



## Full wwPDB EM Validation Report ⓘ

Sep 8, 2025 – 08:31 PM JST

PDB ID : 5ZEP / pdb\_00005zep  
EMDB ID : EMD-6921  
Title : M. smegmatis hibernating state 70S ribosome structure  
Authors : Mishra, S.; Ahmed, T.; Tyagi, A.; Shi, J.; Bhushan, S.  
Deposited on : 2018-02-27  
Resolution : 3.40 Å (reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

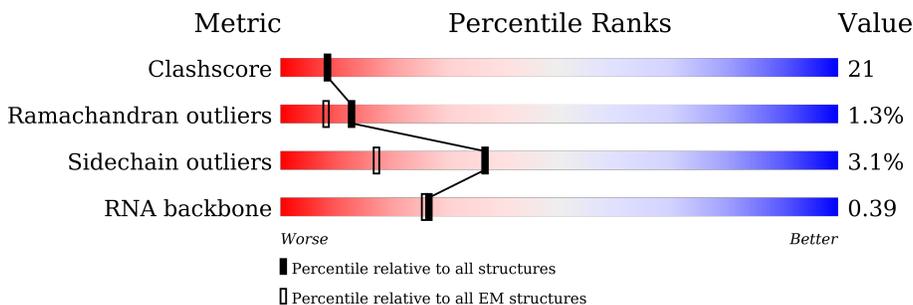
EMDB validation analysis : 0.0.1.dev126  
MolProbity : 4-5-2 with Phenix2.0rc1  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation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

# 1 Overall quality at a glance

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

The reported resolution of this entry is 3.40 Å.

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



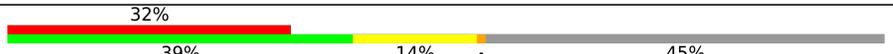
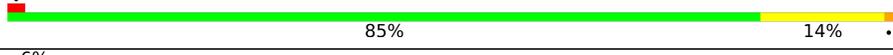
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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

Mol	Chain	Length	Quality of chain
1	a	1528	 46% 40% 12% .
2	c	275	 47% 25% . 24%
3	e	214	 5% 61% 30% . 7%
4	g	156	 72% 23% .
5	h	132	 70% 27% . .
6	i	150	 45% 35% . . 16%
7	j	101	 58% 36% . .

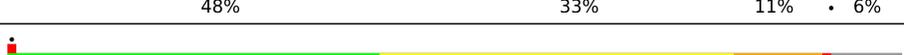
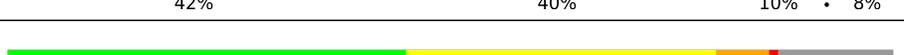
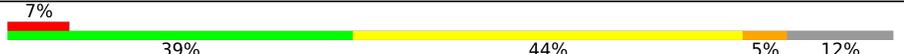
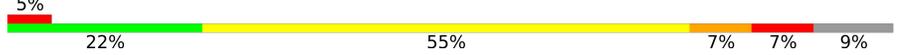
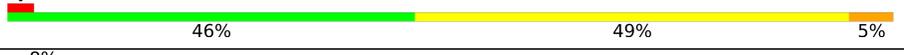
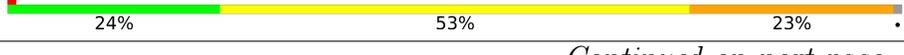
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Mol	Chain	Length	Quality of chain
8	k	138	
9	l	124	
10	o	89	
11	q	98	
12	r	84	
13	s	93	
14	t	86	
15	n	61	
16	b	277	
17	d	201	
18	f	96	
19	m	124	
20	p	156	
21	u	33	
22	w	77	
23	x	230	
24	0	479	
25	C	278	
26	D	217	
27	E	215	
28	F	187	
29	G	179	
30	H	151	
31	I	175	
32	J	142	

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Mol	Chain	Length	Quality of chain
33	K	147	
34	L	122	
35	M	147	
36	N	138	
37	O	199	
38	P	127	
39	Q	113	
40	R	129	
41	S	103	
42	T	153	
43	U	100	
44	V	105	
45	W	215	
46	X	88	
47	Y	64	
48	Z	77	
49	v	61	
50	y	75	
51	z	57	
52	1	55	
53	2	47	
54	3	64	
55	4	37	
56	5	24	
57	B	118	

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Mol	Chain	Length	Quality of chain
58	A	3120	 <p>A horizontal bar chart representing the quality of chain. The bar is divided into three segments: a green segment on the left labeled '58%', a yellow segment in the middle labeled '34%', and a red segment on the right labeled '7%'. A small black dot is visible at the far right end of the bar.</p>

## 2 Entry composition [i](#)

There are 58 unique types of molecules in this entry. The entry contains 152451 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	a	1506	32341	14404	5921	10510	1506	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	c	210	1672	1043	324	300	5	0	0

- Molecule 3 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	e	198	1433	885	282	262	4	0	0

- Molecule 4 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	g	156	1240	773	242	222	3	0	0

- Molecule 5 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	h	130	1003	629	188	185	1	0	0

- Molecule 6 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms			AltConf	Trace	
			Total	C	N			O
6	i	126	994	630	194	170	0	0

- Molecule 7 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	j	97	775	488	143	141	3	0	0

- Molecule 8 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	k	117	871	539	173	158	1	0	0

- Molecule 9 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	l	122	958	594	197	165	2	0	0

- Molecule 10 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
10	o	87	709	443	143	123	0	0

- Molecule 11 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	q	92	730	458	138	132	2	0	0

- Molecule 12 is a protein called 30S ribosomal protein S18 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	r	64	512	319	102	88	3	0	0

- Molecule 13 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	s	78	630	405	117	107	1	0	0

- Molecule 14 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	t	84	Total	C	N	O	0	0
			655	399	138	118		

- Molecule 15 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	n	60	Total	C	N	O	S	0	0
			477	302	97	73	5		

- Molecule 16 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	b	228	Total	C	N	O	S	0	0
			1793	1132	322	330	9		

- Molecule 17 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	d	200	Total	C	N	O	S	0	0
			1641	1028	316	295	2		

- Molecule 18 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	f	96	Total	C	N	O	S	0	0
			771	486	138	145	2		

- Molecule 19 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	m	116	Total	C	N	O	S	0	0
			935	572	191	169	3		

- Molecule 20 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	p	113	Total	C	N	O	0	0
			891	570	162	159		

- Molecule 21 is a protein called Conserved domain protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	u	32	Total	C	N	O	S	0	0
			280	172	71	36	1		

- Molecule 22 is a RNA chain called E-tRNA<sup>fMet</sup>.

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

- Molecule 23 is a protein called Ribosome hibernation promoting factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	x	100	Total	C	N	O	S	0	0
			831	513	167	149	2		

- Molecule 24 is a protein called bS1.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	0	262	Total	C	N	O	0	0
			1310	786	262	262		

- Molecule 25 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	C	273	Total	C	N	O	S	0	0
			2097	1290	435	368	4		

- Molecule 26 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	D	214	Total	C	N	O	S	0	0
			1587	982	310	290	5		

- Molecule 27 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	E	207	Total	C	N	O	S	0	0
			1553	959	292	300	2		

- Molecule 28 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	F	181	1437	903	269	259	6	0	0

- Molecule 29 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	G	176	1348	845	249	253	1	0	0

- Molecule 30 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	H	151	1018	635	188	194	1	0	0

- Molecule 31 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	I	126	918	580	156	180	2	0	0

- Molecule 32 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	J	133	990	625	175	187	3	0	0

- Molecule 33 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	K	147	1138	727	208	201	2	0	0

- Molecule 34 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	L	121	930	580	178	169	3	0	0

- Molecule 35 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	M	145	Total	C	N	O	S	0	0
			1078	676	205	194	3		

- Molecule 36 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	N	134	Total	C	N	O	S	0	0
			1074	680	211	181	2		

- Molecule 37 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	O	117	Total	C	N	O	S	0	0
			919	577	178	162	2		

- Molecule 38 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	P	126	Total	C	N	O	0	0
			956	586	199	171		

- Molecule 39 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Q	113	Total	C	N	O	S	0	0
			907	570	171	165	1		

- Molecule 40 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	R	124	Total	C	N	O	0	0
			988	613	203	172		

- Molecule 41 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms				AltConf	Trace
41	S	102	Total	C	N	O	0	0
			768	487	140	141		

- Molecule 42 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms				AltConf	Trace
42	T	114	Total	C	N	O	0	0
			873	543	171	159		

- Molecule 43 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				AltConf	Trace
43	U	94	Total	C	N	O	0	0
			739	469	135	135		

- Molecule 44 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	V	97	Total	C	N	O	S	0	0
			731	456	137	136	2		

- Molecule 45 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms				AltConf	Trace
45	W	186	Total	C	N	O	0	0
			1389	859	249	281		

- Molecule 46 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms				AltConf	Trace
46	X	82	Total	C	N	O	0	0
			604	372	127	105		

- Molecule 47 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Y	63	Total	C	N	O	S	0	0
			470	283	103	80	4		

- Molecule 48 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Z	63	Total	C	N	O	S	0	0
			527	322	102	102	1		

- Molecule 49 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
49	v	60	Total	C	N	O	0	0
			483	298	97	88		

- Molecule 50 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	y	66	Total	C	N	O	S	0	0
			510	316	93	96	5		

- Molecule 51 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	z	54	Total	C	N	O	S	0	0
			423	260	93	69	1		

- Molecule 52 is a protein called 50S ribosomal protein L33 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	1	50	Total	C	N	O	S	0	0
			416	254	86	72	4		

- Molecule 53 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	2	45	Total	C	N	O	S	0	0
			372	222	96	53	1		

- Molecule 54 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms				AltConf	Trace
54	3	63	Total	C	N	O	0	0
			502	302	115	85		

- Molecule 55 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	4	37	Total	C	N	O	S	0	0
			298	181	66	46	5		

- Molecule 56 is a protein called Uncharacterized protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
56	5	23	189	111	50	28	0	0

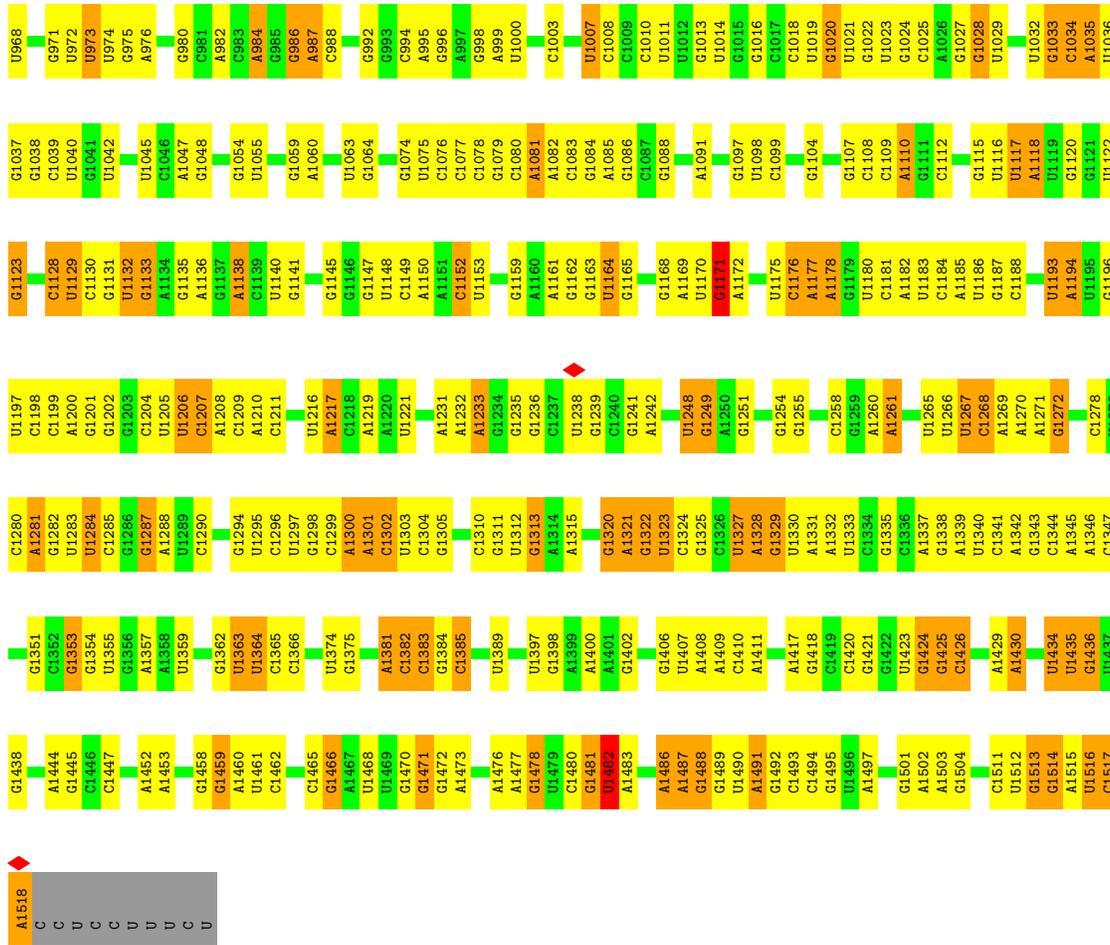
- Molecule 57 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
57	B	117	2501	1116	462	806	117	0	0

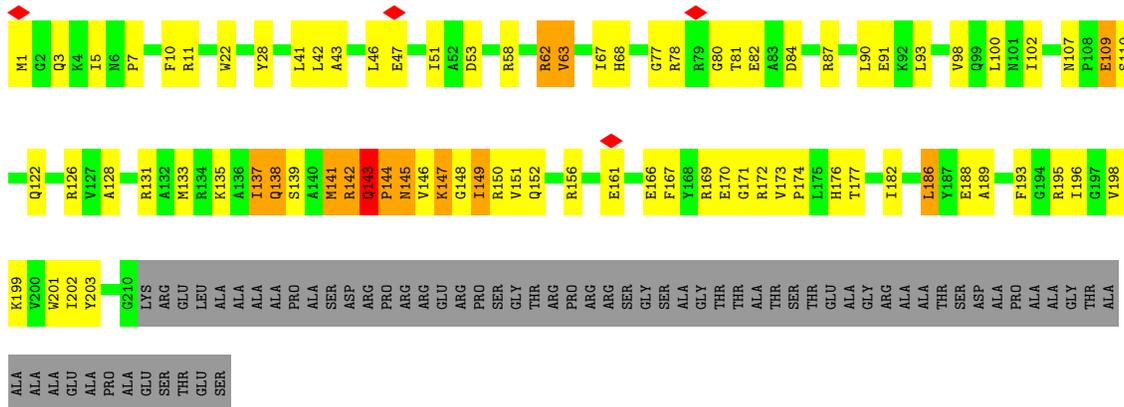
- Molecule 58 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
58	A	3102	66623	29694	12253	21574	3102	0	0



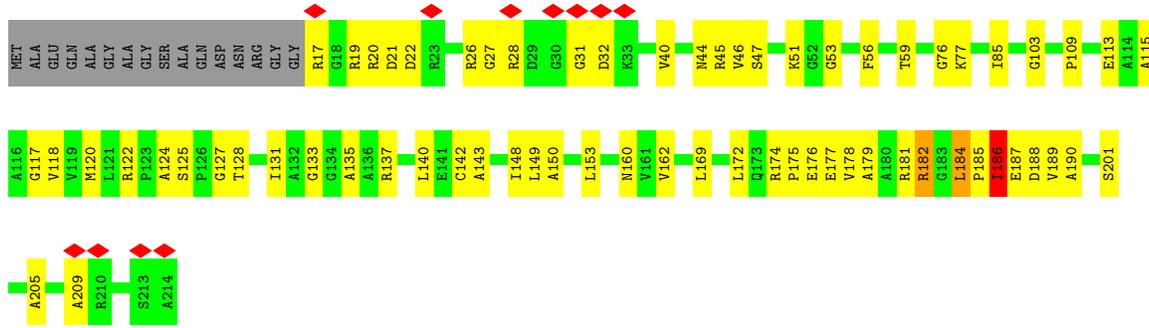


• Molecule 2: 30S ribosomal protein S3

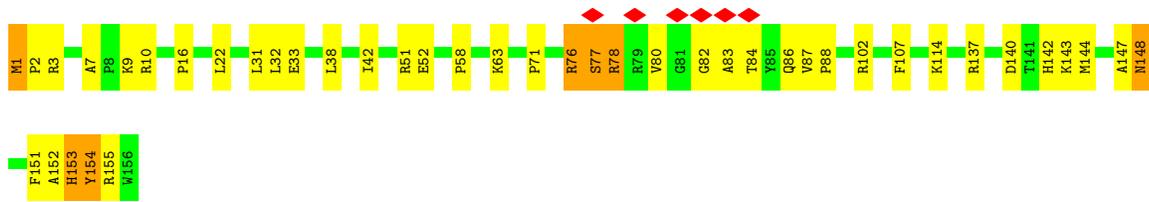


• Molecule 3: 30S ribosomal protein S5

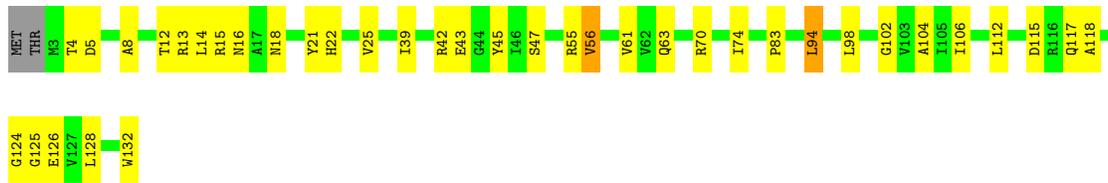




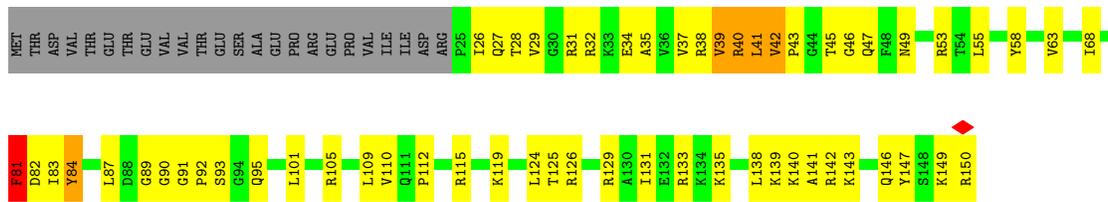
• Molecule 4: 30S ribosomal protein S7



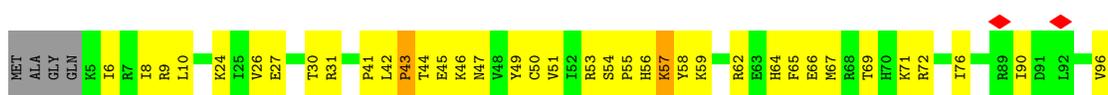
• Molecule 5: 30S ribosomal protein S8



• Molecule 6: 30S ribosomal protein S9



• Molecule 7: 30S ribosomal protein S10







Chain f: 69% 31%



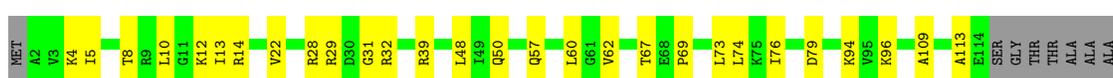
• Molecule 19: 30S ribosomal protein S13

Chain m: 60% 33% 6%



• Molecule 20: 30S ribosomal protein S16

Chain p: 54% 18% 28%



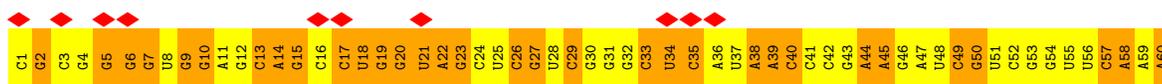
• Molecule 21: Conserved domain protein

Chain u: 48% 42% 6%



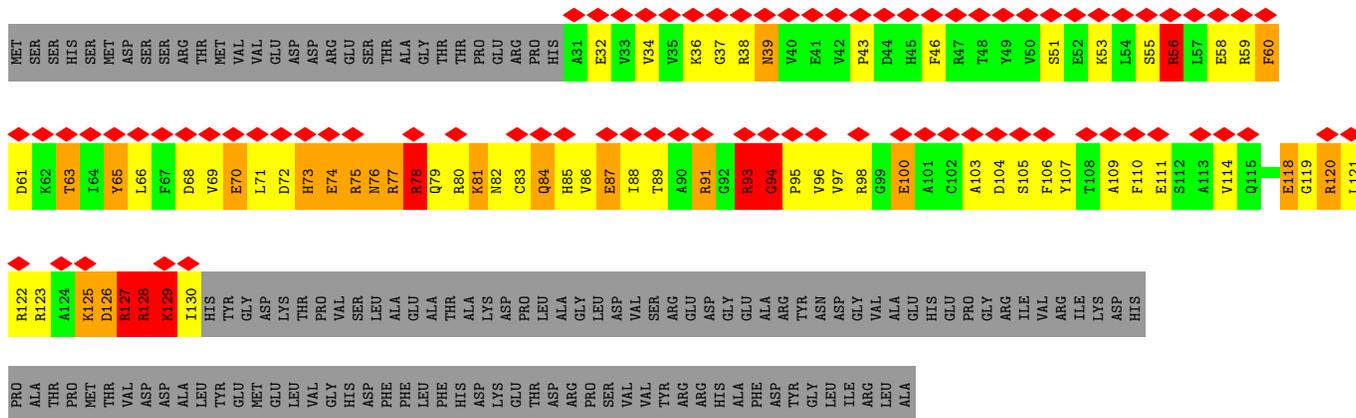
• Molecule 22: E-tRNA<sup>fMet</sup>

Chain w: 17% 48% 52%

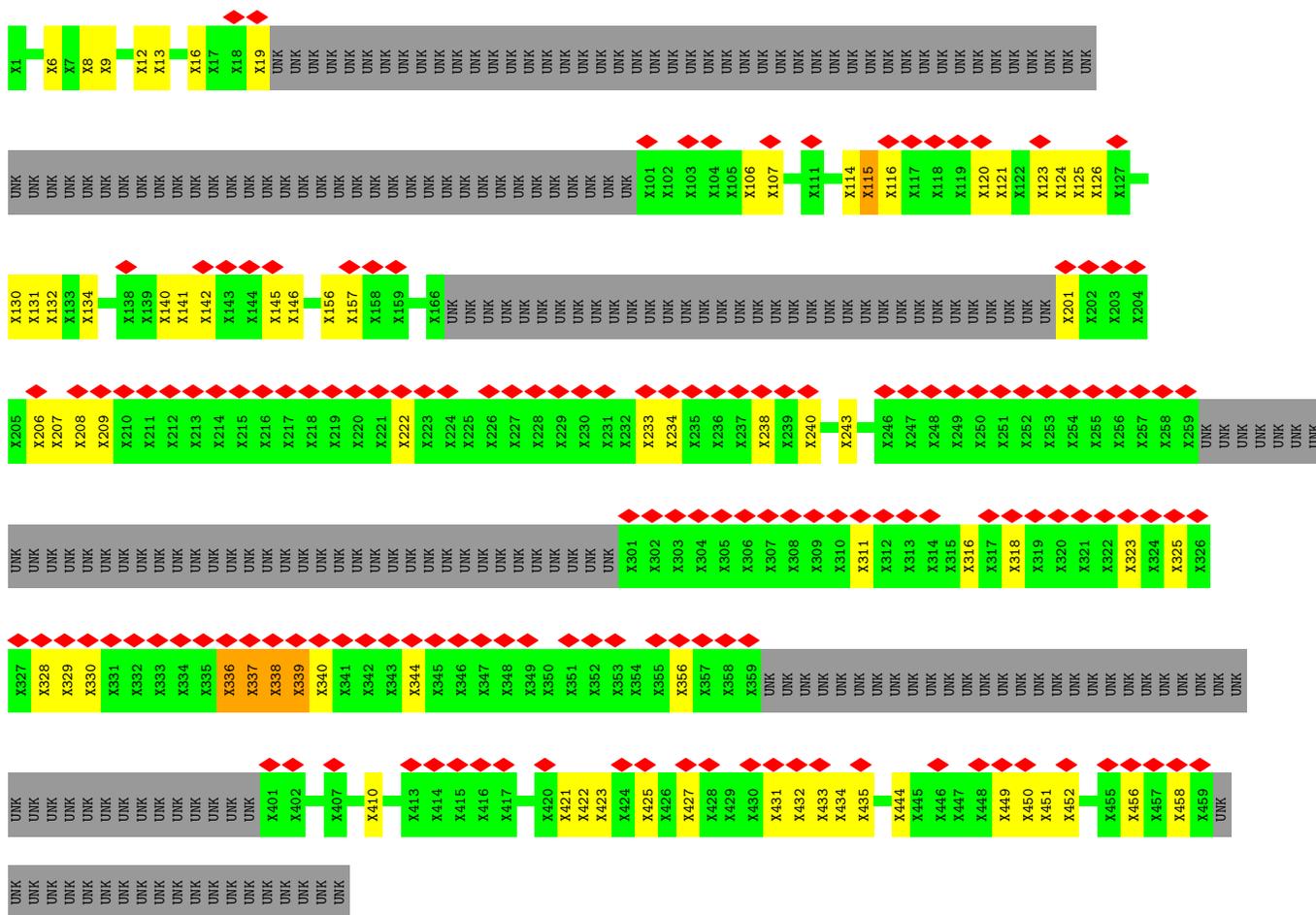


• Molecule 23: Ribosome hibernation promoting factor

Chain x: 13% 35% 19% 8% 57%

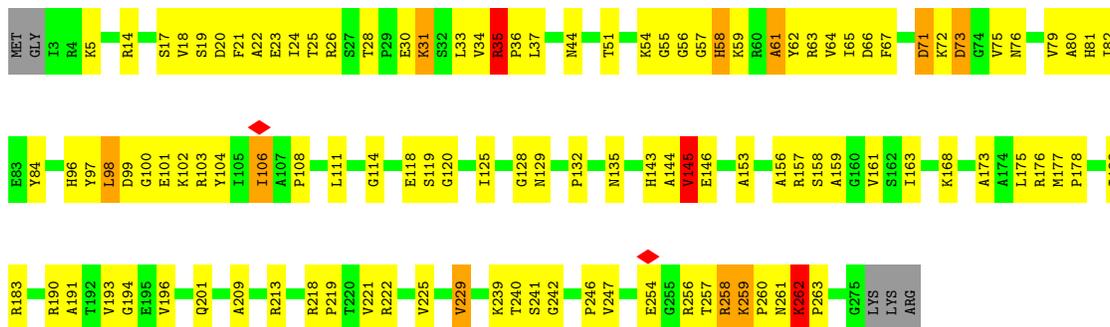


• Molecule 24: bS1



• Molecule 25: 50S ribosomal protein L2

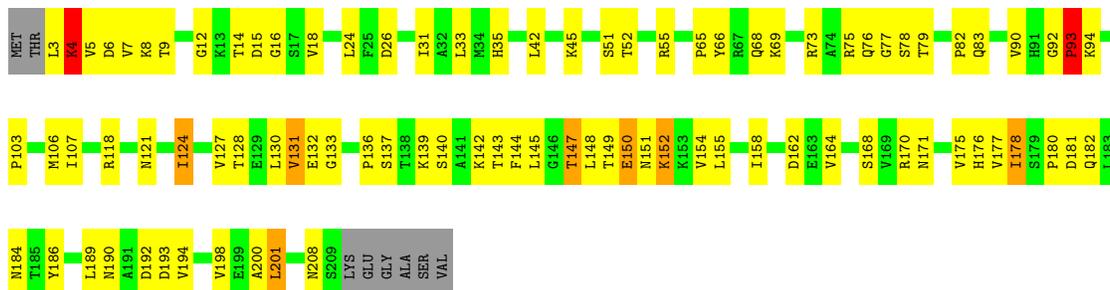




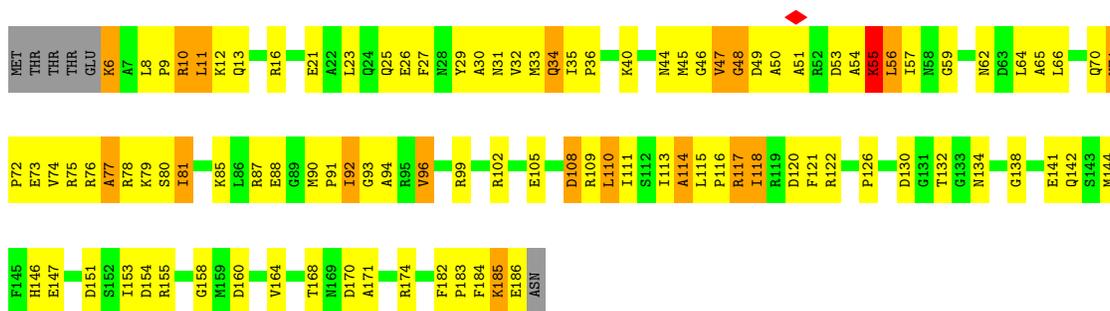
• Molecule 26: 50S ribosomal protein L3



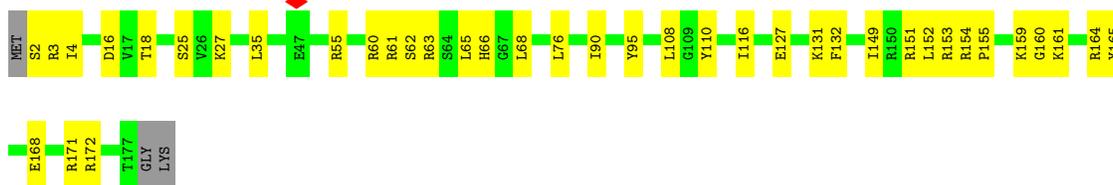
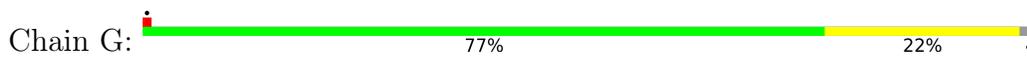
• Molecule 27: 50S ribosomal protein L4



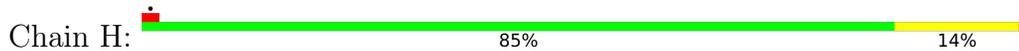
• Molecule 28: 50S ribosomal protein L5



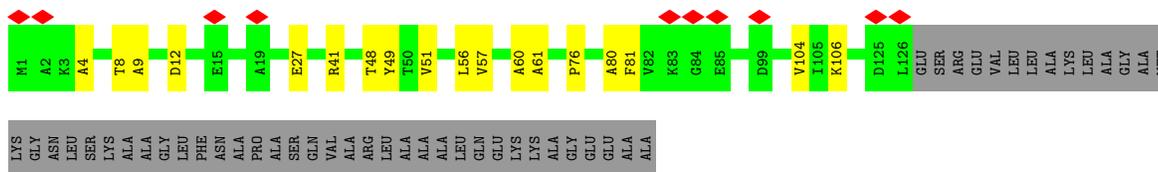
• Molecule 29: 50S ribosomal protein L6



- Molecule 30: 50S ribosomal protein L9



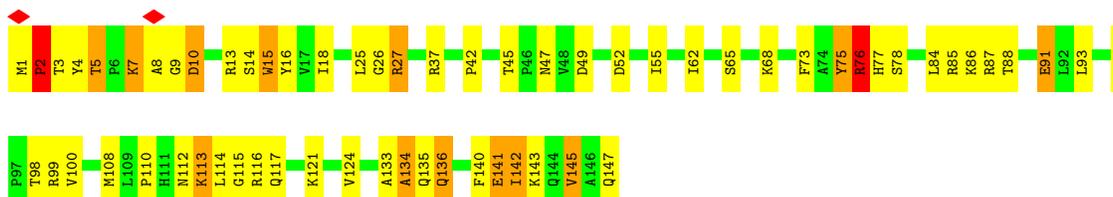
- Molecule 31: 50S ribosomal protein L10



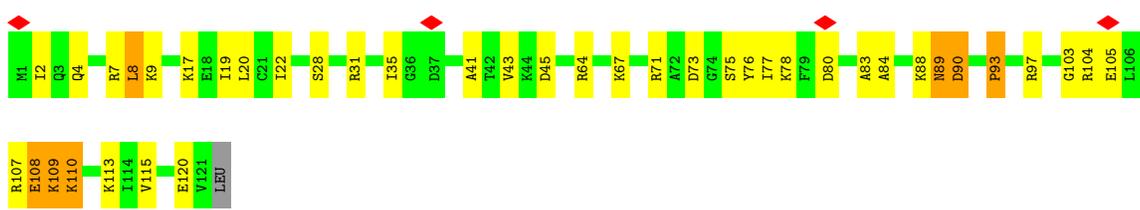
- Molecule 32: 50S ribosomal protein L11



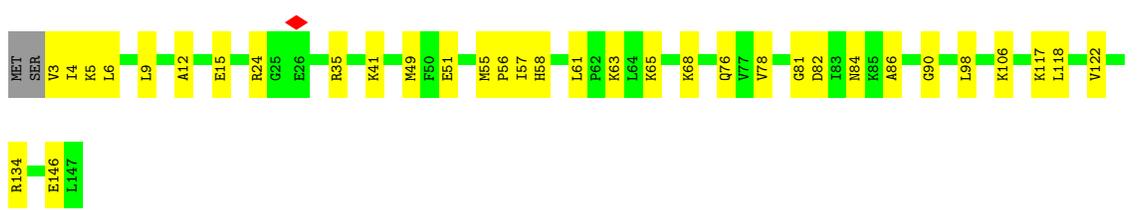
- Molecule 33: 50S ribosomal protein L13



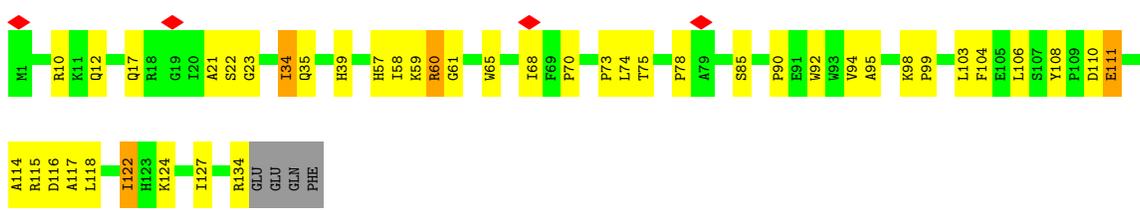
- Molecule 34: 50S ribosomal protein L14



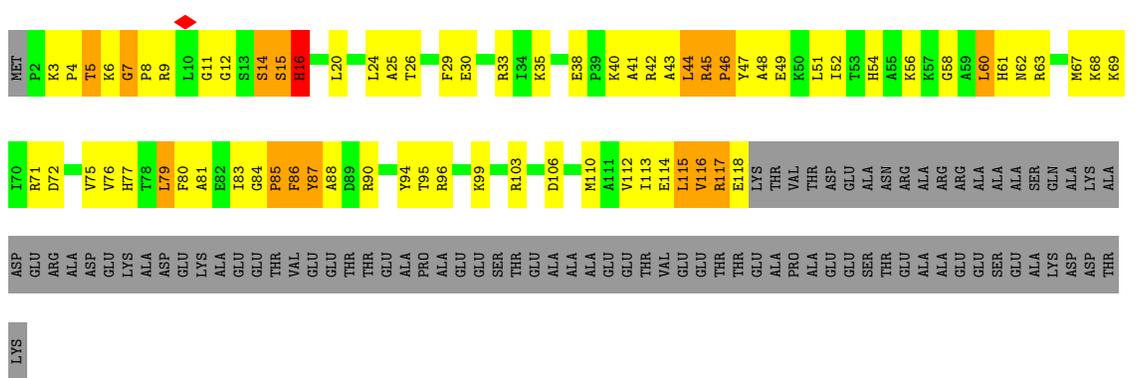
• Molecule 35: 50S ribosomal protein L15



• Molecule 36: 50S ribosomal protein L16



• Molecule 37: 50S ribosomal protein L17

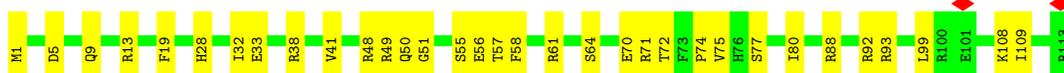


• Molecule 38: 50S ribosomal protein L18

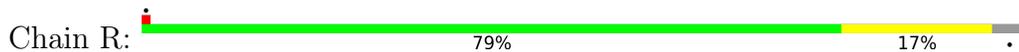




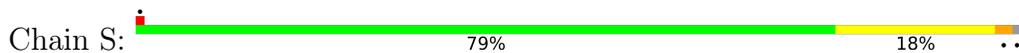
• Molecule 39: 50S ribosomal protein L19



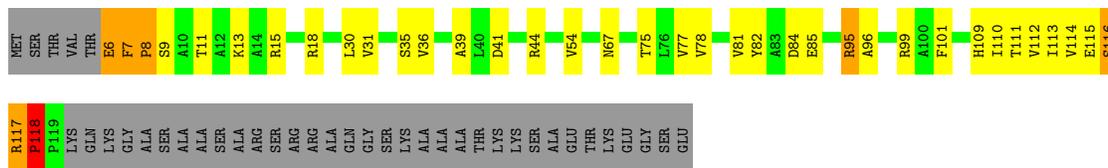
• Molecule 40: 50S ribosomal protein L20



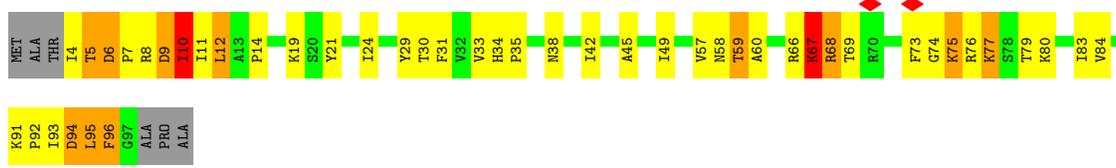
• Molecule 41: 50S ribosomal protein L21



• Molecule 42: 50S ribosomal protein L22



• Molecule 43: 50S ribosomal protein L23

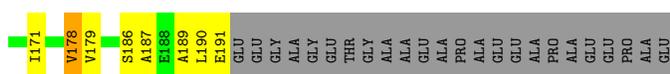


• Molecule 44: 50S ribosomal protein L24





• Molecule 45: 50S ribosomal protein L25



• Molecule 46: 50S ribosomal protein L27



• Molecule 47: 50S ribosomal protein L28



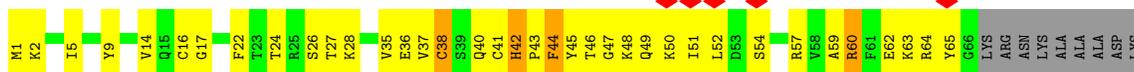
• Molecule 48: 50S ribosomal protein L29



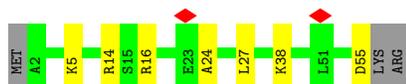
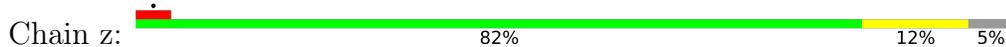
• Molecule 49: 50S ribosomal protein L30



• Molecule 50: 50S ribosomal protein L31



• Molecule 51: 50S ribosomal protein L32



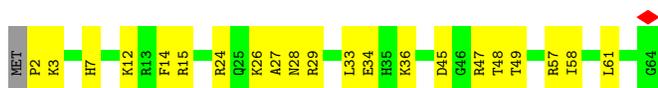
• Molecule 52: 50S ribosomal protein L33 1



• Molecule 53: 50S ribosomal protein L34



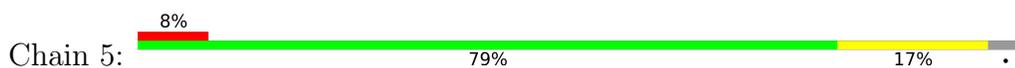
• Molecule 54: 50S ribosomal protein L35



• Molecule 55: 50S ribosomal protein L36

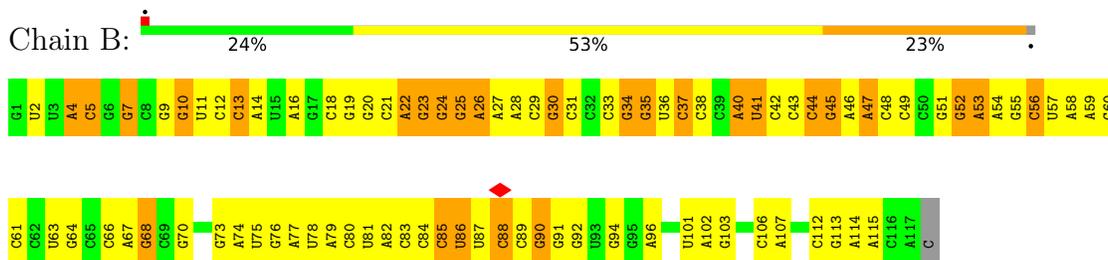


• Molecule 56: Uncharacterized protein

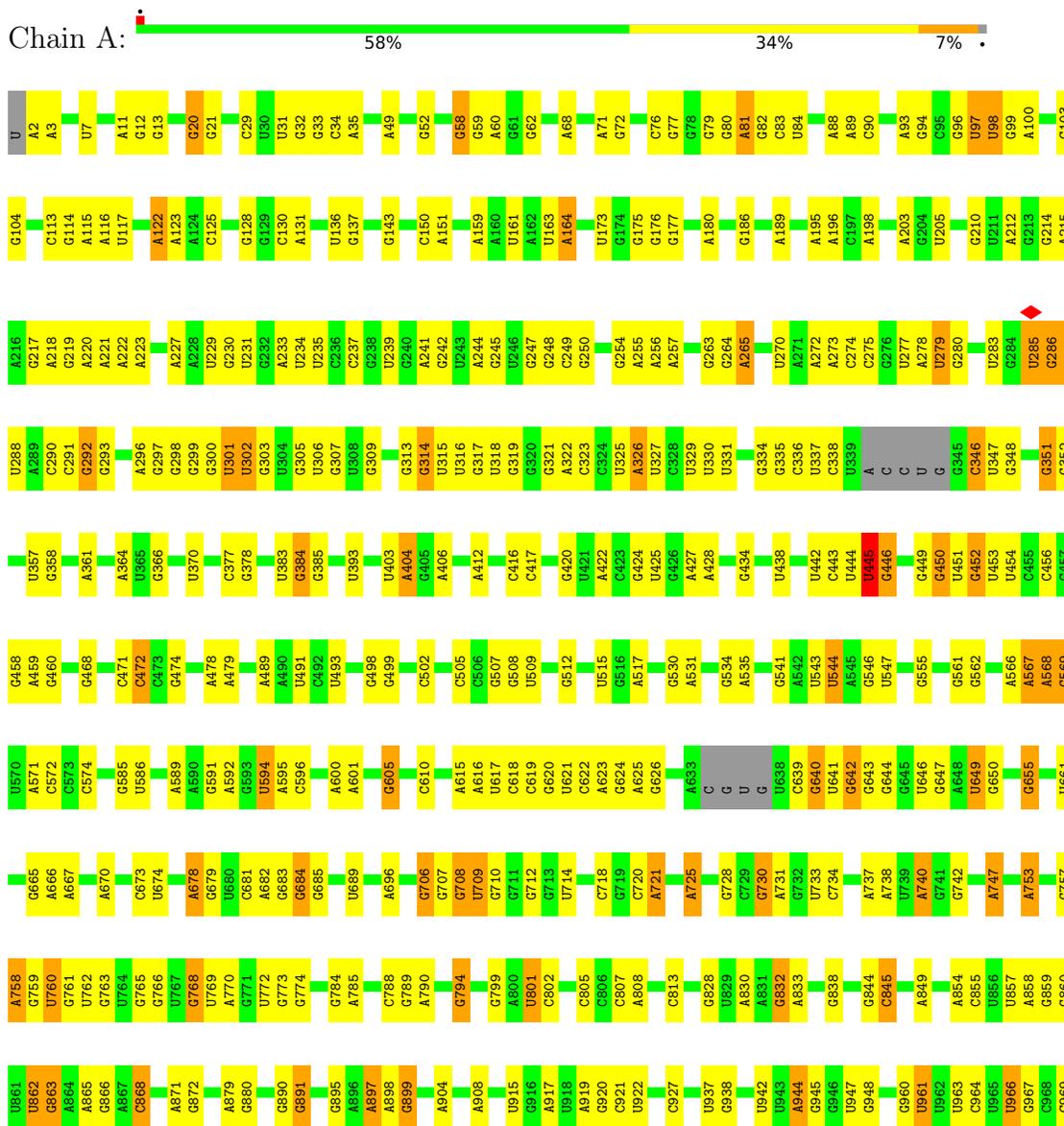




• Molecule 57: 5S rRNA



• Molecule 58: 23S rRNA



A2255	A2256	A2257	G2261	G2262	G2263	C2267	G2276	G2279	G2280	A2284	G2285	G2286	C2287	C2288	C2289	C2299	U2309	U2315	G2316	G2317	G2318	G2319	C2320	U2321	G2322	G2323	A2324	U2325	G2328	G2329	U2334	G2335	A2337	G2338	G2339	U2340	U2341	A2342	G2343	G2346	G2347	G2348	A2349	G2350	A2351	C2352	U2353					
A2140	U2141	A2142	A2143	C2144	A2151	A2152	G2153	G2154	G2157	A2160	A2161	A2162	U2163	A2164	U2167	A2176	U2179	A2190	C2191	G2192	C2193	U2194	U2195	G2196	C2206	C2211	A2212	U2215	G2216	U2217	C2220	A2221	C2224	C2230	G2236	A2237	A2238	A2239	A2244	C2245	U2246	A2247	G2251									
A2032	U2033	G2045	A2046	G2052	G2059	G2062	G2063	A2064	U2068	U2069	A2071	A2072	A2073	G2074	G2075	U2081	U2082	A2083	A2084	C2085	U2086	C2087	C2088	C2089	U2090	U2091	U2092	C2093	G2094	G2095	G2096	A2106	G2107	U2111	U2112	C2118	C2119	A2120	G2121	U2122	G2127	G2130	G2131	A2137	U2139							
G1922	G1923	G1933	G1938	U1939	A1940	U1945	U	U	A	C1949	C1954	A1955	A1956	G1957	C1958	G1967	G1970	C1971	A1972	C1973	A1974	A1975	U1981	A1990	C1991	C1992	U1996	A1997	C1998	U1999	A2000	A2001	A2006	C2007	G2014	U2015	G2016	C2017	G2018	A2019	A2020	C2025	U2026	A2027	G2028	G2031						
C1705	A1710	G1711	G1712	U1713	A1714	A1715	A1716	U1717	C1718	G1719	G1720	U1721	G1724	G1725	C1726	A1727	U1728	A1729	U1730	A1731	A1737	A1744	A1748	G1753	G1754	G1658	U1659	A1660	U1665	A1666	C1667	C1668	C1672	A1673	G1674	U1675	G1676	G1677	U1678	A1679	A1680	U1681	G1688	U1689	A1690	A1787	G1788	A1789	U1791			
A1792	U1798	A1803	G1804	G1805	A1806	C1813	A1826	C1830	A1836	G1837	A1854	A1855	C1856	G1869	U1870	A1871	A1872	U1875	G1875	A1759	G1760	G1761	G1762	A1764	U1767	C1768	G1769	U1774	C1785	G1786	A1787	G1788	A1906	G1913	A1916	G1917	C1903	U1906	G1913	A1916	G1917	U1906	G1913	A1916	G1917	G1921						
G1616	C1617	C1618	U1619	U1620	C1621	G1622	G1625	G1626	U1627	A1628	G1629	U1630	A1631	G1632	U1633	C1634	A1635	A1636	G1637	C1638	G1639	A1640	U1641	G1642	A1648	C1649	G1654	G1658	U1659	A1660	U1665	A1666	C1667	C1668	C1672	A1673	G1674	U1675	G1676	G1677	U1678	A1679	A1680	U1681	G1688	U1689	A1690	A1787	G1788	A1789	U1791	
A1556	C1557	C1558	A1559	U1560	C1561	C1562	A1563	A1564	A1565	U1566	C1567	A1568	C1570	A1580	C1581	C1582	U1583	U1584	U1585	C1586	G1587	A1588	C1589	A1590	C1591	G1592	U1593	G1594	U1595	C1596	G1597	U1598	U1599	G1600	C1601	U1602	G1603	G1604	A1552	U1553	U1554	C1607	U1608	C1610	A1611	U1612	G1613	G1614	G1615			
A1468	G1479	A1480	C1481	A1482	A1493	U1494	A1499	A1500	C1501	G1507	A1508	U1509	U1510	U1511	U1512	C1513	C1514	C1515	C1516	U1517	A1518	C1521	U1522	U1523	U1524	U1525	A1526	U1529	C1530	C1531	U1532	U1533	C1534	U1535	U1536	U1537	A1538	A1539	U1540	U1541	A1542	A1543	U1544	C1545	A1546	G1549	U1550	G1551	A1552	U1553	U1554	A1555
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A1244	U1245	A1246	G1249	U1250	A1251	G1252	G1253	G1254	C1258	U1259	C1260	A1261	A1262	G1263	C1268	G1269	G1270	C1271	G1272	C1273	A1274	A1275	G1281	G1282	U1289	U1291	G1292	G1293	G1296	G1297	G1301	U1302	U1303	G1323	U1324	U1325	G1332	U1333	G1335	G1337	G1343	A1344	G1345	U1346	G1347	A1352	U1353	A1355	G1356	U1357		
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G970	G971	A972	G973	G974	U975	A976	G977	C980	U981	A982	G989	G993	A994	U995	G996	G997	C1000	C1001	C1002	A1003	C	A	G1006	G1007	G1008	U1009	U1010	A1011	C1012	U1013	G1014	A1015	C1016	C1022	A1025	C1029	C1030	A1033	U1040	A1041	A1042	G1043	C1044	C1046	A1047	A1048	G1049	A1058				

U3029	U2833	G2933	G2629	G2714	U2833	U2837	U2839	C2843	G2851	G2852	G2853	U2860	U2861	U2862	G2865	A2866	C2870	U2873	C2876	U2877	U2980	A2981	A2982	G2985	A2989	A2990	U2993	C2994	U2995	G3001	A3002	C3003	C3004	A3005	U3009	U3010	C3011	U3012	C3013	A3014	C3015	C3016	C3017	A3021	G3022	G3023	A3024	G3025	U2433	A2434	U2435	A2436	G2446	A2449	C2450	A2451	C2452	U2453	U2457	G2458	G2462	G2463	U2464	A2465	G2466	U2467	U2468	A2471	C2472	U2473	G2476	C2485	U2486	C2487	A2490	A2497	A2498	C2499	G2500	A2501	A2502	G2503	G2506	C2507	C2508	C2509	A2510	A2511	A2512	U2515	U2516	C2517	A2522	G2527	G2528	A2529	C2530	G2531	G2532	U2536	C2537	A2538	G2539	G2540	G2545	A2546	G2547	U2548	G2549	U2550	A2551	C2556	A2557	C2558	A2559	A2560	U2567	C2571	C2574	G2575	A2578	A2582	U2585	A2586	A2593	G2594	G2595	G2596	A2601	C2607	C2608	A2609	C2610	U2611	A2612	U2613	U2614	G2615	A2616	U2626	C2627	U2628	U2633	A2634	U2635	A2634	G2640	U2643	C2644	G2645	C2646	U2647	C2648	A2649	A2650	C2651	G2652	C2653	A2654	U2655	A2658	A2659	C2665	G2668	C2669	G2670	C2671	A2672	U2673	C2676	A2677	G2678	G2682	U2686	U2687	C2691	A2692	A2693	C2694	C2698	C2699	C2802	C2803	U2810	A2814	C2815	A2826	C2827	U2828	U2715	G2718	G2726	G2729	G2737	A2742	U2743	C2744	C2745	G2750	G2753	G2754	A2755	G2756	C2757	A2758	G2759	C2764	G2761	C2762	C2763	C2764	A2765	A2766	A2767	C2768	C2792	G2793	G2794	C2795	A2796	C2797	G2798	C2799	G2800	A2801	G2802	C2803	U2810	A2814	C2815	A2826	C2827	U2828	U2837	U2838	U2839	C2843	G2851	G2852	G2853	U2860	U2861	U2862	G2865	A2866	C2870	U2873	C2876	U2877	U2878	A2881	C2882	G2885	A2886	G2887	C2891	G2892	G2893	A2894	C2896	G2897	C2900	U2906	C2907	U2908	G2909	U2913	A2914	C2915	U2922	C2923	A2926	G2932
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## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	391837	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	1.5	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.253	Depositor
Minimum map value	-0.087	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.017	Depositor
Recommended contour level	0.03	Depositor
Map size ( $\text{\AA}$ )	419.84, 419.84, 419.84	wwPDB
Map dimensions	328, 328, 328	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.28, 1.28, 1.28	Depositor

## 5 Model quality

### 5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	a	0.40	0/36201	0.52	5/56488 (0.0%)
2	c	0.31	0/1696	0.77	2/2276 (0.1%)
3	e	0.38	0/1449	0.77	3/1949 (0.2%)
4	g	0.31	0/1260	0.72	1/1701 (0.1%)
5	h	0.44	0/1018	0.92	4/1375 (0.3%)
6	i	0.34	0/1012	0.80	1/1362 (0.1%)
7	j	0.31	0/789	0.71	2/1069 (0.2%)
8	k	0.31	0/889	0.75	2/1201 (0.2%)
9	l	0.41	0/969	0.95	1/1294 (0.1%)
10	o	0.31	0/718	0.66	1/963 (0.1%)
11	q	0.39	0/741	0.74	2/993 (0.2%)
12	r	0.30	0/517	0.72	2/691 (0.3%)
13	s	0.33	0/647	0.88	4/871 (0.5%)
14	t	0.35	0/658	0.68	0/875
15	n	0.46	0/488	0.67	0/650
16	b	0.26	0/1822	0.63	0/2457
17	d	0.34	0/1672	0.75	2/2251 (0.1%)
18	f	0.35	0/782	0.69	2/1059 (0.2%)
19	m	0.33	0/942	0.73	0/1260
20	p	0.39	0/908	0.69	0/1226
21	u	0.58	0/280	0.93	0/359
22	w	0.40	0/1835	0.62	0/2857
23	x	0.59	0/843	1.18	6/1127 (0.5%)
25	C	1.00	0/2140	1.15	16/2879 (0.6%)
26	D	0.51	0/1609	0.74	2/2165 (0.1%)
27	E	0.86	0/1576	1.06	3/2132 (0.1%)
28	F	0.61	0/1459	1.12	14/1962 (0.7%)
29	G	0.31	0/1369	0.60	0/1848
30	H	0.29	0/1027	0.69	2/1398 (0.1%)
31	I	0.22	0/925	0.56	0/1246
32	J	0.27	0/1006	0.71	0/1364
33	K	0.80	0/1165	1.21	16/1578 (1.0%)
34	L	0.89	0/938	1.11	6/1257 (0.5%)
35	M	0.49	0/1091	0.71	0/1457

