:117:LYS:O	54:v:149:ARG:NH2	2.46	0.48
54:v:300:VAL:HG13	54:v:316:ALA:HB1	1.96	0.48
1:A:153:MET:SD	1:A:157:PRO:CG	2.97	0.48
1:A:221:ARG:H	1:A:221:ARG:CZ	2.26	0.48
3:C:149:LYS:O	3:C:150:LYS:O	2.31	0.48
9:I:80:THR:O	9:I:83:THR:HG22	2.13	0.48
10:J:30:ILE:HD13	10:J:30:ILE:C	2.38	0.48
10:J:60:PHE:CE2	10:J:64:VAL:HG11	2.48	0.48
11:K:14:LYS:O	11:K:14:LYS:HE2	2.13	0.48
12:L:84:CYS:HB2	18:R:72:GLU:CB	2.43	0.48
13:M:58:ARG:HH21	51:s:980:C:H5'	1.79	0.48
14:N:2:LEU:O	14:N:3:SER:C	2.56	0.48
15:O:4:ILE:HD12	15:O:4:ILE:N	2.29	0.48
19:S:75:LYS:CD	51:s:186:C:O4'	2.61	0.48
21:U:124:LYS:HG3	21:U:125:PRO:HD2	1.95	0.48
23:W:95:LYS:HD2	52:t:659:G:O5'	2.14	0.48
27:O:123:LYS:N	27:O:123:LYS:HD2	2.28	0.48
29:2:82:LEU:C	29:2:84:LYS:N	2.72	0.48
36:a:24:ILE:HD11	36:a:36:LEU:HD13	1.96	0.48
40:e:50:VAL:HB	40:e:61:LYS:HD2	1.95	0.48
43:h:12:ALA:HA	43:h:15:ARG:HD3	1.95	0.48
45:j:5:ARG:HH12	45:j:23:THR:C	2.22	0.48
48:m:19:ARG:HG2	52:t:2756:U:OP2	2.14	0.48
49:n:19:ALA:HB2	49:n:69:PHE:CD1	2.48	0.48
51:s:838:G:H8	51:s:838:G:O5'	1.95	0.48
51:s:927:G:H4'	51:s:1503:A:N7	2.28	0.48
51:s:975:A:N3	51:s:1357:A:C2	2.82	0.48
51:s:1256:A:H1'	51:s:1258:G:N7	2.28	0.48
51:s:1371:G:N3	51:s:1371:G:H2'	2.29	0.48
52:t:182:A:H2	52:t:433:C:O2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:771:G:C4	52:t:772:C:H5	2.30	0.48
52:t:899:A:O2'	52:t:900:A:O4'	2.27	0.48
52:t:913:U:H4'	52:t:914:G:OP1	2.13	0.48
52:t:1109:C:C4	52:t:1110:G:N2	2.81	0.48
52:t:1232:G:C5	52:t:1233:C:C5	3.02	0.48
52:t:1484:U:H2'	52:t:1485:U:H6	1.74	0.48
52:t:1818:U:C2'	52:t:1819:A:OP2	2.61	0.48
52:t:2103:C:O2'	52:t:2104:C:P	2.72	0.48
52:t:2233:U:H2'	52:t:2234:G:C8	2.49	0.48
52:t:2734:A:C2'	52:t:2735:G:H5'	2.43	0.48
1:A:30:ILE:HD11	1:A:38:HIS:HB2	1.96	0.48
1:A:89:PHE:CE1	1:A:153:MET:HG3	2.48	0.48
7:G:6:ILE:CD1	7:G:31:LEU:HD23	2.44	0.48
8:H:117:LEU:HD23	8:H:117:LEU:N	2.28	0.48
18:R:54:ARG:CG	18:R:55:GLN:H	2.16	0.48
22:V:4:LEU:HD21	22:V:97:SER:O	2.14	0.48
26:Z:57:VAL:HG12	26:Z:58:ILE:H	1.78	0.48
27:0:80:HIS:O	27:0:81:ILE:C	2.56	0.48
28:1:54:LYS:C	28:1:56:ASP:H	2.21	0.48
28:1:61:VAL:HG22	28:1:87:LEU:HD11	1.96	0.48
29:2:56:PRO:HB3	29:2:58:TYR:CE2	2.48	0.48
32:5:72:ALA:HA	32:5:106:LEU:HA	1.94	0.48
33:6:87:ARG:NH2	33:6:109:ILE:O	2.44	0.48
37:b:39:THR:O	37:b:39:THR:CG2	2.51	0.48
37:b:93:LEU:HD22	37:b:93:LEU:N	2.28	0.48
40:e:28:GLU:N	40:e:31:LEU:HD11	2.22	0.48
49:n:54:VAL:HB	49:n:85:LEU:HD13	1.96	0.48
51:s:250:A:O2'	51:s:251:G:P	2.72	0.48
51:s:495:A:C2	51:s:496:A:N6	2.81	0.48
51:s:1053:G:C6	51:s:1199:U:H2'	2.46	0.48
51:s:1073:U:H2'	51:s:1074:G:C8	2.47	0.48
51:s:1091:U:H2'	51:s:1093:A:OP2	2.13	0.48
51:s:1232:U:H2'	51:s:1233:G:O4'	2.13	0.48
52:t:615:U:C4'	52:t:616:A:OP2	2.61	0.48
52:t:943:A:C2'	52:t:944:C:H5'	2.42	0.48
52:t:1232:G:C6	52:t:1233:C:C4	3.01	0.48
52:t:2188:U:H2'	52:t:2189:U:O4'	2.14	0.48
54:v:419:LEU:HD12	54:v:452:ARG:NH2	2.27	0.48
54:v:448:VAL:HG13	54:v:452:ARG:NH2	2.28	0.48
2:B:120:THR:OG1	2:B:188:ALA:HB2	2.13	0.48
3:C:33:ILE:O	3:C:34:GLU:CB	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:142:VAL:O	3:C:143:SER:CB	2.62	0.48
3:C:163:GLN:O	3:C:163:GLN:HG2	2.12	0.48
3:C:176:LYS:HG2	3:C:178:GLU:CD	2.38	0.48
4:D:110:MET:HE1	4:D:124:ALA:CB	2.42	0.48
5:E:72:ASP:C	5:E:74:LEU:N	2.69	0.48
6:F:41:ILE:O	6:F:41:ILE:HG22	2.14	0.48
6:F:77:ARG:HG2	6:F:77:ARG:NH1	2.29	0.48
7:G:74:ILE:O	7:G:74:ILE:HG23	2.13	0.48
8:H:24:ASN:CB	8:H:26:LYS:HE3	2.40	0.48
9:I:50:THR:CG2	9:I:64:GLN:HE21	2.27	0.48
11:K:2:THR:HG22	11:K:3:VAL:N	2.28	0.48
11:K:99:GLY:HA2	11:K:103:CYS:O	2.14	0.48
11:K:107:LYS:O	11:K:108:ASP:HB2	2.13	0.48
12:L:23:GLY:HA2	51:s:1329:A:O2'	2.14	0.48
12:L:90:HIS:HD1	12:L:108:ARG:HH21	1.61	0.48
13:M:50:LEU:O	13:M:51:PRO:C	2.57	0.48
15:O:19:VAL:HG13	15:O:36:VAL:C	2.39	0.48
21:U:44:ASN:OD1	21:U:45:ASN:N	2.47	0.48
22:V:4:LEU:O	22:V:82:PHE:HZ	1.96	0.48
23:W:61:ARG:HH12	23:W:64:GLY:HA3	1.79	0.48
24:X:35:LEU:HD11	24:X:88:VAL:HB	1.95	0.48
24:X:134:GLN:H	24:X:134:GLN:CD	2.21	0.48
30:3:133:LYS:O	30:3:134:THR:O	2.30	0.48
31:4:118:ARG:O	31:4:119:SER:HB3	2.12	0.48
33:6:5:LYS:N	33:6:8:GLU:HG3	2.20	0.48
33:6:26:GLU:HG2	33:6:28:LYS:NZ	2.28	0.48
35:9:38:VAL:O	35:9:53:PHE:HA	2.13	0.48
35:9:90:ARG:O	35:9:91:GLN:CB	2.62	0.48
36:a:4:ILE:CG2	36:a:106:VAL:HG22	2.44	0.48
41:f:76:LYS:HG3	41:f:77:TYR:N	2.28	0.48
49:n:71:CYS:SG	49:n:117:LEU:HD11	2.54	0.48
49:n:123:ILE:O	49:n:124:ASP:CB	2.61	0.48
51:s:355:C:N4	51:s:356:A:H62	2.10	0.48
51:s:707:U:H2'	51:s:708:C:C6	2.49	0.48
51:s:843:U:OP1	51:s:846:G:N2	2.46	0.48
51:s:949:A:H61	51:s:1232:U:H3	1.61	0.48
51:s:1058:G:H2'	51:s:1059:C:C6	2.49	0.48
51:s:1058:G:O2'	51:s:1059:C:H5'	2.13	0.48
51:s:1150:A:N6	51:s:1151:A:N6	2.62	0.48
51:s:1288:A:N3	51:s:1352:C:O2'	2.45	0.48
52:t:271:G:O2'	52:t:272:A:C5'	2.62	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:317:G:C2	52:t:318:C:C2	3.02	0.48
52:t:348:A:H2'	52:t:349:U:O4'	2.14	0.48
52:t:499:U:H2'	52:t:500:G:C8	2.49	0.48
52:t:519:U:H2'	52:t:520:G:C8	2.48	0.48
52:t:612:G:N2	52:t:616:A:H62	2.12	0.48
52:t:629:G:C4'	52:t:638:G:N2	2.76	0.48
52:t:900:A:N3	52:t:901:C:H5'	2.28	0.48
52:t:1042:G:C2'	52:t:1043:C:H5'	2.43	0.48
52:t:1394:U:H4'	52:t:1603:A:H4'	1.96	0.48
52:t:1845:G:O2'	52:t:1846:G:H5'	2.13	0.48
53:u:65:U:H3'	53:u:108:A:H61	1.79	0.48
54:v:71:THR:HG22	54:v:72:THR:N	2.28	0.48
54:v:279:PRO:HG3	54:v:362:GLY:HA3	1.96	0.48
54:v:448:VAL:HG22	54:v:452:ARG:HH21	1.79	0.48
1:A:8:MET:O	1:A:10:LYS:HG3	2.14	0.48
2:B:9:ILE:HG13	13:M:97:LYS:HD3	1.95	0.48
3:C:1:ALA:N	51:s:405:U:O4	2.46	0.48
4:D:96:GLN:OE1	4:D:97:PRO:HD2	2.13	0.48
8:H:79:ARG:HG3	8:H:79:ARG:HH11	1.77	0.48
16:P:16:MET:HG3	16:P:19:SER:C	2.39	0.48
18:R:33:TRP:CD1	18:R:51:HIS:HB3	2.49	0.48
19:S:82:ILE:O	19:S:86:ALA:HB3	2.14	0.48
20:T:40:PRO:O	20:T:44:ARG:HB2	2.14	0.48
21:U:27:LYS:HG3	21:U:28:PRO:HD2	1.96	0.48
22:V:2:ILE:C	22:V:2:ILE:HD12	2.39	0.48
22:V:43:ASP:HB2	52:t:2784:U:H5'	1.95	0.48
22:V:47:ALA:HA	22:V:84:LEU:HG	1.95	0.48
23:W:97:ASN:O	23:W:98:LYS:C	2.57	0.48
24:X:47:LYS:NZ	24:X:47:LYS:HB3	2.28	0.48
24:X:87:LYS:HD3	52:t:2313:C:H4'	1.96	0.48
26:Z:102:ARG:HB2	26:Z:141:ASP:CG	2.38	0.48
28:1:19:VAL:CG2	28:1:41:ILE:CG1	2.92	0.48
31:4:85:PRO:HG2	31:4:86:ARG:H	1.78	0.48
35:9:49:ILE:HB	35:9:51:VAL:O	2.14	0.48
35:9:54:VAL:O	35:9:55:ASP:C	2.56	0.48
40:e:23:LYS:HE2	52:t:923:G:C2	2.48	0.48
40:e:76:ARG:HB3	40:e:78:PHE:CE2	2.49	0.48
41:f:6:VAL:HG11	41:f:58:ILE:HD11	1.95	0.48
41:f:66:VAL:O	41:f:69:GLU:HB2	2.13	0.48
43:h:11:SER:HB3	52:t:988:A:OP2	2.14	0.48
49:n:111:ALA:HB1	49:n:114:GLU:OE1	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:144:LYS:HD3	49:n:147:SER:CB	2.44	0.48
51:s:95:C:O2	51:s:95:C:H2'	2.13	0.48
51:s:969:A:H2'	51:s:970:C:H6	1.77	0.48
51:s:1248:A:N6	51:s:1249:C:N4	2.61	0.48
52:t:458:G:H2'	52:t:459:U:OP2	2.14	0.48
52:t:543:G:N2	52:t:551:G:H1'	2.29	0.48
52:t:692:C:O2'	52:t:693:A:H5'	2.12	0.48
52:t:1231:U:H2'	52:t:1232:G:H8	1.79	0.48
52:t:1312:U:O2'	52:t:1314:C:C5	2.67	0.48
52:t:1565:C:O2'	52:t:1566:A:H2'	2.13	0.48
52:t:1619:G:O2'	52:t:1620:G:H5'	2.14	0.48
52:t:1774:C:H6	52:t:1774:C:O5'	1.97	0.48
52:t:1796:U:H2'	52:t:1797:G:C8	2.48	0.48
52:t:2076:U:O2	52:t:2076:U:O4'	2.31	0.48
52:t:2090:A:C5	52:t:2091:C:C5	3.02	0.48
52:t:2200:C:H2'	52:t:2201:G:H8	1.78	0.48
52:t:2345:G:O2'	52:t:2381:A:O2'	2.20	0.48
52:t:2418:A:H2'	52:t:2419:U:O4'	2.13	0.48
52:t:2791:G:O4'	52:t:2791:G:OP2	2.32	0.48
52:t:2849:U:O2	52:t:2867:G:N3	2.47	0.48
54:v:500:ASN:HB2	54:v:501:LEU:CG	2.42	0.48
1:A:14:HIS:O	1:A:16:GLY:N	2.46	0.48
1:A:35:ASN:O	1:A:36:LYS:HB2	2.14	0.48
1:A:114:LYS:O	1:A:116:LEU:N	2.46	0.48
1:A:132:GLU:HG2	1:A:136:ARG:HG3	1.96	0.48
1:A:165:ALA:HB2	1:A:186:VAL:HG12	1.96	0.48
2:B:106:ARG:O	2:B:107:LYS:HB2	2.13	0.48
2:B:122:GLN:C	2:B:127:VAL:HG22	2.38	0.48
4:D:89:THR:HG22	4:D:90:GLY:H	1.77	0.48
4:D:106:ALA:CB	4:D:124:ALA:HB3	2.42	0.48
6:F:59:GLU:C	6:F:61:PHE:N	2.71	0.48
8:H:18:VAL:HG13	8:H:64:ILE:CD1	2.43	0.48
8:H:80:HIS:CE1	8:H:105:ARG:HG2	2.49	0.48
10:J:69:CYS:O	10:J:70:ALA:C	2.56	0.48
13:M:13:VAL:HG22	13:M:59:GLN:NE2	2.28	0.48
15:O:53:ASP:O	15:O:56:ARG:HB2	2.13	0.48
17:Q:39:VAL:CG1	17:Q:40:PRO:HD2	2.43	0.48
17:Q:63:TYR:CD1	51:s:673:A:H1'	2.49	0.48
19:S:7:LYS:C	19:S:9:ARG:H	2.20	0.48
19:S:80:ALA:O	19:S:84:LYS:HB2	2.14	0.48
20:T:3:ILE:HG23	20:T:19:LYS:HZ3	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:239:PHE:O	52:t:2597:G:H5''	2.13	0.48
22:V:174:SER:O	22:V:175:LEU:CB	2.61	0.48
24:X:73:VAL:CG2	24:X:76:PHE:HB2	2.43	0.48
25:Y:13:GLY:O	25:Y:14:VAL:C	2.55	0.48
25:Y:72:ASN:O	25:Y:76:ILE:HG22	2.14	0.48
26:Z:100:ILE:HG21	26:Z:105:LEU:HG	1.95	0.48
30:3:14:LYS:NZ	30:3:14:LYS:HB3	2.29	0.48
31:4:58:ASP:HA	31:4:80:PHE:CE1	2.48	0.48
35:9:39:LEU:O	35:9:40:MET:CB	2.59	0.48
36:a:41:LYS:O	36:a:42:LYS:C	2.56	0.48
37:b:66:LYS:O	37:b:76:ARG:HG3	2.14	0.48
38:c:44:HIS:HD1	38:c:44:HIS:H	1.62	0.48
39:d:68:LYS:O	39:d:69:GLU:O	2.31	0.48
40:e:19:ARG:CZ	40:e:22:VAL:HG11	2.43	0.48
41:f:44:ARG:HH22	41:f:77:TYR:HE1	1.61	0.48
41:f:54:GLY:O	41:f:57:VAL:HB	2.14	0.48
46:k:16:HIS:HA	46:k:21:ARG:NH1	2.28	0.48
51:s:322:C:O2	51:s:332:G:N2	2.47	0.48
51:s:324:G:O5'	51:s:324:G:H8	1.97	0.48
51:s:459:A:H8	51:s:459:A:OP2	1.96	0.48
51:s:712:A:O2'	51:s:713:G:H5'	2.13	0.48
51:s:798:U:H2'	51:s:799:G:O4'	2.14	0.48
51:s:968:A:H2	51:s:1061:G:N2	2.09	0.48
51:s:999:C:O5'	51:s:999:C:H6	1.96	0.48
51:s:1126:U:C6	51:s:1281:C:C2	3.02	0.48
51:s:1350:A:N6	51:s:1373:G:H21	2.12	0.48
51:s:1353:G:O2'	51:s:1354:U:H5'	2.14	0.48
52:t:655:A:H4'	52:t:656:G:O5'	2.12	0.48
52:t:1061:U:H1'	52:t:1070:A:C1'	2.33	0.48
52:t:2229:U:H2'	52:t:2230:G:C8	2.48	0.48
52:t:2528:U:O2'	52:t:2529:G:H3'	2.14	0.48
52:t:2736:A:H2'	52:t:2737:G:C8	2.48	0.48
52:t:2760:C:O2	52:t:2760:C:H2'	2.13	0.48
52:t:2835:A:H62	52:t:2878:U:H3'	1.77	0.48
1:A:160:LEU:HD12	1:A:161:PHE:N	2.28	0.48
1:A:182:VAL:HG11	1:A:195:VAL:HG22	1.95	0.48
2:B:135:ARG:HA	2:B:135:ARG:NE	2.17	0.48
2:B:178:ARG:HG2	51:s:1112:C:O2	2.14	0.48
3:C:16:THR:CG2	3:C:17:ASP:H	2.27	0.48
3:C:127:ARG:HD3	3:C:127:ARG:N	2.21	0.48
4:D:107:GLY:HA3	51:s:9:G:H5'	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:74:VAL:HG12	9:I:75:ASP:N	2.27	0.48
11:K:22:ALA:HB1	11:K:56:LEU:CD1	2.44	0.48
14:N:24:THR:C	14:N:26:VAL:H	2.21	0.48
15:O:44:SER:O	15:O:46:LYS:N	2.46	0.48
16:P:18:LYS:C	16:P:47:ASP:OD2	2.56	0.48
17:Q:28:LEU:N	17:Q:28:LEU:HD12	2.28	0.48
19:S:54:GLN:OE1	51:s:192:A:H2'	2.14	0.48
21:U:24:HIS:CD2	21:U:79:ARG:NH2	2.82	0.48
21:U:30:ALA:HB3	21:U:31:PRO:CD	2.44	0.48
24:X:135:ILE:C	24:X:137:PHE:N	2.71	0.48
26:Z:132:ALA:O	26:Z:137:LEU:HD12	2.13	0.48
27:O:23:LYS:C	27:O:63:ALA:HB3	2.38	0.48
28:1:116:ILE:C	28:1:116:ILE:HD12	2.39	0.48
29:2:51:GLU:OE1	29:2:56:PRO:HA	2.13	0.48
29:2:77:ILE:O	29:2:110:VAL:O	2.31	0.48
30:3:26:VAL:HG12	30:3:104:GLU:OE2	2.14	0.48
30:3:71:LYS:HB3	30:3:93:VAL:HG12	1.96	0.48
30:3:120:ALA:O	30:3:121:ALA:C	2.56	0.48
34:8:86:SER:O	34:8:87:VAL:C	2.57	0.48
35:9:49:ILE:HG22	35:9:54:VAL:N	2.29	0.48
37:b:24:MET:HG3	37:b:29:THR:CG2	2.44	0.48
37:b:85:VAL:O	37:b:86:THR:O	2.32	0.48
40:e:41:GLY:O	40:e:42:THR:C	2.57	0.48
47:l:30:HIS:O	47:l:31:ILE:C	2.57	0.48
49:n:74:ASP:C	49:n:76:PHE:N	2.70	0.48
49:n:102:ALA:O	49:n:107:GLU:OE1	2.32	0.48
49:n:135:ALA:C	49:n:137:ALA:H	2.22	0.48
49:n:142:THR:O	49:n:145:GLU:N	2.44	0.48
51:s:243:A:C4'	51:s:244:U:O5'	2.61	0.48
51:s:429:U:O2'	51:s:430:A:C5'	2.55	0.48
51:s:433:G:O2'	51:s:434:U:H5'	2.14	0.48
51:s:545:C:C2'	51:s:546:A:H5'	2.44	0.48
51:s:654:G:N2	51:s:753:A:H1'	2.29	0.48
51:s:659:U:H2'	51:s:660:C:C6	2.49	0.48
51:s:735:C:H2'	51:s:736:C:H6	1.79	0.48
51:s:779:C:H2'	51:s:780:A:O4'	2.13	0.48
51:s:1045:C:C5	51:s:1046:A:N7	2.82	0.48
51:s:1053:G:N7	51:s:1199:U:H3'	2.28	0.48
51:s:1102:A:H2'	51:s:1103:C:H6	1.79	0.48
51:s:1111:A:H2'	51:s:1112:C:C6	2.49	0.48
51:s:1225:A:H3'	51:s:1226:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:360:U:O5'	52:t:360:U:H6	1.96	0.48
52:t:445:C:H2'	52:t:446:G:O4'	2.13	0.48
52:t:1103:A:H5'	52:t:1104:C:OP2	2.13	0.48
52:t:1125:G:C6	52:t:1126:A:N6	2.82	0.48
52:t:1893:C:C5	52:t:1894:C:C5	3.02	0.48
52:t:2320:U:O2'	52:t:2322:A:C8	2.66	0.48
52:t:2765:A:H3'	52:t:2765:A:N3	2.29	0.48
54:v:96:SER:HA	54:v:97:GLU:CB	2.43	0.48
1:A:57:ASN:C	1:A:59:ILE:N	2.72	0.48
1:A:114:LYS:C	1:A:116:LEU:N	2.72	0.48
1:A:141:GLU:H	1:A:141:GLU:CD	2.22	0.48
2:B:86:LEU:C	2:B:90:VAL:HG23	2.38	0.48
3:C:5:GLY:O	3:C:7:LYS:N	2.46	0.48
6:F:9:ARG:NH2	51:s:1346:A:N7	2.62	0.48
6:F:62:GLU:O	6:F:65:LEU:HB3	2.14	0.48
8:H:10:ARG:HG3	8:H:105:ARG:NH2	2.29	0.48
8:H:12:LYS:HG2	8:H:12:LYS:O	2.13	0.48
8:H:55:ASP:O	8:H:59:LYS:HE3	2.14	0.48
8:H:98:ARG:HH11	8:H:98:ARG:CG	2.27	0.48
9:I:85:ASP:C	9:I:87:LEU:N	2.71	0.48
11:K:89:LEU:HD22	11:K:89:LEU:N	2.29	0.48
12:L:63:VAL:HG11	12:L:71:GLU:HG3	1.96	0.48
12:L:102:LYS:HB2	51:s:1226:C:N4	2.29	0.48
13:M:92:ILE:O	13:M:95:LEU:HB3	2.14	0.48
15:O:39:PHE:HE2	15:O:41:PRO:HB3	1.79	0.48
16:P:15:LYS:HG2	51:s:275:G:OP1	2.14	0.48
21:U:155:ARG:NH1	52:t:1818:U:C5	2.79	0.48
21:U:155:ARG:HH12	52:t:1818:U:H5	1.56	0.48
22:V:15:PHE:CD2	33:6:78:PRO:HD3	2.49	0.48
24:X:12:VAL:O	24:X:16:MET:HB2	2.14	0.48
24:X:65:LEU:HB3	24:X:87:LYS:O	2.14	0.48
26:Z:89:SER:O	26:Z:91:LYS:N	2.46	0.48
30:3:47:GLU:OE1	30:3:47:GLU:HA	2.13	0.48
31:4:30:ARG:HG2	31:4:31:HIS:CE1	2.48	0.48
31:4:100:CYS:O	31:4:101:GLY:O	2.31	0.48
32:5:58:ILE:C	32:5:60:GLU:H	2.22	0.48
33:6:85:VAL:O	33:6:87:ARG:N	2.43	0.48
33:6:92:ARG:HG3	33:6:92:ARG:O	2.13	0.48
34:8:30:VAL:HG11	52:t:580:U:O3'	2.14	0.48
34:8:110:GLU:C	34:8:112:ALA:N	2.69	0.48
35:9:29:THR:CG2	35:9:65:ALA:HA	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:b:22:THR:C	37:b:25:GLU:H	2.22	0.48
39:d:40:ILE:HG22	39:d:41:GLU:N	2.29	0.48
40:e:35:ILE:O	40:e:36:ILE:C	2.55	0.48
43:h:16:LEU:O	43:h:19:HIS:HB2	2.14	0.48
43:h:30:ARG:HE	43:h:30:ARG:HB2	1.56	0.48
43:h:35:VAL:HG21	43:h:37:ARG:NH1	2.29	0.48
46:k:13:ASN:O	46:k:17:GLY:N	2.44	0.48
49:n:51:TYR:HB2	49:n:89:PRO:CG	2.44	0.48
49:n:136:ILE:HA	49:n:139:LEU:CD1	2.44	0.48
50:o:2:ILE:O	50:o:4:LYS:N	2.47	0.48
51:s:202:G:O6	51:s:215:C:N3	2.46	0.48
51:s:541:G:H2'	51:s:542:G:C8	2.47	0.48
51:s:606:G:N2	51:s:631:C:C6	2.82	0.48
51:s:892:A:O2'	51:s:1415:G:H4'	2.13	0.48
51:s:1324:A:H4'	51:s:1362:A:O3'	2.13	0.48
52:t:193:U:C2	52:t:194:G:C8	3.02	0.48
52:t:373:U:H2'	52:t:374:A:H8	1.79	0.48
52:t:2082:A:H2'	52:t:2083:G:O4'	2.13	0.48
52:t:2225:A:H5'	52:t:2226:C:O4'	2.13	0.48
52:t:2391:G:O6	52:t:2425:A:H8	1.96	0.48
2:B:107:LYS:HD2	2:B:143:LEU:HD12	1.96	0.47
3:C:112:GLU:HG3	51:s:407:U:O2'	2.14	0.47
3:C:164:ARG:HG2	3:C:165:GLU:H	1.79	0.47
5:E:59:TYR:O	5:E:60:VAL:HG23	2.13	0.47
6:F:101:ARG:NH1	6:F:101:ARG:HB3	2.29	0.47
8:H:11:ARG:HG3	8:H:11:ARG:HH11	1.79	0.47
11:K:3:VAL:O	11:K:6:LEU:N	2.47	0.47
13:M:12:ARG:HD3	13:M:58:ARG:HG3	1.96	0.47
14:N:54:GLY:O	14:N:57:ARG:HB3	2.14	0.47
15:O:20:VAL:HG21	15:O:32:PHE:CB	2.44	0.47
17:Q:24:ASP:C	17:Q:26:ALA:N	2.69	0.47
17:Q:42:ARG:HG3	17:Q:43:ILE:HG13	1.95	0.47
21:U:206:LYS:O	21:U:207:ALA:C	2.56	0.47
21:U:247:TRP:CZ2	52:t:1805:A:H4'	2.48	0.47
22:V:125:TRP:O	22:V:126:ASN:HB2	2.14	0.47
22:V:158:GLY:O	22:V:159:LYS:C	2.56	0.47
25:Y:101:VAL:O	25:Y:101:VAL:HG22	2.14	0.47
25:Y:117:PRO:HD2	25:Y:120:ILE:HG22	1.95	0.47
27:O:69:ARG:HB2	27:O:69:ARG:HH11	1.77	0.47
29:2:93:ASN:C	29:2:95:LEU:N	2.69	0.47
30:3:41:LEU:HA	30:3:45:GLN:OE1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:5:2:ASP:CG	32:5:3:LYS:H	2.22	0.47
32:5:55:GLU:HG2	53:u:116:G:H5'	1.95	0.47
33:6:72:VAL:HG23	33:6:72:VAL:O	2.13	0.47
33:6:96:LEU:C	33:6:98:TYR:N	2.72	0.47
34:8:50:ARG:NH2	52:t:993:G:OP2	2.46	0.47
35:9:4:VAL:HG22	35:9:40:MET:HB3	1.95	0.47
36:a:55:ILE:HG22	36:a:56:ALA:N	2.29	0.47
36:a:64:ALA:O	36:a:65:ASP:CB	2.62	0.47
40:e:39:GLN:HE22	40:e:43:LYS:HB2	1.79	0.47
45:j:9:LYS:H	45:j:9:LYS:CD	2.22	0.47
49:n:37:LYS:HD3	52:t:1083:U:O2'	2.14	0.47
49:n:94:ARG:O	49:n:96:PHE:N	2.46	0.47
49:n:113:PHE:O	49:n:123:ILE:HG12	2.14	0.47
51:s:633:G:H2'	51:s:634:C:H6	1.79	0.47
51:s:1071:C:H2'	51:s:1072:G:H8	1.79	0.47
51:s:1439:G:H1	51:s:1462:C:N4	2.10	0.47
52:t:527:C:H4'	52:t:528:A:O5'	2.14	0.47
52:t:642:U:H2'	52:t:644:A:OP2	2.14	0.47
52:t:770:G:O2'	52:t:771:G:H5'	2.13	0.47
52:t:1105:U:H2'	52:t:1106:G:H8	1.78	0.47
52:t:1698:A:O2'	52:t:1699:G:H5''	2.14	0.47
52:t:2694:G:H2'	52:t:2695:U:C6	2.49	0.47
53:u:116:G:H2'	53:u:117:G:H8	1.79	0.47
1:A:89:PHE:HB2	1:A:153:MET:CE	2.44	0.47
3:C:97:LEU:C	3:C:97:LEU:HD23	2.38	0.47
3:C:172:VAL:CG2	3:C:173:ASP:N	2.77	0.47
5:E:21:MET:HA	5:E:24:ARG:HD3	1.95	0.47
6:F:25:PHE:HD1	6:F:61:PHE:CZ	2.32	0.47
8:H:48:ARG:HE	8:H:52:GLU:N	2.12	0.47
9:I:18:ILE:HD12	9:I:72:ARG:CG	2.38	0.47
9:I:51:VAL:O	9:I:62:ARG:HA	2.13	0.47
11:K:3:VAL:O	11:K:4:ASN:C	2.56	0.47
11:K:6:LEU:HB3	16:P:33:TYR:CE1	2.49	0.47
12:L:39:ALA:HB3	12:L:42:VAL:CG1	2.44	0.47
14:N:78:THR:O	14:N:79:GLN:C	2.56	0.47
16:P:10:ARG:C	16:P:22:VAL:HG13	2.38	0.47
19:S:9:ARG:NE	51:s:107:G:O6	2.42	0.47
19:S:27:MET:HE1	19:S:57:VAL:CA	2.38	0.47
21:U:100:ARG:CG	21:U:100:ARG:NH1	2.77	0.47
21:U:196:ASN:O	21:U:198:GLU:N	2.42	0.47
22:V:11:MET:CE	22:V:192:ALA:HA	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:186:LEU:HD21	33:6:3:ILE:CD1	2.39	0.47
23:W:85:PHE:CD1	52:t:588:U:H1'	2.49	0.47
24:X:90:LEU:HD22	24:X:90:LEU:N	2.29	0.47
25:Y:84:LYS:O	25:Y:85:LYS:HB2	2.14	0.47
30:3:41:LEU:HB3	30:3:46:ILE:HG23	1.96	0.47
31:4:8:ARG:NE	31:4:43:GLU:OE1	2.36	0.47
32:5:35:ILE:HG21	32:5:71:ALA:HA	1.96	0.47
34:8:73:ILE:HG21	34:8:109:VAL:HG13	1.95	0.47
35:9:38:VAL:CG1	35:9:59:ILE:HG13	2.44	0.47
37:b:24:MET:O	37:b:29:THR:HG23	2.14	0.47
38:c:60:LYS:HG3	38:c:61:GLU:N	2.29	0.47
39:d:3:THR:HG23	39:d:3:THR:O	2.14	0.47
46:k:3:ARG:NH2	52:t:789:A:C2	2.82	0.47
48:m:19:ARG:O	48:m:20:ASP:CB	2.62	0.47
50:q:21:GLU:CD	50:r:3:THR:HG21	2.40	0.47
51:s:47:C:H6	51:s:365:U:H2'	1.79	0.47
51:s:357:G:C2	51:s:358:U:C5	3.02	0.47
51:s:581:G:H8	51:s:581:G:O5'	1.97	0.47
51:s:946:A:H2'	51:s:947:G:H8	1.77	0.47
51:s:1007:U:C3'	51:s:1008:U:H5''	2.43	0.47
51:s:1134:G:H1	51:s:1140:C:H42	1.62	0.47
52:t:33:C:O2'	52:t:34:U:H5'	2.14	0.47
52:t:301:G:O2'	52:t:302:C:O5'	2.31	0.47
52:t:533:G:H2'	52:t:534:U:H6	1.78	0.47
52:t:638:G:H2'	52:t:639:U:H6	1.78	0.47
52:t:854:C:O2'	52:t:855:G:H5'	2.15	0.47
52:t:1010:A:H1'	52:t:1153:C:H1'	1.95	0.47
52:t:1606:C:H4'	52:t:1608:A:N3	2.30	0.47
52:t:2329:U:H2'	52:t:2330:G:C8	2.48	0.47
52:t:2700:A:H2'	52:t:2701:U:H6	1.79	0.47
2:B:49:ALA:O	2:B:71:ARG:HB3	2.14	0.47
3:C:36:ALA:HA	3:C:41:GLY:CA	2.31	0.47
4:D:152:VAL:HB	4:D:156:ARG:HB2	1.96	0.47
5:E:3:HIS:HA	5:E:65:GLU:HA	1.96	0.47
6:F:65:LEU:HG	6:F:69:ARG:CZ	2.44	0.47
6:F:73:GLU:HG2	6:F:88:VAL:O	2.14	0.47
6:F:129:ASN:C	6:F:134:VAL:HG21	2.38	0.47
8:H:44:ARG:C	8:H:46:VAL:H	2.22	0.47
8:H:50:PRO:CB	8:H:83:THR:HG23	2.45	0.47
9:I:52:LEU:HD23	9:I:62:ARG:HG3	1.96	0.47
11:K:15:VAL:HG12	11:K:16:ALA:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:82:ARG:HG2	11:K:83:GLY:N	2.29	0.47
12:L:85:TYR:OH	12:L:89:ARG:NH2	2.41	0.47
15:O:46:LYS:CD	15:O:47:GLU:N	2.60	0.47
18:R:10:ILE:HD11	18:R:15:LEU:HD13	1.95	0.47
21:U:245:THR:O	21:U:247:TRP:N	2.47	0.47
22:V:169:ARG:C	22:V:170:VAL:CG1	2.88	0.47
23:W:45:ALA:C	23:W:46:GLN:HG2	2.37	0.47
27:O:19:ASP:OD2	27:O:58:ASN:HB2	2.14	0.47
28:1:31:ARG:NE	52:t:1996:C:OP1	2.47	0.47
36:a:19:LEU:CB	44:i:21:LEU:HD11	2.38	0.47
40:e:39:GLN:CG	40:e:41:GLY:H	2.24	0.47
42:g:13:GLU:C	42:g:15:ASN:H	2.22	0.47
44:i:47:TYR:CZ	44:i:52:LYS:HD3	2.49	0.47
49:n:153:ARG:C	49:n:155:LEU:N	2.71	0.47
50:p:29:LYS:CB	50:r:19:VAL:HG21	2.44	0.47
50:q:17:MET:O	50:q:21:GLU:N	2.46	0.47
51:s:178:C:O2'	51:s:179:A:H5'	2.14	0.47
51:s:204:G:H2'	51:s:205:A:H5''	1.97	0.47
51:s:705:G:N7	51:s:706:A:N7	2.62	0.47
51:s:1023:U:O2'	51:s:1024:G:H5'	2.14	0.47
51:s:1210:C:C4'	51:s:1214:C:H41	2.27	0.47
52:t:825:A:H2'	52:t:826:U:C6	2.48	0.47
52:t:940:G:H3'	52:t:941:A:H5''	1.96	0.47
52:t:1362:C:H5'	52:t:2215:C:O2'	2.14	0.47
52:t:1486:U:O2'	52:t:1487:U:H5'	2.15	0.47
52:t:2094:A:H1'	52:t:2198:A:H61	1.77	0.47
52:t:2195:U:O2'	52:t:2196:C:H5'	2.13	0.47
52:t:2306:C:O5'	52:t:2306:C:H6	1.97	0.47
52:t:2449:U:H4'	52:t:2450:A:OP1	2.14	0.47
52:t:2690:U:H5'	52:t:2691:C:OP2	2.14	0.47
52:t:2771:C:H2'	52:t:2772:C:H6	1.79	0.47
53:u:68:C:O2'	53:u:69:G:H5'	2.14	0.47
53:u:94:A:O2'	53:u:95:U:H5'	2.14	0.47
4:D:104:ILE:HG23	4:D:104:ILE:O	2.14	0.47
5:E:90:MET:CG	5:E:91:ARG:H	2.21	0.47
8:H:108:ARG:C	8:H:109:GLN:HG2	2.39	0.47
11:K:46:SER:HB3	51:s:518:C:O2'	2.14	0.47
12:L:44:ILE:C	12:L:46:GLU:H	2.22	0.47
13:M:17:ASP:C	13:M:19:TYR:N	2.70	0.47
13:M:46:LYS:C	13:M:48:GLN:N	2.69	0.47
19:S:22:SER:O	19:S:26:MET:N	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:69:ASN:O	19:S:70:LYS:C	2.57	0.47
20:T:4:LYS:HD2	20:T:4:LYS:C	2.39	0.47
21:U:167:ASP:O	21:U:167:ASP:OD1	2.33	0.47
21:U:203:VAL:O	21:U:204:LEU:CB	2.58	0.47
23:W:52:VAL:HG21	23:W:82:GLY:H	1.79	0.47
23:W:151:GLY:N	23:W:189:THR:CG2	2.77	0.47
25:Y:3:VAL:HG11	52:t:2748:A:H4'	1.97	0.47
26:Z:34:ILE:O	26:Z:34:ILE:HG22	2.14	0.47
26:Z:42:ASN:HA	26:Z:45:THR:HB	1.96	0.47
30:3:135:VAL:CG1	30:3:136:MET:H	2.24	0.47
32:5:108:ASP:O	32:5:112:GLU:HB2	2.14	0.47
32:5:117:PHE:C	32:5:117:PHE:CD1	2.93	0.47
33:6:33:GLU:HG3	33:6:34:GLY:N	2.28	0.47
34:8:68:ALA:O	34:8:73:ILE:HG22	2.14	0.47
39:d:3:THR:N	39:d:50:MET:HE1	2.28	0.47
39:d:11:GLU:C	39:d:12:GLN:HG3	2.39	0.47
41:f:30:PRO:HB2	41:f:32:LEU:HD12	1.93	0.47
49:n:108:VAL:CG1	49:n:109:LYS:N	2.78	0.47
51:s:451:A:HO2'	51:s:452:A:P	2.34	0.47
51:s:452:A:H8	51:s:452:A:H3'	1.80	0.47
51:s:484:G:H4'	51:s:485:U:C5'	2.43	0.47
51:s:664:G:N2	51:s:741:G:H1	1.98	0.47
51:s:729:A:C4	51:s:730:G:C8	3.03	0.47
51:s:1027:C:O5'	51:s:1027:C:H6	1.98	0.47
51:s:1136:C:O2	51:s:1136:C:C2'	2.62	0.47
51:s:1230:C:O2'	51:s:1231:G:H5'	2.14	0.47
51:s:1247:U:O2'	51:s:1248:A:H5'	2.14	0.47
51:s:1402:C:O2	51:s:1500:A:N1	2.48	0.47
52:t:100:U:H4'	52:t:101:A:O4'	2.14	0.47
52:t:351:C:H2'	52:t:352:A:O4'	2.15	0.47
52:t:414:C:H2'	52:t:415:A:C8	2.50	0.47
52:t:449:A:H2'	52:t:450:G:H5'	1.96	0.47
52:t:1069:A:O2'	52:t:1070:A:H5''	2.14	0.47
52:t:1077:A:H2	52:t:1088:A:N7	2.12	0.47
52:t:1109:C:N4	52:t:1110:G:H22	2.13	0.47
52:t:1359:A:N6	52:t:1360:G:C2	2.83	0.47
52:t:1360:G:H5'	52:t:1361:G:OP2	2.15	0.47
52:t:1492:G:C6	52:t:1499:C:N3	2.82	0.47
52:t:1562:U:H2'	52:t:1563:U:O4'	2.14	0.47
52:t:1866:A:C6	52:t:1876:A:N7	2.82	0.47
52:t:2477:U:H5''	52:t:2479:U:O4	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2556:C:C2'	52:t:2557:G:H5'	2.44	0.47
52:t:2619:C:O2'	52:t:2620:C:H5'	2.14	0.47
52:t:2706:A:C2	52:t:2707:U:C2	3.02	0.47
53:u:40:U:H1'	53:u:45:A:H62	1.78	0.47
53:u:94:A:H2'	53:u:95:U:O4'	2.15	0.47
1:A:53:LEU:HD22	1:A:53:LEU:N	2.29	0.47
2:B:89:VAL:HG23	2:B:90:VAL:N	2.30	0.47
4:D:75:LEU:C	4:D:81:GLN:NE2	2.73	0.47
4:D:100:GLU:C	4:D:102:THR:N	2.71	0.47
7:G:10:LEU:HD11	7:G:126:CYS:HB3	1.96	0.47
11:K:49:ARG:HH22	51:s:522:C:N4	2.10	0.47
11:K:88:ASP:HB2	51:s:523:A:N1	2.30	0.47
17:Q:52:ARG:O	17:Q:56:ARG:HB2	2.15	0.47
22:V:49:GLN:NE2	22:V:79:LEU:HD23	2.30	0.47
22:V:69:ALA:HA	22:V:73:VAL:CG2	2.43	0.47
24:X:125:GLY:H	24:X:162:ASP:CA	2.27	0.47
24:X:167:ALA:HA	24:X:170:ALA:CB	2.43	0.47
25:Y:153:PRO:HA	25:Y:159:LYS:O	2.15	0.47
27:0:15:TRP:C	27:0:16:TYR:CD1	2.93	0.47
27:0:42:ALA:C	27:0:44:TYR:H	2.21	0.47
28:1:36:GLY:HA2	28:1:62:VAL:O	2.14	0.47
28:1:77:ILE:N	28:1:77:ILE:HD12	2.29	0.47
30:3:2:LEU:HD23	30:3:46:ILE:HD11	1.95	0.47
30:3:31:PHE:CZ	30:3:110:GLU:HB2	2.49	0.47
34:8:87:VAL:O	34:8:88:GLU:CB	2.63	0.47
41:f:77:TYR:HD1	41:f:77:TYR:OXT	1.97	0.47
49:n:148:ALA:C	49:n:150:LYS:N	2.70	0.47
51:s:139:A:H2'	51:s:140:U:O4'	2.15	0.47
51:s:205:A:H3'	51:s:206:C:H6	1.79	0.47
51:s:206:C:H2'	51:s:207:C:C4'	2.44	0.47
51:s:955:U:H2'	51:s:956:U:C6	2.49	0.47
51:s:1091:U:C2	51:s:1093:A:OP2	2.67	0.47
51:s:1473:G:O2'	51:s:1474:U:H5'	2.15	0.47
52:t:289:G:H1	52:t:351:C:H42	1.61	0.47
52:t:412:A:C6	52:t:2412:A:H1'	2.50	0.47
52:t:421:C:O2'	52:t:422:A:OP2	2.32	0.47
52:t:685:A:C5'	52:t:686:U:H5''	2.45	0.47
52:t:900:A:C2	52:t:901:C:H5'	2.49	0.47
52:t:900:A:H2	52:t:902:C:C5	2.32	0.47
52:t:1093:G:H1'	52:t:1098:A:H61	1.79	0.47
52:t:1311:G:O2'	52:t:1312:U:C5	2.67	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1678:A:C4	52:t:1679:A:C8	3.03	0.47
52:t:1732:C:H5''	52:t:1733:G:OP2	2.15	0.47
52:t:1886:U:H2'	52:t:1887:C:H6	1.80	0.47
52:t:1919:A:O5'	52:t:1919:A:C8	2.68	0.47
54:v:114:ASP:CG	54:v:143:LYS:HD2	2.40	0.47
54:v:491:SER:N	54:v:492:GLN:HB2	2.30	0.47
1:A:116:LEU:HB3	1:A:140:LEU:HD11	1.97	0.47
2:B:189:HIS:CD2	51:s:1205:U:H4'	2.50	0.47
3:C:145:ARG:C	3:C:147:LYS:N	2.66	0.47
4:D:113:VAL:O	4:D:113:VAL:HG22	2.13	0.47
4:D:149:PRO:C	4:D:151:MET:H	2.23	0.47
5:E:38:ARG:HH21	5:E:96:VAL:CG2	2.25	0.47
7:G:87:ARG:O	7:G:91:LEU:HG	2.13	0.47
8:H:17:ARG:NH2	8:H:67:LYS:HZ1	2.13	0.47
11:K:45:ASN:ND2	51:s:527:G:O6	2.47	0.47
11:K:47:ALA:HB3	11:K:49:ARG:NE	2.28	0.47
11:K:65:TYR:HB2	11:K:86:VAL:HG21	1.96	0.47
12:L:44:ILE:O	12:L:44:ILE:HG22	2.14	0.47
13:M:2:LYS:HA	51:s:1048:G:OP1	2.14	0.47
14:N:7:THR:O	14:N:11:VAL:HG23	2.15	0.47
16:P:74:LEU:C	16:P:74:LEU:CD1	2.88	0.47
17:Q:21:ASP:OD1	17:Q:23:LYS:CG	2.60	0.47
18:R:18:VAL:CG1	18:R:43:MET:HG2	2.45	0.47
19:S:66:ILE:O	19:S:66:ILE:HG12	2.14	0.47
20:T:34:ARG:HB3	20:T:36:PHE:CE1	2.49	0.47
21:U:197:ALA:HA	52:t:1820:U:H3	1.80	0.47
24:X:65:LEU:HD22	53:u:42:C:C4	2.49	0.47
25:Y:84:LYS:NZ	25:Y:133:LYS:HG2	2.29	0.47
34:8:91:ARG:HB2	34:8:94:LEU:HB2	1.97	0.47
38:c:80:ASP:O	38:c:81:ARG:HB3	2.14	0.47
38:c:86:PHE:CE1	38:c:101:THR:HG21	2.48	0.47
41:f:55:MET:O	41:f:56:ARG:C	2.58	0.47
45:j:45:HIS:ND1	52:t:2371:G:O2'	2.46	0.47
47:l:14:LYS:O	47:l:21:PHE:O	2.32	0.47
48:m:16:ILE:HG22	48:m:16:ILE:O	2.14	0.47
49:n:57:ASN:C	49:n:59:LEU:HD22	2.40	0.47
50:p:2:ILE:HD12	50:p:2:ILE:H	1.80	0.47
51:s:53:A:N1	51:s:54:C:C2	2.82	0.47
51:s:266:G:O4'	51:s:266:G:N3	2.47	0.47
51:s:518:C:H5''	51:s:519:C:O5'	2.14	0.47
51:s:734:G:C2	51:s:735:C:C2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:890:G:HO2'	51:s:906:A:H61	1.61	0.47
51:s:1141:C:H2'	51:s:1142:G:O5'	2.14	0.47
52:t:356:G:H2'	52:t:357:C:C6	2.49	0.47
52:t:795:C:O5'	52:t:795:C:H6	1.97	0.47
52:t:1060:U:C1'	52:t:1062:G:H5'	2.44	0.47
52:t:1339:G:N2	52:t:1603:A:H1'	2.28	0.47
52:t:1440:U:O5'	52:t:1440:U:H6	1.98	0.47
52:t:1522:A:H1'	52:t:1524:G:C5	2.50	0.47
52:t:1676:A:H2'	52:t:1677:A:O4'	2.15	0.47
52:t:1910:G:H2'	52:t:1911:U:O4'	2.13	0.47
52:t:2020:A:C2	52:t:2035:G:N1	2.83	0.47
52:t:2364:C:H2'	52:t:2365:G:O4'	2.15	0.47
52:t:2416:C:H6	52:t:2416:C:O5'	1.98	0.47
54:v:127:MET:HG3	54:v:162:LEU:HD22	1.96	0.47
1:A:72:LYS:NZ	1:A:164:ASP:HB2	2.29	0.47
3:C:8:LEU:C	3:C:10:LEU:N	2.71	0.47
3:C:123:MET:HE2	3:C:145:ARG:HD3	1.96	0.47
5:E:38:ARG:NH2	5:E:63:ASN:HD21	2.13	0.47
7:G:8:ASP:C	7:G:11:THR:HG22	2.38	0.47
9:I:50:THR:HG21	9:I:64:GLN:HE21	1.80	0.47
9:I:73:LEU:O	9:I:73:LEU:HD13	2.14	0.47
9:I:92:LEU:HD23	9:I:92:LEU:N	2.30	0.47
10:J:13:LYS:O	10:J:14:GLN:CB	2.63	0.47
11:K:55:ARG:HG3	11:K:55:ARG:NH2	2.29	0.47
15:O:78:VAL:HG13	15:O:78:VAL:O	2.13	0.47
16:P:61:ARG:CD	16:P:75:VAL:HG22	2.44	0.47
18:R:10:ILE:CD1	18:R:15:LEU:HD13	2.45	0.47
18:R:21:ALA:CB	18:R:46:LEU:HD21	2.45	0.47
19:S:61:ALA:O	19:S:64:GLY:N	2.48	0.47
19:S:66:ILE:HG13	19:S:70:LYS:HG2	1.97	0.47
21:U:93:VAL:O	21:U:94:LEU:HB3	2.14	0.47
21:U:123:ILE:C	21:U:123:ILE:HD13	2.38	0.47
21:U:171:VAL:HG23	21:U:185:ALA:HB2	1.97	0.47
21:U:245:THR:C	21:U:247:TRP:N	2.71	0.47
23:W:4:VAL:HG12	23:W:6:LYS:H	1.80	0.47
23:W:42:GLY:O	23:W:43:THR:OG1	2.23	0.47
23:W:150:THR:OG1	23:W:151:GLY:N	2.48	0.47
27:0:39:LYS:HA	27:0:43:GLU:HG3	1.95	0.47
27:0:64:VAL:HG22	27:0:68:LYS:HB2	1.97	0.47
27:0:132:HIS:O	27:0:134:ALA:N	2.47	0.47
31:4:20:MET:CE	52:t:1276:A:O2'	2.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:5:24:THR:OG1	32:5:90:VAL:HG12	2.15	0.47
32:5:31:THR:C	32:5:33:ARG:N	2.71	0.47
34:8:92:LYS:HG3	52:t:997:G:OP1	2.14	0.47
35:9:60:LYS:O	35:9:100:GLY:N	2.48	0.47
36:a:69:LEU:HG	36:a:107:VAL:HG22	1.97	0.47
36:a:70:LYS:O	36:a:72:THR:N	2.48	0.47
36:a:93:ALA:HB2	52:t:1614:A:C2	2.50	0.47
37:b:2:ILE:HG23	52:t:142:A:N3	2.29	0.47
37:b:24:MET:HG3	37:b:29:THR:HG23	1.95	0.47
37:b:29:THR:HA	37:b:86:THR:N	2.29	0.47
38:c:39:ASN:HB3	38:c:62:ALA:O	2.15	0.47
40:e:39:GLN:NE2	40:e:43:LYS:CB	2.78	0.47
40:e:39:GLN:HE21	40:e:42:THR:HB	1.79	0.47
40:e:47:GLY:C	40:e:49:ASN:H	2.22	0.47
41:f:39:VAL:HG23	41:f:40:GLU:H	1.78	0.47
43:h:28:LEU:HA	43:h:33:HIS:HD2	1.80	0.47
44:i:9:ARG:HH21	44:i:9:ARG:CG	2.22	0.47
49:n:24:SER:HB2	49:n:116:GLU:CG	2.45	0.47
49:n:29:ASP:HB2	49:n:56:ARG:HH21	1.76	0.47
49:n:74:ASP:OD1	49:n:77:VAL:HB	2.15	0.47
50:q:21:GLU:O	50:q:24:SER:OG	2.29	0.47
51:s:130:A:O2'	51:s:264:C:H5'	2.15	0.47
51:s:146:G:O2'	51:s:147:G:H5'	2.14	0.47
51:s:293:G:H2'	51:s:294:U:H6	1.80	0.47
51:s:329:A:C6	51:s:332:G:C2	3.02	0.47
51:s:690:G:H2'	51:s:691:G:O4'	2.14	0.47
51:s:751:U:H2'	51:s:752:G:O4'	2.14	0.47
51:s:783:C:O2'	51:s:784:A:H5'	2.14	0.47
51:s:810:C:C2'	51:s:811:C:H5'	2.45	0.47
51:s:834:U:C2	51:s:835:U:C5	3.02	0.47
51:s:1068:G:N3	51:s:1191:A:C2	2.83	0.47
51:s:1158:C:O2	51:s:1158:C:H2'	2.14	0.47
51:s:1363:A:H2'	51:s:1365:G:N7	2.28	0.47
51:s:1441:A:H3'	51:s:1442:G:H8	1.80	0.47
52:t:236:C:H2'	52:t:237:C:C6	2.50	0.47
52:t:265:A:O2'	52:t:266:G:O5'	2.30	0.47
52:t:454:A:C4'	52:t:455:C:OP2	2.54	0.47
52:t:753:A:O2'	52:t:754:U:H5'	2.14	0.47
52:t:811:U:O2'	52:t:1250:G:H2'	2.13	0.47
52:t:871:U:H2'	52:t:872:U:C6	2.49	0.47
52:t:1084:A:N3	52:t:1105:U:H1'	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1085:A:O2'	52:t:1086:A:H5'	2.15	0.47
52:t:1130:U:O2'	52:t:1131:G:P	2.72	0.47
52:t:1180:U:H5'	52:t:1181:U:OP2	2.15	0.47
52:t:1268:A:C6	52:t:2013:A:C8	3.03	0.47
52:t:1385:A:H4'	52:t:1386:C:OP1	2.15	0.47
52:t:1644:C:O2	52:t:1644:C:H2'	2.14	0.47
52:t:1688:U:H1'	52:t:1701:A:C6	2.50	0.47
52:t:1709:U:C2	52:t:1750:G:N2	2.82	0.47
52:t:2217:G:O2'	52:t:2218:G:H5'	2.14	0.47
52:t:2227:A:N6	52:t:2228:G:C2	2.82	0.47
52:t:2297:A:N6	52:t:2319:G:O2'	2.48	0.47
52:t:2897:U:H2'	52:t:2898:U:C6	2.49	0.47
54:v:307:MET:CG	54:v:308:ASP:HA	2.44	0.47
1:A:125:PHE:CD2	1:A:125:PHE:N	2.83	0.47
2:B:49:ALA:O	2:B:50:SER:HB3	2.13	0.47
2:B:89:VAL:O	2:B:90:VAL:C	2.57	0.47
3:C:196:GLU:O	3:C:197:HIS:C	2.58	0.47
5:E:68:GLN:C	5:E:71:ILE:HG22	2.40	0.47
8:H:123:ARG:HG2	8:H:123:ARG:NH2	2.29	0.47
12:L:7:ASN:HD22	12:L:21:ILE:HD11	1.80	0.47
14:N:78:THR:OG1	14:N:79:GLN:N	2.48	0.47
18:R:40:PHE:C	18:R:42:ASN:H	2.23	0.47
21:U:250:GLN:HB2	21:U:254:LYS:HG3	1.95	0.47
26:Z:70:THR:OG1	26:Z:71:LYS:N	2.48	0.47
27:O:43:GLU:O	27:O:45:THR:HG22	2.15	0.47
30:3:45:GLN:C	30:3:47:GLU:N	2.71	0.47
30:3:120:ALA:O	30:3:122:ALA:N	2.48	0.47
31:4:58:ASP:HA	31:4:80:PHE:HE1	1.80	0.47
33:6:51:ASN:O	33:6:52:ARG:HG2	2.14	0.47
36:a:20:VAL:HG11	36:a:47:VAL:CG1	2.41	0.47
37:b:19:LYS:O	37:b:23:ALA:CB	2.63	0.47
40:e:23:LYS:HG2	52:t:855:G:C2	2.49	0.47
45:j:50:GLU:O	45:j:51:ALA:HB2	2.13	0.47
51:s:309:A:H2'	51:s:310:G:C8	2.49	0.47
51:s:423:G:N2	51:s:424:G:C8	2.83	0.47
51:s:425:G:H2'	51:s:426:U:O4'	2.15	0.47
51:s:552:U:C4	51:s:553:A:N7	2.83	0.47
51:s:585:G:N3	51:s:879:C:H4'	2.30	0.47
52:t:783:A:H2'	52:t:784:G:O5'	2.14	0.47
52:t:1541:C:H2'	52:t:1542:U:H6	1.80	0.47
52:t:1709:U:H2'	52:t:1710:G:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1715:G:H2'	52:t:1743:G:N1	2.30	0.47
52:t:1930:G:O2'	52:t:1931:U:C6	2.67	0.47
54:v:276:ALA:HA	54:v:277:PRO:HD3	1.80	0.47
54:v:398:PHE:CG	54:v:399:ARG:N	2.83	0.47
1:A:34:ARG:HG2	1:A:35:ASN:N	2.30	0.47
2:B:51:VAL:HG22	2:B:52:SER:N	2.28	0.47
2:B:149:LYS:HD2	2:B:200:TRP:CZ3	2.50	0.47
3:C:115:GLN:HE22	51:s:406:G:N2	2.12	0.47
5:E:48:ALA:HB2	17:Q:66:LEU:O	2.15	0.47
5:E:61:LEU:CG	5:E:62:MET:H	2.27	0.47
7:G:9:MET:HE1	7:G:32:LYS:CA	2.44	0.47
7:G:29:SER:HB3	7:G:32:LYS:CG	2.44	0.47
7:G:44:PHE:HE1	7:G:129:ALA:O	1.98	0.47
8:H:43:ALA:HA	8:H:46:VAL:CG1	2.45	0.47
8:H:108:ARG:HB3	51:s:1347:G:C8	2.49	0.47
12:L:43:LYS:O	12:L:45:SER:N	2.48	0.47
12:L:84:CYS:HB3	18:R:73:PHE:CE1	2.49	0.47
17:Q:41:SER:O	17:Q:45:GLY:N	2.46	0.47
19:S:4:LYS:NZ	19:S:6:ALA:HB2	2.30	0.47
19:S:65:LEU:C	19:S:65:LEU:CD1	2.88	0.47
22:V:107:VAL:N	22:V:206:ALA:H	2.02	0.47
22:V:173:GLN:HE22	22:V:208:LYS:HE3	1.80	0.47
23:W:5:LEU:HD23	23:W:120:VAL:HG22	1.96	0.47
23:W:101:TYR:CZ	23:W:105:LEU:HD11	2.49	0.47
24:X:138:PRO:O	24:X:139:GLU:C	2.58	0.47
25:Y:59:ASP:HB3	25:Y:63:GLN:CG	2.44	0.47
25:Y:75:VAL:HG12	25:Y:76:ILE:N	2.30	0.47
25:Y:112:VAL:O	25:Y:113:ASP:C	2.57	0.47
25:Y:120:ILE:CD1	25:Y:140:ILE:HA	2.42	0.47
33:6:9:GLN:HA	33:6:12:MET:HG3	1.96	0.47
34:8:50:ARG:HH11	34:8:50:ARG:CG	2.28	0.47
35:9:42:ALA:HA	35:9:46:GLU:CB	2.44	0.47
43:h:23:LEU:CD1	43:h:28:LEU:HD12	2.42	0.47
49:n:147:SER:O	49:n:148:ALA:C	2.58	0.47
51:s:75:G:H3'	51:s:76:G:C8	2.49	0.47
51:s:117:G:O6	51:s:289:G:H1'	2.15	0.47
51:s:174:A:C2'	51:s:175:C:H5'	2.44	0.47
51:s:939:G:C6	51:s:940:C:C4	3.03	0.47
51:s:1115:U:H2'	51:s:1116:U:C6	2.50	0.47
51:s:1239:A:HO2'	51:s:1240:U:C5'	2.22	0.47
52:t:57:C:H2'	52:t:58:G:O4'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:528:A:N1	52:t:2043:C:O5'	2.48	0.47
52:t:698:C:O2'	52:t:734:A:N6	2.42	0.47
52:t:727:A:OP1	52:t:1431:A:O2'	2.30	0.47
52:t:2425:A:H5''	52:t:2426:A:O5'	2.14	0.47
52:t:2734:A:C5	52:t:2735:G:C8	3.02	0.47
52:t:2805:C:H2'	52:t:2806:C:O4'	2.15	0.47
53:u:29:A:C2	53:u:30:C:N3	2.83	0.47
54:v:172:PRO:HD3	54:v:256:PHE:CG	2.50	0.47
54:v:284:THR:HG21	54:v:385:MET:SD	2.55	0.47
2:B:47:ALA:C	2:B:49:ALA:H	2.23	0.47
3:C:16:THR:CG2	3:C:17:ASP:N	2.78	0.47
5:E:29:ILE:C	5:E:31:GLY:H	2.22	0.47
8:H:41:GLU:O	8:H:44:ARG:HG3	2.15	0.47
8:H:69:GLY:H	51:s:1250:A:C4'	2.11	0.47
9:I:22:THR:C	9:I:24:GLU:N	2.70	0.47
9:I:32:THR:HG23	9:I:83:THR:HA	1.97	0.47
9:I:40:ILE:CG1	9:I:73:LEU:HB3	2.44	0.47
10:J:93:GLU:C	10:J:95:THR:H	2.23	0.47
15:O:17:TYR:HE1	15:O:41:PRO:HG3	1.80	0.47
15:O:31:ARG:HH21	51:s:230:G:H5''	1.79	0.47
15:O:46:LYS:NZ	15:O:48:GLU:H	2.08	0.47
16:P:3:LYS:HD2	16:P:3:LYS:N	2.29	0.47
19:S:32:LYS:O	19:S:35:TYR:N	2.47	0.47
25:Y:60:GLY:O	25:Y:62:ALA:N	2.47	0.47
25:Y:116:LEU:HD12	25:Y:120:ILE:HG23	1.95	0.47
27:O:65:THR:HG23	52:t:1141:U:H6	1.80	0.47
29:2:47:ARG:NH1	52:t:195:A:O3'	2.45	0.47
38:c:25:LYS:N	38:c:34:ILE:O	2.48	0.47
40:e:13:ARG:HH11	40:e:13:ARG:HG3	1.80	0.47
41:f:27:ARG:HD2	52:t:1808:A:N1	2.29	0.47
49:n:72:LEU:C	49:n:74:ASP:N	2.72	0.47
49:n:138:ARG:HG2	50:p:22:LEU:HD21	1.97	0.47
50:o:2:ILE:C	50:o:4:LYS:HE3	2.40	0.47
50:p:20:VAL:O	50:p:20:VAL:HG12	2.14	0.47
51:s:1032:G:C3'	51:s:1033:G:H5'	2.45	0.47
51:s:1037:C:C4	51:s:1038:C:N4	2.83	0.47
51:s:1063:C:H2'	51:s:1064:G:C8	2.50	0.47
51:s:1069:C:O2	51:s:1069:C:H2'	2.14	0.47
51:s:1301:U:H5''	51:s:1302:C:OP2	2.15	0.47
52:t:100:U:H1'	52:t:101:A:C5	2.50	0.47
52:t:665:U:O2'	52:t:666:A:H5'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1308:A:N6	52:t:1606:C:H1'	2.30	0.47
52:t:1354:A:H2'	52:t:1355:G:O4'	2.15	0.47
52:t:1513:U:C2'	52:t:1514:G:H5'	2.45	0.47
52:t:2146:C:O2	52:t:2146:C:C2'	2.58	0.47
52:t:2567:G:H2'	52:t:2568:U:C6	2.49	0.47
52:t:2646:C:O5'	52:t:2646:C:H6	1.98	0.47
54:v:59:TRP:HZ2	54:v:69:SER:CB	2.24	0.47
54:v:64:LYS:CE	54:v:71:THR:H	2.25	0.47
56:z:5:UAL:O	56:z:6:5OH:HS	2.15	0.47
1:A:20:ARG:C	1:A:22:TRP:H	2.22	0.46
2:B:33:ASP:CG	13:M:64:ARG:HG2	2.40	0.46
2:B:148:ILE:HG12	2:B:201:ILE:HG12	1.95	0.46
3:C:29:THR:C	3:C:30:LYS:HD3	2.41	0.46
3:C:97:LEU:O	3:C:97:LEU:HD23	2.15	0.46
3:C:172:VAL:CG2	3:C:173:ASP:H	2.27	0.46
4:D:12:GLU:HB2	4:D:63:MET:CE	2.45	0.46
7:G:66:GLN:HB3	7:G:67:GLY:H	1.50	0.46
8:H:38:PHE:CD1	8:H:38:PHE:C	2.93	0.46
8:H:119:LYS:O	8:H:120:ALA:HB3	2.15	0.46
9:I:15:HIS:CG	9:I:16:ARG:N	2.83	0.46
9:I:32:THR:HG23	9:I:83:THR:OG1	2.15	0.46
9:I:36:VAL:HG12	9:I:37:ARG:N	2.29	0.46
11:K:73:LEU:HD22	11:K:73:LEU:H	1.81	0.46
12:L:40:GLU:HG3	12:L:41:ASP:H	1.80	0.46
12:L:103:THR:O	12:L:104:ASN:C	2.58	0.46
13:M:8:ARG:O	13:M:12:ARG:NH1	2.48	0.46
13:M:86:ALA:HB1	13:M:91:GLU:HB3	1.96	0.46
14:N:28:VAL:HG11	14:N:66:LEU:CD2	2.39	0.46
23:W:48:THR:C	23:W:50:ALA:H	2.23	0.46
23:W:143:LEU:HB3	23:W:146:VAL:HG11	1.97	0.46
24:X:84:ILE:O	24:X:84:ILE:HG13	2.15	0.46
36:a:9:HIS:H	36:a:102:HIS:CE1	2.33	0.46
38:c:61:GLU:H	38:c:61:GLU:HG2	1.46	0.46
39:d:65:VAL:O	39:d:67:GLY:N	2.48	0.46
45:j:20:TYR:CZ	45:j:37:LYS:HE3	2.50	0.46
49:n:23:LEU:CB	49:n:87:GLU:OE2	2.62	0.46
51:s:448:A:C8	51:s:487:A:C6	3.03	0.46
51:s:716:A:H2'	51:s:717:U:O4'	2.15	0.46
51:s:840:C:C2	51:s:847:G:N2	2.83	0.46
51:s:1388:C:H2'	51:s:1389:C:C6	2.51	0.46
51:s:1517:G:H5''	56:7:4:SER:OG	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:1522:U:O2'	51:s:1523:G:H5'	2.14	0.46
52:t:420:C:H2'	52:t:420:C:O2	2.14	0.46
52:t:510:C:H2'	52:t:511:U:O4'	2.15	0.46
52:t:582:A:C2	52:t:1259:G:C2	3.03	0.46
52:t:770:G:H1'	52:t:1379:U:C4	2.50	0.46
52:t:840:C:O2'	52:t:841:G:H5'	2.15	0.46
52:t:858:G:HO2'	52:t:2268:A:C2'	2.26	0.46
52:t:1426:G:H8	52:t:1426:G:O5'	1.98	0.46
52:t:1798:U:H2'	52:t:1819:A:N6	2.30	0.46
52:t:1803:A:N1	52:t:1822:C:O2'	2.46	0.46
52:t:2156:G:N3	52:t:2156:G:H5''	2.29	0.46
52:t:2239:G:C5	52:t:2240:U:C5	3.02	0.46
52:t:2297:A:N6	52:t:2319:G:H1'	2.30	0.46
52:t:2773:C:H2'	52:t:2774:C:H6	1.78	0.46
52:t:2857:G:N2	52:t:2860:A:OP2	2.46	0.46
53:u:54:G:C6	53:u:55:U:N3	2.83	0.46
54:v:22:PRO:HG3	54:v:91:GLY:C	2.40	0.46
54:v:401:ILE:HD11	54:v:438:VAL:CG2	2.44	0.46
3:C:122:ILE:C	3:C:122:ILE:HD12	2.40	0.46
3:C:131:ILE:HG21	51:s:620:C:C4	2.50	0.46
7:G:75:GLN:O	7:G:126:CYS:HB2	2.15	0.46
7:G:106:SER:HA	51:s:642:A:C5	2.49	0.46
9:I:14:ASP:OD2	9:I:14:ASP:N	2.48	0.46
10:J:63:GLN:CG	10:J:98:ALA:HB2	2.44	0.46
16:P:15:LYS:HE3	16:P:16:MET:HA	1.96	0.46
18:R:15:LEU:C	18:R:17:LYS:H	2.23	0.46
19:S:38:ILE:HD11	19:S:82:ILE:HG22	1.97	0.46
21:U:230:PRO:HB2	21:U:244:VAL:CG2	2.45	0.46
23:W:17:THR:OG1	23:W:18:THR:N	2.48	0.46
26:Z:14:ALA:HB2	26:Z:52:LEU:O	2.15	0.46
26:Z:32:VAL:HG22	26:Z:66:PHE:CD2	2.50	0.46
26:Z:99:LYS:HB2	26:Z:140:GLU:OE2	2.16	0.46
27:0:36:LEU:HD11	27:0:122:LEU:HB2	1.95	0.46
27:0:39:LYS:NZ	52:t:1009:A:OP2	2.48	0.46
29:2:111:ILE:HD12	29:2:111:ILE:N	2.30	0.46
33:6:99:LEU:C	33:6:101:GLU:N	2.73	0.46
40:e:18:LYS:HE3	40:e:19:ARG:HG2	1.96	0.46
40:e:23:LYS:HB3	52:t:856:G:C1'	2.45	0.46
42:g:15:ASN:O	42:g:19:LEU:HB2	2.14	0.46
46:k:5:PHE:HD2	52:t:464:U:H5'	1.79	0.46
51:s:37:U:H2'	51:s:38:G:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:126:G:OP1	51:s:605:U:O2'	2.28	0.46
51:s:211:G:N1	51:s:212:G:H1'	2.30	0.46
51:s:468:A:H3'	51:s:469:C:C6	2.50	0.46
51:s:563:A:H2'	51:s:563:A:N3	2.29	0.46
51:s:805:C:H2'	51:s:806:C:C6	2.43	0.46
52:t:421:C:C2'	52:t:422:A:OP2	2.63	0.46
52:t:486:C:O2	52:t:495:G:C2	2.68	0.46
52:t:771:G:H2'	52:t:772:C:C6	2.48	0.46
52:t:870:U:C2'	52:t:871:U:H5'	2.45	0.46
52:t:1067:A:C5	52:t:1068:G:N7	2.84	0.46
52:t:1286:A:C4'	52:t:1287:A:OP1	2.52	0.46
52:t:1494:A:H2'	52:t:1495:A:C8	2.51	0.46
52:t:2065:C:H1'	52:t:2449:U:O2	2.15	0.46
52:t:2103:C:O2'	52:t:2104:C:OP1	2.32	0.46
52:t:2624:G:O2'	52:t:2625:G:H5'	2.16	0.46
52:t:2851:A:C8	52:t:2852:G:N7	2.83	0.46
1:A:127:LYS:HG3	1:A:128:LEU:N	2.24	0.46
1:A:163:ILE:CG2	1:A:164:ASP:H	2.17	0.46
1:A:181:PRO:HB3	1:A:183:PHE:HE2	1.81	0.46
4:D:110:MET:O	4:D:114:LEU:CD2	2.59	0.46
8:H:8:THR:O	8:H:16:ALA:O	2.33	0.46
9:I:26:VAL:C	9:I:28:THR:H	2.24	0.46
10:J:32:THR:OG1	10:J:43:TRP:HB3	2.16	0.46
10:J:105:ARG:HE	20:T:11:PHE:HZ	1.64	0.46
11:K:62:VAL:HG22	11:K:63:THR:N	2.29	0.46
12:L:43:LYS:C	12:L:45:SER:N	2.73	0.46
12:L:73:SER:HA	12:L:76:ILE:HG13	1.95	0.46
20:T:20:ARG:NH2	20:T:24:LYS:HE3	2.29	0.46
21:U:66:PHE:HE2	21:U:104:LEU:HD11	1.79	0.46
21:U:206:LYS:C	21:U:208:GLY:N	2.71	0.46
22:V:68:PHE:O	22:V:73:VAL:HA	2.14	0.46
22:V:181:ASP:OD2	22:V:184:ARG:HD2	2.14	0.46
23:W:108:ILE:CD1	29:2:2:ARG:NH2	2.74	0.46
23:W:148:ILE:HD13	23:W:187:VAL:CG2	2.44	0.46
25:Y:15:ASP:O	25:Y:16:VAL:HB	2.15	0.46
27:O:30:THR:CG2	52:t:1005:C:O2'	2.64	0.46
27:O:77:HIS:CD2	52:t:1131:G:C4	3.04	0.46
35:9:10:LYS:HG2	52:t:996:A:OP1	2.15	0.46
37:b:1:MET:HG2	52:t:139:U:C5	2.51	0.46
38:c:2:ALA:HB3	52:t:84:A:OP1	2.15	0.46
41:f:2:ARG:O	41:f:11:PRO:HD3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:j:31:GLU:O	45:j:31:GLU:HG2	2.14	0.46
48:m:9:LYS:CG	48:m:16:ILE:HG13	2.46	0.46
49:n:29:ASP:CA	49:n:108:VAL:HG11	2.46	0.46
49:n:55:VAL:CB	49:n:57:ASN:HD21	2.29	0.46
49:n:144:LYS:HD3	49:n:147:SER:HB2	1.97	0.46
50:o:24:SER:O	50:o:26:MET:N	2.42	0.46
51:s:41:G:H2'	51:s:42:G:H8	1.79	0.46
51:s:538:G:H2'	51:s:539:A:H8	1.80	0.46
51:s:1037:C:H2'	51:s:1038:C:C6	2.50	0.46
51:s:1406:U:H5'	51:s:1407:C:OP2	2.15	0.46
52:t:373:U:H2'	52:t:374:A:C8	2.49	0.46
52:t:764:A:O2'	52:t:781:A:N6	2.43	0.46
52:t:817:C:H2'	52:t:818:G:O4'	2.16	0.46
52:t:2428:G:H5''	52:t:2429:G:O5'	2.14	0.46
53:u:87:U:OP2	53:u:88:C:C5	2.65	0.46
54:v:26:LYS:NZ	54:v:89:THR:O	2.46	0.46
54:v:315:VAL:HG11	54:v:346:LEU:HD12	1.98	0.46
54:v:403:LEU:HD21	54:v:459:VAL:HG12	1.97	0.46
54:v:449:VAL:HG23	54:v:463:TYR:OH	2.15	0.46
2:B:155:ARG:CZ	51:s:1055:A:H1'	2.46	0.46
3:C:71:PHE:CE1	3:C:89:LEU:HD21	2.50	0.46
3:C:123:MET:HB2	3:C:126:GLY:O	2.15	0.46
3:C:158:LEU:O	3:C:162:GLU:HG3	2.15	0.46
3:C:170:LEU:HD12	3:C:170:LEU:O	2.15	0.46
5:E:46:GLN:HA	5:E:56:LYS:HG2	1.97	0.46
6:F:90:VAL:CG2	6:F:94:ARG:HG2	2.46	0.46
8:H:56:MET:CE	8:H:57:VAL:H	2.28	0.46
10:J:106:ILE:HD11	10:J:109:ILE:CG1	2.45	0.46
10:J:118:ASN:O	51:s:716:A:N3	2.48	0.46
12:L:96:VAL:O	12:L:98:GLY:N	2.47	0.46
13:M:60:ARG:O	13:M:60:ARG:HG3	2.16	0.46
14:N:24:THR:O	14:N:26:VAL:N	2.49	0.46
14:N:24:THR:C	14:N:26:VAL:N	2.74	0.46
14:N:28:VAL:HG13	14:N:62:ARG:HG3	1.98	0.46
17:Q:28:LEU:O	17:Q:32:ILE:HG23	2.15	0.46
19:S:14:GLU:CD	19:S:17:ARG:HH21	2.23	0.46
22:V:129:THR:CB	52:t:1997:C:OP2	2.63	0.46
24:X:102:LEU:HD22	24:X:106:ALA:CB	2.44	0.46
24:X:114:ARG:NE	24:X:114:ARG:H	2.13	0.46
25:Y:83:THR:C	25:Y:84:LYS:CD	2.88	0.46
25:Y:116:LEU:HD12	25:Y:120:ILE:HG21	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:166:GLU:HB2	25:Y:167:VAL:H	1.47	0.46
26:Z:53:PRO:HG2	26:Z:77:VAL:CG1	2.41	0.46
29:2:91:ASP:O	29:2:95:LEU:HD12	2.16	0.46
31:4:31:HIS:O	31:4:33:ILE:N	2.48	0.46
37:b:1:MET:HG2	52:t:139:U:C4	2.51	0.46
38:c:43:LYS:HE3	52:t:481:G:O5'	2.16	0.46
38:c:62:ALA:O	38:c:63:ALA:O	2.33	0.46
41:f:15:ASN:ND2	41:f:25:LYS:HD3	2.31	0.46
46:k:5:PHE:CE1	46:k:7:PRO:HB3	2.49	0.46
51:s:67:C:H4'	51:s:172:A:O4'	2.14	0.46
51:s:205:A:H3'	51:s:206:C:C6	2.51	0.46
51:s:263:A:H2'	51:s:264:C:C6	2.50	0.46
51:s:347:G:C2'	51:s:348:G:O5'	2.64	0.46
51:s:388:G:O2'	51:s:389:A:OP2	2.21	0.46
51:s:872:A:C8	51:s:874:G:C8	3.03	0.46
51:s:974:A:OP1	51:s:974:A:O4'	2.34	0.46
51:s:1027:C:N3	51:s:1034:G:O6	2.48	0.46
51:s:1173:U:H2'	51:s:1174:G:C8	2.50	0.46
52:t:865:C:N3	52:t:908:C:N4	2.63	0.46
52:t:867:C:O2'	52:t:868:U:H5'	2.15	0.46
52:t:1104:C:H2'	52:t:1105:U:H6	1.81	0.46
52:t:1348:C:H2'	52:t:1349:C:C5'	2.45	0.46
52:t:1745:A:C2'	52:t:1746:A:H5'	2.46	0.46
52:t:1863:G:H2'	52:t:1864:U:O4'	2.15	0.46
52:t:2307:G:H1'	52:t:2308:G:C5	2.51	0.46
52:t:2334:U:H5''	52:t:2335:A:OP2	2.15	0.46
52:t:2468:A:O2'	52:t:2469:A:H8	1.97	0.46
52:t:2554:U:H2'	52:t:2555:U:C6	2.51	0.46
53:u:29:A:C2	53:u:56:G:C2	3.04	0.46
54:v:300:VAL:HA	54:v:318:MET:HA	1.98	0.46
54:v:523:PHE:O	54:v:525:GLN:NE2	2.49	0.46
1:A:82:ALA:O	1:A:85:SER:OG	2.32	0.46
2:B:153:SER:HB3	2:B:164:THR:HG22	1.96	0.46
3:C:13:ARG:CG	3:C:55:ARG:NH2	2.78	0.46
4:D:123:LEU:N	4:D:123:LEU:HD12	2.30	0.46
7:G:6:ILE:C	7:G:8:ASP:N	2.74	0.46
7:G:50:VAL:O	7:G:50:VAL:HG13	2.16	0.46
8:H:6:TYR:HA	8:H:18:VAL:O	2.15	0.46
10:J:14:GLN:CA	10:J:14:GLN:HE21	2.28	0.46
10:J:15:VAL:HG13	10:J:16:SER:N	2.31	0.46
17:Q:41:SER:OG	17:Q:46:THR:HG23	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:43:MET:O	18:R:44:ILE:C	2.59	0.46
19:S:53:MET:HG3	19:S:54:GLN:H	1.79	0.46
20:T:19:LYS:HB2	20:T:20:ARG:NH1	2.31	0.46
23:W:72:SER:C	23:W:74:LYS:H	2.22	0.46
24:X:51:ASN:O	24:X:54:ALA:HB3	2.16	0.46
25:Y:96:ALA:HB1	25:Y:98:LYS:NZ	2.31	0.46
27:0:36:LEU:H	27:0:36:LEU:HD22	1.80	0.46
27:0:44:TYR:O	27:0:44:TYR:CD1	2.69	0.46
30:3:14:LYS:HB3	30:3:14:LYS:HZ3	1.80	0.46
30:3:30:SER:N	30:3:105:MET:O	2.46	0.46
30:3:63:ILE:HG12	30:3:105:MET:HE3	1.96	0.46
32:5:5:SER:C	32:5:7:ARG:N	2.73	0.46
34:8:29:ARG:HH11	34:8:29:ARG:CG	2.28	0.46
36:a:59:GLU:HG3	36:a:64:ALA:HB1	1.97	0.46
40:e:23:LYS:HZ3	52:t:923:G:H21	1.64	0.46
43:h:26:LEU:HD21	43:h:47:ILE:CD1	2.45	0.46
49:n:82:ILE:CG2	49:n:83:ALA:H	2.29	0.46
50:o:11:VAL:C	50:o:13:ALA:N	2.72	0.46
51:s:77:A:N6	51:s:90:C:H41	2.14	0.46
51:s:191:G:C4	51:s:192:A:C8	3.04	0.46
51:s:321:A:N6	51:s:332:G:H1	2.13	0.46
51:s:342:C:N3	51:s:348:G:C2	2.84	0.46
51:s:385:C:O2'	51:s:386:C:H5'	2.15	0.46
51:s:483:C:H2'	51:s:484:G:N7	2.30	0.46
51:s:629:A:O2'	51:s:630:A:H5'	2.15	0.46
51:s:762:U:H2'	51:s:763:G:H8	1.80	0.46
51:s:857:C:H2'	51:s:858:G:O4'	2.16	0.46
51:s:992:U:C2	51:s:1043:G:N7	2.83	0.46
51:s:1004:A:H2'	51:s:1005:A:O4'	2.15	0.46
51:s:1251:A:H2'	51:s:1252:A:O4'	2.16	0.46
52:t:495:G:N2	52:t:496:G:H1'	2.30	0.46
52:t:714:U:H2'	52:t:716:A:C8	2.51	0.46
52:t:733:G:O6	52:t:761:A:C8	2.68	0.46
52:t:1513:U:O2'	52:t:1514:G:H5'	2.16	0.46
52:t:2271:G:H2'	52:t:2272:U:H6	1.79	0.46
52:t:2319:G:H4'	52:t:2321:U:O4	2.16	0.46
52:t:2375:G:N1	52:t:2378:A:OP2	2.45	0.46
53:u:107:G:O5'	53:u:107:G:H8	1.99	0.46
54:v:472:ARG:HA	54:v:473:TRP:CB	2.46	0.46
54:v:491:SER:HB2	54:v:492:GLN:HB2	1.98	0.46
1:A:48:MET:HG2	1:A:198:VAL:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:88:LYS:O	2:B:92:ASP:OD1	2.33	0.46
2:B:91:ALA:HB2	2:B:98:ALA:CB	2.44	0.46
2:B:149:LYS:HG3	2:B:200:TRP:HB2	1.97	0.46
2:B:177:LEU:HD22	2:B:177:LEU:N	2.30	0.46
7:G:38:VAL:HG11	7:G:102:VAL:HG22	1.98	0.46
7:G:74:ILE:CD1	7:G:74:ILE:C	2.89	0.46
8:H:18:VAL:HG22	8:H:64:ILE:HG23	1.98	0.46
8:H:43:ALA:HB1	8:H:46:VAL:HG21	1.98	0.46
15:O:36:VAL:HG22	15:O:36:VAL:O	2.15	0.46
15:O:48:GLU:HA	15:O:48:GLU:OE2	2.16	0.46
17:Q:22:TYR:CD1	17:Q:64:LEU:HD11	2.50	0.46
25:Y:59:ASP:O	25:Y:60:GLY:C	2.56	0.46
26:Z:19:PRO:HG2	26:Z:23:VAL:HG22	1.96	0.46
27:O:37:ARG:HA	27:O:118:MET:CE	2.46	0.46
28:1:13:ASN:O	28:1:14:SER:OG	2.28	0.46
31:4:23:ASN:O	31:4:25:ALA:N	2.48	0.46
33:6:37:LYS:O	33:6:37:LYS:HG2	2.16	0.46
33:6:48:ALA:HB3	33:6:59:THR:HB	1.96	0.46
34:8:111:LYS:HD3	35:9:48:LYS:HE2	1.97	0.46
38:c:2:ALA:HB1	38:c:5:ARG:HD3	1.97	0.46
40:e:23:LYS:HD3	52:t:855:G:O2'	2.15	0.46
40:e:49:ASN:OD1	40:e:50:VAL:N	2.49	0.46
41:f:16:ASN:HD22	41:f:24:THR:HB	1.80	0.46
41:f:70:LEU:O	41:f:71:ARG:C	2.58	0.46
47:l:7:ARG:HG2	52:t:246:C:N4	2.30	0.46
50:o:26:MET:O	50:o:27:GLU:C	2.58	0.46
51:s:182:A:N1	51:s:223:A:O2'	2.45	0.46
51:s:297:G:O2'	51:s:299:G:N7	2.40	0.46
51:s:355:C:C2	51:s:356:A:C8	3.04	0.46
51:s:380:G:C2	51:s:384:G:C6	3.03	0.46
51:s:619:U:H6	51:s:619:U:O5'	1.99	0.46
51:s:991:U:H4'	51:s:992:U:H5'	1.98	0.46
51:s:1090:U:H2'	51:s:1091:U:C6	2.44	0.46
51:s:1095:U:H2'	51:s:1096:C:C6	2.50	0.46
51:s:1236:A:H4'	51:s:1304:G:H4'	1.97	0.46
51:s:1262:C:N4	51:s:1273:C:H42	2.14	0.46
51:s:1273:C:C2'	51:s:1274:A:H5'	2.45	0.46
51:s:1300:G:O2'	51:s:1301:U:P	2.72	0.46
51:s:1314:C:O2'	51:s:1315:U:H5'	2.16	0.46
52:t:178:G:C2'	52:t:179:C:H5'	2.46	0.46
52:t:269:C:O2	52:t:370:G:N2	2.42	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:523:C:H4'	52:t:540:C:O2	2.15	0.46
52:t:638:G:H2'	52:t:639:U:O4'	2.16	0.46
52:t:1559:U:C4'	52:t:1560:G:OP2	2.60	0.46
52:t:1616:A:H4'	52:t:1617:C:OP2	2.16	0.46
52:t:1677:A:C6	52:t:1678:A:C6	3.03	0.46
52:t:1857:G:H22	52:t:1884:G:H2'	1.78	0.46
52:t:2033:A:H4'	52:t:2034:U:OP1	2.16	0.46
52:t:2097:A:H2'	52:t:2098:U:H6	1.80	0.46
52:t:2297:A:H62	52:t:2319:G:H1'	1.81	0.46
52:t:2800:A:C2	52:t:2895:G:H1'	2.51	0.46
54:v:30:THR:HG23	54:v:86:LEU:HD21	1.97	0.46
54:v:306:ASN:HD21	54:v:313:ASP:HB2	1.80	0.46
1:A:81:ASP:O	1:A:84:LEU:N	2.47	0.46
1:A:182:VAL:O	1:A:195:VAL:HG13	2.15	0.46
2:B:13:ILE:O	2:B:14:VAL:C	2.58	0.46
3:C:28:ASP:O	3:C:29:THR:CB	2.64	0.46
3:C:51:GLY:O	3:C:53:GLN:N	2.47	0.46
4:D:154:ALA:HA	7:G:65:PHE:CZ	2.51	0.46
5:E:52:ASN:O	5:E:53:LYS:HB3	2.16	0.46
6:F:39:GLU:HA	6:F:42:VAL:HB	1.96	0.46
7:G:57:GLU:HA	7:G:57:GLU:OE2	2.15	0.46
8:H:50:PRO:HB3	8:H:83:THR:HG23	1.97	0.46
9:I:91:ASP:O	9:I:92:LEU:O	2.33	0.46
11:K:79:ILE:HG22	11:K:103:CYS:HB2	1.97	0.46
13:M:99:SER:C	13:M:100:TRP:HE3	2.24	0.46
14:N:8:ALA:O	14:N:9:LYS:C	2.57	0.46
14:N:31:LEU:HD23	14:N:58:MET:HE2	1.98	0.46
16:P:5:ARG:NH1	16:P:5:ARG:CB	2.79	0.46
16:P:14:ASP:C	16:P:16:MET:SD	2.99	0.46
19:S:32:LYS:HD3	51:s:1439:G:OP1	2.16	0.46
19:S:74:HIS:O	19:S:78:LEU:HB2	2.16	0.46
21:U:44:ASN:ND2	52:t:1812:U:O4'	2.48	0.46
21:U:131:MET:HA	21:U:134:ILE:HD12	1.98	0.46
21:U:131:MET:CE	21:U:187:CYS:HB2	2.46	0.46
22:V:43:ASP:CB	52:t:2784:U:H5'	2.46	0.46
22:V:115:GLY:O	52:t:2822:G:OP2	2.34	0.46
23:W:108:ILE:HD12	23:W:108:ILE:O	2.15	0.46
23:W:130:LYS:HE3	52:t:320:A:OP1	2.16	0.46
23:W:147:LEU:HD23	23:W:183:PHE:HE1	1.81	0.46
24:X:8:LYS:O	24:X:12:VAL:HG12	2.16	0.46
24:X:33:ILE:HD12	24:X:33:ILE:N	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:85:GLY:O	24:X:86:CYS:HB3	2.15	0.46
24:X:141:ASP:OD2	24:X:143:ASP:HB2	2.16	0.46
25:Y:101:VAL:O	25:Y:101:VAL:CG2	2.62	0.46
26:Z:4:VAL:HG11	52:t:1099:G:OP1	2.16	0.46
27:0:15:TRP:CH2	52:t:7:G:H4'	2.51	0.46
28:1:72:PRO:O	28:1:73:ASP:CB	2.64	0.46
30:3:45:GLN:C	30:3:47:GLU:H	2.24	0.46
35:9:29:THR:O	35:9:29:THR:HG22	2.16	0.46
36:a:2:GLU:C	36:a:3:THR:HG23	2.39	0.46
36:a:95:ARG:C	36:a:96:ILE:HG23	2.40	0.46
40:e:24:ARG:HH11	40:e:65:LYS:HG2	1.81	0.46
42:g:41:HIS:NE2	42:g:42:LEU:CD1	2.78	0.46
45:j:21:THR:HG21	47:l:33:THR:HA	1.97	0.46
49:n:8:LYS:HG3	52:t:1046:A:N6	2.30	0.46
50:o:4:LYS:O	50:o:6:GLN:N	2.48	0.46