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
36	N	0.91	0/1100	1.07	3/1482 (0.2%)
37	O	0.85	2/936 (0.2%)	1.35	20/1256 (1.6%)
38	P	0.38	0/966	0.62	0/1298
39	Q	0.46	0/921	0.70	0/1236
40	R	0.51	0/1000	0.64	0/1341
41	S	0.44	0/778	0.63	0/1048
42	T	0.95	1/887 (0.1%)	1.16	7/1204 (0.6%)
43	U	0.76	0/749	1.11	6/1006 (0.6%)
44	V	0.66	0/737	1.05	4/987 (0.4%)
45	W	0.61	1/1404 (0.1%)	1.09	5/1917 (0.3%)
46	X	0.95	1/613 (0.2%)	1.10	3/821 (0.4%)
47	Y	0.52	0/478	0.78	0/641
48	Z	0.69	0/530	0.92	0/708
49	v	0.85	0/486	1.00	1/651 (0.2%)
50	y	0.40	0/520	0.84	1/698 (0.1%)
51	z	0.54	0/427	0.70	0/572
52	1	0.71	0/424	1.07	4/567 (0.7%)
53	2	0.95	0/375	1.34	4/493 (0.8%)
54	3	1.01	0/507	1.03	1/672 (0.1%)
55	4	0.79	0/302	0.90	0/401
56	5	0.46	0/191	0.76	0/247
57	B	0.28	0/2797	0.49	0/4357
58	A	0.47	0/74597	0.50	4/116386 (0.0%)
All	All	0.49	5/164166 (0.0%)	0.63	162/245629 (0.1%)

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
2	c	0	1
3	e	0	1
4	g	0	3
5	h	0	2
7	j	0	1
8	k	0	2
9	l	0	2
11	q	0	1
12	r	0	1
13	s	0	2
17	d	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
23	x	0	11
24	0	0	8
25	C	0	5
26	D	0	2
27	E	0	5
28	F	0	1
33	K	0	1
36	N	0	2
37	O	0	2
42	T	0	1
43	U	0	1
45	W	0	2
52	1	0	2
All	All	0	60

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	W	7	ILE	C-N	6.26	1.39	1.33
37	O	84	GLY	C-N	6.17	1.42	1.34
42	T	117	ARG	C-N	5.86	1.40	1.33
37	O	45	ARG	C-N	5.50	1.40	1.34
46	X	81	VAL	C-N	5.03	1.39	1.33

All (162) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	W	62	GLY	N-CA-C	19.02	133.81	111.93
5	h	94	LEU	N-CA-C	-15.74	85.11	109.04
45	W	61	HIS	CA-C-N	11.61	131.13	120.10
45	W	61	HIS	C-N-CA	11.61	131.13	120.10
28	F	117	ARG	N-CA-C	10.58	122.81	111.28
28	F	114	ALA	N-CA-C	10.39	122.61	111.28
42	T	118	PRO	N-CA-C	9.36	122.11	110.70
17	d	189	PRO	CA-C-N	9.25	135.10	121.31
17	d	189	PRO	C-N-CA	9.25	135.10	121.31
33	K	10	ASP	N-CA-C	8.60	120.65	111.28
33	K	27	ARG	N-CA-C	-8.45	102.56	113.12
28	F	55	LYS	N-CA-C	8.30	120.33	111.28
42	T	118	PRO	CA-N-CD	-8.14	100.60	112.00
36	N	111	GLU	N-CA-C	7.99	119.99	111.28
53	2	8	PHE	N-CA-C	7.90	119.53	111.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	2	7	THR	N-CA-C	7.88	127.59	110.80
37	O	45	ARG	CA-C-N	-7.58	111.15	119.19
37	O	45	ARG	C-N-CA	-7.58	111.15	119.19
37	O	84	GLY	CA-C-N	-7.55	110.67	119.05
37	O	84	GLY	C-N-CA	-7.55	110.67	119.05
28	F	56	LEU	N-CA-C	7.53	120.44	111.33
1	a	1482	U	P-O3'-C3'	7.35	131.22	120.20
23	x	46	PHE	CA-CB-CG	7.29	121.09	113.80
30	H	124	ILE	CA-C-N	7.05	135.01	121.54
30	H	124	ILE	C-N-CA	7.05	135.01	121.54
50	y	54	SER	N-CA-C	6.99	119.98	110.55
42	T	118	PRO	CB-CA-C	6.89	119.32	110.92
37	O	85	PRO	CA-N-CD	-6.88	102.37	112.00
43	U	74	GLY	N-CA-C	6.87	119.83	110.69
44	V	58	GLY	N-CA-C	6.76	120.84	112.73
33	K	9	GLY	N-CA-C	6.75	120.83	112.73
52	1	22	ASN	N-CA-C	6.71	120.42	110.48
34	L	108	GLU	N-CA-C	-6.67	96.59	110.80
33	K	76	ARG	N-CA-C	-6.65	98.06	108.90
37	O	46	PRO	CA-N-CD	-6.61	102.75	112.00
8	k	115	GLU	N-CA-C	6.60	119.70	109.07
28	F	54	ALA	N-CA-C	6.53	118.48	111.36
34	L	110	LYS	N-CA-C	6.42	126.13	113.29
58	A	2085	C	C2'-C3'-O3'	6.42	119.13	109.50
46	X	11	ARG	N-CA-C	-6.37	99.50	109.25
10	o	24	SER	N-CA-C	-6.36	101.75	109.83
5	h	94	LEU	CA-C-N	-6.33	112.64	119.98
5	h	94	LEU	C-N-CA	-6.33	112.64	119.98
37	O	44	LEU	N-CA-C	-6.32	104.40	111.28
33	K	145	VAL	N-CA-C	6.27	116.91	107.75
3	e	175	PRO	N-CA-C	-6.26	105.01	113.40
33	K	7	LYS	N-CA-C	-6.20	102.35	110.53
52	1	23	TYR	N-CA-C	-6.17	98.93	109.24
33	K	134	ALA	N-CA-C	-6.15	102.85	110.41
42	T	31	VAL	N-CA-CB	-6.12	104.41	112.36
37	O	16	HIS	N-CA-C	-6.08	104.65	111.28
49	v	52	HIS	N-CA-C	6.08	117.99	111.36
28	F	71	LYS	CA-C-N	-6.05	113.55	119.90
28	F	71	LYS	C-N-CA	-6.05	113.55	119.90
18	f	67	ALA	CA-C-N	6.04	138.14	120.97
18	f	67	ALA	C-N-CA	6.04	138.14	120.97
13	s	40	ILE	N-CA-C	6.02	116.49	110.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	F	77	ALA	N-CA-C	6.01	119.32	109.76
37	O	88	ALA	CA-C-N	6.01	136.78	126.32
37	O	88	ALA	C-N-CA	6.01	136.78	126.32
28	F	153	ILE	N-CA-CB	-6.01	106.64	112.65
43	U	8	ARG	N-CA-C	-5.99	106.61	114.04
25	C	262	LYS	CA-C-N	-5.97	114.61	120.52
25	C	262	LYS	C-N-CA	-5.97	114.61	120.52
33	K	5	THR	CA-C-N	-5.94	113.64	119.76
33	K	5	THR	C-N-CA	-5.94	113.64	119.76
23	x	56	ARG	NE-CZ-NH2	5.92	124.53	119.20
37	O	87	TYR	N-CA-C	5.91	120.62	113.41
2	c	62	ARG	CA-C-N	5.91	132.61	121.97
2	c	62	ARG	C-N-CA	5.91	132.61	121.97
34	L	110	LYS	CA-C-N	-5.88	113.31	123.25
34	L	110	LYS	C-N-CA	-5.88	113.31	123.25
54	3	15	ARG	CB-CG-CD	-5.86	97.82	111.30
33	K	5	THR	N-CA-C	-5.85	96.10	108.73
25	C	259	LYS	CA-C-N	-5.84	114.25	120.03
25	C	259	LYS	C-N-CA	-5.84	114.25	120.03
4	g	153	HIS	N-CA-C	5.83	117.63	111.28
25	C	145	VAL	CA-C-N	5.81	132.64	121.54
25	C	145	VAL	C-N-CA	5.81	132.64	121.54
11	q	6	GLY	CA-C-N	-5.81	113.95	119.76
11	q	6	GLY	C-N-CA	-5.81	113.95	119.76
28	F	48	GLY	N-CA-C	-5.81	107.63	115.36
34	L	109	LYS	N-CA-C	5.79	117.85	108.41
43	U	77	LYS	N-CA-C	5.77	118.70	110.10
37	O	7	GLY	CA-C-N	-5.73	114.36	120.03
37	O	7	GLY	C-N-CA	-5.73	114.36	120.03
44	V	89	ASP	N-CA-C	-5.71	105.06	111.28
37	O	30	GLU	N-CA-C	5.68	117.55	111.36
33	K	136	GLN	CA-C-N	-5.64	113.95	119.76
33	K	136	GLN	C-N-CA	-5.64	113.95	119.76
7	j	42	LEU	CA-C-N	-5.57	112.88	119.84
7	j	42	LEU	C-N-CA	-5.57	112.88	119.84
13	s	39	THR	CA-C-N	5.57	128.06	120.77
13	s	39	THR	C-N-CA	5.57	128.06	120.77
33	K	133	ALA	N-CA-C	-5.55	105.23	111.28
28	F	141	GLU	CA-C-N	5.55	132.13	121.54
28	F	141	GLU	C-N-CA	5.55	132.13	121.54
1	a	1482	U	C2'-C3'-O3'	5.54	117.81	109.50
34	L	64	ARG	CB-CG-CD	-5.51	98.63	111.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
42	T	117	ARG	CA-C-N	-5.51	114.71	120.38
42	T	117	ARG	C-N-CA	-5.51	114.71	120.38
43	U	12	LEU	CA-CB-CG	5.50	135.57	116.30
12	r	25	LYS	CA-C-N	5.50	132.05	121.54
12	r	25	LYS	C-N-CA	5.50	132.05	121.54
37	O	3	LYS	CA-C-N	-5.49	114.13	119.78
37	O	3	LYS	C-N-CA	-5.49	114.13	119.78
25	C	80	ALA	N-CA-C	-5.48	106.65	113.55
44	V	79	LYS	CA-C-N	-5.48	114.61	120.03
44	V	79	LYS	C-N-CA	-5.48	114.61	120.03
27	E	147	THR	N-CA-C	-5.46	105.33	111.28
46	X	81	VAL	CA-C-N	-5.43	114.12	119.93
46	X	81	VAL	C-N-CA	-5.43	114.12	119.93
1	a	1171	G	P-O5'-C5'	-5.42	112.77	120.90
33	K	15	TRP	N-CA-C	5.41	117.68	110.53
37	O	60	LEU	N-CA-C	-5.41	99.28	110.80
1	a	895	A	P-O3'-C3'	5.40	128.31	120.20
25	C	28	THR	CA-C-N	-5.38	114.70	120.03
25	C	28	THR	C-N-CA	-5.38	114.70	120.03
45	W	89	ARG	N-CA-C	-5.37	102.25	110.14
58	A	445	U	P-O3'-C3'	5.33	128.19	120.20
25	C	157	ARG	CB-CG-CD	-5.31	99.08	111.30
9	l	58	THR	N-CA-C	-5.31	105.50	111.28
25	C	35	ARG	CA-C-N	-5.31	113.21	119.84
25	C	35	ARG	C-N-CA	-5.31	113.21	119.84
13	s	32	LYS	N-CA-C	-5.30	99.87	108.41
53	2	9	GLN	CA-C-N	-5.30	114.26	119.93
53	2	9	GLN	C-N-CA	-5.30	114.26	119.93
33	K	108	MET	CA-CB-CG	5.30	124.69	114.10
33	K	2	PRO	CA-N-CD	-5.29	104.59	112.00
42	T	116	SER	N-CA-C	5.28	117.71	108.52
52	1	32	ASP	CA-C-N	-5.28	113.25	119.84
52	1	32	ASP	C-N-CA	-5.28	113.25	119.84
43	U	11	ILE	CA-C-N	-5.27	114.01	122.08
43	U	11	ILE	C-N-CA	-5.27	114.01	122.08
23	x	94	GLY	CA-C-N	-5.26	113.26	119.84
23	x	94	GLY	C-N-CA	-5.26	113.26	119.84
37	O	86	PHE	N-CA-C	5.26	117.09	111.36
28	F	35	ILE	CA-C-N	-5.25	113.28	119.84
28	F	35	ILE	C-N-CA	-5.25	113.28	119.84
58	A	2085	C	P-O3'-C3'	5.25	128.07	120.20
26	D	156	THR	CA-C-N	-5.25	113.28	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	D	156	THR	C-N-CA	-5.25	113.28	119.84
3	e	190	ALA	CA-C-N	-5.24	113.29	119.84
3	e	190	ALA	C-N-CA	-5.24	113.29	119.84
23	x	58	GLU	CA-CB-CG	5.22	124.55	114.10
27	E	93	PRO	CA-C-N	5.22	134.54	121.80
27	E	93	PRO	C-N-CA	5.22	134.54	121.80
45	W	178	VAL	N-CA-C	-5.18	107.77	112.12
23	x	58	GLU	CB-CA-C	-5.18	99.39	110.32
6	i	101	LEU	CB-CG-CD2	-5.16	95.22	110.70
58	A	2094	G	P-O3'-C3'	5.16	127.94	120.20
25	C	98	LEU	N-CA-C	-5.13	105.76	111.36
37	O	45	ARG	C-N-CD	5.12	145.98	125.00
8	k	116	VAL	N-CA-C	5.06	119.87	109.34
36	N	68	ILE	CA-C-N	-5.06	113.93	121.83
36	N	68	ILE	C-N-CA	-5.06	113.93	121.83
5	h	128	LEU	N-CA-C	-5.05	101.10	108.07
1	a	1482	U	C4'-C3'-O3'	5.04	116.96	109.40
25	C	201	GLN	CA-C-N	5.02	131.14	121.54
25	C	201	GLN	C-N-CA	5.02	131.14	121.54
25	C	28	THR	N-CA-C	5.02	117.90	110.32
37	O	41	ALA	N-CA-C	5.01	116.75	111.28

There are no chirality outliers.

All (60) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
24	0	114	UNK	Peptide
24	0	115	UNK	Peptide
24	0	336	UNK	Peptide
24	0	337	UNK	Peptide
24	0	338	UNK	Peptide
24	0	339	UNK	Peptide
24	0	450	UNK	Peptide
24	0	451	UNK	Peptide
52	1	32	ASP	Peptide
52	1	33	PRO	Peptide
25	C	144	ALA	Peptide
25	C	229	VAL	Peptide
25	C	246	PRO	Peptide
25	C	35	ARG	Peptide
25	C	61	ALA	Peptide
26	D	153	GLY	Peptide

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>Group</b>
26	D	156	THR	Peptide
27	E	131	VAL	Peptide
27	E	137	SER	Peptide
27	E	158	ILE	Peptide
27	E	162	ASP	Peptide
27	E	93	PRO	Peptide
28	F	81	ILE	Peptide
33	K	91	GLU	Peptide
36	N	60	ARG	Peptide
36	N	78	PRO	Peptide
37	O	117	ARG	Peptide
37	O	61	HIS	Peptide
42	T	95	ARG	Peptide
43	U	67	LYS	Peptide
45	W	137	ALA	Peptide
45	W	39	GLY	Peptide
2	c	62	ARG	Peptide
17	d	189	PRO	Peptide
3	e	186	ILE	Peptide
4	g	1	MET	Peptide
4	g	32	LEU	Peptide
4	g	76	ARG	Peptide
5	h	126	GLU	Peptide
5	h	55	ARG	Peptide
7	j	44	THR	Peptide
8	k	133	PRO	Peptide
8	k	35	THR	Peptide
9	l	23	ALA	Peptide
9	l	88	LYS	Peptide
11	q	15	LYS	Peptide
12	r	19	LYS	Peptide
13	s	70	LYS	Peptide
13	s	73	GLU	Peptide
23	x	125	LYS	Peptide
23	x	126	ASP	Peptide
23	x	127	ARG	Peptide
23	x	128	ARG	Peptide
23	x	129	LYS	Peptide
23	x	37	GLY	Peptide
23	x	56	ARG	Sidechain
23	x	65	TYR	Sidechain
23	x	70	GLU	Peptide

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Mol	Chain	Res	Type	Group
23	x	93	ARG	Peptide
23	x	94	GLY	Peptide

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	a	32341	0	16263	1139	0
2	c	1672	0	1720	178	0
3	e	1433	0	1485	156	0
4	g	1240	0	1293	121	0
5	h	1003	0	1039	54	0
6	i	994	0	1048	163	0
7	j	775	0	808	57	0
8	k	871	0	885	107	0
9	l	958	0	1045	36	0
10	o	709	0	747	30	0
11	q	730	0	772	37	0
12	r	512	0	543	35	0
13	s	630	0	639	90	0
14	t	655	0	707	98	0
15	n	477	0	501	59	0
16	b	1793	0	1839	71	0
17	d	1641	0	1668	67	0
18	f	771	0	797	42	0
19	m	935	0	985	55	0
20	p	891	0	933	34	0
21	u	280	0	342	10	0
22	w	1643	0	834	296	0
23	x	831	0	835	396	0
24	0	1310	0	305	117	0
25	C	2097	0	2147	198	0
26	D	1587	0	1629	85	0
27	E	1553	0	1587	145	0
28	F	1437	0	1463	233	0
29	G	1348	0	1399	28	0
30	H	1018	0	988	15	0
31	I	918	0	959	13	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	J	990	0	1020	23	0
33	K	1138	0	1174	119	0
34	L	930	0	989	57	0
35	M	1078	0	1151	48	0
36	N	1074	0	1116	60	0
37	O	919	0	959	135	0
38	P	956	0	990	58	0
39	Q	907	0	938	33	0
40	R	988	0	1038	20	0
41	S	768	0	820	47	0
42	T	873	0	909	54	0
43	U	739	0	775	101	0
44	V	731	0	782	112	0
45	W	1389	0	1411	217	0
46	X	604	0	622	59	0
47	Y	470	0	484	8	0
48	Z	527	0	537	61	0
49	v	483	0	513	22	0
50	y	510	0	501	108	0
51	z	423	0	463	12	0
52	1	416	0	421	101	0
53	2	372	0	406	36	0
54	3	502	0	541	32	0
55	4	298	0	321	47	0
56	5	189	0	205	4	0
57	B	2501	0	1270	249	0
58	A	66623	0	33513	1110	0
All	All	152451	0	102074	5320	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 21.

All (5320) 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)
6:i:26:ILE:HB	6:i:41:LEU:CD2	1.19	1.66
6:i:26:ILE:CB	6:i:41:LEU:HD23	1.23	1.64
43:U:83:ILE:HD11	58:A:1456:G:C2	1.14	1.63
1:a:1034:C:C5	23:x:75:ARG:CA	1.78	1.62
12:r:32:TYR:CE1	18:f:91:LEU:HD11	1.34	1.59
6:i:42:VAL:CG1	6:i:83:ILE:HG13	1.22	1.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:S:3:THR:CG2	41:S:102:ILE:HD13	1.26	1.59
37:O:29:PHE:CB	37:O:79:LEU:HD12	1.28	1.58
41:S:58:VAL:HG23	41:S:103:LYS:CG	1.24	1.58
16:b:74:LYS:HZ2	24:0:157:UNK:CA	1.01	1.56
28:F:117:ARG:NH1	28:F:146:HIS:CD2	1.72	1.56
43:U:83:ILE:CD1	58:A:1456:G:C2	1.85	1.55
6:i:42:VAL:HG12	6:i:83:ILE:CG1	1.16	1.54
8:k:43:ILE:HD11	8:k:51:ILE:CD1	1.13	1.54
41:S:3:THR:CG2	41:S:102:ILE:CD1	1.83	1.54
45:W:104:GLU:HB2	45:W:137:ALA:CB	1.32	1.53
2:c:128:ALA:HB2	3:e:19:ARG:CD	1.31	1.53
27:E:144:PHE:CG	27:E:148:LEU:HD11	1.42	1.53
8:k:43:ILE:CD1	8:k:51:ILE:HD11	1.38	1.52
2:c:128:ALA:CB	3:e:19:ARG:HD2	1.35	1.52
4:g:151:PHE:HZ	8:k:65:ARG:NE	1.05	1.52
13:s:6:LYS:NZ	50:y:63:LYS:HD3	1.22	1.52
45:W:104:GLU:CB	45:W:137:ALA:HB2	1.37	1.52
44:V:4:HIS:CE1	44:V:96:ARG:NH1	1.75	1.49
16:b:74:LYS:NZ	24:0:157:UNK:HA	1.18	1.49
23:x:75:ARG:HG3	23:x:83:CYS:N	1.23	1.49
23:x:75:ARG:CD	23:x:83:CYS:CB	1.88	1.48
23:x:38:ARG:NE	23:x:72:ASP:CB	1.71	1.48
25:C:25:THR:HG21	25:C:81:HIS:CA	1.44	1.47
1:a:331:G:C2	14:t:5:LYS:NZ	1.82	1.47
27:E:182:GLN:NE2	58:A:706:G:H8	1.06	1.47
3:e:17:ARG:HH12	3:e:40:VAL:CG2	1.29	1.45
16:b:16:PHE:HZ	24:0:12:UNK:CB	1.25	1.45
58:A:1569:A:N6	58:A:1603:G:H1	1.14	1.45
2:c:135:LYS:HG3	3:e:26:ARG:NH2	1.26	1.44
16:b:36:ASN:HD22	24:0:13:UNK:CB	1.26	1.44
27:E:192:ASP:HB3	35:M:5:LYS:NZ	1.21	1.44
28:F:132:THR:CG2	38:P:6:VAL:HG21	1.48	1.43
27:E:144:PHE:CD1	27:E:148:LEU:HD21	1.50	1.43
23:x:75:ARG:CD	23:x:83:CYS:HB2	0.97	1.42
23:x:38:ARG:CZ	23:x:72:ASP:HB2	1.50	1.42
1:a:674:G:H1'	23:x:130:ILE:CG1	1.13	1.42
26:D:155:ALA:CB	58:A:2796:A:C8	2.01	1.42
45:W:38:TYR:OH	57:B:101:U:C2	1.72	1.42
23:x:38:ARG:HH22	23:x:85:HIS:CD2	1.35	1.42
58:A:1569:A:N6	58:A:1603:G:N1	1.65	1.41
3:e:17:ARG:NH1	3:e:40:VAL:HG21	1.30	1.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:x:75:ARG:CG	23:x:83:CYS:CB	1.98	1.40
33:K:142:ILE:CG2	58:A:1130:C:H41	1.33	1.40
44:V:4:HIS:CE1	44:V:96:ARG:HH12	1.32	1.40
1:a:1034:C:C6	23:x:75:ARG:HA	1.57	1.39
41:S:3:THR:HG22	41:S:102:ILE:CD1	1.38	1.39
22:w:57:C:C4	22:w:58:A:N7	1.88	1.39
58:A:1569:A:C6	58:A:1603:G:N1	1.88	1.39
43:U:19:LYS:HD2	58:A:1508:A:N6	1.30	1.39
23:x:75:ARG:CG	23:x:83:CYS:H	1.36	1.39
26:D:154:CYS:CB	58:A:2798:G:O3'	1.67	1.39
44:V:2:LYS:HD2	44:V:83:VAL:CG1	1.52	1.39
1:a:1034:C:C5	23:x:75:ARG:HA	0.86	1.38
41:S:58:VAL:CG2	41:S:103:LYS:HG2	1.49	1.38
4:g:84:THR:CB	22:w:39:A:H61	1.37	1.38
43:U:4:ILE:HD13	48:Z:58:TYR:CE1	1.57	1.38
3:e:17:ARG:CZ	3:e:40:VAL:HG21	1.53	1.37
45:W:38:TYR:CE1	57:B:73:G:O6	1.74	1.38
4:g:84:THR:HB	22:w:39:A:N6	1.35	1.37
37:O:33:ARG:HD3	37:O:114:GLU:OE2	1.19	1.36
16:b:16:PHE:CZ	24:0:12:UNK:CB	2.06	1.36
37:O:29:PHE:HB3	37:O:79:LEU:CD1	1.54	1.36
48:Z:11:ARG:O	48:Z:64:ARG:NH2	1.58	1.35
28:F:183:PRO:O	28:F:184:PHE:CD2	1.80	1.35
43:U:83:ILE:HD11	58:A:1456:G:N2	1.42	1.35
28:F:51:ALA:O	28:F:85:LYS:NZ	1.58	1.35
1:a:421:U:C4	2:c:126:ARG:NH1	1.92	1.34
25:C:26:ARG:HD2	25:C:81:HIS:CD2	1.61	1.34
58:A:1571:C:H5	58:A:1573:U:C5	1.45	1.34
1:a:674:G:C1'	23:x:130:ILE:CG1	1.77	1.34
58:A:1569:A:N1	58:A:1603:G:C2	1.95	1.34
1:a:1477:A:C8	58:A:2137:A:N1	1.95	1.33
1:a:1042:U:C5	2:c:3:GLN:NE2	1.94	1.33
23:x:75:ARG:HG3	23:x:83:CYS:CA	1.56	1.33
28:F:29:TYR:HD2	28:F:34:GLN:OE1	1.05	1.33
4:g:151:PHE:CZ	8:k:65:ARG:NE	1.95	1.33
28:F:29:TYR:CD2	28:F:34:GLN:OE1	1.79	1.33
37:O:29:PHE:CB	37:O:79:LEU:CD1	2.07	1.33
3:e:17:ARG:HH21	3:e:85:ILE:CG1	1.08	1.32
1:a:673:G:N3	23:x:130:ILE:CG2	1.91	1.32
45:W:6:ASN:CB	45:W:139:SER:OG	1.78	1.32
43:U:4:ILE:HD13	48:Z:58:TYR:CZ	1.63	1.32

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:W:6:ASN:CB	45:W:139:SER:CB	2.07	1.32
6:i:150:ARG:NH2	23:x:68:ASP:OD2	1.62	1.31
43:U:67:LYS:NZ	58:A:1451:A:OP1	1.60	1.31
43:U:73:PHE:CZ	58:A:544:U:O2	1.81	1.31
37:O:29:PHE:CG	37:O:79:LEU:HD11	1.65	1.30
45:W:6:ASN:HB2	45:W:139:SER:CB	1.60	1.30
27:E:144:PHE:CE1	27:E:148:LEU:HD21	1.66	1.30
33:K:142:ILE:CG2	58:A:1130:C:N4	1.95	1.30
41:S:58:VAL:CG2	41:S:103:LYS:CG	2.07	1.30
57:B:4:A:C2	57:B:25:G:O6	1.84	1.29
2:c:122:GLN:HE22	2:c:135:LYS:CE	1.45	1.29
23:x:38:ARG:HE	23:x:72:ASP:CA	1.43	1.29
45:W:104:GLU:CB	45:W:137:ALA:CB	1.97	1.29
6:i:40:ARG:O	6:i:83:ILE:CG2	1.78	1.29
46:X:17:ALA:CB	58:A:2485:C:OP2	1.80	1.29
26:D:154:CYS:N	58:A:2798:G:O2'	1.66	1.28
1:a:48:G:OP2	20:p:13:ILE:HB	1.19	1.28
1:a:1034:C:C4	23:x:75:ARG:HA	1.69	1.28
13:s:40:ILE:O	50:y:64:ARG:NH1	1.68	1.27
37:O:29:PHE:CG	37:O:79:LEU:CD1	2.16	1.27
18:f:17:ARG:NH1	58:A:1612:U:H1'	1.49	1.27
58:A:1572:G:H22	58:A:1600:G:N2	1.30	1.27
58:A:1572:G:N2	58:A:1600:G:H22	1.28	1.27
16:b:36:ASN:ND2	24:0:13:UNK:CB	1.97	1.26
43:U:19:LYS:CD	58:A:1508:A:N6	1.98	1.26
16:b:15:HIS:CD2	24:0:9:UNK:HA	1.68	1.26
28:F:73:GLU:HG2	57:B:42:C:C5	1.71	1.26
1:a:674:G:O4'	23:x:130:ILE:HG12	1.36	1.26
37:O:33:ARG:CD	37:O:114:GLU:OE2	1.84	1.25
1:a:275:G:O2'	11:q:32:MET:SD	1.94	1.25
3:e:137:ARG:HH12	17:d:197:GLU:CD	1.19	1.25
27:E:151:ASN:O	27:E:152:LYS:CG	1.83	1.25
52:1:15:CYS:O	52:1:20:HIS:CB	1.82	1.25
1:a:947:U:O2	23:x:70:GLU:CD	1.79	1.25
52:1:15:CYS:O	52:1:20:HIS:HB2	1.27	1.25
1:a:1477:A:N9	58:A:2137:A:C2	2.05	1.24
37:O:75:VAL:O	37:O:79:LEU:HB3	1.09	1.24
1:a:1034:C:N4	23:x:75:ARG:HD3	1.49	1.24
43:U:83:ILE:HD11	58:A:1456:G:N3	1.48	1.24
1:a:674:G:C1'	23:x:130:ILE:HG12	0.85	1.24
4:g:84:THR:CB	22:w:39:A:N6	1.95	1.24

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:K:142:ILE:HG21	58:A:1130:C:N4	1.50	1.24
26:D:154:CYS:SG	58:A:2796:A:H5''	1.77	1.24
28:F:183:PRO:O	28:F:184:PHE:HD2	0.92	1.23
43:U:19:LYS:NZ	58:A:1508:A:H61	1.31	1.23
45:W:104:GLU:HB3	45:W:136:GLU:O	1.33	1.23
58:A:1567:C:N4	58:A:1604:G:O6	1.72	1.23
1:a:947:U:O2	23:x:70:GLU:CG	1.86	1.23
25:C:25:THR:CG2	25:C:81:HIS:HB3	1.66	1.23
28:F:51:ALA:C	28:F:85:LYS:NZ	1.87	1.23
45:W:107:THR:OG1	45:W:134:GLU:HB3	1.35	1.23
23:x:38:ARG:NE	23:x:72:ASP:HB2	0.91	1.23
28:F:46:GLY:O	28:F:47:VAL:CG2	1.86	1.23
18:f:17:ARG:HH12	58:A:1612:U:C1'	1.52	1.23
45:W:6:ASN:HB3	45:W:139:SER:OG	1.10	1.23
1:a:1329:G:OP2	6:i:129:ARG:HG2	1.28	1.22
25:C:25:THR:HG21	25:C:81:HIS:CB	1.69	1.22
1:a:1477:A:C8	58:A:2137:A:C2	2.28	1.22
22:w:72:C:O2'	58:A:2068:U:H4'	1.36	1.22
27:E:7:VAL:HG23	27:E:16:GLY:C	1.65	1.22
58:A:1566:A:H2'	58:A:1605:G:O6	1.32	1.22
3:e:17:ARG:CD	3:e:20:ARG:HH22	1.52	1.22
13:s:42:PRO:HD3	50:y:60:ARG:NH2	1.54	1.22
34:L:7:ARG:NH2	34:L:20:LEU:HD12	1.55	1.22
38:P:9:ASN:ND2	57:B:58:A:N3	1.85	1.22
45:W:104:GLU:CB	45:W:137:ALA:CA	2.15	1.22
26:D:154:CYS:HB2	58:A:2799:C:P	1.80	1.22
58:A:1571:C:O2	58:A:1601:G:N1	1.72	1.22
1:a:421:U:C4	2:c:126:ARG:CZ	2.23	1.21
38:P:41:ASN:ND2	57:B:7:G:O2'	1.73	1.21
57:B:25:G:N2	57:B:114:A:N3	1.88	1.21
3:e:19:ARG:HA	17:d:40:ARG:NH1	1.53	1.21
58:A:1598:U:O2'	58:A:1600:G:O5'	1.59	1.21
1:a:1034:C:H1'	23:x:78:ARG:CB	1.71	1.20
2:c:5:ILE:CD1	15:n:58:LYS:NZ	2.03	1.20
26:D:155:ALA:CB	58:A:2796:A:N7	2.03	1.20
27:E:144:PHE:CE1	27:E:148:LEU:CD2	2.23	1.20
52:1:29:ARG:NH2	52:1:34:ASP:OD2	1.73	1.20
1:a:770:A:N6	23:x:122:ARG:NH1	1.89	1.20
1:a:951:A:H61	6:i:150:ARG:NH2	1.39	1.20
25:C:25:THR:CG2	25:C:81:HIS:CB	2.20	1.20
26:D:154:CYS:HB3	58:A:2798:G:O3'	1.23	1.20

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:K:141:GLU:CD	33:K:143:LYS:HG2	1.66	1.20
58:A:1565:A:C2	58:A:1607:C:N4	2.08	1.20
58:A:1603:G:H2'	58:A:1604:G:C8	1.74	1.20
2:c:122:GLN:HE22	2:c:135:LYS:NZ	1.36	1.20
22:w:39:A:C2	23:x:130:ILE:O	1.94	1.20
38:P:50:GLN:NE2	57:B:7:G:H21	1.38	1.20
3:e:17:ARG:HH12	3:e:40:VAL:CB	1.53	1.20
12:r:33:LYS:NZ	18:f:5:GLU:OE2	1.74	1.20
37:O:8:PRO:HG3	58:A:1870:U:C4	1.75	1.20
46:X:17:ALA:HB2	58:A:2485:C:OP2	1.34	1.20
2:c:135:LYS:CG	3:e:26:ARG:NH2	2.04	1.19
23:x:38:ARG:HE	23:x:72:ASP:CB	1.39	1.19
36:N:85:SER:OG	46:X:8:SER:HB3	1.43	1.19
1:a:1284:U:O4	19:m:14:ARG:HD3	1.43	1.19
25:C:54:LYS:HZ2	58:A:2031:G:C4'	1.54	1.19
1:a:1365:C:O2	22:w:35:C:OP1	1.59	1.19
16:b:36:ASN:HD22	24:0:13:UNK:CA	1.55	1.19
24:0:243:UNK:CB	24:0:435:UNK:CB	2.20	1.19
26:D:154:CYS:HB3	58:A:2798:G:C3'	1.72	1.19
41:S:103:LYS:HZ3	41:S:103:LYS:HA	1.07	1.19
4:g:77:SER:HB2	22:w:34:U:OP1	1.40	1.18
55:4:24:MET:CE	55:4:35:ARG:HG3	1.73	1.18
23:x:88:ILE:HD11	23:x:110:PHE:CE1	1.78	1.18
27:E:151:ASN:O	27:E:152:LYS:HG3	1.01	1.18
28:F:51:ALA:HB2	28:F:90:MET:HE1	1.22	1.18
58:A:1558:C:N4	58:A:1559:A:N6	1.91	1.18
12:r:32:TYR:CE1	18:f:91:LEU:CD1	2.27	1.17
22:w:7:G:O2'	22:w:50:G:H5'	1.41	1.17
58:A:1569:A:N1	58:A:1603:G:N1	1.87	1.17
28:F:45:MET:HB2	28:F:94:ALA:O	1.39	1.17
45:W:38:TYR:CZ	57:B:101:U:C2	2.11	1.17
1:a:345:C:H5''	39:Q:38:ARG:NH1	1.59	1.17
3:e:182:ARG:HD2	5:h:45:TYR:CE1	1.80	1.17
58:A:1565:A:N3	58:A:1607:C:N4	1.92	1.17
1:a:673:G:N3	23:x:130:ILE:HG21	1.51	1.16
25:C:258:ARG:HA	58:A:2015:U:H5''	1.28	1.16
50:y:1:MET:H2	57:B:40:A:N6	1.41	1.16
22:w:6:G:N2	22:w:68:C:N3	1.92	1.16
1:a:1042:U:H5	2:c:3:GLN:NE2	1.36	1.15
27:E:144:PHE:CD1	27:E:148:LEU:HD11	1.80	1.15
43:U:73:PHE:CE2	58:A:544:U:O2	1.97	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:421:U:H3	2:c:126:ARG:NH2	1.41	1.15
22:w:36:A:H61	23:x:127:ARG:NH1	1.44	1.15
28:F:46:GLY:O	28:F:47:VAL:HG22	1.00	1.15
28:F:132:THR:HG21	38:P:6:VAL:CG2	1.76	1.15
2:c:161:GLU:HB3	23:x:78:ARG:NH1	1.61	1.15
45:W:6:ASN:HB2	45:W:139:SER:HB2	1.24	1.15
55:4:22:ARG:CB	55:4:36:GLN:HB3	1.76	1.15
1:a:908:G:N2	23:x:123:ARG:HH12	1.45	1.15
1:a:1098:U:H5'	6:i:126:ARG:NE	1.61	1.15
3:e:17:ARG:NH1	3:e:40:VAL:CG2	1.96	1.15
36:N:58:ILE:HG21	36:N:108:TYR:CE1	1.80	1.15
1:a:193:C:N4	11:q:18:GLY:HA2	1.62	1.14
3:e:17:ARG:HD3	3:e:20:ARG:NH2	1.61	1.14
33:K:25:LEU:O	58:A:1258:C:OP1	1.65	1.14
43:U:19:LYS:CE	58:A:1508:A:H61	1.59	1.14
45:W:38:TYR:OH	57:B:101:U:C4	1.99	1.14
58:A:1571:C:C5	58:A:1573:U:C5	2.35	1.14
1:a:947:U:O2	23:x:70:GLU:HG2	1.41	1.14
25:C:73:ASP:HB3	25:C:120:GLY:CA	1.76	1.14
41:S:3:THR:HG21	41:S:102:ILE:CD1	1.62	1.14
8:k:54:ALA:CB	8:k:79:ALA:HB2	1.76	1.14
45:W:104:GLU:CG	45:W:137:ALA:HA	1.77	1.14
44:V:45:THR:O	58:A:571:A:O2'	1.65	1.14
22:w:73:A:H4'	58:A:2069:U:H5'	1.26	1.14
23:x:38:ARG:HE	23:x:72:ASP:N	1.44	1.13
26:D:155:ALA:HB2	58:A:2796:A:C8	1.76	1.13
27:E:182:GLN:NE2	58:A:706:G:C8	1.97	1.13
23:x:75:ARG:HD2	23:x:83:CYS:HB2	1.15	1.13
25:C:96:HIS:CE1	25:C:102:LYS:NZ	2.16	1.13
45:W:106:VAL:O	45:W:134:GLU:HB2	1.49	1.13
24:0:208:UNK:CB	24:0:435:UNK:HA	1.78	1.13
3:e:19:ARG:CA	17:d:40:ARG:HH12	1.61	1.13
25:C:72:LYS:HG3	25:C:75:VAL:HG21	1.21	1.13
55:4:24:MET:HE2	55:4:35:ARG:CG	1.76	1.13
3:e:19:ARG:CA	17:d:40:ARG:NH1	2.12	1.13
7:j:54:SER:O	15:n:41:ARG:NH2	1.80	1.13
1:a:421:U:N3	2:c:126:ARG:NH2	1.97	1.12
1:a:1321:A:O2'	23:x:93:ARG:O	1.67	1.12
10:o:23:GLY:HA2	10:o:28:GLN:HE21	1.07	1.12
33:K:3:THR:CG2	58:A:1113:C:O2	1.96	1.12
37:O:9:ARG:HG2	37:O:14:SER:HB3	1.25	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:770:A:H62	23:x:122:ARG:NH1	1.43	1.12
1:a:968:U:O2	13:s:54:GLY:O	1.64	1.12
43:U:91:LYS:HG2	43:U:92:PRO:CD	1.77	1.12
1:a:946:A:O4'	7:j:57:LYS:NZ	1.82	1.12
33:K:142:ILE:HG22	58:A:1130:C:H41	1.04	1.12
58:A:1562:C:O2'	58:A:1563:A:O4'	1.63	1.12
1:a:1204:C:P	13:s:78:ARG:HH11	1.71	1.12
1:a:1261:A:OP1	7:j:9:ARG:NH1	1.83	1.12
6:i:150:ARG:HG3	23:x:98:ARG:HH11	0.97	1.12
14:t:4:ILE:HD13	14:t:8:ILE:HG12	1.29	1.12
1:a:941:A:C2	13:s:55:ARG:NH1	2.16	1.12
1:a:1332:A:O2'	4:g:33:GLU:OE1	1.67	1.12
26:D:155:ALA:HB3	58:A:2796:A:H8	1.07	1.12
43:U:4:ILE:CD1	48:Z:58:TYR:CE1	2.31	1.12
45:W:104:GLU:HB3	45:W:136:GLU:C	1.73	1.11
52:1:19:LYS:CD	52:1:44:ASN:HB2	1.77	1.11
13:s:15:LEU:O	13:s:19:VAL:HG23	1.49	1.11
27:E:192:ASP:CB	35:M:5:LYS:NZ	2.14	1.11
44:V:4:HIS:CE1	44:V:96:ARG:CZ	2.33	1.11
1:a:517:G:H5''	9:l:110:ARG:HH22	0.97	1.11
22:w:19:G:H21	22:w:59:A:C5'	1.63	1.11
27:E:7:VAL:N	27:E:16:GLY:O	1.84	1.11
24:O:316:UNK:CB	24:O:458:UNK:N	2.14	1.11
33:K:112:ASN:ND2	58:A:650:G:OP1	1.84	1.11
58:A:1569:A:H2'	58:A:1570:C:H5'	1.28	1.11
1:a:1034:C:C1'	23:x:78:ARG:HB2	1.79	1.11
13:s:6:LYS:HZ3	50:y:63:LYS:CD	1.64	1.11
23:x:75:ARG:CG	23:x:83:CYS:HB2	1.69	1.11
22:w:73:A:H5'	58:A:2068:U:O2'	1.51	1.10
38:P:42:ARG:NH1	57:B:48:C:OP1	1.83	1.10
44:V:28:PRO:HG2	58:A:83:C:OP1	1.49	1.10
45:W:104:GLU:CB	45:W:136:GLU:O	1.97	1.10
1:a:947:U:O2'	23:x:70:GLU:CB	1.99	1.10
1:a:1328:A:O2'	6:i:129:ARG:NH2	1.84	1.10
36:N:60:ARG:HD3	45:W:187:ALA:HB2	1.12	1.10
50:y:41:CYS:HB3	50:y:43:PRO:HD2	1.29	1.10
23:x:38:ARG:HH22	23:x:85:HIS:CG	1.69	1.10
23:x:38:ARG:NH2	23:x:85:HIS:CD2	2.18	1.10
23:x:38:ARG:NH2	23:x:85:HIS:HB3	1.66	1.10
1:a:1040:U:H4'	7:j:53:ARG:O	1.52	1.10
1:a:1477:A:C4	58:A:2137:A:C2	2.40	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1569:A:C2'	58:A:1570:C:H5'	1.81	1.10
27:E:144:PHE:CD1	27:E:148:LEU:CD2	2.31	1.10
28:F:31:ASN:OD1	57:B:56:C:H4'	1.48	1.10
28:F:132:THR:HG21	38:P:6:VAL:HG21	1.10	1.10
34:L:7:ARG:HH22	34:L:20:LEU:HD12	1.00	1.10
58:A:1558:C:H2'	58:A:1559:A:H8	1.10	1.10
25:C:25:THR:CG2	25:C:81:HIS:CA	2.30	1.09
43:U:67:LYS:NZ	58:A:1451:A:P	2.24	1.09
45:W:100:VAL:HG13	45:W:104:GLU:OE2	1.50	1.09
55:4:22:ARG:HH21	55:4:37:GLY:HA2	1.01	1.09
57:B:10:G:N1	57:B:107:A:C2	2.17	1.09
1:a:1034:C:O2'	23:x:78:ARG:HB2	1.49	1.09
33:K:141:GLU:OE1	33:K:143:LYS:HG2	1.50	1.09
45:W:9:ASN:ND2	45:W:57:VAL:HG13	1.67	1.09
1:a:1034:C:H1'	23:x:78:ARG:HB2	1.24	1.09
3:e:17:ARG:NH2	3:e:40:VAL:HG21	1.67	1.09
26:D:154:CYS:CA	58:A:2799:C:H5'	1.82	1.09
55:4:22:ARG:HB2	55:4:36:GLN:HB3	1.32	1.09
4:g:86:GLN:NE2	22:w:32:G:N3	2.00	1.09
28:F:34:GLN:HG3	57:B:57:U:C4'	1.83	1.09
28:F:34:GLN:HG3	57:B:57:U:H4'	1.28	1.09
28:F:73:GLU:OE1	57:B:41:U:H5	1.35	1.09
45:W:38:TYR:OH	57:B:101:U:C6	2.05	1.09
1:a:1034:C:O2	23:x:78:ARG:HB3	1.50	1.09
1:a:947:U:O2'	23:x:70:GLU:HB3	1.51	1.08
22:w:38:A:H1'	23:x:128:ARG:HD2	1.32	1.08
22:w:38:A:O2'	23:x:129:LYS:HE3	1.52	1.08
26:D:154:CYS:HA	58:A:2799:C:H5'	1.18	1.08
28:F:49:ASP:HB2	28:F:56:LEU:HD11	1.09	1.08
48:Z:6:THR:HG22	48:Z:10:LEU:HD11	1.21	1.08
58:A:1566:A:C2'	58:A:1605:G:O6	2.00	1.08
22:w:19:G:O6	22:w:56:U:O2	1.71	1.08
25:C:25:THR:HG23	25:C:81:HIS:HB3	1.17	1.08
22:w:39:A:C2	23:x:130:ILE:C	2.31	1.08
1:a:674:G:H1'	23:x:130:ILE:CB	1.84	1.08
41:S:59:ALA:O	41:S:103:LYS:NZ	1.86	1.08
58:A:1569:A:N6	58:A:1603:G:C6	2.11	1.08
58:A:1595:G:H4'	58:A:1596:C:OP1	1.49	1.08
1:a:510:G:C6	23:x:81:LYS:HG3	1.88	1.08
1:a:935:G:H4'	23:x:36:LYS:HD3	1.12	1.08
1:a:1354:G:O3'	6:i:91:GLY:HA3	1.53	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:e:17:ARG:CG	3:e:20:ARG:NH2	2.16	1.08
14:t:4:ILE:HG21	14:t:8:ILE:HG13	1.33	1.08
52:1:15:CYS:CB	52:1:20:HIS:HA	1.83	1.08
23:x:75:ARG:HG3	23:x:83:CYS:CB	1.67	1.07
25:C:26:ARG:CD	25:C:81:HIS:CD2	2.36	1.07
25:C:54:LYS:HZ2	58:A:2031:G:H4'	1.06	1.07
24:0:145:UNK:CB	24:0:337:UNK:N	2.16	1.07
37:O:75:VAL:O	37:O:79:LEU:CB	2.01	1.07
45:W:38:TYR:OH	57:B:101:U:N1	1.86	1.07
50:y:1:MET:N	57:B:40:A:N6	2.01	1.07
23:x:75:ARG:CB	23:x:83:CYS:H	1.68	1.07
55:4:22:ARG:HD3	55:4:36:GLN:O	1.49	1.07
1:a:1034:C:H2'	23:x:76:ASN:O	1.54	1.07
44:V:28:PRO:CG	58:A:83:C:OP1	2.03	1.07
52:1:15:CYS:HB2	52:1:20:HIS:HA	1.35	1.07
58:A:1565:A:H2'	58:A:1606:G:O6	1.52	1.07
8:k:43:ILE:CD1	8:k:51:ILE:CD1	2.09	1.07
13:s:6:LYS:NZ	50:y:63:LYS:CD	2.16	1.07
16:b:15:HIS:CD2	24:0:9:UNK:CA	2.38	1.07
16:b:74:LYS:NZ	24:0:157:UNK:CA	1.84	1.07
28:F:99:ARG:HD2	57:B:45:G:C8	1.89	1.07
33:K:13:ARG:NH2	33:K:49:ASP:O	1.86	1.07
58:A:1568:C:H2'	58:A:1569:A:C8	1.90	1.07
1:a:935:G:C4'	23:x:36:LYS:HD3	1.83	1.06
1:a:947:U:N3	23:x:36:LYS:HD2	1.71	1.06
1:a:1332:A:C1'	4:g:33:GLU:HG3	1.85	1.06
5:h:94:LEU:HD13	5:h:118:ALA:HB3	1.11	1.06
28:F:138:GLY:HA3	58:A:2529:A:H5''	1.38	1.06
41:S:6:ILE:O	41:S:7:VAL:HG23	1.54	1.06
52:1:11:ILE:HD13	52:1:27:LYS:HG2	1.37	1.06
57:B:78:U:O2	58:A:977:G:O2'	1.71	1.06
1:a:1322:G:O3'	23:x:95:PRO:HB3	1.55	1.06
1:a:1366:C:H1'	22:w:35:C:O4'	1.52	1.06
3:e:17:ARG:NH2	3:e:85:ILE:HG12	1.19	1.06
7:j:53:ARG:HB2	15:n:45:ARG:HH12	1.20	1.06
16:b:74:LYS:NZ	24:0:157:UNK:CB	2.17	1.06
22:w:57:C:N3	22:w:58:A:N7	2.03	1.06
1:a:193:C:H41	11:q:18:GLY:HA2	0.96	1.06
1:a:331:G:N2	14:t:5:LYS:NZ	2.03	1.06
1:a:1042:U:C4	2:c:3:GLN:NE2	2.23	1.06
2:c:147:LYS:HB3	2:c:203:TYR:HD2	1.19	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:E:144:PHE:CG	27:E:148:LEU:CD1	2.38	1.06
28:F:31:ASN:CG	57:B:56:C:H4'	1.79	1.06
38:P:42:ARG:HH12	57:B:48:C:P	1.77	1.06
52:1:19:LYS:HD2	52:1:44:ASN:HB2	1.10	1.06
1:a:1034:C:H41	23:x:75:ARG:CD	1.69	1.06
1:a:1035:A:H5''	23:x:78:ARG:HG2	1.31	1.06
28:F:183:PRO:C	28:F:184:PHE:HD2	1.63	1.06
38:P:9:ASN:HB2	57:B:58:A:O2'	1.52	1.06
57:B:4:A:H2	57:B:25:G:O6	1.23	1.06
1:a:1322:G:O2'	23:x:91:ARG:NH1	1.88	1.06
2:c:107:ASN:HD21	2:c:143:GLN:HG3	1.16	1.06
22:w:57:C:C2	22:w:58:A:C8	2.43	1.06
35:M:51:GLU:CG	54:3:57:ARG:NH1	2.19	1.06
38:P:3:HIS:HD2	57:B:57:U:O3'	1.37	1.06
52:1:28:ASN:OD1	52:1:31:ASN:N	1.88	1.06
1:a:654:G:N2	8:k:127:HIS:CE1	2.24	1.05
1:a:1328:A:O2'	6:i:129:ARG:CZ	2.04	1.05
13:s:67:VAL:HG12	50:y:60:ARG:HG3	1.37	1.05
22:w:38:A:O2'	23:x:129:LYS:CE	2.03	1.05
25:C:96:HIS:CE1	25:C:102:LYS:HZ2	1.70	1.05
28:F:118:ILE:H	28:F:118:ILE:HD12	1.17	1.05
44:V:2:LYS:CD	44:V:83:VAL:HG11	1.85	1.05
44:V:4:HIS:ND1	44:V:96:ARG:NH1	2.02	1.05
1:a:1477:A:H5'	23:x:107:TYR:OH	1.55	1.05
8:k:45:ASP:HB2	8:k:46:PRO:HD2	1.32	1.05
13:s:42:PRO:CD	50:y:60:ARG:HH21	1.67	1.05
22:w:57:C:N4	22:w:58:A:H62	1.51	1.05
1:a:770:A:O2'	23:x:60:PHE:CZ	2.10	1.05
1:a:1328:A:N3	6:i:129:ARG:NH2	2.04	1.05
44:V:62:GLN:HG2	44:V:63:GLU:N	1.53	1.05
24:0:207:UNK:HA	24:0:432:UNK:C	1.86	1.05
28:F:46:GLY:C	28:F:47:VAL:HG22	1.74	1.05
28:F:73:GLU:HG2	57:B:42:C:C6	1.91	1.05
34:L:80:ASP:OD2	39:Q:61:ARG:NH1	1.86	1.05
1:a:770:A:N6	23:x:122:ARG:HH11	1.47	1.05
1:a:1332:A:H1'	4:g:33:GLU:CG	1.85	1.05
13:s:67:VAL:CG1	50:y:60:ARG:HG3	1.87	1.05
22:w:36:A:H61	23:x:127:ARG:CZ	1.70	1.05
48:Z:13:LEU:HD11	48:Z:17:GLU:HB2	1.34	1.05
58:A:1578:G:C2	58:A:1592:G:N2	2.25	1.05
36:N:58:ILE:CG2	36:N:108:TYR:CE1	2.40	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:947:U:H3	23:x:36:LYS:CB	1.70	1.04
1:a:1342:A:OP2	15:n:35:ARG:NH2	1.91	1.04
3:e:17:ARG:HH22	3:e:40:VAL:CG2	1.69	1.04
41:S:58:VAL:HG23	41:S:103:LYS:HG3	1.07	1.04
45:W:107:THR:HA	45:W:134:GLU:HA	1.07	1.04
55:4:22:ARG:NH2	55:4:37:GLY:HA2	1.72	1.04
1:a:1332:A:C2'	4:g:33:GLU:CD	2.31	1.04
25:C:55:GLY:HA3	25:C:218:ARG:CD	1.86	1.04
27:E:150:GLU:O	27:E:193:ASP:OD2	1.75	1.04
33:K:141:GLU:OE2	33:K:143:LYS:CG	2.06	1.04
55:4:23:VAL:HG12	55:4:24:MET:H	1.17	1.04
1:a:637:U:O2	10:o:22:THR:HG22	1.57	1.04
4:g:153:HIS:O	4:g:155:ARG:N	1.90	1.04
1:a:653:G:H4'	18:f:87:ARG:HH12	1.22	1.03
1:a:1034:C:C2'	23:x:78:ARG:HB2	1.87	1.03
3:e:19:ARG:C	17:d:40:ARG:HH12	1.64	1.03
24:0:207:UNK:HA	24:0:432:UNK:O	1.57	1.03
33:K:141:GLU:OE2	33:K:143:LYS:HG2	1.58	1.03
58:A:1571:C:H5	58:A:1573:U:C4	1.76	1.03
34:L:7:ARG:HH22	34:L:20:LEU:CD1	1.72	1.03
43:U:91:LYS:CG	43:U:92:PRO:HD2	1.87	1.03
1:a:12:A:N6	17:d:197:GLU:O	1.91	1.03
8:k:116:VAL:HG13	8:k:117:GLY:H	1.23	1.03
28:F:132:THR:HG22	38:P:6:VAL:HG21	1.37	1.03
2:c:161:GLU:OE1	23:x:78:ARG:NH1	1.91	1.03
6:i:40:ARG:C	6:i:83:ILE:HG21	1.82	1.03
45:W:104:GLU:HB3	45:W:137:ALA:HB2	1.38	1.03
58:A:1608:U:H2'	58:A:1609:G:H8	1.19	1.03
1:a:262:G:H4'	14:t:70:ASN:HB2	1.40	1.02
43:U:5:THR:HG22	43:U:6:ASP:H	1.24	1.02
58:A:1558:C:H2'	58:A:1559:A:C8	1.94	1.02
14:t:4:ILE:HG21	14:t:8:ILE:H	1.22	1.02
26:D:154:CYS:HB3	58:A:2798:G:C2'	1.89	1.02
44:V:2:LYS:CD	44:V:83:VAL:CG1	2.37	1.02
45:W:38:TYR:OH	57:B:101:U:C5	2.11	1.02
4:g:77:SER:O	22:w:33:C:O3'	1.78	1.02
42:T:18:ARG:NH1	58:A:1436:C:O2'	1.92	1.02
43:U:19:LYS:CE	58:A:1508:A:N6	2.20	1.02
58:A:1601:G:H2'	58:A:1602:U:H5'	1.39	1.02
1:a:1332:A:C2'	4:g:33:GLU:OE1	2.08	1.02
28:F:45:MET:HE3	28:F:64:LEU:CD2	1.89	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1477:A:N9	58:A:2137:A:H2	1.48	1.02
2:c:135:LYS:CG	3:e:26:ARG:HH22	1.67	1.02
3:e:17:ARG:CD	3:e:20:ARG:NH2	2.19	1.02
23:x:122:ARG:HA	23:x:125:LYS:HB2	1.35	1.02
25:C:25:THR:CG2	25:C:81:HIS:HA	1.89	1.02
37:O:16:HIS:HD2	58:A:1390:A:C8	1.77	1.02
1:a:1034:C:H41	23:x:75:ARG:HD3	0.88	1.01
16:b:36:ASN:CB	24:0:13:UNK:CB	2.39	1.01
24:0:201:UNK:CB	24:0:328:UNK:CB	2.38	1.01
1:a:331:G:N2	14:t:5:LYS:HZ1	1.56	1.01
1:a:439:U:O2	17:d:115:HIS:ND1	1.92	1.01
2:c:137:ILE:HG22	2:c:138:GLN:H	1.24	1.01
45:W:38:TYR:OH	57:B:101:U:N3	1.71	1.01
1:a:636:G:N2	10:o:23:GLY:HA3	1.75	1.01
3:e:179:ALA:CB	3:e:189:VAL:HG21	1.90	1.01
3:e:182:ARG:NH1	5:h:45:TYR:OH	1.92	1.01
6:i:26:ILE:HG21	6:i:109:LEU:HB3	1.42	1.01
8:k:43:ILE:HD11	8:k:51:ILE:HD13	1.41	1.01
24:0:338:UNK:CB	24:0:449:UNK:O	2.09	1.01
58:A:1565:A:C4	58:A:1606:G:O6	2.12	1.01
58:A:1571:C:O2	58:A:1601:G:C2	2.13	1.01
58:A:1602:U:H2'	58:A:1603:G:C8	1.95	1.01
1:a:941:A:C2	13:s:55:ARG:NH2	2.29	1.01
23:x:75:ARG:CG	23:x:83:CYS:HB3	1.82	1.01
28:F:45:MET:HE3	28:F:64:LEU:HD21	1.43	1.01
50:y:44:PHE:O	50:y:48:LYS:HG3	1.61	1.01
7:j:53:ARG:HB2	15:n:45:ARG:NH1	1.76	1.00
28:F:117:ARG:NH1	28:F:146:HIS:HD2	1.24	1.00
52:1:8:ARG:NH1	58:A:2509:C:C5	2.28	1.00
55:4:22:ARG:CD	55:4:36:GLN:O	2.08	1.00
1:a:331:G:N3	14:t:5:LYS:NZ	2.01	1.00
1:a:512:A:C5'	23:x:79:GLN:NE2	2.24	1.00
1:a:730:C:O2	10:o:22:THR:O	1.77	1.00
1:a:1098:U:OP1	6:i:31:ARG:HD2	1.59	1.00
5:h:94:LEU:HD13	5:h:118:ALA:CB	1.90	1.00
28:F:9:PRO:HD2	28:F:12:LYS:NZ	1.75	1.00
53:2:5:LYS:HB3	53:2:9:GLN:NE2	1.76	1.00
1:a:637:U:O2	10:o:22:THR:CG2	2.07	1.00
1:a:951:A:N6	6:i:150:ARG:NH2	2.08	1.00
16:b:36:ASN:ND2	24:0:13:UNK:C	2.25	1.00
25:C:54:LYS:NZ	58:A:2031:G:O3'	1.94	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D:155:ALA:HB1	58:A:2796:A:N7	1.70	1.00
58:A:1562:C:H2'	58:A:1563:A:C8	1.96	1.00
6:i:40:ARG:O	6:i:83:ILE:HG21	0.83	1.00
1:a:1211:C:H4'	23:x:66:LEU:CD2	1.91	1.00
3:e:20:ARG:N	17:d:40:ARG:HH12	1.58	1.00
25:C:55:GLY:HA3	25:C:218:ARG:HD2	1.43	1.00
28:F:45:MET:CE	28:F:64:LEU:HD21	1.90	1.00
2:c:122:GLN:HE22	2:c:135:LYS:HE2	1.26	1.00
5:h:94:LEU:CD1	5:h:118:ALA:HB3	1.91	1.00
37:O:33:ARG:HD3	37:O:114:GLU:CD	1.86	1.00
38:P:108:THR:OG1	57:B:47:A:O2'	1.79	0.99
6:i:42:VAL:HG12	6:i:83:ILE:HG12	1.44	0.99
26:D:155:ALA:HB3	58:A:2796:A:C8	1.81	0.99
55:4:19:ARG:NH1	58:A:2980:U:OP2	1.95	0.99
2:c:122:GLN:NE2	2:c:135:LYS:CE	2.25	0.99
25:C:26:ARG:HD2	25:C:81:HIS:NE2	1.77	0.99
44:V:62:GLN:CG	44:V:63:GLU:H	1.75	0.99
57:B:10:G:N1	57:B:107:A:H2	1.51	0.99
1:a:421:U:N3	2:c:126:ARG:CZ	2.23	0.99
28:F:45:MET:CB	28:F:94:ALA:O	2.09	0.99
1:a:527:A:OP2	17:d:2:ALA:N	1.95	0.99
3:e:17:ARG:NH2	3:e:40:VAL:CG2	2.25	0.99
41:S:3:THR:CG2	41:S:102:ILE:HD11	1.92	0.99
45:W:104:GLU:HB3	45:W:137:ALA:CA	1.89	0.99
22:w:57:C:C5	22:w:58:A:N7	2.29	0.99
28:F:10:ARG:HG2	28:F:10:ARG:HH11	1.27	0.99
3:e:137:ARG:NH1	17:d:197:GLU:CD	1.98	0.99
23:x:38:ARG:NH2	23:x:85:HIS:CB	2.25	0.99
58:A:1608:U:H2'	58:A:1609:G:C8	1.97	0.99
8:k:47:GLN:HA	8:k:47:GLN:HE21	1.28	0.99
24:0:444:UNK:CB	24:0:456:UNK:O	2.10	0.99
52:1:19:LYS:HD2	52:1:44:ASN:CB	1.93	0.99
58:A:1567:C:N4	58:A:1568:C:N4	2.10	0.99
1:a:403:C:H5''	17:d:128:PRO:HD2	1.45	0.98
1:a:421:U:O4	2:c:126:ARG:CZ	2.10	0.98
1:a:104:A:N6	14:t:10:ARG:HH21	1.60	0.98
22:w:7:G:N2	22:w:67:C:O2	1.95	0.98
22:w:36:A:N6	23:x:127:ARG:NH1	2.09	0.98
44:V:62:GLN:HG2	44:V:63:GLU:H	0.85	0.98
1:a:525:C:OP2	17:d:54:GLN:NE2	1.94	0.98
1:a:1032:U:H4'	23:x:77:ARG:CD	1.93	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:U:19:LYS:HZ2	58:A:1508:A:N6	1.57	0.98
22:w:32:G:H2'	22:w:33:C:H5'	1.45	0.98
24:0:208:UNK:CB	24:0:434:UNK:O	2.12	0.98
25:C:25:THR:HG21	25:C:81:HIS:HA	0.99	0.98
33:K:141:GLU:CD	33:K:143:LYS:CG	2.35	0.98
2:c:122:GLN:NE2	2:c:135:LYS:NZ	2.11	0.98
22:w:39:A:N7	22:w:40:C:C4	2.31	0.98
45:W:106:VAL:O	45:W:134:GLU:CB	2.10	0.98
58:A:1562:C:O2'	58:A:1563:A:C5'	2.12	0.98
27:E:66:TYR:CD1	27:E:73:ARG:NH1	2.31	0.98
50:y:1:MET:N	57:B:40:A:H61	1.58	0.98
2:c:143:GLN:HB3	2:c:144:PRO:HD3	1.41	0.98
3:e:17:ARG:NH1	3:e:40:VAL:CB	2.24	0.98
52:1:15:CYS:CA	52:1:20:HIS:HA	1.93	0.98
58:A:1565:A:N9	58:A:1606:G:O6	1.97	0.98
1:a:1161:A:OP1	6:i:125:THR:OG1	1.78	0.98
1:a:1329:G:H5''	6:i:129:ARG:HB3	1.42	0.98
34:L:8:LEU:CD1	34:L:19:ILE:HG13	1.92	0.98
53:2:8:PHE:CE2	53:2:10:PRO:HG3	1.99	0.98
1:a:947:U:C2	23:x:70:GLU:HG2	1.98	0.98
8:k:54:ALA:HB3	8:k:79:ALA:CB	1.93	0.98
22:w:55:U:H2'	22:w:56:U:C6	1.99	0.98
24:0:206:UNK:O	24:0:432:UNK:O	1.80	0.98
28:F:49:ASP:HB2	28:F:56:LEU:CD1	1.93	0.97
50:y:41:CYS:HB2	50:y:44:PHE:CZ	1.97	0.97
12:r:32:TYR:CZ	18:f:91:LEU:HD11	1.99	0.97
16:b:36:ASN:ND2	24:0:13:UNK:CA	2.23	0.97
26:D:154:CYS:SG	58:A:2796:A:H2'	2.04	0.97
42:T:9:SER:HB3	42:T:115:GLU:CB	1.92	0.97
58:A:1565:A:C2'	58:A:1606:G:O6	2.11	0.97
1:a:1477:A:N7	58:A:2137:A:N1	2.10	0.97
24:0:126:UNK:N	24:0:130:UNK:O	1.96	0.97
55:4:24:MET:HE2	55:4:35:ARG:HG3	0.99	0.97
1:a:673:G:N3	23:x:130:ILE:HG22	1.67	0.97
8:k:54:ALA:HB3	8:k:79:ALA:HB2	0.97	0.97
36:N:85:SER:OG	46:X:8:SER:CB	2.11	0.97
41:S:3:THR:HG21	41:S:102:ILE:HD12	1.46	0.97
57:B:96:A:H2	58:A:977:G:N3	1.62	0.97
22:w:57:C:N3	22:w:58:A:C5	2.33	0.97
23:x:61:ASP:OD2	23:x:121:LEU:HB3	1.65	0.97
23:x:75:ARG:HB2	23:x:82:ASN:HA	1.45	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:122:GLN:NE2	2:c:135:LYS:HE2	1.80	0.96
22:w:8:U:O2	22:w:15:G:N1	1.98	0.96
22:w:19:G:C6	22:w:56:U:O2	2.17	0.96
35:M:51:GLU:HG2	54:3:57:ARG:NH1	1.79	0.96
43:U:19:LYS:NZ	58:A:1508:A:N6	2.09	0.96
37:O:8:PRO:CG	58:A:1870:U:C5	2.48	0.96
43:U:83:ILE:CD1	58:A:1456:G:N2	2.11	0.96
1:a:1170:U:H4'	2:c:10:PHE:CE1	2.00	0.96
34:L:8:LEU:HD11	34:L:19:ILE:HG13	1.47	0.96
45:W:87:PRO:O	45:W:90:ARG:NH2	1.97	0.96
48:Z:13:LEU:HD11	48:Z:17:GLU:CB	1.95	0.96
2:c:148:GLY:HA3	2:c:173:VAL:HG22	1.47	0.96
13:s:42:PRO:CG	50:y:60:ARG:HE	1.79	0.96
27:E:192:ASP:CB	35:M:5:LYS:HZ1	1.75	0.96
33:K:112:ASN:CG	58:A:650:G:OP1	2.09	0.96
38:P:50:GLN:NE2	57:B:7:G:N2	2.13	0.96
4:g:77:SER:HA	22:w:33:C:H4'	1.47	0.96
58:A:1571:C:O2	58:A:1601:G:N2	1.99	0.96
1:a:193:C:H41	11:q:18:GLY:CA	1.78	0.96
3:e:17:ARG:HD3	3:e:20:ARG:HH22	0.81	0.96
6:i:49:ASN:HD22	6:i:84:TYR:HD2	1.10	0.96
28:F:66:LEU:HD23	50:y:27:THR:CG2	1.95	0.96
45:W:21:LYS:NZ	57:B:80:C:H42	1.64	0.96
1:a:517:G:H5''	9:l:110:ARG:NH2	1.80	0.96
36:N:111:GLU:OE2	36:N:115:ARG:NE	1.98	0.96
45:W:129:ASN:ND2	45:W:130:THR:HG23	1.80	0.96
1:a:1032:U:O2'	23:x:77:ARG:HG2	1.62	0.96
42:T:75:THR:HB	42:T:118:PRO:HD3	1.46	0.96
44:V:2:LYS:HG2	44:V:83:VAL:HB	1.47	0.96
45:W:104:GLU:HB3	45:W:137:ALA:CB	1.89	0.96
1:a:1169:A:O4'	15:n:60:SER:OG	1.84	0.96
28:F:109:ARG:HG3	28:F:113:ILE:HD12	1.48	0.96
41:S:58:VAL:HG23	41:S:103:LYS:HG2	0.98	0.96
45:W:104:GLU:CD	45:W:137:ALA:HA	1.89	0.96
58:A:1562:C:H2'	58:A:1563:A:H8	1.31	0.96
23:x:38:ARG:CZ	23:x:72:ASP:CB	2.29	0.96
27:E:7:VAL:CG2	27:E:16:GLY:HA3	1.95	0.96
28:F:116:PRO:HB2	50:y:37:VAL:HG11	1.48	0.96
44:V:46:ALA:HB2	58:A:571:A:O3'	1.65	0.96
16:b:15:HIS:HD2	24:0:9:UNK:CB	1.79	0.95
23:x:128:ARG:HE	23:x:129:LYS:HG2	1.31	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:C:54:LYS:NZ	58:A:2031:G:C4'	2.28	0.95
13:s:42:PRO:HD3	50:y:60:ARG:HH21	1.15	0.95
13:s:67:VAL:CG1	50:y:60:ARG:CZ	2.43	0.95
52:1:35:ARG:HD2	52:1:52:LYS:HZ3	1.29	0.95
58:A:1603:G:H2'	58:A:1604:G:H8	1.21	0.95
2:c:149:ILE:HG22	2:c:170:GLU:O	1.65	0.95
25:C:256:ARG:HA	25:C:256:ARG:HE	1.28	0.95
38:P:3:HIS:CD2	57:B:57:U:O3'	2.18	0.95
45:W:107:THR:CA	45:W:134:GLU:HA	1.94	0.95
57:B:25:G:H21	57:B:114:A:C2'	1.79	0.95
1:a:510:G:C6	23:x:81:LYS:CG	2.49	0.95
6:i:42:VAL:HG11	6:i:83:ILE:HA	1.48	0.95
41:S:58:VAL:HG22	41:S:103:LYS:HG2	1.45	0.95
45:W:104:GLU:HB2	45:W:137:ALA:HB1	1.49	0.95
55:4:22:ARG:HB2	55:4:36:GLN:O	1.66	0.95
3:e:17:ARG:HG2	3:e:20:ARG:HH21	1.31	0.95
45:W:104:GLU:CB	45:W:137:ALA:HA	1.86	0.95
1:a:947:U:N3	23:x:36:LYS:CB	2.30	0.95
1:a:1034:C:H1'	23:x:78:ARG:CG	1.95	0.95
45:W:6:ASN:HB3	45:W:139:SER:CB	1.86	0.95
45:W:126:GLN:NE2	45:W:129:ASN:HB2	1.81	0.95
58:A:1571:C:N4	58:A:1600:G:O6	1.99	0.95
25:C:96:HIS:HE1	25:C:102:LYS:HZ2	0.95	0.95
1:a:941:A:N1	13:s:55:ARG:NH2	2.13	0.95
1:a:1086:G:H5''	2:c:172:ARG:HG2	1.48	0.95
22:w:8:U:H1'	22:w:49:C:O2	1.65	0.95
43:U:91:LYS:HG2	43:U:92:PRO:HD2	0.96	0.95
57:B:82:A:H2	57:B:91:G:H1	1.05	0.95
58:A:1561:C:N4	58:A:1611:A:C6	2.35	0.95
1:a:947:U:H3	23:x:36:LYS:HD2	1.26	0.95
52:1:11:ILE:CD1	52:1:27:LYS:HG2	1.95	0.95
52:1:35:ARG:HD2	52:1:52:LYS:NZ	1.80	0.95
58:A:1569:A:C6	58:A:1570:C:N4	2.35	0.95
1:a:947:U:H3	23:x:36:LYS:CD	1.78	0.95
1:a:947:U:O4	23:x:36:LYS:HB3	1.67	0.95
2:c:5:ILE:HD13	15:n:58:LYS:NZ	1.81	0.95
16:b:36:ASN:HD22	24:0:13:UNK:C	1.79	0.95
8:k:44:THR:CG2	8:k:48:GLY:C	2.40	0.94
45:W:109:GLU:HA	45:W:131:ILE:O	1.67	0.94
57:B:29:C:H42	57:B:55:G:H1	1.14	0.94
25:C:54:LYS:HZ2	58:A:2031:G:C5'	1.79	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:N:60:ARG:HD3	45:W:187:ALA:CB	1.95	0.94
1:a:261:U:C5	14:t:74:ASN:ND2	2.35	0.94
1:a:1310:C:OP1	19:m:28:THR:HG21	1.67	0.94
1:a:1332:A:H1'	4:g:33:GLU:HG3	0.98	0.94
58:A:1567:C:N4	58:A:1568:C:H41	1.64	0.94
23:x:38:ARG:CD	23:x:72:ASP:HB2	1.96	0.94
1:a:770:A:H4'	23:x:60:PHE:HE1	1.32	0.94
22:w:39:A:H2	23:x:130:ILE:O	1.38	0.94
58:A:1554:U:H3	58:A:1617:C:N4	1.65	0.94
2:c:137:ILE:O	2:c:139:SER:N	2.00	0.94
6:i:150:ARG:HG3	23:x:98:ARG:NH1	1.82	0.94
33:K:68:LYS:NZ	58:A:1140:G:O6	2.01	0.94
57:B:18:C:H2'	57:B:19:G:H8	1.31	0.94
58:A:1558:C:C2	58:A:1559:A:N7	2.36	0.94
1:a:1034:C:H5	23:x:75:ARG:HA	1.26	0.94
1:a:1170:U:OP1	15:n:58:LYS:NZ	2.01	0.94
24:0:207:UNK:CA	24:0:432:UNK:O	2.15	0.94
43:U:4:ILE:HD13	48:Z:58:TYR:OH	1.68	0.94
46:X:15:ASP:OD2	58:A:2487:C:N4	2.01	0.94
55:4:22:ARG:HH21	55:4:37:GLY:CA	1.80	0.94
12:r:32:TYR:HE1	18:f:91:LEU:HD11	1.14	0.94
26:D:154:CYS:SG	58:A:2796:A:OP1	2.26	0.93
37:O:8:PRO:HG3	58:A:1870:U:C5	2.02	0.93
1:a:1302:C:OP1	13:s:70:LYS:HD2	1.67	0.93
45:W:128:ALA:O	45:W:129:ASN:ND2	1.98	0.93
1:a:1039:C:H4'	15:n:46:GLU:OE2	1.68	0.93
4:g:84:THR:CA	22:w:39:A:H61	1.81	0.93
55:4:23:VAL:HG12	55:4:24:MET:N	1.79	0.93
1:a:1034:C:C6	23:x:75:ARG:CA	2.32	0.93
22:w:19:G:N2	22:w:59:A:O5'	2.00	0.93
25:C:30:GLU:OE2	25:C:102:LYS:HD3	1.69	0.93
28:F:110:LEU:HD23	28:F:111:ILE:N	1.83	0.93
41:S:6:ILE:O	41:S:7:VAL:CG2	2.15	0.93
42:T:18:ARG:CZ	58:A:1436:C:O2'	2.16	0.93
1:a:1362:G:O6	4:g:2:PRO:HB2	1.69	0.93
22:w:15:G:OP2	22:w:16:C:N4	2.01	0.93
1:a:1129:U:O2'	6:i:38:ARG:NH2	2.00	0.93
1:a:1327:U:O2'	4:g:1:MET:HE3	1.68	0.93
5:h:94:LEU:HB2	5:h:115:ASP:OD1	1.68	0.93
13:s:29:GLN:HA	13:s:29:GLN:HE21	1.33	0.93
28:F:44:ASN:HB2	28:F:160:ASP:HB2	1.51	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:261:U:C4	14:t:74:ASN:ND2	2.36	0.93
25:C:54:LYS:NZ	58:A:2031:G:H4'	1.83	0.93
28:F:49:ASP:CB	28:F:56:LEU:HD11	1.96	0.93
44:V:2:LYS:CG	44:V:83:VAL:HB	1.99	0.93
46:X:64:PRO:HB3	58:A:759:G:H1	1.34	0.93
1:a:653:G:H4'	18:f:87:ARG:NH1	1.84	0.93
22:w:73:A:H4'	58:A:2069:U:C5'	1.98	0.93
37:O:96:ARG:HH22	37:O:116:VAL:HG12	1.34	0.92
42:T:44:ARG:HH12	51:z:55:ASP:H	1.09	0.92
1:a:718:U:H5''	18:f:69:PRO:HB3	1.51	0.92
45:W:38:TYR:HE1	57:B:73:G:O6	1.38	0.92
58:A:1551:U:H3	58:A:1619:U:H3	1.12	0.92
1:a:1221:U:O4'	4:g:38:LEU:HD21	1.69	0.92
24:O:344:UNK:CB	24:O:356:UNK:O	2.17	0.92
45:W:6:ASN:HB2	45:W:139:SER:CA	1.98	0.92
58:A:325:U:H3	58:A:450:G:H1	0.94	0.92
1:a:947:U:O2	23:x:70:GLU:OE1	1.88	0.92
34:L:8:LEU:H	34:L:8:LEU:HD12	1.32	0.92
43:U:19:LYS:HD2	58:A:1508:A:H62	0.84	0.92
58:A:1571:C:O2'	58:A:1572:G:OP1	1.87	0.92
1:a:770:A:HO2'	23:x:60:PHE:HZ	1.02	0.92
1:a:935:G:H4'	23:x:36:LYS:CD	1.99	0.92
1:a:350:G:C5'	14:t:3:ASN:ND2	2.28	0.92
27:E:9:THR:OG1	27:E:12:GLY:O	1.85	0.92
1:a:811:U:H5'	16:b:21:ARG:HG2	1.52	0.92
2:c:147:LYS:HE2	2:c:172:ARG:HH21	1.33	0.92
24:O:316:UNK:CB	24:O:458:UNK:CB	2.47	0.92
1:a:947:U:H3	23:x:36:LYS:CG	1.83	0.92
2:c:148:GLY:CA	2:c:173:VAL:HG22	1.98	0.92
55:4:22:ARG:CG	55:4:36:GLN:O	2.18	0.92
2:c:147:LYS:HB3	2:c:203:TYR:CD2	2.04	0.92
13:s:31:ILE:O	13:s:50:ALA:HB3	1.70	0.91
37:O:9:ARG:HG2	37:O:14:SER:CB	1.99	0.91
1:a:345:C:H5''	39:Q:38:ARG:HH12	1.28	0.91
1:a:1211:C:H4'	23:x:66:LEU:HD22	1.51	0.91
13:s:67:VAL:HG11	50:y:60:ARG:NE	1.85	0.91
23:x:38:ARG:HH22	23:x:85:HIS:HD2	1.05	0.91
28:F:66:LEU:HD23	50:y:27:THR:HG21	1.48	0.91
37:O:29:PHE:CD1	37:O:79:LEU:HD11	2.06	0.91
16:b:15:HIS:NE2	24:O:9:UNK:HA	1.85	0.91
28:F:109:ARG:HD2	28:F:147:GLU:OE2	1.69	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:1:7:VAL:HG11	58:A:2508:C:OP1	1.71	0.91
13:s:42:PRO:HD3	50:y:60:ARG:CZ	2.00	0.91
1:a:954:C:H4'	7:j:59:LYS:HB2	1.50	0.91
1:a:1032:U:C3'	23:x:77:ARG:HG2	2.01	0.91
2:c:161:GLU:CB	23:x:78:ARG:NH1	2.34	0.91
24:0:125:UNK:HA	24:0:131:UNK:HA	1.52	0.91
28:F:105:GLU:HG3	50:y:24:THR:HG22	1.52	0.91
43:U:4:ILE:CD1	48:Z:58:TYR:CZ	2.51	0.91
48:Z:9:GLU:O	48:Z:11:ARG:N	2.03	0.91
58:A:1561:C:N4	58:A:1611:A:N6	2.18	0.91
6:i:26:ILE:HB	6:i:41:LEU:CG	2.00	0.91
25:C:73:ASP:HB3	25:C:120:GLY:HA2	1.51	0.91
27:E:7:VAL:HB	27:E:16:GLY:HA3	1.52	0.91
44:V:96:ARG:HD2	44:V:105:ILE:HG23	1.50	0.91
16:b:40:ILE:HD13	24:0:9:UNK:CB	2.01	0.91
58:A:1566:A:O2'	58:A:1605:G:N1	2.04	0.91
58:A:1583:U:O2	58:A:1589:G:N1	2.03	0.91
2:c:161:GLU:OE1	23:x:78:ARG:CZ	2.17	0.91
2:c:161:GLU:OE1	23:x:78:ARG:NH2	2.03	0.91
25:C:72:LYS:HG3	25:C:75:VAL:CG2	2.00	0.91
44:V:42:LYS:HD2	58:A:586:U:H5''	1.53	0.91
57:B:96:A:C2	58:A:977:G:N3	2.39	0.91
1:a:1032:U:H4'	23:x:77:ARG:CG	2.01	0.91
13:s:67:VAL:HG13	50:y:60:ARG:CZ	2.00	0.91
25:C:256:ARG:O	58:A:2014:G:H4'	1.71	0.91
58:A:2086:U:H3	58:A:2096:G:H1	0.97	0.91
1:a:1477:A:C1'	58:A:2137:A:H2	1.82	0.90
2:c:149:ILE:HG23	2:c:170:GLU:H	1.32	0.90
52:1:15:CYS:HB2	52:1:20:HIS:CA	2.01	0.90
23:x:75:ARG:CG	23:x:83:CYS:N	2.01	0.90
42:T:9:SER:HB3	42:T:115:GLU:HB2	1.50	0.90
3:e:182:ARG:HD2	5:h:45:TYR:HE1	1.32	0.90
41:S:3:THR:HG22	41:S:102:ILE:HD11	1.51	0.90
52:1:9:PRO:HD2	52:1:27:LYS:O	1.72	0.90
13:s:6:LYS:HZ1	50:y:63:LYS:HD3	1.35	0.90
16:b:74:LYS:CE	24:0:157:UNK:HA	2.01	0.90
22:w:57:C:H42	22:w:58:A:N6	1.68	0.90
42:T:115:GLU:OE2	42:T:117:ARG:NH1	2.04	0.90
48:Z:18:LEU:HD13	48:Z:61:LEU:CD2	2.00	0.90
52:1:12:THR:HG22	52:1:22:ASN:HB3	1.50	0.90
57:B:4:A:H2	57:B:25:G:C6	1.90	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1561:C:H2'	58:A:1562:C:H5'	1.53	0.90
58:A:1562:C:O2'	58:A:1563:A:C4'	2.19	0.90
1:a:350:G:C5'	14:t:3:ASN:HD21	1.84	0.90
1:a:1261:A:P	7:j:9:ARG:HH12	1.95	0.90
45:W:107:THR:HA	45:W:134:GLU:CA	2.00	0.90
58:A:1610:C:H2'	58:A:1611:A:C8	2.07	0.90
1:a:636:G:H21	10:o:23:GLY:CA	1.85	0.90
4:g:88:PRO:HG2	4:g:152:ALA:HB2	1.52	0.90
28:F:73:GLU:OE1	57:B:41:U:C5	2.23	0.90
58:A:1568:C:N4	58:A:1603:G:N1	2.19	0.90
58:A:1562:C:O2'	58:A:1563:A:O5'	1.90	0.90
2:c:5:ILE:CD1	15:n:58:LYS:HZ2	1.77	0.90
6:i:149:LYS:HA	23:x:98:ARG:CZ	2.01	0.90
58:A:1558:C:C4	58:A:1559:A:N6	2.39	0.90
1:a:1042:U:O4	2:c:3:GLN:NE2	2.05	0.90
1:a:1332:A:H2'	4:g:33:GLU:CD	1.97	0.90
26:D:154:CYS:HB3	58:A:2798:G:O2'	1.71	0.90
58:A:1571:C:C5	58:A:1573:U:C4	2.55	0.90
1:a:1032:U:C4'	23:x:77:ARG:HG2	2.01	0.90
26:D:154:CYS:CB	58:A:2799:C:H5'	2.01	0.90
52:1:8:ARG:NH1	58:A:2509:C:H5	1.69	0.90
58:A:1575:A:C2	58:A:1576:C:C2	2.59	0.90
7:j:6:ILE:O	7:j:76:ILE:HB	1.72	0.89
10:o:23:GLY:HA2	10:o:28:GLN:NE2	1.86	0.89
26:D:162:LYS:HG2	58:A:2843:C:H5''	1.54	0.89
27:E:144:PHE:CD2	27:E:148:LEU:HD11	2.07	0.89
27:E:144:PHE:HD1	27:E:148:LEU:HD21	1.32	0.89
33:K:13:ARG:CZ	33:K:121:LYS:HZ3	1.85	0.89
45:W:83:LEU:CD1	45:W:92:ILE:HG23	2.01	0.89
1:a:941:A:C2	13:s:55:ARG:CZ	2.54	0.89
7:j:51:VAL:HG13	15:n:41:ARG:HB2	1.53	0.89
58:A:1569:A:C6	58:A:1603:G:C2	2.49	0.89
6:i:45:THR:C	6:i:82:ASP:OD2	2.16	0.89
1:a:1032:U:H4'	23:x:77:ARG:HG2	1.52	0.89
23:x:38:ARG:HG3	23:x:71:LEU:C	1.98	0.89
37:O:8:PRO:CG	58:A:1870:U:C4	2.55	0.89
45:W:83:LEU:HD11	45:W:92:ILE:HD12	1.55	0.89
45:W:109:GLU:HG2	45:W:132:GLU:HA	1.55	0.89
2:c:5:ILE:HD11	15:n:58:LYS:NZ	1.85	0.89
8:k:91:VAL:HG21	8:k:114:LEU:HD13	1.52	0.89
22:w:72:C:HO2'	58:A:2068:U:H4'	1.28	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:9:ARG:CG	37:O:14:SER:HB3	2.01	0.89
25:C:258:ARG:HA	58:A:2015:U:C5'	2.01	0.89
26:D:156:THR:HG21	58:A:2256:G:H21	1.35	0.89
57:B:19:G:H22	57:B:64:G:H1	1.17	0.89
2:c:149:ILE:HG23	2:c:170:GLU:N	1.88	0.89
22:w:8:U:O2	22:w:49:C:O2	1.91	0.89
28:F:31:ASN:OD1	57:B:56:C:C4'	2.20	0.89
45:W:87:PRO:HA	45:W:90:ARG:HH22	1.35	0.89
1:a:946:A:C1'	7:j:57:LYS:NZ	2.35	0.89
22:w:30:G:O6	22:w:42:C:N4	2.05	0.89
22:w:57:C:N1	22:w:58:A:C8	2.41	0.89
38:P:41:ASN:ND2	57:B:7:G:HO2'	1.70	0.89
58:A:1610:C:C2	58:A:1611:A:N7	2.41	0.89
22:w:51:U:H3	22:w:65:G:H1	1.14	0.89
1:a:10:G:C6	3:e:124:ALA:HB1	2.07	0.88
1:a:672:U:C5	8:k:37:ASN:OD1	2.26	0.88
43:U:83:ILE:HD12	58:A:1456:G:C2	2.05	0.88
1:a:1332:A:H2'	4:g:33:GLU:OE1	1.71	0.88
2:c:5:ILE:HD13	15:n:58:LYS:HZ2	1.34	0.88
23:x:38:ARG:NE	23:x:72:ASP:N	2.18	0.88
27:E:192:ASP:HB3	35:M:5:LYS:HZ3	1.30	0.88
28:F:168:THR:OG1	38:P:4:LYS:O	1.89	0.88
1:a:1098:U:H5'	6:i:126:ARG:HE	1.35	0.88
1:a:1355:U:H5'	6:i:92:PRO:HD2	1.56	0.88
1:a:1359:U:C4	4:g:9:LYS:NZ	2.41	0.88
22:w:73:A:C4'	58:A:2069:U:H5'	2.03	0.88
24:O:16:UNK:O	24:O:140:UNK:HA	1.74	0.88
28:F:31:ASN:ND2	57:B:56:C:H5'	1.88	0.88
55:4:22:ARG:HB3	55:4:36:GLN:HB3	1.55	0.88
57:B:25:G:H21	57:B:114:A:C1'	1.86	0.88
53:2:22:ARG:O	53:2:26:ARG:HD3	1.73	0.88
1:a:644:G:H22	1:a:721:G:H1	1.22	0.88
3:e:179:ALA:HB2	3:e:189:VAL:HG21	1.54	0.88
14:t:4:ILE:CG2	14:t:8:ILE:HG13	2.04	0.88
26:D:151:ILE:CG1	26:D:164:THR:HG21	2.03	0.88
27:E:144:PHE:CD1	27:E:148:LEU:CD1	2.52	0.88
45:W:29:ARG:NH1	57:B:90:G:H5'	1.89	0.88
58:A:1601:G:C2'	58:A:1602:U:H5'	2.04	0.88
1:a:954:C:OP2	7:j:59:LYS:HE2	1.73	0.88
25:C:256:ARG:HA	25:C:256:ARG:NE	1.88	0.88
34:L:88:LYS:O	34:L:90:ASP:N	2.05	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:W:104:GLU:HB2	45:W:137:ALA:CA	1.89	0.88
1:a:948:G:C8	23:x:100:GLU:HG2	2.09	0.88
23:x:53:LYS:NZ	23:x:111:GLU:OE2	2.07	0.88
44:V:2:LYS:HD2	44:V:83:VAL:HG11	0.88	0.88
27:E:7:VAL:O	27:E:14:THR:HA	1.73	0.88
50:y:41:CYS:HB3	50:y:43:PRO:CD	2.04	0.88
52:1:19:LYS:HB2	52:1:21:ARG:NH2	1.89	0.88
58:A:1571:C:H5	58:A:1573:U:C6	1.91	0.88
1:a:123:G:O2'	11:q:21:LYS:NZ	2.08	0.87
4:g:143:LYS:HE2	22:w:43:G:H5'	1.55	0.87
28:F:99:ARG:CD	57:B:45:G:C8	2.57	0.87
55:4:23:VAL:CG1	55:4:24:MET:H	1.87	0.87
1:a:47:C:OP1	20:p:14:ARG:CG	2.21	0.87
16:b:15:HIS:HD2	24:0:9:UNK:HA	1.38	0.87
35:M:58:HIS:CD2	54:3:7:HIS:HE1	1.92	0.87
1:a:1312:U:H5'	19:m:23:TYR:O	1.75	0.87
34:L:108:GLU:HG3	34:L:109:LYS:H	1.36	0.87
58:A:1598:U:O2'	58:A:1600:G:C5'	2.22	0.87
1:a:10:G:N2	3:e:128:THR:OG1	2.05	0.87
3:e:17:ARG:HH12	3:e:40:VAL:HB	1.40	0.87
45:W:104:GLU:HB3	45:W:137:ALA:N	1.89	0.87
1:a:206:G:O2'	14:t:52:HIS:CD2	2.28	0.87
1:a:483:C:OP1	9:l:116:ARG:NH1	2.06	0.87
2:c:5:ILE:HD11	15:n:58:LYS:HZ1	1.37	0.87
52:1:18:CYS:HG	52:1:45:CYS:HG	1.23	0.87
57:B:18:C:H2'	57:B:19:G:C8	2.10	0.87
58:A:1569:A:N1	58:A:1603:G:C6	2.42	0.87
16:b:74:LYS:HZ2	24:0:157:UNK:CB	1.85	0.87