50:q:15:SER:C	50:q:17:MET:H	2.22	0.46
51:s:115:G:H1'	51:s:116:A:N7	2.30	0.46
51:s:229:U:C2	51:s:230:G:C8	3.04	0.46
51:s:518:C:C6	51:s:529:G:H2'	2.51	0.46
51:s:931:C:H2'	51:s:932:C:C6	2.51	0.46
51:s:1068:G:H2'	51:s:1069:C:C5'	2.45	0.46
51:s:1239:A:N3	51:s:1239:A:H2'	2.31	0.46
51:s:1255:G:N2	51:s:1283:U:O2	2.49	0.46
51:s:1350:A:O5'	51:s:1350:A:H8	1.98	0.46
52:t:412:A:C5	52:t:2412:A:H1'	2.49	0.46
52:t:629:G:H4'	52:t:638:G:N2	2.31	0.46
52:t:882:G:N2	52:t:895:U:O2'	2.48	0.46
52:t:953:G:H2'	52:t:954:G:H8	1.79	0.46
52:t:1061:U:HO2'	52:t:1070:A:H4'	1.80	0.46
52:t:1359:A:N6	52:t:1360:G:N3	2.64	0.46
52:t:1374:G:H2'	52:t:1375:U:O4'	2.15	0.46
52:t:1508:A:O3'	52:t:1509:A:O4'	2.33	0.46
52:t:1677:A:C6	52:t:1678:A:C5	3.04	0.46
52:t:2802:G:O2'	52:t:2803:G:H5'	2.15	0.46
56:z:1:KBE:O	56:z:2:DPP:HB2	2.13	0.46
3:C:30:LYS:O	3:C:31:CYS:HB3	2.15	0.46
3:C:87:GLU:O	3:C:90:LEU:HB2	2.16	0.46
3:C:101:VAL:HG21	3:C:117:VAL:HG21	1.98	0.46
3:C:122:ILE:HD11	3:C:129:VAL:O	2.14	0.46
5:E:44:ARG:HG3	5:E:58:HIS:CE1	2.50	0.46
6:F:137:ARG:HG2	6:F:137:ARG:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:76:ARG:HH11	7:G:76:ARG:HG2	1.80	0.46
8:H:121:ARG:HH11	8:H:121:ARG:HG3	1.80	0.46
12:L:106:ARG:HH21	12:L:112:ARG:HB3	1.81	0.46
14:N:82:GLU:C	14:N:84:LEU:N	2.72	0.46
15:O:43:ALA:HB1	15:O:46:LYS:HE3	1.96	0.46
18:R:11:ASP:HB2	18:R:14:LEU:HB3	1.97	0.46
19:S:16:ALA:O	19:S:20:ASN:ND2	2.49	0.46
22:V:178:VAL:O	22:V:179:ARG:HB2	2.16	0.46
24:X:14:LYS:HD3	24:X:14:LYS:C	2.41	0.46
27:O:55:ILE:C	27:O:55:ILE:CD1	2.85	0.46
28:1:3:GLN:O	28:1:5:GLN:O	2.34	0.46
28:1:15:GLY:HA2	28:1:47:ILE:HB	1.98	0.46
28:1:22:ILE:O	28:1:23:LYS:HB2	2.15	0.46
28:1:42:THR:HG23	28:1:44:LYS:HE2	1.98	0.46
29:2:98:ALA:O	29:2:99:ASN:C	2.59	0.46
30:3:72:PRO:HG3	30:3:92:TRP:CZ3	2.50	0.46
32:5:11:ALA:CB	32:5:15:ARG:NH1	2.79	0.46
39:d:1:MET:HE1	39:d:53:LYS:HE3	1.98	0.46
39:d:11:GLU:HA	39:d:12:GLN:HE21	1.80	0.46
40:e:25:PHE:C	40:e:27:GLY:N	2.74	0.46
40:e:39:GLN:NE2	40:e:43:LYS:N	2.64	0.46
40:e:70:VAL:HG23	40:e:75:ASN:OD1	2.15	0.46
41:f:58:ILE:HA	41:f:66:VAL:HG21	1.97	0.46
42:g:17:GLU:HG3	42:g:18:LEU:N	2.31	0.46
45:j:11:VAL:HA	45:j:19:PHE:CB	2.45	0.46
46:k:34:ARG:HH12	46:k:39:ARG:HE	1.63	0.46
48:m:30:GLU:HG3	48:m:32:LYS:HB2	1.98	0.46
49:n:26:VAL:CG1	49:n:82:ILE:HD12	2.46	0.46
50:q:15:SER:O	50:q:19:VAL:N	2.46	0.46
51:s:60:A:H1'	51:s:61:G:O4'	2.16	0.46
51:s:214:C:H2'	51:s:215:C:C6	2.50	0.46
51:s:773:G:C2	51:s:807:A:N1	2.84	0.46
51:s:923:A:N6	51:s:1392:G:O6	2.48	0.46
51:s:1137:C:H1'	51:s:1138:G:N2	2.31	0.46
51:s:1257:A:C2'	51:s:1258:G:OP1	2.62	0.46
52:t:396:G:N2	52:t:2231:U:O2'	2.48	0.46
52:t:786:C:O2'	52:t:787:C:H5'	2.16	0.46
52:t:974:G:H8	52:t:975:A:N7	2.13	0.46
52:t:1286:A:C6	52:t:1329:U:C2	3.04	0.46
52:t:1301:A:C2	52:t:1303:G:C6	3.04	0.46
52:t:1430:G:H2'	52:t:1431:A:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1471:G:H2'	52:t:1472:C:O4'	2.15	0.46
52:t:1551:A:H2'	52:t:1552:A:O4'	2.16	0.46
52:t:2248:C:H3'	52:t:2249:U:H6	1.79	0.46
52:t:2851:A:H2'	52:t:2852:G:C8	2.51	0.46
1:A:126:ASP:O	1:A:127:LYS:HB2	2.16	0.46
3:C:133:SER:HB2	51:s:403:C:OP1	2.16	0.46
5:E:20:GLY:O	5:E:23:GLU:HB3	2.15	0.46
6:F:21:LEU:HA	6:F:24:LYS:HE2	1.98	0.46
6:F:98:LEU:CA	6:F:101:ARG:HH12	2.27	0.46
10:J:22:ILE:CG2	10:J:31:VAL:HG22	2.44	0.46
13:M:82:LYS:HE2	13:M:82:LYS:CA	2.42	0.46
15:O:39:PHE:CE2	15:O:41:PRO:HB3	2.51	0.46
16:P:76:ARG:HH22	16:P:78:VAL:HG13	1.81	0.46
18:R:80:ARG:HG2	18:R:80:ARG:NH1	2.30	0.46
19:S:53:MET:HE3	19:S:57:VAL:CG2	2.46	0.46
21:U:245:THR:O	21:U:246:PRO:C	2.58	0.46
22:V:24:VAL:HA	22:V:191:GLY:N	2.19	0.46
24:X:11:VAL:O	24:X:15:LEU:HG	2.16	0.46
25:Y:95:ALA:CB	25:Y:130:ILE:HD11	2.46	0.46
27:0:111:LYS:H	27:0:111:LYS:CD	2.25	0.46
27:0:123:LYS:N	27:0:123:LYS:CD	2.79	0.46
28:1:8:LEU:N	28:1:8:LEU:CD2	2.78	0.46
28:1:66:LYS:HA	28:1:79:PHE:O	2.16	0.46
29:2:58:TYR:O	47:l:12:ARG:HD2	2.15	0.46
29:2:136:GLU:C	29:2:138:ALA:H	2.23	0.46
30:3:12:MET:HE3	30:3:12:MET:HB3	1.86	0.46
32:5:56:LYS:C	32:5:58:ILE:H	2.24	0.46
34:8:8:ILE:O	34:8:12:ARG:HG3	2.14	0.46
36:a:66:ILE:HG13	36:a:67:ASP:OD1	2.16	0.46
40:e:71:LYS:O	40:e:75:ASN:O	2.33	0.46
43:h:45:GLY:O	43:h:49:ALA:HB2	2.16	0.46
50:q:3:THR:HG23	50:r:17:MET:HE3	1.98	0.46
51:s:161:A:H8	51:s:161:A:O5'	1.99	0.46
51:s:200:G:N1	51:s:218:U:O2	2.48	0.46
51:s:431:A:C2'	51:s:432:A:H5'	2.46	0.46
51:s:595:A:HO2'	51:s:596:A:P	2.39	0.46
51:s:722:G:C8	51:s:724:G:H1'	2.50	0.46
51:s:940:C:N3	51:s:941:G:N7	2.63	0.46
51:s:949:A:H2'	51:s:950:U:O4'	2.15	0.46
51:s:974:A:H5'	51:s:975:A:OP1	2.15	0.46
51:s:1422:G:C6	51:s:1423:G:N7	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:847:U:O2	52:t:934:U:H1'	2.15	0.46
52:t:1420:A:N3	52:t:2211:A:N6	2.63	0.46
52:t:2490:G:O2'	52:t:2491:U:H5''	2.16	0.46
52:t:2651:C:O2'	52:t:2652:C:H5'	2.16	0.46
52:t:2695:U:O2'	52:t:2696:U:H5'	2.16	0.46
52:t:2742:G:O2'	52:t:2743:U:H5'	2.16	0.46
52:t:2747:G:H2'	52:t:2748:A:C8	2.51	0.46
53:u:15:A:H5'	53:u:16:G:N7	2.30	0.46
54:v:169:ILE:HG22	54:v:170:THR:HG23	1.98	0.46
1:A:72:LYS:O	1:A:72:LYS:CG	2.64	0.46
3:C:61:ARG:CG	3:C:71:PHE:CD2	2.94	0.46
3:C:115:GLN:O	3:C:119:HIS:CG	2.69	0.46
4:D:33:THR:HB	4:D:49:TYR:CZ	2.51	0.46
4:D:40:ASP:CG	4:D:41:GLY:H	2.24	0.46
4:D:132:PRO:O	4:D:136:VAL:HG12	2.16	0.46
5:E:31:GLY:C	5:E:33:GLU:H	2.24	0.46
5:E:61:LEU:HG	5:E:62:MET:N	2.31	0.46
6:F:20:GLU:O	6:F:21:LEU:C	2.59	0.46
6:F:61:PHE:CD1	6:F:61:PHE:C	2.93	0.46
10:J:28:ASN:OD1	10:J:29:THR:N	2.49	0.46
12:L:22:TYR:CE2	12:L:68:LEU:HB3	2.51	0.46
13:M:100:TRP:CD1	13:M:100:TRP:O	2.69	0.46
17:Q:25:ILE:N	17:Q:25:ILE:CD1	2.78	0.46
18:R:71:GLY:C	18:R:73:PHE:N	2.72	0.46
19:S:20:ASN:O	19:S:21:ALA:C	2.59	0.46
20:T:34:ARG:CZ	20:T:39:LYS:HE3	2.45	0.46
21:U:76:VAL:O	21:U:77:VAL:C	2.59	0.46
21:U:160:TYR:HB3	21:U:193:GLU:CB	2.46	0.46
22:V:30:GLU:O	22:V:32:ASN:ND2	2.49	0.46
22:V:62:LYS:HB2	22:V:63:PRO:HD3	1.98	0.46
23:W:124:PHE:C	23:W:124:PHE:CD1	2.94	0.46
24:X:113:PHE:H	24:X:114:ARG:NH1	2.14	0.46
29:2:47:ARG:HH22	52:t:195:A:C5'	2.29	0.46
30:3:120:ALA:O	30:3:123:LYS:N	2.48	0.46
35:9:21:ARG:HD3	35:9:93:PHE:CG	2.51	0.46
40:e:18:LYS:HG2	52:t:2269:G:O2'	2.16	0.46
43:h:8:GLN:O	43:h:9:THR:HB	2.14	0.46
45:j:9:LYS:HD3	45:j:9:LYS:N	2.21	0.46
50:o:27:GLU:O	50:o:28:GLU:CB	2.64	0.46
51:s:29:U:O2'	51:s:295:C:H4'	2.16	0.46
51:s:206:C:N4	51:s:213:G:H1	2.07	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:253:A:N1	51:s:273:U:O4	2.49	0.46
51:s:260:G:H2'	51:s:261:U:C6	2.51	0.46
51:s:552:U:C2	51:s:553:A:C8	3.05	0.46
51:s:778:G:O2'	51:s:779:C:H5'	2.16	0.46
51:s:796:C:O2'	51:s:797:C:H5'	2.15	0.46
51:s:815:A:C5'	51:s:817:C:N4	2.79	0.46
51:s:908:A:C2	51:s:909:A:C4	3.04	0.46
51:s:952:U:H5''	51:s:964:A:H61	1.81	0.46
51:s:970:C:H4'	51:s:972:C:C6	2.51	0.46
51:s:1190:G:HO2'	51:s:1191:A:P	2.38	0.46
51:s:1237:C:C4	51:s:1336:C:O2	2.69	0.46
52:t:629:G:H4'	52:t:638:G:H22	1.80	0.46
52:t:1115:G:H2'	52:t:1116:G:H8	1.81	0.46
52:t:1237:A:O2'	52:t:1238:G:O4'	2.28	0.46
52:t:1933:G:OP2	56:AA:5:UAL:N2	2.49	0.46
52:t:1936:A:N7	52:t:1945:G:C6	2.84	0.46
52:t:2534:A:C5	52:t:2535:G:C8	3.04	0.46
53:u:17:C:O2'	53:u:18:G:H5'	2.15	0.46
54:v:94:ASP:HB3	54:v:442:GLY:HA3	1.98	0.46
1:A:34:ARG:C	1:A:36:LYS:H	2.24	0.45
1:A:86:CYS:H	1:A:88:GLN:HE22	1.64	0.45
1:A:219:THR:HG23	1:A:219:THR:O	2.16	0.45
2:B:55:VAL:O	2:B:65:VAL:HA	2.16	0.45
3:C:144:ILE:CD1	3:C:154:VAL:HG21	2.46	0.45
4:D:84:VAL:HG12	4:D:95:MET:HG3	1.99	0.45
4:D:146:MET:O	4:D:146:MET:HG2	2.16	0.45
7:G:58:LEU:HD13	7:G:59:GLU:N	2.31	0.45
9:I:40:ILE:HD12	51:s:1124:G:C4'	2.43	0.45
11:K:113:ARG:O	11:K:115:LYS:O	2.34	0.45
12:L:71:GLU:O	12:L:74:MET:HB3	2.16	0.45
21:U:118:GLY:O	21:U:129:LEU:HG	2.17	0.45
21:U:230:PRO:HB2	21:U:244:VAL:HG21	1.98	0.45
21:U:269:ARG:HH11	21:U:269:ARG:HG3	1.80	0.45
22:V:98:VAL:CG1	22:V:180:VAL:HG13	2.44	0.45
23:W:119:ILE:HD13	23:W:186:VAL:O	2.15	0.45
23:W:134:LEU:HD22	23:W:160:ALA:HB3	1.98	0.45
24:X:114:ARG:H	24:X:114:ARG:CD	2.28	0.45
34:8:65:ASN:O	34:8:69:ARG:HB2	2.16	0.45
34:8:84:LYS:O	34:8:86:SER:N	2.47	0.45
36:a:19:LEU:O	36:a:22:ASP:HB2	2.16	0.45
36:a:24:ILE:O	36:a:25:ARG:C	2.58	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:a:45:VAL:CG2	36:a:46:LEU:HD23	2.46	0.45
37:b:13:ALA:HB1	37:b:14:PRO:HD2	1.99	0.45
40:e:12:GLY:H	52:t:2262:U:H5	1.65	0.45
40:e:28:GLU:HB3	40:e:31:LEU:CG	2.46	0.45
40:e:71:LYS:HB3	40:e:73:PRO:HD2	1.97	0.45
49:n:136:ILE:O	49:n:136:ILE:HG22	2.16	0.45
51:s:80:A:C2	51:s:81:A:H1'	2.51	0.45
51:s:222:C:H2'	51:s:223:A:C8	2.50	0.45
51:s:355:C:N3	51:s:356:A:C5	2.84	0.45
51:s:729:A:C5	51:s:730:G:N7	2.84	0.45
51:s:959:A:O2'	51:s:984:C:O2'	2.35	0.45
51:s:1211:U:H4'	51:s:1213:A:C1'	2.46	0.45
51:s:1380:U:H5'	51:s:1381:U:OP1	2.16	0.45
52:t:329:G:O4'	52:t:477:A:H1'	2.16	0.45
52:t:332:A:O2'	52:t:334:C:OP2	2.29	0.45
52:t:623:C:H2'	52:t:624:C:C6	2.51	0.45
52:t:859:G:C2'	52:t:860:U:OP2	2.64	0.45
52:t:1528:A:OP2	52:t:1543:G:N2	2.49	0.45
52:t:1601:G:H2'	52:t:1602:U:O4'	2.17	0.45
52:t:1657:U:H2'	52:t:1658:C:C6	2.49	0.45
52:t:1713:A:N6	52:t:1746:A:C2	2.85	0.45
52:t:1858:A:C2	52:t:1885:A:H1'	2.52	0.45
52:t:1955:U:C5	52:t:2552:U:H1'	2.51	0.45
52:t:2200:C:N4	52:t:2223:G:H1	2.14	0.45
52:t:2227:A:N7	52:t:2228:G:C5	2.84	0.45
53:u:28:C:O2'	53:u:29:A:H5'	2.16	0.45
54:v:310:LYS:HE2	54:v:310:LYS:HB3	1.67	0.45
1:A:114:LYS:O	1:A:117:GLU:HG2	2.16	0.45
2:B:86:LEU:O	2:B:87:ARG:C	2.60	0.45
3:C:63:ILE:O	3:C:64:TYR:CD1	2.69	0.45
4:D:80:LEU:CA	4:D:146:MET:HE1	2.47	0.45
4:D:112:ALA:O	4:D:114:LEU:N	2.49	0.45
4:D:140:ILE:C	4:D:142:GLY:N	2.73	0.45
5:E:97:THR:C	5:E:98:GLU:HG2	2.41	0.45
6:F:112:ASP:CG	6:F:118:ARG:HG2	2.42	0.45
8:H:85:ALA:O	8:H:88:GLU:HG3	2.16	0.45
8:H:114:LYS:HD2	8:H:114:LYS:H	1.81	0.45
9:I:55:PRO:HD3	51:s:1059:C:O2'	2.17	0.45
10:J:43:TRP:CZ2	51:s:686:U:O2'	2.63	0.45
12:L:44:ILE:HG23	12:L:47:LEU:HB3	1.98	0.45
18:R:57:VAL:HG23	18:R:57:VAL:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:107:LYS:HA	21:U:195:GLY:HA2	1.98	0.45
21:U:220:ARG:NH1	52:t:1789:A:OP2	2.50	0.45
22:V:105:LYS:HA	22:V:177:VAL:CG2	2.47	0.45
25:Y:85:LYS:HA	25:Y:130:ILE:O	2.15	0.45
31:4:1:MET:O	31:4:2:ARG:CB	2.63	0.45
34:8:4:LYS:CE	52:t:1198:U:O3'	2.65	0.45
34:8:101:ASP:CG	34:8:104:ALA:HB2	2.41	0.45
35:9:56:GLY:O	35:9:103:ALA:O	2.34	0.45
36:a:55:ILE:O	36:a:56:ALA:C	2.60	0.45
37:b:14:PRO:HD2	42:g:33:ALA:HB1	1.98	0.45
43:h:51:SER:HA	43:h:54:VAL:CG2	2.46	0.45
47:l:16:THR:CG2	47:l:22:LYS:HD2	2.46	0.45
49:n:51:TYR:CE2	49:n:52:MET:HG2	2.52	0.45
51:s:197:A:C4'	51:s:198:G:O5'	2.57	0.45
51:s:481:G:H2'	51:s:482:A:C8	2.51	0.45
51:s:504:C:O4'	51:s:510:A:N1	2.48	0.45
51:s:710:G:O2'	51:s:711:G:H5'	2.16	0.45
51:s:1064:G:H4'	51:s:1065:U:O5'	2.16	0.45
51:s:1098:C:H2'	51:s:1099:G:O4'	2.16	0.45
51:s:1431:A:H8	51:s:1431:A:O5'	1.99	0.45
51:s:1453:G:C2	51:s:1454:G:H1'	2.51	0.45
52:t:231:A:H2'	52:t:232:G:O4'	2.16	0.45
52:t:301:G:O2'	52:t:302:C:O4'	2.34	0.45
52:t:394:C:C4	52:t:395:U:C5	3.04	0.45
52:t:1219:U:H2'	52:t:1220:G:C8	2.51	0.45
52:t:1279:G:C2'	52:t:1280:G:H5'	2.46	0.45
52:t:1416:G:HO2'	52:t:1417:C:H6	1.59	0.45
52:t:1506:U:O5'	52:t:1506:U:H6	1.99	0.45
52:t:1541:C:H2'	52:t:1542:U:O4'	2.16	0.45
52:t:1624:U:H2'	52:t:1625:C:H6	1.81	0.45
52:t:1913:A:C2'	52:t:1914:C:OP2	2.65	0.45
52:t:2840:C:O2'	52:t:2841:C:H5'	2.16	0.45
1:A:95:TRP:CE3	1:A:96:LEU:O	2.69	0.45
2:B:3:LYS:HZ2	51:s:1191:A:C5'	2.26	0.45
3:C:197:HIS:CG	3:C:198:LEU:N	2.84	0.45
4:D:76:ASN:HB2	4:D:81:GLN:NE2	2.21	0.45
4:D:81:GLN:HG2	4:D:149:PRO:HB3	1.99	0.45
5:E:81:ASN:HB3	5:E:84:VAL:CG1	2.32	0.45
7:G:87:ARG:HD2	7:G:90:GLU:OE2	2.16	0.45
8:H:35:GLU:C	8:H:37:TYR:H	2.24	0.45
10:J:51:PHE:N	10:J:51:PHE:CD2	2.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:113:THR:O	10:J:115:ILE:HD12	2.17	0.45
18:R:48:ILE:HG12	18:R:61:VAL:HG13	1.98	0.45
19:S:4:LYS:HZ2	19:S:6:ALA:HB2	1.81	0.45
22:V:16:THR:OG1	22:V:18:ASP:OD1	2.34	0.45
24:X:107:VAL:N	24:X:108:PRO:CD	2.79	0.45
25:Y:162:ARG:HH22	25:Y:168:VAL:HG21	1.82	0.45
28:1:20:MET:O	28:1:42:THR:HG22	2.15	0.45
30:3:102:LEU:H	30:3:102:LEU:CD2	2.25	0.45
31:4:2:ARG:O	31:4:5:LYS:HB2	2.16	0.45
32:5:9:ARG:HG2	32:5:9:ARG:HH11	1.80	0.45
32:5:78:VAL:HA	32:5:81:ARG:HD3	1.99	0.45
39:d:2:PHE:CZ	39:d:55:GLU:HB2	2.51	0.45
40:e:41:GLY:C	40:e:43:LYS:N	2.72	0.45
43:h:6:ILE:HD12	43:h:26:LEU:HD22	1.98	0.45
44:i:8:THR:CG2	52:t:2020:A:H5'	2.47	0.45
49:n:59:LEU:HD22	49:n:59:LEU:N	2.32	0.45
50:q:3:THR:O	50:q:7:ILE:HG12	2.17	0.45
51:s:8:A:OP1	51:s:8:A:H3'	2.16	0.45
51:s:96:U:H2'	51:s:97:G:H8	1.81	0.45
51:s:246:A:C4'	51:s:247:G:OP1	2.62	0.45
51:s:372:C:C5'	51:s:373:A:OP1	2.63	0.45
51:s:597:G:C2	51:s:644:U:C2	3.04	0.45
51:s:1232:U:O5'	51:s:1232:U:H6	1.99	0.45
52:t:1936:A:C2	52:t:1943:U:C5	3.04	0.45
52:t:2089:C:H3'	52:t:2089:C:C6	2.51	0.45
52:t:2320:U:H4'	52:t:2321:U:C5	2.52	0.45
52:t:2341:G:O2'	52:t:2342:C:H5'	2.17	0.45
52:t:2876:G:H2'	52:t:2877:G:O5'	2.17	0.45
54:v:64:LYS:HE2	54:v:71:THR:N	2.30	0.45
1:A:56:LEU:HD22	1:A:59:ILE:HD11	1.99	0.45
2:B:180:ASP:OD2	2:B:203:LYS:HB2	2.16	0.45
4:D:15:ILE:CD1	4:D:112:ALA:HB3	2.46	0.45
6:F:25:PHE:HE2	6:F:29:LEU:HD12	1.82	0.45
6:F:65:LEU:HD11	6:F:99:ALA:CB	2.47	0.45
10:J:56:LYS:HE2	51:s:691:G:O6	2.16	0.45
11:K:21:PRO:C	11:K:23:LEU:N	2.75	0.45
13:M:62:ARG:O	13:M:63:CYS:C	2.59	0.45
14:N:8:ALA:O	14:N:11:VAL:HG23	2.16	0.45
17:Q:58:ILE:HD12	17:Q:58:ILE:H	1.81	0.45
21:U:23:LEU:HD11	21:U:81:GLU:C	2.41	0.45
21:U:109:LEU:O	21:U:110:LYS:CB	2.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:176:ARG:HG2	52:t:1820:U:OP1	2.16	0.45
21:U:235:GLU:OE1	52:t:2600:A:OP2	2.33	0.45
21:U:237:ARG:HG3	52:t:2591:C:P	2.56	0.45
23:W:155:GLU:O	23:W:158:PHE:HB3	2.16	0.45
23:W:199:MET:O	23:W:199:MET:HG2	2.17	0.45
24:X:93:GLU:O	24:X:95:MET:N	2.50	0.45
26:Z:36:GLU:O	26:Z:36:GLU:CD	2.59	0.45
26:Z:89:SER:HB2	52:t:1064:C:O4'	2.16	0.45
27:0:40:HIS:C	34:8:66:ALA:HB1	2.41	0.45
27:0:43:GLU:C	27:0:45:THR:N	2.64	0.45
29:2:18:ARG:O	29:2:19:LEU:HB2	2.16	0.45
29:2:127:VAL:CG1	29:2:132:ARG:HE	2.30	0.45
32:5:83:LEU:HD22	32:5:83:LEU:N	2.31	0.45
34:8:5:ARG:O	34:8:5:ARG:HG2	2.17	0.45
36:a:17:VAL:HG12	36:a:76:VAL:HG11	1.98	0.45
38:c:90:LYS:O	38:c:92:VAL:HG23	2.16	0.45
40:e:51:GLY:HA2	40:e:59:PHE:CE2	2.51	0.45
46:k:13:ASN:O	46:k:17:GLY:HA3	2.17	0.45
49:n:1:MET:O	49:n:2:ALA:HB2	2.15	0.45
51:s:48:C:H4'	51:s:49:U:OP2	2.16	0.45
51:s:159:G:H2'	51:s:161:A:OP2	2.16	0.45
51:s:198:G:H2'	51:s:199:A:H8	1.80	0.45
51:s:596:A:H61	51:s:644:U:H3	1.62	0.45
51:s:716:A:C2	51:s:717:U:O2	2.70	0.45
51:s:745:G:H5''	51:s:851:G:O2'	2.16	0.45
51:s:812:G:O2'	51:s:813:U:C6	2.70	0.45
51:s:999:C:N4	51:s:1041:G:H1	2.13	0.45
51:s:1346:A:O2'	51:s:1347:G:O5'	2.33	0.45
51:s:1385:G:H2'	51:s:1386:G:C8	2.51	0.45
51:s:1479:C:H2'	51:s:1480:A:H8	1.82	0.45
52:t:27:G:O2'	52:t:28:A:P	2.73	0.45
52:t:438:G:H2'	52:t:439:A:H8	1.82	0.45
52:t:453:A:H4'	52:t:472:A:N6	2.31	0.45
52:t:631:A:H2'	52:t:632:A:O4'	2.17	0.45
52:t:662:G:O2'	52:t:663:G:H5'	2.17	0.45
52:t:688:U:H5'	52:t:1780:A:N1	2.32	0.45
52:t:1087:G:H2'	52:t:1089:A:O4'	2.16	0.45
52:t:1163:G:O2'	52:t:1164:C:H5'	2.17	0.45
52:t:1209:U:O2'	52:t:1237:A:N6	2.44	0.45
52:t:1433:A:H2'	52:t:1434:A:O4'	2.16	0.45
52:t:2187:U:H2'	52:t:2188:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2304:G:N2	52:t:2312:U:H3	2.08	0.45
52:t:2370:G:H2'	52:t:2371:G:O4'	2.17	0.45
52:t:2429:G:OP2	52:t:2430:A:OP2	2.34	0.45
53:u:20:G:H2'	53:u:21:G:O4'	2.16	0.45
53:u:25:U:O5'	53:u:25:U:C6	2.68	0.45
54:v:522:GLN:OE1	54:v:524:HIS:ND1	2.48	0.45
1:A:176:ASN:HD21	1:A:194:GLY:C	2.24	0.45
2:B:177:LEU:HD23	51:s:1112:C:N4	2.32	0.45
4:D:81:GLN:HG2	4:D:149:PRO:CB	2.47	0.45
5:E:3:HIS:C	5:E:4:TYR:CD2	2.94	0.45
6:F:2:ARG:NH1	51:s:933:G:N7	2.64	0.45
6:F:9:ARG:CD	51:s:1346:A:N6	2.79	0.45
7:G:110:MET:CE	7:G:118:ALA:HB2	2.43	0.45
8:H:8:THR:HG23	51:s:1148:U:H5''	1.98	0.45
9:I:62:ARG:NH1	51:s:1367:C:C5'	2.80	0.45
10:J:28:ASN:OD1	10:J:46:ALA:HB3	2.17	0.45
12:L:6:ILE:HD12	12:L:6:ILE:C	2.42	0.45
12:L:7:ASN:C	12:L:9:PRO:HD3	2.41	0.45
13:M:51:PRO:O	13:M:52:ARG:CB	2.65	0.45
16:P:76:ARG:HG2	16:P:76:ARG:HH11	1.82	0.45
17:Q:25:ILE:H	17:Q:25:ILE:CD1	2.29	0.45
18:R:78:THR:O	51:s:957:U:H4'	2.16	0.45
19:S:18:LYS:O	19:S:21:ALA:HB3	2.16	0.45
23:W:5:LEU:HD13	23:W:122:GLU:CG	2.47	0.45
23:W:10:SER:O	23:W:11:ALA:CB	2.65	0.45
23:W:125:SER:H	23:W:137:LYS:NZ	2.15	0.45
23:W:130:LYS:HD3	52:t:321:U:OP2	2.16	0.45
24:X:2:LYS:HG3	24:X:3:LEU:N	2.32	0.45
27:O:25:LEU:HB2	27:O:62:VAL:CG2	2.47	0.45
29:2:47:ARG:HG3	29:2:50:PHE:HB2	1.97	0.45
30:3:43:ALA:HA	30:3:46:ILE:CG1	2.39	0.45
31:4:31:HIS:C	31:4:33:ILE:H	2.24	0.45
31:4:83:LEU:O	31:4:84:GLY:C	2.58	0.45
33:6:33:GLU:OE1	33:6:33:GLU:C	2.60	0.45
34:8:30:VAL:HG13	52:t:580:U:O3'	2.16	0.45
34:8:56:PHE:O	34:8:57:ARG:C	2.57	0.45
35:9:100:GLY:O	35:9:101:ILE:CB	2.64	0.45
39:d:26:PHE:HD1	39:d:27:PRO:O	1.99	0.45
41:f:70:LEU:O	41:f:72:ALA:N	2.49	0.45
51:s:159:G:C6	51:s:163:C:N4	2.85	0.45
51:s:247:G:C6	51:s:278:G:N1	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:347:G:N2	51:s:348:G:H1'	2.31	0.45
51:s:577:G:C8	51:s:816:A:C6	3.05	0.45
51:s:950:U:C2	51:s:951:G:N7	2.84	0.45
51:s:1221:G:O3'	51:s:1321:U:O2	2.34	0.45
51:s:1251:A:O2'	51:s:1370:G:H5'	2.16	0.45
52:t:319:G:O2'	52:t:320:A:H5'	2.16	0.45
52:t:488:G:H1'	52:t:492:A:N6	2.32	0.45
52:t:612:G:O2'	52:t:613:A:C8	2.65	0.45
52:t:699:A:N7	52:t:734:A:C5	2.85	0.45
52:t:754:U:N3	52:t:755:U:C4	2.85	0.45
52:t:1060:U:H4'	52:t:1061:U:C5'	2.45	0.45
52:t:1324:G:C4	52:t:1328:A:N6	2.85	0.45
52:t:1367:A:C2'	52:t:1368:G:H5'	2.43	0.45
52:t:1550:C:O2'	52:t:1551:A:H5'	2.16	0.45
52:t:2104:C:H41	52:t:2184:A:H61	1.64	0.45
53:u:4:C:N4	53:u:116:G:H1	2.13	0.45
53:u:52:A:H4'	53:u:53:A:OP1	2.17	0.45
54:v:74:VAL:CG1	54:v:317:PHE:HE2	2.30	0.45
54:v:314:ARG:NH1	54:v:418:GLN:O	2.50	0.45
54:v:430:PRO:HD2	54:v:435:ASP:O	2.17	0.45
1:A:53:LEU:HD12	1:A:219:THR:HG21	1.98	0.45
7:G:109:VAL:CG1	7:G:110:MET:N	2.79	0.45
9:I:8:ILE:O	9:I:8:ILE:CG2	2.63	0.45
11:K:78:VAL:CG2	54:v:407:LEU:HD12	2.46	0.45
12:L:78:ARG:HH22	12:L:79:LEU:CD2	2.29	0.45
17:Q:55:ALA:HA	17:Q:58:ILE:HB	1.98	0.45
19:S:27:MET:HE1	19:S:57:VAL:HG22	1.97	0.45
21:U:18:VAL:O	21:U:18:VAL:HG13	2.17	0.45
21:U:131:MET:SD	21:U:173:LEU:HD21	2.57	0.45
22:V:93:GLY:O	22:V:95:SER:N	2.50	0.45
22:V:124:ARG:HH22	52:t:2621:G:P	2.40	0.45
23:W:161:ALA:C	23:W:163:ASN:N	2.68	0.45
24:X:10:GLU:O	24:X:12:VAL:N	2.43	0.45
24:X:110:ILE:CG1	24:X:136:ILE:HG21	2.47	0.45
26:Z:123:ALA:C	26:Z:125:THR:N	2.73	0.45
27:O:25:LEU:HB2	27:O:62:VAL:HG22	1.97	0.45
30:3:133:LYS:NZ	30:3:133:LYS:HB3	2.31	0.45
33:6:42:PHE:CD1	33:6:42:PHE:C	2.95	0.45
34:8:63:ARG:HH12	34:8:96:ASP:C	2.23	0.45
35:9:4:VAL:HG12	35:9:13:ARG:CB	2.47	0.45
36:a:25:ARG:HB2	36:a:25:ARG:CZ	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:a:50:VAL:CG1	36:a:105:VAL:HG23	2.47	0.45
37:b:49:LYS:HB2	37:b:50:LEU:HD12	1.97	0.45
37:b:55:VAL:HA	37:b:87:LEU:HA	1.99	0.45
38:c:34:ILE:CD1	38:c:63:ALA:HB2	2.47	0.45
38:c:84:PHE:HD2	38:c:91:LYS:HG2	1.82	0.45
40:e:22:VAL:O	40:e:23:LYS:HG3	2.17	0.45
41:f:70:LEU:C	41:f:72:ALA:N	2.72	0.45
42:g:25:GLN:O	42:g:26:PHE:C	2.59	0.45
49:n:24:SER:HB2	49:n:116:GLU:HB3	1.99	0.45
49:n:30:SER:O	49:n:31:ARG:CB	2.64	0.45
49:n:71:CYS:SG	49:n:117:LEU:HD21	2.56	0.45
50:p:10:ALA:O	50:p:13:ALA:HB3	2.17	0.45
50:q:11:VAL:HG13	50:r:29:LYS:CE	2.46	0.45
51:s:327:A:O3'	51:s:328:C:C4'	2.64	0.45
51:s:347:G:O2'	51:s:348:G:O5'	2.35	0.45
51:s:423:G:C2'	51:s:424:G:H5'	2.47	0.45
51:s:652:U:O2'	51:s:653:U:C6	2.68	0.45
51:s:974:A:H2'	51:s:974:A:N3	2.31	0.45
51:s:1123:U:O2'	51:s:1124:G:H5'	2.17	0.45
51:s:1138:G:H3'	51:s:1138:G:N3	2.30	0.45
51:s:1256:A:N7	51:s:1278:G:H1'	2.31	0.45
51:s:1394:A:H5''	51:s:1395:C:OP2	2.16	0.45
52:t:51:G:H1'	52:t:118:A:H62	1.82	0.45
52:t:421:C:HO2'	52:t:422:A:P	2.39	0.45
52:t:457:A:O2'	52:t:458:G:OP2	2.35	0.45
52:t:683:U:C2'	52:t:684:G:O5'	2.64	0.45
52:t:1255:U:C5	52:t:2060:A:H8	2.35	0.45
52:t:1428:C:C5	52:t:1569:A:H5''	2.51	0.45
52:t:1431:A:O2'	52:t:1432:G:H5'	2.17	0.45
52:t:1554:U:C2	52:t:1634:A:N7	2.84	0.45
52:t:1762:A:H8	52:t:1762:A:O5'	2.00	0.45
52:t:2338:C:H2'	52:t:2339:C:C6	2.52	0.45
52:t:2482:A:H2'	52:t:2483:C:H6	1.82	0.45
1:A:59:ILE:C	1:A:61:SER:H	2.25	0.45
4:D:149:PRO:CG	4:D:150:GLU:H	2.25	0.45
5:E:6:ILE:HB	5:E:62:MET:CB	2.47	0.45
5:E:38:ARG:HH12	5:E:61:LEU:HD11	1.82	0.45
7:G:103:VAL:HA	7:G:124:ILE:HA	1.99	0.45
7:G:115:ALA:O	7:G:116:ARG:C	2.58	0.45
8:H:86:LEU:HD21	8:H:93:LEU:HD22	1.99	0.45
13:M:68:ARG:HA	13:M:69:PRO:HD2	1.83	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:82:LYS:HE3	13:M:85:GLU:HG3	1.98	0.45
19:S:59:ARG:C	19:S:61:ALA:N	2.75	0.45
21:U:70:LYS:NZ	21:U:99:GLU:HB3	2.32	0.45
22:V:159:LYS:O	22:V:161:MET:HG3	2.17	0.45
22:V:182:ALA:C	22:V:184:ARG:N	2.74	0.45
24:X:106:ALA:HB1	24:X:136:ILE:CD1	2.41	0.45
27:0:1:MET:HB3	27:0:2:LYS:CD	2.44	0.45
28:1:78:ARG:HH11	28:1:78:ARG:HB2	1.82	0.45
30:3:49:ALA:HB2	30:3:124:LEU:HD21	1.97	0.45
31:4:63:ARG:HH22	31:4:80:PHE:HB3	1.81	0.45
36:a:59:GLU:OE2	36:a:66:ILE:HG23	2.16	0.45
40:e:28:GLU:CD	40:e:29:SER:H	2.25	0.45
49:n:11:ILE:HD12	49:n:62:ARG:O	2.16	0.45
49:n:119:PRO:O	49:n:120:ALA:HB3	2.16	0.45
51:s:50:A:O2'	51:s:52:C:C6	2.70	0.45
51:s:70:U:H2'	51:s:94:G:O6	2.16	0.45
51:s:120:A:O2'	51:s:121:U:H5'	2.16	0.45
51:s:767:A:H2'	51:s:768:A:O4'	2.17	0.45
51:s:1049:U:O4'	51:s:1201:A:O4'	2.35	0.45
51:s:1068:G:C6	51:s:1069:C:C5	3.05	0.45
51:s:1081:A:H2'	51:s:1082:A:O4'	2.17	0.45
51:s:1381:U:H2'	51:s:1382:C:C6	2.52	0.45
51:s:1446:A:C2	51:s:1447:A:N3	2.84	0.45
52:t:183:C:O2	52:t:432:A:H2	1.99	0.45
52:t:532:A:N1	52:t:2020:A:H1'	2.32	0.45
52:t:760:G:C6	52:t:761:A:C4	3.04	0.45
52:t:795:C:H2'	52:t:796:C:C6	2.51	0.45
52:t:840:C:N3	52:t:939:G:C6	2.85	0.45
52:t:1710:G:H4'	52:t:2858:C:C2	2.52	0.45
52:t:2576:G:O2'	52:t:2579:C:OP2	2.32	0.45
52:t:2637:U:H2'	52:t:2638:G:O4'	2.17	0.45
52:t:2769:U:H2'	52:t:2770:G:C8	2.51	0.45
52:t:2795:C:H2'	52:t:2796:U:C6	2.52	0.45
52:t:2801:G:C2'	52:t:2802:G:H5'	2.46	0.45
53:u:66:A:H4'	53:u:67:G:O5'	2.17	0.45
1:A:69:VAL:O	1:A:162:VAL:HA	2.17	0.45
2:B:3:LYS:HG2	51:s:1191:A:OP1	2.17	0.45
2:B:21:TRP:CH2	2:B:31:ASN:HB3	2.52	0.45
3:C:123:MET:CB	3:C:128:VAL:HA	2.46	0.45
3:C:131:ILE:HG13	51:s:620:C:H1'	1.99	0.45
4:D:158:LYS:OXT	4:D:158:LYS:HG3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:70:VAL:HG23	5:E:71:ILE:H	1.80	0.45
6:F:133:ALA:O	6:F:136:LYS:HB3	2.16	0.45
10:J:27:ASN:O	10:J:56:LYS:HG3	2.16	0.45
10:J:34:THR:OG1	10:J:39:ASN:C	2.60	0.45
16:P:11:VAL:HG11	16:P:54:ILE:HA	1.98	0.45
21:U:143:VAL:HG12	21:U:144:GLU:O	2.17	0.45
21:U:263:ASP:O	21:U:265:PHE:N	2.50	0.45
22:V:2:ILE:HG22	22:V:83:ARG:O	2.16	0.45
25:Y:53:PRO:HD3	25:Y:61:TRP:CH2	2.52	0.45
25:Y:171:LYS:HG3	25:Y:172:GLU:H	1.82	0.45
29:2:21:ARG:HD3	52:t:811:U:H2'	1.98	0.45
29:2:59:ARG:HA	47:l:12:ARG:NH2	2.32	0.45
32:5:54:VAL:O	32:5:54:VAL:HG22	2.17	0.45
34:8:87:VAL:O	34:8:88:GLU:HB3	2.16	0.45
35:9:38:VAL:HG23	35:9:38:VAL:O	2.17	0.45
38:c:39:ASN:ND2	38:c:62:ALA:HB3	2.31	0.45
40:e:39:GLN:HG2	40:e:41:GLY:N	2.28	0.45
43:h:48:ASN:O	43:h:50:VAL:N	2.49	0.45
47:l:63:TYR:CD2	52:t:242:G:H3'	2.51	0.45
49:n:73:LYS:O	49:n:77:VAL:HG23	2.17	0.45
49:n:106:PHE:O	49:n:107:GLU:C	2.60	0.45
50:o:10:ALA:C	50:o:12:ALA:H	2.24	0.45
50:o:26:MET:CE	50:o:29:LYS:HE2	2.38	0.45
50:p:5:ASP:C	50:p:7:ILE:H	2.25	0.45
50:q:19:VAL:O	50:q:19:VAL:HG12	2.17	0.45
51:s:269:C:H2'	51:s:270:A:H8	1.80	0.45
51:s:429:U:C2'	51:s:430:A:H5''	2.47	0.45
51:s:701:U:H5''	51:s:703:G:H1'	1.99	0.45
51:s:793:U:H5'	51:s:794:A:O5'	2.16	0.45
51:s:914:A:O2'	56:z:6:5OH:CQ	2.64	0.45
51:s:959:A:O4'	51:s:985:C:H4'	2.17	0.45
51:s:977:A:H5'	51:s:1362:A:H61	1.82	0.45
51:s:1072:G:C5	51:s:1073:U:C4	3.04	0.45
52:t:361:G:C2'	52:t:362:A:H5'	2.45	0.45
52:t:445:C:O2	52:t:449:A:H2	2.00	0.45
52:t:1680:U:C2'	52:t:1681:G:H5'	2.47	0.45
52:t:1688:U:O2	52:t:1700:A:H8	2.00	0.45
52:t:1858:A:H2'	52:t:1859:U:O5'	2.16	0.45
54:v:89:THR:HA	54:v:90:PRO:HD2	1.59	0.45
1:A:113:LEU:HD12	1:A:113:LEU:O	2.16	0.45
1:A:176:ASN:C	1:A:178:LEU:H	2.25	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:70:ALA:CB	2:B:108:PRO:HB3	2.46	0.45
2:B:77:GLY:HA3	2:B:81:GLU:HB3	1.99	0.45
2:B:146:LYS:HB2	2:B:202:PHE:CD2	2.52	0.45
3:C:72:ARG:O	3:C:75:TYR:HB3	2.17	0.45
3:C:137:SER:CB	3:C:138:PRO:HD2	2.36	0.45
4:D:15:ILE:CG2	4:D:109:ALA:HA	2.44	0.45
6:F:3:ARG:HH11	6:F:3:ARG:CB	2.30	0.45
6:F:66:GLU:CA	6:F:69:ARG:HH21	2.30	0.45
6:F:132:THR:O	6:F:132:THR:HG22	2.17	0.45
8:H:119:LYS:O	8:H:119:LYS:HE3	2.17	0.45
9:I:52:LEU:HB2	13:M:80:ARG:NH1	2.32	0.45
10:J:69:CYS:O	10:J:73:VAL:HG13	2.17	0.45
11:K:45:ASN:ND2	11:K:88:ASP:OD2	2.44	0.45
14:N:44:GLU:HG3	14:N:45:HIS:CD2	2.52	0.45
14:N:82:GLU:O	14:N:84:LEU:N	2.49	0.45
15:O:44:SER:O	15:O:45:GLU:C	2.60	0.45
18:R:17:LYS:O	18:R:21:ALA:HB2	2.17	0.45
18:R:52:ASN:HB2	18:R:76:THR:CG2	2.39	0.45
22:V:25:THR:HG21	22:V:193:VAL:CG2	2.46	0.45
23:W:121:VAL:O	23:W:189:THR:HA	2.17	0.45
24:X:27:VAL:HG13	24:X:27:VAL:O	2.16	0.45
24:X:33:ILE:HG23	24:X:154:THR:O	2.16	0.45
27:O:47:HIS:CB	52:t:536:G:H21	2.30	0.45
28:1:72:PRO:O	28:1:73:ASP:HB3	2.17	0.45
30:3:101:VAL:HG13	30:3:101:VAL:O	2.16	0.45
31:4:25:ALA:O	31:4:29:VAL:HG23	2.17	0.45
31:4:85:PRO:C	31:4:87:PHE:H	2.25	0.45
33:6:19:PHE:O	33:6:23:ASP:OD1	2.35	0.45
33:6:23:ASP:OD2	33:6:88:ARG:HA	2.17	0.45
35:9:80:ARG:HG2	52:t:566:U:H5	1.82	0.45
36:a:2:GLU:O	36:a:107:VAL:O	2.34	0.45
38:c:11:ILE:O	38:c:11:ILE:HG23	2.15	0.45
42:g:26:PHE:O	42:g:29:ARG:HB2	2.17	0.45
45:j:7:LYS:HE3	47:l:33:THR:CG2	2.30	0.45
49:n:118:ILE:CB	49:n:119:PRO:CD	2.95	0.45
50:p:19:VAL:HA	50:p:22:LEU:HD12	1.99	0.45
51:s:77:A:C2	51:s:78:A:N6	2.85	0.45
51:s:141:G:H1	51:s:222:C:N4	2.14	0.45
51:s:591:U:H2'	51:s:592:G:H8	1.82	0.45
51:s:624:C:H2'	51:s:625:U:H6	1.81	0.45
51:s:663:A:O2'	51:s:664:G:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:908:A:H2'	51:s:909:A:O4'	2.17	0.45
51:s:1302:C:O5'	51:s:1302:C:H6	2.00	0.45
51:s:1374:A:C4	51:s:1375:A:C8	3.04	0.45
52:t:62:U:C5'	52:t:63:A:OP1	2.65	0.45
52:t:532:A:O2'	52:t:2021:C:N4	2.49	0.45
52:t:602:A:O2'	52:t:604:G:H4'	2.17	0.45
52:t:717:C:H2'	52:t:718:A:O4'	2.16	0.45
52:t:834:G:H2'	52:t:835:C:C6	2.52	0.45
52:t:1522:A:C2'	52:t:1523:U:OP2	2.65	0.45
52:t:1842:G:H2'	52:t:1843:C:C6	2.51	0.45
52:t:2250:G:OP1	52:t:2275:C:H2'	2.16	0.45
53:u:17:C:H2'	53:u:18:G:C5'	2.47	0.45
53:u:28:C:N3	53:u:56:G:N2	2.44	0.45
53:u:91:C:O2'	53:u:92:C:H5'	2.17	0.45
54:v:46:VAL:O	54:v:49:ARG:HB2	2.17	0.45
1:A:17:HIS:HD2	1:A:202:ASN:HD21	1.62	0.45
1:A:114:LYS:CA	1:A:117:GLU:HG2	2.42	0.45
3:C:114:ARG:C	3:C:116:LEU:H	2.25	0.45
3:C:133:SER:O	3:C:134:TYR:C	2.60	0.45
4:D:113:VAL:HG13	4:D:114:LEU:HD22	1.97	0.45
6:F:117:LEU:C	6:F:119:LEU:N	2.74	0.45
8:H:23:GLY:N	8:H:61:ASP:H	2.02	0.45
8:H:74:GLN:OE1	51:s:1249:C:O2'	2.28	0.45
9:I:15:HIS:HB2	51:s:1152:A:OP1	2.16	0.45
9:I:15:HIS:ND1	9:I:16:ARG:N	2.64	0.45
13:M:57:SER:HB2	51:s:1360:A:N9	2.32	0.45
13:M:82:LYS:HE2	13:M:85:GLU:HG3	1.99	0.45
14:N:13:GLU:HB3	14:N:83:ARG:NH2	2.32	0.45
16:P:51:GLU:O	16:P:52:CYS:C	2.60	0.45
20:T:35:GLU:OE2	20:T:37:TYR:HB2	2.16	0.45
21:U:29:PHE:CZ	21:U:100:ARG:HG3	2.52	0.45
23:W:100:MET:HE3	52:t:600:G:C1'	2.47	0.45
24:X:9:ASP:O	24:X:10:GLU:HB2	2.17	0.45
24:X:14:LYS:HD3	24:X:14:LYS:O	2.16	0.45
25:Y:16:VAL:HG11	25:Y:44:HIS:CD2	2.52	0.45
25:Y:94:ARG:HG3	25:Y:127:GLN:HG2	1.99	0.45
26:Z:34:ILE:N	26:Z:34:ILE:CD1	2.80	0.45
27:O:64:VAL:CG1	27:O:65:THR:N	2.80	0.45
27:O:88:THR:HG22	27:O:91:GLU:CG	2.47	0.45
32:5:111:ARG:C	32:5:113:ALA:N	2.74	0.45
33:6:108:ARG:HH12	51:s:1464:U:P	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:8:10:ARG:HH21	34:8:14:LYS:HA	1.82	0.45
36:a:18:ARG:CZ	52:t:518:G:H4'	2.46	0.45
36:a:65:ASP:O	36:a:67:ASP:N	2.50	0.45
36:a:95:ARG:O	36:a:96:ILE:HG12	2.17	0.45
37:b:17:SER:O	37:b:18:GLU:O	2.34	0.45
37:b:27:SER:O	37:b:28:ASN:CG	2.59	0.45
38:c:86:PHE:CG	38:c:87:GLU:N	2.81	0.45
40:e:19:ARG:NH1	52:t:922:C:H1'	2.24	0.45
40:e:66:VAL:HA	40:e:81:ILE:HD13	1.99	0.45
43:h:13:ILE:HG22	43:h:14:GLY:N	2.32	0.45
43:h:15:ARG:HG2	43:h:53:MET:SD	2.57	0.45
44:i:9:ARG:O	44:i:12:ARG:HB3	2.17	0.45
49:n:23:LEU:HG	49:n:96:PHE:CZ	2.52	0.45
49:n:46:ARG:O	49:n:47:GLU:HB2	2.16	0.45
49:n:71:CYS:O	49:n:74:ASP:OD2	2.35	0.45
51:s:336:A:O2'	51:s:337:G:H5'	2.17	0.45
51:s:338:A:C2	51:s:339:C:C2	3.05	0.45
51:s:500:G:C2	51:s:546:A:N3	2.85	0.45
51:s:575:G:H4'	51:s:576:C:OP1	2.16	0.45
51:s:753:A:C4'	51:s:754:C:O5'	2.50	0.45
51:s:941:G:H21	51:s:942:G:H1'	1.81	0.45
51:s:962:C:H2'	51:s:963:G:H8	1.79	0.45
51:s:964:A:OP1	51:s:1199:U:OP1	2.35	0.45
51:s:1176:A:H2'	51:s:1177:G:C8	2.52	0.45
51:s:1400:C:H4'	51:s:1401:G:OP2	2.17	0.45
52:t:263:G:H2'	52:t:264:C:O4'	2.16	0.45
52:t:271:G:O2'	52:t:272:A:H5''	2.17	0.45
52:t:328:U:H2'	52:t:329:G:OP1	2.16	0.45
52:t:378:C:H2'	52:t:379:G:H5'	1.98	0.45
52:t:866:A:C5	52:t:867:C:C5	3.05	0.45
52:t:884:U:O5'	52:t:884:U:H6	2.00	0.45
52:t:977:G:C2'	52:t:978:G:H5'	2.47	0.45
52:t:1045:C:H5''	52:t:1046:A:C5'	2.46	0.45
52:t:1134:A:C2'	52:t:1135:C:OP2	2.65	0.45
52:t:1506:U:H2'	52:t:1507:C:C6	2.51	0.45
52:t:1665:A:H2'	52:t:1666:G:O4'	2.16	0.45
52:t:1672:A:C2	52:t:1673:G:C4	3.05	0.45
52:t:1961:C:OP1	56:AA:1:KBE:HA	2.17	0.45
54:v:413:LEU:O	54:v:417:VAL:N	2.32	0.45
56:7:3:SER:O	56:7:4:SER:HB3	2.16	0.45
1:A:71:THR:O	1:A:72:LYS:HG2	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:140:LEU:O	1:A:144:GLU:N	2.51	0.44
4:D:63:MET:C	4:D:66:ALA:HB3	2.42	0.44
5:E:51:ILE:C	5:E:53:LYS:H	2.23	0.44
5:E:51:ILE:O	5:E:52:ASN:HB2	2.18	0.44
6:F:128:GLU:O	6:F:129:ASN:C	2.61	0.44
9:I:59:LYS:HE2	9:I:60:ASP:OD1	2.17	0.44
10:J:46:ALA:HB1	10:J:56:LYS:HB2	1.99	0.44
14:N:45:HIS:O	14:N:46:LYS:HB2	2.17	0.44
15:O:35:ARG:HH11	15:O:35:ARG:CB	2.14	0.44
16:P:23:ALA:O	16:P:24:ILE:HD13	2.17	0.44
17:Q:61:ALA:HB1	17:Q:66:LEU:HB2	1.99	0.44
18:R:60:PHE:CE2	24:X:111:ARG:HB3	2.52	0.44
21:U:108:GLY:O	21:U:109:LEU:HD23	2.17	0.44
21:U:166:ARG:HB3	21:U:171:VAL:HG22	1.99	0.44
22:V:21:SER:HB2	28:1:73:ASP:HA	1.99	0.44
22:V:104:VAL:O	22:V:177:VAL:HG21	2.17	0.44
24:X:30:VAL:HG12	24:X:96:TRP:CZ2	2.53	0.44
26:Z:139:VAL:CG2	26:Z:141:ASP:HB2	2.46	0.44
30:3:66:ARG:HB2	30:3:101:VAL:O	2.17	0.44
31:4:2:ARG:O	31:4:3:HIS:C	2.60	0.44
32:5:74:VAL:O	32:5:77:ALA:HB3	2.17	0.44
35:9:14:VAL:CG2	35:9:15:SER:H	2.28	0.44
37:b:6:ARG:C	37:b:8:LEU:H	2.25	0.44
37:b:25:GLU:C	37:b:27:SER:H	2.25	0.44
37:b:32:LEU:HD23	37:b:83:ALA:HB1	1.94	0.44
49:n:157:ALA:HA	49:n:161:ALA:HB3	1.98	0.44
51:s:77:A:N1	51:s:78:A:N6	2.65	0.44
51:s:130:A:H1'	51:s:264:C:O4'	2.17	0.44
51:s:288:A:O2'	51:s:289:G:H5'	2.17	0.44
51:s:594:U:H2'	51:s:595:A:O4'	2.17	0.44
51:s:615:G:C6	51:s:626:G:C6	3.05	0.44
51:s:659:U:O2'	51:s:660:C:H5'	2.16	0.44
51:s:1085:U:H1'	51:s:1094:G:C5	2.52	0.44
51:s:1394:A:C5	51:s:1501:C:H4'	2.52	0.44
51:s:1494:G:H4'	52:t:1913:A:N7	2.32	0.44
52:t:60:G:O2'	52:t:61:C:P	2.76	0.44
52:t:84:A:N1	52:t:98:G:O2'	2.40	0.44
52:t:494:G:O2'	52:t:495:G:H5'	2.18	0.44
52:t:647:G:H3'	52:t:648:G:H8	1.82	0.44
52:t:912:C:C2	52:t:913:U:C5	3.06	0.44
52:t:1162:G:O2'	52:t:1163:G:H5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1912:A:C8	52:t:1918:A:C2	3.05	0.44
52:t:1919:A:O5'	52:t:1919:A:H8	2.00	0.44
52:t:2102:G:H2'	52:t:2103:C:C6	2.51	0.44
52:t:2296:U:C5'	52:t:2297:A:OP1	2.64	0.44
52:t:2331:G:N2	52:t:2385:C:C2	2.86	0.44
52:t:2436:G:N3	52:t:2598:A:H2	2.15	0.44
52:t:2470:G:O2'	52:t:2471:A:H5'	2.17	0.44
52:t:2517:C:C2	52:t:2542:A:N6	2.85	0.44
54:v:125:LYS:O	54:v:129:VAL:HG23	2.18	0.44
1:A:66:ILE:N	1:A:66:ILE:CD1	2.80	0.44
4:D:135:VAL:CG2	4:D:136:VAL:N	2.80	0.44
5:E:24:ARG:CD	5:E:24:ARG:H	2.30	0.44
5:E:72:ASP:C	5:E:74:LEU:H	2.24	0.44
6:F:34:LYS:HB3	6:F:37:THR:OG1	2.17	0.44
6:F:67:ASN:ND2	6:F:129:ASN:HB3	2.30	0.44
8:H:52:GLU:C	8:H:54:VAL:H	2.26	0.44
8:H:69:GLY:HA2	51:s:1250:A:O2'	2.17	0.44
11:K:106:VAL:CG2	11:K:116:TYR:HB3	2.47	0.44
12:L:39:ALA:HB3	12:L:42:VAL:HG13	1.99	0.44
22:V:68:PHE:C	22:V:73:VAL:HG22	2.42	0.44
27:O:3:THR:HG23	52:t:995:C:O2	2.17	0.44
27:O:73:VAL:CG2	27:O:74:TYR:H	2.11	0.44
29:2:62:PRO:HG2	47:l:24:LYS:HD3	2.00	0.44
30:3:57:VAL:O	30:3:58:LYS:C	2.60	0.44
31:4:58:ASP:OD2	31:4:63:ARG:NH2	2.50	0.44
36:a:51:LEU:O	36:a:52:GLU:C	2.60	0.44
38:c:47:PRO:HB3	38:c:55:GLY:HA3	1.98	0.44
40:e:16:GLU:CA	40:e:16:GLU:OE2	2.65	0.44
40:e:23:LYS:HD3	52:t:855:G:C2'	2.47	0.44
40:e:39:GLN:HE21	40:e:42:THR:CB	2.30	0.44
42:g:55:THR:O	42:g:58:ASN:HB3	2.17	0.44
46:k:16:HIS:ND1	52:t:684:G:OP1	2.50	0.44
48:m:3:VAL:HG12	48:m:36:ARG:HB3	1.98	0.44
49:n:34:THR:HG21	52:t:1056:G:H5'	1.99	0.44
49:n:37:LYS:CD	52:t:1085:A:H62	2.30	0.44
50:o:8:ILE:C	50:o:10:ALA:H	2.24	0.44
51:s:58:C:H6	51:s:58:C:O5'	2.00	0.44
51:s:373:A:C4	51:s:482:A:N7	2.86	0.44
51:s:431:A:H2'	51:s:432:A:O4'	2.17	0.44
51:s:970:C:H4'	51:s:972:C:C5	2.52	0.44
51:s:1245:C:O2'	51:s:1246:A:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:1494:G:H4'	52:t:1913:A:C5	2.52	0.44
52:t:49:A:H4'	52:t:50:U:O5'	2.18	0.44
52:t:374:A:H2'	52:t:375:G:O4'	2.16	0.44
52:t:422:A:C2	52:t:423:A:C4	3.05	0.44
52:t:624:C:O2'	52:t:657:U:OP1	2.31	0.44
52:t:688:U:H1'	52:t:786:C:O2'	2.17	0.44
52:t:945:A:O3'	52:t:946:C:H4'	2.18	0.44
52:t:957:C:H4'	52:t:958:U:OP1	2.17	0.44
52:t:1261:C:H2'	52:t:1262:A:O5'	2.18	0.44
52:t:1369:G:C5	52:t:1370:C:C5	3.05	0.44
52:t:1631:G:H1'	52:t:1635:A:H61	1.82	0.44
52:t:1914:C:OP2	56:y:4:SER:O	2.36	0.44
52:t:2221:G:C6	52:t:2222:C:C4	3.05	0.44
52:t:2260:C:H2'	52:t:2261:C:C6	2.51	0.44
54:v:145:ASP:O	54:v:176:GLY:HA2	2.17	0.44
56:7:1:KBE:N	56:BA:2:DPP:N	2.65	0.44
1:A:19:THR:CA	1:A:37:VAL:HG23	2.46	0.44
1:A:172:ILE:O	1:A:175:ALA:HB3	2.17	0.44
1:A:205:ALA:O	1:A:206:ILE:C	2.60	0.44
3:C:187:ARG:HH12	3:C:191:SER:HB2	1.82	0.44
4:D:110:MET:CG	4:D:139:THR:HG21	2.34	0.44
6:F:30:MET:CE	6:F:33:GLY:HA2	2.47	0.44
8:H:26:LYS:HG3	8:H:61:ASP:OD1	2.17	0.44
11:K:3:VAL:CG2	11:K:4:ASN:H	2.24	0.44
13:M:40:ARG:HG2	13:M:40:ARG:NH1	2.31	0.44
18:R:38:THR:CG2	18:R:39:ILE:H	2.16	0.44
19:S:4:LYS:O	19:S:5:SER:C	2.60	0.44
19:S:53:MET:O	19:S:54:GLN:C	2.60	0.44
19:S:53:MET:HA	19:S:56:ILE:CG2	2.46	0.44
20:T:34:ARG:HD3	20:T:39:LYS:NZ	2.32	0.44
21:U:106:PRO:C	21:U:108:GLY:N	2.74	0.44
22:V:68:PHE:HB2	22:V:73:VAL:HG13	1.97	0.44
22:V:98:VAL:HG12	22:V:180:VAL:CG1	2.46	0.44
23:W:108:ILE:CD1	29:2:2:ARG:HH22	2.30	0.44
23:W:136:GLN:O	23:W:139:LYS:HB3	2.17	0.44
25:Y:84:LYS:HD2	25:Y:133:LYS:HG2	1.99	0.44
25:Y:126:THR:C	25:Y:128:THR:H	2.25	0.44
25:Y:142:GLN:O	25:Y:143:VAL:C	2.61	0.44
26:Z:30:GLN:HE21	26:Z:32:VAL:HG23	1.83	0.44
27:0:21:THR:C	27:0:23:LYS:H	2.26	0.44
32:5:47:VAL:HG21	53:u:114:C:H1'	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:5:59:ALA:HA	32:5:62:LEU:CD1	2.47	0.44
33:6:33:GLU:CG	33:6:34:GLY:N	2.76	0.44
34:8:16:ILE:O	34:8:17:LEU:C	2.59	0.44
34:8:46:TYR:CZ	34:8:50:ARG:NH2	2.85	0.44
36:a:28:LYS:O	36:a:29:VAL:C	2.61	0.44
40:e:38:ARG:NH2	52:t:2387:U:H4'	2.32	0.44
46:k:25:LYS:NZ	52:t:211:C:OP1	2.48	0.44
50:r:10:ALA:O	50:r:12:ALA:N	2.47	0.44
51:s:213:G:H2'	51:s:214:C:O4'	2.17	0.44
51:s:243:A:C2	51:s:246:A:C8	3.05	0.44
51:s:471:U:C2'	51:s:472:U:H5'	2.47	0.44
51:s:505:G:C6	51:s:535:A:C2	3.05	0.44
51:s:579:A:C2	51:s:763:G:C2	3.05	0.44
51:s:587:G:O2'	51:s:588:G:H5'	2.16	0.44
51:s:742:G:O2'	51:s:743:A:H5'	2.17	0.44
51:s:769:G:H4'	51:s:1513:A:H4'	2.00	0.44
51:s:988:G:N2	51:s:1217:C:N3	2.63	0.44
51:s:1079:G:H2'	51:s:1080:A:C8	2.51	0.44
51:s:1129:C:C2'	51:s:1139:G:O6	2.64	0.44
51:s:1333:A:H3'	51:s:1334:G:C8	2.52	0.44
51:s:1400:C:H5''	51:s:1401:G:OP2	2.16	0.44
52:t:416:U:O5'	52:t:416:U:H6	2.01	0.44
52:t:481:G:C4	52:t:507:A:C2	3.06	0.44
52:t:685:A:H1'	52:t:688:U:O4	2.17	0.44
52:t:703:U:H2'	52:t:704:G:O4'	2.17	0.44
52:t:892:A:H2'	52:t:893:C:O4'	2.16	0.44
52:t:1169:A:N1	52:t:1181:U:O2	2.51	0.44
52:t:1225:G:H2'	52:t:1226:A:C8	2.53	0.44
52:t:1317:G:H2'	52:t:1318:U:O4'	2.17	0.44
52:t:1389:G:H2'	52:t:1390:U:C6	2.52	0.44
52:t:1637:A:H5'	52:t:1760:C:O2'	2.17	0.44
52:t:1778:U:O4	52:t:1784:A:H1'	2.17	0.44
52:t:2547:A:H2'	52:t:2548:U:H6	1.74	0.44
53:u:3:C:H2'	53:u:4:C:C6	2.52	0.44
53:u:16:G:H8	53:u:16:G:O5'	2.01	0.44
54:v:100:TYR:CE1	54:v:129:VAL:HG21	2.52	0.44
1:A:43:GLU:O	1:A:47:PRO:HG2	2.18	0.44
1:A:136:ARG:CG	1:A:136:ARG:NH1	2.81	0.44
2:B:6:PRO:HG2	2:B:183:TYR:HB3	2.00	0.44
2:B:105:VAL:O	2:B:105:VAL:HG12	2.17	0.44
2:B:128:MET:HB3	2:B:131:ARG:HG3	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:63:ILE:O	3:C:63:ILE:CG2	2.65	0.44
8:H:6:TYR:HE2	8:H:17:ARG:CB	2.29	0.44
8:H:53:LEU:O	8:H:54:VAL:HG13	2.17	0.44
8:H:93:LEU:HD12	8:H:94:ARG:H	1.78	0.44
9:I:35:GLN:HB3	9:I:36:VAL:H	1.65	0.44
10:J:92:ARG:NH2	20:T:19:LYS:HG3	2.31	0.44
12:L:104:ASN:O	12:L:105:ALA:HB2	2.18	0.44
13:M:9:GLU:O	13:M:13:VAL:HG23	2.16	0.44
14:N:42:PHE:C	14:N:44:GLU:O	2.61	0.44
14:N:85:GLY:O	14:N:86:LEU:HB3	2.17	0.44
15:O:70:ARG:NH2	51:s:451:A:H5'	2.32	0.44
17:Q:57:ALA:HA	17:Q:60:ARG:CD	2.40	0.44
19:S:50:PHE:CD1	19:S:50:PHE:C	2.95	0.44
21:U:116:GLN:N	21:U:127:ASN:OD1	2.48	0.44
21:U:255:LYS:H	52:t:1797:G:H5''	1.83	0.44
22:V:114:LYS:HE3	22:V:114:LYS:C	2.42	0.44
23:W:44:ARG:NH1	52:t:1248:G:OP2	2.50	0.44
23:W:176:ASP:OD1	23:W:178:VAL:N	2.50	0.44
25:Y:8:VAL:HG11	25:Y:49:LEU:HB2	1.91	0.44
26:Z:24:GLY:O	26:Z:26:ALA:N	2.49	0.44
27:0:4:PHE:O	27:0:44:TYR:CE1	2.69	0.44
27:0:6:ALA:HB3	27:0:45:THR:CB	2.47	0.44
27:0:53:TYR:OH	52:t:8:C:H5''	2.17	0.44
27:0:54:ILE:HD11	27:0:122:LEU:HD13	1.99	0.44
28:1:43:ILE:HG22	28:1:44:LYS:N	2.33	0.44
29:2:78:ARG:HH21	29:2:78:ARG:CB	2.30	0.44
31:4:54:LEU:HD23	31:4:66:ALA:HB2	1.99	0.44
31:4:101:GLY:HA2	31:4:110:MET:HB2	1.98	0.44
32:5:18:LEU:HD11	52:t:2378:A:N3	2.32	0.44
32:5:94:ARG:NH1	52:t:2294:G:OP1	2.50	0.44
33:6:3:ILE:HG13	33:6:4:ILE:N	2.31	0.44
33:6:19:PHE:O	33:6:20:ARG:HB3	2.17	0.44
36:a:88:ARG:NH1	52:t:2013:A:N3	2.65	0.44
40:e:38:ARG:NH2	52:t:2387:U:O2'	2.47	0.44
41:f:19:HIS:C	41:f:21:LEU:N	2.76	0.44
42:g:23:ARG:O	42:g:24:GLU:C	2.61	0.44
43:h:16:LEU:H	43:h:19:HIS:HD2	1.65	0.44
43:h:37:ARG:NH2	52:t:929:U:H4'	2.32	0.44
47:l:27:ASN:H	52:t:2393:U:P	2.41	0.44
47:l:63:TYR:CE1	52:t:593:U:H5'	2.51	0.44
51:s:35:G:H2'	51:s:36:C:H6	1.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:148:G:C4	51:s:149:A:C8	3.05	0.44
51:s:782:A:C6	51:s:801:U:C2	3.06	0.44
51:s:855:U:H2'	51:s:856:C:O4'	2.18	0.44
51:s:872:A:HO2'	51:s:873:A:H3'	1.74	0.44
51:s:882:C:O2'	51:s:883:C:H5'	2.17	0.44
51:s:1084:G:C6	51:s:1085:U:C4	3.06	0.44
51:s:1197:A:H2'	51:s:1198:G:H8	1.81	0.44
52:t:585:G:N2	52:t:1256:G:C5	2.84	0.44
52:t:622:G:O2'	52:t:623:C:H5'	2.17	0.44
52:t:1061:U:O2'	52:t:1070:A:C4'	2.63	0.44
52:t:1149:G:O2'	52:t:1150:C:H5'	2.17	0.44
52:t:1265:A:O4'	52:t:1267:U:C6	2.70	0.44
52:t:1438:U:O2'	52:t:1439:A:H5'	2.18	0.44
52:t:1912:A:P	52:t:1913:A:OP2	2.75	0.44
52:t:2592:G:H2'	52:t:2593:U:O4'	2.17	0.44
52:t:2797:U:H5''	52:t:2798:U:OP1	2.18	0.44
1:A:170:ILE:HD13	1:A:170:ILE:N	2.33	0.44
1:A:176:ASN:C	1:A:178:LEU:N	2.74	0.44
2:B:63:ILE:HG22	2:B:97:PRO:O	2.17	0.44
3:C:95:GLY:HA3	3:C:135:GLN:NE2	2.32	0.44
5:E:78:PHE:CD2	5:E:78:PHE:N	2.83	0.44
7:G:65:PHE:HB3	7:G:66:GLN:H	1.64	0.44
10:J:51:PHE:CZ	10:J:61:ALA:HB1	2.52	0.44
10:J:55:ARG:C	10:J:57:SER:H	2.25	0.44
12:L:48:SER:C	12:L:50:GLY:N	2.73	0.44
12:L:58:GLU:C	12:L:60:ALA:N	2.73	0.44
13:M:20:PHE:CE2	51:s:1317:C:H5'	2.53	0.44
13:M:49:THR:HG21	18:R:12:LEU:HD12	2.00	0.44
14:N:84:LEU:HD12	14:N:84:LEU:HA	1.83	0.44
18:R:18:VAL:CG2	18:R:43:MET:HE3	2.46	0.44
19:S:58:ASP:O	19:S:61:ALA:HB3	2.18	0.44
21:U:126:GLY:N	21:U:191:LEU:O	2.44	0.44
23:W:38:GLY:C	23:W:40:ARG:N	2.74	0.44
24:X:37:MET:HA	24:X:151:LEU:CB	2.47	0.44
24:X:128:SER:CA	24:X:154:THR:HA	2.47	0.44
24:X:168:LEU:C	24:X:169:LEU:HD12	2.42	0.44
25:Y:137:LYS:O	25:Y:140:ILE:HG13	2.17	0.44
27:O:68:LYS:CE	52:t:1022:G:O6	2.65	0.44
29:2:89:VAL:O	29:2:94:THR:HG21	2.17	0.44
29:2:89:VAL:HG21	29:2:123:ARG:NH2	2.32	0.44
31:4:24:MET:CE	31:4:40:LYS:HB3	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:5:12:THR:O	32:5:16:ARG:N	2.50	0.44
32:5:107:ALA:O	32:5:110:ALA:HB3	2.18	0.44
36:a:4:ILE:HB	36:a:106:VAL:HG22	2.00	0.44
37:b:1:MET:CE	37:b:5:GLU:HB2	2.48	0.44
37:b:2:ILE:HG12	52:t:141:G:N1	2.33	0.44
40:e:36:ILE:O	40:e:36:ILE:HG23	2.16	0.44
41:f:34:SER:HA	41:f:48:LEU:O	2.17	0.44
41:f:44:ARG:HG2	41:f:45:PHE:N	2.32	0.44
51:s:552:U:C2'	51:s:553:A:H5'	2.47	0.44
51:s:705:G:C5	51:s:706:A:C8	3.06	0.44
51:s:1517:G:OP2	56:7:4:SER:HA	2.18	0.44
52:t:271:G:O2'	52:t:272:A:C8	2.71	0.44
52:t:859:G:H2'	52:t:916:G:C6	2.53	0.44
52:t:935:C:H2'	52:t:936:A:C8	2.51	0.44
52:t:1751:U:H2'	52:t:1752:C:H6	1.82	0.44
52:t:2038:G:H2'	52:t:2039:U:C6	2.53	0.44
52:t:2061:G:H5'	52:t:2503:A:N1	2.33	0.44
52:t:2362:C:H2'	52:t:2363:G:O4'	2.18	0.44
52:t:2840:C:O5'	52:t:2840:C:H6	2.00	0.44
54:v:19:ILE:HA	54:v:89:THR:OG1	2.18	0.44
54:v:452:ARG:O	54:v:459:VAL:HG23	2.16	0.44
56:AA:6:5OH:CR	56:BA:6:5OH:HP	2.48	0.44
1:A:57:ASN:C	1:A:59:ILE:H	2.26	0.44
1:A:68:PHE:HD2	1:A:89:PHE:O	2.00	0.44
2:B:167:TYR:C	2:B:167:TYR:CD2	2.94	0.44
4:D:24:VAL:HG23	4:D:25:LYS:N	2.33	0.44
10:J:16:SER:O	10:J:79:LYS:N	2.50	0.44
11:K:49:ARG:HH11	11:K:49:ARG:CG	2.30	0.44
13:M:24:ALA:C	13:M:26:LEU:N	2.75	0.44
13:M:82:LYS:HA	13:M:82:LYS:CE	2.43	0.44
14:N:80:LEU:HD11	14:N:84:LEU:HD22	1.98	0.44
14:N:80:LEU:CD1	14:N:84:LEU:HD22	2.48	0.44
15:O:3:THR:HA	15:O:66:THR:O	2.18	0.44
16:P:13:SER:C	16:P:16:MET:SD	3.01	0.44
16:P:61:ARG:HH11	16:P:61:ARG:HB2	1.81	0.44
17:Q:24:ASP:O	17:Q:28:LEU:HD13	2.18	0.44
18:R:21:ALA:HB1	18:R:46:LEU:HD21	2.00	0.44
18:R:40:PHE:O	18:R:42:ASN:N	2.51	0.44
18:R:77:ARG:HD2	51:s:1225:A:C1'	2.42	0.44
19:S:59:ARG:C	19:S:61:ALA:H	2.24	0.44
21:U:30:ALA:HA	21:U:33:LEU:CD1	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:48:ILE:HD11	52:t:779:U:H5''	1.98	0.44
21:U:73:ILE:HA	21:U:74:PRO:HD3	1.84	0.44
22:V:114:LYS:N	22:V:114:LYS:CE	2.73	0.44
22:V:121:THR:O	22:V:122:VAL:CB	2.66	0.44
23:W:130:LYS:O	23:W:133:LEU:HB2	2.18	0.44
23:W:145:ASP:OD1	23:W:183:PHE:HA	2.18	0.44
24:X:12:VAL:CG1	24:X:13:LYS:N	2.79	0.44
24:X:35:LEU:HA	24:X:153:ILE:HA	1.99	0.44
24:X:39:VAL:CG1	24:X:40:GLY:N	2.79	0.44
27:0:1:MET:HE1	35:9:20:VAL:HG12	1.98	0.44
28:1:39:ILE:HG23	28:1:41:ILE:CD1	2.41	0.44
28:1:42:THR:HG23	28:1:42:THR:O	2.16	0.44
31:4:2:ARG:NH2	52:t:2820:A:OP2	2.50	0.44
33:6:78:PRO:C	33:6:80:VAL:H	2.25	0.44
34:8:29:ARG:HH11	34:8:29:ARG:HG2	1.83	0.44
37:b:12:ARG:NH1	37:b:12:ARG:CG	2.80	0.44
37:b:32:LEU:O	37:b:83:ALA:HB2	2.17	0.44
37:b:32:LEU:O	37:b:34:VAL:HG13	2.17	0.44
37:b:39:THR:HB	37:b:42:GLU:HB3	1.93	0.44
41:f:4:CYS:O	41:f:8:GLY:N	2.42	0.44
41:f:21:LEU:HD23	41:f:21:LEU:HA	1.77	0.44
41:f:28:PHE:HB3	52:t:396:G:H1'	1.99	0.44
45:j:47:ILE:CG2	45:j:48:TYR:N	2.80	0.44
49:n:18:VAL:HG13	49:n:117:LEU:CD1	2.48	0.44
49:n:30:SER:O	49:n:31:ARG:HB2	2.18	0.44
50:o:2:ILE:H	50:p:17:MET:HE1	1.83	0.44
51:s:153:C:H2'	51:s:154:U:C6	2.53	0.44
51:s:205:A:C2	51:s:206:C:H1'	2.53	0.44
51:s:302:G:O2'	51:s:556:C:H5''	2.18	0.44
51:s:392:C:H2'	51:s:393:A:O4'	2.18	0.44
51:s:592:G:H2'	51:s:593:U:O4'	2.17	0.44
51:s:913:A:H1'	51:s:914:A:O4'	2.17	0.44
52:t:227:A:O2'	52:t:228:C:O5'	2.35	0.44
52:t:611:C:H2'	52:t:612:G:H5'	1.99	0.44
52:t:759:G:O2'	52:t:760:G:H5'	2.17	0.44
52:t:764:A:H5'	52:t:765:C:OP2	2.18	0.44
52:t:776:G:H1	52:t:2072:C:P	2.41	0.44
52:t:1847:A:C8	52:t:1848:A:N7	2.86	0.44
52:t:1999:C:H2'	52:t:2000:C:O4'	2.17	0.44
52:t:2502:G:C5'	52:t:2503:A:H5''	2.37	0.44
52:t:2576:G:H3'	52:t:2576:G:N3	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2801:G:O2'	52:t:2802:G:H5'	2.18	0.44
54:v:49:ARG:HB3	54:v:50:GLY:H	1.35	0.44
54:v:304:GLN:HG2	54:v:305:ALA:N	2.31	0.44
54:v:472:ARG:CD	54:v:503:TYR:HB3	2.44	0.44
1:A:16:GLY:HA2	1:A:202:ASN:HB2	1.99	0.44
1:A:110:ILE:N	1:A:110:ILE:CD1	2.80	0.44
1:A:125:PHE:N	1:A:125:PHE:HD2	2.15	0.44
1:A:221:ARG:HG2	1:A:221:ARG:NH1	2.32	0.44
2:B:161:ILE:HG13	2:B:161:ILE:O	2.18	0.44
3:C:56:GLU:HG2	3:C:198:LEU:HB3	2.00	0.44
3:C:117:VAL:HA	3:C:122:ILE:HG12	1.99	0.44
3:C:151:GLN:H	3:C:154:VAL:CG1	2.29	0.44
3:C:160:LEU:H	3:C:160:LEU:CD2	2.08	0.44
5:E:6:ILE:O	5:E:7:VAL:CB	2.66	0.44
6:F:14:ASP:CG	6:F:22:LEU:HD13	2.43	0.44
7:G:86:LYS:HG2	7:G:90:GLU:O	2.18	0.44
9:I:62:ARG:NH1	51:s:1367:C:OP1	2.51	0.44
11:K:87:LYS:HD2	51:s:526:C:OP2	2.17	0.44
15:O:5:ARG:NH1	51:s:377:G:H5'	2.32	0.44
15:O:23:ASP:O	15:O:25:ARG:N	2.50	0.44
16:P:76:ARG:NH1	16:P:76:ARG:HG2	2.33	0.44
20:T:16:ARG:CZ	20:T:19:LYS:HD2	2.47	0.44
20:T:19:LYS:HE2	20:T:19:LYS:CA	2.47	0.44
23:W:95:LYS:HB3	52:t:659:G:H4'	1.99	0.44
23:W:127:GLU:CD	23:W:127:GLU:N	2.63	0.44
23:W:149:ILE:HG23	23:W:188:MET:HA	2.00	0.44
23:W:160:ALA:C	23:W:162:ARG:H	2.26	0.44
27:O:38:GLY:O	27:O:43:GLU:HB2	2.17	0.44
29:2:135:ILE:HG22	29:2:136:GLU:N	2.32	0.44
30:3:7:THR:O	30:3:8:LYS:C	2.61	0.44
31:4:83:LEU:HD12	31:4:83:LEU:N	2.30	0.44
33:6:13:LYS:HZ1	33:6:80:VAL:HB	1.83	0.44
34:8:63:ARG:NH2	34:8:95:ALA:C	2.75	0.44
34:8:85:ALA:O	34:8:86:SER:C	2.61	0.44
35:9:61:ALA:HA	35:9:99:THR:H	1.83	0.44
41:f:27:ARG:HD2	52:t:1808:A:C2	2.52	0.44
44:i:14:MET:HB3	52:t:2045:C:H4'	1.98	0.44
45:j:29:LYS:HD3	52:t:2287:A:OP1	2.18	0.44
51:s:63:C:O2'	51:s:380:G:H4'	2.17	0.44
51:s:77:A:N6	51:s:90:C:N4	2.66	0.44
51:s:298:A:H2'	51:s:299:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:409:U:O5'	51:s:409:U:H6	2.00	0.44
51:s:519:C:C4	51:s:520:A:C5	3.06	0.44
51:s:552:U:N3	51:s:553:A:N7	2.66	0.44
51:s:692:U:O5'	51:s:692:U:H6	2.01	0.44
51:s:789:U:O2	51:s:792:A:H8	2.01	0.44
51:s:1251:A:H1'	51:s:1370:G:H4'	1.99	0.44
51:s:1405:G:H1'	51:s:1519:A:C4'	2.48	0.44
51:s:1420:U:H4'	52:t:1950:G:OP1	2.18	0.44
51:s:1424:U:H2'	51:s:1425:U:O4'	2.18	0.44
52:t:71:A:H4'	52:t:72:U:O5'	2.17	0.44
52:t:1045:C:O5'	52:t:1046:A:H5'	2.17	0.44
52:t:1241:A:N3	52:t:1241:A:H2'	2.32	0.44
52:t:1491:G:O2'	52:t:1492:G:H5'	2.17	0.44
52:t:1805:A:C2	52:t:1813:G:C2	3.06	0.44
52:t:2282:G:H4'	52:t:2389:G:O2'	2.18	0.44
52:t:2345:G:O2'	52:t:2381:A:H2'	2.18	0.44
52:t:2779:U:H5''	52:t:2780:G:O5'	2.16	0.44
54:v:111:MET:HE1	54:v:127:MET:HG2	2.00	0.44
2:B:20:THR:HG23	2:B:57:GLU:HB3	1.98	0.44
3:C:146:GLU:HG3	3:C:149:LYS:CE	2.45	0.44
4:D:81:GLN:H	4:D:146:MET:HE1	1.82	0.44
4:D:89:THR:HG23	51:s:864:A:H4'	1.98	0.44
5:E:11:HIS:HA	5:E:12:PRO:HD2	1.75	0.44
8:H:17:ARG:HH21	8:H:67:LYS:NZ	2.16	0.44
8:H:66:VAL:CG2	8:H:67:LYS:N	2.81	0.44
10:J:109:ILE:HG22	20:T:16:ARG:NH1	2.32	0.44
21:U:90:ILE:CG2	21:U:91:ALA:N	2.81	0.44
22:V:117:GLY:HA2	22:V:164:GLN:CD	2.42	0.44
23:W:65:THR:C	23:W:67:ARG:H	2.26	0.44
23:W:78:TRP:CZ3	52:t:1257:C:H5'	2.53	0.44
25:Y:94:ARG:HG2	25:Y:94:ARG:HH11	1.83	0.44
25:Y:154:GLU:OE2	25:Y:156:TYR:HB2	2.17	0.44
26:Z:53:PRO:CG	26:Z:77:VAL:HG21	2.47	0.44
28:1:4:GLU:O	28:1:5:GLN:CB	2.65	0.44
28:1:11:ALA:HB3	28:1:85:VAL:HG23	2.00	0.44
29:2:93:ASN:O	29:2:95:LEU:N	2.44	0.44
30:3:19:GLY:C	30:3:20:LEU:HD22	2.43	0.44
33:6:24:THR:O	33:6:85:VAL:O	2.36	0.44
37:b:19:LYS:CB	37:b:23:ALA:HB2	2.40	0.44
39:d:5:ASN:HB3	39:d:64:VAL:HB	2.00	0.44
49:n:14:GLU:OE1	49:n:57:ASN:ND2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:40:GLU:O	49:n:40:GLU:HG2	2.18	0.44
49:n:67:THR:N	49:n:68:PRO:CD	2.78	0.44
49:n:129:LEU:N	49:n:130:PRO:HD2	2.33	0.44
50:p:1:SER:HB2	50:p:6:GLN:CD	2.42	0.44
51:s:243:A:H4'	51:s:244:U:C5'	2.47	0.44
51:s:269:C:O2'	51:s:270:A:H5'	2.18	0.44
51:s:401:C:O2'	51:s:621:A:H1'	2.18	0.44
51:s:635:A:H2'	51:s:636:U:C6	2.52	0.44
51:s:660:C:H2'	51:s:661:G:C8	2.53	0.44
51:s:673:A:C6	51:s:734:G:C6	3.06	0.44
51:s:854:U:C5	51:s:871:U:C5	3.06	0.44
51:s:913:A:O2'	51:s:914:A:OP2	2.31	0.44
51:s:1084:G:OP1	51:s:1086:U:C2	2.71	0.44
51:s:1098:C:O2'	51:s:1099:G:H5'	2.18	0.44
51:s:1151:A:H2'	51:s:1152:A:H8	1.82	0.44
51:s:1207:G:O2'	51:s:1208:C:H5'	2.17	0.44
51:s:1405:G:C1'	51:s:1519:A:H4'	2.48	0.44
52:t:146:A:O2'	52:t:147:C:H5'	2.18	0.44
52:t:147:C:O2'	52:t:148:U:H5'	2.18	0.44
52:t:205:G:HO2'	52:t:206:U:P	2.27	0.44
52:t:220:G:N3	52:t:233:A:H2	2.16	0.44
52:t:242:G:O2'	52:t:254:G:N1	2.40	0.44
52:t:488:G:N2	52:t:491:G:H5''	2.32	0.44
52:t:963:U:C2	52:t:964:C:C5	3.05	0.44
52:t:1112:G:H2'	52:t:1113:U:H6	1.83	0.44
52:t:1288:G:C5	52:t:1327:A:C2	3.06	0.44
52:t:1765:U:O5'	52:t:1765:U:H6	2.01	0.44
52:t:2199:A:H5''	52:t:2200:C:H5	1.83	0.44
52:t:2226:C:O5'	52:t:2226:C:H6	2.01	0.44
52:t:2284:A:H8	52:t:2284:A:O5'	2.01	0.44
52:t:2425:A:H5''	52:t:2426:A:C5'	2.48	0.44
52:t:2520:C:HO2'	52:t:2565:A:HO2'	1.58	0.44
52:t:2527:C:C4	52:t:2528:U:C5	3.05	0.44
52:t:2617:U:C2'	52:t:2618:G:H5'	2.48	0.44
52:t:2867:G:C2'	52:t:2868:A:OP2	2.66	0.44
53:u:6:G:O5'	53:u:6:G:H8	2.01	0.44
53:u:58:A:N7	53:u:59:A:N7	2.66	0.44
54:v:390:ILE:HA	54:v:391:PRO:HD3	1.72	0.44
54:v:428:PHE:N	54:v:437:ILE:O	2.47	0.44
54:v:474:VAL:CG2	54:v:501:LEU:H	2.31	0.44
1:A:19:THR:HB	1:A:37:VAL:HB	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:5:HIS:ND1	13:M:88:MET:CB	2.81	0.44
2:B:38:VAL:CG2	2:B:39:ARG:N	2.81	0.44
2:B:107:LYS:HB2	2:B:107:LYS:HZ3	1.82	0.44
2:B:167:TYR:C	2:B:167:TYR:HD2	2.26	0.44
3:C:127:ARG:CD	3:C:127:ARG:N	2.81	0.44
5:E:51:ILE:O	5:E:51:ILE:HG23	2.18	0.44
7:G:50:VAL:O	7:G:50:VAL:HG22	2.18	0.44
8:H:48:ARG:O	8:H:49:GLN:C	2.60	0.44
8:H:66:VAL:C	8:H:67:LYS:HD3	2.43	0.44
8:H:89:TYR:O	8:H:90:ASP:HB3	2.16	0.44
13:M:40:ARG:HH22	13:M:44:VAL:HG21	1.83	0.44
14:N:2:LEU:O	14:N:7:THR:HG23	2.18	0.44
17:Q:33:THR:C	17:Q:35:SER:N	2.76	0.44
17:Q:44:THR:O	17:Q:46:THR:N	2.51	0.44
20:T:7:GLU:HB3	20:T:11:PHE:CB	2.47	0.44
21:U:216:ARG:CG	21:U:216:ARG:NH1	2.80	0.44
22:V:114:LYS:CE	52:t:2680:U:OP2	2.62	0.44
28:1:19:VAL:HG22	28:1:20:MET:N	2.32	0.44
30:3:18:ARG:NH2	52:t:953:G:OP2	2.47	0.44
31:4:1:MET:CE	52:t:2723:C:O3'	2.66	0.44
33:6:3:ILE:HD11	33:6:7:LEU:HD22	1.99	0.44