28:F:74:VAL:O	57:B:41:U:O4	1.93	0.87
36:N:134:ARG:HD3	45:W:129:ASN:OD1	1.75	0.87
58:A:1565:A:H2'	58:A:1606:G:C6	2.08	0.87
22:w:9:G:O2'	22:w:46:G:N3	2.07	0.86
27:E:7:VAL:CB	27:E:16:GLY:HA3	2.05	0.86
57:B:4:A:C2	57:B:25:G:C6	2.63	0.86
1:a:947:U:N3	23:x:36:LYS:HB2	1.90	0.86
44:V:83:VAL:HG11	44:V:96:ARG:HG3	1.57	0.86
1:a:962:C:O2'	15:n:19:ARG:HG3	1.75	0.86
45:W:126:GLN:HE21	45:W:129:ASN:HA	1.39	0.86
46:X:15:ASP:CG	58:A:2487:C:H41	1.83	0.86
1:a:1027:G:OP1	15:n:4:LYS:NZ	2.07	0.86
32:J:45:ASN:O	32:J:49:GLU:HB2	1.74	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B:20:G:O2'	57:B:21:C:H5'	1.76	0.86
1:a:947:U:O2'	23:x:70:GLU:HB2	1.75	0.86
28:F:99:ARG:CD	57:B:45:G:H8	1.88	0.86
58:A:1607:C:O2'	58:A:1608:U:H5'	1.75	0.86
22:w:57:C:C4	22:w:58:A:C5	2.63	0.86
27:E:150:GLU:OE1	27:E:193:ASP:OD1	1.92	0.86
58:A:1582:C:O2'	58:A:1583:U:H5'	1.75	0.86
2:c:141:MET:HA	2:c:146:VAL:CG1	2.05	0.86
37:O:8:PRO:HG2	58:A:1870:U:C5	2.10	0.86
58:A:1572:G:N2	58:A:1600:G:N2	2.01	0.86
1:a:1034:C:O2'	23:x:78:ARG:CB	2.24	0.86
2:c:5:ILE:CD1	15:n:58:LYS:HZ1	1.81	0.86
22:w:37:U:O2	23:x:128:ARG:HB2	1.76	0.86
36:N:58:ILE:CG2	36:N:108:TYR:CZ	2.59	0.86
45:W:104:GLU:C	45:W:136:GLU:O	2.19	0.86
58:A:1578:G:C2	58:A:1592:G:C2	2.50	0.86
1:a:1032:U:O2'	23:x:77:ARG:CG	2.23	0.86
2:c:161:GLU:CB	23:x:78:ARG:HH12	1.86	0.86
24:O:243:UNK:CA	24:O:435:UNK:CB	2.53	0.86
28:F:99:ARG:HD2	57:B:45:G:H8	1.40	0.86
37:O:4:PRO:HG3	58:A:3094:A:C2	2.10	0.86
26:D:154:CYS:SG	58:A:2796:A:C5'	2.63	0.86
33:K:3:THR:HG21	58:A:1113:C:O2	1.75	0.86
52:1:29:ARG:HH21	52:1:34:ASP:CB	1.89	0.86
1:a:1133:G:P	7:j:72:ARG:HH12	1.99	0.85
2:c:137:ILE:HG23	2:c:149:ILE:HG12	1.58	0.85
22:w:38:A:H1'	23:x:128:ARG:CD	2.06	0.85
23:x:60:PHE:O	23:x:125:LYS:NZ	2.07	0.85
25:C:73:ASP:HB3	25:C:120:GLY:HA3	1.56	0.85
37:O:29:PHE:CE2	37:O:51:LEU:HD12	2.11	0.85
42:T:6:GLU:C	42:T:8:PRO:HD3	2.02	0.85
52:1:11:ILE:HD13	52:1:27:LYS:CG	2.06	0.85
58:A:1561:C:C5	58:A:1562:C:C4	2.65	0.85
1:a:48:G:OP2	20:p:13:ILE:CB	2.16	0.85
3:e:20:ARG:N	17:d:40:ARG:NH1	2.24	0.85
22:w:57:C:C6	22:w:58:A:C8	2.65	0.85
27:E:144:PHE:CE1	27:E:148:LEU:HD22	2.09	0.85
45:W:107:THR:OG1	45:W:134:GLU:CB	2.23	0.85
58:A:1578:G:C6	58:A:1593:U:N3	2.24	0.85
1:a:908:G:N2	23:x:123:ARG:NH1	2.25	0.85
1:a:1034:C:C5	23:x:75:ARG:N	2.45	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:s:19:VAL:HG21	13:s:44:PHE:CE1	2.11	0.85
43:U:29:TYR:CE1	43:U:93:ILE:CG2	2.60	0.85
58:A:1565:A:H2	58:A:1607:C:H41	0.87	0.85
45:W:36:VAL:HG21	57:B:74:A:H2	1.41	0.85
1:a:922:C:OP1	4:g:102:ARG:NH2	2.08	0.85
4:g:84:THR:HB	22:w:39:A:H62	1.39	0.85
22:w:20:G:O2'	22:w:21:U:OP1	1.93	0.85
22:w:57:C:H42	22:w:58:A:H62	1.16	0.85
43:U:19:LYS:HZ2	58:A:1508:A:H61	1.08	0.85
43:U:83:ILE:CD1	58:A:1456:G:N3	2.20	0.85
1:a:941:A:H2	13:s:55:ARG:HH12	1.21	0.85
1:a:10:G:O6	3:e:125:SER:N	2.08	0.85
16:b:15:HIS:CD2	24:0:9:UNK:CB	2.58	0.85
16:b:36:ASN:HB3	24:0:13:UNK:CB	2.05	0.85
25:C:25:THR:HG22	25:C:82:ILE:N	1.92	0.85
43:U:91:LYS:CG	43:U:92:PRO:CD	2.51	0.85
44:V:29:ASP:OD1	44:V:30:ARG:N	2.09	0.85
18:f:17:ARG:HH12	58:A:1612:U:H1'	0.69	0.85
44:V:4:HIS:HE1	44:V:96:ARG:NH2	1.74	0.85
6:i:149:LYS:HA	23:x:98:ARG:NH2	1.92	0.84
13:s:40:ILE:C	50:y:64:ARG:HH12	1.85	0.84
22:w:57:C:N4	22:w:58:A:N6	2.23	0.84
2:c:107:ASN:HD21	2:c:143:GLN:CG	1.89	0.84
3:e:185:PRO:O	3:e:188:ASP:HB2	1.77	0.84
22:w:22:A:H62	22:w:48:U:H4'	1.42	0.84
1:a:517:G:C5'	9:l:110:ARG:HH22	1.86	0.84
4:g:84:THR:HB	22:w:39:A:H61	1.05	0.84
57:B:82:A:C2	57:B:91:G:N1	2.45	0.84
1:a:502:C:OP1	9:l:117:TYR:OH	1.94	0.84
3:e:137:ARG:NH1	17:d:49:GLN:NE2	2.24	0.84
38:P:3:HIS:CD2	57:B:57:U:H4'	2.13	0.84
58:A:1565:A:C1'	58:A:1606:G:O6	2.25	0.84
26:D:155:ALA:HB2	58:A:2796:A:N7	1.80	0.84
45:W:86:HIS:O	45:W:90:ARG:NH2	2.10	0.84
1:a:331:G:H2'	14:t:5:LYS:HD2	1.59	0.84
23:x:61:ASP:OD1	23:x:63:THR:HG22	1.78	0.84
28:F:105:GLU:CG	50:y:24:THR:HG22	2.07	0.84
45:W:6:ASN:CB	45:W:139:SER:HB2	1.93	0.84
58:A:1571:C:C2	58:A:1601:G:N1	2.45	0.84
58:A:1602:U:H2'	58:A:1603:G:H8	1.43	0.84
1:a:512:A:P	23:x:79:GLN:HE21	2.00	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1034:C:H5	23:x:75:ARG:CA	1.80	0.84
1:a:1322:G:O4'	23:x:94:GLY:HA2	1.77	0.84
6:i:47:GLN:HG2	6:i:82:ASP:HB3	1.58	0.84
22:w:38:A:N3	23:x:128:ARG:HG2	1.91	0.84
25:C:76:ASN:O	25:C:98:LEU:CD2	2.25	0.84
44:V:97:ILE:HD12	44:V:103:LYS:O	1.77	0.84
58:A:1556:A:H61	58:A:1615:G:H1	1.26	0.84
58:A:1569:A:N6	58:A:1570:C:N4	2.24	0.84
22:w:19:G:N1	22:w:56:U:O2	2.11	0.84
9:l:57:LEU:CD2	9:l:63:VAL:HG22	2.07	0.84
25:C:55:GLY:CA	25:C:218:ARG:CD	2.54	0.84
36:N:58:ILE:HG23	36:N:108:TYR:CZ	2.13	0.84
58:A:1558:C:N4	58:A:1559:A:H62	1.69	0.84
6:i:27:GLN:O	6:i:28:THR:OG1	1.96	0.83
23:x:122:ARG:CA	23:x:125:LYS:HB2	2.08	0.83
48:Z:13:LEU:CD1	48:Z:17:GLU:HB2	2.07	0.83
2:c:161:GLU:HB3	23:x:78:ARG:CZ	2.08	0.83
28:F:108:ASP:O	28:F:111:ILE:HG22	1.76	0.83
52:1:36:LEU:HD21	52:1:38:ILE:HD11	1.60	0.83
58:A:1550:G:H1	58:A:1620:U:H3	0.86	0.83
58:A:1571:C:C5	58:A:1573:U:C6	2.65	0.83
33:K:112:ASN:OD1	33:K:113:LYS:N	2.11	0.83
58:A:1559:A:H2'	58:A:1560:U:C6	2.13	0.83
58:A:1609:G:H2'	58:A:1610:C:C6	2.13	0.83
1:a:338:A:OP1	34:L:97:ARG:NH2	2.12	0.83
38:P:50:GLN:CD	57:B:7:G:H21	1.86	0.83
1:a:951:A:H61	6:i:150:ARG:HH22	1.21	0.83
3:e:17:ARG:HH22	3:e:40:VAL:HG22	1.40	0.83
3:e:20:ARG:H	17:d:40:ARG:NH1	1.75	0.83
33:K:142:ILE:HG22	58:A:1130:C:N4	1.78	0.83
46:X:17:ALA:CB	58:A:2485:C:P	2.66	0.83
1:a:949:C:H5'	23:x:98:ARG:HH22	1.40	0.83
27:E:90:VAL:HG11	58:A:678:A:O5'	1.77	0.83
27:E:145:LEU:HA	27:E:148:LEU:HD12	1.58	0.83
28:F:34:GLN:NE2	38:P:3:HIS:CE1	2.47	0.83
1:a:12:A:C8	3:e:131:ILE:HG23	2.14	0.83
1:a:908:G:H22	23:x:123:ARG:HH12	1.24	0.83
45:W:104:GLU:OE2	45:W:137:ALA:HA	1.78	0.83
58:A:1578:G:O6	58:A:1593:U:N3	2.09	0.83
3:e:186:ILE:HG22	3:e:187:GLU:H	1.42	0.83
26:D:154:CYS:HG	58:A:2796:A:P	2.02	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:14:SER:O	37:O:15:SER:OG	1.96	0.83
36:N:60:ARG:HH21	45:W:187:ALA:HB2	1.42	0.83
55:4:22:ARG:CB	55:4:36:GLN:O	2.25	0.83
58:A:1569:A:C6	58:A:1603:G:C6	2.63	0.83
5:h:94:LEU:CD1	5:h:118:ALA:CB	2.53	0.82
23:x:103:ALA:HB3	23:x:109:ALA:HB2	1.60	0.82
28:F:118:ILE:HD11	28:F:144:MET:HE3	1.61	0.82
1:a:829:G:C2'	1:a:830:G:H5'	2.08	0.82
28:F:116:PRO:CB	50:y:37:VAL:HG11	2.09	0.82
1:a:714:G:O2'	12:r:69:LYS:HD3	1.79	0.82
1:a:811:U:C5'	16:b:21:ARG:HG2	2.08	0.82
35:M:51:GLU:HG3	54:3:57:ARG:NH1	1.93	0.82
37:O:95:THR:HG22	37:O:115:LEU:HD23	1.60	0.82
58:A:1581:C:H2'	58:A:1582:C:C6	2.14	0.82
57:B:19:G:H2'	57:B:20:G:H8	1.44	0.82
1:a:1332:A:O2'	4:g:33:GLU:CD	2.22	0.82
24:0:338:UNK:O	24:0:340:UNK:N	2.13	0.82
1:a:377:G:OP1	20:p:4:LYS:NZ	2.12	0.82
1:a:827:U:H2'	1:a:828:G:H8	1.44	0.82
1:a:1034:C:N4	23:x:75:ARG:HB3	1.95	0.82
6:i:42:VAL:HG11	6:i:83:ILE:CA	2.07	0.82
27:E:14:THR:HG22	27:E:15:ASP:H	1.44	0.82
58:A:1571:C:C4	58:A:1600:G:O6	2.32	0.82
1:a:1034:C:O2	23:x:78:ARG:CB	2.27	0.82
1:a:1284:U:OP2	19:m:21:TYR:OH	1.96	0.82
5:h:94:LEU:CB	5:h:115:ASP:OD1	2.27	0.82
8:k:44:THR:CG2	8:k:48:GLY:HA2	2.09	0.82
27:E:45:LYS:HG3	58:A:709:U:O4	1.80	0.82
27:E:68:GLN:OE1	58:A:790:A:O2'	1.94	0.82
45:W:6:ASN:CB	45:W:139:SER:CA	2.55	0.82
58:A:1610:C:H2'	58:A:1611:A:H8	1.42	0.82
1:a:1211:C:OP1	23:x:65:TYR:OH	1.97	0.82
22:w:7:G:O2'	22:w:50:G:C5'	2.25	0.82
22:w:39:A:N3	23:x:130:ILE:C	2.37	0.82
25:C:54:LYS:NZ	58:A:2031:G:H5''	1.94	0.82
45:W:104:GLU:HB2	45:W:137:ALA:HB2	1.03	0.82
1:a:23:C:OP1	3:e:160:ASN:ND2	2.11	0.82
1:a:1366:C:H4'	22:w:35:C:C5	2.15	0.82
22:w:10:G:O6	22:w:27:G:C6	2.33	0.82
25:C:96:HIS:CE1	25:C:102:LYS:HZ3	1.97	0.82
50:y:41:CYS:CB	50:y:43:PRO:HD2	2.10	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:1:7:VAL:CG1	58:A:2508:C:OP1	2.27	0.82
52:1:23:TYR:OH	58:A:2571:C:O2'	1.77	0.82
57:B:85:C:O2'	57:B:86:U:O4'	1.97	0.82
23:x:56:ARG:NE	23:x:118:GLU:HG3	1.94	0.82
28:F:31:ASN:CG	57:B:56:C:C4'	2.52	0.82
36:N:57:HIS:HD2	36:N:117:ALA:HB2	1.44	0.82
57:B:25:G:N2	57:B:114:A:H1'	1.94	0.82
23:x:123:ARG:HA	23:x:126:ASP:HB2	1.61	0.81
45:W:83:LEU:CD1	45:W:92:ILE:HD12	2.09	0.81
57:B:36:U:O2'	57:B:37:C:H5'	1.80	0.81
58:A:351:G:H1	58:A:444:U:H3	1.27	0.81
1:a:961:C:H42	15:n:18:VAL:HB	1.43	0.81
4:g:86:GLN:HB2	4:g:148:ASN:OD1	1.78	0.81
36:N:57:HIS:CD2	36:N:117:ALA:HB2	2.14	0.81
38:P:5:PRO:HG3	57:B:58:A:O5'	1.78	0.81
1:a:1184:C:OP1	15:n:2:ALA:HB3	1.80	0.81
6:i:46:GLY:HA2	6:i:82:ASP:OD1	1.80	0.81
14:t:4:ILE:CG2	14:t:7:GLN:H	1.93	0.81
16:b:36:ASN:CG	24:0:13:UNK:CB	2.53	0.81
22:w:11:A:N6	22:w:12:G:O6	2.13	0.81
23:x:75:ARG:HB2	23:x:83:CYS:H	1.44	0.81
25:C:25:THR:HG23	25:C:81:HIS:CB	1.98	0.81
57:B:30:G:N1	57:B:54:A:C2	2.48	0.81
1:a:1284:U:O4	19:m:14:ARG:CD	2.28	0.81
24:0:16:UNK:C	24:0:140:UNK:CB	2.58	0.81
1:a:1362:G:O6	4:g:2:PRO:CB	2.28	0.81
45:W:8:PRO:HB2	45:W:68:THR:OG1	1.80	0.81
1:a:1034:C:C2'	23:x:76:ASN:O	2.29	0.81
3:e:179:ALA:CA	3:e:189:VAL:HG21	2.11	0.81
6:i:26:ILE:CA	6:i:41:LEU:HD23	2.09	0.81
48:Z:6:THR:HG22	48:Z:10:LEU:CD1	2.09	0.81
1:a:421:U:N3	2:c:126:ARG:NH1	2.28	0.81
1:a:947:U:C4	23:x:36:LYS:HB3	2.15	0.81
19:m:57:ARG:NH1	50:y:36:GLU:OE1	2.12	0.81
28:F:132:THR:CG2	38:P:6:VAL:CG2	2.40	0.81
33:K:113:LYS:HD2	58:A:616:A:OP1	1.81	0.81
48:Z:13:LEU:HD11	48:Z:17:GLU:OE1	1.79	0.81
58:A:1582:C:C2'	58:A:1583:U:H5'	2.10	0.81
58:A:1609:G:O2'	58:A:1610:C:H5'	1.79	0.81
22:w:32:G:C2'	22:w:33:C:H5'	2.10	0.81
22:w:37:U:H5''	22:w:38:A:OP2	1.80	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:143:GLN:HB3	2:c:144:PRO:CD	2.07	0.81
26:D:154:CYS:H	58:A:2798:G:HO2'	1.25	0.81
33:K:141:GLU:OE1	33:K:143:LYS:CG	2.27	0.81
34:L:93:PRO:HD3	34:L:113:LYS:HD3	1.62	0.81
58:A:1603:G:C2'	58:A:1604:G:H8	1.93	0.81
1:a:126:G:C6	11:q:17:ARG:NH2	2.48	0.81
1:a:829:G:O2'	1:a:830:G:H5'	1.81	0.81
1:a:948:G:H21	6:i:149:LYS:HE2	1.46	0.81
4:g:151:PHE:CZ	8:k:65:ARG:CZ	2.62	0.81
13:s:42:PRO:HG3	50:y:60:ARG:HE	1.45	0.81
16:b:74:LYS:HZ1	24:0:157:UNK:CB	1.91	0.81
23:x:128:ARG:NE	23:x:129:LYS:HG2	1.95	0.81
27:E:51:SER:OG	58:A:35:A:H5'	1.81	0.81
37:O:33:ARG:HG3	37:O:114:GLU:CG	2.11	0.81
45:W:104:GLU:CA	45:W:137:ALA:HB2	2.10	0.81
1:a:722:G:OP2	10:o:35:ARG:NH1	2.15	0.80
26:D:154:CYS:HB2	58:A:2799:C:OP1	1.80	0.80
43:U:19:LYS:HE3	58:A:1454:G:H5'	1.62	0.80
58:A:1592:G:O2'	58:A:1593:U:O5'	2.00	0.80
1:a:1032:U:H4'	23:x:77:ARG:HD3	1.63	0.80
45:W:6:ASN:CB	45:W:139:SER:HA	2.09	0.80
1:a:1354:G:OP1	6:i:90:GLY:HA2	1.79	0.80
1:a:350:G:H5''	14:t:3:ASN:HD21	1.44	0.80
52:1:21:ARG:HG3	52:1:44:ASN:OD1	1.81	0.80
1:a:715:G:O2'	18:f:89:LYS:NZ	2.14	0.80
1:a:1032:U:C2'	23:x:77:ARG:HG2	2.12	0.80
1:a:1280:C:H5	4:g:114:LYS:HE3	1.46	0.80
6:i:26:ILE:CG2	6:i:41:LEU:HD23	2.10	0.80
27:E:8:LYS:O	27:E:127:VAL:HA	1.82	0.80
1:a:136:G:O2'	11:q:6:GLY:HA3	1.82	0.80
46:X:15:ASP:HB2	58:A:2486:U:O4	1.81	0.80
52:1:9:PRO:CD	52:1:27:LYS:O	2.30	0.80
58:A:1576:C:O2'	58:A:1577:C:H5'	1.81	0.80
22:w:72:C:O2'	58:A:2068:U:C4'	2.27	0.80
52:1:29:ARG:O	52:1:32:ASP:O	2.00	0.80
57:B:96:A:H2	58:A:977:G:C2	2.00	0.80
3:e:17:ARG:NH2	3:e:85:ILE:CG1	1.84	0.80
22:w:39:A:C8	22:w:40:C:C5	2.70	0.80
33:K:3:THR:HG23	58:A:1113:C:N3	1.97	0.80
45:W:109:GLU:HG2	45:W:132:GLU:CA	2.12	0.80
58:A:1563:A:N1	58:A:1609:G:C6	2.49	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1568:C:N4	58:A:1603:G:H1	1.79	0.80
25:C:37:LEU:HD12	25:C:37:LEU:O	1.82	0.80
25:C:56:GLY:CA	58:A:807:C:OP1	2.29	0.80
27:E:24:LEU:HD21	27:E:208:ASN:OD1	1.82	0.80
33:K:26:GLY:O	58:A:1262:A:N6	2.14	0.80
46:X:85:ARG:NH1	58:A:758:A:OP1	2.15	0.80
1:a:1209:C:OP1	19:m:108:ARG:NH1	2.13	0.80
58:A:1567:C:C4	58:A:1568:C:N4	2.49	0.80
1:a:603:C:O2'	20:p:12:LYS:HD3	1.82	0.79
3:e:17:ARG:CZ	3:e:40:VAL:HG11	2.12	0.79
58:A:1569:A:C2	58:A:1603:G:C2	2.69	0.79
1:a:345:C:C5'	39:Q:38:ARG:NH1	2.44	0.79
26:D:154:CYS:CB	58:A:2799:C:P	2.53	0.79
41:S:103:LYS:HZ3	41:S:103:LYS:CA	1.91	0.79
58:A:1561:C:C2'	58:A:1562:C:H5'	2.12	0.79
1:a:104:A:H61	14:t:10:ARG:HH21	1.28	0.79
1:a:1290:C:H5'	19:m:110:ARG:NH2	1.97	0.79
1:a:1359:U:C5	4:g:9:LYS:NZ	2.50	0.79
1:a:1477:A:C5'	23:x:107:TYR:OH	2.30	0.79
16:b:15:HIS:HD2	24:0:9:UNK:CA	1.86	0.79
16:b:35:ARG:NH1	24:0:6:UNK:CB	2.46	0.79
24:0:16:UNK:C	24:0:140:UNK:HA	2.12	0.79
38:P:45:ARG:NH1	57:B:52:G:N7	2.17	0.79
1:a:1321:A:O2'	23:x:93:ARG:C	2.25	0.79
2:c:135:LYS:HG3	3:e:26:ARG:HH22	0.96	0.79
23:x:38:ARG:NE	23:x:72:ASP:CA	2.23	0.79
28:F:117:ARG:NH1	28:F:146:HIS:NE2	2.31	0.79
28:F:120:ASP:OD2	28:F:122:ARG:NH1	2.16	0.79
45:W:87:PRO:CA	45:W:90:ARG:HH22	1.96	0.79
45:W:98:LEU:HD23	45:W:99:VAL:N	1.97	0.79
1:a:261:U:O4	14:t:74:ASN:ND2	2.14	0.79
33:K:3:THR:CG2	58:A:1113:C:C2	2.66	0.79
34:L:109:LYS:HD2	34:L:110:LYS:HZ1	1.45	0.79
44:V:2:LYS:NZ	44:V:85:TYR:CE2	2.51	0.79
45:W:9:ASN:HD22	45:W:57:VAL:HG13	1.41	0.79
58:A:1581:C:O2'	58:A:1582:C:H5'	1.83	0.79
28:F:182:PHE:CD2	28:F:184:PHE:HE2	2.01	0.79
43:U:19:LYS:CD	58:A:1508:A:H61	1.77	0.79
25:C:257:THR:HB	58:A:2014:G:O2'	1.82	0.79
28:F:55:LYS:HB2	28:F:55:LYS:NZ	1.97	0.79
58:A:1541:G:O6	58:A:1630:U:C5	2.36	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:G:171:ARG:NH2	55:4:28:SER:O	2.16	0.79
33:K:112:ASN:HD21	58:A:650:G:P	2.04	0.79
37:O:33:ARG:NH2	37:O:114:GLU:OE2	2.16	0.79
41:S:58:VAL:CG2	41:S:103:LYS:HG3	1.94	0.79
58:A:1562:C:HO2'	58:A:1563:A:C4'	1.93	0.79
1:a:324:G:OP1	14:t:17:ARG:HD3	1.83	0.78
1:a:1117:U:H1'	1:a:1118:A:H5''	1.65	0.78
1:a:1329:G:H5''	6:i:129:ARG:CB	2.13	0.78
23:x:38:ARG:HH21	23:x:85:HIS:HB3	1.43	0.78
24:0:311:UNK:CB	24:0:338:UNK:HA	2.13	0.78
35:M:61:LEU:CD2	54:3:24:ARG:HH11	1.96	0.78
37:O:42:ARG:O	37:O:45:ARG:HB3	1.83	0.78
50:y:48:LYS:O	50:y:52:LEU:HG	1.83	0.78
52:1:15:CYS:O	52:1:20:HIS:HB3	1.80	0.78
1:a:808:A:H62	1:a:840:G:H21	1.30	0.78
1:a:1035:A:C5	1:a:1187:G:C2	2.70	0.78
37:O:4:PRO:HG3	58:A:3094:A:N1	1.97	0.78
46:X:14:ARG:NH2	58:A:2503:G:N7	2.30	0.78
1:a:1383:C:C6	23:x:100:GLU:O	2.36	0.78
5:h:94:LEU:HD11	5:h:118:ALA:C	2.09	0.78
41:S:103:LYS:HA	41:S:103:LYS:NZ	1.95	0.78
58:A:1541:G:O6	58:A:1630:U:C4	2.37	0.78
1:a:1034:C:C4	23:x:75:ARG:HB3	2.18	0.78
42:T:75:THR:HB	42:T:118:PRO:CD	2.12	0.78
43:U:29:TYR:CE1	43:U:93:ILE:HG22	2.19	0.78
57:B:19:G:H2'	57:B:20:G:C8	2.18	0.78
1:a:1034:C:C4	23:x:75:ARG:CB	2.67	0.78
27:E:7:VAL:CG2	27:E:16:GLY:CA	2.61	0.78
27:E:118:ARG:HH11	35:M:3:VAL:HG13	1.48	0.78
48:Z:18:LEU:CD1	48:Z:61:LEU:CD2	2.61	0.78
1:a:104:A:N6	14:t:10:ARG:NH2	2.31	0.78
3:e:118:VAL:HB	3:e:153:LEU:O	1.84	0.78
13:s:19:VAL:HG11	13:s:44:PHE:CD1	2.19	0.78
25:C:54:LYS:NZ	58:A:2031:G:C5'	2.46	0.78
1:a:1329:G:O6	6:i:32:ARG:NH2	2.16	0.78
2:c:128:ALA:CB	3:e:19:ARG:CD	2.17	0.78
23:x:38:ARG:NH2	23:x:85:HIS:HD2	1.66	0.78
23:x:63:THR:O	23:x:93:ARG:N	2.17	0.78
57:B:84:C:H2'	57:B:85:C:H5'	1.65	0.78
1:a:452:A:H62	20:p:94:LYS:H	1.30	0.78
1:a:1060:A:O3'	3:e:46:VAL:HG11	1.84	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:k:44:THR:HG23	8:k:48:GLY:C	2.06	0.78
9:l:57:LEU:HD21	9:l:63:VAL:CG2	2.13	0.78
25:C:55:GLY:HA3	25:C:218:ARG:CG	2.13	0.78
26:D:151:ILE:HD11	26:D:164:THR:HG21	1.64	0.78
33:K:96:HIS:HB3	33:K:99:ARG:HG2	1.66	0.78
1:a:47:C:OP1	20:p:14:ARG:HG3	1.82	0.78
2:c:149:ILE:CG2	2:c:170:GLU:H	1.95	0.78
2:c:150:ARG:HB3	2:c:201:TRP:CE3	2.19	0.78
28:F:34:GLN:CD	38:P:3:HIS:CE1	2.61	0.78
34:L:107:ARG:NH1	39:Q:33:GLU:HG3	1.99	0.78
54:3:47:ARG:NH2	58:A:725:A:OP2	2.16	0.78
57:B:25:G:N2	57:B:114:A:C1'	2.47	0.78
1:a:1034:C:N4	23:x:75:ARG:CD	2.39	0.78
1:a:510:G:O6	23:x:81:LYS:HG3	1.82	0.77
44:V:47:VAL:C	44:V:56:SER:HA	2.09	0.77
55:4:24:MET:HG3	55:4:35:ARG:HB2	1.66	0.77
22:w:38:A:H2	23:x:128:ARG:O	1.66	0.77
22:w:57:C:C2	22:w:58:A:N7	2.50	0.77
52:1:18:CYS:SG	52:1:19:LYS:N	2.47	0.77
1:a:672:U:H5	8:k:37:ASN:OD1	1.67	0.77
13:s:31:ILE:O	13:s:50:ALA:CB	2.32	0.77
22:w:62:C:H2'	22:w:63:C:H6	1.49	0.77
24:0:206:UNK:O	24:0:433:UNK:C	2.32	0.77
25:C:57:GLY:O	25:C:58:HIS:O	2.02	0.77
1:a:674:G:O4'	23:x:130:ILE:CG1	2.12	0.77
2:c:149:ILE:CG2	2:c:170:GLU:N	2.46	0.77
4:g:143:LYS:CE	22:w:43:G:H5'	2.14	0.77
8:k:56:SER:HB3	8:k:71:ALA:HB1	1.66	0.77
27:E:51:SER:HB3	58:A:34:C:O2'	1.84	0.77
50:y:44:PHE:O	50:y:48:LYS:HE3	1.84	0.77
58:A:1607:C:C2'	58:A:1608:U:H5'	2.15	0.77
1:a:207:G:H5'	14:t:52:HIS:CE1	2.19	0.77
4:g:153:HIS:C	4:g:155:ARG:H	1.92	0.77
44:V:44:HIS:HA	44:V:58:GLY:O	1.84	0.77
6:i:45:THR:O	6:i:82:ASP:OD2	2.02	0.77
45:W:107:THR:HG1	45:W:134:GLU:HB3	1.49	0.77
4:g:84:THR:OG1	22:w:39:A:N6	2.18	0.77
14:t:4:ILE:CD1	14:t:8:ILE:HG12	2.13	0.77
23:x:88:ILE:HD11	23:x:110:PHE:HE1	1.48	0.77
1:a:439:U:C2	17:d:115:HIS:ND1	2.49	0.77
1:a:770:A:O2'	23:x:60:PHE:HZ	1.52	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:w:38:A:N3	23:x:128:ARG:CG	2.48	0.77
23:x:75:ARG:HG2	23:x:83:CYS:HB3	1.63	0.77
27:E:145:LEU:CA	27:E:148:LEU:HD12	1.98	0.77
41:S:103:LYS:C	41:S:103:LYS:HD3	2.10	0.77
45:W:107:THR:C	45:W:133:ILE:O	2.23	0.77
48:Z:5:THR:HG23	48:Z:6:THR:H	1.47	0.77
6:i:42:VAL:HG13	6:i:83:ILE:HG13	1.59	0.77
27:E:7:VAL:CG2	27:E:16:GLY:C	2.54	0.77
28:F:182:PHE:HD2	28:F:184:PHE:HE2	1.32	0.77
1:a:1303:U:O4'	13:s:73:GLU:CD	2.28	0.77
43:U:4:ILE:HD13	48:Z:58:TYR:HE1	1.40	0.77
43:U:7:PRO:O	43:U:49:ILE:HD11	1.84	0.77
50:y:47:GLY:O	50:y:51:ILE:HG13	1.85	0.77
53:2:5:LYS:HB3	53:2:9:GLN:HE21	1.47	0.77
57:B:23:G:H22	57:B:60:G:H22	1.32	0.77
58:A:1607:C:H2'	58:A:1608:U:O4'	1.85	0.77
1:a:421:U:C5	2:c:126:ARG:NH1	2.53	0.76
1:a:946:A:C1'	7:j:57:LYS:HZ1	1.96	0.76
1:a:1060:A:OP1	3:e:77:LYS:NZ	2.17	0.76
45:W:109:GLU:CA	45:W:131:ILE:O	2.31	0.76
57:B:19:G:O2'	57:B:20:G:H5'	1.85	0.76
58:A:1598:U:N3	58:A:1600:G:N7	2.33	0.76
58:A:1703:G:H1	58:A:1726:C:H42	1.33	0.76
1:a:261:U:OP2	14:t:71:GLN:NE2	2.16	0.76
1:a:806:C:H5'	5:h:13:ARG:HH22	1.49	0.76
1:a:1034:C:C4	23:x:75:ARG:CA	2.46	0.76
1:a:1327:U:HO2'	4:g:1:MET:HE3	1.51	0.76
22:w:19:G:N2	22:w:59:A:C5'	2.45	0.76
35:M:51:GLU:HG2	54:3:57:ARG:CZ	2.16	0.76
50:y:1:MET:H3	57:B:40:A:H61	1.33	0.76
1:a:262:G:OP2	14:t:71:GLN:HG3	1.86	0.76
3:e:179:ALA:HA	3:e:189:VAL:HG21	1.67	0.76
4:g:84:THR:N	22:w:39:A:H61	1.84	0.76
37:O:20:LEU:HD11	37:O:40:LYS:NZ	2.01	0.76
55:4:22:ARG:H	55:4:22:ARG:HD2	1.50	0.76
2:c:131:ARG:HH12	3:e:22:ASP:CG	1.93	0.76
3:e:184:LEU:HD22	3:e:188:ASP:HB3	1.66	0.76
16:b:16:PHE:CE1	24:0:12:UNK:CB	2.68	0.76
27:E:121:ASN:HD22	35:M:3:VAL:HG22	1.50	0.76
28:F:168:THR:HG21	38:P:3:HIS:CE1	2.21	0.76
37:O:16:HIS:CD2	58:A:1390:A:C8	2.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:322:C:O2'	14:t:18:ARG:HB3	1.85	0.76
1:a:1210:A:N6	19:m:105:THR:HG22	1.99	0.76
42:T:116:SER:OG	42:T:118:PRO:HG2	1.86	0.76
46:X:15:ASP:CB	58:A:2487:C:H41	1.98	0.76
3:e:17:ARG:HB3	3:e:20:ARG:NH2	2.00	0.76
4:g:77:SER:HB2	22:w:34:U:P	2.25	0.76
22:w:36:A:N6	23:x:127:ARG:HH12	1.81	0.76
28:F:53:ASP:O	28:F:56:LEU:CD2	2.33	0.76
2:c:133:MET:O	2:c:137:ILE:HG13	1.86	0.76
4:g:86:GLN:HE21	22:w:32:G:H21	1.31	0.76
22:w:19:G:O2'	22:w:20:G:OP1	2.04	0.76
28:F:78:ARG:NH2	58:A:2522:A:OP1	2.19	0.76
58:A:1594:G:C2	58:A:1595:G:N7	2.54	0.76
1:a:654:G:H22	8:k:127:HIS:CE1	2.01	0.76
3:e:17:ARG:CB	3:e:20:ARG:NH2	2.48	0.76
26:D:154:CYS:CB	58:A:2798:G:O2'	2.33	0.76
26:D:154:CYS:HA	58:A:2799:C:C5'	2.08	0.76
1:a:639:C:P	10:o:8:LYS:HZ3	2.09	0.76
1:a:986:G:N1	1:a:1016:G:O6	2.18	0.76
6:i:26:ILE:HG21	6:i:109:LEU:CB	2.16	0.76
6:i:41:LEU:CD1	6:i:81:PHE:HZ	1.98	0.76
8:k:44:THR:CG2	8:k:48:GLY:CA	2.64	0.76
25:C:35:ARG:CZ	25:C:64:VAL:HG11	2.15	0.76
27:E:107:ILE:CD1	58:A:710:G:OP1	2.33	0.76
57:B:10:G:H1	57:B:107:A:H2	0.80	0.76
1:a:636:G:N2	10:o:23:GLY:CA	2.46	0.76
8:k:28:GLY:O	8:k:91:VAL:HA	1.85	0.76
28:F:44:ASN:ND2	58:A:2537:C:H1'	2.01	0.76
41:S:3:THR:HG22	41:S:102:ILE:HD13	0.76	0.76
41:S:6:ILE:HG22	41:S:7:VAL:N	1.99	0.76
48:Z:13:LEU:HD21	48:Z:17:GLU:C	2.11	0.76
48:Z:13:LEU:HD21	48:Z:17:GLU:CB	2.17	0.76
48:Z:18:LEU:HD13	48:Z:61:LEU:HD23	1.67	0.76
1:a:1280:C:N4	4:g:114:LYS:CG	2.49	0.75
42:T:96:ALA:O	58:A:866:G:OP2	2.05	0.75
57:B:82:A:H2	57:B:91:G:N1	1.82	0.75
1:a:323:U:OP1	14:t:21:ASN:HB2	1.86	0.75
1:a:1332:A:O2'	4:g:33:GLU:CG	2.34	0.75
27:E:7:VAL:HG23	27:E:16:GLY:CA	2.15	0.75
32:J:44:TYR:O	32:J:48:THR:HB	1.87	0.75
35:M:63:LYS:HE3	54:3:12:LYS:HG2	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:S:6:ILE:C	41:S:7:VAL:HG23	2.10	0.75
42:T:41:ASP:OD2	51:z:27:LEU:HD13	1.85	0.75
58:A:1561:C:H42	58:A:1611:A:N6	1.78	0.75
1:a:1280:C:N4	4:g:114:LYS:HG2	2.00	0.75
1:a:1322:G:HO2'	23:x:91:ARG:HH11	1.31	0.75
37:O:29:PHE:CE2	37:O:51:LEU:CD1	2.69	0.75
37:O:43:ALA:C	37:O:46:PRO:HD2	2.11	0.75
52:1:29:ARG:NH2	52:1:34:ASP:CG	2.44	0.75
1:a:481:G:H2'	1:a:482:A:H8	1.51	0.75
1:a:1465:C:H2'	1:a:1466:G:H5'	1.68	0.75
43:U:83:ILE:HD13	58:A:1456:G:C2	2.18	0.75
46:X:15:ASP:CB	58:A:2486:U:O4	2.35	0.75
58:A:1554:U:H3	58:A:1617:C:H42	1.31	0.75
58:A:1554:U:N3	58:A:1617:C:N4	2.33	0.75
58:A:1608:U:O2'	58:A:1609:G:H5'	1.86	0.75
1:a:332:G:H4'	14:t:7:GLN:NE2	2.02	0.75
1:a:637:U:O2	10:o:22:THR:HG21	1.86	0.75
1:a:1038:G:OP1	2:c:199:LYS:NZ	2.19	0.75
8:k:33:LYS:O	8:k:39:THR:HA	1.86	0.75
24:0:243:UNK:N	24:0:435:UNK:CB	2.50	0.75
27:E:151:ASN:C	27:E:152:LYS:HG3	2.07	0.75
40:R:50:ARG:HG2	40:R:53:ARG:HH21	1.51	0.75
57:B:29:C:N4	57:B:55:G:H1	1.83	0.75
58:A:1566:A:O2'	58:A:1605:G:C6	2.36	0.75
3:e:17:ARG:CG	3:e:20:ARG:HH21	1.86	0.75
53:2:7:THR:HG22	58:A:802:C:H1'	1.67	0.75
1:a:1098:U:H5'	6:i:126:ARG:CZ	2.16	0.75
1:a:1204:C:P	13:s:78:ARG:NH1	2.55	0.75
23:x:88:ILE:HD11	23:x:110:PHE:CZ	2.21	0.75
45:W:103:GLY:C	45:W:137:ALA:HB2	2.11	0.75
1:a:1034:C:C5	23:x:75:ARG:CB	2.69	0.75
22:w:2:G:N1	22:w:71:G:O6	2.18	0.75
54:3:34:GLU:OE2	58:A:2644:C:OP1	2.05	0.75
25:C:23:GLU:O	25:C:82:ILE:HB	1.86	0.75
45:W:104:GLU:O	45:W:136:GLU:O	2.04	0.75
45:W:107:THR:HG21	45:W:171:ILE:HG12	1.69	0.75
52:1:12:THR:CG2	52:1:22:ASN:HB3	2.16	0.75
52:1:36:LEU:HD21	52:1:38:ILE:CD1	2.17	0.75
22:w:38:A:O2'	23:x:129:LYS:NZ	2.20	0.74
28:F:34:GLN:CG	57:B:57:U:C4'	2.63	0.74
37:O:33:ARG:HD2	37:O:114:GLU:OE2	1.85	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:W:29:ARG:HH12	57:B:90:G:C5'	2.00	0.74
52:1:15:CYS:C	52:1:20:HIS:CB	2.59	0.74
1:a:770:A:H4'	23:x:60:PHE:CE1	2.18	0.74
30:H:103:ALA:O	30:H:107:ALA:HB3	1.86	0.74
53:2:8:PHE:CD2	53:2:10:PRO:HG3	2.21	0.74
1:a:512:A:H5'	23:x:79:GLN:NE2	2.01	0.74
22:w:36:A:N6	23:x:127:ARG:CZ	2.45	0.74
25:C:239:LYS:HE2	58:A:2196:G:OP2	1.85	0.74
25:C:256:ARG:CZ	25:C:258:ARG:HE	1.99	0.74
26:D:151:ILE:CD1	26:D:164:THR:HG21	2.16	0.74
28:F:34:GLN:CG	57:B:57:U:O4'	2.35	0.74
33:K:13:ARG:HH21	33:K:49:ASP:C	1.94	0.74
44:V:86:ARG:HD3	44:V:97:ILE:HG13	1.68	0.74
45:W:6:ASN:CG	45:W:139:SER:OG	2.30	0.74
46:X:17:ALA:HB3	58:A:2485:C:OP2	1.82	0.74
48:Z:18:LEU:CD1	48:Z:61:LEU:HD23	2.17	0.74
49:v:51:HIS:H	49:v:51:HIS:CD2	2.03	0.74
52:1:18:CYS:HB2	52:1:45:CYS:SG	2.27	0.74
1:a:730:C:O2'	10:o:21:ASP:OD1	2.04	0.74
34:L:109:LYS:HD2	34:L:110:LYS:NZ	2.02	0.74
37:O:29:PHE:HE2	37:O:51:LEU:CD1	1.99	0.74
45:W:40:HIS:CD2	45:W:101:GLN:HE21	2.04	0.74
1:a:376:G:P	20:p:67:THR:HG21	2.27	0.74
1:a:770:A:C4'	23:x:60:PHE:CE1	2.70	0.74
26:D:154:CYS:HB2	58:A:2799:C:C5'	2.17	0.74
28:F:11:LEU:HD13	28:F:108:ASP:HB2	1.70	0.74
33:K:3:THR:HG23	58:A:1113:C:C2	2.22	0.74
37:O:33:ARG:HG3	37:O:114:GLU:HG3	1.67	0.74
58:A:1608:U:C2'	58:A:1609:G:H5'	2.17	0.74
44:V:96:ARG:NH2	44:V:96:ARG:HB2	2.01	0.74
58:A:1610:C:C2'	58:A:1611:A:H5'	2.16	0.74
1:a:858:A:H4'	5:h:15:ARG:NH1	2.03	0.74
1:a:1354:G:H5''	6:i:90:GLY:C	2.12	0.74
1:a:1477:A:H1'	58:A:2137:A:H2	1.50	0.74
8:k:44:THR:CG2	8:k:48:GLY:O	2.35	0.74
45:W:83:LEU:HD11	45:W:92:ILE:HG23	1.68	0.74
58:A:1592:G:O2'	58:A:1593:U:C6	2.41	0.74
1:a:11:G:N7	3:e:120:MET:HE1	2.02	0.74
1:a:13:G:H5'	3:e:133:GLY:HA3	1.70	0.74
1:a:941:A:H2	13:s:55:ARG:NH1	1.75	0.74
46:X:13:GLY:C	46:X:14:ARG:HG3	2.13	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:225:G:H21	11:q:10:THR:HG21	1.51	0.74
1:a:323:U:OP1	14:t:21:ASN:CB	2.36	0.74
2:c:147:LYS:CE	2:c:172:ARG:HH21	2.00	0.74
37:O:96:ARG:NH2	37:O:116:VAL:HG12	2.02	0.74
44:V:4:HIS:CE1	44:V:96:ARG:NH2	2.50	0.74
45:W:110:VAL:CG2	45:W:144:LEU:HG	2.17	0.74
46:X:85:ARG:HD2	46:X:85:ARG:N	2.03	0.74
1:a:819:U:H3	1:a:829:G:H22	1.36	0.74
1:a:948:G:OP2	23:x:87:GLU:OE1	2.06	0.74
23:x:61:ASP:OD2	23:x:121:LEU:HD22	1.88	0.74
37:O:16:HIS:CD2	58:A:1390:A:C4	2.75	0.74
42:T:44:ARG:NH1	51:z:55:ASP:H	1.86	0.74
45:W:87:PRO:C	45:W:90:ARG:HH22	1.96	0.74
53:2:7:THR:O	58:A:801:U:O2'	2.05	0.74
58:A:1568:C:O2'	58:A:1569:A:H5'	1.87	0.74
2:c:135:LYS:CG	3:e:26:ARG:HH21	1.93	0.73
4:g:147:ALA:C	4:g:148:ASN:HD22	1.95	0.73
58:A:2363:A:H61	58:A:2374:U:H3	1.36	0.73
22:w:34:U:O2	22:w:37:U:C5	2.41	0.73
25:C:25:THR:HG22	25:C:82:ILE:H	1.52	0.73
25:C:76:ASN:HB2	25:C:98:LEU:HD21	1.68	0.73
28:F:44:ASN:ND2	58:A:2537:C:O2'	2.21	0.73
48:Z:13:LEU:HD21	48:Z:17:GLU:HB3	1.67	0.73
1:a:1132:U:H5''	7:j:43:PRO:HA	1.69	0.73
1:a:1280:C:H41	4:g:114:LYS:HG2	1.53	0.73
1:a:1355:U:C5'	6:i:92:PRO:HD2	2.18	0.73
7:j:49:TYR:CE2	15:n:37:PHE:HE2	2.06	0.73
25:C:256:ARG:HD3	25:C:258:ARG:CD	2.17	0.73
28:F:6:LYS:HE2	28:F:6:LYS:HA	1.70	0.73
50:y:41:CYS:HB2	50:y:44:PHE:CE2	2.22	0.73
1:a:510:G:C5	23:x:81:LYS:HG2	2.23	0.73
1:a:954:C:O2	7:j:57:LYS:HG3	1.88	0.73
3:e:21:ASP:O	3:e:22:ASP:OD1	2.07	0.73
6:i:47:GLN:CG	6:i:82:ASP:HB3	2.17	0.73
22:w:49:C:OP2	22:w:60:A:H5'	1.88	0.73
24:0:206:UNK:O	24:0:433:UNK:O	2.07	0.73
36:N:60:ARG:HH21	45:W:187:ALA:CB	2.00	0.73
1:a:806:C:H5'	5:h:13:ARG:NH2	2.02	0.73
1:a:946:A:C1'	7:j:57:LYS:HZ3	2.00	0.73
3:e:17:ARG:HG2	3:e:20:ARG:NH2	1.90	0.73
41:S:59:ALA:H	41:S:103:LYS:HE2	1.53	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:V:42:LYS:CD	58:A:586:U:H5''	2.18	0.73
1:a:1060:A:P	3:e:77:LYS:NZ	2.62	0.73
4:g:84:THR:OG1	22:w:38:A:N6	2.22	0.73
6:i:49:ASN:ND2	6:i:84:TYR:HD2	1.86	0.73
6:i:150:ARG:O	23:x:97:VAL:O	2.07	0.73
26:D:154:CYS:HB2	58:A:2799:C:H5'	1.70	0.73
45:W:29:ARG:NH1	57:B:90:G:C5'	2.51	0.73
45:W:104:GLU:CG	45:W:137:ALA:CA	2.55	0.73
1:a:207:G:H5'	14:t:52:HIS:NE2	2.03	0.73
1:a:1328:A:HO2'	6:i:129:ARG:CZ	1.99	0.73
14:t:4:ILE:HG21	14:t:8:ILE:N	2.02	0.73
57:B:84:C:C4	57:B:85:C:N3	2.55	0.73
2:c:150:ARG:HB3	2:c:201:TRP:HE3	1.52	0.73
22:w:39:A:C6	22:w:40:C:C2	2.77	0.73
25:C:20:ASP:OD2	25:C:22:ALA:HB2	1.89	0.73
25:C:57:GLY:O	25:C:58:HIS:C	2.29	0.73
27:E:149:THR:C	27:E:150:GLU:HG3	2.13	0.73
37:O:20:LEU:HD23	37:O:20:LEU:C	2.13	0.73
38:P:12:GLU:HB2	57:B:59:A:H4'	1.71	0.73
1:a:10:G:O6	3:e:124:ALA:HA	1.89	0.73
1:a:935:G:O2'	23:x:34:VAL:CG1	2.37	0.73
1:a:1280:C:H41	4:g:114:LYS:CG	2.01	0.73
12:r:32:TYR:HE1	18:f:91:LEU:CD1	1.81	0.73
13:s:67:VAL:HG11	50:y:60:ARG:HG3	1.70	0.73
28:F:74:VAL:O	57:B:41:U:C4	2.42	0.73
45:W:132:GLU:HG3	45:W:171:ILE:HB	1.71	0.73
57:B:21:C:H2'	57:B:22:A:C8	2.24	0.73
58:A:1596:C:C2	58:A:1597:G:C5	2.77	0.73
1:a:700:C:H5'	12:r:50:ALA:HA	1.71	0.73
6:i:26:ILE:CG2	6:i:109:LEU:HB3	2.18	0.73
22:w:15:G:H2'	22:w:60:A:H61	1.53	0.73
44:V:97:ILE:CD1	44:V:103:LYS:O	2.36	0.73
45:W:6:ASN:HB2	45:W:139:SER:HA	1.70	0.73
46:X:85:ARG:HG3	58:A:758:A:OP1	1.89	0.73
57:B:25:G:H21	57:B:114:A:H1'	1.50	0.73
1:a:1353:G:H5''	6:i:34:GLU:CD	2.14	0.72
16:b:36:ASN:ND2	24:0:13:UNK:O	2.17	0.72
25:C:262:LYS:CE	58:A:2309:U:OP1	2.37	0.72
45:W:130:THR:O	45:W:131:ILE:HD13	1.88	0.72
22:w:22:A:N6	22:w:48:U:H4'	2.04	0.72
23:x:56:ARG:CZ	23:x:118:GLU:HG3	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Z:18:LEU:HD13	48:Z:61:LEU:HD21	1.71	0.72
53:2:6:ARG:NH1	53:2:6:ARG:HB2	2.05	0.72
55:4:22:ARG:HB2	55:4:36:GLN:CB	2.15	0.72
1:a:846:A:OP2	3:e:115:ALA:O	2.06	0.72
1:a:1204:C:OP2	13:s:78:ARG:NH1	2.21	0.72
26:D:156:THR:HG21	58:A:2256:G:N2	2.04	0.72
58:A:1608:U:C2	58:A:1609:G:N7	2.57	0.72
1:a:323:U:O3'	14:t:17:ARG:HD2	1.89	0.72
6:i:40:ARG:HH21	6:i:84:TYR:HD1	1.37	0.72
6:i:149:LYS:CA	23:x:98:ARG:CZ	2.65	0.72
25:C:56:GLY:HA3	58:A:807:C:OP1	1.90	0.72
27:E:14:THR:HG22	27:E:15:ASP:N	2.04	0.72
27:E:24:LEU:CD2	27:E:208:ASN:OD1	2.38	0.72
37:O:4:PRO:CG	58:A:3094:A:C2	2.72	0.72
43:U:83:ILE:CD1	58:A:1456:G:N1	2.52	0.72
44:V:86:ARG:HB3	44:V:97:ILE:CG1	2.19	0.72
52:1:15:CYS:HB2	52:1:20:HIS:N	2.05	0.72
1:a:512:A:O5'	23:x:79:GLN:NE2	2.22	0.72
8:k:44:THR:HG22	8:k:48:GLY:HA2	1.72	0.72
8:k:47:GLN:HE21	8:k:47:GLN:CA	2.00	0.72
25:C:257:THR:HG22	58:A:2020:A:O2'	1.90	0.72
39:Q:51:GLY:HA2	39:Q:56:GLU:HG3	1.71	0.72
48:Z:11:ARG:C	48:Z:64:ARG:NH2	2.44	0.72
58:A:1558:C:C2	58:A:1559:A:C8	2.77	0.72
58:A:1565:A:N3	58:A:1606:G:C6	2.57	0.72
1:a:12:A:H8	3:e:131:ILE:HG23	1.55	0.72
1:a:103:G:O6	14:t:10:ARG:HD3	1.89	0.72
1:a:922:C:OP1	4:g:102:ARG:HD3	1.88	0.72
1:a:1177:A:O2'	1:a:1178:A:OP1	2.06	0.72
1:a:1267:U:H3'	1:a:1268:C:H5'	1.70	0.72
1:a:1320:G:C6	1:a:1321:A:C6	2.77	0.72
28:F:185:LYS:O	28:F:185:LYS:HE2	1.88	0.72
58:A:1571:C:H3'	58:A:1573:U:H5''	1.70	0.72
1:a:654:G:N2	8:k:127:HIS:HE1	1.86	0.72
28:F:64:LEU:HB2	28:F:72:PRO:HG3	1.70	0.72
38:P:42:ARG:NH1	57:B:48:C:P	2.46	0.72
24:0:208:UNK:N	24:0:431:UNK:O	2.22	0.72
37:O:16:HIS:CD2	58:A:1390:A:C5	2.78	0.72
50:y:62:GLU:HG2	50:y:65:TYR:OH	1.90	0.72
1:a:961:C:N3	15:n:18:VAL:CG2	2.53	0.72
8:k:116:VAL:HG13	8:k:117:GLY:N	2.02	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:w:19:G:H3'	22:w:58:A:C2	2.25	0.72
28:F:105:GLU:HG3	50:y:24:THR:CG2	2.20	0.72
55:4:22:ARG:NH2	55:4:37:GLY:CA	2.47	0.72
8:k:43:ILE:O	8:k:50:VAL:HG13	1.89	0.72
22:w:22:A:C8	22:w:49:C:C4	2.77	0.72
22:w:38:A:C2	23:x:128:ARG:O	2.42	0.72
23:x:75:ARG:CB	23:x:83:CYS:N	2.45	0.72
24:0:208:UNK:CB	24:0:435:UNK:CA	2.64	0.72
25:C:55:GLY:HA3	25:C:218:ARG:HG3	1.71	0.72
26:D:154:CYS:SG	58:A:2796:A:C2'	2.78	0.72
3:e:113:GLU:HA	3:e:117:GLY:O	1.90	0.71
28:F:44:ASN:CB	28:F:160:ASP:HB2	2.20	0.71
37:O:96:ARG:NH2	37:O:116:VAL:CG1	2.53	0.71
1:a:1168:G:P	6:i:135:LYS:NZ	2.63	0.71
1:a:1312:U:C5'	19:m:23:TYR:O	2.37	0.71
3:e:17:ARG:NH1	3:e:40:VAL:HB	2.00	0.71
33:K:96:HIS:CB	33:K:99:ARG:CG	2.67	0.71
37:O:29:PHE:CD2	37:O:79:LEU:HD11	2.24	0.71
37:O:33:ARG:CG	37:O:114:GLU:HG2	2.19	0.71
37:O:79:LEU:C	37:O:79:LEU:HD23	2.15	0.71
58:A:1569:A:N6	58:A:1603:G:O6	2.11	0.71
1:a:235:C:OP1	11:q:87:ARG:NH2	2.22	0.71
1:a:1060:A:O3'	3:e:46:VAL:CG1	2.38	0.71
9:l:57:LEU:CD2	9:l:63:VAL:CG2	2.68	0.71
13:s:66:MET:HE1	19:m:84:ILE:HB	1.71	0.71
23:x:53:LYS:HE2	23:x:111:GLU:HA	1.70	0.71
36:N:58:ILE:HG21	36:N:108:TYR:CD1	2.25	0.71
37:O:29:PHE:CZ	37:O:51:LEU:HD12	2.25	0.71
42:T:95:ARG:NH2	58:A:863:G:OP1	2.18	0.71
52:1:15:CYS:CB	52:1:20:HIS:CA	2.63	0.71
58:A:1704:U:H3	58:A:1725:G:H1	1.39	0.71
1:a:933:G:O6	19:m:105:THR:HG21	1.90	0.71
8:k:43:ILE:HD11	8:k:51:ILE:CG1	2.15	0.71
22:w:38:A:C2'	23:x:129:LYS:CE	2.69	0.71
38:P:50:GLN:HE22	57:B:7:G:N2	1.87	0.71
1:a:967:C:O2	13:s:55:ARG:NH1	2.24	0.71
1:a:1287:G:HO2'	1:a:1288:A:H8	1.38	0.71
25:C:55:GLY:CA	25:C:218:ARG:HD2	2.17	0.71
37:O:33:ARG:HD3	37:O:114:GLU:CG	2.21	0.71
58:A:290:C:H42	58:A:298:G:H1	1.38	0.71
2:c:107:ASN:ND2	2:c:143:GLN:HG3	1.99	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:g:151:PHE:CE2	8:k:65:ARG:NH1	2.58	0.71
44:V:96:ARG:O	44:V:97:ILE:HD13	1.91	0.71
49:v:21:GLU:HG2	58:A:964:C:O2'	1.90	0.71
1:a:1332:A:O2'	4:g:33:GLU:HB3	1.91	0.71
24:0:339:UNK:CB	24:0:449:UNK:O	2.37	0.71
26:D:151:ILE:HD11	26:D:164:THR:CG2	2.21	0.71
26:D:156:THR:O	58:A:2795:C:O2'	2.09	0.71
58:A:1595:G:O2'	58:A:1596:C:O4'	2.09	0.71
1:a:481:G:H2'	1:a:482:A:C8	2.24	0.71
1:a:579:U:H5'	5:h:125:GLY:HA2	1.73	0.71
2:c:161:GLU:CD	23:x:78:ARG:HH22	1.97	0.71
23:x:88:ILE:CD1	23:x:110:PHE:CE1	2.69	0.71
42:T:9:SER:HB3	42:T:115:GLU:HB3	1.72	0.71
1:a:1132:U:O4'	7:j:41:PRO:HB2	1.91	0.71
1:a:1323:U:H2'	1:a:1324:C:H6	1.54	0.71
3:e:137:ARG:NH1	17:d:49:GLN:HE22	1.89	0.71
22:w:36:A:N1	23:x:127:ARG:O	2.23	0.71
22:w:10:G:O6	22:w:27:G:C5	2.44	0.71