33:6:3:ILE:C	33:6:3:ILE:HD12	2.43	0.44
33:6:103:THR:O	33:6:104:GLY:O	2.36	0.44
34:8:12:ARG:O	34:8:13:HIS:C	2.61	0.44
39:d:9:ARG:HB2	39:d:39:ALA:HB1	1.99	0.44
40:e:13:ARG:HG2	40:e:14:ASP:N	2.33	0.44
51:s:109:A:H61	51:s:324:G:H1'	1.83	0.44
51:s:247:G:O2'	51:s:248:C:H5'	2.18	0.44
51:s:317:U:C2	51:s:318:G:C8	3.05	0.44
51:s:666:G:C6	51:s:741:G:C5	3.06	0.44
51:s:811:C:H4'	51:s:900:A:N6	2.33	0.44
51:s:872:A:C4	51:s:874:G:N7	2.86	0.44
51:s:1000:A:O2'	51:s:1001:C:H5'	2.17	0.44
51:s:1144:G:N2	51:s:1145:A:C2	2.86	0.44
52:t:93:G:H8	52:t:93:G:O5'	2.01	0.44
52:t:241:A:H4'	52:t:242:G:OP1	2.18	0.44
52:t:323:C:HO2'	52:t:1205:A:H61	1.65	0.44
52:t:370:G:O2'	52:t:424:G:OP1	2.35	0.44
52:t:565:C:H2'	52:t:566:U:O4'	2.18	0.44
52:t:714:U:H2'	52:t:716:A:N7	2.32	0.44
52:t:878:A:H1'	52:t:901:C:C5	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1139:G:O2'	52:t:1143:A:N1	2.36	0.44
52:t:1181:U:C6	52:t:1181:U:C3'	3.01	0.44
52:t:1515:A:H2'	52:t:1516:G:O4'	2.18	0.44
52:t:2239:G:C6	52:t:2240:U:C4	3.06	0.44
52:t:2705:A:H2'	52:t:2706:A:H5'	1.99	0.44
3:C:57:LYS:HE2	3:C:68:GLU:OE2	2.18	0.43
3:C:121:ALA:CA	3:C:145:ARG:HG3	2.45	0.43
3:C:168:THR:HG22	3:C:183:ARG:NH2	2.32	0.43
4:D:79:THR:C	4:D:80:LEU:HD22	2.43	0.43
6:F:125:ASP:OD1	6:F:131:GLY:HA2	2.17	0.43
7:G:25:THR:HG22	7:G:59:GLU:CB	2.47	0.43
7:G:58:LEU:HD11	7:G:60:LEU:HD21	1.99	0.43
8:H:14:SER:O	8:H:77:ALA:HB2	2.18	0.43
9:I:52:LEU:CD2	9:I:62:ARG:HE	2.31	0.43
11:K:32:VAL:O	11:K:33:CYS:HB3	2.18	0.43
11:K:43:LYS:HD3	11:K:43:LYS:N	2.29	0.43
11:K:106:VAL:HG23	11:K:116:TYR:HB3	2.00	0.43
16:P:18:LYS:O	16:P:70:LYS:NZ	2.50	0.43
19:S:60:GLN:HB3	19:S:65:LEU:CG	2.48	0.43
21:U:126:GLY:O	21:U:190:THR:HG23	2.17	0.43
22:V:11:MET:HE2	22:V:192:ALA:H	1.83	0.43
22:V:114:LYS:HE3	22:V:114:LYS:CA	2.47	0.43
24:X:19:PHE:O	24:X:20:ASN:C	2.61	0.43
24:X:37:MET:HG3	24:X:56:LEU:HD11	1.99	0.43
24:X:114:ARG:NE	24:X:114:ARG:N	2.66	0.43
24:X:127:TYR:O	24:X:128:SER:HB2	2.18	0.43
25:Y:75:VAL:C	25:Y:77:GLY:N	2.73	0.43
25:Y:85:LYS:O	25:Y:86:LEU:HD12	2.18	0.43
26:Z:44:LYS:O	26:Z:47:SER:HB3	2.17	0.43
28:1:53:LYS:O	28:1:56:ASP:HB2	2.18	0.43
29:2:76:GLU:HB2	29:2:111:ILE:CD1	2.48	0.43
34:8:69:ARG:HH21	34:8:74:SER:HA	1.83	0.43
34:8:91:ARG:HG2	52:t:996:A:O3'	2.18	0.43
35:9:31:GLU:O	35:9:62:GLU:HA	2.18	0.43
36:a:60:HIS:ND1	36:a:60:HIS:C	2.75	0.43
37:b:18:GLU:C	37:b:20:ALA:N	2.73	0.43
38:c:11:ILE:HB	38:c:21:ARG:HG2	2.00	0.43
39:d:2:PHE:HZ	39:d:55:GLU:HB2	1.82	0.43
47:l:50:SER:OG	47:l:53:ASP:HB2	2.18	0.43
50:p:13:ALA:C	50:p:14:MET:HE2	2.42	0.43
50:q:2:ILE:HG22	50:q:4:LYS:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:184:G:H4'	51:s:224:U:O3'	2.18	0.43
51:s:336:A:H2'	51:s:337:G:H8	1.83	0.43
51:s:408:A:H3'	51:s:409:U:C6	2.52	0.43
51:s:745:G:O2'	51:s:746:A:H5'	2.17	0.43
51:s:752:G:H1'	51:s:754:C:H41	1.83	0.43
51:s:796:C:O5'	51:s:796:C:H6	2.01	0.43
51:s:807:A:H2'	51:s:808:C:C6	2.52	0.43
51:s:934:C:C5'	51:s:935:A:OP1	2.62	0.43
51:s:1072:G:H2'	51:s:1073:U:C6	2.53	0.43
51:s:1076:U:N3	51:s:1082:A:C2	2.86	0.43
51:s:1219:A:H8	51:s:1219:A:O5'	2.01	0.43
51:s:1257:A:H2'	51:s:1258:G:OP1	2.17	0.43
52:t:87:U:H5''	52:t:88:G:H5'	2.00	0.43
52:t:426:C:H2'	52:t:427:U:O4'	2.18	0.43
52:t:532:A:HO2'	52:t:2021:C:H41	1.63	0.43
52:t:629:G:H4'	52:t:650:C:O2	2.18	0.43
52:t:654:A:N3	52:t:654:A:C3'	2.79	0.43
52:t:734:A:C4	52:t:735:A:C8	3.06	0.43
52:t:971:G:H2'	52:t:972:A:O4'	2.18	0.43
52:t:1535:A:H4'	52:t:1536:C:OP1	2.16	0.43
52:t:1662:U:H3	52:t:1998:A:H61	1.66	0.43
52:t:1726:C:H2'	52:t:1727:C:O4'	2.18	0.43
52:t:1739:A:H2'	52:t:1740:G:O4'	2.17	0.43
52:t:1964:G:O2'	52:t:1967:C:P	2.76	0.43
52:t:2038:G:H2'	52:t:2039:U:O4'	2.18	0.43
52:t:2423:U:O2'	52:t:2424:C:OP2	2.34	0.43
52:t:2503:A:O2'	52:t:2505:G:OP2	2.30	0.43
53:u:34:A:C6	53:u:44:G:H2'	2.53	0.43
53:u:83:G:C2'	53:u:84:G:O5'	2.64	0.43
54:v:407:LEU:HD22	54:v:409:GLN:HG3	2.00	0.43
54:v:420:SER:HB3	54:v:426:GLN:OE1	2.18	0.43
54:v:503:TYR:O	54:v:504:ILE:HB	2.17	0.43
3:C:57:LYS:CG	3:C:58:GLN:N	2.81	0.43
4:D:75:LEU:C	4:D:81:GLN:HE22	2.25	0.43
5:E:51:ILE:HD13	5:E:52:ASN:HB2	1.99	0.43
5:E:90:MET:O	5:E:91:ARG:O	2.35	0.43
6:F:88:VAL:HG22	6:F:89:GLU:N	2.33	0.43
7:G:8:ASP:O	7:G:11:THR:HG22	2.17	0.43
9:I:73:LEU:O	9:I:75:ASP:N	2.52	0.43
10:J:30:ILE:HG12	10:J:45:THR:HG22	1.99	0.43
12:L:26:LYS:O	12:L:29:SER:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:100:ARG:HG2	51:s:950:U:OP2	2.18	0.43
13:M:89:ARG:HB2	13:M:91:GLU:HG2	2.01	0.43
19:S:54:GLN:HB3	19:S:55:PRO:CD	2.48	0.43
19:S:66:ILE:CG1	19:S:70:LYS:HG2	2.48	0.43
21:U:49:THR:HG1	52:t:1813:G:H1'	1.83	0.43
21:U:142:ASN:O	21:U:142:ASN:CG	2.60	0.43
21:U:216:ARG:HG3	21:U:216:ARG:NH1	2.25	0.43
21:U:233:GLY:O	21:U:234:GLY:O	2.35	0.43
22:V:133:THR:HG23	22:V:134:HIS:H	1.80	0.43
25:Y:32:LEU:N	25:Y:32:LEU:HD12	2.33	0.43
25:Y:41:GLU:HG3	25:Y:41:GLU:O	2.18	0.43
25:Y:84:LYS:CD	25:Y:132:LEU:C	2.91	0.43
28:1:2:ILE:HG23	28:1:6:THR:HG21	2.00	0.43
28:1:14:SER:OG	28:1:86:LEU:HD13	2.18	0.43
29:2:69:ARG:HB3	29:2:69:ARG:CZ	2.48	0.43
31:4:74:GLU:HA	52:t:1453:A:C6	2.52	0.43
31:4:116:VAL:O	31:4:117:ASP:CB	2.66	0.43
35:9:14:VAL:HG22	35:9:15:SER:O	2.18	0.43
36:a:59:GLU:HG2	36:a:59:GLU:O	2.18	0.43
38:c:102:ILE:OXT	38:c:102:ILE:HG12	2.17	0.43
39:d:41:GLU:O	39:d:41:GLU:HG3	2.18	0.43
40:e:22:VAL:C	40:e:23:LYS:O	2.61	0.43
40:e:47:GLY:O	40:e:49:ASN:N	2.51	0.43
40:e:51:GLY:CA	40:e:59:PHE:CE2	3.01	0.43
44:i:11:LYS:HE3	52:t:2046:G:OP1	2.18	0.43
46:k:42:LEU:HD22	46:k:42:LEU:N	2.32	0.43
47:l:3:ILE:HG21	47:l:62:PRO:HG3	2.00	0.43
47:l:12:ARG:HH12	52:t:250:G:P	2.41	0.43
50:o:4:LYS:C	50:o:6:GLN:H	2.25	0.43
51:s:67:C:O2'	51:s:68:G:H5'	2.18	0.43
51:s:152:A:N6	51:s:170:U:C2	2.87	0.43
51:s:711:G:H2'	51:s:712:A:H8	1.83	0.43
51:s:818:G:H3'	51:s:819:A:H5'	1.97	0.43
51:s:938:A:H1'	51:s:1376:U:O2'	2.18	0.43
51:s:1253:G:N2	51:s:1254:A:C4	2.86	0.43
51:s:1332:A:H3'	51:s:1333:A:C8	2.54	0.43
52:t:472:A:H2'	52:t:473:G:H5'	1.99	0.43
52:t:526:A:N6	52:t:2626:C:H4'	2.33	0.43
52:t:1090:A:N1	52:t:1101:U:O2	2.51	0.43
52:t:1095:A:H62	52:t:1096:A:N6	2.16	0.43
52:t:1818:U:O2'	52:t:1819:A:OP2	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2152:G:C2'	52:t:2153:C:H5'	2.48	0.43
52:t:2423:U:C2'	52:t:2424:C:OP2	2.65	0.43
52:t:2820:A:C2'	52:t:2821:A:OP1	2.66	0.43
53:u:57:A:H2'	53:u:58:A:O4'	2.18	0.43
54:v:319:ARG:HA	54:v:364:ILE:HD13	1.98	0.43
54:v:410:LYS:HA	54:v:414:LYS:H	1.84	0.43
54:v:471:ALA:HA	54:v:472:ARG:O	2.18	0.43
1:A:30:ILE:HD11	1:A:38:HIS:CB	2.48	0.43
2:B:8:GLY:HA3	13:M:88:MET:HA	2.00	0.43
2:B:87:ARG:HD3	2:B:100:ILE:HG22	1.99	0.43
3:C:29:THR:O	3:C:30:LYS:HB2	2.18	0.43
6:F:96:ASN:O	6:F:99:ALA:HB3	2.18	0.43
7:G:109:VAL:CG1	7:G:110:MET:H	2.25	0.43
10:J:61:ALA:HA	10:J:64:VAL:CG2	2.42	0.43
11:K:42:LYS:HD3	56:z:4:SER:CB	2.48	0.43
11:K:64:SER:OG	11:K:96:THR:HG22	2.19	0.43
12:L:85:TYR:C	12:L:87:GLY:N	2.75	0.43
14:N:24:THR:HG23	14:N:65:LEU:HD12	2.00	0.43
15:O:5:ARG:HD2	51:s:376:G:H4'	2.00	0.43
17:Q:63:TYR:CE1	17:Q:69:TYR:OH	2.71	0.43
21:U:199:HIS:CD2	52:t:1820:U:O2'	2.66	0.43
22:V:118:PHE:CB	52:t:1654:A:O2'	2.66	0.43
23:W:149:ILE:O	23:W:149:ILE:HG23	2.17	0.43
28:1:98:ARG:C	28:1:99:ILE:HD12	2.43	0.43
29:2:53:GLY:O	29:2:54:GLN:C	2.61	0.43
29:2:69:ARG:HH11	29:2:69:ARG:CB	2.31	0.43
30:3:22:GLN:O	30:3:24:THR:N	2.48	0.43
30:3:34:LYS:HB3	30:3:129:THR:CG2	2.49	0.43
30:3:134:THR:O	30:3:135:VAL:O	2.36	0.43
32:5:30:ARG:HH12	53:u:48:U:P	2.41	0.43
33:6:9:GLN:C	33:6:11:GLN:N	2.76	0.43
33:6:105:LYS:HA	33:6:108:ARG:NH2	2.27	0.43
34:8:80:ASN:O	34:8:83:LYS:HB3	2.19	0.43
39:d:63:ILE:CG2	39:d:64:VAL:N	2.80	0.43
39:d:70:ILE:N	39:d:70:ILE:CD1	2.79	0.43
42:g:45:GLN:O	42:g:46:VAL:HG23	2.19	0.43
49:n:39:THR:C	49:n:41:LEU:N	2.76	0.43
49:n:154:THR:OG1	50:r:22:LEU:HD21	2.18	0.43
51:s:20:U:H2'	51:s:21:G:O4'	2.19	0.43
51:s:85:U:OP1	51:s:85:U:O4'	2.36	0.43
51:s:256:U:H2'	51:s:257:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:271:C:O5'	51:s:271:C:H6	2.01	0.43
51:s:526:C:H2'	51:s:527:G:C5'	2.48	0.43
51:s:1065:U:C2'	51:s:1066:C:OP2	2.66	0.43
51:s:1218:C:H2'	51:s:1219:A:H8	1.70	0.43
51:s:1253:G:N1	51:s:1285:A:N6	2.65	0.43
51:s:1443:C:H2'	51:s:1444:U:H6	1.83	0.43
51:s:1491:G:H5'	51:s:1492:A:P	2.57	0.43
52:t:11:C:H2'	52:t:12:U:H5'	2.00	0.43
52:t:34:U:O2'	52:t:35:G:P	2.77	0.43
52:t:78:U:H2'	52:t:79:C:C6	2.53	0.43
52:t:78:U:H2'	52:t:79:C:H6	1.83	0.43
52:t:389:G:C8	52:t:2413:G:H4'	2.53	0.43
52:t:702:U:O2'	52:t:703:U:H5'	2.18	0.43
52:t:726:G:O2'	52:t:727:A:H8	2.01	0.43
52:t:942:G:C2'	52:t:943:A:H5'	2.48	0.43
52:t:1137:G:H2'	52:t:1138:G:O4'	2.18	0.43
52:t:1240:U:O2	52:t:1240:U:H2'	2.18	0.43
52:t:1418:G:H8	52:t:1418:G:O5'	2.01	0.43
52:t:1452:G:O2'	52:t:1453:A:OP2	2.34	0.43
52:t:1544:A:C6	52:t:1545:A:C6	3.07	0.43
52:t:1577:C:H2'	52:t:1578:U:O4'	2.18	0.43
52:t:1641:A:C8	52:t:1642:G:C8	3.07	0.43
52:t:1681:G:O2'	52:t:1762:A:C2'	2.66	0.43
52:t:1800:C:C5	52:t:1818:U:O2	2.71	0.43
52:t:2311:A:H5'	52:t:2312:U:OP2	2.18	0.43
52:t:2423:U:O2'	52:t:2424:C:P	2.75	0.43
52:t:2717:C:H2'	52:t:2718:G:O4'	2.19	0.43
54:v:466:VAL:HG12	54:v:468:VAL:HG23	2.00	0.43
1:A:201:GLY:O	1:A:202:ASN:C	2.61	0.43
2:B:22:PHE:CD2	2:B:23:ALA:N	2.87	0.43
3:C:51:GLY:C	3:C:53:GLN:N	2.72	0.43
3:C:139:ASN:O	3:C:141:VAL:HG13	2.18	0.43
3:C:187:ARG:HG3	3:C:187:ARG:HH11	1.84	0.43
4:D:85:LYS:HA	4:D:94:PHE:HA	2.00	0.43
4:D:88:HIS:CD2	4:D:137:ARG:HG2	2.53	0.43
6:F:22:LEU:O	6:F:26:VAL:HG13	2.19	0.43
6:F:68:VAL:O	6:F:68:VAL:HG12	2.17	0.43
7:G:124:ILE:O	7:G:124:ILE:CG1	2.65	0.43
8:H:5:TYR:CG	8:H:88:GLU:HG2	2.53	0.43
8:H:46:VAL:HG23	8:H:47:VAL:N	2.33	0.43
13:M:46:LYS:O	13:M:48:GLN:N	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:20:ILE:O	16:P:20:ILE:CG2	2.64	0.43
21:U:124:LYS:CG	21:U:125:PRO:HD2	2.49	0.43
21:U:131:MET:HE2	21:U:187:CYS:HB2	2.00	0.43
22:V:181:ASP:OD1	22:V:181:ASP:C	2.62	0.43
24:X:39:VAL:CG1	24:X:40:GLY:H	2.27	0.43
24:X:72:SER:H	24:X:80:GLN:CB	2.28	0.43
24:X:105:ILE:HD12	24:X:105:ILE:C	2.43	0.43
26:Z:92:PRO:CB	52:t:1076:C:O2'	2.67	0.43
27:0:39:LYS:HG3	27:0:43:GLU:HG3	2.00	0.43
27:0:113:PRO:HD2	52:t:558:U:OP1	2.17	0.43
29:2:82:LEU:HG	29:2:83:ALA:N	2.32	0.43
31:4:20:MET:HE2	52:t:1276:A:O2'	2.18	0.43
32:5:27:VAL:HG21	32:5:40:ILE:HD12	1.98	0.43
32:5:67:ASN:O	32:5:68:LYS:HB2	2.18	0.43
34:8:41:ALA:HB1	52:t:534:U:H5'	2.00	0.43
35:9:67:GLY:O	35:9:92:TRP:CE3	2.71	0.43
37:b:18:GLU:O	37:b:19:LYS:C	2.62	0.43
38:c:65:GLN:HB2	38:c:68:ASN:HD22	1.78	0.43
39:d:65:VAL:C	39:d:67:GLY:H	2.25	0.43
40:e:57:THR:C	40:e:58:LEU:HD12	2.43	0.43
41:f:10:ARG:HB2	41:f:11:PRO:CD	2.48	0.43
50:q:9:GLU:O	50:q:13:ALA:HB2	2.19	0.43
50:q:12:ALA:O	50:q:18:ASP:OD2	2.37	0.43
51:s:243:A:N6	51:s:281:G:O2'	2.46	0.43
51:s:264:C:H2'	51:s:265:G:C5'	2.49	0.43
51:s:453:G:C2	51:s:480:U:O2	2.72	0.43
51:s:817:C:C1'	51:s:819:A:H5'	2.48	0.43
51:s:852:G:H2'	51:s:853:C:H6	1.83	0.43
51:s:1137:C:C5'	51:s:1138:G:OP1	2.63	0.43
51:s:1202:U:O2	51:s:1202:U:H2'	2.17	0.43
51:s:1372:U:H2'	51:s:1373:G:C5'	2.46	0.43
52:t:49:A:H5''	52:t:50:U:O5'	2.18	0.43
52:t:53:A:H2'	52:t:54:G:H5'	2.00	0.43
52:t:357:C:H6	52:t:357:C:O5'	2.01	0.43
52:t:612:G:C2	52:t:614:A:H1'	2.53	0.43
52:t:826:U:H2'	52:t:828:U:O4'	2.18	0.43
52:t:1022:G:H5'	52:t:1023:U:OP1	2.17	0.43
52:t:1454:C:O2'	52:t:1455:G:C8	2.71	0.43
52:t:1847:A:OP1	52:t:1847:A:H4'	2.17	0.43
52:t:1894:C:H2'	52:t:1895:C:H6	1.84	0.43
52:t:2277:G:H3'	52:t:2278:A:H5''	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:u:61:G:H2'	53:u:62:C:H6	1.78	0.43
3:C:43:ARG:C	3:C:45:PRO:HD3	2.43	0.43
4:D:80:LEU:N	4:D:80:LEU:HD22	2.33	0.43
7:G:2:MET:HE1	51:s:753:A:N1	2.33	0.43
10:J:18:GLY:O	10:J:81:LEU:HB2	2.18	0.43
10:J:96:ILE:HD12	10:J:97:ARG:N	2.33	0.43
12:L:65:GLU:HB3	12:L:66:GLY:H	1.54	0.43
12:L:96:VAL:HG23	51:s:1308:U:H5''	1.99	0.43
16:P:45:VAL:HG13	16:P:72:TRP:O	2.18	0.43
17:Q:29:LYS:O	17:Q:32:ILE:HG12	2.19	0.43
18:R:59:VAL:HG12	18:R:60:PHE:H	1.83	0.43
20:T:46:ARG:C	20:T:48:LYS:N	2.74	0.43
21:U:76:VAL:HG22	21:U:96:LYS:HD3	1.98	0.43
24:X:37:MET:HG3	24:X:151:LEU:HD23	1.99	0.43
25:Y:106:LEU:HB2	25:Y:108:PHE:CE1	2.53	0.43
26:Z:89:SER:OG	52:t:1063:G:H1'	2.19	0.43
31:4:85:PRO:C	31:4:87:PHE:N	2.76	0.43
33:6:57:ALA:HB1	33:6:73:PHE:O	2.18	0.43
34:8:91:ARG:HB2	35:9:11:GLN:OE1	2.17	0.43
35:9:74:ILE:N	35:9:74:ILE:HD12	2.34	0.43
36:a:4:ILE:CB	36:a:106:VAL:HG22	2.49	0.43
41:f:9:LYS:CE	41:f:53:LYS:HD2	2.48	0.43
46:k:5:PHE:CD2	52:t:464:U:H5'	2.54	0.43
48:m:19:ARG:NH1	52:t:2755:C:N3	2.67	0.43
50:r:6:GLN:O	50:r:10:ALA:HB2	2.18	0.43
50:r:20:VAL:O	50:r:20:VAL:HG12	2.19	0.43
51:s:325:A:N6	51:s:326:G:N1	2.66	0.43
51:s:677:U:H3	51:s:713:G:N2	2.01	0.43
51:s:993:G:N3	51:s:993:G:H5''	2.34	0.43
51:s:1206:G:H8	51:s:1206:G:O5'	2.02	0.43
51:s:1282:C:O2'	51:s:1283:U:H5'	2.19	0.43
52:t:595:C:H2'	52:t:596:U:C6	2.53	0.43
52:t:697:G:H2'	52:t:698:C:H6	1.82	0.43
52:t:1458:U:HO2'	52:t:1459:G:P	2.34	0.43
52:t:1510:G:C2'	52:t:1511:G:C5'	2.96	0.43
52:t:1590:A:H2'	52:t:1591:A:H8	1.82	0.43
52:t:1901:A:H2'	52:t:1902:C:C6	2.54	0.43
52:t:2029:G:O6	52:t:2032:G:H5''	2.19	0.43
52:t:2106:U:N3	52:t:2107:G:N7	2.66	0.43
52:t:2341:G:H2'	52:t:2342:C:H6	1.84	0.43
54:v:398:PHE:O	54:v:399:ARG:HB2	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:434:ASN:HB3	54:v:435:ASP:H	1.41	0.43
2:B:3:LYS:NZ	51:s:1192:C:OP2	2.48	0.43
3:C:7:LYS:O	3:C:20:LEU:HD12	2.19	0.43
3:C:19:PHE:CD1	3:C:19:PHE:N	2.87	0.43
4:D:114:LEU:O	4:D:119:VAL:CG2	2.65	0.43
5:E:91:ARG:CG	5:E:92:THR:H	2.13	0.43
7:G:8:ASP:HA	7:G:11:THR:HG22	1.99	0.43
7:G:29:SER:O	7:G:30:LYS:C	2.60	0.43
11:K:82:ARG:CG	11:K:83:GLY:N	2.80	0.43
12:L:40:GLU:C	12:L:42:VAL:H	2.27	0.43
12:L:49:GLU:HA	12:L:49:GLU:OE2	2.18	0.43
13:M:42:ASN:ND2	13:M:46:LYS:HG3	2.33	0.43
14:N:38:LEU:O	14:N:41:HIS:HB3	2.18	0.43
15:O:12:LYS:O	15:O:13:LYS:HB2	2.19	0.43
15:O:46:LYS:HZ1	15:O:48:GLU:HB3	1.83	0.43
21:U:115:ILE:HD11	21:U:126:GLY:C	2.43	0.43
21:U:121:ALA:O	21:U:129:LEU:HD21	2.18	0.43
22:V:125:TRP:CD1	22:V:160:LYS:HB3	2.53	0.43
23:W:179:SER:C	23:W:181:ILE:H	2.26	0.43
25:Y:84:LYS:HD2	25:Y:132:LEU:C	2.43	0.43
26:Z:124:MET:C	26:Z:124:MET:SD	3.02	0.43
27:0:43:GLU:C	27:0:45:THR:HG22	2.43	0.43
27:0:58:ASN:HD21	27:0:128:ASN:HB2	1.84	0.43
31:4:74:GLU:HB2	52:t:1453:A:H61	1.83	0.43
33:6:102:ARG:O	33:6:103:THR:O	2.37	0.43
34:8:65:ASN:HD21	34:8:75:TYR:H	1.67	0.43
34:8:88:GLU:OE1	34:8:88:GLU:O	2.35	0.43
35:9:38:VAL:CG2	35:9:54:VAL:HG22	2.44	0.43
35:9:66:HIS:ND1	35:9:94:THR:HG22	2.33	0.43
40:e:14:ASP:OD2	40:e:16:GLU:OE1	2.36	0.43
40:e:25:PHE:HE2	52:t:922:C:O2'	2.01	0.43
42:g:1:MET:O	42:g:1:MET:HG2	2.19	0.43
45:j:40:PRO:C	45:j:42:VAL:H	2.27	0.43
47:l:21:PHE:O	47:l:22:LYS:HG2	2.18	0.43
48:m:32:LYS:HE2	52:t:2478:A:H5'	2.00	0.43
49:n:41:LEU:HD13	52:t:1082:U:O3'	2.18	0.43
49:n:71:CYS:O	49:n:74:ASP:HB2	2.18	0.43
49:n:136:ILE:HD11	50:o:30:PHE:CZ	2.47	0.43
51:s:38:G:C2	51:s:397:A:C2	3.05	0.43
51:s:177:G:O4'	51:s:177:G:N3	2.51	0.43
51:s:384:G:O2'	51:s:385:C:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:455:G:C2	51:s:478:A:N1	2.87	0.43
51:s:560:A:H5''	51:s:561:U:O5'	2.18	0.43
51:s:635:A:C2	51:s:636:U:C2	3.07	0.43
51:s:791:G:C6	51:s:792:A:N7	2.87	0.43
51:s:1069:C:N4	51:s:1094:G:C6	2.86	0.43
51:s:1306:A:C2'	51:s:1307:U:H5'	2.48	0.43
52:t:265:A:N6	52:t:428:A:N9	2.67	0.43
52:t:743:A:C5	52:t:744:U:C5	3.07	0.43
52:t:802:A:H2'	52:t:803:U:C6	2.54	0.43
52:t:823:C:O2'	52:t:824:U:H5'	2.18	0.43
52:t:1104:C:H2'	52:t:1105:U:C6	2.53	0.43
52:t:1163:G:N2	52:t:1164:C:C2	2.87	0.43
52:t:1724:G:N1	52:t:1737:G:H1'	2.33	0.43
52:t:1735:A:O2'	52:t:1736:U:H5'	2.18	0.43
52:t:2230:G:C4	52:t:2231:U:C5	3.06	0.43
52:t:2617:U:H2'	52:t:2618:G:H5'	2.01	0.43
52:t:2662:A:H2'	52:t:2663:G:O4'	2.19	0.43
54:v:405:ASP:O	54:v:406:PRO:C	2.61	0.43
1:A:9:LEU:HD23	1:A:9:LEU:C	2.44	0.43
1:A:49:PHE:HD1	1:A:53:LEU:HD23	1.82	0.43
3:C:62:ARG:C	3:C:64:TYR:N	2.77	0.43
4:D:152:VAL:HA	4:D:155:LYS:HZ2	1.81	0.43
7:G:46:GLU:O	7:G:47:ASP:CB	2.65	0.43
8:H:24:ASN:HA	8:H:58:GLU:HA	2.00	0.43
8:H:29:ILE:HA	8:H:64:ILE:HB	2.00	0.43
13:M:58:ARG:HE	51:s:980:C:C4'	2.31	0.43
16:P:3:LYS:CG	16:P:6:THR:HG23	2.35	0.43
16:P:43:LEU:HD13	16:P:72:TRP:CE2	2.53	0.43
17:Q:41:SER:C	17:Q:43:ILE:H	2.26	0.43
18:R:4:LEU:N	18:R:4:LEU:CD1	2.80	0.43
21:U:38:LYS:NZ	21:U:57:HIS:O	2.37	0.43
23:W:119:ILE:O	23:W:187:VAL:HA	2.18	0.43
23:W:200:LEU:O	23:W:201:ALA:O	2.37	0.43
24:X:55:ASP:HB3	24:X:59:ILE:CD1	2.44	0.43
27:O:111:LYS:CG	27:O:112:GLY:H	2.25	0.43
33:6:19:PHE:N	33:6:19:PHE:CD2	2.87	0.43
33:6:96:LEU:HB3	33:6:99:LEU:HD23	2.01	0.43
34:8:20:ALA:O	34:8:28:SER:HB3	2.18	0.43
34:8:81:GLY:HA2	34:8:116:LEU:HB2	2.00	0.43
37:b:29:THR:HB	37:b:86:THR:CB	2.48	0.43
39:d:60:VAL:HG12	39:d:61:LEU:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:e:19:ARG:HH22	40:e:22:VAL:HG21	1.83	0.43
40:e:28:GLU:O	40:e:30:VAL:N	2.52	0.43
46:k:43:THR:C	46:k:44:VAL:CG2	2.92	0.43
49:n:23:LEU:HD11	49:n:129:LEU:CD1	2.49	0.43
50:o:26:MET:O	50:o:27:GLU:O	2.37	0.43
51:s:340:U:C2	51:s:350:G:N2	2.86	0.43
51:s:413:G:C2'	51:s:428:G:H21	2.30	0.43
51:s:601:G:O2'	51:s:602:A:H5'	2.19	0.43
51:s:675:A:H2'	51:s:676:A:H8	1.84	0.43
52:t:133:U:H2'	52:t:134:G:O4'	2.19	0.43
52:t:178:G:H2'	52:t:179:C:C5'	2.49	0.43
52:t:193:U:N3	52:t:194:G:N7	2.67	0.43
52:t:273:G:H1	52:t:364:C:H42	1.67	0.43
52:t:329:G:H4'	52:t:330:A:OP1	2.16	0.43
52:t:408:G:O2'	52:t:409:G:H5'	2.19	0.43
52:t:426:C:C4	52:t:427:U:C5	3.06	0.43
52:t:1269:A:C6	52:t:1270:C:N4	2.86	0.43
52:t:1435:G:N1	52:t:1558:C:N4	2.66	0.43
52:t:1659:G:C6	52:t:2002:G:C6	3.07	0.43
52:t:2017:U:H5''	52:t:2018:G:P	2.59	0.43
52:t:2272:U:H5''	52:t:2273:A:OP1	2.19	0.43
52:t:2423:U:H6	52:t:2423:U:H5'	1.83	0.43
52:t:2425:A:H5'	52:t:2427:C:H6	1.81	0.43
52:t:2520:C:C6	52:t:2567:G:H1'	2.54	0.43
53:u:112:G:O2'	53:u:113:C:H5'	2.18	0.43
54:v:114:ASP:HB3	54:v:117:LYS:HB2	2.01	0.43
54:v:216:ASP:OD2	54:v:216:ASP:N	2.52	0.43
54:v:472:ARG:CG	54:v:504:ILE:H	2.28	0.43
1:A:13:VAL:HG23	1:A:13:VAL:O	2.19	0.43
1:A:90:PHE:CD2	1:A:90:PHE:N	2.87	0.43
1:A:105:THR:CA	1:A:108:GLN:NE2	2.77	0.43
3:C:31:CYS:HB2	51:s:429:U:OP2	2.19	0.43
3:C:109:THR:CG2	51:s:408:A:O5'	2.67	0.43
3:C:187:ARG:NH1	3:C:190:LEU:O	2.52	0.43
6:F:25:PHE:CD1	6:F:61:PHE:CE2	3.07	0.43
6:F:102:TRP:O	6:F:103:ILE:C	2.62	0.43
8:H:21:LYS:O	8:H:61:ASP:N	2.50	0.43
9:I:80:THR:O	9:I:84:VAL:HG23	2.19	0.43
10:J:124:LYS:O	10:J:124:LYS:HD3	2.18	0.43
11:K:36:VAL:O	11:K:36:VAL:HG12	2.18	0.43
11:K:74:GLN:O	11:K:75:GLU:C	2.62	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:46:GLU:O	12:L:46:GLU:CG	2.66	0.43
12:L:70:ARG:HH12	24:X:144:LYS:HE2	1.84	0.43
12:L:89:ARG:HH12	12:L:94:LEU:HD13	1.83	0.43
13:M:3:GLN:O	13:M:6:LYS:HB2	2.19	0.43
13:M:40:ARG:NH1	13:M:41:TRP:O	2.52	0.43
15:O:53:ASP:O	15:O:56:ARG:N	2.44	0.43
16:P:26:ARG:NH2	16:P:39:ARG:HB3	2.33	0.43
16:P:29:LYS:HG2	16:P:34:GLY:O	2.18	0.43
16:P:37:ILE:N	16:P:37:ILE:HD12	2.34	0.43
18:R:40:PHE:C	18:R:42:ASN:N	2.76	0.43
21:U:47:ARG:HG3	21:U:47:ARG:NH1	2.34	0.43
21:U:177:SER:OG	52:t:1799:G:N7	2.44	0.43
21:U:255:LYS:C	21:U:257:ARG:N	2.74	0.43
23:W:35:TYR:CD2	23:W:177:PRO:HD2	2.54	0.43
23:W:151:GLY:C	23:W:153:LEU:H	2.26	0.43
25:Y:53:PRO:HB2	25:Y:54:ARG:H	1.66	0.43
27:O:4:PHE:CD1	27:O:5:THR:N	2.87	0.43
28:1:4:GLU:O	28:1:5:GLN:HG2	2.19	0.43
30:3:20:LEU:N	30:3:20:LEU:CD2	2.82	0.43
31:4:31:HIS:O	31:4:33:ILE:HD12	2.18	0.43
32:5:5:SER:O	32:5:7:ARG:N	2.51	0.43
32:5:33:ARG:NH1	53:u:52:A:N7	2.67	0.43
34:8:49:ARG:O	34:8:53:LYS:HE3	2.19	0.43
34:8:74:SER:O	34:8:75:TYR:C	2.61	0.43
36:a:64:ALA:O	36:a:65:ASP:HB2	2.19	0.43
39:d:1:MET:SD	39:d:53:LYS:HE3	2.59	0.43
39:d:4:ILE:HD12	39:d:62:THR:O	2.18	0.43
41:f:67:LEU:HD23	41:f:67:LEU:H	1.83	0.43
42:g:22:LEU:HG	42:g:23:ARG:NH1	2.33	0.43
47:l:1:PRO:O	52:t:592:A:H1'	2.19	0.43
49:n:139:LEU:C	49:n:141:ALA:N	2.75	0.43
51:s:189:A:O2'	51:s:190:A:H5'	2.18	0.43
51:s:333:U:O5'	51:s:333:U:H6	2.01	0.43
51:s:484:G:O2'	51:s:485:U:P	2.77	0.43
51:s:616:G:H2'	51:s:617:G:C8	2.53	0.43
51:s:738:C:C4	51:s:739:C:N4	2.86	0.43
51:s:889:A:C4'	51:s:890:G:OP1	2.64	0.43
51:s:1125:U:N3	51:s:1127:G:C8	2.87	0.43
51:s:1237:C:O4'	51:s:1334:G:N2	2.51	0.43
51:s:1496:C:H2'	51:s:1497:G:O4'	2.18	0.43
51:s:1502:A:HO2'	51:s:1503:A:P	2.42	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:193:U:H2'	52:t:194:G:H8	1.84	0.43
52:t:246:C:H2'	52:t:247:G:C5'	2.49	0.43
52:t:1613:G:C2	52:t:1619:G:C5	3.07	0.43
52:t:1953:A:H2	52:t:2549:G:N3	2.17	0.43
52:t:2201:G:H2'	52:t:2202:U:H6	1.84	0.43
52:t:2345:G:O2'	52:t:2381:A:C2'	2.66	0.43
52:t:2425:A:H4'	52:t:2426:A:C5'	2.49	0.43
52:t:2680:U:C2	52:t:2681:C:C5	3.07	0.43
52:t:2779:U:C5'	52:t:2780:G:H3'	2.40	0.43
52:t:2825:G:H2'	52:t:2826:A:H5'	2.00	0.43
53:u:52:A:C4'	53:u:53:A:OP1	2.67	0.43
53:u:79:G:H2'	53:u:80:U:O4'	2.19	0.43
54:v:152:MET:HE2	54:v:152:MET:HB2	1.83	0.43
54:v:332:ARG:HD3	54:v:339:ASP:CG	2.43	0.43
54:v:401:ILE:HD12	54:v:416:LEU:HD11	2.00	0.43
1:A:122:ASP:O	1:A:123:GLY:C	2.62	0.43
1:A:132:GLU:HG2	1:A:136:ARG:CG	2.48	0.43
1:A:140:LEU:HD12	1:A:140:LEU:N	2.33	0.43
2:B:39:ARG:HH11	2:B:54:ILE:HG12	1.80	0.43
3:C:29:THR:HA	3:C:33:ILE:HG21	2.01	0.43
3:C:54:LEU:CD2	3:C:55:ARG:HD2	2.49	0.43
3:C:100:VAL:O	3:C:104:MET:HG3	2.19	0.43
4:D:56:PRO:O	4:D:57:ALA:C	2.60	0.43
6:F:27:ASN:O	6:F:30:MET:N	2.52	0.43
6:F:83:THR:O	6:F:84:TYR:C	2.61	0.43
8:H:6:TYR:CD1	8:H:7:GLY:N	2.86	0.43
10:J:69:CYS:O	10:J:71:ASP:O	2.37	0.43
10:J:75:GLU:C	10:J:77:GLY:N	2.76	0.43
10:J:95:THR:HG23	10:J:96:ILE:N	2.33	0.43
10:J:126:ARG:C	20:T:33:ARG:HH12	2.21	0.43
11:K:45:ASN:HD22	11:K:88:ASP:CG	2.26	0.43
12:L:113:LYS:O	12:L:114:PRO:OXT	2.36	0.43
15:O:52:LEU:HD12	15:O:52:LEU:N	2.34	0.43
17:Q:44:THR:C	17:Q:46:THR:N	2.77	0.43
18:R:63:ASP:O	18:R:65:MET:N	2.52	0.43
19:S:7:LYS:C	19:S:9:ARG:N	2.74	0.43
21:U:83:ASP:HB2	21:U:90:ILE:HD12	2.01	0.43
22:V:110:THR:HG22	22:V:111:GLY:N	2.33	0.43
23:W:48:THR:O	23:W:50:ALA:N	2.51	0.43
23:W:188:MET:HG2	23:W:193:VAL:HG23	2.01	0.43
24:X:32:LYS:HD2	24:X:89:THR:CG2	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:109:ARG:O	24:X:111:ARG:N	2.52	0.43
24:X:128:SER:CB	24:X:154:THR:HA	2.48	0.43
27:0:21:THR:O	27:0:62:VAL:HA	2.19	0.43
28:1:34:GLY:O	28:1:36:GLY:N	2.52	0.43
29:2:16:GLY:HA2	52:t:662:G:O3'	2.19	0.43
29:2:135:ILE:O	29:2:138:ALA:HB3	2.18	0.43
30:3:40:ARG:HB2	30:3:93:VAL:HG21	2.01	0.43
30:3:84:LYS:N	52:t:2275:C:HO2'	2.16	0.43
30:3:135:VAL:CG1	30:3:136:MET:N	2.79	0.43
34:8:27:ARG:HG3	34:8:27:ARG:NH1	2.32	0.43
37:b:8:LEU:HD13	37:b:8:LEU:HA	1.78	0.43
37:b:40:LYS:HG3	52:t:1599:U:OP1	2.18	0.43
38:c:12:VAL:HG21	38:c:38:ILE:CG2	2.49	0.43
48:m:1:MET:SD	48:m:36:ARG:HB2	2.59	0.43
48:m:24:ARG:NH1	52:t:2742:G:OP2	2.49	0.43
49:n:148:ALA:O	49:n:150:LYS:N	2.52	0.43
51:s:244:U:O4	51:s:906:A:H1'	2.19	0.43
51:s:328:C:C2'	51:s:329:A:OP2	2.67	0.43
51:s:592:G:H2'	51:s:593:U:C6	2.54	0.43
51:s:675:A:C4	51:s:676:A:C8	3.07	0.43
51:s:1498:U:O2'	51:s:1499:A:N7	2.35	0.43
52:t:189:G:O6	52:t:205:G:H2'	2.19	0.43
52:t:189:G:N1	52:t:205:G:O2'	2.51	0.43
52:t:726:G:HO2'	52:t:727:A:H8	1.66	0.43
52:t:1299:G:O6	52:t:1639:C:H5''	2.18	0.43
52:t:1313:U:H2'	52:t:1610:A:C2	2.54	0.43
52:t:1369:G:C6	52:t:1370:C:C4	3.06	0.43
52:t:1476:U:H1'	52:t:1732:C:O2	2.18	0.43
52:t:1480:C:O2'	52:t:1481:U:H5'	2.18	0.43
52:t:1724:G:H1	52:t:1737:G:H1'	1.83	0.43
52:t:2359:C:H2'	52:t:2360:G:C8	2.54	0.43
52:t:2756:U:C4	52:t:2759:G:C6	3.06	0.43
52:t:2768:U:C4	52:t:2769:U:C5	3.07	0.43
52:t:2780:G:C4'	52:t:2781:A:OP2	2.66	0.43
52:t:2838:G:H2'	52:t:2839:G:H8	1.83	0.43
1:A:17:HIS:O	1:A:18:GLN:HB2	2.18	0.43
1:A:192:PRO:O	1:A:193:ASP:C	2.62	0.43
2:B:151:GLU:O	2:B:197:VAL:HA	2.19	0.43
3:C:68:GLU:O	3:C:69:ARG:C	2.62	0.43
3:C:104:MET:HE1	3:C:180:THR:N	2.34	0.43
3:C:105:GLY:C	3:C:107:GLY:N	2.77	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:40:ASP:OD1	4:D:40:ASP:N	2.52	0.43
7:G:35:ILE:CD1	7:G:102:VAL:HG11	2.49	0.43
8:H:5:TYR:O	8:H:19:PHE:HA	2.18	0.43
10:J:125:LYS:HD2	51:s:797:C:OP1	2.19	0.43
11:K:80:LEU:HB2	11:K:101:LEU:HD22	2.00	0.43
12:L:97:ARG:NH1	51:s:1308:U:C5	2.87	0.43
16:P:45:VAL:HG11	16:P:60:ILE:HD12	2.00	0.43
20:T:40:PRO:O	20:T:44:ARG:N	2.51	0.43
22:V:9:VAL:HG22	22:V:26:VAL:HB	2.00	0.43
24:X:161:SER:C	24:X:163:GLU:H	2.26	0.43
25:Y:8:VAL:HG11	25:Y:49:LEU:HD12	2.01	0.43
27:0:112:GLY:C	27:0:116:ARG:NH1	2.77	0.43
31:4:77:ALA:O	31:4:81:ASN:HB2	2.18	0.43
34:8:31:TYR:HA	34:8:34:ALA:HB3	2.01	0.43
34:8:85:ALA:O	34:8:86:SER:O	2.37	0.43
37:b:44:LYS:HE3	37:b:55:VAL:HG12	2.01	0.43
41:f:29:LEU:HD23	41:f:29:LEU:N	2.34	0.43
42:g:58:ASN:C	42:g:58:ASN:HD22	2.27	0.43
46:k:34:ARG:HD3	46:k:42:LEU:HA	2.00	0.43
49:n:110:ALA:C	49:n:112:ALA:N	2.77	0.43
49:n:138:ARG:HA	49:n:141:ALA:CB	2.49	0.43
51:s:146:G:C2'	51:s:147:G:H5'	2.49	0.43
51:s:195:A:H2'	51:s:196:A:C8	2.53	0.43
51:s:452:A:H3'	51:s:452:A:C8	2.54	0.43
51:s:1036:A:H5'	51:s:1037:C:OP2	2.18	0.43
51:s:1102:A:H2'	51:s:1103:C:C6	2.54	0.43
51:s:1118:U:O4'	51:s:1179:A:H1'	2.19	0.43
51:s:1275:A:H2'	51:s:1276:G:O4'	2.19	0.43
51:s:1321:U:C4	51:s:1322:C:N4	2.86	0.43
51:s:1394:A:N6	51:s:1501:C:H5'	2.33	0.43
51:s:1419:G:H5''	51:s:1419:G:C8	2.54	0.43
52:t:9:G:C2	52:t:2629:U:C2	3.07	0.43
52:t:188:G:H2'	52:t:189:G:H5'	2.01	0.43
52:t:749:A:H4'	52:t:1271:G:N3	2.34	0.43
52:t:868:U:N3	52:t:869:G:N7	2.67	0.43
52:t:913:U:C4'	52:t:914:G:OP1	2.67	0.43
52:t:1276:A:O2'	52:t:1277:G:H5'	2.19	0.43
52:t:1402:U:H2'	52:t:1403:A:O5'	2.18	0.43
52:t:2055:C:H5'	52:t:2056:G:O5'	2.19	0.43
52:t:2200:C:H42	52:t:2223:G:H1	1.66	0.43
52:t:2274:A:H5''	52:t:2275:C:P	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:24:ALA:O	54:v:143:LYS:HE3	2.19	0.43
54:v:71:THR:CG2	54:v:72:THR:H	2.31	0.43
1:A:26:MET:HE1	1:A:192:PRO:HB3	1.99	0.42
4:D:84:VAL:CG2	4:D:85:LYS:H	2.22	0.42
5:E:78:PHE:O	5:E:79:ARG:C	2.62	0.42
6:F:37:THR:O	6:F:41:ILE:HG13	2.19	0.42
7:G:83:ARG:NH2	51:s:587:G:OP1	2.48	0.42
8:H:10:ARG:HA	8:H:77:ALA:CB	2.49	0.42
10:J:37:GLN:HB2	10:J:39:ASN:HD22	1.85	0.42
10:J:93:GLU:C	10:J:95:THR:N	2.76	0.42
10:J:96:ILE:O	10:J:100:ASN:HB3	2.19	0.42
13:M:48:GLN:CD	51:s:1317:C:H4'	2.44	0.42
14:N:9:LYS:NZ	14:N:9:LYS:CB	2.82	0.42
15:O:6:LEU:CB	15:O:17:TYR:HB3	2.44	0.42
16:P:40:THR:HG22	16:P:41:THR:N	2.34	0.42
17:Q:54:LEU:O	17:Q:56:ARG:N	2.52	0.42
21:U:75:ALA:HA	21:U:95:TYR:HA	2.01	0.42
22:V:8:LYS:NZ	22:V:193:VAL:O	2.46	0.42
22:V:114:LYS:NZ	22:V:116:LYS:HE2	2.34	0.42
22:V:119:ALA:CB	22:V:123:LYS:HD3	2.49	0.42
22:V:120:GLY:CA	22:V:162:ALA:CB	2.97	0.42
23:W:79:ARG:O	23:W:81:GLY:N	2.52	0.42
23:W:95:LYS:O	23:W:96:VAL:HB	2.19	0.42
23:W:146:VAL:HG12	23:W:185:LYS:HB2	2.01	0.42
24:X:49:LEU:O	24:X:50:ASP:C	2.62	0.42
24:X:93:GLU:C	24:X:95:MET:H	2.27	0.42
24:X:122:ASP:O	52:t:2302:U:O2'	2.37	0.42
26:Z:5:GLN:O	26:Z:6:ALA:CB	2.66	0.42
27:0:17:VAL:HG13	27:0:57:LEU:HD23	1.99	0.42
29:2:63:LYS:NZ	52:t:249:C:O2	2.52	0.42
33:6:52:ARG:HH12	52:t:2846:G:P	2.42	0.42
35:9:59:ILE:HG23	35:9:101:ILE:HG12	2.00	0.42
35:9:85:LYS:NZ	52:t:1187:G:OP1	2.52	0.42
40:e:24:ARG:CZ	40:e:65:LYS:HE2	2.49	0.42
41:f:17:ARG:HD2	41:f:17:ARG:HA	1.63	0.42
42:g:40:SER:C	42:g:42:LEU:N	2.75	0.42
44:i:39:ARG:NH2	52:t:2884:U:H2'	2.34	0.42
46:k:23:ALA:C	46:k:24:THR:CG2	2.91	0.42
49:n:47:GLU:O	49:n:47:GLU:HG2	2.19	0.42
49:n:53:ARG:C	49:n:85:LEU:HD12	2.43	0.42
49:n:64:VAL:C	49:n:66:GLY:N	2.77	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:74:ASP:HA	49:n:77:VAL:CB	2.49	0.42
50:o:25:ALA:O	50:o:26:MET:CB	2.67	0.42
50:q:12:ALA:O	50:q:13:ALA:C	2.61	0.42
50:r:2:ILE:HG13	50:r:5:ASP:HB2	2.00	0.42
51:s:55:A:HI'	54:v:310:LYS:HB2	2.00	0.42
51:s:86:G:O2'	51:s:87:C:O4'	2.34	0.42
51:s:526:C:H2'	51:s:527:G:C4'	2.49	0.42
51:s:730:G:H2'	51:s:730:G:N3	2.32	0.42
51:s:1012:A:H2'	51:s:1013:G:O4'	2.19	0.42
51:s:1069:C:O2'	51:s:1192:C:HI'	2.18	0.42
51:s:1092:A:N6	51:s:1093:A:N6	2.67	0.42
51:s:1251:A:C4	51:s:1252:A:C8	3.07	0.42
51:s:1267:C:H2'	51:s:1268:G:O4'	2.19	0.42
51:s:1316:G:C8	51:s:1318:A:OP2	2.72	0.42
52:t:88:G:C6	52:t:89:A:N7	2.87	0.42
52:t:253:C:H2'	52:t:254:G:H5'	2.00	0.42
52:t:380:G:C2'	52:t:381:G:H5'	2.48	0.42
52:t:771:G:C5	52:t:772:C:C5	3.07	0.42
52:t:799:G:N1	52:t:800:A:N6	2.66	0.42
52:t:919:U:C2'	52:t:920:A:H5'	2.48	0.42
52:t:1270:C:H5''	52:t:1271:G:H5'	2.01	0.42
52:t:1404:C:H2'	52:t:1405:U:H6	1.83	0.42
52:t:1524:G:H2'	52:t:1525:A:O4'	2.19	0.42
52:t:1526:C:H2'	52:t:1527:G:O4'	2.19	0.42
52:t:2060:A:HI'	52:t:2502:G:C1'	2.49	0.42
52:t:2259:U:C5	52:t:2427:C:N4	2.87	0.42
52:t:2339:C:H2'	52:t:2340:A:C8	2.54	0.42
53:u:2:G:N3	53:u:2:G:C2'	2.80	0.42
54:v:59:TRP:NE1	54:v:69:SER:CA	2.82	0.42
54:v:96:SER:HB3	54:v:99:THR:H	1.84	0.42
54:v:405:ASP:O	54:v:407:LEU:N	2.52	0.42
54:v:411:GLN:N	54:v:414:LYS:HB3	2.13	0.42
54:v:428:PHE:HB3	54:v:504:ILE:HD11	2.01	0.42
54:v:490:GLU:HA	54:v:493:LEU:HB2	2.00	0.42
1:A:34:ARG:C	1:A:36:LYS:N	2.77	0.42
1:A:67:LEU:HG	1:A:153:MET:HE1	2.01	0.42
1:A:72:LYS:HG3	1:A:74:ALA:CB	2.41	0.42
1:A:181:PRO:CB	1:A:183:PHE:HE2	2.32	0.42
2:B:112:ALA:CB	2:B:184:ASN:HB2	2.41	0.42
2:B:122:GLN:HB3	2:B:127:VAL:HG21	2.01	0.42
4:D:107:GLY:HA2	51:s:8:A:HI'	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:149:PRO:HG2	4:D:150:GLU:N	2.28	0.42
4:D:152:VAL:CB	4:D:155:LYS:HZ2	2.32	0.42
6:F:125:ASP:OD2	6:F:130:LYS:HG3	2.20	0.42
8:H:98:ARG:O	8:H:101:GLY:N	2.45	0.42
11:K:43:LYS:HD3	51:s:1492:A:P	2.59	0.42
11:K:98:ARG:HD2	11:K:98:ARG:HA	1.65	0.42
16:P:35:LYS:NZ	51:s:585:G:O3'	2.46	0.42
16:P:65:PRO:C	16:P:66:LEU:HG	2.44	0.42
16:P:82:VAL:HG22	16:P:82:VAL:OXT	2.19	0.42
17:Q:63:TYR:CE1	51:s:734:G:N2	2.86	0.42
21:U:57:HIS:CE1	52:t:1568:G:N3	2.87	0.42
21:U:237:ARG:NH1	52:t:2591:C:OP1	2.52	0.42
23:W:25:GLU:OE1	29:2:6:LEU:HA	2.19	0.42
23:W:40:ARG:HD2	23:W:92:HIS:CD2	2.55	0.42
23:W:47:LYS:HB3	23:W:51:GLU:HG3	2.01	0.42
23:W:65:THR:C	23:W:67:ARG:N	2.75	0.42
23:W:104:ALA:O	23:W:107:SER:N	2.52	0.42
23:W:192:ALA:C	23:W:194:LYS:N	2.76	0.42
24:X:110:ILE:CD1	24:X:136:ILE:HG21	2.50	0.42
27:0:132:HIS:O	27:0:135:GLN:HG2	2.19	0.42
28:1:54:LYS:C	28:1:56:ASP:N	2.76	0.42
30:3:41:LEU:CD1	30:3:96:ILE:HG21	2.48	0.42
30:3:102:LEU:HD22	30:3:102:LEU:N	2.28	0.42
31:4:65:LEU:O	31:4:65:LEU:HG	2.15	0.42
34:8:36:GLN:O	34:8:37:ALA:C	2.62	0.42
34:8:54:ARG:O	34:8:55:GLN:C	2.62	0.42
35:9:21:ARG:O	35:9:22:LEU:HD23	2.19	0.42
36:a:20:VAL:O	36:a:21:ALA:C	2.62	0.42
39:d:6:ALA:CB	39:d:42:LEU:HD23	2.49	0.42
39:d:40:ILE:CG2	39:d:41:GLU:N	2.82	0.42
40:e:37:VAL:HG21	40:e:55:ASP:OD2	2.19	0.42
40:e:40:ARG:HB3	52:t:2336:A:N1	2.35	0.42
43:h:15:ARG:N	43:h:15:ARG:NH1	2.64	0.42
43:h:35:VAL:HG11	43:h:37:ARG:NH1	2.34	0.42
49:n:81:LEU:C	49:n:81:LEU:CD2	2.92	0.42
50:o:10:ALA:C	50:o:12:ALA:N	2.77	0.42
50:o:15:SER:HB3	50:r:11:VAL:HG12	2.01	0.42
50:o:26:MET:HG3	50:o:29:LYS:HE2	2.00	0.42
51:s:354:G:C2	51:s:355:C:C6	3.07	0.42
51:s:378:G:N2	51:s:386:C:C2	2.87	0.42
51:s:452:A:N7	51:s:453:G:C8	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:486:U:OP2	51:s:486:U:H6	2.03	0.42
51:s:513:C:O2'	51:s:514:C:H5'	2.19	0.42
51:s:761:G:H2'	51:s:762:U:H6	1.85	0.42
51:s:950:U:H2'	51:s:951:G:C8	2.54	0.42
51:s:1071:C:H2'	51:s:1072:G:C8	2.55	0.42
51:s:1095:U:H2'	51:s:1096:C:H6	1.84	0.42
51:s:1220:G:H2'	51:s:1221:G:H8	1.83	0.42
51:s:1368:A:O2'	51:s:1369:C:H5'	2.18	0.42
52:t:428:A:C6	52:t:429:A:C6	3.08	0.42
52:t:1172:C:N4	52:t:1177:G:H1	2.17	0.42
52:t:1322:A:C5	52:t:1323:C:C5	3.08	0.42
52:t:1399:C:O5'	52:t:1399:C:H6	2.02	0.42
52:t:1531:C:H2'	52:t:1532:A:H8	1.83	0.42
52:t:1654:A:H2'	52:t:1655:A:C8	2.54	0.42
52:t:2134:A:N1	52:t:2135:A:C2	2.87	0.42
52:t:2248:C:H3'	52:t:2249:U:C6	2.54	0.42
52:t:2461:A:H1'	52:t:2492:U:C2	2.54	0.42
54:v:425:VAL:HB	54:v:426:GLN:H	1.67	0.42
2:B:112:ALA:HB2	2:B:182:ASP:CG	2.43	0.42
2:B:155:ARG:NH1	51:s:1055:A:N3	2.67	0.42
3:C:47:LEU:HD12	3:C:51:GLY:C	2.44	0.42
3:C:97:LEU:CD2	3:C:117:VAL:HG11	2.47	0.42
3:C:102:TYR:CD2	3:C:102:TYR:C	2.97	0.42
7:G:2:MET:O	7:G:4:ASP:N	2.52	0.42
7:G:74:ILE:HA	7:G:127:TYR:O	2.18	0.42
8:H:9:GLY:HA3	8:H:80:HIS:HB3	2.01	0.42
11:K:32:VAL:O	11:K:33:CYS:CB	2.67	0.42
13:M:28:ALA:O	13:M:32:ASP:OD2	2.36	0.42
15:O:10:GLY:O	15:O:11:ALA:HB2	2.18	0.42
15:O:67:ILE:HG22	15:O:68:SER:O	2.19	0.42
16:P:54:ILE:CD1	16:P:55:GLY:N	2.76	0.42
18:R:36:ARG:NH2	51:s:1220:G:H5''	2.32	0.42
20:T:20:ARG:HG2	20:T:20:ARG:NH1	2.33	0.42
21:U:109:LEU:O	21:U:110:LYS:HB3	2.19	0.42
21:U:141:HIS:HB3	21:U:142:ASN:H	1.12	0.42
22:V:190:LYS:O	22:V:191:GLY:O	2.36	0.42
23:W:199:MET:C	23:W:200:LEU:HD22	2.44	0.42
25:Y:21:GLN:OE1	25:Y:21:GLN:HA	2.19	0.42
25:Y:24:THR:HG23	25:Y:34:ARG:HD2	2.01	0.42
26:Z:108:ILE:O	26:Z:108:ILE:HG22	2.19	0.42
29:2:68:SER:C	29:2:70:LYS:H	2.26	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:4:38:LEU:CB	31:4:39:PRO:HD3	2.37	0.42
31:4:96:ARG:CZ	31:4:116:VAL:HG23	2.49	0.42
31:4:117:ASP:O	31:4:118:ARG:HB2	2.18	0.42
34:8:46:TYR:OH	52:t:992:C:OP1	2.23	0.42
37:b:40:LYS:HG2	37:b:60:THR:HG23	2.00	0.42
37:b:85:VAL:C	37:b:86:THR:HG23	2.44	0.42
38:c:47:PRO:HB3	38:c:55:GLY:CA	2.49	0.42
39:d:4:ILE:HG23	39:d:50:MET:SD	2.59	0.42
39:d:9:ARG:NH2	39:d:12:GLN:HA	2.34	0.42
39:d:29:ILE:HG13	39:d:30:ILE:N	2.34	0.42
40:e:11:ASN:ND2	52:t:2264:C:H41	2.17	0.42
40:e:30:VAL:HG13	52:t:2353:G:N3	2.34	0.42
41:f:73:ARG:HG3	41:f:74:GLY:H	1.83	0.42
49:n:24:SER:O	49:n:96:PHE:HE1	2.02	0.42
49:n:34:THR:C	49:n:36:ASP:N	2.75	0.42
50:q:12:ALA:C	50:q:14:MET:H	2.27	0.42
51:s:400:C:O5'	51:s:400:C:H6	2.02	0.42
51:s:528:C:C4	51:s:529:G:N7	2.88	0.42
51:s:703:G:C5'	51:s:704:A:OP1	2.66	0.42
51:s:974:A:H4'	51:s:975:A:C5'	2.50	0.42
51:s:1329:A:O2'	51:s:1330:U:H5'	2.19	0.42
51:s:1360:A:H2'	51:s:1361:G:O4'	2.19	0.42
51:s:1508:A:H2'	51:s:1509:C:O4'	2.19	0.42
52:t:76:C:HO2'	52:t:77:G:H5'	1.82	0.42
52:t:270:A:C2	52:t:369:U:H4'	2.53	0.42
52:t:328:U:C2'	52:t:329:G:OP1	2.66	0.42
52:t:864:G:C5	52:t:865:C:C5	3.08	0.42
52:t:900:A:C2	52:t:902:C:N4	2.87	0.42
52:t:1010:A:H1'	52:t:1153:C:C1'	2.50	0.42
52:t:1192:G:O2'	52:t:1193:G:H5'	2.19	0.42
52:t:1666:G:H2'	52:t:1667:G:H5'	2.00	0.42
52:t:1915:U:H2'	52:t:1916:A:O4'	2.20	0.42
52:t:1962:C:H6	52:t:1962:C:O5'	2.03	0.42
52:t:2029:G:C5	52:t:2031:A:H5'	2.54	0.42
53:u:14:U:OP2	53:u:70:C:O2'	2.31	0.42
1:A:67:LEU:O	1:A:160:LEU:HD12	2.20	0.42
2:B:56:ILE:HG13	2:B:65:VAL:HG22	2.00	0.42
2:B:117:ASP:C	2:B:119:ILE:N	2.77	0.42
2:B:126:ARG:CZ	51:s:532:A:C8	3.02	0.42
2:B:138:GLN:C	2:B:140:ALA:N	2.77	0.42
2:B:163:ARG:HH12	2:B:165:GLU:CD	2.27	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:57:LYS:HB2	3:C:199:ILE:CD1	2.48	0.42
4:D:14:LEU:C	4:D:14:LEU:CD1	2.93	0.42
4:D:71:ILE:HD13	4:D:144:GLU:HG3	2.00	0.42
4:D:116:VAL:HG23	4:D:117:ALA:N	2.33	0.42
6:F:62:GLU:OE1	6:F:62:GLU:C	2.63	0.42
7:G:110:MET:SD	7:G:115:ALA:CA	3.05	0.42
7:G:112:ASP:CG	7:G:113:ARG:N	2.77	0.42
8:H:84:ARG:HH11	8:H:84:ARG:HB2	1.84	0.42
11:K:41:PRO:HA	11:K:89:LEU:HD13	2.02	0.42
12:L:64:VAL:O	12:L:65:GLU:C	2.61	0.42
16:P:61:ARG:HH11	16:P:61:ARG:CB	2.32	0.42
19:S:23:ARG:O	19:S:26:MET:HB3	2.19	0.42
20:T:19:LYS:HE2	20:T:19:LYS:N	2.34	0.42
21:U:64:VAL:CG1	21:U:66:PHE:CE2	3.02	0.42
22:V:23:PRO:O	22:V:191:GLY:N	2.52	0.42
23:W:68:ALA:O	23:W:69:ARG:C	2.62	0.42
25:Y:25:ILE:HD12	25:Y:25:ILE:N	2.34	0.42
25:Y:94:ARG:NH1	25:Y:94:ARG:HG2	2.34	0.42
25:Y:126:THR:C	25:Y:128:THR:N	2.78	0.42
27:0:113:PRO:HD3	27:0:116:ARG:HH12	1.84	0.42
28:1:2:ILE:HG12	28:1:33:ALA:O	2.19	0.42
28:1:78:ARG:HB2	28:1:78:ARG:NH1	2.34	0.42
29:2:109:LYS:HG2	29:2:126:ARG:HB3	2.00	0.42
34:8:8:ILE:O	34:8:11:ALA:HB3	2.18	0.42
36:a:36:LEU:HD23	36:a:48:LYS:HA	2.01	0.42
37:b:19:LYS:HE2	37:b:19:LYS:HB3	1.80	0.42
37:b:68:LYS:HE2	37:b:68:LYS:HB3	1.79	0.42
38:c:6:ARG:NH2	38:c:25:LYS:O	2.52	0.42
39:d:75:GLN:OE1	39:d:75:GLN:HA	2.20	0.42
40:e:37:VAL:C	40:e:38:ARG:HG2	2.43	0.42
41:f:39:VAL:HG22	41:f:44:ARG:O	2.19	0.42
42:g:39:GLN:HG3	42:g:42:LEU:CD2	2.47	0.42
44:i:24:VAL:O	44:i:25:THR:OG1	2.34	0.42
49:n:3:LEU:HB2	49:n:4:ASN:H	1.65	0.42
49:n:139:LEU:C	49:n:141:ALA:H	2.27	0.42
49:n:150:LYS:C	49:n:152:VAL:N	2.75	0.42
49:n:158:VAL:HG11	50:q:23:ILE:CG1	2.48	0.42
50:r:8:ILE:HA	50:r:11:VAL:HG23	2.01	0.42
51:s:626:G:H2'	51:s:627:G:H8	1.83	0.42
51:s:643:C:H2'	51:s:644:U:H6	1.83	0.42
51:s:665:A:N7	51:s:725:G:N1	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:903:G:H2'	51:s:904:U:C6	2.55	0.42
51:s:1073:U:H2'	51:s:1074:G:H8	1.84	0.42
51:s:1251:A:H1'	51:s:1370:G:C4'	2.48	0.42
51:s:1523:G:H2'	51:s:1524:C:C6	2.55	0.42
52:t:147:C:H2'	52:t:148:U:C6	2.55	0.42
52:t:647:G:H2'	52:t:648:G:O4'	2.19	0.42
52:t:770:G:H1'	52:t:1379:U:O4	2.19	0.42
52:t:834:G:H2'	52:t:835:C:H6	1.84	0.42
52:t:1104:C:H6	52:t:1104:C:O5'	2.03	0.42
52:t:1195:G:O2'	52:t:1226:A:N1	2.33	0.42
52:t:1410:G:O2'	52:t:1411:U:H5'	2.20	0.42
52:t:1624:U:H2'	52:t:1625:C:C6	2.54	0.42
52:t:1828:G:O2'	52:t:1829:A:H5'	2.19	0.42
52:t:2391:G:O2'	52:t:2424:C:N4	2.33	0.42
52:t:2725:A:HO2'	52:t:2726:A:P	2.42	0.42
54:v:407:LEU:HA	54:v:408:LYS:C	2.44	0.42
54:v:419:LEU:HG	54:v:452:ARG:HH12	1.84	0.42
1:A:49:PHE:O	1:A:52:ALA:HB3	2.19	0.42
1:A:100:LEU:HA	1:A:100:LEU:HD13	1.72	0.42
2:B:82:ASP:O	2:B:85:LYS:CG	2.68	0.42
2:B:128:MET:O	2:B:131:ARG:HB2	2.20	0.42
2:B:154:GLY:O	2:B:156:LEU:CD1	2.67	0.42
3:C:10:LEU:CD1	3:C:62:ARG:HG3	2.49	0.42
3:C:39:GLN:NE2	3:C:39:GLN:O	2.53	0.42
3:C:117:VAL:HG13	3:C:122:ILE:CD1	2.49	0.42
6:F:94:ARG:NH1	6:F:94:ARG:HG3	2.34	0.42
8:H:21:LYS:HE3	8:H:61:ASP:CB	2.50	0.42
8:H:125:GLN:HA	51:s:1342:C:O2'	2.20	0.42
9:I:46:LYS:HD3	9:I:46:LYS:H	1.84	0.42
10:J:20:ALA:HB3	10:J:83:VAL:HG22	2.02	0.42
13:M:8:ARG:HD3	13:M:12:ARG:HH22	1.84	0.42
16:P:76:ARG:HH12	16:P:78:VAL:CG1	2.32	0.42
17:Q:62:ARG:HB3	17:Q:69:TYR:CE1	2.54	0.42
18:R:3:SER:O	51:s:1314:C:N4	2.53	0.42
19:S:27:MET:O	19:S:31:ILE:HG12	2.19	0.42
19:S:59:ARG:HH11	19:S:59:ARG:HG3	1.84	0.42
21:U:43:ASN:HD22	21:U:45:ASN:HB2	1.83	0.42
21:U:52:HIS:CD2	21:U:52:HIS:N	2.87	0.42
21:U:237:ARG:CG	52:t:2591:C:P	3.08	0.42
22:V:120:GLY:O	22:V:121:THR:O	2.37	0.42
24:X:2:LYS:HG3	24:X:3:LEU:H	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:37:MET:SD	24:X:56:LEU:HG	2.59	0.42
24:X:99:PHE:O	24:X:103:ILE:HG12	2.19	0.42
25:Y:91:VAL:HG13	54:v:147:ASP:OD2	2.19	0.42
26:Z:80:LYS:HG2	26:Z:86:LYS:O	2.19	0.42
26:Z:101:SER:HA	26:Z:139:VAL:CG2	2.41	0.42
29:2:93:ASN:O	29:2:94:THR:CB	2.68	0.42
29:2:120:VAL:O	29:2:140:GLY:CA	2.68	0.42
32:5:66:GLY:CA	32:5:102:ARG:NH1	2.83	0.42
32:5:103:VAL:O	32:5:106:LEU:HB3	2.20	0.42
34:8:8:ILE:HD12	34:8:8:ILE:N	2.34	0.42
36:a:77:ASP:HB3	52:t:24:G:O2'	2.18	0.42
37:b:29:THR:N	37:b:86:THR:HA	2.33	0.42
38:c:21:ARG:HD2	38:c:72:PHE:CE1	2.55	0.42
38:c:42:LYS:CD	38:c:42:LYS:N	2.82	0.42
40:e:22:VAL:O	40:e:23:LYS:O	2.37	0.42
41:f:20:ALA:HB2	52:t:2079:U:O3'	2.19	0.42
47:l:22:LYS:H	47:l:48:MET:HA	1.84	0.42
48:m:9:LYS:H	48:m:9:LYS:HE2	1.83	0.42
49:n:145:GLU:HA	50:p:30:PHE:CZ	2.55	0.42
50:p:13:ALA:O	50:p:14:MET:HE2	2.20	0.42
50:q:11:VAL:HG22	50:r:29:LYS:NZ	2.33	0.42
51:s:160:A:H1'	51:s:344:A:C2	2.54	0.42
51:s:172:A:N7	51:s:174:A:C5	2.88	0.42
51:s:253:A:H2'	51:s:254:G:C8	2.53	0.42
51:s:573:A:N3	51:s:883:C:O2'	2.49	0.42
51:s:953:G:C2	51:s:954:G:H1'	2.54	0.42
51:s:1055:A:C6	51:s:1206:G:C4	3.08	0.42
51:s:1401:G:H2'	51:s:1402:C:O4'	2.19	0.42
51:s:1521:C:H2'	51:s:1522:U:C6	2.52	0.42
52:t:178:G:H8	52:t:178:G:O5'	2.01	0.42
52:t:253:C:H2'	52:t:254:G:O4'	2.20	0.42
52:t:323:C:HO2'	52:t:1205:A:N6	2.18	0.42
52:t:518:G:H2'	52:t:519:U:C6	2.55	0.42
52:t:570:G:H2'	52:t:2030:A:C8	2.54	0.42
52:t:621:A:OP2	52:t:622:G:OP2	2.38	0.42
52:t:623:C:H2'	52:t:624:C:H6	1.85	0.42
52:t:1075:C:C4	52:t:1076:C:N4	2.87	0.42
52:t:1094:U:C2	52:t:1096:A:H3'	2.54	0.42
52:t:1129:A:C4	52:t:2570:G:H1'	2.54	0.42
52:t:1152:C:O5'	52:t:1152:C:H6	2.02	0.42
52:t:1411:U:H2'	52:t:1412:U:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1502:A:H2'	52:t:1503:A:O4'	2.20	0.42
52:t:2001:C:H4'	52:t:2689:U:H2'	2.02	0.42
52:t:2273:A:C2	52:t:2274:A:C5	3.07	0.42
52:t:2654:A:H8	52:t:2654:A:OP1	2.02	0.42
52:t:2838:G:H2'	52:t:2839:G:O4'	2.19	0.42
52:t:2880:C:N3	52:t:2881:U:C5	2.88	0.42
52:t:2888:C:C2	52:t:2889:C:C5	3.07	0.42
53:u:23:G:H1	53:u:60:C:H42	1.68	0.42
54:v:320:VAL:HG12	54:v:361:PRO:HA	2.01	0.42
3:C:28:ASP:HB2	3:C:29:THR:H	1.58	0.42
4:D:59:ILE:HG13	4:D:60:GLN:N	2.34	0.42
4:D:75:LEU:CD2	4:D:118:GLY:O	2.67	0.42
6:F:16:LYS:HD3	6:F:17:PHE:CE1	2.55	0.42
6:F:49:LEU:HD11	6:F:123:LEU:HD12	2.01	0.42
9:I:8:ILE:HB	9:I:74:VAL:HB	2.01	0.42
11:K:38:THR:HG22	11:K:50:LYS:HG3	2.01	0.42
15:O:46:LYS:HE3	15:O:48:GLU:O	2.19	0.42
21:U:219:VAL:HG21	52:t:782:A:N7	2.34	0.42
22:V:4:LEU:HD11	22:V:100:LEU:HD22	2.00	0.42
22:V:13:ARG:HA	22:V:22:ILE:O	2.18	0.42
22:V:33:ARG:HG3	22:V:33:ARG:HH21	1.85	0.42
22:V:90:PHE:HB3	22:V:92:VAL:HG23	2.02	0.42
23:W:35:TYR:CE1	52:t:615:U:N3	2.88	0.42
23:W:119:ILE:O	23:W:119:ILE:HG12	2.18	0.42
23:W:148:ILE:CG2	23:W:169:VAL:HG12	2.49	0.42
25:Y:61:TRP:O	25:Y:62:ALA:C	2.61	0.42
25:Y:61:TRP:HA	25:Y:64:ALA:HB3	2.01	0.42
25:Y:70:LEU:HD23	25:Y:70:LEU:HA	1.91	0.42
26:Z:100:ILE:HG23	26:Z:104:GLN:CB	2.48	0.42
27:O:84:ILE:O	27:O:84:ILE:HG23	2.19	0.42
29:2:62:PRO:HD2	47:l:24:LYS:O	2.19	0.42
30:3:44:ARG:NH2	52:t:2484:G:OP1	2.52	0.42
31:4:13:ASN:O	31:4:14:SER:C	2.61	0.42
31:4:116:VAL:O	31:4:116:VAL:CG1	2.67	0.42
32:5:28:VAL:HG12	32:5:93:ASP:O	2.19	0.42
33:6:4:ILE:O	33:6:5:LYS:HB3	2.19	0.42
34:8:23:TYR:N	34:8:23:TYR:CD2	2.87	0.42
35:9:85:LYS:HE3	52:t:815:C:OP2	2.19	0.42
36:a:45:VAL:HG23	36:a:46:LEU:N	2.34	0.42
37:b:7:LEU:C	37:b:8:LEU:HD22	2.44	0.42
38:c:10:VAL:HG12	38:c:70:ALA:C	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:e:23:LYS:O	40:e:24:ARG:C	2.60	0.42
42:g:13:GLU:C	42:g:15:ASN:N	2.75	0.42
42:g:23:ARG:O	42:g:24:GLU:O	2.37	0.42
43:h:35:VAL:CG2	43:h:36:GLU:N	2.81	0.42
49:n:63:ALA:HB1	49:n:84:TYR:CE2	2.54	0.42
51:s:15:G:C4	51:s:16:A:C8	3.08	0.42
51:s:159:G:N2	51:s:162:A:OP2	2.53	0.42
51:s:660:C:H2'	51:s:661:G:H8	1.85	0.42
51:s:676:A:H2	51:s:714:G:H22	1.67	0.42
51:s:819:A:C5'	51:s:820:U:OP2	2.68	0.42
51:s:866:C:C4	51:s:867:G:H1'	2.55	0.42
51:s:1087:G:C2	51:s:1099:G:N3	2.87	0.42
51:s:1255:G:N2	51:s:1258:G:N2	2.66	0.42
51:s:1269:A:N3	51:s:1326:U:H1'	2.35	0.42
52:t:196:A:C4	52:t:805:G:C6	3.08	0.42
52:t:221:A:H2'	52:t:266:G:N7	2.34	0.42
52:t:289:G:C2'	52:t:290:U:H5'	2.48	0.42
52:t:307:G:N1	52:t:310:A:OP2	2.50	0.42
52:t:736:C:H2'	52:t:737:C:C6	2.45	0.42
52:t:856:G:H2'	52:t:857:G:C8	2.55	0.42
52:t:1629:U:O2	52:t:2698:U:H5''	2.19	0.42
52:t:1980:G:H2'	52:t:1982:U:C5	2.55	0.42
54:v:193:TYR:HA	54:v:263:PHE:CE1	2.53	0.42
1:A:90:PHE:CD2	1:A:149:GLY:CA	3.00	0.42
2:B:63:ILE:HG12	2:B:65:VAL:HG23	2.01	0.42
2:B:74:ILE:O	2:B:74:ILE:HG12	2.19	0.42
3:C:9:LYS:NZ	51:s:542:G:OP1	2.51	0.42
3:C:47:LEU:HD12	3:C:51:GLY:CA	2.50	0.42
7:G:110:MET:HE2	7:G:114:ALA:CB	2.40	0.42
7:G:116:ARG:HG2	7:G:116:ARG:NH1	2.35	0.42
8:H:60:LEU:HD23	8:H:60:LEU:H	1.85	0.42
10:J:78:ILE:HB	10:J:104:PHE:HE1	1.85	0.42
10:J:81:LEU:O	10:J:81:LEU:HD23	2.19	0.42
13:M:68:ARG:NH1	51:s:974:A:OP2	2.51	0.42
17:Q:33:THR:HG22	17:Q:37:LYS:O	2.19	0.42
19:S:55:PRO:HB3	51:s:193:C:O3'	2.19	0.42
22:V:143:PRO:O	52:t:2511:U:O2'	2.36	0.42
24:X:7:TYR:O	24:X:11:VAL:HB	2.19	0.42
24:X:21:TYR:CE2	24:X:28:PRO:HD3	2.54	0.42
24:X:73:VAL:HG21	24:X:76:PHE:HD1	1.84	0.42
24:X:125:GLY:O	24:X:126:ASN:CG	2.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:140:ILE:HG13	25:Y:141:GLY:H	1.85	0.42
26:Z:74:PRO:HG2	26:Z:77:VAL:CG2	2.49	0.42
30:3:70:ASP:OD1	30:3:70:ASP:C	2.62	0.42
30:3:76:LYS:HA	30:3:77:PRO:HD3	1.93	0.42
31:4:58:ASP:OD2	31:4:63:ARG:HD2	2.20	0.42
31:4:63:ARG:O	31:4:64:ARG:C	2.61	0.42
37:b:37:ASP:O	37:b:38:ALA:O	2.37	0.42
37:b:53:VAL:CG2	37:b:87:LEU:HD22	2.50	0.42
38:c:44:HIS:HB3	52:t:483:A:O4'	2.19	0.42
40:e:24:ARG:HG3	40:e:24:ARG:O	2.20	0.42
41:f:55:MET:C	41:f:57:VAL:N	2.76	0.42
42:g:41:HIS:CD2	52:t:95:A:O2'	2.72	0.42
45:j:14:ALA:HB2	45:j:46:VAL:HG21	2.01	0.42
49:n:135:ALA:C	49:n:137:ALA:N	2.75	0.42
49:n:138:ARG:HA	49:n:141:ALA:HB2	2.02	0.42
51:s:198:G:H2'	51:s:199:A:C8	2.54	0.42
51:s:435:A:N3	51:s:435:A:H2'	2.35	0.42
51:s:499:A:C2	51:s:546:A:N3	2.87	0.42
51:s:510:A:C2	51:s:542:G:N2	2.88	0.42
51:s:537:G:O2'	51:s:538:G:H5'	2.19	0.42
51:s:654:G:C2	51:s:753:A:C4	3.08	0.42
51:s:678:U:H2'	51:s:679:C:C6	2.55	0.42
51:s:762:U:C2	51:s:763:G:C8	3.08	0.42
51:s:803:G:C6	51:s:804:U:N3	2.88	0.42
52:t:32:C:N4	52:t:33:C:N4	2.67	0.42
52:t:69:C:O2'	52:t:70:G:H5'	2.19	0.42
52:t:89:A:O2'	52:t:90:U:H5'	2.20	0.42
52:t:116:C:H2'	52:t:117:G:C8	2.54	0.42
52:t:156:A:H2'	52:t:157:C:H6	1.83	0.42
52:t:393:C:O2	52:t:394:C:C6	2.73	0.42
52:t:499:U:H2'	52:t:500:G:H8	1.84	0.42
52:t:669:G:OP1	52:t:670:A:N6	2.49	0.42
52:t:692:C:H2'	52:t:693:A:C8	2.55	0.42
52:t:831:G:C5	52:t:832:U:C5	3.08	0.42
52:t:843:G:H2'	52:t:844:A:H8	1.81	0.42
52:t:870:U:O2'	52:t:871:U:H5'	2.20	0.42
52:t:1020:A:HO2'	52:t:1021:A:P	2.41	0.42
52:t:1115:G:H2'	52:t:1116:G:C8	2.55	0.42
52:t:1139:G:N3	52:t:1143:A:H2	2.17	0.42
52:t:1344:U:H4'	52:t:1384:A:C6	2.55	0.42
52:t:1549:A:C6	52:t:1550:C:C4	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2427:C:C5'	52:t:2428:G:OP1	2.68	0.42
52:t:2814:A:C5	52:t:2815:C:C5	3.07	0.42
54:v:264:GLY:HA2	54:v:267:HIS:CE1	2.54	0.42
1:A:20:ARG:O	1:A:22:TRP:N	2.41	0.42
1:A:101:THR:HG23	51:s:1074:G:O2'	2.20	0.42
2:B:79:LYS:HD2	2:B:79:LYS:N	2.34	0.42
2:B:123:LEU:HD13	2:B:195:ILE:HG21	2.02	0.42
4:D:63:MET:O	4:D:67:ARG:N	2.49	0.42
4:D:85:LYS:HG3	4:D:93:VAL:O	2.20	0.42
5:E:41:ASP:C	5:E:41:ASP:OD2	2.63	0.42
6:F:9:ARG:NE	51:s:1346:A:H62	2.18	0.42
6:F:70:PRO:HB3	6:F:141:HIS:HE1	1.85	0.42
7:G:35:ILE:HD11	7:G:125:ILE:HG21	2.02	0.42
9:I:35:GLN:CB	9:I:78:GLU:H	2.33	0.42
11:K:34:THR:N	11:K:53:ARG:O	2.51	0.42
14:N:8:ALA:O	14:N:11:VAL:N	2.53	0.42
15:O:30:GLY:O	15:O:31:ARG:C	2.63	0.42
15:O:54:LEU:HD12	15:O:54:LEU:H	1.84	0.42
21:U:10:PRO:HB2	52:t:1774:C:O2	2.19	0.42
21:U:66:PHE:CE2	21:U:104:LEU:HD11	2.55	0.42
24:X:25:MET:O	24:X:27:VAL:N	2.53	0.42
24:X:30:VAL:HG13	24:X:95:MET:HE3	2.01	0.42
26:Z:110:GLN:O	26:Z:110:GLN:HG2	2.20	0.42
27:0:119:PHE:O	27:0:119:PHE:CG	2.73	0.42
35:9:11:GLN:NE2	35:9:39:LEU:HD11	2.35	0.42
36:a:65:ASP:C	36:a:67:ASP:N	2.77	0.42
38:c:35:VAL:CG1	38:c:38:ILE:HG13	2.50	0.42
42:g:37:LEU:HD21	42:g:39:GLN:C	2.44	0.42
44:i:2:VAL:HG23	52:t:2015:A:C2	2.55	0.42
47:l:7:ARG:O	47:l:10:ALA:HB3	2.20	0.42
49:n:42:ARG:C	49:n:44:ALA:N	2.77	0.42
49:n:43:LYS:O	49:n:48:ALA:HB3	2.20	0.42
49:n:58:THR:O	49:n:60:LEU:N	2.52	0.42
51:s:164:G:C2	51:s:165:G:C8	3.06	0.42
51:s:380:G:C2	51:s:384:G:O6	2.73	0.42
51:s:502:A:C2	51:s:544:G:C2	3.08	0.42
51:s:639:G:C2'	51:s:640:A:H5'	2.50	0.42
51:s:769:G:N1	51:s:811:C:O2	2.53	0.42
51:s:782:A:O3'	51:s:1515:G:H4'	2.20	0.42
51:s:815:A:N6	51:s:1509:C:H1'	2.31	0.42
51:s:815:A:O2'	51:s:1527:U:H1'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:853:C:H2'	51:s:854:U:O4'	2.19	0.42
51:s:1069:C:N3	51:s:1070:U:C6	2.88	0.42
51:s:1145:A:HO2'	51:s:1146:A:P	2.42	0.42
51:s:1174:G:H2'	51:s:1175:G:C8	2.55	0.42
51:s:1528:U:H4'	51:s:1529:G:OP1	2.19	0.42
52:t:118:A:C8	52:t:119:A:C8	3.08	0.42
52:t:409:G:O2'	52:t:410:G:H5'	2.20	0.42
52:t:471:A:H2'	52:t:472:A:H5'	2.02	0.42
52:t:775:G:O5'	52:t:777:G:H1'	2.20	0.42
52:t:1622:G:N3	52:t:1623:G:C8	2.88	0.42
52:t:1754:A:O5'	52:t:1754:A:H8	2.03	0.42
52:t:2061:G:N7	52:t:2501:C:C1'	2.83	0.42
52:t:2330:G:C2	52:t:2386:A:C2	3.08	0.42
52:t:2500:U:O2	52:t:2504:U:C4	2.73	0.42
52:t:2769:U:H2'	52:t:2770:G:H8	1.85	0.42
54:v:314:ARG:HB2	54:v:369:ASN:HB3	2.02	0.42
1:A:17:HIS:CD2	1:A:202:ASN:ND2	2.86	0.42
1:A:74:ALA:O	1:A:75:ALA:HB2	2.20	0.42
1:A:116:LEU:HD12	1:A:140:LEU:HD11	2.02	0.42
2:B:85:LYS:HG3	2:B:86:LEU:N	2.34	0.42
2:B:166:TRP:O	2:B:166:TRP:CE3	2.72	0.42
3:C:123:MET:HE3	3:C:145:ARG:HA	2.02	0.42
3:C:164:ARG:O	3:C:165:GLU:C	2.61	0.42
4:D:12:GLU:CB	4:D:38:VAL:HG12	2.50	0.42
5:E:59:TYR:CD1	5:E:59:TYR:N	2.87	0.42
6:F:123:LEU:O	6:F:126:ALA:HB3	2.20	0.42
9:I:19:ASP:HB3	9:I:72:ARG:CZ	2.50	0.42
9:I:35:GLN:CD	9:I:78:GLU:HB2	2.43	0.42
9:I:48:ARG:HG3	9:I:66:GLU:HB3	2.00	0.42
10:J:14:GLN:NE2	10:J:14:GLN:CA	2.82	0.42
10:J:22:ILE:HD11	10:J:85:VAL:CA	2.46	0.42
10:J:49:SER:HB2	10:J:51:PHE:CE2	2.55	0.42
12:L:1:ALA:HB3	12:L:10:ASP:OD1	2.20	0.42
12:L:19:THR:C	12:L:24:VAL:HG23	2.45	0.42
12:L:84:CYS:SG	12:L:85:TYR:N	2.93	0.42
15:O:18:GLN:HG2	15:O:35:ARG:HG3	2.02	0.42
16:P:49:ASN:O	16:P:50:ASN:C	2.62	0.42
16:P:58:VAL:CG2	16:P:59:GLU:H	2.31	0.42
19:S:68:LYS:HB2	19:S:68:LYS:HZ2	1.84	0.42
19:S:81:GLN:HE22	51:s:259:G:P	2.43	0.42
20:T:20:ARG:NE	20:T:24:LYS:HE3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:195:GLY:O	21:U:196:ASN:HB3	2.19	0.42
23:W:175:ILE:HD11	23:W:180:LEU:CD2	2.49	0.42
24:X:148:VAL:HG23	24:X:149:ARG:H	1.85	0.42
26:Z:32:VAL:HG13	26:Z:66:PHE:CE2	2.55	0.42
28:1:68:GLY:HA3	28:1:78:ARG:HG2	2.02	0.42
30:3:34:LYS:CG	30:3:35:ALA:N	2.83	0.42
35:9:85:LYS:HA	52:t:814:C:OP1	2.20	0.42
36:a:65:ASP:C	36:a:67:ASP:H	2.28	0.42
36:a:73:LYS:NZ	52:t:520:G:H5'	2.34	0.42
37:b:14:PRO:HD2	42:g:33:ALA:CB	2.49	0.42
37:b:63:VAL:O	37:b:79:ASP:HB3	2.20	0.42
38:c:47:PRO:HB3	38:c:54:PRO:C	2.44	0.42
38:c:102:ILE:OXT	38:c:102:ILE:CG1	2.67	0.42
40:e:8:SER:O	40:e:9:THR:CB	2.68	0.42
40:e:39:GLN:CD	40:e:43:LYS:HB2	2.44	0.42
40:e:55:ASP:O	40:e:55:ASP:CG	2.62	0.42
42:g:40:SER:O	42:g:42:LEU:N	2.52	0.42
51:s:148:G:C6	51:s:149:A:N7	2.87	0.42
51:s:206:C:H2'	51:s:207:C:O4'	2.20	0.42
51:s:328:C:HO2'	51:s:329:A:P	2.27	0.42
51:s:480:U:H5''	51:s:481:G:OP2	2.20	0.42
51:s:481:G:C8	51:s:481:G:H3'	2.54	0.42
51:s:1141:C:C2'	51:s:1142:G:O5'	2.67	0.42
52:t:160:A:C8	52:t:167:A:C6	3.08	0.42
52:t:257:C:H2'	52:t:258:G:O4'	2.20	0.42
52:t:364:C:O2'	52:t:365:U:H5'	2.18	0.42