26:D:154:CYS:CA	58:A:2798:G:O2'	2.38	0.71
53:2:7:THR:HA	58:A:802:C:C4'	2.21	0.71
57:B:13:C:O2'	57:B:14:A:H3'	1.91	0.71
58:A:1563:A:N1	58:A:1609:G:O6	2.24	0.71
58:A:1569:A:C6	58:A:1570:C:C4	2.79	0.71
1:a:531:U:O2'	9:l:83:ARG:NH2	2.23	0.70
1:a:698:A:O4'	8:k:127:HIS:HB2	1.89	0.70
1:a:770:A:H62	23:x:122:ARG:HH11	0.74	0.70
1:a:1211:C:H4'	23:x:66:LEU:HD21	1.70	0.70
33:K:47:ASN:HD21	58:A:623:A:H2	1.40	0.70
58:A:1569:A:C5	58:A:1570:C:C5	2.79	0.70
1:a:636:G:H21	10:o:23:GLY:HA2	1.57	0.70
1:a:984:A:H61	1:a:1018:C:H42	1.39	0.70
1:a:1477:A:C5	58:A:2137:A:C2	2.78	0.70
22:w:73:A:C6	22:w:74:A:N7	2.59	0.70
28:F:182:PHE:HD2	28:F:184:PHE:CE2	2.09	0.70
45:W:37:LEU:O	45:W:44:PRO:HA	1.92	0.70
58:A:1561:C:C3'	58:A:1562:C:H5'	2.21	0.70
1:a:323:U:H5'	14:t:18:ARG:HB3	1.74	0.70
4:g:77:SER:HA	22:w:33:C:C4'	2.21	0.70
6:i:47:GLN:HG2	6:i:82:ASP:CB	2.21	0.70
24:0:116:UNK:HA	24:0:337:UNK:O	1.91	0.70
24:0:123:UNK:CB	24:0:340:UNK:CB	2.69	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:20:LEU:HD21	37:O:24:LEU:HD11	1.73	0.70
58:A:1560:U:H2'	58:A:1561:C:H5'	1.74	0.70
1:a:10:G:O6	3:e:124:ALA:CA	2.38	0.70
1:a:1035:A:N6	1:a:1187:G:C6	2.59	0.70
25:C:25:THR:CB	25:C:81:HIS:HD1	2.03	0.70
33:K:25:LEU:HD12	33:K:26:GLY:H	1.56	0.70
45:W:40:HIS:CD2	45:W:101:GLN:NE2	2.59	0.70
48:Z:13:LEU:CD1	48:Z:17:GLU:OE1	2.39	0.70
49:v:19:GLN:CG	49:v:50:VAL:HG12	2.21	0.70
50:y:38:CYS:SG	50:y:40:GLN:NE2	2.64	0.70
1:a:947:U:H1'	23:x:70:GLU:OE1	1.91	0.70
45:W:38:TYR:CZ	57:B:73:G:O6	2.44	0.70
45:W:87:PRO:O	45:W:90:ARG:CZ	2.39	0.70
3:e:109:PRO:HB3	3:e:122:ARG:HG3	1.73	0.70
22:w:30:G:N1	22:w:42:C:N3	2.32	0.70
28:F:9:PRO:HD2	28:F:12:LYS:CE	2.21	0.70
44:V:4:HIS:HE1	44:V:96:ARG:HH22	1.39	0.70
44:V:42:LYS:HD3	44:V:59:ILE:HD11	1.73	0.70
46:X:26:PHE:H	46:X:29:GLN:HE21	1.38	0.70
58:A:1564:A:N6	58:A:1609:G:C4	2.58	0.70
1:a:1355:U:OP1	6:i:93:SER:N	2.25	0.70
9:l:57:LEU:HD21	9:l:63:VAL:HG21	1.71	0.70
25:C:54:LYS:NZ	58:A:2031:G:C3'	2.54	0.70
48:Z:18:LEU:HB3	48:Z:61:LEU:HD21	1.72	0.70
1:a:1323:U:H2'	1:a:1324:C:C6	2.26	0.70
4:g:84:THR:H	22:w:39:A:N6	1.89	0.70
22:w:21:U:O2'	22:w:22:A:OP1	2.08	0.70
22:w:52:C:N3	22:w:64:G:N2	2.37	0.70
36:N:60:ARG:CD	45:W:187:ALA:HB2	2.06	0.70
55:4:17:ILE:O	55:4:23:VAL:HG13	1.92	0.70
37:O:33:ARG:CD	37:O:114:GLU:CG	2.70	0.70
46:X:15:ASP:HB2	58:A:2486:U:C4	2.25	0.70
1:a:324:G:H5'	14:t:17:ARG:HH11	1.57	0.69
1:a:673:G:H22	23:x:129:LYS:C	1.99	0.69
6:i:26:ILE:CB	6:i:41:LEU:CD2	2.10	0.69
27:E:143:THR:O	27:E:147:THR:OG1	2.09	0.69
1:a:426:U:OP1	17:d:31:TYR:OH	2.09	0.69
4:g:151:PHE:HZ	8:k:65:ARG:HE	0.70	0.69
22:w:39:A:C5	22:w:40:C:C4	2.79	0.69
22:w:43:G:H5''	22:w:44:A:OP2	1.92	0.69
24:0:206:UNK:C	24:0:432:UNK:O	2.40	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:E:7:VAL:HG23	27:E:16:GLY:O	1.92	0.69
37:O:5:THR:O	37:O:6:LYS:HB3	1.92	0.69
1:a:1328:A:O2'	6:i:129:ARG:NE	2.24	0.69
22:w:38:A:H2'	23:x:129:LYS:HE2	1.72	0.69
36:N:61:GLY:CA	36:N:108:TYR:HE1	2.05	0.69
58:A:1556:A:N6	58:A:1615:G:H1	1.89	0.69
1:a:350:G:OP1	14:t:3:ASN:N	2.25	0.69
1:a:1434:U:O2'	1:a:1435:U:H5''	1.92	0.69
4:g:151:PHE:HZ	8:k:65:ARG:CD	2.04	0.69
14:t:3:ASN:O	14:t:4:ILE:HG13	1.92	0.69
26:D:154:CYS:SG	58:A:2798:G:O3'	2.50	0.69
34:L:108:GLU:HG3	34:L:109:LYS:N	2.08	0.69
37:O:33:ARG:CG	37:O:114:GLU:CG	2.70	0.69
37:O:81:ALA:O	37:O:85:PRO:HD2	1.93	0.69
57:B:81:U:H3	57:B:92:G:H22	1.38	0.69
1:a:332:G:H4'	14:t:7:GLN:HE22	1.57	0.69
1:a:1320:G:C6	1:a:1321:A:N6	2.60	0.69
45:W:21:LYS:HZ1	57:B:80:C:H42	1.37	0.69
46:X:64:PRO:HB2	46:X:85:ARG:NH2	2.08	0.69
48:Z:18:LEU:CD1	48:Z:61:LEU:HD21	2.23	0.69
22:w:14:A:H3'	22:w:15:G:C8	2.28	0.69
34:L:8:LEU:HD12	34:L:8:LEU:N	2.03	0.69
43:U:9:ASP:N	43:U:9:ASP:OD1	2.25	0.69
45:W:107:THR:HG21	45:W:171:ILE:CG1	2.21	0.69
1:a:1210:A:H4'	23:x:32:GLU:OE2	1.92	0.69
8:k:45:ASP:CB	8:k:46:PRO:HD2	2.16	0.69
22:w:8:U:C2	22:w:15:G:N1	2.40	0.69
25:C:262:LYS:HE2	58:A:2309:U:OP1	1.93	0.69
28:F:9:PRO:HD2	28:F:12:LYS:HZ1	1.57	0.69
58:A:1567:C:N3	58:A:1605:G:N7	2.41	0.69
58:A:1939:U:H3	58:A:1955:A:H62	1.40	0.69
1:a:1210:A:H61	19:m:105:THR:HG22	1.55	0.69
2:c:161:GLU:CD	23:x:78:ARG:HH12	2.01	0.69
26:D:159:ARG:O	58:A:2276:G:H1'	1.91	0.69
28:F:55:LYS:HB2	28:F:55:LYS:HZ2	1.56	0.69
28:F:118:ILE:H	28:F:118:ILE:CD1	1.96	0.69
33:K:3:THR:HG22	58:A:1113:C:O2	1.92	0.69
33:K:96:HIS:HB3	33:K:99:ARG:CG	2.23	0.69
42:T:81:VAL:HG12	42:T:112:VAL:HG12	1.75	0.69
44:V:43:LYS:O	44:V:59:ILE:HA	1.93	0.69
49:v:49:THR:OG1	58:A:966:U:H5'	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:4:31:ARG:NH1	58:A:2702:A:OP1	2.26	0.69
58:A:1569:A:C5	58:A:1570:C:C4	2.81	0.69
58:A:1571:C:O3'	58:A:1573:U:O5'	2.10	0.69
58:A:1598:U:O2'	58:A:1600:G:P	2.51	0.69
58:A:1610:C:O2'	58:A:1611:A:H5'	1.92	0.69
1:a:1261:A:OP2	7:j:9:ARG:NH2	2.25	0.69
24:0:208:UNK:CB	24:0:434:UNK:C	2.70	0.69
25:C:25:THR:HG1	25:C:81:HIS:CE1	2.06	0.69
28:F:66:LEU:HA	50:y:27:THR:HG21	1.74	0.69
33:K:112:ASN:ND2	58:A:650:G:P	2.64	0.69
37:O:47:TYR:OH	37:O:69:LYS:HG2	1.92	0.69
49:v:52:HIS:ND1	57:B:83:C:H4'	2.08	0.69
1:a:1168:G:OP1	6:i:135:LYS:NZ	2.26	0.69
24:0:207:UNK:CB	24:0:432:UNK:HA	2.21	0.69
25:C:76:ASN:O	25:C:98:LEU:HD22	1.92	0.69
26:D:114:VAL:HG12	26:D:208:VAL:HG12	1.74	0.69
28:F:49:ASP:CB	28:F:56:LEU:CD1	2.65	0.69
1:a:653:G:O3'	18:f:87:ARG:NH2	2.26	0.68
1:a:1290:C:H5'	19:m:110:ARG:HH21	1.58	0.68
22:w:34:U:O2	22:w:37:U:H5	1.75	0.68
33:K:134:ALA:C	33:K:135:GLN:HG2	2.18	0.68
45:W:58:LEU:O	45:W:62:GLY:HA3	1.93	0.68
45:W:112:VAL:HG21	45:W:131:ILE:HG12	1.75	0.68
45:W:126:GLN:NE2	45:W:129:ASN:CB	2.55	0.68
50:y:2:LYS:HE3	57:B:40:A:C8	2.28	0.68
1:a:860:C:OP1	5:h:83:PRO:O	2.10	0.68
2:c:135:LYS:HG3	3:e:26:ARG:HH21	1.45	0.68
4:g:153:HIS:O	4:g:154:TYR:C	2.36	0.68
6:i:149:LYS:CA	23:x:98:ARG:NH2	2.57	0.68
45:W:24:SER:OG	57:B:76:G:H5''	1.92	0.68
53:2:7:THR:HA	58:A:802:C:O4'	1.92	0.68
1:a:448:A:OP2	1:a:465:G:N2	2.26	0.68
25:C:26:ARG:CD	25:C:81:HIS:CG	2.76	0.68
45:W:22:GLY:HA3	57:B:92:G:OP2	1.93	0.68
52:1:15:CYS:N	52:1:20:HIS:HA	2.07	0.68
52:1:27:LYS:NZ	52:1:34:ASP:HB2	2.08	0.68
58:A:2349:A:H61	58:A:2386:U:H5'	1.58	0.68
6:i:47:GLN:H	6:i:82:ASP:CG	2.01	0.68
17:d:54:GLN:O	17:d:58:PHE:HB2	1.93	0.68
33:K:142:ILE:HG22	33:K:143:LYS:N	2.06	0.68
34:L:8:LEU:CD1	34:L:19:ILE:CG1	2.71	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B:10:G:C6	57:B:107:A:N1	2.62	0.68
58:A:1558:C:N3	58:A:1559:A:C5	2.61	0.68
2:c:142:ARG:O	2:c:143:GLN:C	2.36	0.68
22:w:19:G:H21	22:w:59:A:H5'	1.57	0.68
23:x:75:ARG:HB2	23:x:82:ASN:CA	2.20	0.68
24:O:209:UNK:CB	24:O:222:UNK:O	2.41	0.68
25:C:26:ARG:HG3	25:C:81:HIS:CG	2.29	0.68
25:C:73:ASP:OD1	25:C:73:ASP:N	2.26	0.68
45:W:109:GLU:CB	45:W:131:ILE:O	2.42	0.68
50:y:62:GLU:HA	50:y:65:TYR:CE1	2.29	0.68
52:1:35:ARG:HG2	52:1:35:ARG:HH11	1.57	0.68
58:A:753:A:H61	58:A:762:U:H3	1.41	0.68
1:a:638:A:O3'	10:o:8:LYS:NZ	2.27	0.68
1:a:948:G:H21	6:i:149:LYS:CE	2.07	0.68
1:a:1327:U:OP1	6:i:142:ARG:NH2	2.24	0.68
2:c:110:SER:HB3	2:c:144:PRO:HG3	1.76	0.68
37:O:9:ARG:N	37:O:9:ARG:HD2	2.09	0.68
37:O:90:ARG:NH2	37:O:118:GLU:HB3	2.09	0.68
46:X:76:LYS:NZ	58:A:973:G:OP1	2.27	0.68
52:1:18:CYS:CB	52:1:45:CYS:SG	2.81	0.68
28:F:120:ASP:CG	28:F:122:ARG:HH11	2.01	0.68
28:F:183:PRO:C	28:F:184:PHE:CD2	2.50	0.68
46:X:19:GLN:N	46:X:19:GLN:OE1	2.26	0.68
58:A:279:U:H3	58:A:307:G:H1	1.39	0.68
58:A:1565:A:C4	58:A:1606:G:C6	2.81	0.68
58:A:1578:G:N3	58:A:1592:G:N2	2.41	0.68
1:a:1034:C:H1'	23:x:78:ARG:HG3	1.76	0.68
23:x:75:ARG:HB2	23:x:83:CYS:N	2.05	0.68
24:O:120:UNK:O	24:O:121:UNK:CB	2.41	0.68
25:C:58:HIS:HE1	58:A:1788:G:H21	1.41	0.68
28:F:45:MET:HE2	28:F:64:LEU:HD21	1.75	0.68
33:K:7:LYS:O	33:K:10:ASP:OD1	2.10	0.68
50:y:41:CYS:C	50:y:43:PRO:HD2	2.19	0.68
53:2:6:ARG:O	53:2:7:THR:OG1	2.09	0.68
2:c:43:ALA:O	2:c:47:GLU:HB3	1.94	0.68
6:i:28:THR:HG22	6:i:29:VAL:N	2.09	0.68
1:a:10:G:N1	3:e:124:ALA:HB1	2.08	0.68
1:a:512:A:C5'	23:x:79:GLN:HE22	2.05	0.68
1:a:664:U:O4'	8:k:49:ASN:ND2	2.27	0.68
2:c:135:LYS:HG2	3:e:26:ARG:NH2	2.09	0.68
42:T:75:THR:O	42:T:118:PRO:HD3	1.95	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B:85:C:H2'	57:B:86:U:H5''	1.75	0.68
1:a:1078:C:OP1	16:b:146:ARG:NH2	2.26	0.67
2:c:149:ILE:O	2:c:169:ARG:HA	1.93	0.67
4:g:77:SER:CB	22:w:34:U:OP1	2.33	0.67
4:g:86:GLN:HE21	22:w:32:G:N2	1.92	0.67
7:j:49:TYR:CD2	15:n:37:PHE:HE2	2.13	0.67
22:w:57:C:H2'	22:w:58:A:O4'	1.93	0.67
1:a:315:A:N7	1:a:328:U:H5	1.92	0.67
1:a:500:A:H62	1:a:509:G:H8	1.40	0.67
27:E:201:LEU:O	27:E:201:LEU:HD23	1.95	0.67
33:K:25:LEU:HD12	33:K:26:GLY:N	2.10	0.67
33:K:96:HIS:CB	33:K:99:ARG:HG3	2.23	0.67
1:a:672:U:C4	8:k:37:ASN:OD1	2.47	0.67
4:g:84:THR:H	22:w:39:A:H61	1.43	0.67
6:i:42:VAL:HG12	6:i:83:ILE:CB	2.17	0.67
28:F:44:ASN:OD1	28:F:160:ASP:HB2	1.95	0.67
28:F:79:LYS:HE3	28:F:81:ILE:HG12	1.76	0.67
1:a:829:G:H2'	1:a:830:G:H5'	1.77	0.67
1:a:908:G:N1	23:x:123:ARG:NH2	2.40	0.67
1:a:948:G:O2'	23:x:98:ARG:HD3	1.95	0.67
1:a:1366:C:H4'	22:w:35:C:C6	2.29	0.67
25:C:22:ALA:O	25:C:23:GLU:HB2	1.94	0.67
27:E:107:ILE:HD11	58:A:710:G:OP1	1.95	0.67
27:E:144:PHE:HE1	27:E:148:LEU:CD2	2.05	0.67
34:L:7:ARG:HG2	34:L:7:ARG:HH21	1.58	0.67
50:y:1:MET:N	57:B:44:C:OP2	2.27	0.67
55:4:22:ARG:CB	55:4:36:GLN:CB	2.66	0.67
1:a:860:C:O4'	5:h:4:THR:HG21	1.95	0.67
1:a:1035:A:N7	1:a:1187:G:N2	2.42	0.67
1:a:1209:C:P	19:m:108:ARG:HH12	2.17	0.67
1:a:1486:A:H2	1:a:1489:G:H1	1.41	0.67
2:c:149:ILE:HG21	2:c:170:GLU:HB3	1.76	0.67
23:x:38:ARG:NH2	23:x:72:ASP:HB3	2.09	0.67
24:0:116:UNK:CB	24:0:123:UNK:CB	2.72	0.67
33:K:113:LYS:N	33:K:113:LYS:HD3	2.07	0.67
33:K:142:ILE:O	33:K:143:LYS:HB2	1.95	0.67
1:a:952:C:H42	6:i:150:ARG:NH1	1.92	0.67
6:i:49:ASN:ND2	6:i:84:TYR:CD2	2.52	0.67
14:t:4:ILE:HD13	14:t:8:ILE:CG1	2.16	0.67
14:t:4:ILE:CB	14:t:8:ILE:HG13	2.25	0.67
22:w:37:U:H6	22:w:37:U:O5'	1.78	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:F:45:MET:CE	28:F:64:LEU:CD2	2.62	0.67
33:K:96:HIS:CB	33:K:99:ARG:HG2	2.25	0.67
37:O:77:HIS:CG	58:A:1674:G:H2'	2.11	0.67
1:a:403:C:H5''	17:d:128:PRO:CD	2.20	0.67
22:w:55:U:O2'	22:w:56:U:H5'	1.95	0.67
22:w:57:C:O2'	22:w:58:A:O5'	2.12	0.67
33:K:4:TYR:CD2	40:R:100:VAL:HG11	2.29	0.67
46:X:75:ARG:HE	58:A:2558:C:N4	1.93	0.67
58:A:1603:G:C2'	58:A:1604:G:C8	2.64	0.67
58:A:1607:C:C5	58:A:1608:U:C4	2.83	0.67
1:a:947:U:C4	23:x:36:LYS:CB	2.77	0.67
1:a:1294:G:OP2	50:y:63:LYS:HE2	1.94	0.67
4:g:151:PHE:CE2	8:k:65:ARG:CZ	2.78	0.67
22:w:45:A:OP2	22:w:45:A:C8	2.48	0.67
25:C:36:PRO:HG3	58:A:1790:A:H5'	1.77	0.67
37:O:20:LEU:HD21	37:O:24:LEU:CD1	2.24	0.67
37:O:86:PHE:HE2	37:O:116:VAL:O	1.75	0.67
44:V:2:LYS:NZ	44:V:85:TYR:CD2	2.62	0.67
44:V:43:LYS:NZ	44:V:43:LYS:HB3	2.09	0.67
48:Z:62:ARG:O	48:Z:62:ARG:HD3	1.95	0.67
58:A:1541:G:O6	58:A:1630:U:O4	2.12	0.67
1:a:636:G:H21	10:o:23:GLY:HA3	1.43	0.67
1:a:962:C:O2'	15:n:19:ARG:CG	2.42	0.67
1:a:1129:U:O5'	6:i:29:VAL:HG21	1.95	0.67
3:e:31:GLY:O	3:e:32:ASP:OD1	2.13	0.67
25:C:222:ARG:NH1	58:A:2006:A:OP2	2.28	0.67
27:E:144:PHE:CD1	27:E:148:LEU:CG	2.77	0.67
28:F:9:PRO:HD2	28:F:12:LYS:HZ2	1.57	0.67
35:M:61:LEU:HD21	54:3:24:ARG:HH11	1.60	0.67
58:A:997:G:H1	58:A:1010:U:H3	1.40	0.67
6:i:26:ILE:CG2	6:i:41:LEU:CD2	2.68	0.67
14:t:4:ILE:CG1	14:t:8:ILE:HG13	2.25	0.67
33:K:27:ARG:HH11	33:K:27:ARG:HG3	1.59	0.67
33:K:96:HIS:HB2	33:K:99:ARG:HG3	1.77	0.67
43:U:66:ARG:HA	43:U:75:LYS:HA	1.76	0.67
44:V:45:THR:C	58:A:571:A:O2'	2.38	0.67
45:W:38:TYR:CZ	57:B:101:U:C6	2.68	0.67
57:B:25:G:O2'	57:B:26:A:H5'	1.94	0.67
58:A:1558:C:H42	58:A:1559:A:N6	1.92	0.67
1:a:253:U:H2'	1:a:254:G:H8	1.60	0.66
27:E:192:ASP:HB3	35:M:5:LYS:HZ1	0.83	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:L:109:LYS:C	34:L:110:LYS:HG3	2.18	0.66
37:O:20:LEU:HD11	37:O:40:LYS:HZ2	1.58	0.66
45:W:40:HIS:CD2	45:W:101:GLN:HG2	2.30	0.66
52:1:11:ILE:HD13	52:1:27:LYS:CD	2.24	0.66
57:B:2:U:H3	57:B:115:A:H61	1.43	0.66
57:B:20:G:H2'	57:B:21:C:C6	2.29	0.66
1:a:827:U:O2'	1:a:828:G:H5'	1.95	0.66
6:i:41:LEU:CD1	6:i:81:PHE:CZ	2.78	0.66
22:w:39:A:C8	22:w:40:C:C4	2.82	0.66
57:B:29:C:N3	57:B:55:G:N2	2.43	0.66
1:a:510:G:C6	23:x:81:LYS:HG2	2.30	0.66
1:a:1028:G:OP1	15:n:4:LYS:N	2.22	0.66
1:a:1034:C:C6	23:x:75:ARG:C	2.73	0.66
23:x:38:ARG:NH2	23:x:72:ASP:CB	2.57	0.66
45:W:40:HIS:HB3	45:W:101:GLN:NE2	2.10	0.66
52:1:15:CYS:C	52:1:20:HIS:HA	2.21	0.66
57:B:70:G:H22	57:B:103:G:H1	1.43	0.66
58:A:1540:U:H3	58:A:1632:G:H1	1.43	0.66
1:a:372:C:N4	1:a:388:G:OP2	2.28	0.66
1:a:949:C:H5'	23:x:98:ARG:NH2	2.09	0.66
1:a:1170:U:C4'	2:c:10:PHE:CE1	2.77	0.66
23:x:63:THR:O	23:x:93:ARG:HB2	1.96	0.66
24:0:323:UNK:C	24:0:325:UNK:H	2.09	0.66
25:C:54:LYS:HZ3	58:A:2031:G:H5''	1.60	0.66
25:C:56:GLY:HA2	58:A:807:C:OP1	1.95	0.66
28:F:47:VAL:HG21	28:F:93:GLY:N	2.09	0.66
28:F:57:ILE:HG12	28:F:91:PRO:HB2	1.77	0.66
28:F:73:GLU:CG	57:B:42:C:C6	2.73	0.66
1:a:480:G:H2'	1:a:481:G:H8	1.61	0.66
1:a:1322:G:C4'	23:x:94:GLY:HA2	2.25	0.66
6:i:27:GLN:HA	6:i:40:ARG:HA	1.76	0.66
28:F:31:ASN:CG	57:B:56:C:H5'	2.21	0.66
1:a:411:A:C4	1:a:413:G:H1'	2.30	0.66
1:a:579:U:C5'	5:h:125:GLY:HA2	2.26	0.66
28:F:46:GLY:C	28:F:47:VAL:CG2	2.49	0.66
44:V:46:ALA:HB1	58:A:572:C:OP1	1.94	0.66
45:W:104:GLU:CG	45:W:136:GLU:O	2.44	0.66
58:A:1563:A:C2	58:A:1609:G:C6	2.83	0.66
1:a:421:U:O4	2:c:126:ARG:NH1	2.23	0.66
36:N:124:LYS:NZ	58:A:2691:C:O2	2.29	0.66
42:T:41:ASP:CG	51:z:38:LYS:HB2	2.20	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:47:C:OP1	20:p:14:ARG:HG2	1.94	0.66
6:i:150:ARG:C	23:x:97:VAL:O	2.39	0.66
22:w:7:G:H4'	22:w:8:U:OP2	1.96	0.66
22:w:16:C:O5'	22:w:16:C:H6	1.78	0.66
45:W:131:ILE:HD11	45:W:178:VAL:HG12	1.78	0.66
55:4:24:MET:HG3	55:4:34:GLN:O	1.96	0.66
57:B:35:G:C2	57:B:36:U:C5	2.83	0.66
1:a:699:C:N3	12:r:72:ARG:NH2	2.40	0.66
1:a:1098:U:C5'	6:i:126:ARG:HE	2.09	0.66
3:e:184:LEU:CD2	3:e:188:ASP:HB3	2.25	0.66
6:i:42:VAL:CG1	6:i:83:ILE:CG1	2.09	0.66
13:s:32:LYS:HA	13:s:50:ALA:HB3	1.77	0.66
44:V:96:ARG:HG3	44:V:96:ARG:HH21	1.61	0.66
1:a:437:U:H5''	17:d:147:THR:CG2	2.26	0.66
1:a:1199:C:H2'	1:a:1200:A:C8	2.31	0.66
28:F:6:LYS:HE2	28:F:6:LYS:CA	2.26	0.66
28:F:111:ILE:HD11	28:F:182:PHE:HA	1.76	0.66
36:N:61:GLY:HA3	36:N:108:TYR:CE1	2.32	0.66
42:T:67:ASN:ND2	58:A:574:C:O2'	2.28	0.66
54:3:26:LYS:NZ	54:3:45:ASP:O	2.28	0.66
55:4:24:MET:HA	55:4:35:ARG:HA	1.78	0.66
58:A:747:A:N6	58:A:768:G:O2'	2.28	0.66
58:A:1583:U:O2	58:A:1589:G:C2	2.49	0.66
1:a:827:U:H2'	1:a:828:G:C8	2.29	0.65
1:a:1322:G:C2'	23:x:91:ARG:HH11	2.07	0.65
1:a:1383:C:C5	23:x:100:GLU:O	2.48	0.65
37:O:33:ARG:HG3	37:O:114:GLU:HG2	1.78	0.65
1:a:1034:C:N4	23:x:75:ARG:CB	2.59	0.65
22:w:39:A:N7	22:w:40:C:N4	2.43	0.65
23:x:39:ASN:O	23:x:39:ASN:ND2	2.28	0.65
24:0:316:UNK:CB	24:0:458:UNK:CA	2.74	0.65
27:E:149:THR:HG23	27:E:150:GLU:HG3	1.79	0.65
30:H:43:ALA:O	30:H:47:ALA:HB3	1.95	0.65
33:K:113:LYS:HD3	33:K:113:LYS:H	1.60	0.65
1:a:654:G:H22	8:k:127:HIS:HE1	1.39	0.65
4:g:151:PHE:HE2	8:k:65:ARG:NH1	1.93	0.65
8:k:54:ALA:CB	8:k:79:ALA:CB	2.60	0.65
53:2:5:LYS:O	53:2:6:ARG:HG2	1.96	0.65
55:4:24:MET:HE2	55:4:35:ARG:CB	2.25	0.65
57:B:79:A:C2	57:B:94:G:N1	2.57	0.65
58:A:1561:C:H2'	58:A:1562:C:C5'	2.25	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:518:U:OP2	9:l:112:GLN:HB3	1.97	0.65
1:a:1171:G:OP1	2:c:5:ILE:HB	1.97	0.65
33:K:13:ARG:NE	33:K:121:LYS:HZ3	1.94	0.65
33:K:25:LEU:HD22	33:K:62:ILE:CD1	2.27	0.65
44:V:72:MET:HG2	44:V:80:PRO:HB2	1.78	0.65
57:B:25:G:N2	57:B:114:A:C4	2.62	0.65
1:a:276:G:OP1	11:q:29:SER:OG	2.13	0.65
1:a:299:G:H2'	1:a:300:A:C8	2.32	0.65
3:e:21:ASP:HB2	17:d:40:ARG:NH2	2.10	0.65
3:e:186:ILE:O	3:e:187:GLU:HG2	1.97	0.65
13:s:67:VAL:HG11	50:y:60:ARG:CZ	2.17	0.65
43:U:5:THR:HG22	43:U:6:ASP:N	2.02	0.65
58:A:1581:C:O5'	58:A:1581:C:H6	1.80	0.65
2:c:137:ILE:HG22	2:c:138:GLN:N	2.04	0.65
17:d:3:ARG:HE	17:d:110:ARG:HG2	1.61	0.65
27:E:45:LYS:HG3	58:A:709:U:C4	2.31	0.65
44:V:30:ARG:O	44:V:31:ASN:HB2	1.95	0.65
52:1:18:CYS:SG	52:1:19:LYS:NZ	2.70	0.65
52:1:29:ARG:HH21	52:1:34:ASP:CG	2.03	0.65
53:2:10:PRO:HD3	58:A:1830:C:H4'	1.79	0.65
1:a:948:G:OP2	23:x:87:GLU:CB	2.45	0.65
11:q:8:LYS:HB3	11:q:8:LYS:HZ3	1.61	0.65
38:P:3:HIS:NE2	57:B:57:U:O2'	2.24	0.65
38:P:5:PRO:HG3	57:B:58:A:C5'	2.27	0.65
42:T:116:SER:C	42:T:118:PRO:HD2	2.21	0.65
45:W:8:PRO:CB	45:W:68:THR:OG1	2.44	0.65
57:B:18:C:C2	57:B:19:G:N7	2.65	0.65
58:A:1567:C:N3	58:A:1604:G:N1	2.41	0.65
1:a:827:U:C2'	1:a:828:G:H5'	2.27	0.65
1:a:941:A:C6	13:s:55:ARG:NH2	2.62	0.65
1:a:1098:U:OP1	6:i:31:ARG:CD	2.40	0.65
1:a:1207:C:OP1	19:m:96:LEU:HD13	1.96	0.65
6:i:42:VAL:CG1	6:i:83:ILE:CA	2.74	0.65
52:1:29:ARG:NH2	52:1:34:ASP:CB	2.60	0.65
58:A:1560:U:O5'	58:A:1560:U:H6	1.79	0.65
58:A:1560:U:O2'	58:A:1561:C:H5''	1.95	0.65
1:a:859:C:O2'	5:h:5:ASP:HB2	1.96	0.65
1:a:1280:C:C5	4:g:114:LYS:HE3	2.31	0.65
28:F:66:LEU:CD2	50:y:27:THR:CG2	2.74	0.65
28:F:87:ARG:HB3	28:F:90:MET:HG3	1.78	0.65
58:A:1569:A:C5	58:A:1570:C:N4	2.65	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:323:U:H5''	14:t:21:ASN:HD22	1.62	0.65
1:a:655:A:N3	8:k:127:HIS:NE2	2.45	0.65
22:w:75:C:HO2'	22:w:77:A:H8	1.44	0.65
58:A:1561:C:N4	58:A:1562:C:N3	2.45	0.65
2:c:122:GLN:CD	2:c:135:LYS:HE2	2.22	0.64
8:k:44:THR:HG21	8:k:48:GLY:HA2	1.77	0.64
27:E:8:LYS:HE3	27:E:148:LEU:HD22	1.79	0.64
28:F:11:LEU:HD13	28:F:108:ASP:CB	2.27	0.64
58:A:1567:C:C4	58:A:1605:G:N7	2.65	0.64
1:a:1176:C:H41	2:c:1:MET:HE2	1.62	0.64
8:k:44:THR:HG23	8:k:48:GLY:O	1.95	0.64
8:k:45:ASP:HB2	8:k:46:PRO:CD	2.19	0.64
8:k:91:VAL:CG2	8:k:114:LEU:HD13	2.25	0.64
23:x:128:ARG:HE	23:x:129:LYS:CG	2.07	0.64
26:D:144:VAL:HG22	26:D:147:ARG:HE	1.62	0.64
46:X:16:SER:O	46:X:17:ALA:HB3	1.96	0.64
58:A:1580:A:H8	58:A:1580:A:O5'	1.81	0.64
58:A:1596:C:H1'	58:A:1597:G:O5'	1.97	0.64
1:a:905:A:OP1	3:e:51:LYS:HE3	1.98	0.64
1:a:1084:G:O5'	16:b:110:ARG:HD2	1.97	0.64
1:a:1332:A:O2'	4:g:33:GLU:CB	2.44	0.64
3:e:186:ILE:HG22	3:e:187:GLU:N	2.10	0.64
6:i:150:ARG:CG	23:x:98:ARG:HH11	1.91	0.64
22:w:74:A:H2'	22:w:75:C:H5'	1.79	0.64
24:0:16:UNK:C	24:0:140:UNK:CA	2.75	0.64
28:F:10:ARG:HG2	28:F:10:ARG:NH1	2.05	0.64
28:F:118:ILE:HG13	28:F:144:MET:HG2	1.79	0.64
36:N:65:TRP:HZ3	58:A:989:G:HO2'	1.44	0.64
44:V:99:LYS:NZ	44:V:99:LYS:HB3	2.12	0.64
45:W:110:VAL:HG21	45:W:144:LEU:HG	1.79	0.64
1:a:947:U:H3'	23:x:38:ARG:HD3	1.79	0.64
2:c:77:GLY:H	2:c:82:GLU:HB3	1.62	0.64
44:V:89:ASP:N	44:V:89:ASP:OD1	2.31	0.64
1:a:946:A:H1'	7:j:57:LYS:HZ3	1.62	0.64
1:a:1310:C:O3'	19:m:29:ARG:HG2	1.96	0.64
22:w:34:U:C2	22:w:36:A:H5''	2.33	0.64
43:U:10:ILE:HD13	43:U:10:ILE:N	2.10	0.64
22:w:56:U:O5'	22:w:56:U:H6	1.80	0.64
43:U:4:ILE:CD1	48:Z:58:TYR:HE1	2.01	0.64
44:V:96:ARG:HH21	44:V:96:ARG:CG	2.11	0.64
53:2:26:ARG:HD2	53:2:26:ARG:N	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B:84:C:C2'	57:B:85:C:H5'	2.28	0.64
58:A:1582:C:H2'	58:A:1583:U:H5'	1.79	0.64
1:a:1027:G:H5''	15:n:4:LYS:HD2	1.80	0.64
4:g:143:LYS:HE2	22:w:43:G:C5'	2.26	0.64
22:w:5:G:N2	22:w:70:C:O2	2.31	0.64
27:E:7:VAL:H	27:E:16:GLY:C	1.99	0.64
37:O:29:PHE:CD2	37:O:79:LEU:CD1	2.77	0.64
37:O:45:ARG:NH1	58:A:3102:U:O2	2.31	0.64
45:W:104:GLU:N	45:W:137:ALA:HB2	2.11	0.64
52:1:29:ARG:HH21	52:1:34:ASP:HB3	1.62	0.64
1:a:770:A:C1'	23:x:60:PHE:CE1	2.80	0.64
27:E:192:ASP:CB	35:M:5:LYS:HZ3	1.92	0.64
38:P:5:PRO:CG	57:B:58:A:O5'	2.46	0.64
50:y:44:PHE:O	50:y:48:LYS:CG	2.42	0.64
57:B:35:G:C2	57:B:36:U:C4	2.85	0.64
1:a:100:G:H2'	1:a:101:G:H5''	1.79	0.64
1:a:961:C:N4	15:n:18:VAL:HB	2.12	0.64
22:w:57:C:C2'	22:w:58:A:O5'	2.46	0.64
28:F:46:GLY:O	28:F:47:VAL:CB	2.46	0.64
52:1:28:ASN:CG	52:1:31:ASN:HB2	2.23	0.64
1:a:206:G:O2'	14:t:52:HIS:NE2	2.30	0.64
1:a:265:G:H2'	1:a:267:C:H5	1.61	0.64
1:a:948:G:H4'	23:x:87:GLU:OE1	1.98	0.64
14:t:4:ILE:HG22	14:t:6:SER:N	2.13	0.64
27:E:7:VAL:HB	27:E:16:GLY:CA	2.26	0.64
44:V:2:LYS:CE	44:V:83:VAL:HG12	2.27	0.64
46:X:85:ARG:CZ	58:A:758:A:OP1	2.46	0.64
50:y:2:LYS:HE3	57:B:40:A:H8	1.63	0.64
55:4:22:ARG:HD2	55:4:22:ARG:N	2.12	0.64
58:A:1567:C:C4	58:A:1604:G:O6	2.49	0.64
58:A:1594:G:H8	58:A:1594:G:O5'	1.80	0.64
1:a:331:G:H21	14:t:5:LYS:HZ1	1.44	0.63
1:a:657:U:H3	1:a:693:G:H22	1.45	0.63
22:w:19:G:N3	22:w:59:A:H5'	2.12	0.63
27:E:150:GLU:HB2	27:E:193:ASP:OD2	1.98	0.63
48:Z:18:LEU:CB	48:Z:61:LEU:HD21	2.28	0.63
49:v:51:HIS:H	49:v:51:HIS:HD2	1.46	0.63
1:a:452:A:N6	20:p:94:LYS:H	1.95	0.63
3:e:177:GLU:OE1	3:e:177:GLU:HA	1.98	0.63
14:t:4:ILE:HG21	14:t:8:ILE:CG1	2.20	0.63
25:C:73:ASP:CB	25:C:120:GLY:HA3	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:29:PHE:HE2	37:O:51:LEU:HD12	1.56	0.63
48:Z:48:ARG:O	48:Z:52:GLN:NE2	2.31	0.63
1:a:253:U:H2'	1:a:254:G:C8	2.34	0.63
1:a:436:C:O2'	17:d:149:PRO:HG3	1.98	0.63
2:c:122:GLN:NE2	2:c:135:LYS:HZ1	1.94	0.63
13:s:42:PRO:N	50:y:60:ARG:HH21	1.96	0.63
22:w:1:C:H42	22:w:72:C:N4	1.95	0.63
25:C:256:ARG:CD	25:C:258:ARG:HD2	2.28	0.63
33:K:1:MET:N	33:K:2:PRO:HD3	2.13	0.63
33:K:116:ARG:NH2	58:A:615:A:H5''	2.12	0.63
44:V:83:VAL:CG1	44:V:96:ARG:HG3	2.27	0.63
46:X:17:ALA:HB1	58:A:2485:C:P	2.37	0.63
1:a:200:U:H1'	11:q:9:TYR:CD1	2.33	0.63
1:a:954:C:H4'	7:j:59:LYS:CB	2.25	0.63
23:x:61:ASP:OD2	23:x:121:LEU:CB	2.44	0.63
25:C:108:PRO:HD2	25:C:111:LEU:HD22	1.79	0.63
28:F:11:LEU:HD22	28:F:108:ASP:N	2.13	0.63
43:U:5:THR:CG2	43:U:6:ASP:H	2.07	0.63
43:U:29:TYR:CE1	43:U:93:ILE:HG21	2.34	0.63
1:a:935:G:O2'	23:x:34:VAL:HG13	1.98	0.63
1:a:1320:G:O6	1:a:1321:A:N6	2.31	0.63
19:m:11:ARG:NH2	28:F:151:ASP:OD2	2.31	0.63
25:C:256:ARG:NE	25:C:258:ARG:HE	1.97	0.63
27:E:69:LYS:HE2	58:A:2668:G:OP2	1.98	0.63
2:c:137:ILE:CG2	2:c:149:ILE:HG12	2.27	0.63
6:i:26:ILE:O	6:i:41:LEU:CD2	2.46	0.63
23:x:38:ARG:NH2	23:x:85:HIS:C	2.57	0.63
25:C:25:THR:CG2	25:C:82:ILE:N	2.62	0.63
27:E:107:ILE:HD11	58:A:710:G:H5''	1.79	0.63
28:F:53:ASP:O	28:F:56:LEU:HD21	1.97	0.63
37:O:11:GLY:O	37:O:12:GLY:C	2.42	0.63
42:T:75:THR:CB	42:T:118:PRO:HG3	2.28	0.63
50:y:14:VAL:HB	50:y:22:PHE:HB2	1.78	0.63
53:2:6:ARG:HB2	53:2:6:ARG:HH11	1.62	0.63
1:a:1280:C:C4	4:g:114:LYS:HG3	2.34	0.63
25:C:240:THR:HG22	25:C:242:GLY:H	1.64	0.63
26:D:155:ALA:CB	58:A:2796:A:H8	1.63	0.63
29:G:55:ARG:HD2	29:G:62:SER:HB3	1.81	0.63
34:L:80:ASP:OD2	39:Q:61:ARG:CZ	2.46	0.63
50:y:38:CYS:HB2	50:y:40:GLN:NE2	2.13	0.63
53:2:38:ARG:HA	53:2:45:LEU:HD21	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B:96:A:H2	58:A:977:G:N2	1.96	0.63
4:g:148:ASN:HD22	4:g:148:ASN:N	1.97	0.63
8:k:65:ARG:NH2	22:w:41:C:H5''	2.14	0.63
1:a:10:G:C6	3:e:124:ALA:CB	2.82	0.63
1:a:421:U:O4	2:c:126:ARG:NE	2.30	0.63
1:a:1311:G:H5''	19:m:26:GLY:N	2.14	0.63
1:a:1470:G:H2'	1:a:1471:G:O4'	1.99	0.63
8:k:44:THR:HG21	8:k:48:GLY:O	1.99	0.63
34:L:7:ARG:HH21	34:L:7:ARG:CG	2.12	0.63
35:M:76:GLN:NE2	58:A:720:C:N3	2.46	0.63
52:1:15:CYS:CB	52:1:20:HIS:H	2.12	0.63
1:a:561:G:H4'	10:o:64:ARG:NH2	2.14	0.62
1:a:1321:A:H2'	23:x:94:GLY:HA2	1.79	0.62
6:i:82:ASP:O	6:i:83:ILE:HG13	1.96	0.62
16:b:35:ARG:CZ	24:o:6:UNK:CB	2.78	0.62
23:x:56:ARG:O	23:x:59:ARG:HB2	1.99	0.62
25:C:257:THR:CG2	58:A:2020:A:O2'	2.47	0.62
26:D:48:SER:HB2	26:D:92:VAL:HG21	1.81	0.62
28:F:66:LEU:CD2	50:y:27:THR:HG22	2.28	0.62
44:V:2:LYS:HD2	44:V:83:VAL:HG12	1.73	0.62
44:V:86:ARG:HB3	44:V:97:ILE:HG12	1.80	0.62
52:1:47:THR:OG1	52:1:49:GLN:NE2	2.30	0.62
13:s:19:VAL:HG11	13:s:44:PHE:HD1	1.63	0.62
23:x:128:ARG:HG2	23:x:129:LYS:HA	1.82	0.62
28:F:44:ASN:OD1	28:F:160:ASP:CB	2.47	0.62
37:O:8:PRO:HG3	58:A:1870:U:N3	2.14	0.62
43:U:4:ILE:N	43:U:4:ILE:HD12	2.13	0.62
44:V:43:LYS:HG2	58:A:568:A:H4'	1.81	0.62
58:A:1122:C:H2'	58:A:1129:G:H2'	1.82	0.62
1:a:1311:G:H4'	19:m:24:GLY:O	1.99	0.62
1:a:1382:C:H4'	1:a:1383:C:H5''	1.80	0.62
6:i:41:LEU:O	6:i:42:VAL:HB	1.98	0.62
31:I:27:GLU:HB2	31:I:106:LYS:HE3	1.81	0.62
43:U:57:VAL:HG22	43:U:84:VAL:HG12	1.82	0.62
43:U:60:ALA:HB2	58:A:1456:G:H4'	1.81	0.62
58:A:1572:G:H1	58:A:1600:G:H1	1.46	0.62
58:A:1592:G:C4	58:A:1593:U:C2	2.87	0.62
1:a:193:C:C5	11:q:17:ARG:NH1	2.68	0.62
22:w:28:U:H4'	22:w:29:C:OP1	1.98	0.62
25:C:256:ARG:HD3	25:C:258:ARG:NE	2.14	0.62
27:E:3:LEU:HD11	27:E:26:ASP:OD1	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:67:MET:HG3	37:O:76:VAL:HG11	1.81	0.62
43:U:29:TYR:CZ	43:U:93:ILE:HB	2.34	0.62
58:A:1571:C:H4'	58:A:1572:G:OP2	1.99	0.62
1:a:1280:C:C5	4:g:114:LYS:HG3	2.35	0.62
1:a:1332:A:C2'	4:g:33:GLU:CG	2.78	0.62
1:a:1515:A:H2'	1:a:1516:U:C6	2.34	0.62
5:h:42:ARG:HH12	5:h:117:GLN:HE22	1.46	0.62
14:t:4:ILE:CG2	14:t:8:ILE:H	2.05	0.62
1:a:647:G:O2'	10:o:49:ASP:OD1	2.15	0.62
1:a:1513:G:N7	21:u:7:LYS:HE3	2.15	0.62
4:g:86:GLN:NE2	22:w:32:G:C2	2.68	0.62
11:q:8:LYS:HB3	11:q:8:LYS:NZ	2.14	0.62
16:b:35:ARG:HH12	24:o:6:UNK:CB	2.11	0.62
23:x:53:LYS:CE	23:x:111:GLU:HA	2.29	0.62
25:C:35:ARG:HD2	58:A:2033:U:O4	2.00	0.62
37:O:26:THR:HG23	37:O:75:VAL:HG21	1.81	0.62
43:U:4:ILE:CD1	48:Z:58:TYR:OH	2.46	0.62
45:W:108:VAL:N	45:W:133:ILE:O	2.32	0.62
56:5:6:ARG:NH2	58:A:2713:G:OP1	2.33	0.62
43:U:67:LYS:HE2	43:U:76:ARG:HH11	1.65	0.62
58:A:1563:A:C6	58:A:1609:G:O6	2.53	0.62
1:a:1168:G:P	6:i:135:LYS:HZ2	2.22	0.62
4:g:144:MET:HE2	22:w:42:C:O2	1.99	0.62
27:E:52:THR:OG1	27:E:92:GLY:HA3	1.99	0.62
45:W:151:VAL:HG11	45:W:157:ILE:HD11	1.82	0.62
57:B:82:A:N1	57:B:91:G:O6	2.32	0.62
1:a:806:C:C5'	5:h:13:ARG:HH22	2.13	0.62
1:a:1018:C:H2'	1:a:1019:U:C6	2.34	0.62
1:a:1033:G:H4'	1:a:1034:C:H5'	1.81	0.62
1:a:1035:A:C8	1:a:1187:G:N2	2.68	0.62
12:r:33:LYS:NZ	18:f:5:GLU:CD	2.55	0.62
16:b:138:THR:O	16:b:142:ASN:HB2	2.00	0.62
28:F:110:LEU:HD23	28:F:111:ILE:H	1.60	0.62
29:G:154:ARG:HD2	29:G:155:PRO:HD2	1.82	0.62
44:V:86:ARG:CB	44:V:97:ILE:HG13	2.29	0.62
1:a:770:A:C4'	23:x:60:PHE:HE1	2.03	0.62
28:F:70:GLN:NE2	57:B:43:C:H4'	2.14	0.62
35:M:61:LEU:HD22	54:3:24:ARG:HH11	1.64	0.62
57:B:88:C:H2'	57:B:89:C:C5	2.35	0.62
58:A:1595:G:N2	58:A:1597:G:C4	2.68	0.62
1:a:438:U:O2'	1:a:439:U:O2	2.18	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:e:19:ARG:N	17:d:40:ARG:NH1	2.47	0.61
23:x:39:ASN:HD22	23:x:39:ASN:C	2.06	0.61
25:C:25:THR:HG21	25:C:81:HIS:CG	2.34	0.61
25:C:63:ARG:HH12	58:A:1788:G:P	2.22	0.61
25:C:100:GLY:O	58:A:1720:G:O2'	2.14	0.61
26:D:60:ARG:NH2	58:A:3052:A:OP1	2.33	0.61
28:F:76:ARG:NH1	57:B:41:U:H3	1.98	0.61
36:N:85:SER:HG	46:X:8:SER:HB3	1.63	0.61
37:O:7:GLY:O	37:O:9:ARG:NH1	2.33	0.61
42:T:44:ARG:HH12	51:z:55:ASP:N	1.90	0.61
44:V:43:LYS:HB3	44:V:43:LYS:HZ3	1.64	0.61
1:a:403:C:C5'	17:d:128:PRO:HD2	2.27	0.61
1:a:806:C:C5'	5:h:13:ARG:NH2	2.63	0.61
22:w:45:A:N3	22:w:45:A:H2'	2.13	0.61
37:O:43:ALA:CA	37:O:46:PRO:HD2	2.30	0.61
58:A:1603:G:H2'	58:A:1604:G:N7	2.10	0.61
1:a:987:A:H8	1:a:1007:U:H1'	1.65	0.61
3:e:17:ARG:NH2	3:e:40:VAL:HG11	2.15	0.61
58:A:1559:A:O2'	58:A:1560:U:H5'	1.99	0.61
58:A:1601:G:C5	58:A:1602:U:C5	2.88	0.61
1:a:672:U:O4	8:k:37:ASN:OD1	2.18	0.61
1:a:930:C:OP1	19:m:109:THR:HG22	2.00	0.61
2:c:148:GLY:N	2:c:203:TYR:HB3	2.15	0.61
3:e:176:GLU:OE1	3:e:176:GLU:HA	2.00	0.61
7:j:49:TYR:CE2	15:n:37:PHE:CE2	2.88	0.61
9:l:54:ARG:HA	9:l:64:THR:HA	1.80	0.61
12:r:20:CYS:SG	12:r:21:VAL:N	2.73	0.61
13:s:50:ALA:HB1	13:s:57:HIS:HB3	1.82	0.61
23:x:38:ARG:HB2	23:x:72:ASP:HA	1.80	0.61
24:0:318:UNK:CB	24:0:329:UNK:O	2.49	0.61
28:F:66:LEU:HD23	50:y:27:THR:HG22	1.81	0.61
34:L:109:LYS:HG2	34:L:110:LYS:HG3	1.82	0.61
44:V:2:LYS:CD	44:V:83:VAL:HG12	2.30	0.61
44:V:86:ARG:HD3	44:V:97:ILE:CG1	2.30	0.61
52:1:11:ILE:HD13	52:1:27:LYS:HD3	1.81	0.61
1:a:639:C:P	10:o:8:LYS:NZ	2.72	0.61
1:a:777:C:H2'	1:a:778:U:C6	2.35	0.61
1:a:1040:U:C4'	7:j:53:ARG:O	2.38	0.61
1:a:1303:U:O4'	13:s:73:GLU:OE2	2.19	0.61
18:f:10:LEU:HB2	18:f:59:ILE:HB	1.82	0.61
28:F:77:ALA:HB2	28:F:92:ILE:HD11	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:K:85:ARG:NH2	58:A:2866:A:OP2	2.26	0.61
42:T:75:THR:HB	42:T:118:PRO:HG3	1.82	0.61
43:U:29:TYR:CD1	43:U:93:ILE:HG21	2.34	0.61
1:a:208:G:H5'	14:t:60:LYS:NZ	2.16	0.61
1:a:1322:G:C2'	23:x:91:ARG:NH1	2.63	0.61
1:a:1477:A:C5	58:A:2137:A:N1	2.68	0.61
4:g:77:SER:HB3	22:w:33:C:O5'	2.01	0.61
27:E:45:LYS:CG	58:A:709:U:O4	2.49	0.61
37:O:33:ARG:CD	37:O:114:GLU:CD	2.58	0.61
43:U:6:ASP:OD2	48:Z:23:ARG:HG3	1.98	0.61
45:W:9:ASN:ND2	45:W:57:VAL:CG1	2.53	0.61
52:1:19:LYS:HG3	52:1:21:ARG:HG2	1.83	0.61
2:c:131:ARG:NH1	3:e:22:ASP:CG	2.58	0.61
8:k:44:THR:HG22	8:k:48:GLY:CA	2.29	0.61
17:d:92:ARG:HH21	17:d:129:SER:HB3	1.66	0.61
22:w:37:U:C5'	22:w:38:A:OP2	2.48	0.61
28:F:23:LEU:HD22	28:F:36:PRO:HD3	1.83	0.61
41:S:6:ILE:CG2	41:S:7:VAL:N	2.63	0.61
13:s:29:GLN:HA	13:s:29:GLN:NE2	2.11	0.61
23:x:75:ARG:HG3	23:x:83:CYS:H	0.86	0.61
24:0:233:UNK:O	24:0:234:UNK:CB	2.48	0.61
27:E:118:ARG:NH1	35:M:4:ILE:O	2.31	0.61
27:E:155:LEU:HB3	27:E:194:VAL:HG12	1.83	0.61
44:V:45:THR:C	58:A:571:A:HO2'	2.06	0.61
45:W:29:ARG:HH11	57:B:90:G:H5'	1.65	0.61
1:a:1209:C:N4	19:m:104:LYS:O	2.27	0.61
2:c:149:ILE:H	2:c:173:VAL:CG2	2.13	0.61
3:e:17:ARG:NH2	3:e:40:VAL:CG1	2.63	0.61
28:F:126:PRO:O	28:F:174:ARG:NH1	2.33	0.61
33:K:25:LEU:HD22	33:K:62:ILE:HD12	1.81	0.61
33:K:77:HIS:CD2	33:K:78:SER:O	2.54	0.61
33:K:96:HIS:HB2	33:K:99:ARG:CG	2.29	0.61
34:L:107:ARG:NH1	39:Q:33:GLU:CG	2.62	0.61
43:U:4:ILE:O	43:U:4:ILE:HG22	2.01	0.61
45:W:36:VAL:HG21	57:B:74:A:C2	2.30	0.61
57:B:34:G:C6	57:B:44:C:C5	2.89	0.61
58:A:1601:G:C6	58:A:1602:U:C4	2.88	0.61
58:A:2256:G:N2	58:A:2796:A:OP2	2.33	0.61
1:a:519:A:H2'	1:a:520:G:C8	2.36	0.61
1:a:946:A:H1'	7:j:57:LYS:NZ	2.15	0.61
1:a:1332:A:C1'	4:g:33:GLU:CG	2.61	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1338:G:H2'	1:a:1339:A:C8	2.36	0.61
26:D:151:ILE:HG13	26:D:164:THR:HG21	1.83	0.61
35:M:84:ASN:ND2	35:M:117:LYS:O	2.33	0.61
45:W:9:ASN:HD21	45:W:57:VAL:HG13	1.59	0.61
45:W:126:GLN:HE21	45:W:129:ASN:CA	2.12	0.61
58:A:1594:G:H8	58:A:1594:G:P	2.24	0.61
58:A:1594:G:C8	58:A:1594:G:P	2.94	0.61
58:A:1754:G:O6	58:A:1759:A:N1	2.33	0.61
1:a:332:G:O2'	14:t:11:ILE:HG12	2.01	0.60
1:a:1366:C:C4'	22:w:35:C:C6	2.84	0.60
1:a:1458:G:H2'	1:a:1459:G:O4'	2.01	0.60
2:c:143:GLN:CB	2:c:144:PRO:HD3	2.24	0.60
22:w:55:U:H2'	22:w:56:U:H6	1.63	0.60
25:C:241:SER:OG	58:A:2127:G:OP1	2.18	0.60
27:E:42:LEU:O	58:A:531:A:N6	2.34	0.60
27:E:118:ARG:HH11	35:M:3:VAL:CG1	2.13	0.60
28:F:34:GLN:CG	57:B:57:U:H4'	2.18	0.60
50:y:16:CYS:SG	50:y:17:GLY:N	2.74	0.60
58:A:1565:A:C2'	58:A:1606:G:C6	2.79	0.60
1:a:193:C:N4	11:q:17:ARG:HD2	2.16	0.60
1:a:375:U:OP1	20:p:69:PRO:HB3	2.01	0.60
1:a:493:A:H2'	1:a:494:C:H6	1.66	0.60
3:e:137:ARG:HH11	17:d:49:GLN:NE2	1.99	0.60
15:n:5:ALA:O	15:n:9:LYS:HB2	2.01	0.60
22:w:1:C:H42	22:w:72:C:H42	1.49	0.60
27:E:121:ASN:ND2	35:M:3:VAL:CG2	2.64	0.60
57:B:22:A:H8	57:B:22:A:O5'	1.84	0.60
58:A:1578:G:C4	58:A:1592:G:N2	2.65	0.60
1:a:1211:C:C4'	23:x:66:LEU:HD22	2.28	0.60
12:r:32:TYR:CZ	18:f:91:LEU:CD1	2.73	0.60
13:s:42:PRO:HD3	50:y:60:ARG:NE	2.15	0.60
32:J:111:ALA:HA	32:J:114:LYS:HB2	1.83	0.60
33:K:141:GLU:CD	33:K:143:LYS:HG3	2.25	0.60
37:O:56:LYS:NZ	37:O:94:TYR:OH	2.21	0.60
52:1:22:ASN:OD1	52:1:22:ASN:N	2.32	0.60
1:a:501:G:OP1	9:l:70:GLU:O	2.19	0.60
1:a:526:G:H2'	17:d:2:ALA:HB2	1.83	0.60
1:a:806:C:H4'	5:h:13:ARG:NH2	2.16	0.60
1:a:1145:G:H1	1:a:1153:U:H3	1.50	0.60
44:V:89:ASP:O	44:V:90:GLU:C	2.43	0.60
57:B:36:U:O5'	57:B:36:U:H6	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1132:U:C5'	7:j:43:PRO:HA	2.31	0.60
22:w:22:A:C8	22:w:49:C:N4	2.69	0.60
29:G:63:ARG:HB3	58:A:2973:A:H4'	1.84	0.60
42:T:84:ASP:OD1	58:A:20:G:N2	2.23	0.60
57:B:20:G:H22	57:B:63:U:H3	1.48	0.60
1:a:262:G:OP2	14:t:71:GLN:CG	2.49	0.60
22:w:76:C:H4'	22:w:77:A:OP2	2.01	0.60
25:C:73:ASP:O	25:C:119:SER:O	2.19	0.60
45:W:110:VAL:HG23	45:W:144:LEU:HG	1.84	0.60
58:A:1594:G:H2'	58:A:1595:G:H5''	1.83	0.60
1:a:1035:A:N6	1:a:1187:G:C5	2.70	0.60