52:t:463:G:C2	52:t:467:G:C5	3.08	0.42
52:t:508:A:C4'	52:t:509:C:OP2	2.67	0.42
52:t:614:A:C2'	52:t:615:U:OP2	2.67	0.42
52:t:721:A:H2'	52:t:722:A:C8	2.55	0.42
52:t:959:A:N6	52:t:2495:G:O2'	2.52	0.42
52:t:974:G:H1'	52:t:975:A:H8	1.84	0.42
52:t:1171:G:H8	52:t:1171:G:O5'	2.03	0.42
52:t:1399:C:H2'	52:t:1400:U:C6	2.54	0.42
52:t:1586:A:N7	52:t:1587:G:N7	2.68	0.42
52:t:1728:C:C2	52:t:1730:C:O2	2.73	0.42
52:t:2298:A:H3'	52:t:2299:U:C6	2.55	0.42
52:t:2793:C:O2'	52:t:2794:C:H5'	2.19	0.42
54:v:59:TRP:HZ2	54:v:69:SER:HG	1.49	0.42
1:A:90:PHE:HD2	1:A:90:PHE:N	2.18	0.42
2:B:10:ARG:HH22	2:B:174:LEU:HD12	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:131:ILE:C	3:C:133:SER:N	2.77	0.42
3:C:200:VAL:HG12	4:D:102:THR:CG2	2.40	0.42
4:D:85:LYS:HB2	4:D:94:PHE:HB2	2.01	0.42
4:D:100:GLU:HA	4:D:121:ASN:HB3	1.97	0.42
4:D:152:VAL:HB	4:D:156:ARG:CG	2.50	0.42
8:H:71:ILE:HD12	8:H:71:ILE:N	2.30	0.42
8:H:107:ALA:O	8:H:108:ARG:C	2.62	0.42
10:J:113:THR:O	10:J:115:ILE:CD1	2.68	0.42
11:K:4:ASN:OD1	51:s:585:G:H4'	2.20	0.42
11:K:57:THR:CG2	11:K:58:ASN:N	2.82	0.42
11:K:71:HIS:C	11:K:71:HIS:ND1	2.77	0.42
13:M:50:LEU:CB	13:M:51:PRO:HD2	2.43	0.42
13:M:53:ASP:HA	13:M:58:ARG:HH11	1.84	0.42
19:S:67:HIS:O	19:S:68:LYS:C	2.62	0.42
22:V:107:VAL:HG13	22:V:203:VAL:HG23	2.01	0.42
25:Y:76:ILE:O	25:Y:77:GLY:C	2.62	0.42
25:Y:84:LYS:HG2	25:Y:85:LYS:H	1.84	0.42
27:0:33:ALA:CA	27:0:36:LEU:HD23	2.49	0.42
29:2:23:ILE:HG12	35:9:82:HIS:CE1	2.55	0.42
32:5:20:GLU:C	32:5:22:GLY:H	2.28	0.42
32:5:94:ARG:NH1	52:t:2294:G:P	2.93	0.42
37:b:56:GLU:O	37:b:57:VAL:HB	2.20	0.42
40:e:24:ARG:O	40:e:24:ARG:CG	2.68	0.42
43:h:33:HIS:O	43:h:34:THR:HG22	2.19	0.42
45:j:25:ASN:HB3	45:j:28:THR:OG1	2.19	0.42
48:m:27:CYS:SG	48:m:33:HIS:ND1	2.90	0.42
48:m:37:GLN:OE1	52:t:1125:G:H5''	2.20	0.42
49:n:52:MET:HE2	49:n:95:LEU:CD1	2.49	0.42
49:n:158:VAL:CG2	50:q:22:LEU:HD12	2.50	0.42
51:s:32:A:C3'	51:s:33:A:H8	2.33	0.42
51:s:36:C:H2'	51:s:37:U:O4'	2.20	0.42
51:s:345:C:H1'	51:s:346:G:N1	2.35	0.42
51:s:913:A:HO2'	51:s:914:A:P	2.43	0.42
51:s:947:G:N2	51:s:1234:C:N3	2.58	0.42
51:s:1126:U:O2	51:s:1126:U:C2'	2.62	0.42
51:s:1181:G:H2'	51:s:1182:G:C1'	2.50	0.42
51:s:1282:C:O5'	51:s:1282:C:H6	2.03	0.42
51:s:1386:G:H2'	51:s:1387:G:C8	2.55	0.42
51:s:1520:C:H2'	51:s:1521:C:H6	1.85	0.42
52:t:105:C:H2'	52:t:106:C:H6	1.85	0.42
52:t:315:G:H2'	52:t:316:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:409:G:H2'	52:t:410:G:H8	1.85	0.42
52:t:588:U:H2'	52:t:589:U:C6	2.55	0.42
52:t:878:A:C6	52:t:879:G:H1'	2.55	0.42
52:t:1183:U:H2'	52:t:1184:U:H6	1.84	0.42
52:t:1206:G:C6	52:t:1207:C:C4	3.08	0.42
52:t:1341:G:H2'	52:t:1397:U:O2'	2.20	0.42
52:t:1373:A:H2'	52:t:1374:G:O4'	2.20	0.42
52:t:1584:U:O5'	52:t:1584:U:H6	2.01	0.42
52:t:2079:U:H4'	52:t:2433:A:H2	1.84	0.42
52:t:2082:A:N6	52:t:2237:G:H1'	2.35	0.42
52:t:2320:U:N3	52:t:2333:A:N1	2.67	0.42
52:t:2352:A:H2'	52:t:2353:G:O4'	2.20	0.42
54:v:101:ARG:NH1	54:v:392:ASN:OD1	2.53	0.42
1:A:131:LYS:C	1:A:133:ALA:N	2.72	0.41
1:A:186:VAL:HG23	1:A:186:VAL:O	2.19	0.41
2:B:50:SER:HB3	2:B:71:ARG:CB	2.48	0.41
2:B:55:VAL:C	2:B:56:ILE:HD12	2.46	0.41
2:B:193:GLY:N	51:s:1206:G:O4'	2.53	0.41
3:C:29:THR:CG2	3:C:30:LYS:H	2.29	0.41
3:C:104:MET:CG	3:C:170:LEU:HD22	2.48	0.41
3:C:117:VAL:HG13	3:C:122:ILE:HG12	2.00	0.41
5:E:16:GLU:C	5:E:18:VAL:H	2.28	0.41
5:E:65:GLU:O	5:E:65:GLU:HG2	2.20	0.41
7:G:17:GLN:CG	7:G:62:LEU:HD12	2.50	0.41
7:G:24:VAL:HG23	7:G:62:LEU:CD2	2.47	0.41
7:G:109:VAL:O	7:G:110:MET:CG	2.68	0.41
8:H:16:ALA:HB2	8:H:66:VAL:CG2	2.50	0.41
9:I:80:THR:N	9:I:83:THR:HG22	2.35	0.41
12:L:7:ASN:HB3	12:L:21:ILE:HD11	2.02	0.41
14:N:53:ARG:NE	51:s:728:A:N7	2.68	0.41
14:N:74:VAL:O	14:N:77:TYR:HB3	2.20	0.41
16:P:67:SER:OG	16:P:70:LYS:HB3	2.20	0.41
17:Q:58:ILE:N	17:Q:58:ILE:CD1	2.82	0.41
19:S:32:LYS:HA	19:S:35:TYR:HD2	1.85	0.41
23:W:35:TYR:O	23:W:37:ALA:O	2.38	0.41
23:W:147:LEU:HD23	23:W:183:PHE:CD1	2.55	0.41
24:X:95:MET:O	24:X:97:GLU:N	2.53	0.41
25:Y:8:VAL:O	25:Y:9:VAL:HG12	2.20	0.41
25:Y:114:HIS:HD2	25:Y:150:TYR:OH	2.03	0.41
25:Y:122:ALA:CB	25:Y:132:LEU:HB3	2.48	0.41
25:Y:152:ARG:HB3	25:Y:153:PRO:CD	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:128:ILE:O	26:Z:130:GLY:N	2.53	0.41
27:0:122:LEU:C	27:0:123:LYS:HD2	2.45	0.41
27:0:132:HIS:C	27:0:134:ALA:N	2.76	0.41
28:1:11:ALA:HB3	28:1:85:VAL:CG2	2.50	0.41
28:1:75:SER:O	28:1:76:VAL:HG23	2.20	0.41
29:2:57:LEU:O	29:2:61:LEU:CD2	2.67	0.41
29:2:115:GLU:O	29:2:116:VAL:CB	2.67	0.41
29:2:142:ILE:O	29:2:142:ILE:HG22	2.20	0.41
33:6:8:GLU:O	33:6:11:GLN:HB2	2.19	0.41
36:a:97:LEU:HD23	36:a:97:LEU:N	2.33	0.41
37:b:2:ILE:HD11	52:t:139:U:H2'	2.01	0.41
39:d:79:ARG:HG2	39:d:79:ARG:HH11	1.85	0.41
47:l:12:ARG:NH1	52:t:250:G:P	2.93	0.41
48:m:1:MET:N	52:t:2526:G:C2'	2.82	0.41
50:o:26:MET:HE2	50:o:29:LYS:CE	2.38	0.41
50:p:29:LYS:HZ3	50:r:15:SER:HB3	1.82	0.41
51:s:115:G:HO2'	51:s:116:A:P	2.42	0.41
51:s:176:C:H2'	51:s:177:G:N3	2.34	0.41
51:s:182:A:N7	51:s:184:G:N7	2.68	0.41
51:s:374:A:C4	51:s:375:U:C5	3.08	0.41
51:s:403:C:H42	51:s:547:A:C5'	2.33	0.41
51:s:404:G:N3	51:s:498:A:C2	2.88	0.41
51:s:438:U:C4	51:s:494:G:C5	3.07	0.41
51:s:517:G:O2'	51:s:530:G:H4'	2.19	0.41
51:s:706:A:H2'	51:s:707:U:C6	2.55	0.41
51:s:955:U:H6	51:s:955:U:O5'	2.03	0.41
51:s:1040:U:N3	51:s:1041:G:N7	2.68	0.41
52:t:45:G:H2'	52:t:215:G:C5	2.55	0.41
52:t:136:G:C6	52:t:142:A:N6	2.88	0.41
52:t:228:C:N4	52:t:2407:A:N3	2.64	0.41
52:t:417:C:O2'	52:t:418:C:H5'	2.19	0.41
52:t:665:U:H2'	52:t:666:A:C8	2.50	0.41
52:t:754:U:O2'	52:t:755:U:H5'	2.20	0.41
52:t:936:A:O2'	52:t:937:C:H5'	2.20	0.41
52:t:1360:G:N2	52:t:2212:A:C2	2.88	0.41
52:t:1389:G:H2'	52:t:1390:U:H6	1.84	0.41
52:t:2286:G:C4'	52:t:2287:A:O4'	2.62	0.41
52:t:2317:A:N6	52:t:2318:G:C2	2.88	0.41
52:t:2320:U:O2'	52:t:2322:A:C5	2.71	0.41
52:t:2425:A:H5'	52:t:2427:C:O4'	2.20	0.41
52:t:2846:G:H2'	52:t:2847:U:O4'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:u:116:G:H2'	53:u:117:G:C8	2.54	0.41
54:v:61:GLU:HB2	54:v:64:LYS:HG3	2.02	0.41
54:v:285:ASP:OD1	54:v:285:ASP:N	2.53	0.41
54:v:401:ILE:HA	54:v:462:VAL:O	2.20	0.41
1:A:67:LEU:HA	1:A:89:PHE:C	2.44	0.41
3:C:18:LEU:O	3:C:19:PHE:HB2	2.20	0.41
3:C:78:ALA:CB	3:C:85:THR:HG23	2.49	0.41
3:C:119:HIS:ND1	3:C:119:HIS:N	2.68	0.41
3:C:203:TYR:N	3:C:203:TYR:CD2	2.87	0.41
4:D:35:LEU:HD22	4:D:133:ILE:HA	2.02	0.41
4:D:98:ALA:CB	51:s:6:G:O6	2.68	0.41
5:E:2:ARG:HB2	5:E:4:TYR:HE2	1.85	0.41
5:E:8:PHE:HB2	5:E:9:MET:H	1.66	0.41
5:E:25:TYR:N	5:E:25:TYR:CD2	2.83	0.41
8:H:35:GLU:CD	8:H:35:GLU:H	2.28	0.41
8:H:71:ILE:C	8:H:73:GLY:N	2.78	0.41
8:H:103:VAL:HG23	8:H:104:THR:N	2.34	0.41
14:N:4:THR:HG22	51:s:659:U:OP1	2.21	0.41
17:Q:46:THR:HG21	17:Q:51:GLN:OE1	2.21	0.41
17:Q:49:LYS:O	17:Q:52:ARG:HB2	2.20	0.41
18:R:73:PHE:N	18:R:73:PHE:CD1	2.88	0.41
19:S:35:TYR:CD1	19:S:35:TYR:C	2.98	0.41
19:S:65:LEU:HD12	19:S:66:ILE:N	2.34	0.41
24:X:37:MET:O	52:t:2305:U:O4	2.38	0.41
24:X:128:SER:OG	24:X:154:THR:HB	2.20	0.41
25:Y:66:THR:HG21	52:t:2757:A:N6	2.34	0.41
28:1:103:VAL:O	28:1:122:VAL:HB	2.21	0.41
29:2:13:LYS:HE2	52:t:1245:G:OP1	2.20	0.41
29:2:47:ARG:NH1	52:t:196:A:P	2.93	0.41
29:2:122:VAL:HG22	29:2:123:ARG:N	2.35	0.41
31:4:78:LYS:HG2	31:4:83:LEU:HD13	2.01	0.41
37:b:14:PRO:HA	37:b:32:LEU:CB	2.50	0.41
37:b:29:THR:HB	37:b:86:THR:HB	2.01	0.41
38:c:17:ASP:HB3	38:c:20:LYS:HD3	2.01	0.41
41:f:27:ARG:NH2	52:t:1365:A:OP1	2.48	0.41
42:g:15:ASN:O	42:g:19:LEU:CB	2.68	0.41
42:g:56:LEU:O	42:g:57:LEU:C	2.63	0.41
46:k:1:MET:O	52:t:1620:G:O4'	2.37	0.41
49:n:60:LEU:CD2	49:n:78:GLY:O	2.68	0.41
49:n:116:GLU:HG2	49:n:117:LEU:N	2.34	0.41
49:n:123:ILE:C	49:n:123:ILE:CD1	2.91	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:153:ARG:O	49:n:155:LEU:N	2.52	0.41
51:s:15:G:C2	51:s:16:A:C4	3.08	0.41
51:s:55:A:N7	51:s:56:U:N3	2.68	0.41
51:s:80:A:OP2	51:s:80:A:C8	2.73	0.41
51:s:124:C:C4	51:s:125:U:C5	3.08	0.41
51:s:639:G:H2'	51:s:640:A:H5'	2.02	0.41
51:s:818:G:C3'	51:s:819:A:H5''	2.49	0.41
51:s:868:C:C2'	51:s:869:G:H5'	2.50	0.41
51:s:923:A:O2'	51:s:1399:C:OP2	2.37	0.41
51:s:979:C:N1	51:s:1318:A:N1	2.69	0.41
51:s:1120:C:H6	51:s:1120:C:O5'	2.02	0.41
52:t:388:G:C6	52:t:390:U:H2'	2.55	0.41
52:t:480:A:H2'	52:t:481:G:OP1	2.20	0.41
52:t:522:A:O2'	52:t:523:C:H5'	2.21	0.41
52:t:613:A:C8	52:t:616:A:N1	2.88	0.41
52:t:1363:C:H2'	52:t:1364:G:C8	2.53	0.41
52:t:1528:A:H2'	52:t:1529:G:O4'	2.19	0.41
52:t:1585:C:H2'	52:t:1586:A:C5'	2.50	0.41
52:t:2222:C:C4	52:t:2223:G:N7	2.88	0.41
52:t:2393:U:H2'	52:t:2394:C:H6	1.85	0.41
52:t:2409:G:H2'	52:t:2410:G:O4'	2.20	0.41
52:t:2689:U:C5'	52:t:2690:U:OP2	2.68	0.41
52:t:2810:A:H2'	52:t:2811:G:O4'	2.20	0.41
54:v:59:TRP:O	54:v:60:MET:C	2.62	0.41
1:A:27:LYS:HB3	1:A:28:PRO:HD3	2.02	0.41
1:A:157:PRO:C	1:A:159:ALA:N	2.77	0.41
2:B:24:ASN:O	2:B:25:THR:C	2.63	0.41
2:B:70:ALA:C	2:B:72:PRO:HD3	2.45	0.41
2:B:111:ASP:HB3	2:B:114:LEU:HD12	2.02	0.41
3:C:145:ARG:HD2	3:C:147:LYS:HE2	2.01	0.41
3:C:187:ARG:HD2	3:C:187:ARG:HA	1.76	0.41
6:F:27:ASN:O	6:F:28:ILE:C	2.64	0.41
6:F:134:VAL:O	6:F:137:ARG:HB3	2.19	0.41
7:G:82:LEU:HD23	7:G:82:LEU:O	2.19	0.41
7:G:104:SER:OG	51:s:642:A:N3	2.43	0.41
8:H:14:SER:HA	8:H:68:GLY:O	2.20	0.41
11:K:107:LYS:HG2	11:K:108:ASP:OD2	2.21	0.41
14:N:3:SER:O	14:N:6:ALA:HB3	2.21	0.41
15:O:8:ARG:CD	51:s:391:G:H5''	2.50	0.41
18:R:18:VAL:HG11	18:R:43:MET:HG2	2.02	0.41
21:U:36:ASN:O	21:U:37:SER:HB3	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:41:GLY:HA3	21:U:53:ILE:HB	2.01	0.41
21:U:61:TYR:CE1	21:U:62:ARG:O	2.74	0.41
21:U:84:PRO:HG3	52:t:1567:G:H3'	2.01	0.41
22:V:22:ILE:HA	22:V:23:PRO:HD3	1.86	0.41
22:V:98:VAL:O	22:V:100:LEU:N	2.53	0.41
22:V:106:LYS:O	22:V:175:LEU:O	2.38	0.41
22:V:181:ASP:C	22:V:182:ALA:O	2.62	0.41
23:W:75:SER:O	23:W:78:TRP:N	2.47	0.41
23:W:114:ARG:CZ	23:W:114:ARG:HB2	2.50	0.41
23:W:131:THR:HB	23:W:164:LEU:HD11	2.03	0.41
24:X:114:ARG:H	24:X:114:ARG:HD2	1.86	0.41
24:X:127:TYR:O	24:X:128:SER:CB	2.67	0.41
25:Y:14:VAL:HB	25:Y:25:ILE:HG23	2.01	0.41
26:Z:30:GLN:N	26:Z:30:GLN:CD	2.77	0.41
26:Z:32:VAL:HG22	26:Z:66:PHE:CE2	2.55	0.41
27:0:93:ILE:HD12	27:0:100:VAL:HG21	2.03	0.41
27:0:142:ILE:HG22	27:0:142:ILE:OXT	2.21	0.41
28:1:58:LEU:HB2	28:1:59:LYS:H	1.63	0.41
29:2:47:ARG:HG3	29:2:50:PHE:CB	2.50	0.41
30:3:63:ILE:CG1	30:3:105:MET:HE3	2.50	0.41
30:3:120:ALA:C	30:3:122:ALA:N	2.76	0.41
32:5:26:LEU:HD12	32:5:39:VAL:HG22	2.02	0.41
32:5:67:ASN:C	32:5:69:ASP:N	2.76	0.41
32:5:116:GLN:O	32:5:117:PHE:HB3	2.21	0.41
33:6:81:ASP:CG	33:6:82:SER:N	2.78	0.41
37:b:50:LEU:C	37:b:52:GLU:N	2.78	0.41
40:e:69:GLU:O	40:e:70:VAL:HB	2.21	0.41
49:n:44:ALA:O	49:n:49:GLY:HA2	2.20	0.41
49:n:55:VAL:HG12	49:n:57:ASN:ND2	2.35	0.41
50:p:8:ILE:O	50:p:8:ILE:CG2	2.68	0.41
51:s:184:G:N2	51:s:194:C:C2	2.88	0.41
51:s:355:C:N3	51:s:356:A:N7	2.68	0.41
51:s:701:U:H5''	51:s:703:G:C1'	2.49	0.41
52:t:251:A:C5	52:t:252:G:H1'	2.55	0.41
52:t:528:A:C2	52:t:2043:C:C4'	3.03	0.41
52:t:571:U:C4	52:t:575:A:C5	3.09	0.41
52:t:718:A:H2'	52:t:719:C:H5'	2.02	0.41
52:t:940:G:C3'	52:t:941:A:H5''	2.50	0.41
52:t:1047:G:H2'	52:t:1110:G:C2	2.55	0.41
52:t:1122:G:C2	52:t:1123:C:C6	3.09	0.41
52:t:1441:G:H2'	52:t:1442:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:1585:C:H2'	52:t:1586:A:H5'	2.02	0.41
52:t:1946:U:H2'	52:t:1947:C:C6	2.55	0.41
52:t:2552:U:C2	52:t:2554:U:H5'	2.55	0.41
52:t:2747:G:O6	52:t:2754:U:H2'	2.20	0.41
53:u:50:A:H8	53:u:50:A:O5'	2.03	0.41
1:A:67:LEU:CD1	1:A:153:MET:HE1	2.50	0.41
3:C:7:LYS:HG2	3:C:7:LYS:H	1.72	0.41
3:C:116:LEU:C	3:C:118:SER:N	2.75	0.41
5:E:44:ARG:HG3	5:E:58:HIS:ND1	2.35	0.41
7:G:8:ASP:CA	7:G:11:THR:HG22	2.50	0.41
7:G:35:ILE:O	7:G:36:ALA:C	2.62	0.41
9:I:40:ILE:HD13	9:I:40:ILE:N	2.34	0.41
9:I:53:ILE:HG13	13:M:84:ARG:CD	2.51	0.41
11:K:58:ASN:OD1	11:K:60:PHE:HD1	2.03	0.41
11:K:81:ILE:HA	11:K:96:THR:HA	2.02	0.41
12:L:2:ARG:O	12:L:3:ILE:HD12	2.20	0.41
12:L:21:ILE:C	12:L:24:VAL:HG22	2.46	0.41
18:R:28:LYS:CB	18:R:29:PRO:HD2	2.43	0.41
19:S:60:GLN:HB3	19:S:65:LEU:CD2	2.51	0.41
21:U:145:MET:HE2	21:U:145:MET:HB3	1.88	0.41
21:U:170:TYR:CE2	21:U:184:GLU:HG2	2.53	0.41
22:V:98:VAL:C	22:V:100:LEU:H	2.27	0.41
22:V:132:ALA:O	22:V:133:THR:HB	2.20	0.41
22:V:133:THR:O	22:V:134:HIS:C	2.62	0.41
23:W:61:ARG:HH21	23:W:61:ARG:HG3	1.85	0.41
23:W:191:ASP:O	23:W:194:LYS:HB3	2.20	0.41
23:W:196:VAL:O	23:W:197:GLU:C	2.64	0.41
24:X:106:ALA:HA	24:X:136:ILE:HB	2.01	0.41
27:O:24:THR:N	27:O:63:ALA:HB3	2.34	0.41
27:O:57:LEU:HD13	27:O:57:LEU:HA	1.84	0.41
29:2:78:ARG:O	29:2:81:ASP:HB2	2.20	0.41
34:8:4:LYS:HE3	52:t:1198:U:O3'	2.20	0.41
35:9:5:PHE:CE2	35:9:35:PHE:CD2	3.07	0.41
35:9:59:ILE:HG23	35:9:101:ILE:CG1	2.49	0.41
38:c:6:ARG:O	38:c:7:ASP:C	2.63	0.41
40:e:28:GLU:CG	40:e:31:LEU:HD21	2.50	0.41
46:k:41:ARG:C	46:k:42:LEU:HD22	2.46	0.41
48:m:15:LYS:O	48:m:16:ILE:CB	2.60	0.41
51:s:64:G:H4'	51:s:65:A:H5''	2.02	0.41
51:s:234:C:O5'	51:s:234:C:H6	2.04	0.41
51:s:324:G:C8	51:s:324:G:H3'	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:784:A:C4	51:s:799:G:N2	2.88	0.41
51:s:1385:G:H2'	51:s:1386:G:H8	1.83	0.41
52:t:78:U:O2'	52:t:79:C:H5'	2.20	0.41
52:t:189:G:H2'	52:t:205:G:N2	2.35	0.41
52:t:253:C:C2'	52:t:254:G:H5'	2.49	0.41
52:t:528:A:C2	52:t:2043:C:C5'	3.04	0.41
52:t:610:C:H2'	52:t:611:C:C6	2.56	0.41
52:t:832:U:O2'	52:t:833:A:H5'	2.20	0.41
52:t:843:G:O2'	52:t:844:A:H5'	2.21	0.41
52:t:858:G:O2'	52:t:2268:A:C2'	2.68	0.41
52:t:947:A:H2'	52:t:948:C:C6	2.56	0.41
52:t:1000:A:C6	52:t:1155:A:C8	3.09	0.41
52:t:1031:G:O5'	52:t:1031:G:H8	2.04	0.41
52:t:1047:G:H2'	52:t:1110:G:N2	2.35	0.41
52:t:1097:U:C5	52:t:1098:A:H1'	2.55	0.41
52:t:1172:C:H42	52:t:1177:G:H1	1.68	0.41
52:t:1195:G:N3	52:t:1226:A:H2	2.18	0.41
52:t:1605:C:O4'	52:t:1610:A:C6	2.74	0.41
52:t:1684:G:H2'	52:t:1685:C:O4'	2.20	0.41
52:t:2089:C:C6	52:t:2089:C:C3'	3.03	0.41
52:t:2210:U:H1'	52:t:2212:A:N7	2.36	0.41
52:t:2296:U:C4'	52:t:2297:A:OP1	2.67	0.41
52:t:2656:U:O2'	52:t:2657:A:H5'	2.20	0.41
52:t:2838:G:C4	52:t:2839:G:C8	3.08	0.41
53:u:42:C:C4	53:u:43:C:C5	3.08	0.41
54:v:165:GLY:HA3	54:v:251:ILE:HG22	2.02	0.41
54:v:172:PRO:HD3	54:v:256:PHE:CD1	2.55	0.41
54:v:183:TYR:CZ	54:v:210:LEU:HD13	2.56	0.41
1:A:89:PHE:CD1	1:A:89:PHE:N	2.89	0.41
1:A:128:LEU:HD12	1:A:129:THR:OG1	2.21	0.41
1:A:173:LYS:O	1:A:174:GLU:C	2.64	0.41
2:B:38:VAL:HG23	2:B:39:ARG:N	2.35	0.41
2:B:137:VAL:O	2:B:140:ALA:HB3	2.20	0.41
3:C:145:ARG:C	3:C:147:LYS:H	2.29	0.41
4:D:100:GLU:O	4:D:100:GLU:OE2	2.39	0.41
4:D:119:VAL:O	4:D:119:VAL:HG23	2.20	0.41
4:D:153:ALA:O	4:D:154:ALA:C	2.64	0.41
6:F:1:PRO:HG3	51:s:1377:A:N3	2.35	0.41
6:F:128:GLU:CD	6:F:130:LYS:HE2	2.45	0.41
7:G:10:LEU:HD22	7:G:74:ILE:CD1	2.47	0.41
7:G:14:ARG:HG2	7:G:14:ARG:HH11	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:17:ARG:HE	8:H:65:THR:HG21	1.86	0.41
11:K:109:ARG:HD2	11:K:109:ARG:HA	1.91	0.41
13:M:2:LYS:O	13:M:3:GLN:C	2.63	0.41
14:N:42:PHE:O	14:N:43:ALA:C	2.63	0.41
14:N:88:ARG:HH11	14:N:88:ARG:HG3	1.85	0.41
21:U:143:VAL:CG1	21:U:144:GLU:N	2.83	0.41
21:U:224:MET:HB2	21:U:228:ASP:HB2	2.02	0.41
21:U:255:LYS:C	21:U:256:THR:HG23	2.46	0.41
22:V:143:PRO:HG2	22:V:144:GLY:H	1.84	0.41
23:W:5:LEU:HA	23:W:120:VAL:HG13	2.03	0.41
23:W:79:ARG:CG	23:W:80:SER:N	2.71	0.41
23:W:151:GLY:C	23:W:153:LEU:N	2.79	0.41
26:Z:45:THR:C	26:Z:47:SER:H	2.29	0.41
26:Z:116:MET:CG	26:Z:124:MET:HE2	2.48	0.41
27:O:124:VAL:HG23	27:O:125:TYR:H	1.86	0.41
27:O:130:HIS:ND1	27:O:130:HIS:C	2.77	0.41
31:4:78:LYS:HE2	31:4:83:LEU:HD11	2.02	0.41
31:4:107:ASN:O	31:4:107:ASN:CG	2.63	0.41
34:8:91:ARG:N	35:9:11:GLN:OE1	2.53	0.41
34:8:110:GLU:C	34:8:112:ALA:H	2.28	0.41
38:c:82:VAL:HG11	38:c:93:ARG:HB3	2.03	0.41
42:g:31:GLN:HG3	42:g:36:GLN:CB	2.51	0.41
42:g:36:GLN:O	42:g:37:LEU:HB3	2.20	0.41
43:h:8:GLN:O	43:h:8:GLN:HG3	2.18	0.41
49:n:125:ARG:CG	49:n:126:LEU:N	2.84	0.41
51:s:184:G:C4	51:s:185:U:C5	3.08	0.41
51:s:508:U:H5'	51:s:509:A:OP1	2.21	0.41
51:s:589:U:H2'	51:s:590:U:C6	2.56	0.41
51:s:592:G:C6	51:s:648:A:N1	2.88	0.41
51:s:781:A:C5	51:s:802:A:C2	3.09	0.41
51:s:1065:U:O2'	51:s:1066:C:OP2	2.37	0.41
51:s:1096:C:C2	51:s:1097:C:C5	3.09	0.41
51:s:1126:U:C1'	51:s:1281:C:H1'	2.42	0.41
51:s:1133:G:H2'	51:s:1134:G:H8	1.83	0.41
51:s:1480:A:H2'	51:s:1481:U:H6	1.85	0.41
52:t:130:C:H2'	52:t:131:A:O5'	2.21	0.41
52:t:233:A:C2'	52:t:234:U:H5'	2.50	0.41
52:t:287:G:H2'	52:t:288:U:C6	2.55	0.41
52:t:407:G:N2	52:t:421:C:C2	2.88	0.41
52:t:520:G:H2'	52:t:521:U:C6	2.55	0.41
52:t:531:C:C5	52:t:2035:G:N3	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:566:U:O2'	52:t:567:U:H5'	2.20	0.41
52:t:763:G:C2	52:t:765:C:C2	3.08	0.41
52:t:767:U:O2'	52:t:768:G:C5'	2.68	0.41
52:t:868:U:C4	52:t:869:G:N7	2.88	0.41
52:t:1016:G:H2'	52:t:1017:G:O4'	2.21	0.41
52:t:1045:C:H1'	52:t:1047:G:N3	2.36	0.41
52:t:1372:U:O2'	52:t:1373:A:H5'	2.20	0.41
52:t:1773:A:C2'	52:t:1774:C:H5'	2.50	0.41
52:t:1873:G:O2'	52:t:1874:C:H5'	2.21	0.41
52:t:1926:U:O2	52:t:1928:A:C8	2.73	0.41
52:t:2094:A:C1'	52:t:2198:A:H61	2.34	0.41
52:t:2544:G:H1'	52:t:2646:C:H5'	2.03	0.41
53:u:17:C:H2'	53:u:18:G:H5'	2.01	0.41
54:v:64:LYS:HE2	54:v:70:ILE:H	1.85	0.41
54:v:325:TYR:OH	54:v:327:LYS:HA	2.20	0.41
1:A:137:THR:O	1:A:140:LEU:HD13	2.21	0.41
2:B:5:HIS:CG	13:M:88:MET:HB3	2.55	0.41
2:B:60:ALA:O	2:B:61:LYS:C	2.63	0.41
2:B:135:ARG:O	2:B:136:ALA:C	2.64	0.41
3:C:115:GLN:NE2	51:s:406:G:N3	2.66	0.41
4:D:139:THR:O	4:D:140:ILE:C	2.62	0.41
6:F:57:GLU:OE2	6:F:57:GLU:HA	2.21	0.41
11:K:42:LYS:HD3	56:z:4:SER:OG	2.21	0.41
15:O:13:LYS:O	15:O:15:PRO:CD	2.69	0.41
16:P:48:GLU:O	16:P:49:ASN:C	2.64	0.41
17:Q:28:LEU:N	17:Q:28:LEU:CD1	2.83	0.41
19:S:4:LYS:C	19:S:4:LYS:CD	2.90	0.41
19:S:53:MET:O	19:S:57:VAL:HG23	2.21	0.41
21:U:76:VAL:O	21:U:76:VAL:HG12	2.21	0.41
21:U:265:PHE:H	21:U:265:PHE:HD1	1.66	0.41
22:V:25:THR:HB	22:V:189:VAL:HG23	2.01	0.41
22:V:29:VAL:HB	22:V:98:VAL:CG2	2.50	0.41
22:V:48:ILE:O	22:V:81:GLU:HA	2.20	0.41
23:W:32:VAL:HG23	23:W:33:VAL:H	1.80	0.41
24:X:72:SER:HA	24:X:78:ILE:CD1	2.50	0.41
28:1:54:LYS:O	28:1:56:ASP:N	2.53	0.41
29:2:82:LEU:O	29:2:84:LYS:N	2.45	0.41
30:3:35:ALA:HB3	30:3:99:GLY:N	2.33	0.41
31:4:51:LEU:HD21	31:4:70:THR:HG22	2.02	0.41
33:6:78:PRO:O	33:6:80:VAL:N	2.54	0.41
36:a:20:VAL:O	36:a:22:ASP:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:f:71:ARG:HB2	41:f:71:ARG:CZ	2.50	0.41
42:g:2:LYS:CG	52:t:102:U:H3	2.33	0.41
43:h:22:THR:HA	52:t:850:U:O2'	2.21	0.41
44:i:15:ARG:NH1	52:t:1264:A:OP1	2.53	0.41
44:i:55:ALA:O	44:i:56:LYS:C	2.64	0.41
50:o:17:MET:O	50:o:20:VAL:HB	2.20	0.41
51:s:110:C:C4	51:s:111:G:C5	3.08	0.41
51:s:120:A:H4'	51:s:121:U:O5'	2.18	0.41
51:s:250:A:N3	51:s:250:A:H5'	2.35	0.41
51:s:423:G:O2'	51:s:424:G:H5'	2.21	0.41
51:s:451:A:H4'	51:s:452:A:O4'	2.20	0.41
51:s:642:A:C5	51:s:643:C:C4	3.08	0.41
51:s:774:G:H2'	51:s:775:G:H5'	2.03	0.41
51:s:791:G:C5	51:s:792:A:N7	2.89	0.41
51:s:859:G:H5'	51:s:859:G:H8	1.86	0.41
51:s:918:A:H2'	51:s:919:A:O4'	2.19	0.41
51:s:987:G:N1	51:s:988:G:C6	2.88	0.41
51:s:1068:G:H8	51:s:1068:G:H5''	1.84	0.41
51:s:1402:C:H2'	51:s:1403:C:O4'	2.20	0.41
51:s:1498:U:C4	55:w:17:U:H4'	2.55	0.41
52:t:226:A:N1	52:t:227:A:C2	2.89	0.41
52:t:242:G:N2	52:t:255:A:OP2	2.35	0.41
52:t:301:G:O2'	52:t:302:C:C5'	2.69	0.41
52:t:372:G:H1'	52:t:373:U:H5	1.85	0.41
52:t:408:G:N2	52:t:420:C:H1'	2.36	0.41
52:t:735:A:H3'	52:t:736:C:C6	2.55	0.41
52:t:962:G:C2'	52:t:963:U:H5'	2.50	0.41
52:t:1204:A:C2	52:t:1240:U:N3	2.88	0.41
52:t:1214:A:H2'	52:t:1215:G:O4'	2.20	0.41
52:t:1409:U:O2'	52:t:1410:G:H5'	2.20	0.41
52:t:1544:A:H2'	52:t:1545:A:C8	2.55	0.41
52:t:2028:U:H2'	52:t:2029:G:C8	2.55	0.41
52:t:2413:G:H8	52:t:2413:G:O5'	2.03	0.41
52:t:2482:A:C4	52:t:2483:C:C5	3.08	0.41
52:t:2537:U:H2'	52:t:2538:C:C6	2.55	0.41
53:u:28:C:C2	53:u:29:A:C8	3.09	0.41
1:A:30:ILE:HD11	1:A:38:HIS:CG	2.55	0.41
1:A:108:GLN:CD	1:A:108:GLN:N	2.75	0.41
1:A:176:ASN:O	1:A:178:LEU:N	2.54	0.41
3:C:131:ILE:HG21	51:s:620:C:C2	2.55	0.41
4:D:81:GLN:OE1	4:D:146:MET:HE2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:98:LEU:CD2	6:F:101:ARG:HH12	2.34	0.41
6:F:131:GLY:H	6:F:134:VAL:HG22	1.85	0.41
8:H:56:MET:O	8:H:57:VAL:HB	2.21	0.41
11:K:42:LYS:HD2	11:K:88:ASP:HA	2.02	0.41
11:K:98:ARG:HD2	11:K:103:CYS:SG	2.61	0.41
12:L:78:ARG:HG2	12:L:78:ARG:NH1	2.34	0.41
13:M:2:LYS:NZ	51:s:983:A:C5'	2.84	0.41
19:S:3:ILE:H	19:S:3:ILE:CD1	2.28	0.41
21:U:151:GLY:O	21:U:152:GLN:HG3	2.20	0.41
21:U:245:THR:OG1	21:U:249:VAL:HG23	2.20	0.41
22:V:70:LYS:O	22:V:71:ALA:CB	2.68	0.41
22:V:151:THR:C	22:V:153:GLY:N	2.73	0.41
23:W:100:MET:HE1	52:t:599:A:N3	2.35	0.41
24:X:35:LEU:HD12	24:X:35:LEU:H	1.85	0.41
24:X:151:LEU:CD1	24:X:152:ASP:N	2.83	0.41
25:Y:95:ALA:HB1	25:Y:130:ILE:HD11	2.01	0.41
25:Y:162:ARG:NH2	25:Y:168:VAL:HG21	2.35	0.41
26:Z:72:THR:HB	26:Z:112:LYS:HG2	2.02	0.41
27:0:105:VAL:CG1	27:0:106:LYS:N	2.83	0.41
29:2:79:LEU:C	29:2:81:ASP:N	2.76	0.41
33:6:28:LYS:N	33:6:28:LYS:CE	2.79	0.41
33:6:29:VAL:HG13	33:6:79:VAL:O	2.21	0.41
34:8:4:LYS:O	34:8:5:ARG:C	2.62	0.41
38:c:33:VAL:C	38:c:34:ILE:HD13	2.46	0.41
39:d:26:PHE:CE1	39:d:42:LEU:HD12	2.56	0.41
42:g:56:LEU:O	42:g:57:LEU:HD12	2.20	0.41
49:n:14:GLU:HG3	49:n:17:GLU:OE1	2.20	0.41
49:n:65:GLU:O	49:n:65:GLU:HG2	2.21	0.41
49:n:87:GLU:OE2	49:n:95:LEU:HG	2.21	0.41
49:n:123:ILE:O	49:n:124:ASP:HB2	2.20	0.41
49:n:149:GLY:HA3	50:p:30:PHE:HE1	1.86	0.41
50:o:4:LYS:HE2	50:o:4:LYS:CA	2.45	0.41
51:s:168:G:C6	51:s:169:C:N4	2.88	0.41
51:s:219:U:C4	51:s:220:G:N7	2.89	0.41
51:s:412:A:H1'	51:s:413:G:H8	1.86	0.41
51:s:451:A:H1'	51:s:452:A:C5	2.55	0.41
51:s:586:C:O2'	51:s:587:G:H5'	2.20	0.41
51:s:667:G:O2'	51:s:668:G:H5'	2.21	0.41
51:s:868:C:H5'	51:s:873:A:N6	2.35	0.41
51:s:953:G:C2	51:s:1229:A:C2	3.09	0.41
51:s:977:A:N3	51:s:977:A:C3'	2.77	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:1281:C:H5'	51:s:1282:C:H5	1.85	0.41
51:s:1512:U:H2'	51:s:1513:A:C8	2.55	0.41
52:t:27:G:C2'	52:t:28:A:OP2	2.69	0.41
52:t:585:G:C6	52:t:1251:C:C2	3.08	0.41
52:t:627:A:C2	52:t:636:G:N3	2.89	0.41
52:t:692:C:H2'	52:t:693:A:H8	1.86	0.41
52:t:1470:A:C2'	52:t:1471:G:H5'	2.49	0.41
52:t:1623:G:H2'	52:t:1624:U:H6	1.85	0.41
52:t:1802:A:C6	52:t:1817:G:N2	2.88	0.41
52:t:1853:A:H2'	52:t:1854:A:C8	2.56	0.41
52:t:2011:U:C4	52:t:2012:G:C5	3.09	0.41
52:t:2070:A:H2'	52:t:2071:A:O4'	2.20	0.41
52:t:2477:U:C5'	52:t:2479:U:O4	2.68	0.41
52:t:2528:U:H2'	52:t:2530:A:O5'	2.20	0.41
52:t:2657:A:P	54:v:146:ARG:HH11	2.43	0.41
52:t:2736:A:O2'	52:t:2737:G:H5'	2.20	0.41
52:t:2852:G:H1	52:t:2865:U:H3	1.69	0.41
54:v:59:TRP:CZ3	54:v:64:LYS:NZ	2.82	0.41
54:v:119:VAL:HB	54:v:157:GLU:HG2	2.03	0.41
54:v:403:LEU:HA	54:v:461:ALA:HA	2.02	0.41
1:A:18:GLN:HG2	1:A:189:ASN:CB	2.47	0.41
1:A:32:GLY:O	1:A:33:ALA:HB2	2.19	0.41
1:A:182:VAL:HG12	1:A:195:VAL:HG13	2.03	0.41
3:C:144:ILE:HD13	3:C:154:VAL:HG21	2.02	0.41
3:C:187:ARG:HG3	3:C:187:ARG:NH1	2.36	0.41
6:F:26:VAL:CG2	6:F:27:ASN:N	2.82	0.41
10:J:48:GLY:CA	51:s:688:G:H5'	2.51	0.41
12:L:101:THR:C	12:L:103:THR:N	2.77	0.41
13:M:50:LEU:HD23	13:M:50:LEU:HA	1.93	0.41
14:N:45:HIS:O	14:N:47:LYS:N	2.53	0.41
14:N:63:ARG:CD	14:N:87:ARG:HH22	2.34	0.41
16:P:4:ILE:O	16:P:4:ILE:HG22	2.20	0.41
19:S:23:ARG:NH2	19:S:60:GLN:HE22	2.19	0.41
19:S:45:ALA:O	19:S:48:LYS:HB2	2.21	0.41
21:U:66:PHE:O	21:U:150:GLY:O	2.38	0.41
21:U:130:PRO:HA	21:U:188:ARG:HA	2.02	0.41
21:U:176:ARG:CG	21:U:176:ARG:NH2	2.82	0.41
21:U:254:LYS:O	21:U:255:LYS:HB2	2.21	0.41
24:X:62:GLN:HB3	24:X:63:LYS:H	1.61	0.41
25:Y:164:ALA:C	25:Y:166:GLU:H	2.28	0.41
27:O:130:HIS:CE1	27:O:132:HIS:HB2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:1:19:VAL:CG2	28:1:20:MET:N	2.84	0.41
29:2:57:LEU:HD12	29:2:60:ARG:NH2	2.36	0.41
29:2:131:ALA:C	29:2:133:ALA:N	2.79	0.41
31:4:34:ILE:HD11	31:4:44:LEU:HD21	1.99	0.41
31:4:96:ARG:HG2	31:4:96:ARG:HH21	1.85	0.41
36:a:13:SER:HB3	36:a:16:LYS:HZ2	1.85	0.41
36:a:17:VAL:C	36:a:19:LEU:N	2.79	0.41
38:c:73:ASN:ND2	38:c:95:PHE:HD2	2.18	0.41
41:f:19:HIS:C	41:f:21:LEU:H	2.27	0.41
41:f:25:LYS:NZ	52:t:189:G:P	2.94	0.41
41:f:39:VAL:C	41:f:41:SER:N	2.61	0.41
43:h:15:ARG:HH11	43:h:15:ARG:H	1.68	0.41
44:i:2:VAL:CG1	52:t:2016:U:H1'	2.51	0.41
49:n:23:LEU:O	49:n:24:SER:HB3	2.21	0.41
51:s:60:A:C4'	51:s:61:G:O5'	2.52	0.41
51:s:274:A:H1'	51:s:275:G:O4'	2.20	0.41
51:s:404:G:O2'	51:s:498:A:N1	2.52	0.41
51:s:571:U:H3'	51:s:572:A:C5'	2.51	0.41
51:s:681:A:C2	51:s:710:G:C2	3.09	0.41
51:s:1054:C:OP1	51:s:1198:G:OP2	2.38	0.41
51:s:1229:A:O2'	51:s:1230:C:H5'	2.20	0.41
52:t:31:C:N4	52:t:474:G:H1	2.16	0.41
52:t:372:G:O2'	52:t:400:G:N1	2.51	0.41
52:t:464:U:O2'	52:t:465:G:H5'	2.21	0.41
52:t:528:A:H3'	52:t:528:A:C8	2.55	0.41
52:t:528:A:H3'	52:t:528:A:H8	1.86	0.41
52:t:630:G:H4'	52:t:640:C:H4'	2.01	0.41
52:t:1134:A:O4'	52:t:1134:A:OP2	2.38	0.41
52:t:1271:G:C2	52:t:1617:C:H4'	2.56	0.41
52:t:1497:U:C5'	52:t:1498:C:OP2	2.60	0.41
52:t:2312:U:C6	52:t:2312:U:H3'	2.55	0.41
52:t:2452:C:C4	52:t:2453:A:C6	3.08	0.41
52:t:2551:C:C4	52:t:2552:U:C4	3.08	0.41
52:t:2795:C:H2'	52:t:2796:U:H6	1.84	0.41
54:v:26:LYS:O	54:v:29:ILE:HG22	2.21	0.41
54:v:398:PHE:CD1	54:v:399:ARG:N	2.88	0.41
1:A:24:PRO:C	1:A:26:MET:N	2.79	0.41
1:A:169:HIS:O	1:A:170:ILE:C	2.63	0.41
2:B:6:PRO:O	2:B:10:ARG:HG2	2.20	0.41
2:B:24:ASN:O	2:B:28:PHE:N	2.53	0.41
2:B:35:ASP:OD1	2:B:56:ILE:CG2	2.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:36:PHE:CG	2:B:39:ARG:HD2	2.56	0.41
2:B:99:GLN:OE1	2:B:99:GLN:N	2.54	0.41
2:B:149:LYS:HG3	2:B:200:TRP:HE3	1.84	0.41
2:B:184:ASN:HD22	2:B:184:ASN:HA	1.69	0.41
3:C:14:GLU:HB3	3:C:59:LYS:NZ	2.36	0.41
3:C:31:CYS:HA	51:s:413:G:H1	1.86	0.41
3:C:61:ARG:HH21	3:C:67:LEU:CD2	2.33	0.41
3:C:164:ARG:O	3:C:166:LYS:N	2.53	0.41
4:D:137:ARG:NH1	51:s:1078:U:O3'	2.54	0.41
5:E:29:ILE:C	5:E:31:GLY:N	2.79	0.41
5:E:32:ALA:O	5:E:33:GLU:HB2	2.19	0.41
5:E:61:LEU:CG	5:E:62:MET:N	2.84	0.41
6:F:65:LEU:C	6:F:67:ASN:N	2.79	0.41
6:F:123:LEU:HD13	6:F:123:LEU:C	2.45	0.41
7:G:12:ARG:NH1	7:G:26:MET:HA	2.36	0.41
8:H:66:VAL:CG1	8:H:78:ILE:HD11	2.48	0.41
8:H:71:ILE:O	8:H:73:GLY:N	2.54	0.41
8:H:121:ARG:NH1	51:s:1346:A:OP1	2.54	0.41
9:I:59:LYS:CG	9:I:60:ASP:N	2.84	0.41
9:I:59:LYS:C	9:I:61:ALA:H	2.29	0.41
10:J:51:PHE:HB2	10:J:55:ARG:HB3	2.02	0.41
11:K:27:PRO:HG3	51:s:32:A:H2	1.86	0.41
11:K:49:ARG:CG	11:K:49:ARG:NH1	2.84	0.41
12:L:30:LYS:C	12:L:32:ILE:H	2.28	0.41
12:L:70:ARG:NH1	24:X:144:LYS:HE2	2.36	0.41
12:L:78:ARG:NH1	12:L:82:LEU:HD11	2.36	0.41
12:L:84:CYS:O	12:L:88:LEU:HG	2.21	0.41
14:N:45:HIS:C	14:N:47:LYS:N	2.78	0.41
15:O:10:GLY:O	51:s:624:C:H4'	2.21	0.41
16:P:12:VAL:HG13	16:P:13:SER:N	2.34	0.41
16:P:60:ILE:CG2	16:P:61:ARG:N	2.83	0.41
17:Q:41:SER:HA	17:Q:46:THR:HG22	2.03	0.41
19:S:13:SER:O	19:S:14:GLU:C	2.62	0.41
19:S:26:MET:HE3	19:S:56:ILE:CG1	2.51	0.41
22:V:108:ASP:OD2	22:V:206:ALA:HA	2.21	0.41
22:V:118:PHE:HB2	52:t:1654:A:O2'	2.21	0.41
22:V:120:GLY:C	22:V:121:THR:O	2.61	0.41
22:V:182:ALA:C	22:V:184:ARG:H	2.29	0.41
23:W:48:THR:CG2	23:W:86:ALA:HB3	2.50	0.41
23:W:175:ILE:HD11	23:W:180:LEU:CD1	2.50	0.41
24:X:92:GLY:N	24:X:95:MET:HE2	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:71:LEU:O	25:Y:74:MET:HB2	2.21	0.41
26:Z:10:LEU:HD12	26:Z:10:LEU:N	2.36	0.41
26:Z:57:VAL:CG1	26:Z:58:ILE:N	2.83	0.41
27:0:13:ARG:HD3	27:0:51:GLY:O	2.21	0.41
27:0:53:TYR:O	27:0:54:ILE:C	2.63	0.41
28:1:24:VAL:HG12	28:1:30:ARG:HD2	2.03	0.41
30:3:32:GLY:C	30:3:117:PHE:CE2	2.99	0.41
31:4:103:ARG:CG	52:t:1287:A:OP2	2.60	0.41
32:5:17:LYS:HD2	32:5:21:LEU:CD1	2.50	0.41
32:5:54:VAL:O	53:u:116:G:H4'	2.21	0.41
33:6:4:ILE:HA	33:6:7:LEU:HB3	2.02	0.41
34:8:50:ARG:CG	34:8:50:ARG:NH1	2.84	0.41
35:9:31:GLU:H	35:9:63:VAL:HG12	1.86	0.41
35:9:42:ALA:HA	35:9:46:GLU:HB2	2.02	0.41
35:9:49:ILE:CD1	35:9:52:PRO:HA	2.32	0.41
36:a:20:VAL:C	36:a:22:ASP:N	2.79	0.41
38:c:5:ARG:NH2	52:t:84:A:OP1	2.53	0.41
38:c:48:VAL:CG1	38:c:52:ASN:O	2.69	0.41
38:c:65:GLN:OE1	52:t:328:U:H4'	2.21	0.41
40:e:15:SER:C	40:e:16:GLU:HG2	2.46	0.41
41:f:56:ARG:NH2	52:t:399:U:H5''	2.36	0.41
44:i:2:VAL:HG11	52:t:2016:U:C1'	2.50	0.41
44:i:16:ARG:C	44:i:18:HIS:N	2.79	0.41
45:j:10:LEU:C	45:j:19:PHE:HB2	2.46	0.41
45:j:31:GLU:O	45:j:32:LYS:C	2.64	0.41
46:k:42:LEU:N	46:k:42:LEU:CD2	2.84	0.41
47:l:7:ARG:HA	47:l:7:ARG:HD2	1.88	0.41
49:n:42:ARG:C	49:n:44:ALA:H	2.28	0.41
49:n:52:MET:O	49:n:53:ARG:HD3	2.20	0.41
49:n:58:THR:HG23	52:t:1107:G:H5''	2.03	0.41
49:n:60:LEU:O	49:n:62:ARG:N	2.54	0.41
49:n:88:HIS:HB2	49:n:89:PRO:HD3	2.02	0.41
50:q:11:VAL:HG13	50:r:29:LYS:HE3	2.03	0.41
51:s:57:G:C5	51:s:58:C:C4	3.08	0.41
51:s:183:C:H5'	51:s:184:G:OP2	2.21	0.41
51:s:210:C:H4'	51:s:211:G:N2	2.36	0.41
51:s:356:A:O2'	51:s:368:U:H4'	2.21	0.41
51:s:464:U:H2'	51:s:466:A:OP2	2.21	0.41
51:s:517:G:O2'	51:s:518:C:P	2.79	0.41
51:s:540:G:H2'	51:s:541:G:O4'	2.21	0.41
51:s:758:C:H2'	51:s:759:A:OP2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:765:G:H22	51:s:812:G:H2'	1.85	0.41
51:s:780:A:C2	51:s:803:G:C6	3.09	0.41
51:s:781:A:C8	51:s:782:A:C8	3.09	0.41
51:s:822:U:H2'	51:s:823:C:H6	1.85	0.41
51:s:992:U:N3	51:s:1043:G:C8	2.89	0.41
51:s:1222:G:OP1	51:s:1321:U:O2'	2.31	0.41
51:s:1348:U:H5	51:s:1373:G:N2	2.19	0.41
51:s:1463:U:H2'	51:s:1464:U:C6	2.56	0.41
51:s:1479:C:C2	51:s:1480:A:C8	3.09	0.41
51:s:1518:A:H2'	51:s:1519:A:O4'	2.21	0.41
51:s:1521:C:N3	51:s:1522:U:C5	2.89	0.41
52:t:3:U:O2'	52:t:4:U:H5'	2.20	0.41
52:t:113:U:H6	52:t:113:U:O5'	2.04	0.41
52:t:497:A:H2'	52:t:498:G:C8	2.56	0.41
52:t:503:A:O2'	52:t:504:A:P	2.79	0.41
52:t:545:U:H3'	52:t:545:U:H6	1.85	0.41
52:t:592:A:C6	52:t:593:U:C4	3.08	0.41
52:t:643:A:N6	52:t:2369:A:C2	2.88	0.41
52:t:809:G:O4'	52:t:1254:A:H1'	2.21	0.41
52:t:811:U:H1'	52:t:1251:C:C6	2.56	0.41
52:t:867:C:H2'	52:t:868:U:H6	1.85	0.41
52:t:875:G:C2'	52:t:876:C:H5''	2.39	0.41
52:t:931:U:H4'	52:t:932:U:OP1	2.18	0.41
52:t:945:A:C4	52:t:2448:A:C2	3.09	0.41
52:t:1071:G:H8	52:t:1071:G:P	2.44	0.41
52:t:1138:G:C4	52:t:1139:G:H1'	2.56	0.41
52:t:1142:A:C5	52:t:1144:A:C5	3.09	0.41
52:t:1599:U:H2'	52:t:1600:C:C6	2.56	0.41
52:t:1652:A:C6	52:t:1653:G:C2	3.08	0.41
52:t:1668:A:N6	52:t:1676:A:H61	2.19	0.41
52:t:1819:A:H4'	52:t:1820:U:O5'	2.20	0.41
52:t:1913:A:HO2'	52:t:1914:C:P	2.44	0.41
52:t:1946:U:N3	52:t:1947:C:C5	2.88	0.41
52:t:2061:G:O2'	52:t:2062:A:P	2.78	0.41
52:t:2137:U:C4	52:t:2154:A:N6	2.89	0.41
52:t:2147:A:C5'	52:t:2148:G:H5'	2.49	0.41
52:t:2230:G:C6	52:t:2231:U:C4	3.09	0.41
52:t:2293:G:H2'	52:t:2294:G:C8	2.56	0.41
52:t:2329:U:H2'	52:t:2330:G:H8	1.85	0.41
52:t:2438:U:H6	52:t:2438:U:O5'	2.04	0.41
52:t:2529:G:OP2	52:t:2530:A:H5''	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:2581:G:H1	52:t:2610:C:H2'	1.85	0.41
52:t:2715:C:H6	52:t:2715:C:O5'	2.03	0.41
52:t:2716:C:O2'	52:t:2717:C:H5'	2.21	0.41
52:t:2728:U:H2'	52:t:2729:G:H8	1.84	0.41
52:t:2740:A:N6	52:t:2764:A:C8	2.89	0.41
52:t:2759:G:C6	52:t:2760:C:C5	3.09	0.41
54:v:59:TRP:NE1	54:v:69:SER:HA	2.36	0.41
54:v:481:LYS:NZ	54:v:520:ASP:HB2	2.36	0.41
54:v:491:SER:CA	54:v:492:GLN:HB2	2.51	0.41
1:A:139:GLU:O	1:A:143:LEU:HG	2.21	0.41
2:B:18:ASN:HB2	13:M:89:ARG:O	2.21	0.41
2:B:89:VAL:O	2:B:92:ASP:N	2.54	0.41
2:B:116:ALA:HB1	2:B:186:SER:CB	2.50	0.41
2:B:129:PHE:CE2	2:B:130:ARG:HD3	2.56	0.41
3:C:29:THR:CG2	3:C:30:LYS:N	2.83	0.41
3:C:119:HIS:O	3:C:120:LYS:C	2.64	0.41
3:C:167:PRO:HB2	3:C:170:LEU:HG	2.02	0.41
4:D:94:PHE:CD1	4:D:94:PHE:C	2.98	0.41
6:F:120:ALA:C	6:F:122:GLU:N	2.79	0.41
7:G:25:THR:HB	7:G:57:GLU:OE1	2.21	0.41
7:G:103:VAL:CG1	7:G:124:ILE:HG22	2.31	0.41
8:H:88:GLU:CD	8:H:89:TYR:N	2.78	0.41
9:I:37:ARG:C	9:I:38:GLY:O	2.63	0.41
10:J:51:PHE:O	10:J:52:ARG:HD2	2.20	0.41
11:K:48:LEU:O	11:K:49:ARG:C	2.63	0.41
12:L:32:ILE:HD12	12:L:32:ILE:N	2.35	0.41
13:M:57:SER:C	13:M:59:GLN:N	2.79	0.41
16:P:37:ILE:CG2	16:P:38:LYS:N	2.82	0.41
17:Q:39:VAL:HG13	17:Q:40:PRO:HD2	2.04	0.41
19:S:45:ALA:C	19:S:48:LYS:HB2	2.46	0.41
22:V:184:ARG:NH1	33:6:6:GLN:OE1	2.54	0.41
22:V:196:ALA:O	22:V:199:SER:OG	2.27	0.41
23:W:84:THR:CG2	23:W:85:PHE:CE2	3.04	0.41
24:X:71:LYS:HD3	24:X:80:GLN:HG3	2.02	0.41
24:X:134:GLN:C	24:X:136:ILE:H	2.25	0.41
24:X:151:LEU:HD13	24:X:152:ASP:N	2.36	0.41
27:0:35:ARG:CG	27:0:35:ARG:HH11	2.33	0.41
27:0:114:LEU:HD23	27:0:114:LEU:HA	1.80	0.41
29:2:79:LEU:HD21	29:2:135:ILE:HD11	2.02	0.41
29:2:131:ALA:O	29:2:132:ARG:C	2.62	0.41
30:3:45:GLN:NE2	52:t:2485:G:H5''	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:5:27:VAL:HG21	32:5:40:ILE:CD1	2.51	0.41
33:6:37:LYS:HD3	33:6:37:LYS:N	2.36	0.41
34:8:16:ILE:HG22	34:8:17:LEU:N	2.36	0.41
34:8:40:LYS:O	34:8:43:GLN:N	2.50	0.41
35:9:52:PRO:C	35:9:53:PHE:CG	2.97	0.41
36:a:63:GLY:O	36:a:64:ALA:CB	2.69	0.41
37:b:8:LEU:HD12	37:b:46:ALA:CB	2.51	0.41
38:c:6:ARG:O	38:c:24:VAL:HB	2.21	0.41
38:c:56:GLY:HA2	52:t:483:A:O2'	2.21	0.41
40:e:30:VAL:O	40:e:30:VAL:HG13	2.21	0.41
42:g:47:ARG:HH21	42:g:47:ARG:CG	2.29	0.41
47:l:57:VAL:HG12	47:l:58:ILE:N	2.36	0.41
49:n:157:ALA:CA	49:n:161:ALA:HB3	2.51	0.41
51:s:257:G:N2	51:s:269:C:N3	2.60	0.41
51:s:702:A:C2'	51:s:703:G:OP1	2.69	0.41
51:s:938:A:C6	51:s:939:G:N7	2.89	0.41
51:s:996:A:C2	51:s:997:U:C4	3.09	0.41
51:s:1118:U:O5'	51:s:1118:U:H6	2.04	0.41
51:s:1333:A:H2'	51:s:1334:G:O4'	2.20	0.41
51:s:1404:C:H6	51:s:1404:C:O5'	2.03	0.41
51:s:1470:U:H2'	51:s:1471:U:H6	1.85	0.41
52:t:15:G:C6	52:t:16:C:C4	3.09	0.41
52:t:307:G:H22	52:t:310:A:P	2.44	0.41
52:t:511:U:C3'	52:t:512:G:H5'	2.51	0.41
52:t:563:A:C5	52:t:2018:G:C2	3.08	0.41
52:t:723:C:C2'	52:t:724:U:H5'	2.51	0.41
52:t:1346:G:H2'	52:t:1347:A:O4'	2.21	0.41
52:t:1416:G:C2'	52:t:1417:C:C6	3.04	0.41
52:t:1441:G:H2'	52:t:1442:U:H6	1.86	0.41
52:t:1797:G:C6	52:t:1798:U:C4	3.08	0.41
52:t:1946:U:C2	52:t:1947:C:C5	3.09	0.41
52:t:2837:A:N6	52:t:2882:A:N6	2.68	0.41
53:u:30:C:H2'	53:u:31:C:C5'	2.41	0.41
53:u:40:U:H1'	53:u:45:A:N6	2.35	0.41
54:v:20:SER:O	54:v:122:ARG:NH1	2.52	0.41
54:v:45:THR:HG23	54:v:51:SER:HB2	2.02	0.41
54:v:45:THR:HB	54:v:46:VAL:H	1.50	0.41
54:v:305:ALA:HA	54:v:422:GLU:CD	2.46	0.41
54:v:313:ASP:C	54:v:315:VAL:H	2.28	0.41
1:A:68:PHE:O	1:A:91:VAL:N	2.52	0.40
2:B:64:ARG:O	2:B:65:VAL:HB	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:177:LEU:HD23	51:s:1112:C:C4	2.56	0.40
3:C:131:ILE:O	3:C:133:SER:N	2.46	0.40
4:D:100:GLU:C	4:D:102:THR:H	2.30	0.40
5:E:97:THR:CG2	5:E:98:GLU:N	2.84	0.40
5:E:98:GLU:O	5:E:99:ALA:HB3	2.21	0.40
6:F:73:GLU:O	6:F:87:PRO:HB3	2.20	0.40
7:G:14:ARG:CZ	7:G:14:ARG:HB3	2.51	0.40
10:J:15:VAL:O	10:J:16:SER:OG	2.25	0.40
10:J:39:ASN:O	10:J:41:LEU:HD23	2.22	0.40
11:K:6:LEU:HD23	51:s:564:C:H5'	2.02	0.40
12:L:109:LYS:CE	51:s:1227:A:OP2	2.67	0.40
13:M:58:ARG:HG2	13:M:58:ARG:HH11	1.85	0.40
14:N:17:ASP:O	14:N:18:ALA:C	2.64	0.40
14:N:32:THR:O	14:N:33:ALA:C	2.63	0.40
15:O:17:TYR:H	15:O:17:TYR:HD1	1.59	0.40
21:U:57:HIS:ND1	21:U:58:LYS:N	2.69	0.40
21:U:225:ASN:HD21	52:t:784:G:H5'	1.85	0.40
22:V:25:THR:HG21	22:V:193:VAL:HG22	2.03	0.40
22:V:107:VAL:CG2	22:V:177:VAL:HG13	2.45	0.40
22:V:150:GLN:HG2	52:t:2572:A:N7	2.36	0.40
23:W:148:ILE:O	23:W:148:ILE:HG22	2.20	0.40
25:Y:84:LYS:HE3	25:Y:131:VAL:CG2	2.45	0.40
25:Y:101:VAL:HA	25:Y:115:GLN:HA	2.04	0.40
25:Y:166:GLU:OE2	25:Y:167:VAL:N	2.54	0.40
26:Z:104:GLN:C	26:Z:106:GLN:H	2.29	0.40
26:Z:120:ASP:HB3	26:Z:123:ALA:CB	2.44	0.40
26:Z:133:ARG:HG2	26:Z:133:ARG:O	2.21	0.40
28:1:47:ILE:CG2	28:1:48:PRO:N	2.84	0.40
30:3:62:LYS:O	30:3:105:MET:HA	2.21	0.40
31:4:8:ARG:HB3	31:4:10:LEU:CD2	2.51	0.40
32:5:14:ALA:O	32:5:18:LEU:HB2	2.21	0.40
32:5:16:ARG:O	32:5:19:GLN:N	2.52	0.40
32:5:34:HIS:O	32:5:102:ARG:NH1	2.55	0.40
32:5:56:LYS:O	32:5:58:ILE:N	2.53	0.40
33:6:3:ILE:HD12	33:6:3:ILE:O	2.21	0.40
34:8:8:ILE:CD1	34:8:9:ALA:N	2.84	0.40
40:e:7:GLY:O	40:e:10:ARG:NH1	2.52	0.40
41:f:38:TRP:CG	41:f:39:VAL:N	2.90	0.40
43:h:7:THR:HB	43:h:55:LYS:HB3	2.03	0.40
45:j:20:TYR:HB3	45:j:21:THR:H	1.69	0.40
47:l:22:LYS:NZ	52:t:650:C:O2'	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:60:LEU:O	49:n:64:VAL:N	2.54	0.40
49:n:158:VAL:HG21	50:q:22:LEU:HB2	2.03	0.40
50:r:2:ILE:CG2	50:r:6:GLN:HB2	2.51	0.40
51:s:31:G:N2	51:s:47:C:H5''	2.37	0.40
51:s:53:A:H2'	51:s:54:C:O5'	2.22	0.40
51:s:265:G:C2	51:s:267:C:H5''	2.56	0.40
51:s:561:U:O2'	51:s:562:U:OP2	2.24	0.40
51:s:782:A:N6	51:s:801:U:C6	2.89	0.40
51:s:802:A:H2'	51:s:803:G:O4'	2.21	0.40
51:s:818:G:O2'	51:s:820:U:C5	2.56	0.40
51:s:1007:U:H6	51:s:1007:U:O5'	2.04	0.40
51:s:1011:C:N4	51:s:1019:A:H61	2.20	0.40
51:s:1178:G:N2	51:s:1180:A:H3'	2.35	0.40
51:s:1216:A:H2'	51:s:1217:C:C5	2.56	0.40
52:t:244:A:C2	52:t:245:G:H1'	2.56	0.40
52:t:592:A:C4	52:t:593:U:C5	3.09	0.40
52:t:664:G:H4'	52:t:941:A:OP1	2.21	0.40
52:t:819:A:C4	52:t:1189:A:C2	3.09	0.40
52:t:1088:A:H4'	52:t:1089:A:H8	1.86	0.40
52:t:1730:C:O2'	52:t:1731:G:C4	2.71	0.40
52:t:2260:C:C2	52:t:2281:A:C2	3.10	0.40
52:t:2659:G:O2'	52:t:2661:G:N7	2.50	0.40
1:A:114:LYS:HA	1:A:117:GLU:CD	2.47	0.40
3:C:48:SER:C	3:C:50:TYR:N	2.78	0.40
4:D:14:LEU:HD12	4:D:14:LEU:C	2.47	0.40
4:D:80:LEU:N	4:D:80:LEU:CD2	2.85	0.40
5:E:42:TRP:HZ2	5:E:61:LEU:HD22	1.86	0.40
5:E:89:VAL:HG13	51:s:737:C:H5'	2.03	0.40
7:G:9:MET:O	7:G:10:LEU:C	2.64	0.40
9:I:27:GLU:O	9:I:27:GLU:CG	2.69	0.40
9:I:37:ARG:O	51:s:1124:G:H5''	2.22	0.40
11:K:14:LYS:O	11:K:14:LYS:CG	2.69	0.40
12:L:16:ILE:O	12:L:17:ALA:C	2.65	0.40
13:M:3:GLN:HE21	13:M:3:GLN:CA	2.26	0.40
18:R:40:PHE:HD2	18:R:42:ASN:ND2	2.19	0.40
18:R:79:TYR:CD2	18:R:79:TYR:C	2.98	0.40
19:S:4:LYS:HD3	19:S:6:ALA:H	1.87	0.40
21:U:191:LEU:HD13	21:U:191:LEU:HA	1.84	0.40
22:V:34:VAL:HG22	22:V:94:GLN:H	1.85	0.40
23:W:38:GLY:C	23:W:40:ARG:H	2.25	0.40
23:W:65:THR:O	23:W:67:ARG:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:95:LYS:CD	52:t:659:G:H4'	2.51	0.40
25:Y:59:ASP:O	25:Y:60:GLY:O	2.39	0.40
25:Y:75:VAL:O	25:Y:76:ILE:C	2.64	0.40
25:Y:142:GLN:O	25:Y:144:ALA:N	2.55	0.40
27:0:23:LYS:O	27:0:63:ALA:HB3	2.21	0.40
28:1:57:VAL:O	28:1:57:VAL:HG12	2.22	0.40
28:1:92:GLU:O	28:1:93:GLN:O	2.39	0.40
31:4:14:SER:OG	52:t:2690:U:OP1	2.36	0.40
31:4:101:GLY:HA2	31:4:110:MET:CB	2.52	0.40
31:4:117:ASP:OD2	31:4:118:ARG:N	2.49	0.40
33:6:74:GLN:O	33:6:75:THR:C	2.64	0.40
34:8:75:TYR:O	34:8:78:PHE:HB3	2.21	0.40
34:8:102:LYS:O	34:8:105:PHE:N	2.54	0.40
38:c:23:LYS:HE3	38:c:36:GLU:OE1	2.21	0.40
38:c:100:GLU:O	38:c:101:THR:C	2.64	0.40
48:m:9:LYS:HD3	48:m:9:LYS:H	1.81	0.40
49:n:71:CYS:CB	49:n:117:LEU:HD21	2.51	0.40
50:q:18:ASP:C	50:q:21:GLU:H	2.30	0.40
50:r:3:THR:OG1	50:r:4:LYS:N	2.54	0.40
51:s:52:C:H2'	51:s:53:A:C8	2.56	0.40
51:s:174:A:C5	51:s:175:C:C5	3.09	0.40
51:s:211:G:C6	51:s:212:G:O2'	2.63	0.40
51:s:257:G:C2	51:s:258:G:C5	3.08	0.40
51:s:481:G:C8	51:s:481:G:C3'	3.03	0.40
51:s:714:G:H2'	51:s:715:A:H8	1.83	0.40
52:t:156:A:H2'	52:t:157:C:O4'	2.21	0.40
52:t:690:G:N2	52:t:773:U:C2	2.90	0.40
52:t:809:G:O2'	52:t:810:U:H5'	2.21	0.40
52:t:859:G:N2	52:t:916:G:H2'	2.35	0.40
52:t:1018:U:C2	52:t:1019:U:C6	3.10	0.40
52:t:1504:A:C2'	52:t:1505:A:H5'	2.51	0.40
52:t:1528:A:O5'	52:t:1528:A:H8	2.04	0.40
52:t:1819:A:H1'	52:t:1821:A:C6	2.55	0.40
52:t:1829:A:H3'	52:t:1830:C:C6	2.57	0.40
52:t:1999:C:H5''	52:t:2723:C:O2'	2.20	0.40
52:t:2154:A:H5'	52:t:2155:U:OP2	2.21	0.40
52:t:2307:G:N3	52:t:2311:A:N7	2.70	0.40
52:t:2425:A:O4'	52:t:2427:C:C6	2.74	0.40
52:t:2857:G:N2	52:t:2861:U:C4	2.90	0.40
53:u:89:U:H5''	53:u:90:C:C6	2.57	0.40
54:v:321:VAL:HG21	54:v:387:PHE:CE2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:399:ARG:NE	54:v:445:GLN:HB3	2.36	0.40
2:B:124:GLU:C	2:B:126:ARG:H	2.29	0.40
3:C:54:LEU:C	3:C:54:LEU:CD2	2.87	0.40
3:C:73:ASN:ND2	3:C:76:LYS:NZ	2.69	0.40
6:F:112:ASP:O	6:F:113:LYS:HD3	2.21	0.40
7:G:2:MET:SD	51:s:654:G:H1'	2.62	0.40
7:G:120:LEU:HB2	7:G:121:GLY:H	1.70	0.40
8:H:49:GLN:HA	8:H:52:GLU:CD	2.45	0.40
9:I:57:VAL:CG2	9:I:58:ASN:H	2.11	0.40
9:I:85:ASP:O	9:I:87:LEU:N	2.55	0.40
11:K:20:VAL:CB	11:K:94:TYR:HE1	2.32	0.40
12:L:21:ILE:HB	12:L:24:VAL:HG21	2.04	0.40
12:L:44:ILE:HG23	12:L:47:LEU:HD13	2.02	0.40
12:L:66:GLY:HA2	12:L:69:ARG:HG3	2.02	0.40
13:M:99:SER:C	13:M:100:TRP:CE3	2.99	0.40
16:P:60:ILE:CG2	16:P:72:TRP:HE3	2.30	0.40
16:P:67:SER:O	16:P:68:LYS:C	2.63	0.40
17:Q:41:SER:C	17:Q:43:ILE:N	2.79	0.40
17:Q:48:ALA:O	17:Q:49:LYS:C	2.63	0.40
18:R:12:LEU:C	18:R:14:LEU:H	2.28	0.40
20:T:24:LYS:HA	20:T:28:LEU:HD12	2.03	0.40
23:W:42:GLY:C	23:W:43:THR:HG23	2.45	0.40
23:W:85:PHE:O	23:W:86:ALA:C	2.63	0.40
23:W:148:ILE:HD11	23:W:187:VAL:HG21	2.01	0.40
23:W:196:VAL:O	23:W:199:MET:N	2.50	0.40
24:X:70:ARG:HH21	24:X:70:ARG:HG2	1.85	0.40
24:X:78:ILE:HD12	24:X:78:ILE:O	2.21	0.40
24:X:120:SER:HB2	24:X:127:TYR:CE1	2.56	0.40
24:X:129:MET:HE3	24:X:130:GLY:O	2.21	0.40
25:Y:41:GLU:HB3	25:Y:54:ARG:HH21	1.86	0.40
26:Z:23:VAL:HG23	26:Z:24:GLY:N	2.37	0.40
27:0:13:ARG:HD3	27:0:13:ARG:HA	1.84	0.40
27:0:39:LYS:HA	27:0:43:GLU:HB2	2.03	0.40
33:6:4:ILE:C	33:6:6:GLN:H	2.29	0.40
33:6:112:ARG:O	33:6:113:LEU:C	2.63	0.40
34:8:65:ASN:HD21	34:8:69:ARG:HH21	1.68	0.40
34:8:94:LEU:HD11	35:9:4:VAL:CG1	2.51	0.40
39:d:5:ASN:CB	39:d:64:VAL:HB	2.52	0.40
41:f:50:VAL:CG1	41:f:51:SER:N	2.84	0.40
42:g:39:GLN:H	42:g:39:GLN:HG2	1.56	0.40
46:k:42:LEU:C	46:k:43:THR:HG23	2.46	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:l:44:ARG:N	47:l:45:PRO:CD	2.84	0.40
47:l:53:ASP:OD2	52:t:2359:C:H4'	2.21	0.40
48:m:7:VAL:HG13	48:m:38:GLY:HA3	2.03	0.40
49:n:81:LEU:O	49:n:82:ILE:HD13	2.21	0.40
50:o:8:ILE:C	50:o:10:ALA:N	2.77	0.40
50:q:14:MET:HE2	50:q:14:MET:CA	2.51	0.40
51:s:42:G:N3	51:s:622:A:H2	2.19	0.40
51:s:62:U:OP1	51:s:385:C:O2'	2.38	0.40
51:s:509:A:OP2	51:s:510:A:OP2	2.39	0.40
51:s:540:G:C6	51:s:541:G:C5	3.09	0.40
51:s:623:C:H6	51:s:623:C:O5'	2.05	0.40
51:s:626:G:H2'	51:s:627:G:C8	2.57	0.40
51:s:633:G:H2'	51:s:634:C:C6	2.55	0.40
51:s:676:A:C2	51:s:677:U:C4	3.09	0.40
51:s:719:C:H3'	51:s:720:C:C6	2.56	0.40
51:s:775:G:C6	51:s:776:G:C5	3.09	0.40
51:s:1012:A:O2'	51:s:1013:G:H5'	2.21	0.40
51:s:1385:G:H2'	51:s:1386:G:O4'	2.21	0.40
51:s:1495:U:O2'	52:t:1919:A:N1	2.46	0.40
52:t:242:G:O2'	52:t:243:U:P	2.79	0.40
52:t:451:U:C2	52:t:453:A:N7	2.89	0.40
52:t:704:G:C2'	52:t:705:A:OP2	2.69	0.40
52:t:759:G:C2	52:t:760:G:C4	3.09	0.40
52:t:973:A:H5''	52:t:974:G:OP2	2.21	0.40
52:t:1049:C:C2'	52:t:1050:A:H5'	2.51	0.40
52:t:1087:G:N1	52:t:1089:A:N3	2.70	0.40
52:t:1142:A:C6	52:t:1144:A:C4	3.09	0.40
52:t:1269:A:H8	52:t:1269:A:O5'	2.03	0.40
52:t:1509:A:H2'	52:t:1510:G:H8	1.78	0.40
52:t:1510:G:H2'	52:t:1511:G:C5'	2.51	0.40
52:t:1541:C:H2'	52:t:1542:U:C6	2.56	0.40
52:t:1821:A:H2'	52:t:1822:C:H6	1.86	0.40
52:t:2278:A:H2'	52:t:2279:G:O5'	2.21	0.40
52:t:2287:A:O2'	52:t:2288:A:O5'	2.21	0.40
52:t:2480:C:H2'	52:t:2481:G:O4'	2.20	0.40
52:t:2516:A:H2'	52:t:2517:C:O4'	2.21	0.40
56:AA:6:5OH:HRA	56:BA:6:5OH:HP	2.04	0.40
3:C:84:ASN:CB	3:C:87:GLU:HG2	2.50	0.40
3:C:142:VAL:HG13	3:C:143:SER:N	2.36	0.40
5:E:38:ARG:HB3	5:E:63:ASN:HB2	2.04	0.40
5:E:39:LEU:HD12	5:E:40:GLU:H	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:94:ARG:O	6:F:97:ALA:HB3	2.22	0.40
6:F:115:MET:O	6:F:116:ALA:C	2.64	0.40
7:G:21:LYS:HA	7:G:21:LYS:HD3	1.86	0.40
7:G:95:MET:C	7:G:97:GLY:N	2.78	0.40
8:H:100:ALA:HB1	8:H:102:PHE:CZ	2.55	0.40
8:H:115:VAL:HG23	9:I:62:ARG:HH11	1.87	0.40
9:I:40:ILE:HA	9:I:41:PRO:HD2	1.87	0.40
9:I:73:LEU:HD22	9:I:73:LEU:HA	1.79	0.40
10:J:106:ILE:HD11	10:J:109:ILE:HG13	2.03	0.40
12:L:58:GLU:OE1	12:L:61:LYS:NZ	2.54	0.40
12:L:60:ALA:C	12:L:61:LYS:HG3	2.46	0.40
12:L:63:VAL:HG12	12:L:68:LEU:HB2	2.04	0.40
16:P:30:HIS:HA	16:P:31:PRO:HD3	1.82	0.40
18:R:5:LYS:HD3	51:s:1315:U:OP2	2.21	0.40
19:S:53:MET:CA	19:S:56:ILE:HG22	2.49	0.40
20:T:33:ARG:HD3	20:T:34:ARG:CB	2.48	0.40
21:U:202:ARG:O	21:U:202:ARG:HD2	2.22	0.40
21:U:207:ALA:O	21:U:211:ARG:HG2	2.21	0.40
21:U:227:VAL:CG2	21:U:228:ASP:N	2.83	0.40
21:U:242:HIS:O	21:U:243:PRO:C	2.65	0.40
23:W:189:THR:HG23	23:W:192:ALA:H	1.87	0.40
24:X:116:LEU:HD23	24:X:175:PRO:CB	2.49	0.40
24:X:122:ASP:OD1	24:X:126:ASN:HB2	2.21	0.40
24:X:134:GLN:CG	24:X:135:ILE:H	2.13	0.40
25:Y:9:VAL:HA	25:Y:48:THR:HG22	2.03	0.40
25:Y:103:ASN:ND2	25:Y:113:ASP:OD1	2.54	0.40
25:Y:136:ASP:O	25:Y:140:ILE:HG12	2.20	0.40
27:O:105:VAL:HG13	27:O:106:LYS:N	2.35	0.40
27:O:141:ASP:HB3	27:O:142:ILE:H	1.44	0.40
28:1:70:ARG:HB3	28:1:71:ARG:H	1.57	0.40
28:1:95:ILE:HD13	28:1:95:ILE:HA	1.90	0.40
29:2:21:ARG:HD3	29:2:21:ARG:HA	1.65	0.40
30:3:96:ILE:HG12	30:3:97:GLN:N	2.32	0.40
30:3:100:LYS:O	30:3:102:LEU:HD22	2.20	0.40
31:4:49:GLU:HB2	31:4:50:PRO:HD3	2.01	0.40
32:5:18:LEU:CD1	52:t:2378:A:N3	2.84	0.40
32:5:21:LEU:O	32:5:22:GLY:C	2.63	0.40
34:8:100:PHE:HD1	35:9:13:ARG:HH22	1.69	0.40
40:e:29:SER:HA	40:e:63:ASP:OD1	2.21	0.40
48:m:11:CYS:HB3	48:m:33:HIS:HE1	1.82	0.40
49:n:11:ILE:O	49:n:12:VAL:C	2.64	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:100:ALA:HB2	49:n:125:ARG:CZ	2.51	0.40
49:n:157:ALA:C	49:n:161:ALA:HB3	2.47	0.40
50:o:2:ILE:HD11	50:p:17:MET:SD	2.61	0.40
50:o:13:ALA:O	50:o:17:MET:HG3	2.21	0.40
51:s:755:G:H8	51:s:755:G:O5'	2.04	0.40
51:s:975:A:O2'	51:s:1358:U:C1'	2.69	0.40
51:s:1052:U:H3'	51:s:1053:G:H5''	2.04	0.40
51:s:1201:A:O2'	51:s:1202:U:H5''	2.22	0.40
51:s:1312:G:O2'	51:s:1313:U:H5'	2.22	0.40
51:s:1350:A:C5	51:s:1351:U:C4	3.08	0.40
51:s:1387:G:H2'	51:s:1388:C:H6	1.86	0.40
52:t:266:G:C6	52:t:267:C:C4	3.10	0.40
52:t:757:G:H2'	52:t:758:C:H5'	2.04	0.40
52:t:771:G:C5	52:t:772:C:H5	2.39	0.40
52:t:864:G:H2'	52:t:865:C:O4'	2.20	0.40
52:t:892:A:C2'	52:t:893:C:O5'	2.70	0.40
52:t:900:A:C2	52:t:901:C:C6	3.10	0.40
52:t:1068:G:H2'	52:t:1068:G:N3	2.37	0.40
52:t:1358:G:O5'	52:t:1358:G:H8	2.04	0.40
52:t:1488:C:O2'	52:t:1489:C:H5'	2.21	0.40
52:t:1516:G:H2'	52:t:1517:G:O4'	2.21	0.40
52:t:2331:G:O2'	52:t:2336:A:N1	2.55	0.40
52:t:2503:A:OP2	52:t:2503:A:H3'	2.22	0.40
52:t:2753:A:C2'	52:t:2754:U:H5'	2.51	0.40
52:t:2851:A:C5	52:t:2852:G:C5	3.09	0.40
53:u:68:C:H2'	53:u:69:G:O4'	2.21	0.40
54:v:411:GLN:O	54:v:411:GLN:HG2	2.21	0.40
56:z:4:SER:O	56:z:5:UAL:N1	2.48	0.40
2:B:17:TRP:NE1	13:M:95:LEU:H	2.18	0.40
2:B:106:ARG:O	2:B:106:ARG:HG2	2.21	0.40
2:B:141:MET:O	2:B:142:ARG:C	2.64	0.40
3:C:151:GLN:HG3	3:C:152:SER:H	1.86	0.40
3:C:190:LEU:O	3:C:191:SER:CB	2.69	0.40
4:D:100:GLU:O	4:D:101:GLY:C	2.65	0.40
5:E:9:MET:HG3	5:E:85:ILE:CG1	2.49	0.40
6:F:65:LEU:HD12	6:F:103:ILE:HD11	2.04	0.40
6:F:90:VAL:HG23	6:F:94:ARG:HG2	2.03	0.40
6:F:142:ARG:HG3	6:F:142:ARG:NH1	2.35	0.40
8:H:27:ILE:HG22	8:H:28:VAL:N	2.36	0.40
8:H:115:VAL:HG21	9:I:62:ARG:CD	2.52	0.40
9:I:29:ALA:C	9:I:31:ARG:N	2.73	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:50:THR:HG22	9:I:64:GLN:CG	2.43	0.40
11:K:11:ARG:HD3	51:s:562:U:O2'	2.21	0.40
11:K:30:ARG:CZ	51:s:363:A:OP2	2.70	0.40
13:M:11:LYS:HG2	13:M:15:LEU:HD12	2.04	0.40
15:O:51:ARG:O	15:O:52:LEU:HG	2.21	0.40
17:Q:33:THR:HG22	17:Q:37:LYS:N	2.37	0.40
19:S:50:PHE:HA	19:S:53:MET:CG	2.48	0.40
21:U:92:LEU:HD12	21:U:92:LEU:HA	1.86	0.40
21:U:237:ARG:HG3	21:U:237:ARG:HH11	1.85	0.40
21:U:251:THR:HG21	52:t:1824:G:N3	2.36	0.40
23:W:165:HIS:C	23:W:167:VAL:H	2.30	0.40
24:X:151:LEU:C	24:X:151:LEU:HD12	2.46	0.40
27:O:33:ALA:HB2	27:O:105:VAL:HG23	2.04	0.40
27:O:110:PRO:HB2	27:O:111:LYS:HD3	2.03	0.40
28:1:25:LEU:HD23	52:t:2562:U:O3'	2.21	0.40
29:2:79:LEU:HA	29:2:82:LEU:CD2	2.50	0.40
29:2:120:VAL:HG12	29:2:121:THR:N	2.37	0.40
31:4:23:ASN:O	31:4:26:GLY:N	2.54	0.40
34:8:25:GLY:C	34:8:27:ARG:H	2.29	0.40
37:b:37:ASP:OD2	37:b:37:ASP:N	2.54	0.40
37:b:73:ARG:HA	37:b:73:ARG:NH2	2.31	0.40
38:c:10:VAL:HG12	38:c:70:ALA:O	2.21	0.40
38:c:27:VAL:HG22	38:c:28:LEU:N	2.37	0.40
39:d:14:LYS:O	39:d:18:ARG:HG3	2.21	0.40
40:e:23:LYS:NZ	40:e:24:ARG:HG3	2.36	0.40
40:e:59:PHE:CE2	52:t:2365:G:C4'	2.92	0.40
42:g:10:SER:O	42:g:11:VAL:C	2.64	0.40
42:g:47:ARG:HG3	42:g:47:ARG:NH2	2.33	0.40
43:h:46:MET:O	43:h:49:ALA:HB3	2.22	0.40
44:i:2:VAL:HG11	52:t:2016:U:H1'	2.03	0.40
45:j:45:HIS:CE1	52:t:2371:G:HO2'	2.35	0.40
49:n:27:VAL:HG12	49:n:28:ALA:O	2.22	0.40
49:n:47:GLU:HG3	49:n:94:ARG:HH12	1.86	0.40
49:n:111:ALA:C	49:n:113:PHE:N	2.77	0.40
49:n:118:ILE:HG22	49:n:119:PRO:HD3	2.03	0.40
50:p:11:VAL:C	50:p:13:ALA:N	2.79	0.40
51:s:154:U:C2'	51:s:155:A:H5'	2.51	0.40
51:s:173:U:H1'	51:s:197:A:C5	2.56	0.40
51:s:356:A:H2	51:s:368:U:O2	2.05	0.40
51:s:429:U:H1'	51:s:430:A:C8	2.57	0.40
51:s:626:G:C4	51:s:627:G:C8	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:683:G:H2'	51:s:684:U:H6	1.86	0.40
51:s:756:C:H2'	51:s:757:U:O4'	2.21	0.40
51:s:820:U:C4'	51:s:821:G:OP2	2.55	0.40
51:s:901:A:C5	51:s:902:G:H1'	2.56	0.40
51:s:940:C:C2	51:s:941:G:C8	3.09	0.40
51:s:1010:U:H2'	51:s:1011:C:H6	1.86	0.40
51:s:1085:U:O2	51:s:1085:U:C2'	2.69	0.40
51:s:1095:U:OP1	51:s:1108:G:N2	2.48	0.40
51:s:1097:C:H2'	51:s:1098:C:C6	2.57	0.40
51:s:1118:U:H2'	51:s:1119:C:O4'	2.21	0.40
51:s:1250:A:H61	51:s:1354:U:C4'	2.34	0.40
52:t:304:U:H3	52:t:313:G:H1	1.70	0.40
52:t:627:A:O2'	52:t:628:G:C8	2.75	0.40
52:t:639:U:H2'	52:t:640:C:C6	2.57	0.40
52:t:666:A:C6	52:t:667:U:O4	2.74	0.40
52:t:686:U:H6	52:t:788:A:N1	2.18	0.40
52:t:708:G:O2'	52:t:709:U:H5'	2.22	0.40
52:t:841:G:O2'	52:t:842:U:H5'	2.22	0.40
52:t:1428:C:C4	52:t:1569:A:H5''	2.57	0.40
52:t:1562:U:C2	52:t:1563:U:C6	3.10	0.40
52:t:1582:C:O2'	52:t:1585:C:N3	2.38	0.40
52:t:1619:G:C8	52:t:1619:G:O5'	2.74	0.40
52:t:1716:U:H3	52:t:1744:A:H62	1.70	0.40
52:t:1761:C:O5'	52:t:1761:C:H6	2.04	0.40
52:t:1894:C:C2	52:t:1895:C:C5	3.10	0.40
52:t:1904:G:N3	52:t:1928:A:H2	2.20	0.40
52:t:1913:A:O2'	52:t:1914:C:O5'	2.38	0.40
52:t:1914:C:OP2	56:y:4:SER:C	2.65	0.40
52:t:1932:A:P	56:AA:5:UAL:N2	2.95	0.40
54:v:21:HIS:CD2	54:v:122:ARG:H	2.35	0.40
54:v:389:GLY:O	54:v:390:ILE:HD13	2.21	0.40
54:v:424:ALA:O	54:v:441:VAL:HG13	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