1:a:1321:A:H2'	23:x:94:GLY:CA	2.32	0.60
1:a:1321:A:HO2'	23:x:93:ARG:C	2.01	0.60
26:D:27:THR:HG21	26:D:198:ILE:HG12	1.84	0.60
27:E:127:VAL:O	27:E:198:VAL:HG23	2.02	0.60
28:F:10:ARG:HH11	28:F:10:ARG:CG	2.09	0.60
1:a:606:U:H4'	20:p:39:ARG:CZ	2.32	0.60
1:a:770:A:N6	23:x:122:ARG:CZ	2.63	0.60
2:c:149:ILE:HG23	2:c:149:ILE:O	2.02	0.60
8:k:56:SER:CB	8:k:71:ALA:HB1	2.32	0.60
13:s:29:GLN:HE21	13:s:29:GLN:CA	2.05	0.60
14:t:8:ILE:HA	14:t:11:ILE:HD12	1.84	0.60
24:O:115:UNK:CB	24:O:340:UNK:N	2.65	0.60
32:J:57:PRO:HD3	32:J:76:PRO:HD3	1.84	0.60
45:W:162:ILE:HD11	45:W:178:VAL:HG21	1.84	0.60
52:1:13:LEU:N	52:1:23:TYR:O	2.34	0.60
57:B:10:G:C2	57:B:107:A:H2	2.19	0.60
58:A:1578:G:N7	58:A:1592:G:O6	2.31	0.60
58:A:1596:C:O2'	58:A:1597:G:O5'	2.19	0.60
1:a:770:A:H1'	23:x:60:PHE:CZ	2.37	0.60
25:C:25:THR:CG2	25:C:81:HIS:CG	2.83	0.60
27:E:121:ASN:ND2	35:M:3:VAL:HG22	2.16	0.60
34:L:104:ARG:HH12	39:Q:33:GLU:HB2	1.66	0.60
37:O:118:GLU:OE1	37:O:118:GLU:HA	2.00	0.60
44:V:86:ARG:CD	44:V:97:ILE:HG13	2.32	0.60
1:a:1383:C:H6	23:x:100:GLU:O	1.84	0.60
1:a:1517:C:H4'	1:a:1518:A:OP1	2.00	0.60
16:b:97:LEU:H	16:b:100:MET:HE3	1.67	0.60
22:w:7:G:HO2'	22:w:50:G:H8	1.49	0.60
22:w:38:A:H2'	23:x:129:LYS:CE	2.32	0.60
25:C:262:LYS:HD2	25:C:262:LYS:N	2.17	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:C:262:LYS:HE3	58:A:2309:U:OP1	2.01	0.60
26:D:151:ILE:HG12	26:D:151:ILE:O	2.00	0.60
46:X:64:PRO:CG	46:X:85:ARG:HH22	2.15	0.60
55:4:2:LYS:NZ	55:4:31:ARG:O	2.33	0.60
58:A:1593:U:H2'	58:A:1594:G:C4	2.37	0.60
1:a:668:G:OP1	8:k:58:HIS:HD2	1.84	0.59
1:a:1280:C:N4	4:g:114:LYS:HG3	2.16	0.59
16:b:74:LYS:NZ	24:0:157:UNK:C	2.62	0.59
33:K:110:PRO:O	33:K:115:GLY:HA3	2.01	0.59
36:N:75:THR:HA	36:N:90:PRO:HA	1.84	0.59
37:O:9:ARG:HG2	37:O:14:SER:CA	2.32	0.59
1:a:480:G:H2'	1:a:481:G:C8	2.37	0.59
24:0:16:UNK:O	24:0:140:UNK:CA	2.48	0.59
43:U:58:ASN:HD22	58:A:1456:G:H21	1.49	0.59
49:v:50:VAL:HG23	49:v:50:VAL:O	2.01	0.59
57:B:96:A:C2	58:A:977:G:N2	2.71	0.59
58:A:1000:C:OP2	58:A:1002:C:N4	2.35	0.59
1:a:1267:U:H3'	1:a:1268:C:C5'	2.32	0.59
3:e:21:ASP:HB2	17:d:40:ARG:HH21	1.66	0.59
4:g:82:GLY:O	23:x:130:ILE:HG23	2.02	0.59
16:b:10:LEU:HD22	24:0:8:UNK:CB	2.31	0.59
25:C:21:PHE:O	25:C:24:ILE:HG13	2.02	0.59
25:C:158:SER:OG	25:C:159:ALA:N	2.34	0.59
27:E:35:HIS:HE1	58:A:1359:G:O2'	1.85	0.59
45:W:106:VAL:O	45:W:134:GLU:CA	2.49	0.59
57:B:87:U:H3'	57:B:88:C:O4'	2.02	0.59
58:A:1575:A:O2'	58:A:1576:C:H5'	2.02	0.59
1:a:718:U:C5'	18:f:69:PRO:HB3	2.28	0.59
6:i:26:ILE:H	6:i:41:LEU:HB2	1.66	0.59
27:E:4:LYS:HD3	27:E:5:VAL:N	2.17	0.59
35:M:68:LYS:NZ	58:A:244:A:OP1	2.36	0.59
41:S:6:ILE:HG22	41:S:7:VAL:H	1.64	0.59
58:A:993:G:N2	58:A:1015:A:OP2	2.36	0.59
58:A:1594:G:C2'	58:A:1595:G:H5''	2.31	0.59
58:A:1604:G:H2'	58:A:1604:G:N3	2.17	0.59
1:a:1042:U:H5	2:c:3:GLN:HE22	0.65	0.59
1:a:1330:U:OP1	6:i:131:ILE:HA	2.02	0.59
6:i:39:VAL:HG12	6:i:40:ARG:H	1.66	0.59
16:b:36:ASN:HB2	24:0:13:UNK:CB	2.30	0.59
18:f:12:PRO:O	18:f:45:ARG:NH1	2.35	0.59
22:w:6:G:C2	22:w:68:C:N3	2.69	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:w:22:A:N7	22:w:49:C:C5	2.70	0.59
57:B:84:C:C4	57:B:85:C:C2	2.90	0.59
58:A:858:A:O2'	58:A:1877:U:OP1	2.20	0.59
58:A:1558:C:N3	58:A:1559:A:N7	2.51	0.59
58:A:1569:A:O2'	58:A:1570:C:H5'	2.03	0.59
1:a:687:U:O2'	8:k:48:GLY:O	2.18	0.59
2:c:152:GLN:HA	2:c:166:GLU:O	2.03	0.59
37:O:43:ALA:O	37:O:46:PRO:HD2	2.02	0.59
44:V:99:LYS:HB3	44:V:99:LYS:HZ2	1.65	0.59
55:4:3:VAL:HG13	55:4:35:ARG:HH11	1.66	0.59
58:A:1174:G:O2'	58:A:1221:A:N6	2.36	0.59
1:a:606:U:H5''	20:p:39:ARG:HD3	1.84	0.59
1:a:808:A:H62	1:a:840:G:N2	2.00	0.59
1:a:1133:G:P	7:j:72:ARG:NH1	2.75	0.59
1:a:1168:G:P	6:i:135:LYS:HZ1	2.26	0.59
22:w:16:C:H4'	22:w:17:C:OP1	2.02	0.59
27:E:107:ILE:HD12	58:A:710:G:OP1	2.02	0.59
28:F:45:MET:HB3	28:F:94:ALA:N	2.18	0.59
28:F:118:ILE:HD12	28:F:118:ILE:N	2.02	0.59
32:J:129:ILE:HA	58:A:1198:C:H1'	1.84	0.59
57:B:25:G:N2	57:B:114:A:C2'	2.61	0.59
1:a:1260:A:H5''	7:j:9:ARG:NH1	2.17	0.59
6:i:26:ILE:O	6:i:41:LEU:HD22	2.02	0.59
8:k:91:VAL:HG21	8:k:114:LEU:CD1	2.30	0.59
22:w:40:C:H6	22:w:40:C:O5'	1.86	0.59
23:x:118:GLU:OE1	23:x:122:ARG:NH2	2.30	0.59
24:O:207:UNK:CB	24:O:432:UNK:O	2.49	0.59
25:C:62:TYR:CE1	58:A:2033:U:H3'	2.38	0.59
42:T:75:THR:HB	42:T:118:PRO:CG	2.32	0.59
44:V:2:LYS:CG	44:V:83:VAL:CB	2.79	0.59
44:V:86:ARG:HB3	44:V:97:ILE:HG13	1.85	0.59
57:B:79:A:H2	57:B:94:G:H1	1.42	0.59
58:A:1552:A:N6	58:A:1616:A:OP2	2.35	0.59
1:a:173:C:H2'	1:a:174:G:H5''	1.85	0.59
1:a:209:A:OP2	14:t:60:LYS:HE3	2.02	0.59
1:a:954:C:O2	7:j:57:LYS:CG	2.50	0.59
1:a:1284:U:C4	19:m:14:ARG:NH1	2.71	0.59
1:a:1332:A:C1'	4:g:33:GLU:CD	2.75	0.59
25:C:37:LEU:HD12	25:C:37:LEU:C	2.28	0.59
28:F:132:THR:HG21	38:P:6:VAL:HG22	1.78	0.59
37:O:16:HIS:CD2	58:A:1390:A:N9	2.70	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:S:72:LYS:NZ	58:A:1337:G:N7	2.51	0.59
58:A:1397:U:H3	58:A:1401:A:H62	1.50	0.59
58:A:1562:C:C2'	58:A:1563:A:C8	2.80	0.59
58:A:1594:G:H2'	58:A:1595:G:C5'	2.33	0.59
1:a:10:G:C8	3:e:122:ARG:NH1	2.71	0.59
1:a:987:A:C8	1:a:1007:U:H1'	2.38	0.59
2:c:150:ARG:HE	2:c:167:PHE:HE1	1.48	0.59
6:i:149:LYS:CB	23:x:98:ARG:NH2	2.66	0.59
8:k:43:ILE:HG13	8:k:51:ILE:HG12	1.84	0.59
22:w:34:U:H1'	22:w:36:A:C8	2.37	0.59
25:C:257:THR:HG22	25:C:257:THR:O	2.01	0.59
27:E:186:TYR:CE1	35:M:6:LEU:HD11	2.37	0.59
28:F:99:ARG:HD3	57:B:45:G:H8	1.66	0.59
44:V:28:PRO:HG3	58:A:83:C:OP1	1.98	0.59
45:W:39:GLY:HA3	45:W:42:THR:OG1	2.03	0.59
1:a:254:G:H4'	11:q:35:THR:OG1	2.03	0.58
1:a:948:G:O2'	23:x:98:ARG:CZ	2.51	0.58
4:g:84:THR:N	22:w:39:A:N1	2.47	0.58
5:h:21:TYR:HA	5:h:70:ARG:HH21	1.68	0.58
22:w:34:U:N3	22:w:37:U:OP2	2.31	0.58
28:F:34:GLN:HG2	57:B:57:U:C1'	2.33	0.58
42:T:85:GLU:O	58:A:21:G:O2'	2.20	0.58
44:V:59:ILE:O	44:V:59:ILE:HG12	2.02	0.58
58:A:285:U:H3'	58:A:286:G:H4'	1.85	0.58
2:c:122:GLN:NE2	2:c:135:LYS:HZ3	1.99	0.58
2:c:137:ILE:HG23	2:c:149:ILE:CG1	2.33	0.58
22:w:13:C:H2'	22:w:14:A:C8	2.38	0.58
23:x:88:ILE:CD1	23:x:110:PHE:CZ	2.86	0.58
25:C:176:ARG:HG3	25:C:182:ILE:HG12	1.86	0.58
27:E:170:ARG:NH2	58:A:422:A:O2'	2.36	0.58
37:O:79:LEU:HD23	37:O:80:PHE:N	2.18	0.58
39:Q:5:ASP:O	39:Q:9:GLN:HB3	2.02	0.58
44:V:4:HIS:CG	44:V:96:ARG:NH1	2.71	0.58
45:W:82:ALA:O	45:W:83:LEU:HB2	2.04	0.58
58:A:1570:C:H2'	58:A:1571:C:C1'	2.33	0.58
1:a:203:U:H2'	1:a:204:A:H8	1.67	0.58
1:a:948:G:O2'	23:x:98:ARG:NE	2.36	0.58
1:a:948:G:C4'	23:x:87:GLU:OE1	2.51	0.58
13:s:22:GLN:HE22	13:s:29:GLN:HB2	1.67	0.58
23:x:129:LYS:O	23:x:129:LYS:HD3	2.02	0.58
25:C:31:LYS:HE3	58:A:1648:A:O2'	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:T:6:GLU:HG3	42:T:6:GLU:O	2.03	0.58
45:W:178:VAL:HG23	45:W:179:VAL:HG22	1.85	0.58
57:B:31:C:H42	57:B:51:G:H1	1.51	0.58
1:a:200:U:H1'	11:q:9:TYR:HD1	1.68	0.58
1:a:882:A:H2'	1:a:883:A:C8	2.38	0.58
1:a:1210:A:H4'	23:x:32:GLU:HG2	1.84	0.58
1:a:1375:G:H21	1:a:1486:A:H8	1.51	0.58
8:k:113:GLY:O	8:k:114:LEU:HD23	2.04	0.58
26:D:154:CYS:CB	58:A:2799:C:C5'	2.75	0.58
45:W:6:ASN:O	45:W:6:ASN:ND2	2.35	0.58
58:A:1518:A:HO2'	58:A:1692:G:HO2'	1.51	0.58
1:a:409:G:H5'	17:d:104:ARG:NH1	2.18	0.58
1:a:699:C:O2'	12:r:47:LYS:HB3	2.03	0.58
2:c:146:VAL:HG21	2:c:202:ILE:HG23	1.85	0.58
13:s:28:LYS:O	13:s:29:GLN:NE2	2.37	0.58
14:t:4:ILE:HG22	14:t:5:LYS:N	2.19	0.58
22:w:38:A:H5'	22:w:39:A:OP2	2.04	0.58
23:x:56:ARG:CZ	23:x:118:GLU:OE2	2.51	0.58
23:x:121:LEU:O	23:x:125:LYS:N	2.36	0.58
24:0:145:UNK:HA	24:0:337:UNK:CB	2.33	0.58
43:U:73:PHE:CZ	58:A:544:U:C2	2.83	0.58
45:W:104:GLU:CA	45:W:136:GLU:O	2.52	0.58
52:1:15:CYS:HB2	52:1:20:HIS:H	1.66	0.58
58:A:1577:C:H2'	58:A:1578:G:O4'	2.03	0.58
1:a:372:C:H41	1:a:387:U:H2'	1.68	0.58
1:a:1329:G:OP2	6:i:129:ARG:CG	2.25	0.58
8:k:116:VAL:CG1	8:k:117:GLY:H	2.07	0.58
42:T:82:TYR:HD2	42:T:111:THR:HB	1.67	0.58
52:1:19:LYS:HD3	52:1:44:ASN:HB2	1.80	0.58
58:A:808:A:O2'	58:A:1468:A:N3	2.35	0.58
58:A:1569:A:C4	58:A:1570:C:C5	2.91	0.58
1:a:1211:C:C5'	23:x:66:LEU:HD22	2.34	0.58
6:i:119:LYS:HB2	6:i:124:LEU:HD12	1.84	0.58
13:s:11:VAL:HG23	13:s:40:ILE:HG12	1.86	0.58
25:C:30:GLU:OE1	25:C:33:LEU:HD12	2.04	0.58
39:Q:13:ARG:NH1	39:Q:80:ILE:O	2.36	0.58
44:V:96:ARG:CZ	44:V:96:ARG:HB2	2.33	0.58
45:W:64:ASN:CB	45:W:108:VAL:HG11	2.33	0.58
1:a:654:G:H21	8:k:127:HIS:CE1	2.19	0.58
1:a:693:G:H2'	1:a:694:G:C8	2.39	0.58
1:a:1039:C:O2	7:j:55:PRO:HG2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:131:ARG:CZ	3:e:22:ASP:OD2	2.51	0.58
28:F:109:ARG:O	28:F:113:ILE:HB	2.04	0.58
34:L:78:LYS:HD3	39:Q:70:GLU:OE1	2.04	0.58
39:Q:19:PHE:HA	39:Q:88:ARG:HH12	1.68	0.58
57:B:4:A:C2	57:B:26:A:N6	2.71	0.58
1:a:437:U:H5''	17:d:147:THR:HG21	1.86	0.58
1:a:636:G:H22	10:o:23:GLY:HA3	1.63	0.58
1:a:908:G:H22	23:x:123:ARG:NH1	1.94	0.58
1:a:908:G:H1	23:x:123:ARG:HH22	1.46	0.58
6:i:27:GLN:C	6:i:28:THR:HG1	2.06	0.58
19:m:86:CYS:SG	19:m:87:TYR:N	2.77	0.58
23:x:56:ARG:NH2	23:x:118:GLU:OE2	2.37	0.58
25:C:254:GLU:HG2	25:C:254:GLU:O	2.03	0.58
27:E:9:THR:HG22	27:E:128:THR:OG1	2.04	0.58
52:1:13:LEU:O	52:1:23:TYR:N	2.34	0.58
53:2:5:LYS:HB3	53:2:9:GLN:HE22	1.67	0.58
58:A:1570:C:H2'	58:A:1571:C:O4'	2.03	0.58
1:a:457:A:O2'	1:a:458:A:O5'	2.18	0.58
1:a:1340:U:OP1	15:n:35:ARG:HB2	2.04	0.58
2:c:146:VAL:CG2	2:c:202:ILE:HG23	2.32	0.58
2:c:161:GLU:CA	23:x:78:ARG:HH12	2.16	0.58
25:C:55:GLY:CA	25:C:218:ARG:HD3	2.33	0.58
32:J:30:LEU:HA	32:J:33:HIS:HD2	1.69	0.58
32:J:44:TYR:O	32:J:48:THR:CB	2.51	0.58
34:L:76:TYR:O	39:Q:71:ARG:HD2	2.04	0.58
38:P:39:VAL:HA	38:P:103:ASP:HB3	1.86	0.58
42:T:9:SER:HB2	42:T:114:VAL:O	2.04	0.58
48:Z:18:LEU:HD22	48:Z:57:VAL:HG13	1.86	0.58
58:A:301:U:H5'	58:A:302:U:H4'	1.85	0.58
58:A:1566:A:C2'	58:A:1605:G:C6	2.82	0.58
58:A:1569:A:N1	58:A:1603:G:N3	2.50	0.58
58:A:1594:G:C3'	58:A:1595:G:C5'	2.82	0.58
1:a:947:U:H2'	23:x:38:ARG:HG2	1.86	0.57
1:a:1210:A:OP1	19:m:114:LYS:HD3	2.02	0.57
1:a:1323:U:P	23:x:95:PRO:HB3	2.43	0.57
13:s:19:VAL:HG11	13:s:44:PHE:CE1	2.39	0.57
14:t:8:ILE:O	14:t:11:ILE:HB	2.04	0.57
25:C:26:ARG:HG3	25:C:81:HIS:ND1	2.19	0.57
25:C:261:ASN:O	25:C:262:LYS:HB2	2.02	0.57
28:F:70:GLN:OE1	28:F:96:VAL:HG23	2.03	0.57
29:G:2:SER:N	58:A:2973:A:OP1	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:29:PHE:HB3	37:O:79:LEU:HD12	0.60	0.57
43:U:94:ASP:O	43:U:96:PHE:N	2.28	0.57
57:B:84:C:N4	57:B:85:C:N3	2.52	0.57
58:A:1882:A:H61	58:A:2220:C:H42	1.52	0.57
1:a:758:G:O2'	8:k:130:CYS:HB3	2.04	0.57
1:a:1088:G:OP2	2:c:174:PRO:HA	2.03	0.57
22:w:57:C:C6	22:w:58:A:N7	2.70	0.57
28:F:53:ASP:O	28:F:56:LEU:HD22	2.02	0.57
39:Q:19:PHE:O	39:Q:49:ARG:NH1	2.37	0.57
1:a:439:U:C2	17:d:115:HIS:CE1	2.92	0.57
9:l:68:PRO:O	9:l:99:ARG:NH2	2.37	0.57
13:s:6:LYS:HZ3	50:y:63:LYS:HD3	0.75	0.57
25:C:260:PRO:O	25:C:263:PRO:HD3	2.04	0.57
33:K:15:TRP:CD1	33:K:15:TRP:H	2.23	0.57
45:W:104:GLU:HG2	45:W:137:ALA:HA	1.80	0.57
47:Y:19:SER:OG	47:Y:20:HIS:N	2.37	0.57
50:y:45:TYR:O	50:y:49:GLN:HG3	2.03	0.57
53:2:22:ARG:NH1	58:A:122:A:OP2	2.37	0.57
58:A:1187:A:H4'	58:A:1188:A:H5''	1.85	0.57
3:e:17:ARG:CZ	3:e:40:VAL:CG2	2.42	0.57
22:w:20:G:C5	22:w:58:A:C2	2.93	0.57
22:w:38:A:C2'	23:x:129:LYS:HE2	2.35	0.57
55:4:23:VAL:CG1	55:4:24:MET:N	2.49	0.57
1:a:104:A:N6	14:t:10:ARG:HE	2.02	0.57
1:a:655:A:C2	8:k:127:HIS:CE1	2.93	0.57
1:a:674:G:H1'	23:x:130:ILE:HB	1.80	0.57
1:a:858:A:H1'	5:h:12:THR:OG1	2.03	0.57
1:a:1381:A:H61	3:e:53:GLY:H	1.50	0.57
12:r:19:LYS:HD2	12:r:19:LYS:N	2.20	0.57
28:F:11:LEU:HD22	28:F:108:ASP:HB3	1.86	0.57
28:F:23:LEU:CD2	28:F:29:TYR:OH	2.53	0.57
28:F:34:GLN:HG3	57:B:57:U:O4'	1.99	0.57
33:K:13:ARG:NE	33:K:121:LYS:NZ	2.53	0.57
37:O:24:LEU:HB3	37:O:44:LEU:HD22	1.87	0.57
8:k:65:ARG:HH12	22:w:41:C:C4'	2.18	0.57
14:t:4:ILE:HG12	14:t:8:ILE:HG13	1.86	0.57
25:C:256:ARG:HD3	25:C:258:ARG:HD2	1.85	0.57
28:F:31:ASN:CG	57:B:56:C:C5'	2.77	0.57
43:U:59:THR:HG23	43:U:80:LYS:HE3	1.86	0.57
44:V:42:LYS:HG3	58:A:586:U:H4'	1.86	0.57
58:A:137:G:H21	58:A:1524:G:H1'	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1598:U:C2	58:A:1600:G:N7	2.72	0.57
1:a:310:G:OP1	20:p:31:GLY:CA	2.53	0.57
1:a:935:G:H1'	23:x:36:LYS:HZ3	1.69	0.57
12:r:16:LYS:C	12:r:18:ARG:H	2.13	0.57
25:C:256:ARG:HG3	25:C:258:ARG:HD2	1.86	0.57
27:E:143:THR:O	27:E:147:THR:CB	2.53	0.57
37:O:20:LEU:CD2	37:O:24:LEU:HD12	2.34	0.57
45:W:9:ASN:O	45:W:68:THR:N	2.30	0.57
1:a:1129:U:HO2'	6:i:38:ARG:HH21	1.50	0.57
1:a:1202:G:OP1	13:s:36:ARG:HD3	2.03	0.57
2:c:22:TRP:CE2	15:n:54:PRO:HG3	2.39	0.57
6:i:28:THR:CG2	6:i:29:VAL:N	2.68	0.57
23:x:38:ARG:HH21	23:x:85:HIS:C	2.13	0.57
24:0:124:UNK:O	24:0:131:UNK:CA	2.53	0.57
33:K:141:GLU:OE2	33:K:143:LYS:HG3	2.02	0.57
37:O:20:LEU:CD1	37:O:40:LYS:HZ3	2.18	0.57
37:O:52:ILE:HD12	37:O:94:TYR:HB2	1.86	0.57
45:W:132:GLU:CG	45:W:171:ILE:HB	2.34	0.57
52:1:13:LEU:O	52:1:22:ASN:HA	2.05	0.57
58:A:1596:C:H1'	58:A:1597:G:P	2.45	0.57
1:a:1159:G:N7	6:i:119:LYS:HE3	2.20	0.57
1:a:1310:C:OP1	19:m:28:THR:CG2	2.49	0.57
11:q:29:SER:HB3	11:q:37:VAL:HB	1.87	0.57
25:C:20:ASP:O	25:C:21:PHE:HB2	2.04	0.57
37:O:87:TYR:OH	37:O:115:LEU:HB3	2.03	0.57
42:T:11:THR:HG22	42:T:113:ILE:HG23	1.86	0.57
52:1:49:GLN:O	52:1:51:HIS:HD2	1.87	0.57
1:a:495:G:H2'	1:a:496:U:H6	1.70	0.57
1:a:1365:C:C2	22:w:35:C:OP1	2.53	0.57
2:c:46:LEU:HB3	2:c:51:ILE:HB	1.84	0.57
3:e:140:LEU:HD13	3:e:148:ILE:HD11	1.86	0.57
17:d:117:HIS:HA	17:d:141:LYS:HE2	1.87	0.57
22:w:39:A:C5	22:w:40:C:N3	2.73	0.57
24:0:318:UNK:CB	24:0:330:UNK:HA	2.35	0.57
28:F:64:LEU:HD11	28:F:94:ALA:O	2.05	0.57
43:U:19:LYS:CD	58:A:1508:A:H62	1.78	0.57
45:W:62:GLY:O	45:W:63:THR:HG23	2.05	0.57
52:1:15:CYS:CB	52:1:20:HIS:N	2.68	0.57
58:A:346:C:H41	58:A:445:U:H3	1.53	0.57
58:A:1571:C:N4	58:A:1573:U:C4	2.73	0.57
58:A:2873:U:O4	58:A:2895:A:N1	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:262:G:O3'	14:t:70:ASN:HB3	2.04	0.56
1:a:1210:A:C5'	23:x:32:GLU:OE2	2.53	0.56
25:C:132:PRO:HA	25:C:190:ARG:HA	1.87	0.56
26:D:157:PRO:HD2	26:D:158:GLY:H	1.69	0.56
33:K:142:ILE:HG21	58:A:1130:C:H42	1.62	0.56
48:Z:62:ARG:NH2	48:Z:66:LEU:HD11	2.20	0.56
52:1:35:ARG:HG2	52:1:35:ARG:NH1	2.20	0.56
55:4:22:ARG:HB3	55:4:36:GLN:CB	2.31	0.56
58:A:1249:G:N2	58:A:1250:U:O4	2.35	0.56
1:a:770:A:O4'	23:x:60:PHE:CE1	2.58	0.56
1:a:948:G:OP2	23:x:87:GLU:HB3	2.06	0.56
2:c:161:GLU:CA	23:x:78:ARG:NH1	2.68	0.56
5:h:47:SER:HB3	5:h:63:GLN:HG3	1.87	0.56
6:i:149:LYS:HA	23:x:98:ARG:NH1	2.20	0.56
13:s:42:PRO:CD	50:y:60:ARG:HE	2.17	0.56
57:B:4:A:N3	57:B:25:G:O6	2.34	0.56
58:A:1561:C:C4	58:A:1562:C:N3	2.72	0.56
58:A:2086:U:O4	58:A:2096:G:O6	2.23	0.56
1:a:74:A:N7	1:a:92:A:N6	2.54	0.56
1:a:952:C:H42	6:i:150:ARG:CZ	2.17	0.56
1:a:1034:C:H4'	1:a:1035:A:OP1	2.05	0.56
2:c:147:LYS:CE	2:c:172:ARG:NH2	2.69	0.56
6:i:41:LEU:HD12	6:i:81:PHE:HZ	1.68	0.56
9:l:68:PRO:HB2	9:l:117:TYR:HE1	1.70	0.56
9:l:114:ARG:NH2	9:l:119:ALA:O	2.38	0.56
17:d:147:THR:HG22	17:d:149:PRO:HD2	1.88	0.56
22:w:73:A:C6	22:w:74:A:C5	2.94	0.56
23:x:122:ARG:C	23:x:125:LYS:HB2	2.29	0.56
28:F:45:MET:HE3	28:F:64:LEU:CG	2.35	0.56
28:F:47:VAL:HG23	28:F:48:GLY:H	1.69	0.56
29:G:95:TYR:HE2	29:G:161:LYS:HB3	1.69	0.56
33:K:75:TYR:N	33:K:75:TYR:CD1	2.73	0.56
35:M:51:GLU:CG	54:3:57:ARG:HH11	2.11	0.56
37:O:52:ILE:HG23	37:O:83:ILE:CG2	2.35	0.56
39:Q:74:PRO:HB2	39:Q:77:SER:HB2	1.87	0.56
41:S:6:ILE:CG2	41:S:7:VAL:H	2.19	0.56
42:T:117:ARG:N	42:T:118:PRO:HD2	2.21	0.56
43:U:73:PHE:HD2	58:A:62:G:H4'	1.70	0.56
44:V:2:LYS:CE	44:V:85:TYR:CE2	2.88	0.56
45:W:105:LYS:HG2	45:W:105:LYS:O	2.04	0.56
45:W:108:VAL:O	45:W:133:ILE:HG13	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:1:8:ARG:HG3	58:A:2508:C:OP2	2.04	0.56
52:1:15:CYS:C	52:1:20:HIS:HB3	2.29	0.56
57:B:20:G:C6	57:B:21:C:N4	2.73	0.56
57:B:30:G:C6	57:B:54:A:N1	2.74	0.56
58:A:2329:G:O6	58:A:2406:U:O2	2.24	0.56
1:a:698:A:O4'	8:k:127:HIS:CB	2.53	0.56
2:c:131:ARG:NH1	3:e:22:ASP:OD2	2.39	0.56
5:h:104:ALA:HB3	5:h:115:ASP:HB2	1.87	0.56
6:i:42:VAL:CG1	6:i:83:ILE:CB	2.80	0.56
22:w:19:G:N2	22:w:59:A:H5'	2.18	0.56
22:w:21:U:H4'	22:w:22:A:OP1	2.05	0.56
44:V:42:LYS:O	58:A:568:A:O2'	2.23	0.56
47:Y:41:ARG:NH1	58:A:164:A:O3'	2.39	0.56
49:v:21:GLU:OE2	49:v:24:ARG:NH1	2.39	0.56
49:v:42:GLN:HE22	58:A:1042:A:H1'	1.69	0.56
58:A:1596:C:C4	58:A:1598:U:C2	2.93	0.56
58:A:1659:U:H2'	58:A:1660:A:H8	1.71	0.56
1:a:427:U:O2'	1:a:521:G:OP1	2.19	0.56
1:a:653:G:H1'	12:r:73:GLU:OE1	2.06	0.56
1:a:728:A:H8	1:a:728:A:OP2	1.89	0.56
1:a:818:U:H3	1:a:830:G:H1	1.52	0.56
1:a:1035:A:C6	1:a:1187:G:C4	2.94	0.56
1:a:1477:A:H4'	1:a:1478:G:OP1	2.03	0.56
3:e:182:ARG:NH1	5:h:45:TYR:CZ	2.73	0.56
8:k:113:GLY:C	8:k:114:LEU:HD23	2.30	0.56
25:C:51:THR:HG21	25:C:54:LYS:HE3	1.86	0.56
27:E:144:PHE:CD2	27:E:148:LEU:CD1	2.79	0.56
33:K:15:TRP:CD1	33:K:15:TRP:N	2.73	0.56
45:W:103:GLY:O	45:W:137:ALA:HB2	2.04	0.56
49:v:19:GLN:HG3	49:v:50:VAL:HG12	1.87	0.56
50:y:46:THR:O	50:y:50:LYS:HG3	2.05	0.56
58:A:1530:G:H21	58:A:1805:G:H22	1.54	0.56
1:a:208:G:H5''	14:t:60:LYS:HZ1	1.70	0.56
1:a:1034:C:C1'	23:x:78:ARG:CB	2.52	0.56
1:a:1035:A:N7	1:a:1187:G:C2	2.74	0.56
1:a:1197:U:H5''	15:n:5:ALA:HB2	1.86	0.56
1:a:1461:U:H2'	1:a:1462:C:C6	2.41	0.56
6:i:49:ASN:ND2	6:i:84:TYR:CE2	2.73	0.56
6:i:82:ASP:C	6:i:83:ILE:HG13	2.28	0.56
16:b:50:ILE:O	16:b:54:TYR:HB2	2.05	0.56
22:w:14:A:H3'	22:w:15:G:H8	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:C:26:ARG:HD3	25:C:81:HIS:CD2	2.38	0.56
26:D:7:LEU:HB2	26:D:34:ASN:HD21	1.71	0.56
28:F:130:ASP:OD2	28:F:134:ASN:ND2	2.38	0.56
45:W:6:ASN:CG	45:W:139:SER:HG	2.14	0.56
45:W:98:LEU:HD23	45:W:98:LEU:C	2.29	0.56
58:A:1703:G:H1	58:A:1726:C:N4	2.01	0.56
3:e:17:ARG:CZ	3:e:40:VAL:CG1	2.83	0.56
17:d:52:GLU:HG3	17:d:194:LEU:HB2	1.87	0.56
19:m:7:VAL:HG21	19:m:22:ILE:HA	1.88	0.56
22:w:15:G:C2'	22:w:60:A:H61	2.18	0.56
27:E:75:ARG:NH1	58:A:2669:G:OP1	2.38	0.56
27:E:90:VAL:CG1	58:A:678:A:O5'	2.51	0.56
28:F:34:GLN:CB	57:B:57:U:O4'	2.54	0.56
58:A:1565:A:H2	58:A:1607:C:N4	1.67	0.56
58:A:1582:C:O5'	58:A:1582:C:H6	1.88	0.56
58:A:1599:U:O2'	58:A:1600:G:OP1	2.13	0.56
1:a:948:G:N7	23:x:100:GLU:HG2	2.20	0.56
1:a:972:U:H2'	1:a:973:U:C6	2.41	0.56
1:a:1312:U:OP1	19:m:22:ILE:O	2.23	0.56
2:c:131:ARG:NH2	3:e:22:ASP:OD2	2.39	0.56
4:g:84:THR:O	22:w:40:C:O2	2.24	0.56
16:b:74:LYS:HZ2	24:0:157:UNK:C	2.03	0.56
22:w:24:C:H2'	22:w:25:U:C6	2.41	0.56
33:K:141:GLU:OE1	33:K:142:ILE:C	2.49	0.56
36:N:61:GLY:HA3	36:N:108:TYR:HE1	1.65	0.56
1:a:350:G:H5'	14:t:3:ASN:ND2	2.18	0.56
1:a:721:G:H5'	10:o:39:LEU:HD21	1.88	0.56
8:k:110:GLN:HA	8:k:114:LEU:O	2.06	0.56
19:m:40:ASP:HB3	19:m:43:MET:HG3	1.88	0.56
22:w:38:A:N3	23:x:128:ARG:HG3	2.21	0.56
36:N:60:ARG:NH2	45:W:187:ALA:HB2	2.16	0.56
58:A:2490:A:N6	58:A:2497:A:OP2	2.39	0.56
1:a:323:U:H5''	14:t:21:ASN:ND2	2.21	0.56
1:a:695:A:H2'	1:a:696:A:C8	2.41	0.56
1:a:998:G:OP2	13:s:14:HIS:CE1	2.56	0.56
1:a:1465:C:C2'	1:a:1466:G:H5'	2.35	0.56
7:j:45:GLU:HG3	7:j:69:THR:HB	1.88	0.56
8:k:38:ASN:HB3	8:k:66:LYS:HG2	1.86	0.56
8:k:115:GLU:OE1	8:k:115:GLU:N	2.40	0.56
23:x:56:ARG:CD	23:x:118:GLU:HG3	2.36	0.56
23:x:120:ARG:O	23:x:123:ARG:HB2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:0:106:UNK:O	24:0:107:UNK:CB	2.52	0.56
27:E:51:SER:CB	58:A:35:A:H5'	2.35	0.56
27:E:51:SER:HB2	58:A:35:A:H4'	1.87	0.56
28:F:29:TYR:CD2	28:F:34:GLN:CD	2.78	0.56
37:O:20:LEU:CD1	37:O:40:LYS:NZ	2.68	0.56
38:P:3:HIS:CD2	57:B:57:U:C4'	2.87	0.56
54:3:34:GLU:HG3	58:A:2644:C:OP1	2.06	0.56
58:A:351:G:O6	58:A:444:U:O2	2.24	0.56
58:A:1569:A:C2'	58:A:1570:C:C5'	2.72	0.56
1:a:1312:U:H2'	1:a:1313:G:H5'	1.88	0.55
6:i:150:ARG:O	23:x:97:VAL:C	2.49	0.55
28:F:34:GLN:NE2	28:F:34:GLN:O	2.39	0.55
35:M:12:ALA:HB3	35:M:15:GLU:HB2	1.87	0.55
36:N:12:GLN:HG3	36:N:73:PRO:HD2	1.88	0.55
44:V:10:LEU:HD23	44:V:20:LYS:HB3	1.88	0.55
46:X:83:VAL:HG22	46:X:83:VAL:O	2.05	0.55
1:a:948:G:O2'	23:x:98:ARG:CD	2.54	0.55
1:a:961:C:N3	15:n:18:VAL:HG23	2.21	0.55
1:a:1304:C:H5''	19:m:100:GLY:HA3	1.87	0.55
5:h:94:LEU:CD1	5:h:118:ALA:C	2.79	0.55
6:i:49:ASN:HB2	6:i:84:TYR:HD2	1.71	0.55
18:f:24:GLU:OE2	18:f:31:ARG:NH1	2.38	0.55
27:E:184:ASN:ND2	58:A:708:G:N2	2.54	0.55
34:L:80:ASP:OD2	39:Q:61:ARG:NH2	2.40	0.55
41:S:4:TYR:CE2	41:S:15:LYS:HE3	2.41	0.55
58:A:325:U:O2	58:A:450:G:N2	2.30	0.55
58:A:1607:C:H6	58:A:1607:C:O5'	1.89	0.55
58:A:1649:C:N4	58:A:1790:A:OP2	2.35	0.55
2:c:137:ILE:CG2	2:c:138:GLN:H	2.05	0.55
6:i:41:LEU:HD12	6:i:81:PHE:CZ	2.42	0.55
22:w:6:G:N2	22:w:68:C:C2	2.58	0.55
22:w:18:U:O5'	22:w:18:U:H6	1.89	0.55
28:F:11:LEU:HD22	28:F:108:ASP:CA	2.37	0.55
29:G:154:ARG:NH1	58:A:2750:G:OP1	2.40	0.55
37:O:44:LEU:HD23	37:O:113:ILE:HD12	1.87	0.55
45:W:21:LYS:NZ	57:B:80:C:N4	2.46	0.55
45:W:83:LEU:HD11	45:W:92:ILE:CG2	2.36	0.55
52:1:15:CYS:C	52:1:20:HIS:CA	2.79	0.55
58:A:1575:A:C2	58:A:1576:C:N3	2.75	0.55
58:A:1602:U:H2'	58:A:1603:G:N7	2.20	0.55
1:a:1032:U:O3'	23:x:77:ARG:CG	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:e:17:ARG:HH21	3:e:85:ILE:HG12	0.39	0.55
7:j:27:GLU:O	7:j:31:ARG:HB2	2.07	0.55
10:o:32:LEU:HD22	10:o:59:LEU:HD22	1.89	0.55
25:C:35:ARG:CZ	25:C:64:VAL:CG1	2.84	0.55
28:F:34:GLN:HB2	57:B:57:U:O4'	2.06	0.55
33:K:145:VAL:HG23	33:K:145:VAL:O	2.05	0.55
36:N:85:SER:OG	46:X:8:SER:OG	2.25	0.55
44:V:2:LYS:HD2	44:V:83:VAL:CB	2.32	0.55
58:A:1127:A:N3	58:A:1272:C:O2'	2.39	0.55
58:A:1578:G:C2	58:A:1579:C:N4	2.73	0.55
1:a:1133:G:O5'	7:j:72:ARG:NH1	2.40	0.55
1:a:1201:G:O3'	13:s:36:ARG:HD3	2.06	0.55
38:P:3:HIS:CD2	57:B:57:U:C3'	2.90	0.55
43:U:60:ALA:HB2	58:A:1456:G:C4'	2.36	0.55
54:3:33:LEU:HD23	54:3:36:LYS:HD2	1.89	0.55
57:B:86:U:O2	57:B:88:C:H2'	2.06	0.55
58:A:995:U:O4	58:A:1014:G:N2	2.38	0.55
58:A:2230:C:O2'	58:A:3044:A:N3	2.39	0.55
1:a:243:A:H4'	1:a:243:A:OP1	2.06	0.55
1:a:674:G:C4'	23:x:130:ILE:HG12	2.31	0.55
3:e:182:ARG:CD	5:h:45:TYR:HE1	2.12	0.55
6:i:41:LEU:HD11	6:i:110:VAL:HG22	1.88	0.55
8:k:65:ARG:HH22	22:w:41:C:H5''	1.72	0.55
25:C:258:ARG:HG2	25:C:259:LYS:N	2.19	0.55
26:D:162:LYS:HG2	58:A:2843:C:C5'	2.33	0.55
28:F:45:MET:HE2	28:F:45:MET:HA	1.89	0.55
36:N:61:GLY:CA	36:N:108:TYR:CE1	2.89	0.55
44:V:28:PRO:CG	58:A:83:C:P	2.95	0.55
52:1:12:THR:HG23	52:1:24:ILE:HG22	1.87	0.55
55:4:11:CYS:SG	55:4:14:CYS:N	2.79	0.55
1:a:1211:C:H5'	23:x:66:LEU:HD22	1.89	0.55
22:w:23:G:H8	22:w:23:G:OP2	1.89	0.55
25:C:97:TYR:HD2	25:C:101:GLU:HG3	1.72	0.55
29:G:61:ARG:NH1	58:A:2981:A:O2'	2.40	0.55
30:H:115:ARG:NH1	58:A:163:U:O2	2.37	0.55
45:W:40:HIS:ND1	45:W:40:HIS:O	2.39	0.55
49:v:51:HIS:CD2	49:v:51:HIS:N	2.74	0.55
56:5:21:ARG:NH2	58:A:1100:C:O2	2.37	0.55
58:A:1597:G:H2'	58:A:1597:G:N3	2.21	0.55
1:a:1207:C:OP1	19:m:96:LEU:CD1	2.54	0.55
1:a:1477:A:N7	58:A:2137:A:C6	2.74	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:s:67:VAL:CG1	50:y:60:ARG:CG	2.75	0.55
13:s:67:VAL:HG13	50:y:60:ARG:NH2	2.21	0.55
25:C:257:THR:HG23	58:A:2020:A:O3'	2.07	0.55
28:F:50:ALA:O	28:F:51:ALA:HB3	2.06	0.55
30:H:23:ASP:O	30:H:27:ARG:HB3	2.07	0.55
33:K:42:PRO:HB3	40:R:68:ALA:HB2	1.89	0.55
37:O:69:LYS:O	37:O:71:ARG:NH1	2.39	0.55
37:O:103:ARG:HD3	37:O:110:MET:HE3	1.88	0.55
46:X:54:GLY:N	46:X:58:THR:O	2.39	0.55
52:1:15:CYS:O	52:1:20:HIS:CA	2.54	0.55
58:A:1550:G:N2	58:A:1620:U:O2	2.35	0.55
58:A:1583:U:H2'	58:A:1584:U:C5	2.42	0.55
13:s:67:VAL:HG11	50:y:60:ARG:CG	2.35	0.55
25:C:18:VAL:HG21	58:A:1785:C:H5''	1.88	0.55
28:F:11:LEU:CD1	28:F:108:ASP:HB2	2.36	0.55
38:P:73:ILE:HG22	38:P:75:GLY:H	1.72	0.55
40:R:25:ARG:NH1	58:A:2245:C:OP1	2.40	0.55
58:A:1996:U:OP2	58:A:2001:A:N6	2.36	0.55
58:A:2764:C:O2'	58:A:2964:A:N3	2.34	0.55
58:A:2862:G:O2'	58:A:3002:A:N6	2.40	0.55
1:a:1341:C:OP2	15:n:35:ARG:NE	2.32	0.55
2:c:122:GLN:HE22	2:c:135:LYS:HZ1	1.42	0.55
16:b:15:HIS:HE2	24:0:9:UNK:HA	1.70	0.55
22:w:4:G:H5'	22:w:5:G:OP2	2.07	0.55
23:x:77:ARG:O	23:x:78:ARG:HB2	2.00	0.55
25:C:65:ILE:HG13	25:C:104:TYR:HB3	1.88	0.55
42:T:18:ARG:NH1	58:A:1436:C:C2'	2.69	0.55
44:V:28:PRO:HG3	58:A:83:C:P	2.47	0.55
48:Z:13:LEU:CD2	48:Z:17:GLU:C	2.78	0.55
50:y:60:ARG:CG	50:y:60:ARG:HH11	2.20	0.55
50:y:60:ARG:HH12	50:y:64:ARG:CZ	2.20	0.55
57:B:30:G:O6	57:B:54:A:N1	2.39	0.55
57:B:35:G:N3	57:B:35:G:H2'	2.21	0.55
58:A:1596:C:C4	58:A:1598:U:N3	2.75	0.55
1:a:136:G:O2'	11:q:6:GLY:CA	2.54	0.54
1:a:722:G:P	10:o:35:ARG:NH1	2.80	0.54
1:a:893:U:H2'	1:a:894:C:C6	2.42	0.54
4:g:151:PHE:CZ	8:k:65:ARG:CD	2.83	0.54
11:q:9:TYR:HD2	11:q:9:TYR:O	1.90	0.54
55:4:8:LYS:NZ	58:A:2691:C:OP1	2.39	0.54
57:B:35:G:N2	57:B:36:U:C2	2.75	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1201:G:N2	58:A:1204:A:OP2	2.34	0.54
58:A:1558:C:C4	58:A:1559:A:C6	2.95	0.54
22:w:21:U:H2'	22:w:21:U:O2	2.07	0.54
25:C:24:ILE:HD13	25:C:84:TYR:HB2	1.89	0.54
31:I:41:ARG:HH21	32:J:119:ASN:HA	1.72	0.54
43:U:4:ILE:HD11	48:Z:58:TYR:CE1	2.38	0.54
58:A:1598:U:O2'	58:A:1600:G:H5''	2.04	0.54
1:a:716:U:H2'	1:a:717:C:C6	2.43	0.54
1:a:1035:A:C6	1:a:1187:G:C2	2.95	0.54
11:q:9:TYR:C	11:q:9:TYR:CD2	2.85	0.54
16:b:58:LYS:O	16:b:62:ALA:HB3	2.06	0.54
22:w:1:C:H2'	22:w:2:G:O4'	2.07	0.54
28:F:79:LYS:HG2	28:F:80:SER:N	2.23	0.54
33:K:8:ALA:HB2	58:A:625:A:O2'	2.07	0.54
37:O:43:ALA:HA	37:O:46:PRO:HD2	1.89	0.54
37:O:80:PHE:C	37:O:80:PHE:CD2	2.85	0.54
41:S:4:TYR:CD2	41:S:15:LYS:HE3	2.41	0.54
46:X:82:PRO:C	46:X:84:ALA:H	2.16	0.54
58:A:1610:C:C2'	58:A:1611:A:H8	2.19	0.54
58:A:2755:A:N6	58:A:2885:G:O6	2.41	0.54
58:A:3014:A:H62	58:A:3113:A:H2	1.53	0.54
1:a:664:U:C4'	8:k:49:ASN:ND2	2.71	0.54
1:a:1301:A:OP1	13:s:70:LYS:NZ	2.40	0.54
2:c:128:ALA:H	3:e:19:ARG:HD3	1.71	0.54
9:l:82:VAL:HG22	9:l:97:ILE:HG12	1.88	0.54
28:F:29:TYR:O	28:F:30:ALA:HB3	2.08	0.54
29:G:116:ILE:HD11	29:G:152:LEU:HD11	1.90	0.54
37:O:76:VAL:O	37:O:80:PHE:HB2	2.08	0.54
53:2:3:LYS:HE2	58:A:868:C:H5''	1.88	0.54
55:4:33:LYS:NZ	58:A:2967:C:OP1	2.27	0.54
58:A:541:G:N2	58:A:546:G:OP2	2.40	0.54
1:a:442:G:H1	1:a:472:C:H42	1.56	0.54
1:a:962:C:C1'	15:n:19:ARG:HG3	2.38	0.54
1:a:976:A:C8	1:a:1197:U:H4'	2.43	0.54
1:a:1210:A:C4'	23:x:32:GLU:OE2	2.55	0.54
2:c:148:GLY:HA3	2:c:203:TYR:HB3	1.89	0.54
6:i:26:ILE:CD1	6:i:109:LEU:O	2.56	0.54
8:k:54:ALA:HB2	8:k:79:ALA:CA	2.38	0.54
9:l:67:ILE:HG12	9:l:97:ILE:HD12	1.89	0.54
13:s:42:PRO:HG3	50:y:60:ARG:NE	2.20	0.54
17:d:73:GLU:OE1	17:d:131:ARG:NH2	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:F:114:ALA:O	28:F:118:ILE:HD11	2.08	0.54
30:H:131:PRO:HA	30:H:145:SER:HA	1.89	0.54
33:K:47:ASN:ND2	58:A:649:U:O2	2.40	0.54
38:P:3:HIS:HD2	57:B:57:U:C3'	2.19	0.54
42:T:15:ARG:HG2	42:T:109:HIS:CD2	2.43	0.54
45:W:40:HIS:CG	45:W:101:GLN:NE2	2.76	0.54
46:X:13:GLY:O	46:X:14:ARG:HG3	2.06	0.54
58:A:3017:C:N3	58:A:3025:G:O6	2.39	0.54
1:a:500:A:N6	1:a:509:G:H8	2.04	0.54
1:a:828:G:H2'	1:a:829:G:C8	2.42	0.54
1:a:935:G:H1'	23:x:36:LYS:NZ	2.22	0.54
1:a:1353:G:H5'	6:i:34:GLU:HG2	1.89	0.54
2:c:149:ILE:CG2	2:c:170:GLU:O	2.48	0.54
2:c:188:GLU:OE1	2:c:195:ARG:NH1	2.33	0.54
9:l:24:LEU:HD12	9:l:59:SER:HB3	1.90	0.54
12:r:46:GLY:O	12:r:72:ARG:NH1	2.39	0.54
23:x:123:ARG:HA	23:x:126:ASP:CB	2.35	0.54
25:C:156:ALA:HB2	25:C:163:ILE:HG13	1.90	0.54
25:C:256:ARG:O	25:C:257:THR:HB	2.07	0.54
40:R:89:GLU:OE1	41:S:8:LYS:NZ	2.37	0.54
43:U:92:PRO:HG2	43:U:94:ASP:OD1	2.07	0.54
58:A:1592:G:N3	58:A:1593:U:C2	2.76	0.54
1:a:1032:U:O3'	23:x:77:ARG:HG2	2.07	0.54
4:g:77:SER:HA	22:w:33:C:C5'	2.37	0.54
4:g:77:SER:CA	22:w:33:C:H4'	2.30	0.54
23:x:72:ASP:HB3	23:x:85:HIS:HB3	1.89	0.54
25:C:256:ARG:CD	25:C:258:ARG:CD	2.85	0.54
32:J:107:VAL:O	32:J:111:ALA:HB3	2.07	0.54
40:R:50:ARG:O	40:R:54:LYS:NZ	2.40	0.54
45:W:100:VAL:O	45:W:101:GLN:HB2	2.07	0.54
52:1:34:ASP:O	52:1:35:ARG:HB2	2.06	0.54
57:B:11:U:O2	57:B:11:U:H2'	2.08	0.54
58:A:270:U:O2	58:A:458:G:C6	2.61	0.54
58:A:737:A:N1	58:A:2593:A:O2'	2.41	0.54
58:A:1571:C:C2	58:A:1601:G:C2	2.90	0.54
58:A:2224:C:O2'	58:A:2913:U:OP2	2.26	0.54
1:a:376:G:OP1	20:p:67:THR:HB	2.07	0.54
1:a:940:A:C4	13:s:55:ARG:HG2	2.36	0.54
1:a:1091:A:C2	2:c:177:THR:HG23	2.43	0.54
4:g:76:ARG:O	4:g:87:VAL:N	2.25	0.54
23:x:38:ARG:CZ	23:x:85:HIS:HD2	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:G:62:SER:O	29:G:66:HIS:HB2	2.08	0.54
35:M:58:HIS:CD2	54:3:7:HIS:CE1	2.84	0.54
45:W:187:ALA:O	45:W:191:GLU:HG3	2.08	0.54
58:A:1589:G:O5'	58:A:1589:G:H8	1.90	0.54
1:a:84:U:H4'	1:a:85:C:OP2	2.07	0.54
1:a:1221:U:C1'	4:g:38:LEU:HD21	2.38	0.54
4:g:137:ARG:NH1	4:g:140:ASP:OD2	2.40	0.54
9:l:71:GLY:O	9:l:99:ARG:NH1	2.40	0.54
23:x:129:LYS:C	23:x:129:LYS:HD3	2.33	0.54
24:0:206:UNK:C	24:0:433:UNK:O	2.55	0.54
28:F:44:ASN:CG	28:F:160:ASP:HB2	2.32	0.54
32:J:79:LYS:HD3	32:J:82:LEU:HD12	1.89	0.54
33:K:147:GLN:HG2	58:A:1131:G:H1'	1.90	0.54
36:N:118:LEU:O	36:N:122:ILE:HB	2.08	0.54
40:R:6:ARG:NH1	58:A:1366:A:OP2	2.41	0.54
46:X:56:ASP:OD1	46:X:56:ASP:N	2.39	0.54
48:Z:13:LEU:HD12	48:Z:14:THR:H	1.72	0.54
57:B:94:G:N3	58:A:1033:A:H4'	2.23	0.54
58:A:1627:U:H2'	58:A:1628:A:H2'	1.90	0.54
1:a:776:C:H5''	8:k:136:ARG:HG3	1.89	0.54
1:a:935:G:C1'	23:x:36:LYS:NZ	2.70	0.54
1:a:1297:U:O2'	1:a:1342:A:N3	2.33	0.54
1:a:1327:U:OP1	6:i:142:ARG:HD3	2.07	0.54
7:j:50:CYS:SG	7:j:62:ARG:NH2	2.81	0.54
23:x:38:ARG:NH2	23:x:85:HIS:CG	2.44	0.54
26:D:162:LYS:CG	58:A:2843:C:H5''	2.33	0.54
28:F:171:ALA:HA	28:F:174:ARG:HD3	1.88	0.54
32:J:107:VAL:O	32:J:111:ALA:CB	2.56	0.54
34:L:28:SER:HA	58:A:2787:U:H4'	1.90	0.54
37:O:20:LEU:CD2	37:O:24:LEU:CD1	2.86	0.54
57:B:16:A:H2	57:B:68:G:H22	1.55	0.54
57:B:89:C:H6	57:B:89:C:P	2.31	0.54
58:A:384:G:H2'	58:A:385:G:H8	1.72	0.54
58:A:1561:C:C4	58:A:1562:C:C4	2.96	0.54
1:a:909:G:O2'	1:a:1487:A:N7	2.40	0.53
3:e:127:GLY:HA3	17:d:80:LYS:HB2	1.89	0.53
6:i:149:LYS:HB2	23:x:98:ARG:NH2	2.23	0.53
22:w:71:G:H5'	22:w:72:C:OP2	2.08	0.53
24:0:124:UNK:O	24:0:132:UNK:N	2.40	0.53
33:K:75:TYR:CD2	33:K:86:LYS:HG2	2.43	0.53
38:P:9:ASN:ND2	57:B:58:A:C2	2.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:T:6:GLU:HA	42:T:117:ARG:NH1	2.23	0.53
50:y:42:HIS:O	50:y:46:THR:HG23	2.08	0.53
1:a:216:U:O2'	1:a:217:U:H5'	2.09	0.53
1:a:1060:A:P	3:e:77:LYS:HZ1	2.32	0.53
8:k:43:ILE:HD11	8:k:51:ILE:HD11	0.54	0.53
14:t:4:ILE:CG1	14:t:8:ILE:CG1	2.86	0.53
22:w:57:C:C6	22:w:58:A:H8	2.22	0.53
26:D:130:HIS:HB3	26:D:165:ARG:HD2	1.90	0.53
26:D:178:GLN:HE22	58:A:2995:U:HO2'	1.55	0.53
36:N:34:ILE:HG23	36:N:104:PHE:H	1.71	0.53
50:y:62:GLU:HG2	50:y:65:TYR:CZ	2.43	0.53
57:B:86:U:H2'	57:B:88:C:H1'	1.90	0.53
1:a:769:U:OP1	23:x:128:ARG:NH2	2.39	0.53
1:a:1033:G:O6	1:a:1180:U:H2'	2.08	0.53
1:a:1303:U:C1'	13:s:73:GLU:OE2	2.57	0.53
3:e:17:ARG:NH1	3:e:40:VAL:CG1	2.70	0.53
23:x:73:HIS:CE1	23:x:82:ASN:HD22	2.27	0.53
45:W:9:ASN:HD22	45:W:57:VAL:CG1	2.17	0.53
48:Z:44:ASN:HD21	58:A:58:G:P	2.31	0.53
50:y:42:HIS:N	50:y:43:PRO:CD	2.72	0.53
57:B:87:U:O2'	57:B:88:C:H4'	2.09	0.53
58:A:159:A:OP2	58:A:164:A:N6	2.30	0.53
58:A:640:G:O2'	58:A:642:G:OP2	2.24	0.53
1:a:252:U:H2'	1:a:253:U:C6	2.43	0.53
1:a:409:G:H5'	17:d:104:ARG:HH12	1.74	0.53
1:a:770:A:H1'	23:x:60:PHE:CE1	2.43	0.53
1:a:1032:U:O3'	23:x:77:ARG:CB	2.56	0.53
1:a:1311:G:P	19:m:29:ARG:HG2	2.48	0.53
11:q:38:VAL:HG11	11:q:76:LEU:HD21	1.90	0.53
15:n:29:ARG:NH1	15:n:31:HIS:O	2.42	0.53
16:b:74:LYS:HZ2	24:0:157:UNK:HA	0.36	0.53
22:w:2:G:C6	22:w:72:C:N4	2.77	0.53
25:C:66:ASP:OD2	25:C:103:ARG:NH1	2.41	0.53
26:D:130:HIS:CG	26:D:165:ARG:HD2	2.42	0.53
27:E:8:LYS:NZ	27:E:148:LEU:HB3	2.23	0.53
28:F:168:THR:HG21	38:P:3:HIS:ND1	2.24	0.53
28:F:170:ASP:OD1	28:F:170:ASP:N	2.41	0.53
36:N:10:ARG:HG3	36:N:90:PRO:HG3	1.91	0.53
48:Z:13:LEU:O	48:Z:64:ARG:NH1	2.33	0.53
49:v:24:ARG:O	58:A:1044:U:O2'	2.27	0.53
53:2:10:PRO:HG2	58:A:1830:C:H5'	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1567:C:N3	58:A:1605:G:C8	2.76	0.53
58:A:1576:C:H2'	58:A:1577:C:C6	2.43	0.53
58:A:1593:U:C3'	58:A:1594:G:C8	2.91	0.53