of similar resolution.

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	216/218 (99%)	122 (56%)	56 (26%)	38 (18%)	0	0
2	B	204/206 (99%)	140 (69%)	36 (18%)	28 (14%)	0	1
3	C	203/205 (99%)	108 (53%)	46 (23%)	49 (24%)	0	0
4	D	148/150 (99%)	90 (61%)	36 (24%)	22 (15%)	0	0
5	E	98/100 (98%)	52 (53%)	26 (26%)	20 (20%)	0	0
6	F	149/151 (99%)	95 (64%)	41 (28%)	13 (9%)	0	4
7	G	127/129 (98%)	92 (72%)	29 (23%)	6 (5%)	2	11
8	H	125/127 (98%)	81 (65%)	26 (21%)	18 (14%)	0	0
9	I	96/98 (98%)	64 (67%)	17 (18%)	15 (16%)	0	0
10	J	115/117 (98%)	82 (71%)	21 (18%)	12 (10%)	0	2
11	K	121/123 (98%)	80 (66%)	20 (16%)	21 (17%)	0	0
12	L	112/114 (98%)	62 (55%)	33 (30%)	17 (15%)	0	0
13	M	92/100 (92%)	51 (55%)	27 (29%)	14 (15%)	0	0
14	N	86/88 (98%)	52 (60%)	28 (33%)	6 (7%)	1	5
15	O	80/82 (98%)	48 (60%)	18 (22%)	14 (18%)	0	0
16	P	78/80 (98%)	55 (70%)	10 (13%)	13 (17%)	0	0
17	Q	53/55 (96%)	30 (57%)	17 (32%)	6 (11%)	0	2
18	R	77/79 (98%)	45 (58%)	21 (27%)	11 (14%)	0	1
19	S	83/85 (98%)	51 (61%)	24 (29%)	8 (10%)	0	3
20	T	49/51 (96%)	25 (51%)	17 (35%)	7 (14%)	0	1
21	U	269/271 (99%)	204 (76%)	39 (14%)	26 (10%)	0	3
22	V	207/209 (99%)	138 (67%)	37 (18%)	32 (16%)	0	0
23	W	199/201 (99%)	135 (68%)	40 (20%)	24 (12%)	0	1
24	X	175/177 (99%)	114 (65%)	34 (19%)	27 (15%)	0	0
25	Y	174/176 (99%)	108 (62%)	36 (21%)	30 (17%)	0	0
26	Z	139/141 (99%)	66 (48%)	51 (37%)	22 (16%)	0	0
27	0	140/142 (99%)	94 (67%)	27 (19%)	19 (14%)	0	1
28	1	120/122 (98%)	82 (68%)	24 (20%)	14 (12%)	0	1
29	2	141/143 (99%)	94 (67%)	23 (16%)	24 (17%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	3	134/136 (98%)	95 (71%)	23 (17%)	16 (12%)	0	1
31	4	118/120 (98%)	83 (70%)	20 (17%)	15 (13%)	0	1
32	5	114/116 (98%)	79 (69%)	25 (22%)	10 (9%)	0	3
33	6	112/114 (98%)	71 (63%)	23 (20%)	18 (16%)	0	0
34	8	115/117 (98%)	73 (64%)	31 (27%)	11 (10%)	0	3
35	9	101/103 (98%)	73 (72%)	20 (20%)	8 (8%)	1	4
36	a	108/110 (98%)	80 (74%)	18 (17%)	10 (9%)	0	3
37	b	91/93 (98%)	54 (59%)	18 (20%)	19 (21%)	0	0
38	c	100/102 (98%)	63 (63%)	17 (17%)	20 (20%)	0	0
39	d	92/94 (98%)	62 (67%)	19 (21%)	11 (12%)	0	1
40	e	77/79 (98%)	29 (38%)	21 (27%)	27 (35%)	0	0
41	f	75/77 (97%)	54 (72%)	16 (21%)	5 (7%)	1	6
42	g	61/63 (97%)	34 (56%)	15 (25%)	12 (20%)	0	0
43	h	56/58 (97%)	39 (70%)	12 (21%)	5 (9%)	0	3
44	i	54/56 (96%)	44 (82%)	5 (9%)	5 (9%)	0	3
45	j	48/50 (96%)	32 (67%)	14 (29%)	2 (4%)	2	13
46	k	44/46 (96%)	36 (82%)	4 (9%)	4 (9%)	0	3
47	l	62/64 (97%)	45 (73%)	11 (18%)	6 (10%)	0	3
48	m	36/38 (95%)	30 (83%)	2 (6%)	4 (11%)	0	2
49	n	161/163 (99%)	77 (48%)	53 (33%)	31 (19%)	0	0
50	o	28/30 (93%)	12 (43%)	9 (32%)	7 (25%)	0	0
50	p	28/30 (93%)	16 (57%)	8 (29%)	4 (14%)	0	1
50	q	28/30 (93%)	14 (50%)	12 (43%)	2 (7%)	1	5
50	r	28/30 (93%)	19 (68%)	6 (21%)	3 (11%)	0	2
54	v	523/525 (100%)	381 (73%)	82 (16%)	60 (12%)	0	1
56	7	2/6 (33%)	1 (50%)	0	1 (50%)	0	0
56	AA	2/6 (33%)	1 (50%)	0	1 (50%)	0	0
56	BA	2/6 (33%)	1 (50%)	1 (50%)	0	100	100
56	y	2/6 (33%)	1 (50%)	1 (50%)	0	100	100
56	z	2/6 (33%)	1 (50%)	0	1 (50%)	0	0
All	All	6280/6414 (98%)	4060 (65%)	1346 (21%)	874 (14%)	0	1

All (874) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	33	ALA
1	A	67	LEU
1	A	75	ALA
1	A	94	ARG
1	A	120	SER
1	A	163	ILE
1	A	165	ALA
1	A	169	HIS
1	A	219	THR
2	B	14	VAL
2	B	112	ALA
2	B	186	SER
3	C	22	SER
3	C	24	VAL
3	C	28	ASP
3	C	31	CYS
3	C	33	ILE
3	C	34	GLU
3	C	36	ALA
3	C	52	VAL
3	C	108	ALA
3	C	143	SER
3	C	147	LYS
3	C	150	LYS
3	C	152	SER
3	C	191	SER
3	C	192	ALA
4	D	100	GLU
4	D	122	VAL
4	D	144	GLU
4	D	153	ALA
5	E	7	VAL
5	E	56	LYS
5	E	61	LEU
5	E	69	GLU
5	E	91	ARG
6	F	95	ARG
6	F	110	ARG
6	F	129	ASN
7	G	3	GLN
8	H	22	PRO
8	H	34	LEU

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Mol	Chain	Res	Type
8	H	44	ARG
8	H	71	ILE
9	I	36	VAL
9	I	57	VAL
9	I	62	ARG
9	I	88	MET
9	I	92	LEU
9	I	101	SER
10	J	26	PHE
10	J	76	TYR
10	J	107	THR
10	J	125	LYS
11	K	8	ARG
11	K	23	LEU
11	K	24	GLU
11	K	75	GLU
11	K	87	LYS
11	K	88	ASP
12	L	3	ILE
12	L	65	GLU
12	L	97	ARG
12	L	105	ALA
13	M	44	VAL
13	M	45	LEU
13	M	51	PRO
13	M	52	ARG
13	M	87	ALA
13	M	91	GLU
14	N	3	SER
15	O	16	PHE
15	O	24	SER
15	O	45	GLU
16	P	11	VAL
16	P	12	VAL
16	P	16	MET
16	P	52	CYS
17	Q	54	LEU
18	R	62	THR
18	R	64	GLU
18	R	69	LYS
19	S	3	ILE
19	S	5	SER