58:A:1594:G:N3	58:A:1595:G:N7	2.57	0.53
58:A:1607:C:H2'	58:A:1608:U:C6	2.43	0.53
58:A:3012:U:O2'	58:A:3030:A:N3	2.39	0.53
1:a:261:U:H5	14:t:74:ASN:ND2	2.02	0.53
1:a:1221:U:C4'	4:g:38:LEU:HD21	2.38	0.53
4:g:143:LYS:HD3	22:w:43:G:H5'	1.91	0.53
22:w:32:G:C2'	22:w:33:C:C5'	2.86	0.53
25:C:256:ARG:CG	25:C:258:ARG:HD2	2.39	0.53
30:H:94:SER:HA	30:H:125:LYS:HD3	1.90	0.53
45:W:77:LEU:HB3	45:W:100:VAL:CG2	2.38	0.53
45:W:104:GLU:OE2	45:W:137:ALA:CA	2.52	0.53
53:2:9:GLN:OE1	53:2:9:GLN:HA	2.07	0.53
57:B:2:U:H3	57:B:115:A:N6	2.05	0.53
57:B:23:G:N2	57:B:60:G:H22	2.04	0.53
58:A:263:G:O2'	58:A:517:A:N3	2.39	0.53
58:A:1560:U:H2'	58:A:1561:C:C5'	2.39	0.53
58:A:1560:U:C2'	58:A:1561:C:C5'	2.86	0.53
1:a:858:A:C4'	5:h:15:ARG:NH1	2.70	0.53
1:a:1086:G:H5''	2:c:172:ARG:CG	2.32	0.53
1:a:1284:U:N3	19:m:14:ARG:NH1	2.56	0.53
2:c:41:LEU:HD22	2:c:93:LEU:HD13	1.91	0.53
25:C:99:ASP:O	58:A:1720:G:N2	2.23	0.53
28:F:8:LEU:HD22	28:F:16:ARG:HD2	1.89	0.53
36:N:85:SER:O	58:A:2500:G:OP2	2.26	0.53
38:P:104:ARG:HH12	58:A:2517:C:H5''	1.72	0.53
43:U:96:PHE:CD2	43:U:96:PHE:C	2.86	0.53
44:V:79:LYS:O	44:V:79:LYS:HG3	2.07	0.53
52:1:55:ARG:HG3	52:1:55:ARG:O	2.08	0.53
58:A:444:U:H5'	58:A:446:G:H4'	1.90	0.53
58:A:2337:A:N6	58:A:2342:A:N7	2.56	0.53
1:a:10:G:N2	3:e:128:THR:CG2	2.71	0.53
1:a:126:G:O6	11:q:17:ARG:NH2	2.34	0.53
1:a:694:G:H2'	1:a:695:A:C8	2.44	0.53
1:a:1032:U:C4'	23:x:77:ARG:HD3	2.36	0.53
1:a:1033:G:C3'	1:a:1034:C:H5'	2.39	0.53
1:a:1175:U:C5	2:c:1:MET:HG3	2.44	0.53
3:e:178:VAL:O	3:e:182:ARG:HG2	2.08	0.53
3:e:182:ARG:CD	5:h:45:TYR:CE1	2.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:k:44:THR:HG23	8:k:49:ASN:O	2.09	0.53
17:d:142:GLU:OE2	17:d:172:ARG:NH2	2.38	0.53
22:w:8:U:H6	22:w:8:U:O5'	1.91	0.53
22:w:36:A:N6	23:x:127:ARG:NH2	2.55	0.53
26:D:84:LEU:HD22	26:D:209:ARG:HD3	1.90	0.53
27:E:55:ARG:NH2	58:A:788:C:OP1	2.42	0.53
31:I:9:ALA:HA	31:I:12:ASP:HB2	1.89	0.53
33:K:75:TYR:HD2	33:K:86:LYS:HG2	1.73	0.53
35:M:51:GLU:HG3	54:3:57:ARG:HH11	1.70	0.53
44:V:86:ARG:NE	44:V:88:ASP:OD2	2.36	0.53
57:B:10:G:O6	57:B:107:A:N1	2.42	0.53
58:A:239:U:OP1	58:A:684:G:N2	2.42	0.53
58:A:718:C:O2'	58:A:772:U:OP1	2.26	0.53
1:a:228:A:H4'	20:p:62:VAL:HB	1.89	0.53
1:a:278:G:H5'	1:a:279:A:OP1	2.09	0.53
1:a:324:G:OP1	14:t:17:ARG:CD	2.55	0.53
1:a:777:C:H2'	1:a:778:U:H6	1.73	0.53
16:b:74:LYS:HD2	24:0:156:UNK:O	2.09	0.53
23:x:53:LYS:CE	23:x:114:VAL:HB	2.38	0.53
25:C:259:LYS:HG2	58:A:2016:G:OP1	2.09	0.53
27:E:118:ARG:HH22	27:E:189:LEU:HA	1.73	0.53
33:K:112:ASN:ND2	58:A:650:G:H5''	2.24	0.53
33:K:141:GLU:OE2	33:K:143:LYS:CD	2.56	0.53
45:W:6:ASN:CG	45:W:139:SER:CB	2.81	0.53
45:W:87:PRO:HA	45:W:90:ARG:NH2	2.16	0.53
48:Z:13:LEU:CG	48:Z:17:GLU:HB2	2.38	0.53
58:A:1381:G:O2'	58:A:2236:G:O6	2.27	0.53
58:A:1596:C:H1'	58:A:1597:G:C8	2.43	0.53
1:a:437:U:H5''	17:d:147:THR:HG23	1.91	0.53
4:g:83:ALA:HA	23:x:130:ILE:O	2.09	0.53
22:w:73:A:C5	22:w:74:A:N7	2.77	0.53
25:C:98:LEU:HD22	25:C:98:LEU:N	2.24	0.53
28:F:168:THR:CG2	38:P:3:HIS:CE1	2.91	0.53
33:K:134:ALA:O	33:K:135:GLN:HG2	2.08	0.53
36:N:70:PRO:HA	36:N:95:ALA:HB2	1.91	0.53
37:O:16:HIS:HD2	58:A:1390:A:N7	2.04	0.53
43:U:30:THR:HG23	43:U:83:ILE:HG22	1.90	0.53
52:1:9:PRO:HD3	52:1:27:LYS:O	2.09	0.53
55:4:22:ARG:HB2	55:4:36:GLN:C	2.31	0.53
57:B:19:G:C2	57:B:20:G:C5	2.97	0.53
57:B:82:A:N1	57:B:91:G:C6	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1921:G:H2'	58:A:1922:G:H8	1.73	0.53
58:A:2756:G:O2'	58:A:2881:A:N1	2.40	0.53
1:a:1177:A:H2'	23:x:74:GLU:OE1	2.09	0.53
1:a:1302:C:OP1	13:s:70:LYS:CD	2.50	0.53
13:s:67:VAL:HG11	50:y:60:ARG:CD	2.38	0.53
25:C:76:ASN:C	25:C:98:LEU:CD2	2.82	0.53
28:F:115:LEU:HD23	28:F:183:PRO:HG2	1.90	0.53
45:W:109:GLU:CG	45:W:132:GLU:HA	2.32	0.53
52:1:8:ARG:CZ	58:A:2509:C:H5	2.20	0.53
57:B:5:C:H42	57:B:112:C:H42	1.57	0.53
58:A:1583:U:H2'	58:A:1584:U:C4	2.44	0.53
1:a:81:C:H3'	1:a:82:U:H5''	1.91	0.52
1:a:963:U:H4'	15:n:21:TYR:CZ	2.44	0.52
1:a:1321:A:H2'	1:a:1322:G:O4'	2.09	0.52
4:g:83:ALA:HA	22:w:39:A:N1	2.24	0.52
5:h:94:LEU:HD11	5:h:118:ALA:CB	2.37	0.52
22:w:39:A:H3'	22:w:40:C:C5	2.43	0.52
22:w:66:C:H2'	22:w:67:C:C6	2.43	0.52
28:F:113:ILE:O	28:F:116:PRO:HD2	2.09	0.52
30:H:44:GLU:O	30:H:48:GLU:CB	2.57	0.52
35:M:78:VAL:HG21	35:M:98:LEU:HD13	1.91	0.52
35:M:90:GLY:HA2	35:M:122:VAL:HG22	1.90	0.52
44:V:9:VAL:HB	44:V:71:VAL:HB	1.90	0.52
46:X:83:VAL:C	46:X:85:ARG:H	2.16	0.52
53:2:6:ARG:CB	53:2:6:ARG:CZ	2.87	0.52
53:2:21:PHE:O	53:2:25:MET:HG2	2.09	0.52
57:B:24:G:H2'	57:B:56:C:H41	1.74	0.52
58:A:2348:G:O2'	58:A:2396:A:N6	2.41	0.52
1:a:1514:G:H2'	1:a:1515:A:C8	2.44	0.52
2:c:141:MET:HA	2:c:146:VAL:HG13	1.87	0.52
7:j:65:PHE:HE2	15:n:45:ARG:HA	1.74	0.52
16:b:207:ILE:O	16:b:211:ALA:HB3	2.09	0.52
22:w:19:G:C5	22:w:59:A:C2	2.96	0.52
24:0:421:UNK:CB	24:0:427:UNK:CB	2.86	0.52
25:C:26:ARG:CG	25:C:81:HIS:CG	2.92	0.52
25:C:55:GLY:CA	25:C:218:ARG:HG3	2.38	0.52
28:F:6:LYS:CA	28:F:6:LYS:CE	2.87	0.52
33:K:1:MET:N	33:K:2:PRO:CD	2.73	0.52
36:N:17:GLN:HB2	36:N:39:HIS:HB2	1.91	0.52
36:N:22:SER:OG	36:N:23:GLY:N	2.40	0.52
37:O:79:LEU:O	37:O:83:ILE:HG13	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:U:83:ILE:HD13	58:A:1456:G:N3	2.19	0.52
46:X:46:HIS:HB2	46:X:77:THR:HG22	1.91	0.52
58:A:270:U:O2	58:A:458:G:O6	2.27	0.52
58:A:828:G:H22	58:A:832:G:H5''	1.74	0.52
4:g:78:ARG:CD	4:g:80:VAL:HG23	2.39	0.52
19:m:39:ILE:HD12	19:m:56:LEU:HD13	1.91	0.52
22:w:57:C:C5	22:w:58:A:C8	2.87	0.52
23:x:38:ARG:CD	23:x:72:ASP:CB	2.70	0.52
23:x:126:ASP:HB3	23:x:127:ARG:HB2	1.91	0.52
25:C:108:PRO:HG3	25:C:128:GLY:HA2	1.91	0.52
35:M:81:GLY:HA2	35:M:84:ASN:HD22	1.75	0.52
36:N:103:LEU:HD11	36:N:127:ILE:HD11	1.90	0.52
46:X:64:PRO:HG2	46:X:85:ARG:NH2	2.23	0.52
50:y:44:PHE:O	50:y:48:LYS:CE	2.56	0.52
57:B:89:C:H2'	57:B:90:G:C8	2.44	0.52
58:A:1584:U:H6	58:A:1584:U:H3'	1.74	0.52
1:a:811:U:H5''	16:b:21:ARG:NE	2.25	0.52
1:a:968:U:H1'	13:s:55:ARG:HA	1.89	0.52
1:a:1324:C:H2'	1:a:1325:G:C8	2.43	0.52
1:a:1477:A:C1'	58:A:2137:A:C2	2.73	0.52
8:k:44:THR:HG21	8:k:48:GLY:C	2.29	0.52
23:x:51:SER:O	23:x:55:SER:HB2	2.09	0.52
25:C:71:ASP:OD1	25:C:71:ASP:N	2.30	0.52
26:D:156:THR:CG2	58:A:2256:G:H21	2.16	0.52
29:G:16:ASP:HB2	29:G:27:LYS:HB3	1.90	0.52
58:A:1569:A:N1	58:A:1603:G:C4	2.77	0.52
58:A:1940:A:N6	58:A:1954:C:O2'	2.42	0.52
58:A:2315:U:OP1	58:A:2422:A:O2'	2.28	0.52
1:a:668:G:OP1	8:k:58:HIS:CD2	2.62	0.52
1:a:952:C:N4	6:i:150:ARG:CZ	2.73	0.52
6:i:26:ILE:C	6:i:41:LEU:HD23	2.34	0.52
28:F:9:PRO:HD2	28:F:12:LYS:HE3	1.91	0.52
33:K:1:MET:H2	33:K:2:PRO:HD3	1.75	0.52
47:Y:33:ILE:HA	47:Y:52:CYS:HA	1.91	0.52
50:y:38:CYS:CB	50:y:40:GLN:NE2	2.73	0.52
58:A:222:A:O2'	58:A:508:G:N3	2.40	0.52
58:A:944:A:N7	58:A:2471:A:O2'	2.42	0.52
58:A:1571:C:H2'	58:A:1572:G:C5	2.45	0.52
58:A:1610:C:H2'	58:A:1611:A:H5'	1.89	0.52
58:A:2358:A:HO2'	58:A:2382:G:HO2'	1.57	0.52
1:a:846:A:H5''	3:e:115:ALA:HB1	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1208:A:O2'	19:m:115:ARG:HG3	2.10	0.52
2:c:189:ALA:HB3	2:c:196:ILE:HB	1.90	0.52
4:g:82:GLY:O	23:x:130:ILE:C	2.53	0.52
22:w:34:U:H1'	22:w:36:A:N7	2.24	0.52
25:C:213:ARG:HH22	25:C:219:PRO:HD3	1.75	0.52
27:E:7:VAL:CB	27:E:16:GLY:CA	2.84	0.52
28:F:102:ARG:NH1	50:y:9:TYR:CE1	2.78	0.52
33:K:98:THR:HG23	33:K:124:VAL:HB	1.90	0.52
45:W:129:ASN:HD21	45:W:130:THR:HG23	1.72	0.52
50:y:60:ARG:HH11	50:y:60:ARG:HG2	1.74	0.52
52:l:40:LYS:NZ	58:A:2571:C:OP1	2.37	0.52
58:A:1563:A:C2	58:A:1609:G:N1	2.78	0.52
58:A:1575:A:N1	58:A:1576:C:N3	2.58	0.52
58:A:1596:C:C2	58:A:1597:G:N7	2.78	0.52
58:A:1598:U:O3'	58:A:1599:U:O3'	2.28	0.52
58:A:2356:G:H2'	58:A:2380:G:H1	1.74	0.52
1:a:493:A:H2'	1:a:494:C:C6	2.44	0.52
8:k:44:THR:HG21	8:k:48:GLY:CA	2.38	0.52
9:l:29:GLN:HG3	9:l:81:LEU:HD21	1.91	0.52
22:w:55:U:H2'	22:w:56:U:C5	2.43	0.52
25:C:262:LYS:N	25:C:262:LYS:CD	2.73	0.52
28:F:46:GLY:O	28:F:47:VAL:HG13	2.09	0.52
32:J:96:LYS:HE2	45:W:120:PRO:CA	2.39	0.52
34:L:8:LEU:HD13	34:L:19:ILE:CG1	2.40	0.52
44:V:99:LYS:NZ	44:V:99:LYS:CB	2.73	0.52
47:Y:17:SER:HB2	47:Y:27:ARG:HD2	1.91	0.52
1:a:399:G:H2'	1:a:400:C:C6	2.44	0.52
1:a:811:U:H5''	16:b:21:ARG:HG2	1.89	0.52
7:j:64:HIS:O	15:n:59:SER:HB3	2.10	0.52
11:q:8:LYS:NZ	11:q:8:LYS:CB	2.73	0.52
22:w:31:G:C6	22:w:32:G:C6	2.98	0.52
22:w:75:C:O2'	22:w:77:A:H8	1.91	0.52
26:D:84:LEU:HD21	26:D:207:VAL:HG11	1.90	0.52
29:G:4:ILE:HD13	58:A:2972:A:H5'	1.90	0.52
34:L:109:LYS:HB3	34:L:110:LYS:HE2	1.92	0.52
44:V:43:LYS:NZ	44:V:43:LYS:CB	2.73	0.52
57:B:5:C:OP1	57:B:61:C:O2'	2.23	0.52
58:A:661:U:O2'	58:A:1101:A:N1	2.40	0.52
1:a:146:A:H2'	1:a:147:U:C6	2.45	0.52
1:a:279:A:H5''	1:a:279:A:H8	1.75	0.52
1:a:323:U:O3'	14:t:17:ARG:CD	2.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:489:A:C8	1:a:523:U:O2'	2.60	0.52
1:a:492:U:O5'	17:d:36:HIS:CE1	2.63	0.52
1:a:518:U:C2	1:a:519:A:C8	2.97	0.52
1:a:654:G:H5'	18:f:50:TYR:CE2	2.45	0.52
1:a:1311:G:OP1	19:m:29:ARG:HG2	2.09	0.52
1:a:1477:A:H1'	58:A:2137:A:C2	2.39	0.52
4:g:143:LYS:CD	22:w:43:G:H5'	2.40	0.52
22:w:37:U:H2'	23:x:128:ARG:HD3	1.91	0.52
23:x:38:ARG:NH2	23:x:85:HIS:O	2.43	0.52
25:C:257:THR:CG2	58:A:2020:A:O3'	2.57	0.52
35:M:106:LYS:NZ	58:A:714:U:O2'	2.43	0.52
38:P:22:HIS:HE1	57:B:9:G:OP2	1.93	0.52
43:U:59:THR:CG2	43:U:80:LYS:HE3	2.39	0.52
50:y:43:PRO:HA	50:y:46:THR:OG1	2.10	0.52
58:A:265:A:N1	58:A:515:U:O2'	2.41	0.52
58:A:1593:U:H3'	58:A:1594:G:C8	2.44	0.52
1:a:954:C:O3'	7:j:59:LYS:HD3	2.09	0.52
1:a:1034:C:H5	23:x:75:ARG:N	1.94	0.52
1:a:1128:C:H4'	6:i:27:GLN:OE1	2.10	0.52
4:g:86:GLN:HE22	22:w:32:G:H2'	1.75	0.52
6:i:46:GLY:HA2	6:i:82:ASP:CG	2.35	0.52
8:k:44:THR:OG1	8:k:50:VAL:HG22	2.09	0.52
13:s:31:ILE:O	13:s:50:ALA:N	2.40	0.52
32:J:114:LYS:O	32:J:118:LEU:N	2.40	0.52
33:K:1:MET:H2	33:K:2:PRO:CD	2.22	0.52
45:W:81:LYS:HB2	45:W:96:ASP:O	2.10	0.52
52:1:8:ARG:HH21	52:1:28:ASN:HB2	1.74	0.52
55:4:20:HIS:CD2	58:A:2980:U:H3'	2.44	0.52
58:A:2142:A:O2'	58:A:2144:C:N4	2.43	0.52
1:a:605:G:OP1	20:p:10:LEU:HB3	2.10	0.51
1:a:829:G:O5'	1:a:829:G:H8	1.93	0.51
1:a:1322:G:H8	1:a:1322:G:O5'	1.92	0.51
1:a:1359:U:O4	4:g:10:ARG:NH2	2.38	0.51
1:a:1518:A:H5'	1:a:1518:A:C8	2.45	0.51
2:c:58:ARG:HE	2:c:63:VAL:HG23	1.75	0.51
3:e:17:ARG:HB3	3:e:20:ARG:CZ	2.39	0.51
5:h:94:LEU:HB3	5:h:115:ASP:OD1	2.10	0.51
6:i:47:GLN:N	6:i:82:ASP:CG	2.66	0.51
25:C:262:LYS:N	25:C:263:PRO:CD	2.73	0.51
27:E:131:VAL:HG13	27:E:140:SER:HB2	1.91	0.51
33:K:116:ARG:HH22	58:A:615:A:H5''	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:M:65:LYS:HD2	58:A:2640:G:H5''	1.92	0.51
45:W:109:GLU:HB3	45:W:131:ILE:O	2.09	0.51
46:X:17:ALA:HB1	58:A:2485:C:OP1	2.10	0.51
54:3:3:LYS:HE2	58:A:242:G:OP2	2.10	0.51
58:A:1566:A:H2'	58:A:1605:G:C6	2.32	0.51
58:A:1576:C:O5'	58:A:1576:C:H6	1.92	0.51
58:A:1586:C:H3'	58:A:1587:G:H5''	1.92	0.51
58:A:1599:U:H4'	58:A:1599:U:OP2	2.09	0.51
1:a:612:U:H5'	1:a:613:G:C8	2.45	0.51
1:a:654:G:N2	8:k:127:HIS:NE2	2.55	0.51
1:a:1129:U:O2'	6:i:38:ARG:HD3	2.10	0.51
6:i:133:ARG:HD2	15:n:61:TRP:NE1	2.26	0.51
7:j:10:LEU:HD12	7:j:96:VAL:HG11	1.92	0.51
8:k:43:ILE:CG1	8:k:51:ILE:HG12	2.39	0.51
12:r:21:VAL:O	12:r:25:LYS:HB3	2.10	0.51
22:w:10:G:C6	22:w:27:G:C5	2.98	0.51
24:0:124:UNK:O	24:0:131:UNK:HA	2.10	0.51
24:0:423:UNK:C	24:0:425:UNK:N	2.73	0.51
25:C:14:ARG:NH2	58:A:1913:G:N7	2.55	0.51
25:C:25:THR:CG2	25:C:81:HIS:C	2.82	0.51
27:E:5:VAL:HG12	27:E:18:VAL:O	2.10	0.51
37:O:116:VAL:C	37:O:118:GLU:H	2.18	0.51
46:X:16:SER:O	46:X:17:ALA:CB	2.58	0.51
50:y:44:PHE:C	50:y:48:LYS:HE3	2.36	0.51
57:B:34:G:H8	57:B:34:G:O5'	1.92	0.51
57:B:85:C:H3'	57:B:85:C:H6	1.75	0.51
58:A:1533:U:O2	58:A:1803:A:O2'	2.25	0.51
58:A:1540:U:O4	58:A:1632:G:O6	2.27	0.51
58:A:2340:A:H61	58:A:2389:U:H3	1.58	0.51
1:a:860:C:C1'	5:h:4:THR:HG21	2.41	0.51
2:c:84:ASP:HA	2:c:87:ARG:HB3	1.91	0.51
7:j:46:LYS:HA	7:j:67:MET:O	2.10	0.51
21:u:26:VAL:HG21	58:A:2157:G:H5'	1.92	0.51
27:E:45:LYS:CG	58:A:709:U:C4	2.94	0.51
38:P:9:ASN:HB2	57:B:58:A:C2'	2.39	0.51
50:y:42:HIS:N	50:y:43:PRO:HD2	2.25	0.51
58:A:1171:C:H2'	58:A:1172:A:H8	1.75	0.51
58:A:2547:G:O6	58:A:2556:C:N3	2.43	0.51
3:e:45:ARG:NH2	3:e:56:PHE:CD2	2.78	0.51
22:w:39:A:C5	22:w:40:C:C2	2.98	0.51
24:0:145:UNK:O	24:0:146:UNK:CB	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:I:27:GLU:HB3	31:I:104:VAL:HB	1.93	0.51
36:N:57:HIS:CD2	36:N:117:ALA:CB	2.89	0.51
45:W:101:GLN:O	45:W:102:ARG:HB2	2.10	0.51
53:2:6:ARG:NH1	53:2:6:ARG:CB	2.73	0.51
57:B:80:C:O2'	58:A:1033:A:H1'	2.10	0.51
1:a:502:C:N4	9:l:50:ARG:HH11	2.09	0.51
1:a:512:A:H5''	23:x:79:GLN:HE22	1.76	0.51
1:a:1170:U:H4'	2:c:10:PHE:CZ	2.43	0.51
2:c:141:MET:CE	2:c:149:ILE:HG21	2.39	0.51
13:s:42:PRO:CD	50:y:60:ARG:NH2	2.35	0.51
23:x:38:ARG:HE	23:x:72:ASP:H	1.48	0.51
24:0:311:UNK:O	24:0:339:UNK:N	2.43	0.51
28:F:183:PRO:O	28:F:184:PHE:CE2	2.55	0.51
33:K:5:THR:HG21	58:A:624:G:H4'	1.91	0.51
45:W:137:ALA:O	45:W:139:SER:N	2.42	0.51
58:A:854:A:H1'	58:A:855:C:H5	1.75	0.51
58:A:1569:A:N6	58:A:1570:C:H42	2.06	0.51
58:A:2211:C:H2'	58:A:2212:A:H8	1.76	0.51
1:a:512:A:P	23:x:79:GLN:NE2	2.79	0.51
1:a:893:U:H2'	1:a:894:C:H6	1.74	0.51
4:g:83:ALA:CB	23:x:130:ILE:O	2.59	0.51
6:i:26:ILE:O	6:i:41:LEU:HD23	2.10	0.51
20:p:57:GLN:NE2	20:p:79:ASP:O	2.43	0.51
23:x:38:ARG:HH21	23:x:72:ASP:HB3	1.76	0.51
24:0:238:UNK:C	24:0:240:UNK:N	2.73	0.51
26:D:156:THR:CG2	58:A:2256:G:N2	2.74	0.51
27:E:186:TYR:O	27:E:190:ASN:HB2	2.11	0.51
35:M:84:ASN:HD21	35:M:118:LEU:HA	1.75	0.51
37:O:14:SER:C	37:O:15:SER:HG	2.12	0.51
42:T:75:THR:CB	42:T:118:PRO:HD3	2.32	0.51
55:4:24:MET:HE2	55:4:35:ARG:HB2	1.92	0.51
58:A:1558:C:C2	58:A:1559:A:C5	2.99	0.51
58:A:1568:C:C4	58:A:1569:A:N6	2.78	0.51
1:a:323:U:H5'	14:t:18:ARG:CB	2.41	0.51
1:a:1037:G:O2'	2:c:188:GLU:OE2	2.28	0.51
1:a:1261:A:P	7:j:9:ARG:NH1	2.74	0.51
2:c:87:ARG:HE	2:c:100:LEU:HB3	1.76	0.51
4:g:22:LEU:HD12	4:g:63:LYS:HE3	1.93	0.51
12:r:76:LEU:HD21	18:f:60:TYR:CZ	2.46	0.51
19:m:53:VAL:O	19:m:57:ARG:CB	2.59	0.51
25:C:145:VAL:HG11	25:C:175:LEU:HD11	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:J:128:LYS:HG2	58:A:1198:C:H4'	1.93	0.51
40:R:48:ARG:NH1	40:R:49:ASP:OD1	2.44	0.51
43:U:83:ILE:HD12	58:A:1456:G:N2	2.13	0.51
57:B:25:G:C2'	57:B:26:A:H5'	2.40	0.51
58:A:860:G:O2'	58:A:863:G:O2'	2.21	0.51
58:A:1544:U:O4	58:A:1626:G:O6	2.29	0.51
58:A:1560:U:C2'	58:A:1561:C:H5''	2.40	0.51
58:A:1562:C:C2'	58:A:1563:A:O5'	2.57	0.51
58:A:1885:G:O2'	58:A:2215:U:O4	2.28	0.51
1:a:526:G:H2'	17:d:2:ALA:CB	2.40	0.51
1:a:961:C:N3	15:n:18:VAL:HG21	2.25	0.51
1:a:1098:U:C5'	6:i:126:ARG:NE	2.54	0.51
9:l:40:THR:O	9:l:49:LEU:HA	2.10	0.51
19:m:4:LEU:HD23	19:m:22:ILE:HD11	1.93	0.51
25:C:145:VAL:HG13	25:C:191:ALA:HB2	1.93	0.51
25:C:261:ASN:C	25:C:262:LYS:HD3	2.36	0.51
26:D:178:GLN:NE2	58:A:2995:U:O2'	2.37	0.51
43:U:5:THR:O	43:U:6:ASP:HB2	2.10	0.51
58:A:1174:G:N1	58:A:1220:C:OP2	2.44	0.51
1:a:509:G:O2'	1:a:513:A:N1	2.40	0.51
1:a:737:U:H2'	1:a:738:G:O4'	2.11	0.51
1:a:1300:A:H5''	1:a:1301:A:OP2	2.11	0.51
1:a:1321:A:C2'	23:x:94:GLY:N	2.74	0.51
6:i:26:ILE:CG2	6:i:109:LEU:HD13	2.40	0.51
8:k:93:VAL:HG11	8:k:106:ILE:HG12	1.91	0.51
14:t:4:ILE:HG22	14:t:7:GLN:H	1.76	0.51
23:x:123:ARG:O	23:x:126:ASP:HB3	2.11	0.51
27:E:139:LYS:HE2	27:E:142:LYS:HD2	1.92	0.51
28:F:45:MET:HB3	28:F:94:ALA:O	2.03	0.51
35:M:24:ARG:NH1	58:A:1365:G:OP2	2.43	0.51
40:R:41:HIS:HE1	58:A:655:G:H4'	1.75	0.51
42:T:13:LYS:HG2	42:T:111:THR:HG23	1.93	0.51
56:5:8:LYS:NZ	58:A:1078:G:O6	2.43	0.51
57:B:34:G:O2'	57:B:35:G:N7	2.43	0.51
58:A:1856:C:O3'	58:A:2933:G:N2	2.44	0.51
58:A:1938:G:H21	58:A:1956:A:H62	1.58	0.51
1:a:41:U:O2'	1:a:480:G:H4'	2.11	0.51
1:a:645:G:H3'	1:a:705:G:H21	1.76	0.51
5:h:39:ILE:HD11	5:h:112:LEU:HB3	1.93	0.51
17:d:21:GLY:HA3	17:d:160:ARG:HH22	1.76	0.51
36:N:65:TRP:HZ3	58:A:989:G:O2'	1.94	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:R:98:LEU:CD2	41:S:4:TYR:OH	2.59	0.51
42:T:35:SER:HA	42:T:77:VAL:HA	1.92	0.51
48:Z:45:ARG:O	48:Z:49:THR:OG1	2.27	0.51
58:A:277:U:H2'	58:A:278:A:C8	2.46	0.51
58:A:1597:G:H4'	58:A:1598:U:OP2	2.11	0.51
58:A:1608:U:O5'	58:A:1608:U:H6	1.94	0.51
58:A:2851:G:N2	58:A:3001:G:OP2	2.36	0.51
1:a:579:U:H4'	5:h:124:GLY:O	2.11	0.50
1:a:653:G:H4'	18:f:87:ARG:CZ	2.41	0.50
1:a:814:G:H5''	12:r:58:VAL:HG21	1.93	0.50
1:a:857:U:H1'	5:h:16:ASN:OD1	2.11	0.50
1:a:884:G:H5'	21:u:18:ARG:NH1	2.26	0.50
1:a:951:A:N6	6:i:150:ARG:CZ	2.74	0.50
1:a:1033:G:C4'	1:a:1034:C:H5'	2.41	0.50
1:a:1310:C:H2'	1:a:1311:G:O4'	2.11	0.50
9:l:67:ILE:HG21	9:l:72:HIS:HB3	1.92	0.50
22:w:7:G:O2'	22:w:50:G:H8	1.94	0.50
25:C:209:ALA:HB2	58:A:2007:C:O2'	2.10	0.50
28:F:62:ASN:O	28:F:65:ALA:O	2.29	0.50
29:G:65:LEU:HD12	29:G:68:LEU:HD23	1.93	0.50
33:K:84:LEU:HD11	58:A:1250:U:H6	1.77	0.50
37:O:16:HIS:CD2	58:A:1390:A:N7	2.78	0.50
39:Q:48:ARG:NH1	58:A:2909:G:OP1	2.43	0.50
45:W:106:VAL:O	45:W:134:GLU:HA	2.12	0.50
53:2:6:ARG:C	53:2:7:THR:HG23	2.35	0.50
58:A:1544:U:H3	58:A:1626:G:H1	1.58	0.50
58:A:2394:A:O2'	58:A:2396:A:OP1	2.29	0.50
1:a:793:U:O2	1:a:793:U:H2'	2.11	0.50
1:a:864:C:O2'	1:a:865:C:H5'	2.10	0.50
1:a:908:G:N2	23:x:123:ARG:HH22	2.08	0.50
1:a:1381:A:N6	3:e:53:GLY:H	2.10	0.50
23:x:38:ARG:CZ	23:x:85:HIS:CD2	2.91	0.50
24:0:316:UNK:CA	24:0:458:UNK:CB	2.90	0.50
27:E:170:ARG:NE	58:A:404:A:OP1	2.38	0.50
28:F:51:ALA:HB2	28:F:90:MET:CE	2.15	0.50
29:G:127:GLU:OE1	29:G:131:LYS:NZ	2.42	0.50
37:O:75:VAL:HG12	37:O:79:LEU:HD13	1.92	0.50
44:V:72:MET:CE	58:A:383:U:H5'	2.41	0.50
45:W:40:HIS:HD2	45:W:101:GLN:HE21	1.58	0.50
55:4:16:VAL:HG22	55:4:25:VAL:HG22	1.92	0.50
57:B:34:G:C6	57:B:44:C:C6	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:223:A:OP2	58:A:507:G:N2	2.41	0.50
58:A:813:C:O2'	58:A:849:A:N6	2.41	0.50
58:A:1568:C:N4	58:A:1603:G:C2	2.78	0.50
58:A:1595:G:N2	58:A:1597:G:C5	2.79	0.50
58:A:1673:A:O2'	58:A:2926:A:OP2	2.28	0.50
1:a:672:U:O2'	1:a:674:G:N7	2.40	0.50
1:a:1152:C:H2'	1:a:1153:U:C6	2.46	0.50
3:e:137:ARG:HH11	17:d:49:GLN:HE21	1.58	0.50
3:e:181:ARG:NH1	5:h:132:TRP:O	2.43	0.50
3:e:187:GLU:CG	3:e:188:ASP:N	2.73	0.50
13:s:15:LEU:O	13:s:19:VAL:CG2	2.41	0.50
13:s:41:ILE:C	50:y:60:ARG:HH21	2.18	0.50
33:K:1:MET:CE	58:A:642:G:OP1	2.60	0.50
50:y:38:CYS:SG	50:y:40:GLN:CD	2.94	0.50
51:z:5:LYS:NZ	58:A:2279:C:OP1	2.44	0.50
58:A:114:G:OP2	58:A:116:A:O2'	2.26	0.50
1:a:1420:C:OP1	14:t:29:ARG:NH1	2.44	0.50
1:a:1518:A:H5'	1:a:1518:A:H8	1.75	0.50
2:c:148:GLY:CA	2:c:203:TYR:HB3	2.41	0.50
2:c:169:ARG:NH2	2:c:171:GLY:O	2.44	0.50
4:g:83:ALA:HB2	23:x:130:ILE:O	2.11	0.50
13:s:42:PRO:CD	50:y:60:ARG:NE	2.74	0.50
23:x:53:LYS:HE2	23:x:114:VAL:HB	1.93	0.50
23:x:84:GLN:HE21	23:x:84:GLN:H	1.57	0.50
28:F:44:ASN:ND2	58:A:2537:C:C1'	2.73	0.50
34:L:31:ARG:NH2	58:A:2900:C:OP1	2.45	0.50
43:U:33:VAL:HG11	43:U:42:ILE:HD11	1.93	0.50
23:x:81:LYS:HD3	23:x:104:ASP:OD1	2.11	0.50
25:C:61:ALA:O	25:C:63:ARG:NH2	2.44	0.50
25:C:62:TYR:HE1	58:A:2033:U:H3'	1.75	0.50
28:F:29:TYR:CE2	28:F:34:GLN:OE1	2.53	0.50
35:M:134:ARG:HH22	35:M:146:GLU:HG2	1.75	0.50
36:N:111:GLU:OE2	36:N:115:ARG:CD	2.59	0.50
37:O:29:PHE:CE2	37:O:51:LEU:HD13	2.45	0.50
46:X:43:THR:OG1	58:A:2560:A:N6	2.33	0.50
58:A:280:G:H1	58:A:306:U:H3	1.60	0.50
1:a:786:C:H2'	1:a:787:A:H8	1.77	0.50
1:a:872:G:O2'	1:a:888:A:N6	2.45	0.50
1:a:1176:C:H41	2:c:1:MET:CE	2.24	0.50
1:a:1322:G:H4'	23:x:94:GLY:CA	2.42	0.50
23:x:69:VAL:C	23:x:70:GLU:HG3	2.37	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:C:143:HIS:ND1	25:C:194:GLY:O	2.39	0.50
28:F:11:LEU:HD22	28:F:108:ASP:CB	2.41	0.50
28:F:147:GLU:HA	50:y:28:LYS:HD3	1.93	0.50
44:V:2:LYS:HE2	44:V:85:TYR:CE2	2.46	0.50
44:V:96:ARG:NH2	44:V:96:ARG:CG	2.73	0.50
58:A:247:G:OP2	58:A:249:C:N4	2.41	0.50
58:A:567:A:H1'	58:A:568:A:H5''	1.94	0.50
58:A:1574:G:H3'	58:A:1575:A:H8	1.77	0.50
1:a:1099:C:P	6:i:105:ARG:HH12	2.33	0.50
1:a:1374:U:H2'	1:a:1375:G:C8	2.46	0.50
26:D:63:ILE:HG22	26:D:65:PRO:HD2	1.93	0.50
27:E:7:VAL:HG21	27:E:16:GLY:HA3	1.86	0.50
27:E:136:PRO:HB3	27:E:164:VAL:HA	1.94	0.50
28:F:78:ARG:O	28:F:88:GLU:OE1	2.30	0.50
45:W:52:ARG:NH1	45:W:53:ASP:OD1	2.45	0.50
48:Z:62:ARG:HD2	48:Z:66:LEU:HD22	1.92	0.50
1:a:664:U:H4'	8:k:49:ASN:HD22	1.77	0.50
1:a:908:G:C2	23:x:123:ARG:NH2	2.69	0.50
1:a:994:C:H2'	1:a:995:A:C8	2.47	0.50
1:a:1037:G:O2'	2:c:188:GLU:CD	2.55	0.50
2:c:143:GLN:CB	2:c:144:PRO:CD	2.85	0.50
3:e:21:ASP:H	17:d:40:ARG:NH2	2.10	0.50
5:h:94:LEU:HD12	5:h:115:ASP:O	2.12	0.50
16:b:50:ILE:O	16:b:54:TYR:CB	2.60	0.50
27:E:180:PRO:HG3	27:E:200:ALA:HB1	1.94	0.50
34:L:107:ARG:HD3	34:L:115:VAL:HG11	1.94	0.50
37:O:90:ARG:HH22	37:O:118:GLU:HB3	1.76	0.50
42:T:7:PHE:O	42:T:7:PHE:HD1	1.95	0.50
58:A:1575:A:H2	58:A:1576:C:C2	2.28	0.50
1:a:556:A:N6	1:a:739:A:OP1	2.41	0.50
3:e:184:LEU:HD12	5:h:43:GLU:O	2.12	0.50
16:b:35:ARG:NH2	24:o:6:UNK:CB	2.75	0.50
22:w:19:G:C3'	22:w:58:A:C2	2.94	0.50
34:L:7:ARG:NH2	34:L:7:ARG:CG	2.73	0.50
52:1:35:ARG:CD	52:1:52:LYS:NZ	2.65	0.50
55:4:20:HIS:CD2	58:A:2980:U:C3'	2.94	0.50
58:A:1665:U:H2'	58:A:1666:A:H8	1.77	0.50
1:a:184:U:H4'	14:t:80:ALA:HB1	1.93	0.49
1:a:688:C:H2'	1:a:689:A:H8	1.77	0.49
1:a:956:A:OP1	15:n:32:SER:CB	2.60	0.49
1:a:1080:C:C5	16:b:95:ARG:CZ	2.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1332:A:OP2	6:i:140:LYS:NZ	2.39	0.49
2:c:122:GLN:HE22	2:c:135:LYS:HZ3	1.45	0.49
7:j:66:GLU:O	15:n:56:VAL:HG23	2.12	0.49
20:p:109:ALA:O	20:p:113:ALA:HB2	2.12	0.49
22:w:31:G:H3'	22:w:32:G:C8	2.47	0.49
24:0:323:UNK:C	24:0:325:UNK:N	2.73	0.49
28:F:71:LYS:HG3	50:y:5:ILE:HB	1.93	0.49
28:F:158:GLY:HA3	58:A:2529:A:C2	2.47	0.49
36:N:35:GLN:NE2	45:W:90:ARG:NH1	2.60	0.49
37:O:35:LYS:HG3	37:O:112:VAL:HG22	1.93	0.49
40:R:90:VAL:HG13	41:S:6:ILE:CD1	2.42	0.49
42:T:99:ARG:HD2	58:A:862:U:O2'	2.12	0.49
43:U:6:ASP:OD2	48:Z:23:ARG:CG	2.60	0.49
58:A:805:C:O2'	58:A:895:G:OP1	2.27	0.49
1:a:935:G:O4'	23:x:36:LYS:NZ	2.45	0.49
1:a:961:C:O2'	15:n:19:ARG:NH2	2.45	0.49
1:a:1035:A:H4'	23:x:78:ARG:NE	2.27	0.49
8:k:73:GLN:HG3	8:k:108:SER:HB2	1.94	0.49
28:F:115:LEU:O	28:F:118:ILE:HD13	2.11	0.49
30:H:62:ILE:H	30:H:65:ALA:HB3	1.77	0.49
34:L:109:LYS:CD	34:L:110:LYS:NZ	2.73	0.49
38:P:16:ASN:O	38:P:20:ARG:HB2	2.12	0.49
44:V:81:THR:OG1	44:V:100:THR:HG23	2.12	0.49
45:W:62:GLY:O	45:W:63:THR:OG1	2.26	0.49
48:Z:62:ARG:HH21	48:Z:66:LEU:CD1	2.26	0.49
52:1:38:ILE:HG22	52:1:40:LYS:HG2	1.92	0.49
58:A:351:G:N2	58:A:444:U:O4	2.40	0.49
58:A:1596:C:C1'	58:A:1597:G:P	3.00	0.49
1:a:310:G:OP1	20:p:31:GLY:HA3	2.12	0.49
1:a:1301:A:H5'	13:s:70:LYS:NZ	2.28	0.49
1:a:1324:C:H2'	1:a:1325:G:H8	1.76	0.49
1:a:1486:A:H2'	1:a:1488:G:C8	2.47	0.49
3:e:17:ARG:NH1	3:e:40:VAL:HG11	2.26	0.49
3:e:179:ALA:HA	3:e:189:VAL:CG2	2.38	0.49
22:w:19:G:H4'	22:w:20:G:OP1	2.13	0.49
33:K:87:ARG:NH1	33:K:91:GLU:OE2	2.46	0.49
45:W:126:GLN:HA	45:W:179:VAL:HG12	1.94	0.49
57:B:19:G:N2	57:B:64:G:H1	1.99	0.49
58:A:217:G:H22	58:A:235:U:H4'	1.78	0.49
58:A:1564:A:N6	58:A:1609:G:N9	2.60	0.49
58:A:1596:C:N4	58:A:1598:U:N3	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:2963:U:H2'	58:A:2964:A:H8	1.77	0.49
1:a:230:G:H2'	1:a:231:G:O4'	2.13	0.49
1:a:482:A:OP1	9:l:114:ARG:HB2	2.12	0.49
1:a:928:A:H2'	1:a:929:G:C8	2.48	0.49
1:a:1461:U:H2'	1:a:1462:C:H6	1.78	0.49
6:i:35:ALA:HB2	6:i:90:GLY:HA3	1.94	0.49
22:w:38:A:N6	22:w:39:A:N6	2.61	0.49
25:C:261:ASN:C	25:C:262:LYS:CD	2.86	0.49
33:K:75:TYR:HB3	33:K:85:ARG:O	2.11	0.49
37:O:79:LEU:HD21	37:O:83:ILE:HD12	1.94	0.49
45:W:28:ARG:HH12	57:B:77:A:H5'	1.77	0.49
58:A:966:U:H2'	58:A:967:G:H8	1.77	0.49
58:A:1561:C:C5	58:A:1562:C:N4	2.81	0.49
1:a:458:A:H4'	1:a:459:G:O4'	2.13	0.49
1:a:1035:A:H4'	23:x:78:ARG:CZ	2.42	0.49
3:e:19:ARG:N	17:d:40:ARG:HH11	2.11	0.49
3:e:137:ARG:NH1	17:d:49:GLN:HE21	2.06	0.49
25:C:37:LEU:HD23	25:C:62:TYR:HB2	1.95	0.49
25:C:57:GLY:C	25:C:58:HIS:O	2.54	0.49
25:C:256:ARG:CZ	25:C:258:ARG:NE	2.73	0.49
27:E:201:LEU:HD23	27:E:201:LEU:C	2.36	0.49
33:K:27:ARG:HH11	33:K:27:ARG:CG	2.24	0.49
33:K:136:GLN:HA	33:K:136:GLN:OE1	2.12	0.49
39:Q:1:MET:N	58:A:3096:U:O2	2.44	0.49
39:Q:93:ARG:HH21	58:A:1971:C:H5	1.60	0.49
44:V:2:LYS:HE3	44:V:83:VAL:HG12	1.92	0.49
45:W:62:GLY:HA2	45:W:65:ALA:HB2	1.95	0.49
58:A:2255:A:O2'	58:A:2678:G:N2	2.44	0.49
58:A:2375:G:H2'	58:A:2376:G:H8	1.77	0.49
58:A:2629:G:O2'	58:A:2635:A:N6	2.42	0.49
1:a:715:G:HO2'	18:f:89:LYS:HZ1	1.56	0.49
1:a:851:A:H5''	1:a:852:U:OP1	2.12	0.49
1:a:1281:A:H2'	1:a:1281:A:N3	2.28	0.49
1:a:1303:U:H5'	13:s:73:GLU:OE1	2.12	0.49
22:w:53:G:N1	22:w:54:G:C6	2.80	0.49
27:E:201:LEU:C	27:E:201:LEU:CD2	2.86	0.49
28:F:21:GLU:O	28:F:25:GLN:HG3	2.13	0.49
33:K:14:SER:N	33:K:52:ASP:OD1	2.31	0.49
50:y:60:ARG:NH1	50:y:64:ARG:CZ	2.75	0.49
54:3:3:LYS:CE	58:A:242:G:OP2	2.61	0.49
58:A:189:A:N3	58:A:794:G:O2'	2.37	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:403:U:O2'	58:A:422:A:N3	2.46	0.49
58:A:2072:G:O6	58:A:2111:U:O4	2.31	0.49
1:a:1516:U:O2	1:a:1516:U:H2'	2.11	0.49
8:k:65:ARG:HH22	22:w:41:C:H4'	1.78	0.49
27:E:24:LEU:HD21	27:E:208:ASN:CG	2.38	0.49
28:F:47:VAL:HG23	28:F:48:GLY:N	2.26	0.49
31:I:9:ALA:HB3	31:I:56:LEU:HD11	1.95	0.49
44:V:76:SER:C	44:V:77:ASP:OD1	2.56	0.49
51:z:27:LEU:HB3	51:z:38:LYS:HB3	1.95	0.49
1:a:173:C:H1'	1:a:1430:A:C2	2.48	0.49
1:a:324:G:OP2	14:t:21:ASN:ND2	2.44	0.49
1:a:382:A:H2'	1:a:383:A:C8	2.48	0.49
4:g:51:ARG:NH2	4:g:52:GLU:OE2	2.46	0.49
23:x:61:ASP:OD1	23:x:63:THR:CG2	2.57	0.49
29:G:3:ARG:NH1	58:A:2975:G:OP2	2.43	0.49
37:O:33:ARG:CB	37:O:114:GLU:HG2	2.43	0.49
58:A:1593:U:OP1	58:A:1593:U:H4'	2.13	0.49
58:A:2154:G:O2'	58:A:2192:G:O6	2.28	0.49
1:a:495:G:H2'	1:a:496:U:C6	2.47	0.49
1:a:562:U:OP1	10:o:68:LYS:NZ	2.35	0.49
1:a:952:C:N4	6:i:150:ARG:NH1	2.58	0.49
2:c:147:LYS:CB	2:c:203:TYR:HD2	2.07	0.49
19:m:5:VAL:HG11	19:m:66:VAL:HG11	1.95	0.49
25:C:256:ARG:NE	25:C:258:ARG:NE	2.60	0.49
27:E:51:SER:HB2	58:A:35:A:C4'	2.42	0.49
27:E:118:ARG:HH22	27:E:189:LEU:HD23	1.77	0.49
27:E:164:VAL:O	27:E:168:SER:OG	2.20	0.49
37:O:20:LEU:HD23	37:O:24:LEU:HD12	1.95	0.49
38:P:112:ARG:N	57:B:49:C:OP1	2.40	0.49
39:Q:92:ARG:HG3	58:A:1970:G:H5''	1.95	0.49
42:T:75:THR:O	42:T:118:PRO:CD	2.59	0.49
44:V:96:ARG:NH2	44:V:96:ARG:CB	2.73	0.49
45:W:87:PRO:O	45:W:90:ARG:NH1	2.46	0.49
58:A:610:C:O2	58:A:646:U:O2'	2.31	0.49
58:A:1569:A:N1	58:A:1603:G:C5	2.81	0.49
1:a:254:G:O2'	11:q:33:GLN:O	2.31	0.49
1:a:632:U:O3'	5:h:56:VAL:HG21	2.13	0.49
1:a:1362:G:C6	4:g:2:PRO:HB2	2.45	0.49
2:c:149:ILE:N	2:c:173:VAL:CG2	2.76	0.49
6:i:89:GLY:O	6:i:95:GLN:NE2	2.45	0.49
22:w:39:A:C6	22:w:40:C:N3	2.80	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:x:38:ARG:HG3	23:x:72:ASP:N	2.28	0.49
25:C:73:ASP:HB3	25:C:120:GLY:N	2.25	0.49
25:C:256:ARG:CD	25:C:258:ARG:NE	2.76	0.49
25:C:256:ARG:NH1	25:C:258:ARG:NH1	2.60	0.49
27:E:6:ASP:HA	27:E:16:GLY:O	2.13	0.49
36:N:57:HIS:CD2	36:N:117:ALA:CA	2.96	0.49
37:O:96:ARG:NH2	37:O:116:VAL:HG13	2.28	0.49
58:A:499:G:OP2	58:A:2630:A:O2'	2.27	0.49
58:A:1552:A:H1'	58:A:1618:C:H42	1.78	0.49
1:a:310:G:OP1	20:p:31:GLY:HA2	2.12	0.48
1:a:793:U:H5''	1:a:796:A:N6	2.27	0.48
1:a:962:C:H1'	15:n:19:ARG:HG3	1.94	0.48
5:h:98:LEU:HD22	5:h:132:TRP:HB2	1.94	0.48
6:i:42:VAL:HG12	6:i:83:ILE:HG13	0.50	0.48
9:l:87:VAL:HG12	9:l:89:ASP:H	1.78	0.48
19:m:53:VAL:O	19:m:57:ARG:HB2	2.12	0.48
23:x:38:ARG:HH12	23:x:85:HIS:CD2	2.30	0.48
24:0:311:UNK:O	24:0:339:UNK:CA	2.61	0.48
27:E:5:VAL:HG22	27:E:6:ASP:N	2.27	0.48
36:N:61:GLY:C	36:N:108:TYR:CE1	2.90	0.48
46:X:50:ASN:HB2	46:X:80:ILE:HB	1.94	0.48
46:X:56:ASP:HA	58:A:2610:C:H4'	1.95	0.48
46:X:75:ARG:NH1	58:A:2557:A:OP1	2.45	0.48
53:2:10:PRO:HG2	58:A:1830:C:C5'	2.43	0.48
53:2:21:PHE:HB2	53:2:46:THR:HG21	1.95	0.48
58:A:277:U:H2'	58:A:278:A:H8	1.77	0.48
58:A:1601:G:C3'	58:A:1602:U:H5'	2.43	0.48
1:a:935:G:C1'	23:x:36:LYS:HZ3	2.26	0.48
1:a:1175:U:H5	2:c:1:MET:HG3	1.78	0.48
1:a:1202:G:P	13:s:36:ARG:HD3	2.53	0.48
2:c:128:ALA:N	3:e:19:ARG:CD	2.74	0.48
4:g:16:PRO:HG3	6:i:63:VAL:HG22	1.94	0.48
12:r:19:LYS:O	12:r:20:CYS:HB2	2.13	0.48
25:C:256:ARG:NH1	25:C:258:ARG:HH11	2.12	0.48
26:D:151:ILE:HG12	26:D:164:THR:HG21	1.93	0.48
28:F:34:GLN:CG	57:B:57:U:C1'	2.90	0.48
28:F:46:GLY:HA3	58:A:2529:A:H61	1.79	0.48
33:K:113:LYS:HD2	58:A:616:A:P	2.52	0.48
41:S:77:LYS:HD3	41:S:86:LYS:HE2	1.94	0.48
44:V:4:HIS:CE1	44:V:96:ARG:HH22	2.22	0.48
45:W:46:HIS:HE1	57:B:74:A:O2'	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:W:64:ASN:ND2	45:W:109:GLU:O	2.46	0.48
48:Z:48:ARG:HG3	58:A:58:G:OP1	2.13	0.48
52:1:8:ARG:CZ	58:A:2509:C:C5	2.94	0.48
58:A:1543:A:N1	58:A:1628:A:O2'	2.44	0.48
58:A:1599:U:O3'	58:A:1599:U:OP2	2.31	0.48
1:a:382:A:H2'	1:a:383:A:H8	1.77	0.48
1:a:675:A:H2'	1:a:676:A:C8	2.47	0.48
1:a:828:G:C2	1:a:829:G:C5	3.00	0.48
1:a:1063:U:O2'	1:a:1082:A:OP2	2.29	0.48
1:a:1169:A:C4'	15:n:60:SER:OG	2.62	0.48
8:k:65:ARG:NH2	22:w:41:C:C5'	2.76	0.48
12:r:18:ARG:C	12:r:19:LYS:HD2	2.38	0.48
17:d:102:LEU:HD12	17:d:175:ILE:HD11	1.95	0.48
21:u:5:ILE:O	21:u:9:ARG:HG3	2.12	0.48
22:w:38:A:C1'	23:x:128:ARG:HD2	2.24	0.48
25:C:35:ARG:NE	25:C:64:VAL:HG11	2.28	0.48
28:F:80:SER:OG	28:F:88:GLU:N	2.46	0.48
33:K:45:THR:OG1	40:R:64:ARG:NH2	2.46	0.48
34:L:19:ILE:HG22	34:L:43:VAL:HA	1.95	0.48
36:N:17:GLN:NE2	58:A:1075:U:H5	2.11	0.48
37:O:33:ARG:HD3	37:O:114:GLU:HG2	1.95	0.48
44:V:87:ILE:HG12	44:V:94:LYS:HG3	1.96	0.48
57:B:88:C:H3'	57:B:88:C:H6	1.78	0.48
58:A:1596:C:N4	58:A:1598:U:C2	2.81	0.48
1:a:52:U:H3'	1:a:53:U:H5''	1.96	0.48
1:a:458:A:OP1	1:a:459:G:H1'	2.13	0.48
2:c:147:LYS:CB	2:c:203:TYR:CD2	2.89	0.48
2:c:147:LYS:NZ	2:c:172:ARG:NH2	2.62	0.48
7:j:57:LYS:N	7:j:57:LYS:HD3	2.29	0.48
18:f:82:ASN:ND2	18:f:84:SER:OG	2.47	0.48
22:w:10:G:H2'	22:w:11:A:O4'	2.14	0.48
25:C:59:LYS:HG3	58:A:1788:G:H4'	1.95	0.48
27:E:154:VAL:HB	27:E:175:VAL:HG23	1.95	0.48
28:F:8:LEU:CD2	28:F:16:ARG:HD2	2.43	0.48
28:F:11:LEU:CD2	28:F:108:ASP:CA	2.91	0.48
29:G:61:ARG:O	29:G:65:LEU:HB2	2.13	0.48
41:S:16:VAL:HG12	41:S:22:VAL:HG21	1.96	0.48
43:U:83:ILE:HD11	58:A:1456:G:H21	1.63	0.48
45:W:126:GLN:HE21	45:W:129:ASN:CB	2.24	0.48
52:1:27:LYS:HZ1	52:1:34:ASP:HB2	1.77	0.48
53:2:6:ARG:CZ	53:2:6:ARG:HB3	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:3:27:ALA:O	54:3:29:ARG:N	2.46	0.48
57:B:86:U:O2'	57:B:87:U:H2'	2.14	0.48
58:A:1594:G:C2'	58:A:1595:G:C5'	2.92	0.48
58:A:1755:A:O2'	58:A:1758:G:N2	2.35	0.48
1:a:599:U:O2'	17:d:125:VAL:HG22	2.12	0.48
1:a:956:A:OP1	15:n:32:SER:HB3	2.13	0.48
22:w:19:G:C2	22:w:59:A:H5'	2.47	0.48
22:w:44:A:N3	22:w:44:A:H2'	2.28	0.48
26:D:129:ARG:HG2	26:D:170:MET:HB3	1.96	0.48
37:O:38:GLU:O	37:O:42:ARG:HG3	2.13	0.48
45:W:87:PRO:C	45:W:90:ARG:NH2	2.61	0.48
52:1:32:ASP:HB2	52:1:33:PRO:HD3	1.96	0.48
58:A:601:A:N3	58:A:673:C:O2'	2.39	0.48
58:A:1569:A:O2'	58:A:1570:C:C5'	2.61	0.48
58:A:1595:G:H2'	58:A:1597:G:N7	2.29	0.48
1:a:251:G:C6	1:a:266:G:O6	2.66	0.48
1:a:808:A:OP1	5:h:22:HIS:CE1	2.67	0.48
1:a:905:A:OP1	3:e:51:LYS:CE	2.62	0.48
1:a:948:G:N2	6:i:149:LYS:CE	2.74	0.48
1:a:958:G:OP2	1:a:1340:U:O2'	2.29	0.48
2:c:28:TYR:OH	15:n:54:PRO:HD2	2.13	0.48
9:l:110:ARG:HD2	9:l:113:ALA:HB3	1.95	0.48
19:m:19:LEU:HD21	19:m:56:LEU:HD21	1.96	0.48
34:L:8:LEU:HD12	34:L:19:ILE:O	2.14	0.48
37:O:58:GLY:HA2	37:O:62:ASN:HB2	1.94	0.48
45:W:81:LYS:N	45:W:96:ASP:O	2.43	0.48
46:X:64:PRO:CG	46:X:85:ARG:NH2	2.77	0.48
57:B:37:C:C5	57:B:38:C:C5	3.01	0.48
57:B:89:C:H2'	57:B:90:G:H8	1.79	0.48
58:A:681:C:H2'	58:A:682:A:H8	1.79	0.48
58:A:1551:U:O4	58:A:1619:U:O4	2.32	0.48
1:a:1397:U:H2'	1:a:1398:G:H8	1.78	0.48
8:k:54:ALA:HB2	8:k:79:ALA:HA	1.95	0.48
12:r:75:ALA:HB2	18:f:52:ILE:HD11	1.96	0.48
22:w:56:U:N3	22:w:59:A:N7	2.61	0.48
25:C:79:VAL:HG23	25:C:114:GLY:H	1.78	0.48
26:D:157:PRO:CD	26:D:158:GLY:H	2.26	0.48