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Mol	Chain	Res	Type
19	S	67	HIS
20	T	8	ASN
20	T	23	GLU
20	T	25	ALA
20	T	34	ARG
21	U	9	SER
21	U	70	LYS
21	U	77	VAL
21	U	232	GLY
21	U	234	GLY
22	V	43	ASP
22	V	70	LYS
22	V	71	ALA
22	V	73	VAL
22	V	92	VAL
22	V	94	GLN
22	V	106	LYS
22	V	118	PHE
22	V	119	ALA
22	V	169	ARG
22	V	174	SER
22	V	175	LEU
22	V	191	GLY
23	W	46	GLN
23	W	61	ARG
23	W	69	ARG
23	W	80	SER
23	W	165	HIS
23	W	166	LYS
23	W	175	ILE
24	X	160	LYS
24	X	175	PRO
25	Y	28	LYS
25	Y	31	GLU
25	Y	79	THR
25	Y	84	LYS
25	Y	118	ALA
25	Y	164	ALA
25	Y	167	VAL
25	Y	168	VAL
26	Z	3	LYS
26	Z	6	ALA

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Mol	Chain	Res	Type
26	Z	22	PRO
26	Z	30	GLN
26	Z	85	ILE
26	Z	89	SER
26	Z	92	PRO
26	Z	97	VAL
27	0	13	ARG
27	0	25	LEU
27	0	41	LYS
27	0	44	TYR
27	0	73	VAL
27	0	81	ILE
28	1	3	GLN
28	1	16	ALA
28	1	75	SER
28	1	108	ARG
29	2	29	LYS
29	2	36	LYS
29	2	41	ARG
29	2	66	PHE
29	2	82	LEU
29	2	98	ALA
29	2	111	ILE
29	2	116	VAL
30	3	2	LEU
30	3	60	GLN
30	3	69	PRO
30	3	77	PRO
30	3	134	THR
30	3	135	VAL
31	4	14	SER
31	4	80	PHE
31	4	93	GLY
31	4	101	GLY
31	4	117	ASP
33	6	19	PHE
33	6	33	GLU
33	6	37	LYS
33	6	50	ARG
33	6	83	ILE
33	6	103	THR
33	6	104	GLY

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Mol	Chain	Res	Type
33	6	105	LYS
34	8	86	SER
34	8	91	ARG
34	8	114	ALA
35	9	40	MET
35	9	101	ILE
36	a	14	ALA
37	b	11	LEU
37	b	18	GLU
37	b	29	THR
37	b	73	ARG
37	b	74	ILE
37	b	86	THR
37	b	88	LYS
38	c	6	ARG
38	c	20	LYS
38	c	63	ALA
38	c	88	ASP
38	c	98	ASN
39	d	60	VAL
39	d	69	GLU
40	e	9	THR
40	e	14	ASP
40	e	18	LYS
40	e	29	SER
40	e	30	VAL
40	e	36	ILE
40	e	47	GLY
40	e	50	VAL
40	e	70	VAL
40	e	82	GLU
42	g	24	GLU
42	g	25	GLN
42	g	46	VAL
43	h	13	ILE
44	i	23	ALA
45	j	51	ALA
47	l	22	LYS
48	m	37	GLN
49	n	11	ILE
49	n	47	GLU
49	n	48	ALA

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Mol	Chain	Res	Type
49	n	55	VAL
49	n	60	LEU
49	n	70	GLU
49	n	94	ARG
49	n	95	LEU
49	n	108	VAL
49	n	118	ILE
49	n	124	ASP
49	n	145	GLU
49	n	147	SER
49	n	148	ALA
50	o	4	LYS
50	o	5	ASP
50	o	15	SER
50	o	26	MET
50	o	27	GLU
50	q	12	ALA
50	q	13	ALA
54	v	52	ASN
54	v	61	GLU
54	v	69	SER
54	v	98	ASP
54	v	301	PHE
54	v	305	ALA
54	v	309	PRO
54	v	313	ASP
54	v	315	VAL
54	v	390	ILE
54	v	398	PHE
54	v	399	ARG
54	v	406	PRO
54	v	434	ASN
54	v	440	ALA
54	v	441	VAL
54	v	521	VAL
54	v	522	GLN
56	z	4	SER
56	AA	4	SER
1	A	9	LEU
1	A	15	PHE
1	A	21	TYR
1	A	32	GLY

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Mol	Chain	Res	Type
1	A	37	VAL
1	A	38	HIS
1	A	86	CYS
1	A	100	LEU
1	A	123	GLY
1	A	136	ARG
1	A	150	ILE
1	A	170	ILE
1	A	206	ILE
2	B	8	GLY
2	B	36	PHE
2	B	60	ALA
2	B	88	LYS
2	B	113	LYS
2	B	155	ARG
3	C	6	PRO
3	C	29	THR
3	C	32	LYS
3	C	69	ARG
3	C	101	VAL
3	C	115	GLN
3	C	120	LYS
3	C	125	ASN
3	C	127	ARG
3	C	148	ALA
3	C	165	GLU
3	C	197	HIS
4	D	23	THR
4	D	44	ARG
4	D	97	PRO
4	D	121	ASN
4	D	145	ASN
4	D	154	ALA
5	E	12	PRO
5	E	14	GLN
5	E	17	GLN
5	E	86	ARG
6	F	6	ILE
6	F	55	LYS
6	F	57	GLU
6	F	75	LYS
6	F	78	ARG

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Mol	Chain	Res	Type
6	F	84	TYR
8	H	32	ARG
8	H	33	SER
8	H	40	ARG
8	H	53	LEU
8	H	119	LYS
8	H	127	SER
9	I	60	ASP
10	J	94	SER
10	J	102	ALA
11	K	117	GLY
12	L	13	HIS
12	L	18	LEU
12	L	44	ILE
12	L	46	GLU
12	L	98	GLY
13	M	61	ASN
15	O	44	SER
16	P	17	GLU
16	P	50	ASN
16	P	56	ASP
16	P	79	GLU
17	Q	45	GLY
17	Q	48	ALA
18	R	5	LYS
18	R	44	ILE
18	R	46	LEU
19	S	6	ALA
19	S	68	LYS
20	T	12	ASP
21	U	140	VAL
21	U	142	ASN
21	U	185	ALA
21	U	239	PHE
21	U	260	LYS
21	U	264	LYS
22	V	72	GLY
22	V	91	THR
22	V	95	SER
22	V	121	THR
22	V	144	GLY
22	V	190	LYS

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Mol	Chain	Res	Type
23	W	6	LYS
24	X	20	ASN
24	X	61	GLY
24	X	72	SER
24	X	95	MET
24	X	96	TRP
24	X	110	ILE
24	X	111	ARG
24	X	113	PHE
24	X	118	ALA
24	X	148	VAL
24	X	176	PHE
25	Y	9	VAL
25	Y	14	VAL
25	Y	30	GLY
25	Y	33	THR
25	Y	38	ASP
25	Y	44	HIS
25	Y	53	PRO
25	Y	60	GLY
25	Y	166	GLU
26	Z	62	ALA
26	Z	83	ALA
26	Z	90	GLY
26	Z	96	LYS
27	0	4	PHE
27	0	12	LYS
27	0	45	THR
27	0	111	LYS
28	1	6	THR
28	1	50	GLY
28	1	93	GLN
29	2	3	LEU
29	2	10	GLU
29	2	15	ALA
29	2	30	THR
29	2	88	GLY
29	2	115	GLU
30	3	110	GLU
31	4	24	MET
31	4	32	GLU
31	4	86	ARG

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Mol	Chain	Res	Type
32	5	22	GLY
32	5	57	ALA
32	5	67	ASN
32	5	100	HIS
32	5	101	GLY
32	5	106	LEU
33	6	65	ASN
33	6	79	VAL
33	6	100	ARG
34	8	5	ARG
35	9	55	ASP
35	9	79	ARG
35	9	100	GLY
36	a	13	SER
36	a	64	ALA
36	a	65	ASP
36	a	71	VAL
37	b	27	SER
37	b	38	ALA
37	b	39	THR
37	b	55	VAL
37	b	57	VAL
37	b	65	GLY
38	c	50	ALA
38	c	75	ALA
38	c	92	VAL
38	c	97	SER
38	c	100	GLU
39	d	66	ASP
39	d	93	ARG
40	e	23	LYS
40	e	24	ARG
40	e	26	GLY
40	e	27	GLY
40	e	42	THR
41	f	34	SER
42	g	57	LEU
43	h	31	ILE
43	h	49	ALA
46	k	7	PRO
46	k	23	ALA
47	l	28	LEU

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Mol	Chain	Res	Type
47	l	46	LYS
48	m	8	LYS
48	m	20	ASP
49	n	3	LEU
49	n	22	ALA
49	n	58	THR
49	n	80	THR
49	n	107	GLU
50	p	10	ALA
50	p	11	VAL
50	r	28	GLU
54	v	60	MET
54	v	68	ILE
54	v	96	SER
54	v	300	VAL
54	v	356	VAL
54	v	410	LYS
54	v	413	LEU
54	v	424	ALA
54	v	433	ASN
54	v	500	ASN
54	v	504	ILE
54	v	524	HIS
54	v	526	THR
1	A	12	GLY
1	A	62	ARG
1	A	85	SER
1	A	115	ASP
1	A	132	GLU
1	A	158	ASP
2	B	26	LYS
2	B	72	PRO
2	B	81	GLU
2	B	145	ALA
3	C	35	GLN
3	C	84	ASN
3	C	106	PHE
3	C	132	ALA
3	C	161	ALA
3	C	167	PRO
3	C	172	VAL
3	C	174	ALA

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Mol	Chain	Res	Type
3	C	177	MET
3	C	178	GLU
3	C	196	GLU
4	D	149	PRO
5	E	53	LYS
5	E	62	MET
6	F	16	LYS
7	G	87	ARG
7	G	116	ARG
8	H	56	MET
9	I	35	GLN
9	I	75	ASP
9	I	89	ARG
10	J	14	GLN
10	J	16	SER
10	J	88	PRO
11	K	27	PRO
11	K	42	LYS
11	K	77	SER
11	K	84	GLY
11	K	101	LEU
11	K	102	ASP
11	K	122	LYS
12	L	4	ALA
12	L	104	ASN
13	M	75	LYS
13	M	88	MET
14	N	8	ALA
14	N	25	GLU
14	N	83	ARG
14	N	86	LEU
15	O	17	TYR
15	O	49	GLY
16	P	68	LYS
16	P	70	LYS
17	Q	55	ALA
18	R	4	LEU
21	U	11	GLY
21	U	23	LEU
21	U	34	GLU
21	U	58	LYS
21	U	109	LEU

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Mol	Chain	Res	Type
21	U	184	GLU
21	U	196	ASN
21	U	256	THR
22	V	55	LYS
22	V	69	ALA
22	V	107	VAL
22	V	170	VAL
23	W	153	LEU
23	W	157	LEU
24	X	77	LYS
24	X	93	GLU
24	X	134	GLN
25	Y	45	ALA
25	Y	83	THR
25	Y	169	ARG
26	Z	49	GLU
26	Z	64	ARG
26	Z	129	GLU
27	0	94	ALA
28	1	35	VAL
28	1	46	ALA
28	1	71	ARG
28	1	89	ASN
28	1	92	GLU
29	2	40	SER
29	2	65	GLY
29	2	81	ASP
29	2	83	ALA
30	3	58	LYS
30	3	121	ALA
31	4	2	ARG
31	4	3	HIS
31	4	60	VAL
31	4	88	ALA
32	5	32	PRO
32	5	61	GLN
33	6	20	ARG
33	6	42	PHE
33	6	110	LYS
34	8	87	VAL
35	9	48	LYS
37	b	10	VAL

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Mol	Chain	Res	Type
37	b	40	LYS
37	b	54	GLU
37	b	69	ARG
38	c	7	ASP
38	c	77	GLY
38	c	81	ARG
39	d	54	ALA
39	d	74	ALA
40	e	41	GLY
41	f	43	LYS
42	g	22	LEU
43	h	34	THR
44	i	17	SER
44	i	32	THR
48	m	16	ILE
49	n	78	GLY
49	n	135	ALA
54	v	18	ILE
54	v	49	ARG
54	v	53	GLN
54	v	54	HIS
54	v	62	MET
54	v	92	HIS
54	v	391	PRO
54	v	404	LYS
54	v	405	ASP
54	v	435	ASP
54	v	477	ALA
54	v	492	GLN
54	v	523	PHE
1	A	76	SER
1	A	159	ALA
1	A	177	ASN
2	B	7	ASN
2	B	135	ARG
2	B	136	ALA
2	B	205	GLU
3	C	27	ILE
3	C	166	LYS
3	C	190	LEU
4	D	42	ASN
4	D	102	THR

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Mol	Chain	Res	Type
4	D	146	MET
5	E	54	LEU
5	E	55	HIS
6	F	83	THR
7	G	109	VAL
8	H	38	PHE
8	H	41	GLU
8	H	72	SER
8	H	120	ALA
9	I	91	ASP
11	K	49	ARG
11	K	116	TYR
12	L	113	LYS
13	M	3	GLN
13	M	47	LEU
13	M	58	ARG
13	M	69	PRO
13	M	80	ARG
14	N	45	HIS
15	O	31	ARG
15	O	64	GLY
16	P	5	ARG
16	P	51	GLU
17	Q	66	LEU
18	R	61	VAL
19	S	27	MET
19	S	69	ASN
21	U	64	VAL
21	U	204	LEU
21	U	231	HIS
21	U	258	SER
22	V	86	GLU
22	V	109	VAL
22	V	179	ARG
22	V	194	PRO
23	W	123	LYS
23	W	124	PHE
23	W	148	ILE
24	X	86	CYS
24	X	94	ARG
24	X	103	ILE
24	X	151	LEU

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Mol	Chain	Res	Type
25	Y	75	VAL
25	Y	113	ASP
26	Z	9	LYS
27	0	14	ASP
27	0	21	THR
27	0	133	ALA
30	3	43	ALA
30	3	59	ARG
30	3	73	ILE
30	3	100	LYS
31	4	91	ALA
31	4	92	GLY
32	5	6	ALA
33	6	86	LYS
33	6	93	LYS
34	8	73	ILE
34	8	76	SER
34	8	88	GLU
35	9	28	ALA
36	a	3	THR
36	a	66	ILE
36	a	96	ILE
37	b	36	LYS
38	c	49	PRO
38	c	51	LEU
38	c	54	PRO
38	c	101	THR
39	d	13	GLY
39	d	37	PRO
39	d	71	LYS
40	e	10	ARG
40	e	15	SER
40	e	16	GLU
40	e	52	CYS
40	e	56	HIS
41	f	17	ARG
41	f	42	GLU
41	f	71	ARG
42	g	6	LEU
42	g	9	LYS
42	g	36	GLN
43	h	3	THR

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Mol	Chain	Res	Type
46	k	17	GLY
49	n	56	ARG
49	n	88	HIS
49	n	106	PHE
49	n	125	ARG
49	n	144	LYS
49	n	154	THR
50	r	11	VAL
50	r	12	ALA
54	v	20	SER
54	v	295	LYS
54	v	403	LEU
54	v	412	LEU
54	v	480	LYS
56	7	4	SER
1	A	11	ALA
1	A	18	GLN
1	A	81	ASP
2	B	13	ILE
2	B	52	SER
2	B	65	VAL
2	B	167	TYR
3	C	58	GLN
3	C	105	GLY
3	C	142	VAL
3	C	153	ARG
3	C	154	VAL
4	D	10	LEU
4	D	24	VAL
4	D	41	GLY
4	D	53	ARG
4	D	69	ASN
5	E	8	PHE
5	E	92	THR
6	F	130	LYS
7	G	20	ASN
9	I	93	ALA
10	J	46	ALA
10	J	73	VAL
11	K	56	LEU
11	K	73	LEU
11	K	78	VAL

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Mol	Chain	Res	Type
12	L	78	ARG
15	O	11	ALA
15	O	12	LYS
15	O	23	ASP
15	O	26	ASN
16	P	31	PRO
17	Q	44	THR
19	S	39	GLU
20	T	22	CYS
21	U	21	PRO
21	U	37	SER
21	U	110	LYS
22	V	122	VAL
22	V	133	THR
22	V	173	GLN
23	W	9	GLN
23	W	13	THR
23	W	45	ALA
23	W	49	ARG
23	W	73	ILE
23	W	79	ARG
23	W	83	VAL
23	W	96	VAL
23	W	151	GLY
24	X	8	LYS
24	X	108	PRO
24	X	132	ARG
24	X	133	GLU
25	Y	68	ARG
25	Y	85	LYS
25	Y	117	PRO
25	Y	170	THR
26	Z	131	THR
27	0	33	ALA
27	0	74	TYR
27	0	125	TYR
29	2	19	LEU
29	2	87	GLY
29	2	133	ALA
30	3	28	PHE
30	3	46	ILE
33	6	63	ILE

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Mol	Chain	Res	Type
36	a	95	ARG
37	b	70	HIS
40	e	11	ASN
40	e	68	PHE
40	e	73	PRO
40	e	76	ARG
42	g	7	ARG
42	g	37	LEU
42	g	41	HIS
44	i	55	ALA
45	j	43	ARG
46	k	45	SER
47	l	59	ALA
49	n	2	ALA
49	n	72	LEU
49	n	127	ALA
50	o	16	VAL
54	v	93	GLU
54	v	304	GLN
54	v	467	ASN
54	v	473	TRP
1	A	43	GLU
1	A	209	VAL
2	B	48	LYS
2	B	92	ASP
4	D	101	GLY
4	D	104	ILE
5	E	16	GLU
5	E	50	PRO
8	H	9	GLY
8	H	39	GLY
8	H	54	VAL
9	I	74	VAL
10	J	79	LYS
12	L	14	ALA
12	L	103	THR
22	V	145	SER
23	W	70	SER
23	W	163	ASN
24	X	125	GLY
25	Y	11	PRO
25	Y	16	VAL

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Mol	Chain	Res	Type
25	Y	97	VAL
26	Z	119	ALA
29	2	103	ILE
30	3	3	GLN
31	4	84	GLY
32	5	56	LYS
33	6	5	LYS
34	8	100	PHE
35	9	98	ILE
39	d	84	PRO
40	e	74	LYS
47	l	31	ILE
47	l	58	ILE
50	p	29	LYS
54	v	320	VAL
54	v	407	LEU
54	v	411	GLN
2	B	97	PRO
2	B	107	LYS
3	C	63	ILE
3	C	124	VAL
7	G	56	PRO
11	K	15	VAL
15	O	15	PRO
18	R	41	PRO
18	R	74	ALA
24	X	135	ILE
26	Z	18	ASN
34	8	6	GLY
36	a	29	VAL
38	c	53	GLN
44	i	54	ILE
50	o	2	ILE
4	D	113	VAL
5	E	60	VAL
20	T	9	GLU
25	Y	155	PRO
27	0	110	PRO
28	1	72	PRO
40	e	37	VAL
50	p	8	ILE
54	v	518	TYR

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Mol	Chain	Res	Type
1	A	223	GLY
2	B	74	ILE
2	B	90	VAL
2	B	105	VAL
3	C	23	GLY
5	E	96	VAL
9	I	42	LEU
15	O	42	ILE
18	R	25	GLY
22	V	151	THR
24	X	136	ILE
26	Z	88	GLY
27	0	124	VAL
42	g	62	GLY
5	E	29	ILE
6	F	13	PRO
9	I	8	ILE
11	K	21	PRO
12	L	16	ILE
12	L	96	VAL
26	Z	8	VAL
26	Z	25	PRO
29	2	34	GLY
29	2	140	GLY
34	8	97	ILE
38	c	38	ILE
38	c	69	VAL
54	v	78	PRO
54	v	382	GLY
1	A	200	PRO
28	1	48	PRO
39	d	72	VAL
49	n	149	GLY
54	v	519	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 X-ray entries followed by that with respect to entries of similar resolution.

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	179/180 (99%)	151 (84%)	28 (16%)	2	12
2	B	170/170 (100%)	157 (92%)	13 (8%)	12	39
3	C	172/172 (100%)	154 (90%)	18 (10%)	6	26
4	D	113/113 (100%)	99 (88%)	14 (12%)	4	19
5	E	87/87 (100%)	78 (90%)	9 (10%)	7	27
6	F	124/124 (100%)	115 (93%)	9 (7%)	13	40
7	G	104/104 (100%)	100 (96%)	4 (4%)	29	60
8	H	105/105 (100%)	96 (91%)	9 (9%)	10	34
9	I	86/86 (100%)	74 (86%)	12 (14%)	3	15
10	J	90/90 (100%)	75 (83%)	15 (17%)	2	10
11	K	103/103 (100%)	93 (90%)	10 (10%)	8	30
12	L	92/92 (100%)	88 (96%)	4 (4%)	26	57
13	M	79/83 (95%)	73 (92%)	6 (8%)	12	39
14	N	76/76 (100%)	63 (83%)	13 (17%)	2	10
15	O	65/65 (100%)	57 (88%)	8 (12%)	4	20
16	P	74/74 (100%)	63 (85%)	11 (15%)	3	13
17	Q	48/48 (100%)	43 (90%)	5 (10%)	7	27
18	R	70/70 (100%)	68 (97%)	2 (3%)	37	66
19	S	65/65 (100%)	58 (89%)	7 (11%)	6	25
20	T	44/44 (100%)	41 (93%)	3 (7%)	14	42
21	U	216/216 (100%)	189 (88%)	27 (12%)	4	19
22	V	164/164 (100%)	145 (88%)	19 (12%)	5	22
23	W	165/165 (100%)	148 (90%)	17 (10%)	7	27
24	X	148/148 (100%)	137 (93%)	11 (7%)	13	40
25	Y	137/137 (100%)	115 (84%)	22 (16%)	2	11
26	Z	109/109 (100%)	106 (97%)	3 (3%)	38	66
27	0	116/116 (100%)	99 (85%)	17 (15%)	3	14
28	1	103/103 (100%)	87 (84%)	16 (16%)	2	12
29	2	102/102 (100%)	89 (87%)	13 (13%)	4	18
30	3	109/109 (100%)	93 (85%)	16 (15%)	3	14
31	4	100/100 (100%)	93 (93%)	7 (7%)	14	41
32	5	86/86 (100%)	75 (87%)	11 (13%)	4	18

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
33	6	99/99 (100%)	90 (91%)	9 (9%)	9	32
34	8	89/89 (100%)	80 (90%)	9 (10%)	7	28
35	9	84/84 (100%)	76 (90%)	8 (10%)	8	30
36	a	93/93 (100%)	78 (84%)	15 (16%)	2	11
37	b	80/80 (100%)	67 (84%)	13 (16%)	2	11
38	c	83/83 (100%)	76 (92%)	7 (8%)	10	35
39	d	78/78 (100%)	74 (95%)	4 (5%)	21	52
40	e	59/59 (100%)	52 (88%)	7 (12%)	5	21
41	f	67/67 (100%)	57 (85%)	10 (15%)	3	13
42	g	55/55 (100%)	52 (94%)	3 (6%)	19	50
43	h	48/48 (100%)	36 (75%)	12 (25%)	0	2
44	i	47/47 (100%)	39 (83%)	8 (17%)	2	10
45	j	45/45 (100%)	43 (96%)	2 (4%)	25	56
46	k	38/38 (100%)	35 (92%)	3 (8%)	11	37
47	l	51/51 (100%)	48 (94%)	3 (6%)	18	48
48	m	34/34 (100%)	28 (82%)	6 (18%)	2	9
49	n	123/123 (100%)	116 (94%)	7 (6%)	18	49
50	o	26/26 (100%)	23 (88%)	3 (12%)	5	23
50	p	26/26 (100%)	25 (96%)	1 (4%)	29	60
50	q	26/26 (100%)	26 (100%)	0	100	100
50	r	26/26 (100%)	23 (88%)	3 (12%)	5	23
54	v	447/449 (100%)	372 (83%)	75 (17%)	2	10
56	7	2/2 (100%)	2 (100%)	0	100	100
56	AA	2/2 (100%)	2 (100%)	0	100	100
56	BA	2/2 (100%)	2 (100%)	0	100	100
56	y	2/2 (100%)	2 (100%)	0	100	100
56	z	2/2 (100%)	2 (100%)	0	100	100
All	All	5235/5242 (100%)	4648 (89%)	587 (11%)	6	24

All (587) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	14	HIS

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Mol	Chain	Res	Type
1	A	20	ARG
1	A	21	TYR
1	A	26	MET
1	A	29	PHE
1	A	31	PHE
1	A	40	ILE
1	A	49	PHE
1	A	66	ILE
1	A	88	GLN
1	A	90	PHE
1	A	100	LEU
1	A	108	GLN
1	A	110	ILE
1	A	115	ASP
1	A	119	GLN
1	A	125	PHE
1	A	129	THR
1	A	136	ARG
1	A	141	GLU
1	A	143	LEU
1	A	158	ASP
1	A	170	ILE
1	A	174	GLU
1	A	183	PHE
1	A	189	ASN
1	A	206	ILE
1	A	221	ARG
2	B	13	ILE
2	B	15	LYS
2	B	19	SER
2	B	20	THR
2	B	36	PHE
2	B	54	ILE
2	B	107	LYS
2	B	120	THR
2	B	143	LEU
2	B	148	ILE
2	B	149	LYS
2	B	166	TRP
2	B	184	ASN
3	C	10	LEU
3	C	19	PHE

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Mol	Chain	Res	Type
3	C	25	ARG
3	C	33	ILE
3	C	54	LEU
3	C	55	ARG
3	C	63	ILE
3	C	69	ARG
3	C	75	TYR
3	C	93	LEU
3	C	109	THR
3	C	110	ARG
3	C	128	VAL
3	C	131	ILE
3	C	140	ASP
3	C	160	LEU
3	C	162	GLU
3	C	198	LEU
4	D	10	LEU
4	D	14	LEU
4	D	29	ILE
4	D	38	VAL
4	D	45	VAL
4	D	55	VAL
4	D	80	LEU
4	D	94	PHE
4	D	95	MET
4	D	100	GLU
4	D	102	THR
4	D	135	VAL
4	D	155	LYS
4	D	156	ARG
5	E	4	TYR
5	E	14	GLN
5	E	17	GLN
5	E	36	ILE
5	E	51	ILE
5	E	54	LEU
5	E	55	HIS
5	E	58	HIS
5	E	85	ILE
6	F	3	ARG
6	F	11	ILE
6	F	12	LEU

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Mol	Chain	Res	Type
6	F	25	PHE
6	F	26	VAL
6	F	49	LEU
6	F	62	GLU
6	F	108	ARG
6	F	150	PHE
7	G	15	ASN
7	G	72	GLU
7	G	74	ILE
7	G	75	GLN
8	H	35	GLU
8	H	45	MET
8	H	61	ASP
8	H	62	LEU
8	H	84	ARG
8	H	87	MET
8	H	115	VAL
8	H	119	LYS
8	H	126	PHE
9	I	14	ASP
9	I	18	ILE
9	I	40	ILE
9	I	44	THR
9	I	67	ILE
9	I	73	LEU
9	I	78	GLU
9	I	81	GLU
9	I	83	THR
9	I	89	ARG
9	I	92	LEU
9	I	100	ILE
10	J	14	GLN
10	J	17	ASP
10	J	22	ILE
10	J	30	ILE
10	J	32	THR
10	J	45	THR
10	J	51	PHE
10	J	55	ARG
10	J	73	VAL
10	J	76	TYR
10	J	81	LEU

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Mol	Chain	Res	Type
10	J	85	VAL
10	J	106	ILE
10	J	108	ASN
10	J	128	VAL
11	K	14	LYS
11	K	27	PRO
11	K	28	GLN
11	K	48	LEU
11	K	49	ARG
11	K	51	VAL
11	K	57	THR
11	K	75	GLU
11	K	96	THR
11	K	102	ASP
12	L	10	ASP
12	L	28	ARG
12	L	101	THR
12	L	112	ARG
13	M	3	GLN
13	M	9	GLU
13	M	27	LYS
13	M	51	PRO
13	M	64	ARG
13	M	82	LYS
14	N	5	GLU
14	N	9	LYS
14	N	11	VAL
14	N	14	PHE
14	N	16	ARG
14	N	23	SER
14	N	28	VAL
14	N	34	GLN
14	N	38	LEU
14	N	39	GLN
14	N	65	LEU
14	N	82	GLU
14	N	84	LEU
15	O	2	VAL
15	O	6	LEU
15	O	12	LYS
15	O	18	GLN
15	O	35	ARG

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Mol	Chain	Res	Type
15	O	63	GLN
15	O	77	GLU
15	O	80	LYS
16	P	3	LYS
16	P	16	MET
16	P	21	VAL
16	P	32	ILE
16	P	42	LYS
16	P	47	ASP
16	P	51	GLU
16	P	54	ILE
16	P	61	ARG
16	P	74	LEU
16	P	78	VAL
17	Q	25	ILE
17	Q	27	THR
17	Q	54	LEU
17	Q	60	ARG
17	Q	71	ASP
18	R	60	PHE
18	R	79	TYR
19	S	14	GLU
19	S	30	PHE
19	S	35	TYR
19	S	42	ASP
19	S	53	MET
19	S	65	LEU
19	S	68	LYS
20	T	33	ARG
20	T	39	LYS
20	T	45	LYS
21	U	2	VAL
21	U	12	ARG
21	U	23	LEU
21	U	52	HIS
21	U	68	ARG
21	U	73	ILE
21	U	76	VAL
21	U	79	ARG
21	U	87	SER
21	U	93	VAL
21	U	123	ILE

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Mol	Chain	Res	Type
21	U	128	THR
21	U	132	ARG
21	U	142	ASN
21	U	155	ARG
21	U	173	LEU
21	U	176	ARG
21	U	188	ARG
21	U	191	LEU
21	U	194	VAL
21	U	224	MET
21	U	226	PRO
21	U	228	ASP
21	U	249	VAL
21	U	254	LYS
21	U	265	PHE
21	U	269	ARG
22	V	4	LEU
22	V	17	GLU
22	V	40	LEU
22	V	50	VAL
22	V	91	THR
22	V	92	VAL
22	V	114	LYS
22	V	118	PHE
22	V	124	ARG
22	V	129	THR
22	V	142	VAL
22	V	150	GLN
22	V	151	THR
22	V	159	LYS
22	V	170	VAL
22	V	175	LEU
22	V	177	VAL
22	V	201	LEU
22	V	203	VAL
23	W	12	LEU
23	W	28	VAL
23	W	51	GLU
23	W	70	SER
23	W	73	ILE
23	W	102	ARG
23	W	108	ILE

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Mol	Chain	Res	Type
23	W	109	LEU
23	W	111	GLU
23	W	118	LEU
23	W	119	ILE
23	W	127	GLU
23	W	132	LYS
23	W	144	GLU
23	W	150	THR
23	W	153	LEU
23	W	176	ASP
24	X	16	MET
24	X	34	THR
24	X	35	LEU
24	X	46	LYS
24	X	47	LYS
24	X	66	ILE
24	X	76	PHE
24	X	114	ARG
24	X	129	MET
24	X	132	ARG
24	X	157	THR
25	Y	8	VAL
25	Y	15	ASP
25	Y	17	LYS
25	Y	18	ILE
25	Y	34	ARG
25	Y	40	VAL
25	Y	59	ASP
25	Y	68	ARG
25	Y	76	ILE
25	Y	83	THR
25	Y	84	LYS
25	Y	91	VAL
25	Y	101	VAL
25	Y	120	ILE
25	Y	123	GLU
25	Y	131	VAL
25	Y	132	LEU
25	Y	138	GLN
25	Y	140	ILE
25	Y	162	ARG
25	Y	166	GLU

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Mol	Chain	Res	Type
25	Y	167	VAL
26	Z	34	ILE
26	Z	71	LYS
26	Z	131	THR
27	0	2	LYS
27	0	11	VAL
27	0	18	VAL
27	0	23	LYS
27	0	25	LEU
27	0	30	THR
27	0	34	ARG
27	0	39	LYS
27	0	54	ILE
27	0	55	ILE
27	0	57	LEU
27	0	65	THR
27	0	103	ILE
27	0	111	LYS
27	0	131	ASN
27	0	135	GLN
27	0	140	LEU
28	1	8	LEU
28	1	18	ARG
28	1	19	VAL
28	1	32	TYR
28	1	41	ILE
28	1	47	ILE
28	1	48	PRO
28	1	51	LYS
28	1	58	LEU
28	1	61	VAL
28	1	73	ASP
28	1	82	ASN
28	1	92	GLU
28	1	93	GLN
28	1	105	ARG
28	1	107	LEU
29	2	6	LEU
29	2	21	ARG
29	2	25	SER
29	2	39	LYS
29	2	47	ARG

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Mol	Chain	Res	Type
29	2	50	PHE
29	2	55	MET
29	2	61	LEU
29	2	64	PHE
29	2	74	THR
29	2	121	THR
29	2	126	ARG
29	2	144	GLU
30	3	5	LYS
30	3	7	THR
30	3	14	LYS
30	3	24	THR
30	3	26	VAL
30	3	33	LEU
30	3	47	GLU
30	3	51	ARG
30	3	69	PRO
30	3	70	ASP
30	3	93	VAL
30	3	95	LEU
30	3	96	ILE
30	3	118	LYS
30	3	126	ILE
30	3	133	LYS
31	4	1	MET
31	4	10	LEU
31	4	24	MET
31	4	33	ILE
31	4	63	ARG
31	4	69	ARG
31	4	95	THR
32	5	9	ARG
32	5	17	LYS
32	5	18	LEU
32	5	20	GLU
32	5	28	VAL
32	5	31	THR
32	5	32	PRO
32	5	35	ILE
32	5	102	ARG
32	5	103	VAL
32	5	106	LEU

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Mol	Chain	Res	Type
33	6	3	ILE
33	6	14	GLN
33	6	25	VAL
33	6	28	LYS
33	6	38	ARG
33	6	39	LEU
33	6	43	GLU
33	6	58	PHE
33	6	83	ILE
34	8	8	ILE
34	8	29	ARG
34	8	43	GLN
34	8	50	ARG
34	8	59	LEU
34	8	88	GLU
34	8	93	ILE
34	8	94	LEU
34	8	96	ASP
35	9	22	LEU
35	9	27	ILE
35	9	39	LEU
35	9	46	GLU
35	9	48	LYS
35	9	55	ASP
35	9	63	VAL
35	9	87	GLN
36	a	3	THR
36	a	4	ILE
36	a	15	GLN
36	a	24	ILE
36	a	33	LEU
36	a	40	ASN
36	a	45	VAL
36	a	60	HIS
36	a	69	LEU
36	a	71	VAL
36	a	76	VAL
36	a	78	GLU
36	a	81	SER
36	a	96	ILE
36	a	101	SER
37	b	2	ILE

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Mol	Chain	Res	Type
37	b	4	GLU
37	b	18	GLU
37	b	30	ILE
37	b	31	VAL
37	b	37	ASP
37	b	43	ILE
37	b	50	LEU
37	b	53	VAL
37	b	58	VAL
37	b	70	HIS
37	b	86	THR
37	b	93	LEU
38	c	6	ARG
38	c	8	ASP
38	c	10	VAL
38	c	43	LYS
38	c	61	GLU
38	c	67	SER
38	c	102	ILE
39	d	4	ILE
39	d	12	GLN
39	d	70	ILE
39	d	81	PRO
40	e	16	GLU
40	e	22	VAL
40	e	24	ARG
40	e	31	LEU
40	e	45	HIS
40	e	49	ASN
40	e	71	LYS
41	f	6	VAL
41	f	7	THR
41	f	10	ARG
41	f	26	ARG
41	f	29	LEU
41	f	47	THR
41	f	67	LEU
41	f	71	ARG
41	f	75	GLU
41	f	77	TYR
42	g	15	ASN
42	g	39	GLN

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Mol	Chain	Res	Type
42	g	47	ARG
43	h	2	LYS
43	h	4	ILE
43	h	6	ILE
43	h	8	GLN
43	h	15	ARG
43	h	17	PRO
43	h	30	ARG
43	h	31	ILE
43	h	34	THR
43	h	40	THR
43	h	43	ILE
43	h	51	SER
44	i	2	VAL
44	i	9	ARG
44	i	14	MET
44	i	21	LEU
44	i	22	THR
44	i	26	SER
44	i	27	LEU
44	i	42	ILE
45	j	4	ILE
45	j	35	LEU
46	k	3	ARG
46	k	24	THR
46	k	34	ARG
47	l	7	ARG
47	l	16	THR
47	l	56	LEU
48	m	2	LYS
48	m	3	VAL
48	m	9	LYS
48	m	13	ASN
48	m	17	VAL
48	m	23	ILE
49	n	3	LEU
49	n	29	ASP
49	n	70	GLU
49	n	123	ILE
49	n	136	ILE
49	n	145	GLU
49	n	154	THR

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Mol	Chain	Res	Type
50	o	17	MET
50	o	27	GLU
50	o	30	PHE
50	p	5	ASP
50	r	2	ILE
50	r	5	ASP
50	r	22	LEU
54	v	3	LEU
54	v	14	ARG
54	v	27	THR
54	v	31	GLU
54	v	35	LEU
54	v	42	THR
54	v	45	THR
54	v	46	VAL
54	v	49	ARG
54	v	51	SER
54	v	59	TRP
54	v	60	MET
54	v	70	ILE
54	v	72	THR
54	v	73	SER
54	v	94	ASP
54	v	97	GLU
54	v	99	THR
54	v	108	CYS
54	v	110	LEU
54	v	113	ILE
54	v	117	LYS
54	v	127	MET
54	v	145	ASP
54	v	155	LEU
54	v	178	LEU
54	v	202	GLN
54	v	204	VAL
54	v	231	LEU
54	v	232	GLU
54	v	238	SER
54	v	258	THR
54	v	268	MET
54	v	272	LEU
54	v	273	VAL

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Mol	Chain	Res	Type
54	v	304	GLN
54	v	307	MET
54	v	310	LYS
54	v	311	HIS
54	v	332	ARG
54	v	336	THR
54	v	343	SER
54	v	344	ASP
54	v	353	ARG
54	v	355	HIS
54	v	356	VAL
54	v	358	GLU
54	v	390	ILE
54	v	397	LEU
54	v	398	PHE
54	v	400	ARG
54	v	401	ILE
54	v	403	LEU
54	v	404	LYS
54	v	410	LYS
54	v	411	GLN
54	v	412	LEU
54	v	433	ASN
54	v	441	VAL
54	v	444	LEU
54	v	445	GLN
54	v	447	ASP
54	v	452	ARG
54	v	453	LEU
54	v	454	LYS
54	v	458	ASN
54	v	459	VAL
54	v	460	GLU
54	v	462	VAL
54	v	490	GLU
54	v	499	ASP
54	v	501	LEU
54	v	518	TYR
54	v	521	VAL
54	v	525	GLN

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

Mol	Chain	Res	Type
1	A	17	HIS
1	A	35	ASN
1	A	176	ASN
1	A	189	ASN
2	B	101	ASN
2	B	189	HIS
3	C	35	GLN
3	C	39	GLN
3	C	73	ASN
3	C	84	ASN
3	C	130	ASN
3	C	135	GLN
3	C	195	ASN
4	D	81	GLN
5	E	11	HIS
5	E	37	HIS
6	F	67	ASN
6	F	141	HIS
6	F	147	ASN
7	G	15	ASN
8	H	24	ASN
10	J	14	GLN
10	J	39	ASN
10	J	63	GLN
10	J	108	ASN
11	K	111	GLN
12	L	7	ASN
13	M	3	GLN
13	M	59	GLN
13	M	65	GLN
14	N	19	ASN
14	N	61	GLN
16	P	46	HIS
18	R	42	ASN
18	R	52	ASN
19	S	47	GLN
19	S	51	ASN
19	S	67	HIS
19	S	74	HIS
21	U	20	ASN
21	U	24	HIS
21	U	85	ASN
21	U	114	GLN

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Mol	Chain	Res	Type
21	U	141	HIS
21	U	199	HIS
21	U	238	ASN
21	U	259	ASN
22	V	32	ASN
22	V	136	ASN
22	V	140	HIS
22	V	150	GLN
22	V	173	GLN
22	V	185	ASN
23	W	41	GLN
23	W	46	GLN
23	W	94	GLN
23	W	136	GLN
24	X	26	GLN
25	Y	44	HIS
25	Y	114	HIS
25	Y	127	GLN
27	0	80	HIS
27	0	131	ASN
28	1	5	GLN
28	1	9	ASN
29	2	4	ASN
29	2	99	ASN
30	3	17	ASN
31	4	9	GLN
31	4	18	GLN
31	4	107	ASN
32	5	61	GLN
33	6	2	ASN
33	6	11	GLN
33	6	40	GLN
33	6	65	ASN
34	8	65	ASN
35	9	18	GLN
36	a	40	ASN
36	a	57	ASN
36	a	61	ASN
37	b	70	HIS
38	c	26	ASN
39	d	12	GLN
39	d	51	GLN

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Mol	Chain	Res	Type
39	d	78	GLN
39	d	80	HIS
39	d	87	GLN
40	e	39	GLN
41	f	15	ASN
41	f	16	ASN
42	g	27	ASN
42	g	36	GLN
42	g	39	GLN
42	g	41	HIS
43	h	8	GLN
43	h	33	HIS
44	i	3	GLN
44	i	18	HIS
44	i	37	HIS
44	i	41	HIS
46	k	29	GLN
49	n	4	ASN
49	n	9	GLN
49	n	57	ASN
50	r	6	GLN
54	v	21	HIS
54	v	85	ASN
54	v	262	ASN
54	v	267	HIS
54	v	306	ASN
54	v	369	ASN
54	v	467	ASN
54	v	510	ASN
54	v	525	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
51	s	1531/1532 (99%)	300 (19%)	0
52	t	2845/2903 (98%)	685 (24%)	0
53	u	117/118 (99%)	18 (15%)	0
55	w	5/6 (83%)	2 (40%)	0
All	All	4498/4559 (98%)	1005 (22%)	0

All (1005) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
51	s	5	U
51	s	9	G
51	s	13	U
51	s	14	U
51	s	22	G
51	s	31	G
51	s	32	A
51	s	39	G
51	s	48	C
51	s	49	U
51	s	50	A
51	s	51	A
51	s	52	C
51	s	61	G
51	s	65	A
51	s	66	A
51	s	70	U
51	s	71	A
51	s	73	C
51	s	75	G
51	s	76	G
51	s	80	A
51	s	82	G
51	s	83	C
51	s	85	U
51	s	86	G
51	s	92	U
51	s	95	C
51	s	109	A
51	s	110	C
51	s	116	A
51	s	120	A
51	s	121	U
51	s	122	G
51	s	141	G
51	s	144	G
51	s	151	A
51	s	159	G
51	s	163	C
51	s	182	A
51	s	183	C
51	s	197	A
51	s	198	G

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Mol	Chain	Res	Type
51	s	204	G
51	s	205	A
51	s	209	U
51	s	210	C
51	s	212	G
51	s	219	U
51	s	240	G
51	s	244	U
51	s	245	U
51	s	247	G
51	s	250	A
51	s	251	G
51	s	252	U
51	s	266	G
51	s	267	C
51	s	273	U
51	s	275	G
51	s	281	G
51	s	289	G
51	s	306	A
51	s	328	C
51	s	329	A
51	s	330	C
51	s	332	G
51	s	344	A
51	s	345	C
51	s	346	G
51	s	352	C
51	s	354	G
51	s	367	U
51	s	368	U
51	s	373	A
51	s	389	A
51	s	406	G
51	s	413	G
51	s	421	U
51	s	422	C
51	s	423	G
51	s	428	G
51	s	429	U
51	s	430	A
51	s	435	A

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Mol	Chain	Res	Type
51	s	448	A
51	s	452	A
51	s	454	G
51	s	459	A
51	s	461	A
51	s	462	G
51	s	463	U
51	s	467	U
51	s	468	A
51	s	481	G
51	s	484	G
51	s	485	U
51	s	486	U
51	s	495	A
51	s	496	A
51	s	500	G
51	s	505	G
51	s	508	U
51	s	509	A
51	s	511	C
51	s	518	C
51	s	519	C
51	s	524	G
51	s	531	U
51	s	532	A
51	s	533	A
51	s	534	U
51	s	536	C
51	s	548	G
51	s	559	A
51	s	560	A
51	s	561	U
51	s	562	U
51	s	563	A
51	s	564	C
51	s	566	G
51	s	567	G
51	s	572	A
51	s	573	A
51	s	575	G
51	s	576	C
51	s	577	G

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Mol	Chain	Res	Type
51	s	596	A
51	s	633	G
51	s	642	A
51	s	665	A
51	s	687	A
51	s	688	G
51	s	701	U
51	s	702	A
51	s	703	G
51	s	704	A
51	s	721	G
51	s	722	G
51	s	723	U
51	s	724	G
51	s	725	G
51	s	733	G
51	s	747	A
51	s	748	G
51	s	752	G
51	s	753	A
51	s	754	C
51	s	777	A
51	s	792	A
51	s	793	U
51	s	794	A
51	s	799	G
51	s	813	U
51	s	815	A
51	s	816	A
51	s	817	C
51	s	818	G
51	s	819	A
51	s	820	U
51	s	821	G
51	s	828	U
51	s	832	G
51	s	841	C
51	s	843	U
51	s	845	A
51	s	859	G
51	s	871	U
51	s	872	A

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Mol	Chain	Res	Type
51	s	874	G
51	s	876	C
51	s	885	G
51	s	889	A
51	s	890	G
51	s	891	U
51	s	914	A
51	s	927	G
51	s	934	C
51	s	935	A
51	s	960	U
51	s	961	U
51	s	966	G
51	s	968	A
51	s	969	A
51	s	971	G
51	s	972	C
51	s	974	A
51	s	975	A
51	s	976	G
51	s	977	A
51	s	982	U
51	s	983	A
51	s	992	U
51	s	1004	A
51	s	1008	U
51	s	1022	A
51	s	1025	U
51	s	1030	U
51	s	1032	G
51	s	1033	G
51	s	1034	G
51	s	1037	C
51	s	1044	A
51	s	1050	G
51	s	1053	G
51	s	1054	C
51	s	1064	G
51	s	1065	U
51	s	1067	A
51	s	1068	G
51	s	1085	U

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Mol	Chain	Res	Type
51	s	1086	U
51	s	1094	G
51	s	1101	A
51	s	1102	A
51	s	1127	G
51	s	1130	A
51	s	1133	G
51	s	1136	C
51	s	1137	C
51	s	1138	G
51	s	1139	G
51	s	1140	C
51	s	1146	A
51	s	1157	A
51	s	1158	C
51	s	1159	U
51	s	1160	G
51	s	1167	A
51	s	1182	G
51	s	1183	U
51	s	1184	G
51	s	1196	A
51	s	1200	C
51	s	1201	A
51	s	1202	U
51	s	1212	U
51	s	1213	A
51	s	1224	U
51	s	1225	A
51	s	1226	C
51	s	1227	A
51	s	1238	A
51	s	1240	U
51	s	1241	G
51	s	1257	A
51	s	1258	G
51	s	1260	G
51	s	1261	A
51	s	1262	C
51	s	1278	G
51	s	1280	A
51	s	1281	C

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Mol	Chain	Res	Type
51	s	1285	A
51	s	1286	U
51	s	1287	A
51	s	1297	G
51	s	1299	A
51	s	1300	G
51	s	1301	U
51	s	1305	G
51	s	1319	A
51	s	1320	C
51	s	1322	C
51	s	1323	G
51	s	1346	A
51	s	1347	G
51	s	1348	U
51	s	1353	G
51	s	1360	A
51	s	1365	G
51	s	1380	U
51	s	1381	U
51	s	1394	A
51	s	1395	C
51	s	1396	A
51	s	1397	C
51	s	1400	C
51	s	1401	G
51	s	1413	A
51	s	1419	G
51	s	1441	A
51	s	1446	A
51	s	1448	C
51	s	1452	C
51	s	1453	G
51	s	1487	G
51	s	1492	A
51	s	1494	G
51	s	1497	G
51	s	1498	U
51	s	1499	A
51	s	1502	A
51	s	1503	A
51	s	1504	G

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Mol	Chain	Res	Type
51	s	1505	G
51	s	1506	U
51	s	1517	G
51	s	1529	G
51	s	1530	G
52	t	10	A
52	t	12	U
52	t	13	A
52	t	14	A
52	t	33	C
52	t	34	U
52	t	35	G
52	t	42	A
52	t	46	G
52	t	50	U
52	t	51	G
52	t	52	A
52	t	61	C
52	t	63	A
52	t	70	G
52	t	71	A
52	t	72	U
52	t	73	A
52	t	74	A
52	t	75	G
52	t	85	G
52	t	91	A
52	t	92	U
52	t	101	A
52	t	102	U
52	t	103	A
52	t	118	A
52	t	119	A
52	t	120	U
52	t	121	G
52	t	125	A
52	t	126	A
52	t	135	U
52	t	137	U
52	t	138	U
52	t	139	U
52	t	140	C

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Mol	Chain	Res	Type
52	t	141	G
52	t	142	A
52	t	162	U
52	t	163	C
52	t	181	A
52	t	196	A
52	t	197	A
52	t	199	A
52	t	200	U
52	t	204	A
52	t	205	G
52	t	206	U
52	t	216	A
52	t	222	A
52	t	223	A
52	t	228	C
52	t	229	C
52	t	232	G
52	t	233	A
52	t	241	A
52	t	242	G
52	t	243	U
52	t	248	G
52	t	249	C
52	t	250	G
52	t	255	A
52	t	265	A
52	t	266	G
52	t	271	G
52	t	272	A
52	t	276	U
52	t	285	G
52	t	294	A
52	t	301	G
52	t	302	C
52	t	311	A
52	t	312	G
52	t	322	A
52	t	323	C
52	t	324	A
52	t	329	G
52	t	330	A

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Mol	Chain	Res	Type
52	t	331	C
52	t	332	A
52	t	335	C
52	t	345	A
52	t	346	A
52	t	353	C
52	t	359	G
52	t	361	G
52	t	362	A
52	t	370	G
52	t	371	A
52	t	372	G
52	t	373	U
52	t	383	C
52	t	386	G
52	t	387	U
52	t	388	G
52	t	390	U
52	t	391	A
52	t	395	U
52	t	396	G
52	t	405	U
52	t	411	G
52	t	412	A
52	t	422	A
52	t	424	G
52	t	435	C
52	t	442	G
52	t	443	A
52	t	446	G
52	t	447	A
52	t	448	U
52	t	449	A
52	t	455	C
52	t	456	C
52	t	457	A
52	t	458	G
52	t	459	U
52	t	475	C
52	t	479	A
52	t	480	A
52	t	481	G

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Mol	Chain	Res	Type
52	t	489	G
52	t	490	C
52	t	491	G
52	t	504	A
52	t	505	A
52	t	506	G
52	t	507	A
52	t	508	A
52	t	509	C
52	t	510	C
52	t	528	A
52	t	530	G
52	t	531	C
52	t	532	A
52	t	533	G
52	t	546	U
52	t	547	A
52	t	548	G
52	t	549	G
52	t	550	C
52	t	563	A
52	t	571	U
52	t	572	A
52	t	573	U
52	t	574	A
52	t	575	A
52	t	586	A
52	t	587	C
52	t	588	U
52	t	604	G
52	t	613	A
52	t	614	A
52	t	615	U
52	t	616	A
52	t	620	G
52	t	621	A
52	t	627	A
52	t	628	G
52	t	634	C
52	t	638	G
52	t	645	C
52	t	646	U

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Mol	Chain	Res	Type
52	t	647	G
52	t	654	A
52	t	655	A
52	t	656	G
52	t	668	A
52	t	669	G
52	t	670	A
52	t	671	C
52	t	686	U
52	t	687	C
52	t	705	A
52	t	717	C
52	t	727	A
52	t	728	G
52	t	729	G
52	t	730	A
52	t	747	U
52	t	762	U
52	t	763	G
52	t	764	A
52	t	775	G
52	t	776	G
52	t	777	G
52	t	782	A
52	t	784	G
52	t	785	G
52	t	789	A
52	t	790	U
52	t	791	C
52	t	792	A
52	t	793	A
52	t	794	A
52	t	800	A
52	t	801	G
52	t	802	A
52	t	805	G
52	t	806	C
52	t	811	U
52	t	812	C
52	t	819	A
52	t	827	U
52	t	828	U

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Mol	Chain	Res	Type
52	t	829	A
52	t	830	G
52	t	831	G
52	t	845	A
52	t	846	U
52	t	847	U
52	t	859	G
52	t	860	U
52	t	865	C
52	t	866	A
52	t	876	C
52	t	877	A
52	t	879	G
52	t	881	G
52	t	893	C
52	t	896	A
52	t	897	C
52	t	900	A
52	t	901	C
52	t	902	C
52	t	910	A
52	t	914	G
52	t	932	U
52	t	933	A
52	t	941	A
52	t	945	A
52	t	946	C
52	t	958	U
52	t	961	C
52	t	962	G
52	t	973	A
52	t	974	G
52	t	975	A
52	t	983	A
52	t	984	A
52	t	985	C
52	t	990	A
52	t	995	C
52	t	996	A
52	t	1008	A
52	t	1009	A
52	t	1011	G

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Mol	Chain	Res	Type
52	t	1012	U
52	t	1013	C
52	t	1021	A
52	t	1022	G
52	t	1023	U
52	t	1025	G
52	t	1026	G
52	t	1033	U
52	t	1034	G
52	t	1046	A
52	t	1060	U
52	t	1061	U
52	t	1062	G
52	t	1066	U
52	t	1067	A
52	t	1068	G
52	t	1070	A
52	t	1074	G
52	t	1083	U
52	t	1088	A
52	t	1098	A
52	t	1112	G
52	t	1126	A
52	t	1127	A
52	t	1129	A
52	t	1130	U
52	t	1131	G
52	t	1132	U
52	t	1133	A
52	t	1134	A
52	t	1135	C
52	t	1136	G
52	t	1139	G
52	t	1141	U
52	t	1142	A
52	t	1143	A
52	t	1144	A
52	t	1151	A
52	t	1157	G
52	t	1168	G
52	t	1169	A
52	t	1175	A

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Mol	Chain	Res	Type
52	t	1176	U
52	t	1180	U
52	t	1186	G
52	t	1204	A
52	t	1205	A
52	t	1206	G
52	t	1210	G
52	t	1211	C
52	t	1212	G
52	t	1236	G
52	t	1237	A
52	t	1238	G
52	t	1248	G
52	t	1249	U
52	t	1250	G
52	t	1251	C
52	t	1252	G
52	t	1253	A
52	t	1256	G
52	t	1265	A
52	t	1266	G
52	t	1267	U
52	t	1271	G
52	t	1272	A
52	t	1273	U
52	t	1275	A
52	t	1276	A
52	t	1287	A
52	t	1288	G
52	t	1289	C
52	t	1300	G
52	t	1301	A
52	t	1302	A
52	t	1303	G
52	t	1306	C
52	t	1311	G
52	t	1312	U
52	t	1313	U
52	t	1320	C
52	t	1321	A
52	t	1324	G
52	t	1325	U

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Mol	Chain	Res	Type
52	t	1329	U
52	t	1330	C
52	t	1332	G
52	t	1333	G
52	t	1341	G
52	t	1342	A
52	t	1343	G
52	t	1344	U
52	t	1345	C
52	t	1352	U
52	t	1365	A
52	t	1378	A
52	t	1379	U
52	t	1383	A
52	t	1385	A
52	t	1386	C
52	t	1397	U
52	t	1416	G
52	t	1419	A
52	t	1420	A
52	t	1427	A
52	t	1428	C
52	t	1435	G
52	t	1451	C
52	t	1452	G
52	t	1453	A
52	t	1454	C
52	t	1459	G
52	t	1461	C
52	t	1476	U
52	t	1482	G
52	t	1490	A
52	t	1491	G
52	t	1493	C
52	t	1497	U
52	t	1504	A
52	t	1507	C
52	t	1515	A
52	t	1522	A
52	t	1523	U
52	t	1524	G
52	t	1533	C

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Mol	Chain	Res	Type
52	t	1534	U
52	t	1535	A
52	t	1536	C
52	t	1537	G
52	t	1555	G
52	t	1558	C
52	t	1559	U
52	t	1560	G
52	t	1565	C
52	t	1566	A
52	t	1568	G
52	t	1569	A
52	t	1578	U
52	t	1581	G
52	t	1583	A
52	t	1584	U
52	t	1585	C
52	t	1602	U
52	t	1603	A
52	t	1607	C
52	t	1608	A
52	t	1609	A
52	t	1610	A
52	t	1611	C
52	t	1615	C
52	t	1616	A
52	t	1617	C
52	t	1618	A
52	t	1619	G
52	t	1622	G
52	t	1634	A
52	t	1635	A
52	t	1647	U
52	t	1648	U
52	t	1649	G
52	t	1653	G
52	t	1674	G
52	t	1675	C
52	t	1681	G
52	t	1682	G
52	t	1694	C
52	t	1695	G

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Mol	Chain	Res	Type
52	t	1698	A
52	t	1699	G
52	t	1700	A
52	t	1706	C
52	t	1707	G
52	t	1713	A
52	t	1714	U
52	t	1715	G
52	t	1729	U
52	t	1730	C
52	t	1733	G
52	t	1738	G
52	t	1758	U
52	t	1764	C
52	t	1773	A
52	t	1780	A
52	t	1781	U
52	t	1782	U
52	t	1784	A
52	t	1785	A
52	t	1786	A
52	t	1787	A
52	t	1799	G
52	t	1800	C
52	t	1801	A
52	t	1802	A
52	t	1808	A
52	t	1815	A
52	t	1816	C
52	t	1819	A
52	t	1820	U
52	t	1821	A
52	t	1829	A
52	t	1838	C
52	t	1839	G
52	t	1847	A
52	t	1848	A
52	t	1858	A
52	t	1869	G
52	t	1884	G
52	t	1900	A
52	t	1901	A

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Mol	Chain	Res	Type
52	t	1906	G
52	t	1912	A
52	t	1913	A
52	t	1914	C
52	t	1918	A
52	t	1919	A
52	t	1927	A
52	t	1930	G
52	t	1937	A
52	t	1938	A
52	t	1939	U
52	t	1940	U
52	t	1941	C
52	t	1943	U
52	t	1944	U
52	t	1945	G
52	t	1954	G
52	t	1955	U
52	t	1956	U
52	t	1961	C
52	t	1962	C
52	t	1963	U
52	t	1965	C
52	t	1966	A
52	t	1967	C
52	t	1970	A
52	t	1971	U
52	t	1972	G
52	t	1975	G
52	t	1981	A
52	t	1991	U
52	t	1992	G
52	t	1993	U
52	t	1996	C
52	t	1997	C
52	t	2017	U
52	t	2018	G
52	t	2021	C
52	t	2022	U
52	t	2023	C
52	t	2030	A
52	t	2031	A

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Mol	Chain	Res	Type
52	t	2032	G
52	t	2033	A
52	t	2034	U
52	t	2035	G
52	t	2036	C
52	t	2043	C
52	t	2049	G
52	t	2051	A
52	t	2052	A
52	t	2055	C
52	t	2056	G
52	t	2060	A
52	t	2061	G
52	t	2062	A
52	t	2068	U
52	t	2069	G
52	t	2072	C
52	t	2092	U
52	t	2093	G
52	t	2104	C
52	t	2134	A
52	t	2138	G
52	t	2139	U
52	t	2143	C
52	t	2144	G
52	t	2145	C
52	t	2147	A
52	t	2150	C
52	t	2155	U
52	t	2156	G
52	t	2180	U
52	t	2182	U
52	t	2183	A
52	t	2198	A
52	t	2199	A
52	t	2204	G
52	t	2210	U
52	t	2211	A
52	t	2213	U
52	t	2225	A
52	t	2226	C
52	t	2238	G

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Mol	Chain	Res	Type
52	t	2239	G
52	t	2249	U
52	t	2250	G
52	t	2251	G
52	t	2258	C
52	t	2259	U
52	t	2266	A
52	t	2267	A
52	t	2273	A
52	t	2275	C
52	t	2276	G
52	t	2278	A
52	t	2282	G
52	t	2283	C
52	t	2286	G
52	t	2289	G
52	t	2297	A
52	t	2305	U
52	t	2307	G
52	t	2309	A
52	t	2311	A
52	t	2319	G
52	t	2320	U
52	t	2321	U
52	t	2322	A
52	t	2325	G
52	t	2327	A
52	t	2333	A
52	t	2334	U
52	t	2335	A
52	t	2336	A
52	t	2337	G
52	t	2345	G
52	t	2346	A
52	t	2347	C
52	t	2361	G
52	t	2382	G
52	t	2383	G
52	t	2384	U
52	t	2385	C
52	t	2402	U
52	t	2403	C

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Mol	Chain	Res	Type
52	t	2407	A
52	t	2423	U
52	t	2424	C
52	t	2425	A
52	t	2426	A
52	t	2427	C
52	t	2428	G
52	t	2429	G
52	t	2430	A
52	t	2435	A
52	t	2439	A
52	t	2440	C
52	t	2441	U
52	t	2447	G
52	t	2448	A
52	t	2449	U
52	t	2450	A
52	t	2458	G
52	t	2459	A
52	t	2476	A
52	t	2490	G
52	t	2491	U
52	t	2497	A
52	t	2502	G
52	t	2503	A
52	t	2504	U
52	t	2505	G
52	t	2506	U
52	t	2517	C
52	t	2518	A
52	t	2519	U
52	t	2520	C
52	t	2529	G
52	t	2554	U
52	t	2566	A
52	t	2567	G
52	t	2573	C
52	t	2581	G
52	t	2582	G
52	t	2585	U
52	t	2586	U
52	t	2603	G

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Mol	Chain	Res	Type
52	t	2609	U
52	t	2610	C
52	t	2613	U
52	t	2614	A
52	t	2615	U
52	t	2629	U
52	t	2630	G
52	t	2640	G
52	t	2645	G
52	t	2646	C
52	t	2654	A
52	t	2655	G
52	t	2656	U
52	t	2663	G
52	t	2682	A
52	t	2689	U
52	t	2690	U
52	t	2691	C
52	t	2712	C
52	t	2713	U
52	t	2714	G
52	t	2716	C
52	t	2725	A
52	t	2726	A
52	t	2727	A
52	t	2732	G
52	t	2733	A
52	t	2744	G
52	t	2748	A
52	t	2750	A
52	t	2751	G
52	t	2752	C
52	t	2756	U
52	t	2757	A
52	t	2765	A
52	t	2776	A
52	t	2777	G
52	t	2778	A
52	t	2779	U
52	t	2780	G
52	t	2781	A
52	t	2791	G

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Mol	Chain	Res	Type
52	t	2792	A
52	t	2799	A
52	t	2800	A
52	t	2818	U
52	t	2820	A
52	t	2833	U
52	t	2834	G
52	t	2835	A
52	t	2836	U
52	t	2849	U
52	t	2866	U
52	t	2867	G
52	t	2868	A
52	t	2879	A
52	t	2880	C
52	t	2883	A
52	t	2884	U
52	t	2894	G
53	u	13	G
53	u	15	A
53	u	16	G
53	u	25	U
53	u	30	C
53	u	35	C
53	u	41	G
53	u	44	G
53	u	45	A
53	u	53	A
53	u	57	A
53	u	67	G
53	u	87	U
53	u	88	C
53	u	89	U
53	u	90	C
53	u	99	A
53	u	109	A
55	w	19	U
55	w	20	A

There are no RNA pucker outliers to report.

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

20 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$
56	5OH	y	6	56	7,12,13	0.89	0	4,16,18	2.13	2 (50%)
56	5OH	7	6	56	7,12,13	1.90	2 (28%)	4,16,18	2.58	1 (25%)
56	UAL	7	5	56	6,8,9	2.80	1 (16%)	4,9,11	1.16	0
56	KBE	7	1	56	8,8,9	0.71	0	6,8,10	1.22	1 (16%)
56	5OH	BA	6	56	7,12,13	1.21	1 (14%)	4,16,18	1.94	2 (50%)
56	UAL	BA	5	56	6,8,9	2.81	1 (16%)	4,9,11	1.78	1 (25%)
56	KBE	y	1	56	8,8,9	1.36	1 (12%)	6,8,10	2.04	1 (16%)
56	KBE	BA	1	56	8,8,9	1.19	1 (12%)	6,8,10	1.35	1 (16%)
56	DPP	y	2	56	4,5,6	0.36	0	1,5,7	0.32	0
56	UAL	y	5	56	6,8,9	2.39	2 (33%)	4,9,11	1.38	1 (25%)
56	5OH	z	6	56	7,12,13	1.10	1 (14%)	4,16,18	1.00	0
56	DPP	z	2	56	4,5,6	0.64	0	1,5,7	0.39	0
56	DPP	AA	2	56	4,5,6	1.14	0	1,5,7	1.27	0
56	UAL	AA	5	56	6,8,9	2.65	1 (16%)	4,9,11	1.47	1 (25%)
56	UAL	z	5	56	6,8,9	1.89	3 (50%)	4,9,11	2.84	1 (25%)
56	KBE	z	1	56	8,8,9	1.22	1 (12%)	6,8,10	2.15	1 (16%)
56	KBE	AA	1	56	8,8,9	1.65	2 (25%)	6,8,10	3.50	1 (16%)
56	DPP	7	2	56	4,5,6	0.94	0	1,5,7	0.94	0
56	5OH	AA	6	56	7,12,13	1.39	1 (14%)	4,16,18	1.51	1 (25%)
56	DPP	BA	2	56	4,5,6	1.47	0	1,5,7	0.09	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
56	5OH	y	6	56	-	0/2/18/20	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	5OH	7	6	56	-	0/2/18/20	0/1/1/1
56	UAL	7	5	56	-	0/3/7/9	-
56	KBE	7	1	56	-	3/7/7/8	-
56	5OH	BA	6	56	-	2/2/18/20	0/1/1/1
56	UAL	BA	5	56	-	0/3/7/9	-
56	KBE	y	1	56	-	2/7/7/8	-
56	KBE	BA	1	56	-	4/7/7/8	-
56	DPP	y	2	56	-	0/2/4/6	-
56	UAL	y	5	56	-	0/3/7/9	-
56	5OH	z	6	56	-	1/2/18/20	0/1/1/1
56	DPP	z	2	56	-	0/2/4/6	-
56	DPP	AA	2	56	-	0/2/4/6	-
56	UAL	AA	5	56	-	0/3/7/9	-
56	UAL	z	5	56	-	0/3/7/9	-
56	KBE	z	1	56	-	2/7/7/8	-
56	KBE	AA	1	56	-	0/7/7/8	-
56	DPP	7	2	56	-	0/2/4/6	-
56	5OH	AA	6	56	-	0/2/18/20	0/1/1/1
56	DPP	BA	2	56	-	0/2/4/6	-

All (18) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	7	5	UAL	C-CA	6.71	1.56	1.45
56	BA	5	UAL	C-CA	6.52	1.56	1.45
56	AA	5	UAL	C-CA	5.79	1.54	1.45
56	y	5	UAL	C-CA	4.88	1.53	1.45
56	AA	1	KBE	CA-CB	3.50	1.57	1.53
56	7	6	5OH	CA-CB	3.21	1.58	1.54
56	y	1	KBE	CA-CB	3.10	1.57	1.53
56	7	6	5OH	CR-CB	2.93	1.57	1.53
56	z	5	UAL	C1-N1	-2.73	1.36	1.40
56	z	1	KBE	CA-CB	2.71	1.56	1.53
56	AA	1	KBE	CA-C	2.59	1.56	1.50
56	z	5	UAL	C-CA	2.55	1.49	1.45
56	y	5	UAL	C1-N1	-2.49	1.36	1.40
56	z	5	UAL	CB-N1	-2.46	1.29	1.35
56	AA	6	5OH	CB-NP	2.33	1.51	1.47
56	BA	1	KBE	CA-CB	2.19	1.56	1.53
56	z	6	5OH	CB-NP	2.15	1.51	1.47
56	BA	6	5OH	CR-CB	2.05	1.56	1.53

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	AA	1	KBE	CB-CA-C	8.37	125.67	112.17
56	z	5	UAL	O-C-CA	-5.41	118.61	125.39
56	7	6	5OH	CR-CB-CA	5.07	117.99	112.61
56	z	1	KBE	CB-CA-C	4.82	119.95	112.17
56	y	1	KBE	CB-CA-C	4.65	119.68	112.17
56	y	6	5OH	CR-CB-CA	3.69	116.52	112.61
56	BA	5	UAL	O-C-CA	-3.29	121.27	125.39
56	BA	6	5OH	CR-CB-CA	3.28	116.09	112.61
56	AA	6	5OH	CR-CB-CA	2.85	115.63	112.61
56	AA	5	UAL	O-C-CA	-2.61	122.12	125.39
56	y	5	UAL	O-C-CA	-2.51	122.24	125.39
56	BA	1	KBE	CB-CA-C	2.42	116.08	112.17
56	7	1	KBE	CB-CA-C	2.37	116.00	112.17
56	BA	6	5OH	O-C-CA	-2.07	119.44	124.77
56	y	6	5OH	O-C-CA	-2.06	119.46	124.77

There are no chirality outliers.

All (14) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
56	y	1	KBE	CA-CB-CG-CD
56	z	1	KBE	C-CA-CB-N
56	7	1	KBE	C-CA-CB-N
56	7	1	KBE	CA-CB-CG-CD
56	BA	1	KBE	C-CA-CB-CG
56	BA	1	KBE	CA-CB-CG-CD
56	z	6	5OH	C-CA-CB-CR
56	BA	6	5OH	O-C-CA-CB
56	BA	6	5OH	C-CA-CB-CR
56	BA	1	KBE	C-CA-CB-N
56	z	1	KBE	C-CA-CB-CG
56	y	1	KBE	N-CB-CG-CD
56	7	1	KBE	C-CA-CB-CG
56	BA	1	KBE	N-CB-CG-CD

There are no ring outliers.

12 monomers are involved in 23 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	7	1	KBE	3	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	BA	6	5OH	2	0
56	y	1	KBE	2	0
56	BA	1	KBE	1	0
56	z	6	5OH	6	0
56	z	2	DPP	2	0
56	AA	5	UAL	4	0
56	z	5	UAL	3	0
56	z	1	KBE	1	0
56	AA	1	KBE	1	0
56	AA	6	5OH	2	0
56	BA	2	DPP	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	218/218 (100%)	1.11	30 (13%) 6 4	96, 133, 180, 198	0
2	B	206/206 (100%)	0.98	26 (12%) 8 4	73, 120, 145, 151	0
3	C	205/205 (100%)	1.38	44 (21%) 2 1	88, 115, 150, 205	0
4	D	150/150 (100%)	0.87	15 (10%) 12 6	73, 94, 139, 171	0
5	E	100/100 (100%)	1.00	13 (13%) 7 4	101, 135, 155, 159	0
6	F	151/151 (100%)	1.71	41 (27%) 1 1	111, 187, 225, 236	0
7	G	129/129 (100%)	0.79	14 (10%) 10 5	77, 101, 133, 142	0
8	H	127/127 (100%)	1.33	24 (18%) 3 1	82, 134, 190, 220	0
9	I	98/98 (100%)	1.78	35 (35%) 1 0	90, 110, 193, 210	0
10	J	117/117 (100%)	0.74	4 (3%) 48 28	76, 111, 147, 165	0
11	K	123/123 (100%)	0.81	15 (12%) 8 5	53, 76, 115, 156	0
12	L	114/114 (100%)	2.24	52 (45%) 0 0	166, 207, 253, 272	0
13	M	96/100 (96%)	2.27	41 (42%) 0 0	79, 143, 196, 206	0
14	N	88/88 (100%)	0.97	13 (14%) 5 3	76, 104, 140, 149	0
15	O	82/82 (100%)	0.94	4 (4%) 35 18	78, 101, 164, 212	0
16	P	80/80 (100%)	1.24	13 (16%) 4 2	79, 119, 168, 183	0
17	Q	55/55 (100%)	1.01	8 (14%) 6 3	80, 100, 133, 190	0
18	R	79/79 (100%)	2.00	30 (37%) 1 0	156, 207, 226, 233	0
19	S	85/85 (100%)	1.03	14 (16%) 4 2	82, 111, 136, 153	0
20	T	51/51 (100%)	2.13	23 (45%) 0 0	119, 147, 188, 197	0
21	U	271/271 (100%)	0.34	11 (4%) 41 23	37, 65, 82, 107	0
22	V	209/209 (100%)	0.34	11 (5%) 32 17	31, 58, 94, 119	0
23	W	201/201 (100%)	0.49	9 (4%) 38 20	38, 76, 115, 160	0
24	X	177/177 (100%)	1.16	27 (15%) 5 3	113, 142, 190, 256	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	Y	176/176 (100%)	0.52	4 (2%) 61 39	58, 82, 124, 141	0
26	Z	141/141 (100%)	1.87	53 (37%) 1 0	185, 260, 305, 346	0
27	0	142/142 (100%)	0.36	11 (7%) 19 10	49, 64, 94, 128	0
28	1	122/122 (100%)	0.28	4 (3%) 49 29	46, 61, 88, 115	0
29	2	143/143 (100%)	0.75	11 (7%) 19 10	45, 85, 123, 154	0
30	3	136/136 (100%)	0.30	2 (1%) 72 52	44, 70, 103, 137	0
31	4	120/120 (100%)	-0.01	3 (2%) 58 37	41, 57, 70, 171	0
32	5	116/116 (100%)	0.97	12 (10%) 12 6	85, 106, 130, 136	0
33	6	114/114 (100%)	0.38	4 (3%) 47 27	48, 72, 115, 141	0
34	8	117/117 (100%)	0.21	4 (3%) 48 28	34, 60, 98, 119	0
35	9	103/103 (100%)	0.53	6 (5%) 29 16	46, 88, 128, 139	0
36	a	110/110 (100%)	0.08	2 (1%) 67 47	41, 55, 86, 138	0
37	b	93/93 (100%)	0.74	9 (9%) 13 7	49, 81, 143, 167	0
38	c	102/102 (100%)	0.66	5 (4%) 35 18	65, 84, 153, 167	0
39	d	94/94 (100%)	0.49	3 (3%) 50 30	69, 98, 120, 143	0
40	e	79/79 (100%)	1.55	23 (29%) 1 1	66, 90, 125, 136	0
41	f	77/77 (100%)	0.76	5 (6%) 25 13	57, 72, 124, 133	0
42	g	63/63 (100%)	0.79	8 (12%) 8 4	73, 99, 138, 170	0
43	h	58/58 (100%)	0.59	1 (1%) 69 48	63, 76, 133, 144	0
44	i	56/56 (100%)	0.39	6 (10%) 11 6	38, 61, 105, 136	0
45	j	50/50 (100%)	1.19	4 (8%) 18 10	128, 148, 161, 206	0
46	k	46/46 (100%)	0.26	3 (6%) 25 13	43, 55, 74, 119	0
47	l	64/64 (100%)	0.57	4 (6%) 26 14	55, 67, 82, 89	0
48	m	38/38 (100%)	0.71	2 (5%) 32 17	62, 77, 89, 107	0
49	n	163/163 (100%)	1.88	53 (32%) 1 0	133, 200, 265, 312	1 (0%)
50	o	30/30 (100%)	1.61	7 (23%) 2 1	148, 184, 209, 215	0
50	p	30/30 (100%)	1.40	5 (16%) 4 2	170, 194, 226, 233	0
50	q	30/30 (100%)	2.20	12 (40%) 1 0	160, 205, 254, 264	0
50	r	30/30 (100%)	1.73	8 (26%) 1 1	148, 191, 224, 232	0
51	s	1532/1532 (100%)	0.46	80 (5%) 33 17	50, 102, 211, 316	0
52	t	2850/2903 (98%)	-0.12	40 (1%) 73 53	36, 66, 212, 419	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
53	u	118/118 (100%)	0.21	3 (2%) 58 37	60, 110, 147, 189	0
54	v	525/525 (100%)	1.01	83 (15%) 5 2	47, 99, 188, 267	0
55	w	6/6 (100%)	3.30	5 (83%) 0 0	186, 194, 202, 203	0
56	7	2/6 (33%)	2.24	1 (50%) 0 0	103, 103, 103, 112	0
56	AA	2/6 (33%)	3.59	1 (50%) 0 0	103, 103, 103, 108	0
56	BA	2/6 (33%)	1.34	1 (50%) 0 0	100, 100, 100, 101	0
56	y	2/6 (33%)	1.72	1 (50%) 0 0	99, 99, 99, 102	0
56	z	2/6 (33%)	2.68	1 (50%) 0 0	93, 93, 93, 103	0
All	All	10896/10973 (99%)	0.58	1007 (9%) 14 8	31, 90, 212, 419	1 (0%)

All (1007) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
6	F	4	ARG	15.9
6	F	5	VAL	11.0
13	M	11	LYS	10.8
50	q	22	LEU	9.3
6	F	7	GLY	9.0
6	F	1	PRO	8.7
6	F	6	ILE	8.3
49	n	14	GLU	8.1
13	M	53	ASP	7.9
49	n	84	TYR	7.5
13	M	56	PRO	6.9
12	L	18	LEU	6.9
49	n	113	PHE	6.9
49	n	56	ARG	6.9
54	v	45	THR	6.8
7	G	1	SER	6.8
51	s	995	C	6.6
3	C	24	VAL	6.6
12	L	104	ASN	6.6
13	M	6	LYS	6.6
9	I	35	GLN	6.5
50	r	1	SER	6.3
13	M	13	VAL	6.3
13	M	51	PRO	6.2
3	C	23	GLY	6.2
17	Q	19	GLU	6.1

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Mol	Chain	Res	Type	RSRZ
54	v	424	ALA	6.1
54	v	423	GLY	6.0
49	n	10	ALA	6.0
11	K	24	GLU	5.8
10	J	125	LYS	5.8
12	L	98	GLY	5.8
44	i	26	SER	5.7
20	T	37	TYR	5.7
26	Z	87	SER	5.6
56	AA	4	SER	5.6
9	I	87	LEU	5.5
4	D	30	PHE	5.5
20	T	35	GLU	5.5
49	n	62	ARG	5.5
13	M	7	ALA	5.4
54	v	456	GLU	5.4
9	I	30	LYS	5.3
12	L	102	LYS	5.3
55	w	18	G	5.3
18	R	55	GLN	5.2
54	v	50	GLY	5.2
19	S	67	HIS	5.2
12	L	100	ARG	5.2
18	R	31	ARG	5.2
12	L	3	ILE	5.2
6	F	2	ARG	5.2
6	F	3	ARG	5.2
38	c	1	ALA	5.1
20	T	36	PHE	5.1
54	v	58	ASP	5.1
27	0	9	GLU	5.1
50	o	24	SER	5.0
49	n	36	ASP	5.0
12	L	34	ALA	5.0
32	5	50	ALA	5.0
6	F	61	PHE	5.0
13	M	10	VAL	5.0
49	n	17	GLU	5.0
34	8	87	VAL	4.9
13	M	52	ARG	4.9
39	d	94	ALA	4.9
54	v	305	ALA	4.9

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Mol	Chain	Res	Type	RSRZ
16	P	19	SER	4.9
37	b	24	MET	4.8
9	I	25	ILE	4.8
12	L	105	ALA	4.8
50	o	21	GLU	4.8
44	i	25	THR	4.8
54	v	399	ARG	4.8
20	T	42	THR	4.7
54	v	307	MET	4.7
50	r	8	ILE	4.7
12	L	58	GLU	4.7
54	v	455	SER	4.7
12	L	33	LEU	4.6
51	s	996	A	4.6
8	H	118	ARG	4.6
49	n	116	GLU	4.6
51	s	723	U	4.6
50	q	16	VAL	4.6
52	t	2152	G	4.6
26	Z	90	GLY	4.6
7	G	67	GLY	4.5
40	e	40	ARG	4.5
26	Z	91	LYS	4.5
12	L	32	ILE	4.5
3	C	62	ARG	4.5
3	C	1	ALA	4.4
18	R	32	THR	4.4
3	C	26	ALA	4.4
18	R	49	ALA	4.4
26	Z	75	ALA	4.4
26	Z	78	LEU	4.4
51	s	727	G	4.4
8	H	124	PRO	4.4
52	t	2108	A	4.3
54	v	51	SER	4.3
54	v	304	GLN	4.3
26	Z	58	ILE	4.3
50	q	6	GLN	4.3
12	L	31	ALA	4.3
13	M	71	GLY	4.3
52	t	2107	G	4.2
52	t	2151	U	4.2

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Mol	Chain	Res	Type	RSRZ
9	I	34	ALA	4.2
16	P	13	SER	4.2
54	v	3	LEU	4.2
49	n	58	THR	4.2
54	v	42	THR	4.2
45	j	22	THR	4.2
7	G	2	MET	4.2
8	H	109	GLN	4.2
8	H	121	ARG	4.2
29	2	92	LEU	4.1
54	v	16	PHE	4.1
54	v	496	ASP	4.1
3	C	3	TYR	4.1
12	L	62	PHE	4.1
13	M	29	ILE	4.1
49	n	88	HIS	4.1
51	s	702	A	4.1
54	v	431	ILE	4.1
8	H	129	ARG	4.1
20	T	52	VAL	4.1
19	S	3	ILE	4.1
14	N	53	ARG	4.1
16	P	12	VAL	4.0
13	M	19	TYR	4.0
18	R	12	LEU	4.0
49	n	57	ASN	4.0
12	L	35	ALA	4.0
51	s	1362	A	4.0
13	M	43	ALA	4.0
20	T	45	LYS	4.0
8	H	120	ALA	4.0
13	M	4	SER	4.0
3	C	2	ARG	3.9
3	C	205	LYS	3.9
54	v	57	SER	3.9
51	s	1086	U	3.9
11	K	15	VAL	3.9
40	e	50	VAL	3.9
40	e	36	ILE	3.9
49	n	126	LEU	3.9
54	v	91	GLY	3.9
26	Z	10	LEU	3.9

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Mol	Chain	Res	Type	RSRZ
20	T	34	ARG	3.8
49	n	50	VAL	3.8
50	p	9	GLU	3.8
8	H	128	LYS	3.8
51	s	1016	A	3.8
56	z	3	SER	3.8
18	R	75	PRO	3.8
12	L	97	ARG	3.8
40	e	45	HIS	3.8
12	L	59	VAL	3.8
49	n	54	VAL	3.8
12	L	99	GLN	3.8
54	v	344	ASP	3.8
55	w	20	A	3.8
40	e	73	PRO	3.8
26	Z	84	GLY	3.8
52	t	2903	U	3.8
3	C	52	VAL	3.7
26	Z	120	ASP	3.7
51	s	994	A	3.7
24	X	163	GLU	3.7
13	M	21	ALA	3.7
54	v	70	ILE	3.7
49	n	115	GLY	3.7
26	Z	122	GLU	3.7
49	n	37	LYS	3.7
5	E	89	VAL	3.7
12	L	28	ARG	3.7
54	v	44	GLY	3.7
2	B	136	ALA	3.7
20	T	31	VAL	3.7
9	I	53	ILE	3.7
22	V	118	PHE	3.7
49	n	51	TYR	3.6
12	L	55	LEU	3.6
8	H	107	ALA	3.6
54	v	122	ARG	3.6
54	v	452	ARG	3.6
16	P	69	THR	3.6
55	w	15	A	3.6
3	C	148	ALA	3.6
6	F	79	VAL	3.6

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Mol	Chain	Res	Type	RSRZ
2	B	109	GLU	3.6
19	S	52	GLU	3.6
51	s	631	C	3.6
26	Z	94	LYS	3.6
7	G	20	ASN	3.6
52	t	2156	G	3.6
1	A	196	ASP	3.6
11	K	22	ALA	3.6
19	S	68	LYS	3.6
40	e	28	GLU	3.6
18	R	48	ILE	3.6
22	V	92	VAL	3.5
54	v	309	PRO	3.5
13	M	50	LEU	3.5
13	M	55	SER	3.5
2	B	166	TRP	3.5
52	t	1509	A	3.5
3	C	63	ILE	3.5
50	p	7	ILE	3.5
51	s	121	U	3.5
9	I	75	ASP	3.5
40	e	14	ASP	3.5
5	E	54	LEU	3.5
26	Z	129	GLU	3.5
19	S	4	LYS	3.5
20	T	41	THR	3.5
51	s	733	G	3.5
23	W	96	VAL	3.5
20	T	14	ALA	3.5
42	g	22	LEU	3.5
17	Q	20	ILE	3.5
50	r	7	ILE	3.5
37	b	74	ILE	3.5
1	A	212	TYR	3.4
49	n	49	GLY	3.4
27	0	81	ILE	3.4
22	V	168	GLU	3.4
54	v	221	GLU	3.4
1	A	134	LEU	3.4
8	H	42	THR	3.4
26	Z	73	PRO	3.4
18	R	3	SER	3.4

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Mol	Chain	Res	Type	RSRZ
32	5	80	GLU	3.4
27	0	44	TYR	3.4
51	s	1217	C	3.4
18	R	51	HIS	3.4
13	M	9	GLU	3.4
38	c	86	PHE	3.4
3	C	116	LEU	3.4
9	I	51	VAL	3.4
13	M	45	LEU	3.4
27	0	42	ALA	3.4
4	D	104	ILE	3.4
12	L	44	ILE	3.4
50	q	2	ILE	3.4
51	s	990	C	3.4
35	9	50	GLY	3.4
26	Z	37	PHE	3.3
12	L	15	VAL	3.3
14	N	57	ARG	3.3
49	n	92	ALA	3.3
20	T	40	PRO	3.3
26	Z	111	THR	3.3
49	n	99	PHE	3.3
49	n	86	MET	3.3
9	I	100	ILE	3.3
49	n	112	ALA	3.3
11	K	13	ARG	3.3
6	F	68	VAL	3.3
26	Z	4	VAL	3.3
32	5	3	LYS	3.3
5	E	75	GLU	3.3
20	T	47	ALA	3.3
32	5	2	ASP	3.3
18	R	14	LEU	3.3
2	B	137	VAL	3.3
26	Z	121	ILE	3.3
49	n	29	ASP	3.3
22	V	167	ASN	3.3
24	X	66	ILE	3.3
52	t	2179	C	3.3
8	H	126	PHE	3.2
40	e	74	LYS	3.2
26	Z	108	ILE	3.2

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Mol	Chain	Res	Type	RSRZ
40	e	35	ILE	3.2
13	M	8	ARG	3.2
3	C	98	ASP	3.2
5	E	91	ARG	3.2
18	R	18	VAL	3.2
3	C	114	ARG	3.2
17	Q	63	TYR	3.2
12	L	63	VAL	3.2
18	R	10	ILE	3.2
19	S	11	ILE	3.2
54	v	109	CYS	3.2
3	C	147	LYS	3.2
22	V	87	GLY	3.2
12	L	42	VAL	3.2
20	T	27	VAL	3.2
28	1	35	VAL	3.2
2	B	161	ILE	3.2
4	D	28	ARG	3.2
24	X	153	ILE	3.2
51	s	1364	U	3.1
49	n	3	LEU	3.1
52	t	1508	A	3.1
51	s	1267	C	3.1
49	n	5	LEU	3.1
13	M	20	PHE	3.1
18	R	79	TYR	3.1
9	I	83	THR	3.1
40	e	15	SER	3.1
33	6	111	GLU	3.1
49	n	98	GLU	3.1
54	v	63	GLU	3.1
27	0	73	VAL	3.1
21	U	268	ARG	3.1
54	v	314	ARG	3.1
26	Z	128	ILE	3.1
41	f	23	ALA	3.1
14	N	56	LEU	3.1
52	t	2133	G	3.1
3	C	132	ALA	3.1
12	L	4	ALA	3.1
52	t	1065	U	3.1
20	T	44	ARG	3.1

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Mol	Chain	Res	Type	RSRZ
18	R	50	VAL	3.1
19	S	15	LYS	3.1
2	B	128	MET	3.1
52	t	2153	C	3.0
20	T	29	ALA	3.0
1	A	43	GLU	3.0
49	n	114	GLU	3.0
6	F	103	ILE	3.0
50	q	23	ILE	3.0
26	Z	26	ALA	3.0
40	e	17	ALA	3.0
50	q	10	ALA	3.0
51	s	726	C	3.0
3	C	150	LYS	3.0
12	L	26	LYS	3.0
2	B	36	PHE	3.0
5	E	78	PHE	3.0
24	X	155	ILE	3.0
54	v	493	LEU	3.0
24	X	7	TYR	3.0
14	N	61	GLN	3.0
22	V	163	GLY	3.0
9	I	74	VAL	3.0
1	A	138	ARG	3.0
50	r	9	GLU	3.0
12	L	91	ARG	3.0
11	K	12	ALA	3.0
8	H	9	GLY	3.0
29	2	65	GLY	3.0
55	w	17	U	3.0
3	C	72	ARG	2.9
49	n	107	GLU	2.9
13	M	1	ALA	2.9
15	O	22	ALA	2.9
27	0	80	HIS	2.9
42	g	62	GLY	2.9
54	v	308	ASP	2.9
42	g	19	LEU	2.9
11	K	121	PRO	2.9
54	v	327	LYS	2.9
51	s	724	G	2.9
12	L	57	ASP	2.9

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Mol	Chain	Res	Type	RSRZ
5	E	6	ILE	2.9
3	C	18	LEU	2.9
11	K	82	ARG	2.9
26	Z	123	ALA	2.9
9	I	84	VAL	2.9
13	M	79	SER	2.9
54	v	303	ILE	2.9
54	v	409	GLN	2.9
54	v	94	ASP	2.9
12	L	107	THR	2.9
45	j	21	THR	2.9
6	F	70	PRO	2.9
12	L	36	ALA	2.9
51	s	1380	U	2.9
1	A	48	MET	2.9
11	K	23	LEU	2.9
12	L	16	ILE	2.9
13	M	47	LEU	2.9
56	7	3	SER	2.9
20	T	53	LYS	2.9
6	F	8	GLN	2.9
26	Z	95	ASP	2.9
4	D	106	ALA	2.9
12	L	95	PRO	2.9
49	n	2	ALA	2.9
54	v	39	ALA	2.9
42	g	5	GLU	2.9
18	R	40	PHE	2.9
16	P	42	LYS	2.9
51	s	94	G	2.9
51	s	1094	G	2.9
54	v	408	LYS	2.9
51	s	1235	U	2.8
50	o	18	ASP	2.8
1	A	47	PRO	2.8
6	F	87	PRO	2.8
7	G	54	THR	2.8
7	G	109	VAL	2.8
4	D	19	ARG	2.8
12	L	23	GLY	2.8
24	X	90	LEU	2.8
54	v	69	SER	2.8

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Mol	Chain	Res	Type	RSRZ
50	p	10	ALA	2.8
51	s	1317	C	2.8
2	B	74	ILE	2.8
18	R	30	LEU	2.8
37	b	7	LEU	2.8
50	r	2	ILE	2.8
2	B	188	ALA	2.8
26	Z	119	ALA	2.8
2	B	108	PRO	2.8
2	B	130	ARG	2.8
40	e	24	ARG	2.8
48	m	12	ARG	2.8
6	F	10	LYS	2.8
8	H	65	THR	2.8
11	K	14	LYS	2.8
46	k	46	LYS	2.8
12	L	79	LEU	2.8
53	u	87	U	2.8
51	s	934	C	2.8
51	s	1214	C	2.8
52	t	1109	C	2.8
54	v	108	CYS	2.8
43	h	1	ALA	2.8
54	v	41	GLN	2.8
3	C	69	ARG	2.8
8	H	122	ARG	2.8
3	C	154	VAL	2.8
6	F	123	LEU	2.8
33	6	19	PHE	2.8
51	s	1319	A	2.8
51	s	1332	A	2.8
9	I	31	ARG	2.8
11	K	123	ALA	2.8
50	o	25	ALA	2.8
51	s	1031	C	2.8
51	s	1038	C	2.8
46	k	44	VAL	2.8
49	n	117	LEU	2.8
1	A	183	PHE	2.7
3	C	27	ILE	2.8
24	X	84	ILE	2.8
4	D	18	ASN	2.7

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Mol	Chain	Res	Type	RSRZ
13	M	28	ALA	2.7
21	U	60	ALA	2.7
26	Z	66	PHE	2.7
49	n	40	GLU	2.7
51	s	1323	G	2.7
32	5	4	LYS	2.7
40	e	75	ASN	2.7
12	L	14	ALA	2.7
19	S	6	ALA	2.7
22	V	209	ALA	2.7
26	Z	82	ALA	2.7
2	B	102	ILE	2.7
54	v	31	GLU	2.7
40	e	51	GLY	2.7
51	s	470	C	2.7
18	R	56	HIS	2.7
20	T	25	ALA	2.7
12	L	64	VAL	2.7
26	Z	12	VAL	2.7
54	v	349	MET	2.7
29	2	45	GLY	2.7
6	F	76	SER	2.7
52	t	34	U	2.7
13	M	14	ALA	2.7
13	M	17	ASP	2.7
14	N	43	ALA	2.7
17	Q	64	LEU	2.7
17	Q	73	HIS	2.7
54	v	441	VAL	2.7
21	U	250	GLN	2.7
7	G	9	MET	2.7
18	R	9	PHE	2.7
22	V	114	LYS	2.7
2	B	164	THR	2.7
9	I	32	THR	2.7
51	s	1015	G	2.7
50	q	24	SER	2.7
32	5	113	ALA	2.7
8	H	103	VAL	2.7
26	Z	57	VAL	2.7
40	e	37	VAL	2.7
49	n	155	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
51	s	1017	U	2.7
1	A	59	ILE	2.6
27	0	54	ILE	2.6
5	E	9	MET	2.6
52	t	2212	A	2.6
12	L	86	ARG	2.6
6	F	35	LYS	2.6
24	X	71	LYS	2.6
1	A	51	GLU	2.6
7	G	57	GLU	2.6
3	C	29	THR	2.6
19	S	5	SER	2.6
21	U	167	ASP	2.6
44	i	54	ILE	2.6
1	A	29	PHE	2.6
18	R	36	ARG	2.6
52	t	646	U	2.6
52	t	2402	U	2.6
51	s	975	A	2.6
8	H	115	VAL	2.6
9	I	61	ALA	2.6
37	b	93	LEU	2.6
51	s	83	C	2.6
2	B	155	ARG	2.6
3	C	33	ILE	2.6
6	F	11	ILE	2.6
12	L	113	LYS	2.6
16	P	5	ARG	2.6
50	o	7	ILE	2.6
9	I	95	GLY	2.6
52	t	2585	U	2.6
51	s	1182	G	2.6
1	A	185	ILE	2.6
34	8	89	ILE	2.6
40	e	8	SER	2.6
7	G	48	PHE	2.6
49	n	96	PHE	2.6
54	v	62	MET	2.6
41	f	16	ASN	2.6
54	v	52	ASN	2.6
54	v	376	GLY	2.6
9	I	90	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
18	R	70	LEU	2.6
45	j	33	LEU	2.6
14	N	18	ALA	2.6
47	l	64	ALA	2.6
11	K	43	LYS	2.6
52	t	2149	U	2.6
4	D	59	ILE	2.6
53	u	2	G	2.6
24	X	168	LEU	2.6
26	Z	77	VAL	2.6
25	Y	171	LYS	2.6
39	d	23	ALA	2.6
2	B	190	THR	2.6
24	X	33	ILE	2.5
27	0	142	ILE	2.5
1	A	97	GLY	2.5
1	A	84	LEU	2.5
54	v	87	LEU	2.5
1	A	158	ASP	2.5
51	s	664	G	2.5
54	v	447	ASP	2.5
1	A	55	GLU	2.5
4	D	126	ALA	2.5
54	v	483	GLU	2.5
2	B	133	MET	2.5
3	C	19	PHE	2.5
51	s	1325	C	2.5
2	B	167	TYR	2.5
6	F	84	TYR	2.5
11	K	37	TYR	2.5
6	F	36	SER	2.5
29	2	28	GLY	2.5
12	L	30	LYS	2.5
40	e	18	LYS	2.5
1	A	198	VAL	2.5
13	M	87	ALA	2.5
19	S	2	ASN	2.5
12	L	103	THR	2.5
51	s	413	G	2.5
14	N	64	LYS	2.5
3	C	22	SER	2.5
3	C	121	ALA	2.5

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Mol	Chain	Res	Type	RSRZ
51	s	1183	U	2.5
55	w	19	U	2.5
13	M	41	TRP	2.5
44	i	22	THR	2.5
1	A	142	LYS	2.5
3	C	21	LYS	2.5
3	C	76	LYS	2.5
13	M	18	LYS	2.5
24	X	65	LEU	2.5
26	Z	105	LEU	2.5
9	I	98	VAL	2.5
26	Z	23	VAL	2.5
2	B	70	ALA	2.5
3	C	156	ALA	2.5
51	s	666	G	2.5
51	s	971	G	2.5
35	9	62	GLU	2.5
5	E	62	MET	2.5
51	s	1054	C	2.5
52	t	1105	U	2.5
4	D	25	LYS	2.5
3	C	20	LEU	2.5
18	R	15	LEU	2.5
29	2	90	VAL	2.5
1	A	75	ALA	2.4
26	Z	1	ALA	2.4
29	2	68	SER	2.4
32	5	58	ILE	2.4
51	s	1441	A	2.4
18	R	73	PHE	2.4
2	B	142	ARG	2.4
4	D	102	THR	2.4
7	G	25	THR	2.4
9	I	63	ASP	2.4
18	R	52	ASN	2.4
27	0	95	ARG	2.4
13	M	15	LEU	2.4
30	3	20	LEU	2.4
12	L	85	TYR	2.4
52	t	1729	U	2.4
16	P	82	VAL	2.4
37	b	16	VAL	2.4

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Mol	Chain	Res	Type	RSRZ
6	F	51	GLN	2.4
9	I	86	ALA	2.4
20	T	49	ALA	2.4
1	A	199	ILE	2.4
3	C	131	ILE	2.4
19	S	66	ILE	2.4
29	2	101	ILE	2.4
54	v	357	GLU	2.4
5	E	8	PHE	2.4
6	F	22	LEU	2.4
22	V	43	ASP	2.4
26	Z	125	THR	2.4
49	n	39	THR	2.4
51	s	983	A	2.4
8	H	89	TYR	2.4
24	X	30	VAL	2.4
26	Z	60	VAL	2.4
49	n	35	VAL	2.4
23	W	45	ALA	2.4
32	5	105	ALA	2.4
52	t	2213	U	2.4
49	n	52	MET	2.4
21	U	264	LYS	2.4
21	U	271	SER	2.4
56	BA	4	SER	2.4
6	F	12	LEU	2.4
1	A	28	PRO	2.4
9	I	60	ASP	2.4
17	Q	39	VAL	2.4
18	R	63	ASP	2.4
23	W	7	ASP	2.4
24	X	24	VAL	2.4
1	A	150	ILE	2.4
12	L	8	ILE	2.4
15	O	67	ILE	2.4
52	t	222	A	2.4
21	U	29	PHE	2.4
3	C	68	GLU	2.4
52	t	1493	C	2.4
3	C	37	PRO	2.4
4	D	24	VAL	2.4
18	R	58	PRO	2.4

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Mol	Chain	Res	Type	RSRZ
49	n	158	VAL	2.4
14	N	41	HIS	2.4
14	N	54	GLY	2.4
25	Y	110	HIS	2.4
50	p	18	ASP	2.4
54	v	527	ARG	2.4
24	X	172	PHE	2.4
13	M	78	LEU	2.4
51	s	1363	A	2.4
52	t	2134	A	2.4
54	v	61	GLU	2.4
26	Z	134	SER	2.4
56	y	4	SER	2.4
26	Z	138	VAL	2.4
51	s	1345	U	2.4
54	v	406	PRO	2.4
1	A	124	THR	2.3
12	L	19	THR	2.3
40	e	12	GLY	2.3
3	C	111	ALA	2.3
18	R	17	LYS	2.3
21	U	67	LYS	2.3
50	q	29	LYS	2.3
3	C	28	ASP	2.3
23	W	91	ASP	2.3
42	g	23	ARG	2.3
54	v	499	ASP	2.3
3	C	47	LEU	2.3
26	Z	137	LEU	2.3
26	Z	97	VAL	2.3
9	I	82	LYS	2.3
20	T	39	LYS	2.3
9	I	37	ARG	2.3
24	X	38	GLY	2.3
32	5	66	GLY	2.3
54	v	480	LYS	2.3
26	Z	54	ILE	2.3
54	v	312	ARG	2.3
8	H	43	ALA	2.3
5	E	63	ASN	2.3
52	t	2109	U	2.3
1	A	31	PHE	2.3

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Mol	Chain	Res	Type	RSRZ
6	F	21	LEU	2.3
9	I	10	LEU	2.3
40	e	31	LEU	2.3
51	s	998	C	2.3
54	v	301	PHE	2.3
54	v	348	PHE	2.3
14	N	25	GLU	2.3
54	v	421	GLU	2.3
6	F	74	VAL	2.3
8	H	47	VAL	2.3
9	I	57	VAL	2.3
32	5	88	LYS	2.3
8	H	123	ARG	2.3
12	L	114	PRO	2.3
16	P	10	ARG	2.3
34	8	91	ARG	2.3
2	B	206	ILE	2.3
8	H	127	SER	2.3
12	L	83	GLY	2.3
31	4	119	SER	2.3
49	n	154	THR	2.3
1	A	14	HIS	2.3
9	I	65	TYR	2.3
6	F	117	LEU	2.3
8	H	38	PHE	2.3
52	t	2211	A	2.3
13	M	48	GLN	2.3
51	s	989	U	2.3
2	B	197	VAL	2.3
13	M	2	LYS	2.3
16	P	68	LYS	2.3
51	s	970	C	2.3
33	6	50	ARG	2.3
54	v	472	ARG	2.3
9	I	55	PRO	2.3
32	5	114	GLY	2.3
40	e	33	GLY	2.3
36	a	1	MET	2.3
2	B	123	LEU	2.3
51	s	988	G	2.3
51	s	1231	G	2.3
52	t	2102	G	2.3

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Mol	Chain	Res	Type	RSRZ
52	t	2148	G	2.3
13	M	27	LYS	2.3
44	i	56	LYS	2.3
49	n	144	LYS	2.3
3	C	145	ARG	2.3
35	9	51	VAL	2.3
40	e	13	ARG	2.3
41	f	12	VAL	2.3
51	s	665	A	2.3
51	s	943	U	2.3
26	Z	53	PRO	2.3
54	v	442	GLY	2.3
5	E	94	HIS	2.3
11	K	95	HIS	2.3
14	N	50	HIS	2.3
54	v	355	HIS	2.3
28	1	109	SER	2.3
37	b	84	TYR	2.3
11	K	53	ARG	2.3
26	Z	11	GLN	2.3
3	C	193	ASP	2.3
6	F	86	VAL	2.3
31	4	72	ASP	2.3
38	c	82	VAL	2.3
51	s	38	G	2.2
51	s	1370	G	2.2
10	J	106	ILE	2.2
12	L	38	ILE	2.2
5	E	88	MET	2.2
46	k	1	MET	2.2
9	I	52	LEU	2.2
38	c	51	LEU	2.2
49	n	81	LEU	2.2
51	s	173	U	2.2
51	s	1224	U	2.2
1	A	197	PHE	2.2
35	9	53	PHE	2.2
9	I	101	SER	2.2
19	S	8	LYS	2.2
26	Z	80	LYS	2.2
49	n	43	LYS	2.2
52	t	2150	C	2.2

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Mol	Chain	Res	Type	RSRZ
23	W	97	ASN	2.2
38	c	45	GLN	2.2
49	n	145	GLU	2.2
13	M	5	MET	2.2
18	R	4	LEU	2.2
18	R	46	LEU	2.2
23	W	188	MET	2.2
26	Z	52	LEU	2.2
32	5	48	LEU	2.2
40	e	21	GLY	2.2
47	l	55	GLY	2.2
50	q	25	ALA	2.2
54	v	371	GLY	2.2
50	q	30	PHE	2.2
54	v	485	PHE	2.2
14	N	45	HIS	2.2
21	U	251	THR	2.2
26	Z	131	THR	2.2
51	s	404	G	2.2
51	s	1316	G	2.2
41	f	77	TYR	2.2
45	j	43	ARG	2.2
6	F	114	SER	2.2
28	l	122	VAL	2.2
3	C	35	GLN	2.2
49	n	9	GLN	2.2
9	I	76	ILE	2.2
12	L	76	ILE	2.2
47	l	53	ASP	2.2
51	s	972	C	2.2
51	s	1533	C	2.2
52	t	1104	C	2.2
6	F	116	ALA	2.2
16	P	23	ALA	2.2
21	U	165	ALA	2.2
49	n	59	LEU	2.2
26	Z	2	LYS	2.2
26	Z	39	LYS	2.2
27	0	111	LYS	2.2
24	X	96	TRP	2.2
5	E	37	HIS	2.2
24	X	67	THR	2.2

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Mol	Chain	Res	Type	RSRZ
49	n	142	THR	2.2
54	v	417	VAL	2.2
2	B	195	ILE	2.2
50	q	8	ILE	2.2
42	g	59	GLU	2.2
49	n	103	ASN	2.2
51	s	728	A	2.2
51	s	946	A	2.2
51	s	1305	G	2.2
52	t	974	G	2.2
1	A	8	MET	2.2
19	S	65	LEU	2.2
39	d	1	MET	2.2
52	t	2062	A	2.2
13	M	35	ALA	2.2
54	v	5	PRO	2.2
9	I	49	PHE	2.2
49	n	76	PHE	2.2
2	B	192	TYR	2.2
7	G	50	VAL	2.2
4	D	29	ILE	2.2
6	F	82	SER	2.2
9	I	54	SER	2.2
3	C	4	LEU	2.2
26	Z	79	LEU	2.2
24	X	129	MET	2.2
13	M	12	ARG	2.2
13	M	64	ARG	2.2
50	r	5	ASP	2.2
54	v	398	PHE	2.2
51	s	1346	A	2.2
51	s	1377	A	2.2
52	t	613	A	2.2
52	t	900	A	2.2
52	t	2406	A	2.2
51	s	203	G	2.2
12	L	54	THR	2.1
49	n	152	VAL	2.1
54	v	462	VAL	2.1
17	Q	69	TYR	2.1
29	2	103	ILE	2.1
51	s	841	C	2.1

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Mol	Chain	Res	Type	RSRZ
51	s	1218	C	2.1
21	U	37	SER	2.1
24	X	16	MET	2.1
24	X	77	LYS	2.1
6	F	39	GLU	2.1
6	F	133	ALA	2.1
3	C	25	ARG	2.1
28	1	45	GLU	2.1
29	2	102	GLY	2.1
48	m	21	GLY	2.1
49	n	89	PRO	2.1
54	v	95	PHE	2.1
15	O	69	ASP	2.1
54	v	222	ASP	2.1
26	Z	69	VAL	2.1
54	v	311	HIS	2.1
31	4	70	THR	2.1
51	s	532	A	2.1
51	s	1219	A	2.1
53	u	66	A	2.1
54	v	503	TYR	2.1
7	G	98	LEU	2.1
12	L	106	ARG	2.1
13	M	62	ARG	2.1
51	s	703	G	2.1
54	v	514	ALA	2.1
4	D	64	GLU	2.1
8	H	13	SER	2.1
9	I	66	GLU	2.1
12	L	20	SER	2.1
18	R	11	ASP	2.1
20	T	22	CYS	2.1
16	P	43	LEU	2.1
22	V	91	THR	2.1
42	g	6	LEU	2.1
51	s	4	U	2.1
50	o	14	MET	2.1
54	v	60	MET	2.1
3	C	108	ALA	2.1
6	F	15	PRO	2.1
11	K	90	PRO	2.1
20	T	38	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
25	Y	172	GLU	2.1
50	p	21	GLU	2.1
52	t	1420	A	2.1
3	C	118	SER	2.1
50	o	20	VAL	2.1
52	t	1102	C	2.1
6	F	75	LYS	2.1
25	Y	59	ASP	2.1
26	Z	112	LYS	2.1
2	B	32	LEU	2.1
9	I	45	ARG	2.1
15	O	66	THR	2.1
20	T	46	ARG	2.1
24	X	34	THR	2.1
33	6	103	THR	2.1
37	b	73	ARG	2.1
54	v	318	MET	2.1
24	X	74	ALA	2.1
54	v	350	ALA	2.1
52	t	1094	U	2.1
54	v	194	GLN	2.1
4	D	157	GLY	2.1
4	D	54	GLU	2.1
26	Z	92	PRO	2.1
13	M	57	SER	2.1
34	8	86	SER	2.1
54	v	438	VAL	2.1
10	J	124	LYS	2.1
51	s	1216	A	2.1
54	v	433	ASN	2.1
1	A	42	LEU	2.1
12	L	6	ILE	2.1
24	X	79	ARG	2.1
40	e	20	LEU	2.1
49	n	136	ILE	2.1
1	A	38	HIS	2.1
7	G	4	ASP	2.1
23	W	189	THR	2.1
37	b	35	ALA	2.1
51	s	1220	G	2.1
7	G	3	GLN	2.1
35	9	57	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
9	I	81	GLU	2.1
12	L	40	GLU	2.1
14	N	42	PHE	2.1
42	g	13	GLU	2.1
26	Z	86	LYS	2.0
36	a	42	LYS	2.0
50	r	4	LYS	2.0
6	F	40	SER	2.0
19	S	28	ARG	2.0
47	l	43	LEU	2.0
54	v	397	LEU	2.0
41	f	19	HIS	2.0
1	A	82	ALA	2.0
2	B	120	THR	2.0
6	F	83	THR	2.0
10	J	76	TYR	2.0
12	L	27	THR	2.0
22	V	151	THR	2.0
23	W	201	ALA	2.0
24	X	1	ALA	2.0
29	2	91	ASP	2.0
49	n	128	THR	2.0
49	n	157	ALA	2.0
26	Z	55	PRO	2.0
29	2	64	PHE	2.0
50	r	30	PHE	2.0
20	T	48	LYS	2.0
37	b	19	LYS	2.0
6	F	104	VAL	2.0
35	9	47	VAL	2.0
51	s	1066	C	2.0
51	s	606	G	2.0
51	s	1215	G	2.0
52	t	2319	G	2.0
26	Z	20	SER	2.0
54	v	420	SER	2.0
8	H	3	ASN	2.0
16	P	16	MET	2.0
18	R	43	MET	2.0
50	q	17	MET	2.0
6	F	64	ALA	2.0
24	X	156	THR	2.0

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Mol	Chain	Res	Type	RSRZ
26	Z	114	ALA	2.0
30	3	21	ALA	2.0
54	v	27	THR	2.0
54	v	440	ALA	2.0
17	Q	50	TYR	2.0
24	X	173	ASP	2.0
8	H	116	GLY	2.0
6	F	85	GLN	2.0
6	F	31	VAL	2.0
16	P	11	VAL	2.0
23	W	122	GLU	2.0
24	X	12	VAL	2.0
27	0	124	VAL	2.0
51	s	1324	A	2.0
44	i	27	LEU	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
56	DPP	BA	2	6/7	0.31	0.24	97,99,99,100	0
56	KBE	AA	1	9/10	0.51	0.44	74,80,92,93	0
56	KBE	BA	1	9/10	0.57	0.31	73,86,98,100	0
56	KBE	z	1	9/10	0.60	0.29	86,90,94,94	0
56	UAL	7	5	9/10	0.63	0.30	117,119,122,122	0
56	DPP	AA	2	6/7	0.77	0.23	95,100,101,102	0
56	UAL	z	5	9/10	0.81	0.22	99,100,101,102	0
56	UAL	BA	5	9/10	0.81	0.16	96,100,100,101	0
56	5OH	z	6	12/13	0.81	0.34	100,106,109,110	0
56	5OH	AA	6	12/13	0.81	0.20	101,103,104,105	0
56	5OH	7	6	12/13	0.82	0.19	107,109,112,116	0
56	DPP	z	2	6/7	0.82	0.23	94,95,98,101	0
56	KBE	y	1	9/10	0.83	0.29	105,106,108,108	0
56	KBE	7	1	9/10	0.85	0.26	86,89,93,95	0
56	5OH	BA	6	12/13	0.86	0.14	99,102,103,103	0
56	DPP	7	2	6/7	0.90	0.21	98,103,106,109	0
56	UAL	y	5	9/10	0.91	0.14	102,103,109,109	0
56	5OH	y	6	12/13	0.91	0.19	99,102,105,109	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
56	UAL	AA	5	9/10	0.92	0.17	103,105,106,106	0
56	DPP	y	2	6/7	0.94	0.17	98,99,100,104	0

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.