28:F:11:LEU:HD21	28:F:108:ASP:HA	1.95	0.48
36:N:60:ARG:HD3	45:W:187:ALA:CA	2.43	0.48
58:A:1558:C:O2'	58:A:1559:A:H5'	2.14	0.48
58:A:1561:C:C2'	58:A:1562:C:C5'	2.86	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1882:A:N6	58:A:2220:C:H42	2.11	0.48
1:a:521:G:H2'	1:a:522:G:C8	2.49	0.48
1:a:1366:C:O4'	22:w:35:C:C6	2.67	0.48
5:h:98:LEU:HB3	5:h:102:GLY:H	1.78	0.48
23:x:38:ARG:HH21	23:x:85:HIS:CB	2.08	0.48
23:x:126:ASP:OD1	23:x:127:ARG:HG3	2.14	0.48
24:0:207:UNK:CA	24:0:432:UNK:C	2.71	0.48
25:C:108:PRO:HA	25:C:196:VAL:HA	1.96	0.48
28:F:46:GLY:O	28:F:47:VAL:CG1	2.61	0.48
43:U:38:ASN:OD1	43:U:38:ASN:N	2.46	0.48
45:W:77:LEU:HD13	45:W:100:VAL:HB	1.95	0.48
57:B:4:A:C2	57:B:25:G:N1	2.82	0.48
57:B:10:G:C6	57:B:11:U:H1'	2.47	0.48
58:A:1479:G:H4'	58:A:2025:C:H5	1.79	0.48
58:A:1595:G:O5'	58:A:1596:C:OP2	2.32	0.48
58:A:1607:C:H2'	58:A:1608:U:C5'	2.44	0.48
1:a:413:G:N2	1:a:428:G:H1'	2.29	0.48
1:a:465:G:O2'	1:a:466:U:H5''	2.13	0.48
1:a:1193:U:O2'	1:a:1194:A:H5''	2.13	0.48
1:a:1359:U:O4	4:g:10:ARG:NH1	2.46	0.48
4:g:143:LYS:HD3	22:w:42:C:O3'	2.13	0.48
6:i:53:ARG:HE	6:i:58:TYR:HD1	1.62	0.48
14:t:4:ILE:CD1	14:t:8:ILE:CG1	2.86	0.48
20:p:39:ARG:NH2	20:p:50:GLN:OE1	2.46	0.48
22:w:11:A:C5	22:w:12:G:N7	2.82	0.48
22:w:53:G:H1'	22:w:64:G:H21	1.79	0.48
25:C:25:THR:CG2	25:C:81:HIS:ND1	2.76	0.48
25:C:76:ASN:CB	25:C:98:LEU:HD21	2.42	0.48
33:K:112:ASN:OD1	58:A:650:G:OP1	2.32	0.48
42:T:30:LEU:HD23	51:z:24:ALA:HB2	1.95	0.48
43:U:66:ARG:HA	43:U:75:LYS:CA	2.44	0.48
44:V:97:ILE:HD12	44:V:103:LYS:C	2.38	0.48
45:W:38:TYR:CE2	57:B:101:U:O2	2.36	0.48
48:Z:62:ARG:NH2	48:Z:66:LEU:CD1	2.77	0.48
1:a:488:C:H1'	1:a:489:A:H2	1.79	0.48
1:a:828:G:C2	1:a:829:G:C4	3.02	0.48
1:a:1200:A:H2'	1:a:1201:G:C8	2.49	0.48
1:a:1221:U:C1'	4:g:38:LEU:CD2	2.91	0.48
1:a:1236:G:H2'	1:a:1260:A:N6	2.29	0.48
1:a:1311:G:H5''	19:m:26:GLY:H	1.78	0.48
3:e:19:ARG:HA	17:d:40:ARG:CZ	2.35	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:e:179:ALA:HB2	3:e:189:VAL:CG2	2.36	0.48
13:s:40:ILE:HG13	13:s:41:ILE:HG13	1.96	0.48
13:s:67:VAL:CG1	50:y:60:ARG:NH1	2.77	0.48
22:w:19:G:H3'	22:w:58:A:N1	2.27	0.48
35:M:35:ARG:NH1	35:M:41:LYS:O	2.47	0.48
43:U:66:ARG:HA	43:U:75:LYS:N	2.29	0.48
44:V:46:ALA:HB2	58:A:572:C:P	2.54	0.48
45:W:94:HIS:CE1	57:B:75:U:O2	2.67	0.48
49:v:37:ARG:HH12	58:A:1044:U:P	2.36	0.48
52:1:13:LEU:HA	52:1:53:GLU:HA	1.95	0.48
58:A:103:C:H2'	58:A:104:G:H8	1.79	0.48
58:A:2380:G:N2	58:A:2381:A:N1	2.58	0.48
1:a:1322:G:C2'	1:a:1323:U:H5'	2.43	0.47
12:r:16:LYS:HG3	12:r:17:THR:HG23	1.95	0.47
22:w:73:A:C5	22:w:74:A:C8	3.02	0.47
27:E:182:GLN:CD	58:A:706:G:C8	2.83	0.47
28:F:23:LEU:HD21	28:F:29:TYR:OH	2.14	0.47
34:L:22:ILE:HD12	58:A:2176:A:C5	2.48	0.47
34:L:77:ILE:HG12	39:Q:71:ARG:HD3	1.96	0.47
45:W:40:HIS:CB	45:W:101:GLN:NE2	2.76	0.47
53:2:19:HIS:HD2	58:A:799:G:OP1	1.96	0.47
58:A:1570:C:H2'	58:A:1571:C:H1'	1.95	0.47
58:A:1571:C:N3	58:A:1601:G:N1	2.61	0.47
58:A:1606:G:H2'	58:A:1606:G:N3	2.29	0.47
58:A:2374:U:H2'	58:A:2375:G:C8	2.49	0.47
1:a:225:G:H2'	1:a:226:G:O4'	2.14	0.47
1:a:376:G:OP1	20:p:67:THR:CB	2.61	0.47
1:a:377:G:P	20:p:4:LYS:HZ3	2.31	0.47
3:e:184:LEU:CD1	5:h:43:GLU:O	2.63	0.47
4:g:88:PRO:CG	4:g:152:ALA:HB2	2.34	0.47
6:i:39:VAL:HG12	6:i:40:ARG:N	2.29	0.47
21:u:22:ARG:HD3	21:u:25:ARG:NH2	2.29	0.47
23:x:130:ILE:O	23:x:130:ILE:HG13	2.14	0.47
26:D:151:ILE:HG13	26:D:164:THR:CG2	2.44	0.47
28:F:10:ARG:NH1	28:F:10:ARG:CG	2.72	0.47
28:F:31:ASN:ND2	57:B:56:C:C5'	2.72	0.47
28:F:73:GLU:HB3	57:B:42:C:C6	2.48	0.47
29:G:132:PHE:HZ	29:G:149:ILE:HG21	1.79	0.47
31:I:48:THR:HB	31:I:81:PHE:HB2	1.96	0.47
33:K:84:LEU:HD11	58:A:1250:U:C6	2.49	0.47
36:N:111:GLU:OE2	36:N:115:ARG:HB2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Q:33:GLU:OE1	39:Q:38:ARG:NH2	2.47	0.47
40:R:57:PHE:HZ	58:A:623:A:H4'	1.78	0.47
42:T:77:VAL:HG22	42:T:117:ARG:HG2	1.96	0.47
45:W:79:LEU:HD21	45:W:108:VAL:HG21	1.96	0.47
52:1:34:ASP:OD2	52:1:35:ARG:NH1	2.47	0.47
57:B:10:G:C6	57:B:107:A:C2	3.00	0.47
58:A:325:U:H2'	58:A:326:A:H8	1.79	0.47
58:A:1561:C:N4	58:A:1611:A:N1	2.62	0.47
1:a:714:G:H21	12:r:73:GLU:CD	2.21	0.47
1:a:1060:A:OP2	3:e:77:LYS:CE	2.62	0.47
1:a:1081:A:N6	16:b:175:GLU:OE2	2.47	0.47
12:r:57:CYS:SG	12:r:60:HIS:ND1	2.84	0.47
14:t:4:ILE:CG2	14:t:5:LYS:N	2.76	0.47
28:F:76:ARG:HG2	28:F:91:PRO:HA	1.96	0.47
47:Y:34:GLN:NE2	58:A:2453:U:O2	2.43	0.47
52:1:16:GLU:HA	52:1:20:HIS:HB3	1.96	0.47
57:B:35:G:N1	57:B:36:U:C4	2.82	0.47
58:A:451:U:H2'	58:A:452:G:C8	2.49	0.47
58:A:2163:U:OP1	58:A:2828:U:O2'	2.29	0.47
1:a:262:G:H5''	14:t:68:HIS:HB2	1.95	0.47
1:a:546:G:H8	1:a:546:G:OP1	1.96	0.47
1:a:1055:U:OP1	16:b:102:THR:HG21	2.14	0.47
1:a:1097:G:C2'	6:i:126:ARG:NH1	2.75	0.47
17:d:86:LEU:HD11	17:d:188:VAL:HG11	1.97	0.47
22:w:22:A:N7	22:w:49:C:C4	2.81	0.47
36:N:61:GLY:C	36:N:108:TYR:HE1	2.22	0.47
46:X:76:LYS:CE	58:A:973:G:OP1	2.63	0.47
58:A:961:U:O2'	58:A:963:U:O4	2.32	0.47
58:A:1569:A:C6	58:A:1603:G:N2	2.82	0.47
58:A:1637:G:O2'	58:A:1805:G:O2'	2.31	0.47
58:A:2800:G:O2'	58:A:2803:C:OP2	2.28	0.47
1:a:510:G:H2'	1:a:510:G:N3	2.29	0.47
1:a:1130:C:N4	1:a:1131:G:O6	2.47	0.47
2:c:42:LEU:HB3	2:c:46:LEU:HD22	1.97	0.47
2:c:148:GLY:CA	2:c:173:VAL:CG2	2.84	0.47
20:p:109:ALA:O	20:p:113:ALA:CB	2.63	0.47
25:C:73:ASP:CB	25:C:120:GLY:CA	2.68	0.47
25:C:132:PRO:HD2	25:C:135:ASN:HD22	1.79	0.47
37:O:42:ARG:O	37:O:46:PRO:CD	2.63	0.47
37:O:49:GLU:OE1	37:O:94:TYR:CD2	2.67	0.47
43:U:19:LYS:NZ	58:A:1508:A:N1	2.53	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:W:6:ASN:HB3	45:W:139:SER:CA	2.33	0.47
45:W:40:HIS:CD2	45:W:101:GLN:CG	2.98	0.47
50:y:60:ARG:CG	50:y:60:ARG:NH1	2.77	0.47
50:y:60:ARG:CD	50:y:60:ARG:C	2.87	0.47
53:2:10:PRO:CD	58:A:1830:C:H4'	2.44	0.47
58:A:1530:G:N2	58:A:1805:G:H1	2.13	0.47
58:A:1611:A:O2'	58:A:1612:U:H5'	2.14	0.47
1:a:947:U:C2	23:x:70:GLU:CG	2.71	0.47
1:a:1424:G:H5''	1:a:1424:G:H8	1.80	0.47
2:c:107:ASN:HD21	2:c:143:GLN:CB	2.26	0.47
17:d:73:GLU:OE2	17:d:131:ARG:NH1	2.48	0.47
27:E:8:LYS:HZ2	27:E:148:LEU:HB3	1.79	0.47
27:E:149:THR:C	27:E:150:GLU:CG	2.85	0.47
28:F:185:LYS:HE2	28:F:185:LYS:C	2.40	0.47
34:L:19:ILE:HB	34:L:41:ALA:HB1	1.95	0.47
45:W:6:ASN:HD22	45:W:6:ASN:C	2.22	0.47
48:Z:13:LEU:HD21	48:Z:17:GLU:O	2.14	0.47
48:Z:33:ARG:HA	48:Z:36:MET:HG2	1.95	0.47
54:3:48:THR:OG1	54:3:49:THR:N	2.48	0.47
58:A:1588:G:H3'	58:A:1589:G:H8	1.79	0.47
58:A:1605:G:H5'	58:A:1606:G:OP2	2.14	0.47
58:A:2745:C:O2'	58:A:2788:A:N3	2.39	0.47
1:a:264:U:O4	1:a:265:G:C6	2.68	0.47
1:a:749:G:H4'	1:a:1497:A:H4'	1.95	0.47
1:a:770:A:C6	23:x:122:ARG:CZ	2.95	0.47
1:a:811:U:H5''	16:b:21:ARG:HE	1.79	0.47
1:a:941:A:N1	13:s:55:ARG:HH22	1.51	0.47
1:a:1097:G:H2'	6:i:126:ARG:NH1	2.30	0.47
1:a:1481:G:H2'	1:a:1482:U:H5'	1.97	0.47
1:a:1486:A:H2	1:a:1489:G:N1	2.09	0.47
2:c:78:ARG:HB3	2:c:81:THR:HB	1.96	0.47
6:i:26:ILE:CG2	6:i:109:LEU:CB	2.88	0.47
6:i:41:LEU:C	6:i:83:ILE:HG12	2.40	0.47
8:k:54:ALA:CB	8:k:79:ALA:CA	2.92	0.47
16:b:207:ILE:O	16:b:211:ALA:CB	2.63	0.47
19:m:2:ALA:HB3	19:m:9:LEU:HD12	1.97	0.47
22:w:5:G:H3'	22:w:6:G:H8	1.80	0.47
22:w:34:U:H3'	22:w:34:U:H6	1.79	0.47
23:x:74:GLU:C	23:x:76:ASN:H	2.23	0.47
23:x:86:VAL:HG11	23:x:110:PHE:CD1	2.49	0.47
23:x:130:ILE:O	23:x:130:ILE:HG23	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:C:25:THR:OG1	25:C:81:HIS:ND1	1.92	0.47
25:C:67:PHE:HE1	25:C:106:ILE:HD11	1.80	0.47
25:C:256:ARG:O	58:A:2014:G:C4'	2.52	0.47
27:E:51:SER:OG	58:A:35:A:C5'	2.58	0.47
28:F:70:GLN:OE1	28:F:96:VAL:CG2	2.62	0.47
28:F:102:ARG:NH1	50:y:9:TYR:CD1	2.82	0.47
34:L:17:LYS:HB3	34:L:45:ASP:HB3	1.96	0.47
37:O:16:HIS:C	37:O:16:HIS:ND1	2.73	0.47
38:P:50:GLN:NE2	57:B:7:G:C2	2.69	0.47
39:Q:55:SER:HB2	58:A:2907:C:H5'	1.97	0.47
40:R:98:LEU:HD21	41:S:4:TYR:OH	2.14	0.47
45:W:6:ASN:CG	45:W:139:SER:HB2	2.40	0.47
55:4:31:ARG:NH1	58:A:2753:G:O6	2.47	0.47
58:A:1171:C:H2'	58:A:1172:A:C8	2.49	0.47
58:A:1535:C:H3'	58:A:1536:A:H8	1.79	0.47
58:A:1571:C:N3	58:A:1600:G:O6	2.48	0.47
58:A:1597:G:H5''	58:A:1598:U:O5'	2.15	0.47
1:a:502:C:H41	9:l:50:ARG:HH11	1.62	0.47
1:a:1322:G:O2'	1:a:1323:U:H5'	2.15	0.47
2:c:109:GLU:HB3	2:c:143:GLN:HG2	1.97	0.47
22:w:20:G:C2	22:w:57:C:O2	2.67	0.47
24:0:16:UNK:CA	24:0:140:UNK:HA	2.44	0.47
30:H:23:ASP:O	30:H:27:ARG:CB	2.62	0.47
34:L:109:LYS:HE3	34:L:109:LYS:HB2	1.74	0.47
36:N:74:LEU:HD22	58:A:1075:U:OP2	2.15	0.47
57:B:84:C:C5	57:B:85:C:C4	3.03	0.47
58:A:1189:G:H1'	58:A:1207:G:H2'	1.96	0.47
58:A:1569:A:H2'	58:A:1570:C:C6	2.49	0.47
1:a:672:U:O4	8:k:37:ASN:ND2	2.47	0.47
1:a:674:G:C4'	23:x:130:ILE:CG1	2.92	0.47
1:a:1091:A:H2	2:c:177:THR:HG23	1.78	0.47
2:c:189:ALA:O	2:c:195:ARG:HA	2.14	0.47
40:R:90:VAL:HG13	41:S:6:ILE:HD13	1.97	0.47
44:V:27:TYR:HB3	44:V:30:ARG:HB2	1.96	0.47
45:W:100:VAL:CG1	45:W:104:GLU:OE2	2.42	0.47
54:3:34:GLU:CD	58:A:2644:C:OP1	2.57	0.47
58:A:1554:U:C4	58:A:1617:C:N4	2.82	0.47
1:a:332:G:OP2	14:t:4:ILE:HA	2.14	0.47
1:a:1034:C:N1	23:x:75:ARG:O	2.48	0.47
22:w:9:G:O5'	22:w:47:A:N3	2.47	0.47
22:w:31:G:H2'	22:w:32:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D:34:ASN:HD21	26:D:54:TYR:HB2	1.80	0.47
34:L:120:GLU:OE1	39:Q:64:SER:HB3	2.15	0.47
41:S:76:HIS:HE1	41:S:85:HIS:HD2	1.63	0.47
45:W:28:ARG:NH1	57:B:76:G:O3'	2.48	0.47
45:W:79:LEU:N	45:W:98:LEU:O	2.48	0.47
45:W:103:GLY:C	45:W:137:ALA:CB	2.84	0.47
45:W:114:VAL:HG13	45:W:148:VAL:HG21	1.97	0.47
48:Z:18:LEU:HD12	48:Z:61:LEU:HD23	1.94	0.47
58:A:113:C:O2'	58:A:123:A:N3	2.48	0.47
58:A:1580:A:H2'	58:A:1581:C:C6	2.50	0.47
58:A:1717:U:H5''	58:A:1718:C:H5	1.80	0.47
58:A:2528:G:H22	58:A:2536:U:H3	1.62	0.47
1:a:322:C:O2'	14:t:18:ARG:CB	2.59	0.46
1:a:1248:U:O2'	1:a:1249:G:O4'	2.33	0.46
1:a:1324:C:O2'	6:i:146:GLN:HB2	2.15	0.46
20:p:60:LEU:HD11	20:p:74:LEU:HD13	1.98	0.46
22:w:50:G:C2	22:w:51:U:C2	3.03	0.46
28:F:115:LEU:HD23	28:F:183:PRO:CD	2.45	0.46
34:L:107:ARG:HH21	34:L:115:VAL:HG11	1.80	0.46
38:P:43:SER:CB	57:B:28:A:OP1	2.63	0.46
41:S:3:THR:CB	41:S:102:ILE:HD11	2.44	0.46
44:V:43:LYS:O	44:V:60:VAL:N	2.47	0.46
45:W:29:ARG:HH12	57:B:90:G:C4'	2.28	0.46
45:W:83:LEU:HD12	45:W:92:ILE:HD12	1.95	0.46
47:Y:34:GLN:OE1	58:A:2452:G:N2	2.44	0.46
52:1:28:ASN:ND2	58:A:2509:C:OP2	2.48	0.46
58:A:76:C:O2'	58:A:428:A:N3	2.48	0.46
58:A:1588:G:H3'	58:A:1589:G:C8	2.50	0.46
1:a:104:A:N6	14:t:10:ARG:NE	2.63	0.46
1:a:770:A:C1'	23:x:60:PHE:CZ	2.97	0.46
1:a:947:U:HO2'	23:x:70:GLU:HB2	1.75	0.46
1:a:962:C:H1'	15:n:19:ARG:HA	1.97	0.46
1:a:1209:C:OP1	19:m:108:ARG:NH2	2.48	0.46
1:a:1374:U:O2'	1:a:1516:U:OP1	2.33	0.46
12:r:74:VAL:HG11	18:f:7:MET:HG2	1.97	0.46
14:t:8:ILE:O	14:t:9:LYS:C	2.58	0.46
20:p:48:LEU:HB2	20:p:96:LYS:HE3	1.97	0.46
25:C:35:ARG:CD	58:A:2033:U:O4	2.63	0.46
25:C:168:LYS:HA	25:C:173:ALA:HA	1.97	0.46
25:C:178:PRO:HG2	58:A:2016:G:O6	2.14	0.46
25:C:262:LYS:N	25:C:263:PRO:HD3	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:E:150:GLU:OE1	27:E:193:ASP:CG	2.58	0.46
33:K:13:ARG:CZ	33:K:121:LYS:NZ	2.68	0.46
33:K:14:SER:O	33:K:52:ASP:HB3	2.15	0.46
34:L:89:ASN:O	34:L:90:ASP:HB2	2.16	0.46
43:U:94:ASP:OD1	43:U:94:ASP:N	2.48	0.46
46:X:72:LYS:HG3	46:X:73:ARG:H	1.80	0.46
49:v:15:ALA:HB3	49:v:20:ARG:HG3	1.98	0.46
56:5:6:ARG:O	56:5:10:ASP:HB2	2.14	0.46
57:B:34:G:O6	57:B:44:C:C6	2.68	0.46
58:A:292:G:H2'	58:A:293:G:H8	1.79	0.46
58:A:1550:G:O6	58:A:1620:U:O4	2.33	0.46
1:a:654:G:H2'	1:a:655:A:C8	2.50	0.46
1:a:1284:U:O4	19:m:14:ARG:NH1	2.47	0.46
1:a:1287:G:O2'	1:a:1288:A:H8	1.97	0.46
2:c:80:GLY:O	2:c:84:ASP:HB3	2.14	0.46
2:c:133:MET:HE3	2:c:151:VAL:O	2.14	0.46
6:i:41:LEU:HD11	6:i:110:VAL:CG2	2.45	0.46
12:r:37:LEU:O	12:r:40:THR:OG1	2.32	0.46
24:0:206:UNK:O	24:0:433:UNK:CA	2.63	0.46
25:C:25:THR:CG2	25:C:81:HIS:HD1	2.27	0.46
25:C:58:HIS:CE1	58:A:1788:G:H21	2.28	0.46
32:J:80:LEU:HD13	32:J:110:ILE:HG23	1.97	0.46
35:M:61:LEU:HD12	54:3:14:PHE:HZ	1.81	0.46
35:M:76:GLN:HE22	58:A:720:C:H42	1.63	0.46
37:O:116:VAL:C	37:O:118:GLU:N	2.73	0.46
45:W:14:ASN:OD1	45:W:14:ASN:N	2.48	0.46
52:1:18:CYS:SG	52:1:19:LYS:HG2	2.55	0.46
57:B:20:G:C2'	57:B:21:C:H5'	2.46	0.46
58:A:1592:G:N3	58:A:1593:U:O2	2.48	0.46
1:a:429:U:O4'	1:a:430:A:H8	1.99	0.46
1:a:731:U:C5	1:a:732:G:C5	3.03	0.46
1:a:772:A:O2'	1:a:774:A:C8	2.64	0.46
1:a:1303:U:O4'	13:s:73:GLU:OE1	2.32	0.46
2:c:137:ILE:C	2:c:139:SER:N	2.73	0.46
9:l:74:LEU:HD22	9:l:80:VAL:HG11	1.97	0.46
17:d:165:TRP:CD2	17:d:181:PRO:HB3	2.51	0.46
22:w:34:U:C6	22:w:36:A:OP2	2.68	0.46
22:w:39:A:H3'	22:w:40:C:H5	1.79	0.46
25:C:221:VAL:HG21	58:A:897:A:C8	2.51	0.46
27:E:77:GLY:H	58:A:789:G:H5''	1.80	0.46
28:F:34:GLN:HA	57:B:57:U:H1'	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:N:60:ARG:HA	45:W:190:LEU:HD11	1.98	0.46
40:R:77:ASN:HD22	58:A:1270:G:H21	1.63	0.46
44:V:11:VAL:HG21	44:V:38:VAL:HG11	1.96	0.46
46:X:64:PRO:CB	46:X:85:ARG:HH22	2.29	0.46
54:3:58:ILE:HD13	54:3:61:LEU:HD12	1.97	0.46
57:B:34:G:O6	57:B:44:C:H2'	2.14	0.46
58:A:1541:G:C6	58:A:1630:U:O4	2.68	0.46
58:A:1571:C:O3'	58:A:1572:G:H3'	2.15	0.46
58:A:2374:U:H2'	58:A:2375:G:H8	1.81	0.46
1:a:700:C:O2'	12:r:65:ALA:HB2	2.16	0.46
1:a:1303:U:C4'	13:s:73:GLU:OE1	2.63	0.46
1:a:1366:C:C1'	22:w:35:C:O4'	2.43	0.46
3:e:174:ARG:HB2	3:e:177:GLU:HG2	1.98	0.46
5:h:14:LEU:O	5:h:18:ASN:HB2	2.16	0.46
8:k:34:SER:HA	8:k:39:THR:HG22	1.98	0.46
22:w:72:C:H2'	22:w:73:A:O4'	2.15	0.46
24:0:449:UNK:N	24:0:452:UNK:O	2.48	0.46
25:C:5:LYS:HD2	25:C:17:SER:HB3	1.96	0.46
28:F:27:PHE:HB2	28:F:29:TYR:CE1	2.51	0.46
32:J:106:GLN:O	32:J:110:ILE:HB	2.15	0.46
57:B:79:A:N1	57:B:94:G:O6	2.49	0.46
58:A:273:A:H61	58:A:314:G:H1'	1.81	0.46
58:A:286:G:N2	58:A:287:A:H62	2.14	0.46
58:A:1110:C:H2'	58:A:1111:G:H8	1.80	0.46
2:c:144:PRO:CG	2:c:145:ASN:H	2.28	0.46
3:e:135:ALA:HB1	3:e:162:VAL:HG23	1.97	0.46
6:i:26:ILE:CG2	6:i:41:LEU:HD21	2.45	0.46
13:s:64:GLU:HB2	50:y:57:ARG:HD3	1.98	0.46
28:F:64:LEU:HD12	28:F:72:PRO:CB	2.46	0.46
28:F:99:ARG:HD3	57:B:45:G:O4'	2.16	0.46
43:U:29:TYR:CE2	43:U:93:ILE:HB	2.50	0.46
44:V:46:ALA:CB	58:A:572:C:OP1	2.62	0.46
44:V:79:LYS:HE3	44:V:79:LYS:HB2	1.70	0.46
45:W:186:SER:OG	45:W:189:ALA:HB2	2.16	0.46
54:3:24:ARG:HH12	58:A:2585:U:P	2.36	0.46
58:A:334:G:H2'	58:A:335:G:C8	2.50	0.46
58:A:377:C:H2'	58:A:378:G:H8	1.81	0.46
58:A:1571:C:C2	58:A:1601:G:N2	2.81	0.46
58:A:1571:C:H3'	58:A:1573:U:C5'	2.43	0.46
58:A:1608:U:H2'	58:A:1609:G:H5'	1.94	0.46
1:a:512:A:H5''	23:x:79:GLN:NE2	2.23	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:976:A:N7	1:a:1197:U:H4'	2.31	0.46
2:c:147:LYS:N	2:c:203:TYR:O	2.23	0.46
13:s:40:ILE:O	50:y:64:ARG:CZ	2.55	0.46
22:w:59:A:O3'	22:w:61:U:OP2	2.34	0.46
23:x:100:GLU:CD	23:x:100:GLU:N	2.74	0.46
26:D:7:LEU:HD11	26:D:82:ALA:HB3	1.97	0.46
27:E:144:PHE:CE1	27:E:148:LEU:CD1	2.97	0.46
28:F:34:GLN:HG2	57:B:57:U:H1'	1.96	0.46
34:L:35:ILE:HG21	34:L:103:GLY:HA3	1.98	0.46
35:M:51:GLU:OE2	54:3:57:ARG:NE	2.49	0.46
40:R:124:PRO:HB3	58:A:1268:C:H4'	1.97	0.46
44:V:47:VAL:C	44:V:56:SER:CA	2.86	0.46
46:X:15:ASP:CB	58:A:2487:C:N4	2.75	0.46
57:B:25:G:H2'	57:B:26:A:H5'	1.97	0.46
58:A:857:U:H2'	58:A:858:A:H8	1.81	0.46
58:A:1098:A:N3	58:A:2261:U:O2'	2.42	0.46
58:A:1162:G:O2'	58:A:1229:A:N6	2.44	0.46
58:A:1604:G:H2'	58:A:1605:G:O5'	2.16	0.46
1:a:1175:U:O4	2:c:1:MET:HA	2.16	0.46
1:a:1232:A:H2'	1:a:1233:A:O4'	2.16	0.46
1:a:1331:A:OP1	6:i:141:ALA:O	2.32	0.46
1:a:1400:A:H5'	21:u:31:LEU:HD21	1.98	0.46
3:e:169:LEU:HA	3:e:172:LEU:HD13	1.97	0.46
10:o:12:LEU:HD21	10:o:31:LEU:HD11	1.98	0.46
11:q:73:ARG:HD3	11:q:95:GLU:HB3	1.97	0.46
18:f:20:ALA:O	18:f:24:GLU:HB2	2.15	0.46
46:X:76:LYS:HD3	58:A:973:G:OP1	2.16	0.46
52:1:35:ARG:HD2	52:1:52:LYS:HZ1	1.76	0.46
58:A:1323:G:O2'	58:A:1352:A:N1	2.40	0.46
58:A:1607:C:C2'	58:A:1608:U:C5'	2.90	0.46
58:A:2070:A:H2'	58:A:2071:A:C8	2.51	0.46
58:A:2357:A:O2'	58:A:2382:G:N2	2.44	0.46
1:a:642:C:H2'	1:a:643:A:C8	2.51	0.46
1:a:655:A:C2	8:k:127:HIS:NE2	2.84	0.46
1:a:846:A:P	3:e:115:ALA:O	2.74	0.46
1:a:1034:C:C6	23:x:75:ARG:O	2.68	0.46
1:a:1107:G:H1'	1:a:1261:A:C6	2.51	0.46
4:g:151:PHE:CZ	8:k:65:ARG:HG3	2.51	0.46
8:k:43:ILE:CD1	8:k:51:ILE:HD13	2.17	0.46
25:C:256:ARG:O	58:A:2014:G:O3'	2.34	0.46
28:F:70:GLN:HE21	57:B:43:C:H4'	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:H:124:ILE:HG22	30:H:125:LYS:H	1.81	0.46
37:O:106:ASP:OD1	37:O:106:ASP:N	2.48	0.46
43:U:14:PRO:HA	43:U:31:PHE:HA	1.98	0.46
58:A:1561:C:H5	58:A:1562:C:N4	2.12	0.46
58:A:1563:A:C6	58:A:1565:A:C2	3.04	0.46
58:A:1602:U:C2'	58:A:1603:G:C8	2.86	0.46
1:a:185:G:H1	1:a:203:U:H3	1.64	0.46
1:a:1197:U:H5''	15:n:5:ALA:CB	2.46	0.46
1:a:1278:C:OP1	19:m:44:ARG:NH2	2.49	0.46
1:a:1383:C:H5	23:x:100:GLU:HB2	1.80	0.46
2:c:63:VAL:HG12	2:c:98:VAL:HA	1.97	0.46
6:i:26:ILE:HD12	6:i:109:LEU:O	2.15	0.46
6:i:40:ARG:O	6:i:83:ILE:CB	2.58	0.46
16:b:17:GLY:H	16:b:38:ILE:HG12	1.81	0.46
27:E:131:VAL:O	27:E:133:GLY:N	2.49	0.46
31:I:27:GLU:HG3	31:I:76:PRO:HG2	1.97	0.46
33:K:112:ASN:CG	33:K:113:LYS:N	2.73	0.46
33:K:114:LEU:HD23	33:K:117:GLN:HE21	1.80	0.46
34:L:75:SER:HB2	39:Q:71:ARG:HE	1.80	0.46
36:N:57:HIS:NE2	36:N:116:ASP:HB3	2.30	0.46
49:v:52:HIS:CE1	57:B:83:C:H5''	2.50	0.46
58:A:534:G:H4'	58:A:535:A:H5'	1.97	0.46
58:A:1569:A:H2'	58:A:1570:C:H6	1.81	0.46
58:A:1579:C:H3'	58:A:1579:C:H6	1.81	0.46
1:a:100:G:C2'	1:a:101:G:H5''	2.46	0.45
1:a:200:U:C1'	11:q:9:TYR:CD1	2.97	0.45
1:a:1221:U:C2	4:g:42:ILE:CD1	3.00	0.45
1:a:1366:C:O4'	22:w:35:C:H6	1.99	0.45
7:j:56:HIS:NE2	7:j:57:LYS:NZ	2.63	0.45
18:f:82:ASN:HB3	18:f:85:VAL:HG22	1.97	0.45
25:C:261:ASN:C	25:C:263:PRO:HD3	2.41	0.45
26:D:27:THR:OG1	26:D:196:GLY:O	2.28	0.45
33:K:147:GLN:O	40:R:75:THR:HG21	2.16	0.45
41:S:76:HIS:HE1	41:S:85:HIS:CD2	2.35	0.45
43:U:58:ASN:HB3	58:A:1456:G:H1'	1.97	0.45
44:V:86:ARG:CB	44:V:97:ILE:CG1	2.89	0.45
46:X:64:PRO:CB	46:X:85:ARG:NH2	2.78	0.45
49:v:52:HIS:CE1	57:B:83:C:C5'	2.99	0.45
50:y:59:ALA:O	50:y:62:GLU:CB	2.64	0.45
58:A:1479:G:N2	58:A:1482:A:OP2	2.47	0.45
58:A:1563:A:N6	58:A:1565:A:C2	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1592:G:O2'	58:A:1593:U:H6	1.94	0.45
58:A:1612:U:H2'	58:A:1613:G:H8	1.81	0.45
58:A:2515:U:H2'	58:A:2516:U:C6	2.51	0.45
1:a:850:C:H2'	1:a:851:A:O4'	2.16	0.45
1:a:1278:C:H5''	19:m:44:ARG:HH22	1.81	0.45
1:a:1312:U:C2'	1:a:1313:G:H5'	2.46	0.45
1:a:1436:G:H3'	1:a:1436:G:P	2.56	0.45
1:a:1444:A:H2'	1:a:1445:G:O4'	2.14	0.45
22:w:8:U:O4'	22:w:50:G:OP2	2.35	0.45
22:w:72:C:HO2'	58:A:2068:U:C4'	2.15	0.45
25:C:229:VAL:HB	58:A:899:G:O6	2.16	0.45
28:F:6:LYS:CE	28:F:6:LYS:N	2.80	0.45
28:F:118:ILE:HB	28:F:121:PHE:HB2	1.97	0.45
29:G:159:LYS:HA	29:G:172:ARG:HH22	1.81	0.45
32:J:40:PHE:O	32:J:44:TYR:HB2	2.15	0.45
37:O:26:THR:CG2	37:O:75:VAL:HG21	2.46	0.45
38:P:108:THR:CB	57:B:47:A:O2'	2.64	0.45
44:V:2:LYS:CD	44:V:83:VAL:CB	2.91	0.45
51:z:14:ARG:NH2	58:A:605:G:OP2	2.49	0.45
55:4:24:MET:CG	55:4:34:GLN:O	2.65	0.45
58:A:1754:G:C6	58:A:1759:A:N1	2.85	0.45
1:a:352:C:O2	1:a:355:C:N4	2.49	0.45
1:a:827:U:O5'	1:a:827:U:H6	2.00	0.45
3:e:178:VAL:O	3:e:182:ARG:CG	2.63	0.45
7:j:26:VAL:O	7:j:30:THR:CB	2.65	0.45
23:x:38:ARG:NE	23:x:72:ASP:H	2.07	0.45
25:C:58:HIS:HE1	58:A:1788:G:N2	2.12	0.45
26:D:159:ARG:HA	58:A:2276:G:N3	2.31	0.45
27:E:208:ASN:HD22	27:E:208:ASN:N	2.13	0.45
29:G:165:TYR:HB2	29:G:168:GLU:HB2	1.98	0.45
34:L:73:ASP:OD1	34:L:73:ASP:N	2.46	0.45
38:P:43:SER:HB2	57:B:28:A:OP1	2.17	0.45
42:T:18:ARG:HH12	58:A:1436:C:C2'	2.28	0.45
43:U:83:ILE:CD1	58:A:1456:G:C4	2.97	0.45
43:U:91:LYS:CG	43:U:92:PRO:HD3	2.41	0.45
48:Z:18:LEU:HD12	48:Z:61:LEU:CD2	2.42	0.45
58:A:81:A:N1	58:A:96:G:O2'	2.34	0.45
58:A:347:U:H2'	58:A:348:G:H8	1.80	0.45
58:A:738:A:O2'	58:A:740:A:OP1	2.32	0.45
58:A:747:A:H2	58:A:768:G:H21	1.63	0.45
58:A:2081:U:OP1	58:A:2634:G:O2'	2.26	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:j:47:ASN:HB2	7:j:67:MET:HB3	1.99	0.45
27:E:24:LEU:HD21	27:E:208:ASN:CB	2.46	0.45
31:I:4:ALA:O	31:I:8:THR:OG1	2.23	0.45
32:J:114:LYS:HA	32:J:117:ASP:HB3	1.98	0.45
34:L:71:ARG:NH2	34:L:105:GLU:HG3	2.32	0.45
44:V:31:ASN:O	44:V:68:VAL:HB	2.16	0.45
44:V:99:LYS:HA	44:V:99:LYS:HD2	1.64	0.45
48:Z:5:THR:HG23	48:Z:6:THR:N	2.25	0.45
48:Z:6:THR:CG2	48:Z:10:LEU:HD11	2.15	0.45
52:1:27:LYS:HZ2	52:1:34:ASP:HB2	1.81	0.45
58:A:314:G:O2'	58:A:321:G:O2'	2.35	0.45
58:A:1040:U:H2'	58:A:1041:A:C8	2.52	0.45
58:A:1188:A:N7	58:A:1214:A:O2'	2.44	0.45
58:A:1565:A:C2'	58:A:1606:G:H1	2.29	0.45
58:A:2527:G:H1	58:A:2537:C:H42	1.62	0.45
1:a:947:U:C2'	23:x:70:GLU:HB3	2.42	0.45
1:a:1128:C:C4'	6:i:27:GLN:OE1	2.64	0.45
1:a:1337:A:H2'	1:a:1338:G:C8	2.51	0.45
2:c:5:ILE:HD12	15:n:58:LYS:NZ	2.14	0.45
14:t:28:LEU:HD22	14:t:58:LEU:HD23	1.99	0.45
25:C:51:THR:HG21	25:C:54:LYS:CE	2.46	0.45
31:I:49:TYR:HD1	31:I:80:ALA:HB2	1.81	0.45
37:O:46:PRO:HG2	37:O:47:TYR:N	2.32	0.45
42:T:36:VAL:HG22	42:T:78:VAL:HG23	1.98	0.45
44:V:100:THR:O	44:V:101:ASN:HB2	2.17	0.45
58:A:2:A:H2'	58:A:3:A:C8	2.52	0.45
58:A:325:U:H2'	58:A:326:A:C8	2.52	0.45
58:A:1515:C:N4	58:A:1516:G:O6	2.50	0.45
1:a:323:U:OP1	14:t:21:ASN:ND2	2.47	0.45
1:a:1034:C:C2	23:x:78:ARG:HB3	2.43	0.45
1:a:1152:C:H2'	1:a:1153:U:H6	1.81	0.45
1:a:1194:A:N7	1:a:1196:G:C5	2.84	0.45
2:c:10:PHE:HD2	2:c:11:ARG:HH21	1.64	0.45
2:c:11:ARG:HH11	2:c:182:ILE:HB	1.81	0.45
3:e:103:GLY:HA2	3:e:201:SER:HB3	1.99	0.45
15:n:21:TYR:HE2	15:n:23:ARG:HE	1.65	0.45
27:E:140:SER:O	27:E:144:PHE:HB3	2.17	0.45
28:F:55:LYS:HB2	28:F:55:LYS:HZ3	1.79	0.45
33:K:5:THR:CG2	58:A:624:G:H4'	2.47	0.45
43:U:66:ARG:HA	43:U:75:LYS:H	1.82	0.45
45:W:77:LEU:HB3	45:W:100:VAL:HG23	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1411:G:OP1	58:A:2933:G:O2'	2.26	0.45
58:A:1562:C:H3'	58:A:1562:C:H6	1.81	0.45
58:A:1594:G:C3'	58:A:1595:G:H5''	2.47	0.45
1:a:439:U:O2	17:d:115:HIS:CE1	2.67	0.45
1:a:955:G:H1'	7:j:57:LYS:HD2	1.98	0.45
1:a:1333:U:O4'	4:g:33:GLU:OE1	2.34	0.45
2:c:147:LYS:HE2	2:c:172:ARG:NH2	2.15	0.45
2:c:156:ARG:HE	2:c:193:PHE:HB3	1.80	0.45
9:l:58:THR:C	9:l:60:GLN:H	2.24	0.45
22:w:27:G:H2'	22:w:27:G:N3	2.31	0.45
25:C:44:ASN:OD1	25:C:44:ASN:N	2.50	0.45
27:E:124:ILE:H	27:E:124:ILE:HG13	1.48	0.45
28:F:9:PRO:O	28:F:13:GLN:N	2.43	0.45
34:L:2:ILE:HD13	34:L:2:ILE:HA	1.83	0.45
37:O:38:GLU:OE2	37:O:99:LYS:NZ	2.50	0.45
37:O:79:LEU:CD2	37:O:83:ILE:HD12	2.47	0.45
45:W:129:ASN:ND2	45:W:129:ASN:C	2.73	0.45
49:v:8:GLN:HG2	49:v:31:ILE:HA	1.99	0.45
58:A:569:G:O2'	58:A:594:U:O4	2.35	0.45
58:A:857:U:H2'	58:A:858:A:C8	2.51	0.45
58:A:1159:C:H2'	58:A:1160:G:H8	1.82	0.45
58:A:1537:U:H2'	58:A:1538:G:H8	1.82	0.45
1:a:49:U:H5''	1:a:307:C:O2'	2.16	0.45
1:a:419:C:C2	1:a:425:G:N2	2.85	0.45
1:a:476:A:H5'	1:a:477:G:OP2	2.17	0.45
1:a:703:U:O2'	1:a:704:G:P	2.75	0.45
1:a:1117:U:H4'	1:a:1118:A:OP1	2.15	0.45
1:a:1425:G:H5'	1:a:1426:C:C5	2.52	0.45
17:d:188:VAL:HG22	17:d:189:PRO:HD2	1.99	0.45
22:w:77:A:C3'	58:A:2645:G:O2'	2.65	0.45
24:0:338:UNK:C	24:0:340:UNK:N	2.74	0.45
25:C:35:ARG:HG2	25:C:64:VAL:HG13	1.99	0.45
25:C:63:ARG:NH1	58:A:1788:G:OP2	2.50	0.45
28:F:114:ALA:HB1	28:F:144:MET:HE2	1.98	0.45
28:F:120:ASP:O	28:F:122:ARG:HD3	2.17	0.45
43:U:83:ILE:HD13	58:A:1456:G:C4	2.51	0.45
44:V:83:VAL:CG1	44:V:96:ARG:CG	2.95	0.45
45:W:64:ASN:HB3	45:W:108:VAL:HG11	1.98	0.45
52:1:19:LYS:HD2	52:1:44:ASN:CG	2.39	0.45
58:A:406:A:N6	58:A:420:G:O2'	2.50	0.45
58:A:1296:G:H2'	58:A:1297:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:85:C:H4'	1:a:86:G:C8	2.51	0.45
1:a:730:C:O2'	10:o:22:THR:N	2.49	0.45
1:a:980:G:H1	1:a:1023:U:H3	1.65	0.45
2:c:144:PRO:HG2	2:c:145:ASN:H	1.82	0.45
4:g:151:PHE:CZ	8:k:65:ARG:CG	2.99	0.45
19:m:69:ASP:O	19:m:73:GLU:HB2	2.17	0.45
28:F:45:MET:CE	28:F:45:MET:HA	2.46	0.45
28:F:99:ARG:HD3	57:B:45:G:H5'	1.98	0.45
33:K:114:LEU:HD12	58:A:650:G:H5'	1.97	0.45
34:L:76:TYR:HB2	39:Q:72:THR:HB	1.98	0.45
36:N:108:TYR:CE2	36:N:110:ASP:OD1	2.70	0.45
39:Q:58:PHE:HD1	39:Q:75:VAL:HG22	1.81	0.45
44:V:42:LYS:HD2	58:A:586:U:C5'	2.36	0.45
50:y:41:CYS:O	50:y:44:PHE:CE2	2.70	0.45
58:A:351:G:N1	58:A:444:U:N3	2.45	0.45
58:A:1561:C:C3'	58:A:1562:C:C5'	2.93	0.45
1:a:323:U:C5'	14:t:21:ASN:HD22	2.26	0.45
1:a:555:G:O2'	1:a:801:G:OP2	2.32	0.45
1:a:1323:U:O2'	1:a:1324:C:H5'	2.15	0.45
18:f:44:GLY:HA2	18:f:59:ILE:HA	1.99	0.45
23:x:78:ARG:C	23:x:78:ARG:HD3	2.43	0.45
24:0:449:UNK:CB	24:0:452:UNK:O	2.65	0.45
25:C:73:ASP:HA	25:C:119:SER:HB3	1.99	0.45
29:G:60:ARG:HA	29:G:63:ARG:HH21	1.82	0.45
39:Q:50:GLN:HB2	39:Q:57:THR:HG22	1.99	0.45
50:y:41:CYS:CA	50:y:43:PRO:HD2	2.47	0.45
52:1:19:LYS:CB	52:1:21:ARG:NH2	2.73	0.45
53:2:40:LYS:O	53:2:40:LYS:HG3	2.17	0.45
58:A:1577:C:O5'	58:A:1577:C:H6	2.00	0.45
58:A:1607:C:H2'	58:A:1608:U:H5'	1.94	0.45
1:a:1185:A:H2'	1:a:1186:U:O4'	2.16	0.44
1:a:1221:U:O4'	4:g:38:LEU:CD2	2.55	0.44
22:w:28:U:N3	22:w:45:A:C5	2.83	0.44
22:w:31:G:H2'	22:w:31:G:N3	2.32	0.44
23:x:38:ARG:HG3	23:x:71:LEU:N	2.33	0.44
27:E:3:LEU:HB3	27:E:4:LYS:H	1.66	0.44
37:O:4:PRO:HG2	58:A:3094:A:C2	2.51	0.44
37:O:72:ASP:O	37:O:76:VAL:HG23	2.18	0.44
43:U:58:ASN:HB2	43:U:83:ILE:HG12	1.99	0.44
58:A:478:A:H4'	58:A:479:A:H5'	1.99	0.44
58:A:1611:A:C2	58:A:1612:U:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:2288:C:H2'	58:A:2289:C:C6	2.52	0.44
1:a:399:G:H2'	1:a:400:C:H6	1.79	0.44
1:a:504:G:H2'	1:a:505:C:C6	2.51	0.44
1:a:655:A:N3	8:k:127:HIS:CD2	2.85	0.44
1:a:1169:A:C1'	15:n:60:SER:HG	2.22	0.44
1:a:1300:A:H5'	13:s:10:PHE:CD1	2.52	0.44
1:a:1436:G:H3'	1:a:1436:G:OP2	2.17	0.44
2:c:128:ALA:N	3:e:19:ARG:HD3	2.33	0.44
3:e:44:ASN:OD1	3:e:44:ASN:N	2.50	0.44
6:i:55:LEU:HD21	6:i:68:ILE:HD11	1.98	0.44
8:k:65:ARG:HH22	22:w:41:C:C5'	2.31	0.44
14:t:4:ILE:CG2	14:t:8:ILE:N	2.73	0.44
18:f:5:GLU:HB3	18:f:91:LEU:HD12	1.99	0.44
18:f:53:ALA:O	18:f:55:HIS:ND1	2.50	0.44
22:w:29:C:H2'	22:w:30:G:O4'	2.17	0.44
22:w:33:C:C4	22:w:34:U:O4	2.70	0.44
24:0:19:UNK:O	24:0:141:UNK:N	2.50	0.44
27:E:9:THR:HG22	27:E:128:THR:CG2	2.47	0.44
32:J:40:PHE:HZ	32:J:58:VAL:HG11	1.81	0.44
33:K:142:ILE:CG2	33:K:143:LYS:N	2.75	0.44
45:W:120:PRO:HG2	45:W:122:THR:HG23	1.98	0.44
51:z:16:ARG:NH2	58:A:1379:G:OP1	2.47	0.44
57:B:34:G:O2'	57:B:35:G:C5	2.71	0.44
58:A:670:A:OP1	58:A:1370:U:O2'	2.32	0.44
58:A:1567:C:C4	58:A:1568:C:C4	3.05	0.44
1:a:828:G:N1	1:a:829:G:C6	2.85	0.44
1:a:959:A:N6	1:a:1205:U:O5'	2.51	0.44
1:a:1221:U:H1'	4:g:38:LEU:HD22	1.99	0.44
22:w:18:U:O5'	22:w:18:U:C6	2.71	0.44
26:D:84:LEU:HD23	26:D:84:LEU:HA	1.81	0.44
27:E:24:LEU:HD23	27:E:208:ASN:OD1	2.17	0.44
35:M:61:LEU:HD12	54:3:14:PHE:CZ	2.52	0.44
37:O:25:ALA:O	37:O:29:PHE:CD2	2.70	0.44
39:Q:49:ARG:NE	39:Q:56:GLU:OE2	2.50	0.44
41:S:103:LYS:C	41:S:103:LYS:CD	2.86	0.44
54:3:28:ASN:ND2	58:A:2616:A:H5''	2.33	0.44
57:B:18:C:C2	57:B:19:G:C8	3.05	0.44
57:B:89:C:C5	57:B:89:C:OP2	2.70	0.44
58:A:944:A:C8	58:A:2472:C:H5'	2.53	0.44
58:A:1541:G:O6	58:A:1630:U:H5	1.94	0.44
58:A:1558:C:N3	58:A:1559:A:C6	2.84	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1601:G:C2'	58:A:1602:U:C5'	2.86	0.44
58:A:2238:A:H2'	58:A:2239:A:C8	2.53	0.44
1:a:31:G:H2'	1:a:32:G:O4'	2.17	0.44
1:a:210:A:OP2	1:a:210:A:H8	1.99	0.44
1:a:867:G:O2'	1:a:896:A:N1	2.43	0.44
1:a:1122:U:H2'	1:a:1123:G:H8	1.81	0.44
1:a:1148:U:H2'	1:a:1148:U:OP1	2.18	0.44
2:c:161:GLU:CG	23:x:78:ARG:HH22	2.30	0.44
4:g:148:ASN:N	4:g:148:ASN:ND2	2.65	0.44
14:t:4:ILE:HG23	14:t:7:GLN:HG3	1.99	0.44
16:b:40:ILE:CD1	24:0:9:UNK:CB	2.84	0.44
22:w:4:G:N2	22:w:71:G:C4	2.85	0.44
22:w:57:C:C2	22:w:58:A:C5	2.99	0.44
25:C:97:TYR:CD2	25:C:101:GLU:HG3	2.51	0.44
42:T:7:PHE:O	42:T:7:PHE:CD1	2.70	0.44
43:U:68:ARG:C	43:U:69:THR:HG23	2.42	0.44
48:Z:62:ARG:HD3	48:Z:62:ARG:C	2.42	0.44
57:B:27:A:H2'	57:B:28:A:H8	1.83	0.44
58:A:1512:U:OP2	58:A:1513:C:N4	2.44	0.44
58:A:1561:C:C5	58:A:1562:C:C5	3.05	0.44
58:A:1596:C:N3	58:A:1597:G:C6	2.86	0.44
58:A:1607:C:H5	58:A:1607:C:OP2	2.00	0.44
58:A:2375:G:H2'	58:A:2376:G:C8	2.52	0.44
1:a:67:C:H5'	1:a:68:G:OP2	2.17	0.44
1:a:965:A:H1'	1:a:1029:U:O2	2.17	0.44
1:a:1303:U:H1'	13:s:73:GLU:OE2	2.17	0.44
7:j:26:VAL:O	7:j:30:THR:HB	2.18	0.44
16:b:164:VAL:HA	16:b:186:ILE:HG22	2.00	0.44
17:d:11:LYS:HD3	17:d:58:PHE:HB3	1.99	0.44
22:w:10:G:O6	22:w:27:G:O6	2.35	0.44
22:w:12:G:H2'	22:w:13:C:H6	1.82	0.44
22:w:37:U:C3'	22:w:38:A:O4'	2.66	0.44
24:0:145:UNK:CB	24:0:336:UNK:C	2.93	0.44
25:C:76:ASN:O	25:C:98:LEU:HD23	2.11	0.44
26:D:60:ARG:HH22	58:A:3055:G:H5'	1.82	0.44
28:F:56:LEU:O	28:F:59:GLY:N	2.51	0.44
33:K:5:THR:HG21	58:A:624:G:O3'	2.18	0.44
37:O:9:ARG:CD	37:O:14:SER:HB3	2.47	0.44
37:O:20:LEU:HD23	37:O:20:LEU:O	2.17	0.44
45:W:103:GLY:O	45:W:137:ALA:CB	2.65	0.44
46:X:64:PRO:CB	58:A:759:G:H1	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:X:83:VAL:C	46:X:85:ARG:N	2.76	0.44
58:A:176:G:H3'	58:A:177:G:H8	1.83	0.44
58:A:895:G:O2'	58:A:898:A:N6	2.51	0.44
58:A:1621:C:H2'	58:A:1622:G:H8	1.83	0.44
1:a:71:C:H2'	1:a:72:G:C8	2.52	0.44
1:a:85:C:H4'	1:a:86:G:H8	1.82	0.44
1:a:404:G:OP1	17:d:114:SER:OG	2.36	0.44
1:a:613:G:H2'	1:a:614:C:C6	2.53	0.44
1:a:664:U:C1'	8:k:49:ASN:ND2	2.80	0.44
6:i:40:ARG:NH2	6:i:84:TYR:CD1	2.83	0.44
22:w:68:C:C4	22:w:69:C:C5	3.05	0.44
25:C:26:ARG:HD2	25:C:81:HIS:CE1	2.49	0.44
27:E:103:PRO:HG3	58:A:773:G:O2'	2.18	0.44
29:G:161:LYS:NZ	58:A:2882:C:OP1	2.47	0.44
32:J:59:GLU:HB3	32:J:71:ALA:HB3	2.00	0.44
33:K:1:MET:H3	33:K:2:PRO:HD3	1.82	0.44
38:P:37:ARG:HD2	38:P:103:ASP:HB2	1.98	0.44
42:T:7:PHE:N	42:T:8:PRO:CD	2.81	0.44
57:B:84:C:C5	57:B:85:C:N3	2.86	0.44
58:A:681:C:H2'	58:A:682:A:C8	2.53	0.44
58:A:947:U:H2'	58:A:948:G:C8	2.53	0.44
58:A:1189:G:O2'	58:A:1207:G:OP2	2.35	0.44
58:A:1567:C:N4	58:A:1604:G:C6	2.53	0.44
58:A:1596:C:O2	58:A:1597:G:C5	2.70	0.44
1:a:47:C:OP1	20:p:14:ARG:NE	2.48	0.44
1:a:1080:C:C5	16:b:95:ARG:NH2	2.86	0.44
1:a:1177:A:C2'	23:x:74:GLU:OE1	2.66	0.44
1:a:1341:C:H3'	15:n:35:ARG:NH2	2.33	0.44
1:a:1515:A:H8	1:a:1515:A:O5'	2.01	0.44
5:h:8:ALA:O	5:h:12:THR:CB	2.66	0.44
6:i:47:GLN:HG3	6:i:82:ASP:HB3	1.98	0.44
6:i:135:LYS:HB2	6:i:138:LEU:HD12	1.99	0.44
17:d:186:ILE:HG22	17:d:188:VAL:HB	2.00	0.44
22:w:20:G:HO2'	22:w:21:U:P	2.37	0.44
23:x:77:ARG:HH11	23:x:77:ARG:HA	1.82	0.44
25:C:23:GLU:OE2	25:C:23:GLU:HA	2.18	0.44
29:G:35:LEU:HD13	29:G:76:LEU:HD22	2.00	0.44
29:G:108:LEU:HD13	29:G:153:ARG:HG2	1.98	0.44
42:T:9:SER:CB	42:T:115:GLU:HB3	2.46	0.44
45:W:6:ASN:ND2	45:W:6:ASN:C	2.75	0.44
45:W:78:ALA:HB1	45:W:97:LEU:HB3	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:W:98:LEU:C	45:W:98:LEU:CD2	2.90	0.44
48:Z:44:ASN:ND2	58:A:58:G:OP1	2.50	0.44
52:1:20:HIS:O	52:1:20:HIS:CD2	2.71	0.44
54:3:24:ARG:NH1	58:A:2585:U:OP1	2.26	0.44
58:A:130:C:H2'	58:A:131:A:C8	2.53	0.44
58:A:1583:U:C2	58:A:1584:U:O4	2.71	0.44
1:a:519:A:H2'	1:a:520:G:H8	1.80	0.44
1:a:532:U:H4'	9:l:83:ARG:HD3	2.00	0.44
1:a:770:A:C2'	23:x:60:PHE:CZ	3.00	0.44
1:a:1032:U:O2'	23:x:77:ARG:CB	2.64	0.44
1:a:1059:G:H2'	1:a:1060:A:C8	2.52	0.44
2:c:53:ASP:HB3	2:c:68:HIS:HB2	1.99	0.44
2:c:128:ALA:CA	3:e:19:ARG:CD	2.82	0.44
3:e:59:THR:HA	3:e:76:GLY:O	2.18	0.44
6:i:28:THR:CG2	6:i:29:VAL:H	2.30	0.44
10:o:8:LYS:HG3	10:o:31:LEU:HD22	2.00	0.44
13:s:20:ASP:O	13:s:23:ASN:OD1	2.36	0.44
19:m:4:LEU:HG	19:m:5:VAL:HG23	1.99	0.44
22:w:17:C:H6	22:w:17:C:H5''	1.82	0.44
22:w:38:A:H3'	22:w:39:A:H5''	2.00	0.44
22:w:57:C:C2'	22:w:58:A:O4'	2.66	0.44
26:D:164:THR:O	26:D:166:MET:HG3	2.18	0.44
27:E:7:VAL:O	27:E:14:THR:CA	2.55	0.44
28:F:6:LYS:N	28:F:6:LYS:HE3	2.32	0.44
35:M:51:GLU:CG	54:3:57:ARG:CZ	2.86	0.44
36:N:74:LEU:HD12	36:N:94:VAL:HG21	1.99	0.44
43:U:4:ILE:O	43:U:5:THR:HB	2.18	0.44
46:X:75:ARG:NE	58:A:2558:C:N4	2.63	0.44
52:1:19:LYS:O	52:1:20:HIS:CG	2.70	0.44
58:A:1569:A:C3'	58:A:1570:C:H5'	2.46	0.44
58:A:2059:G:H1	58:A:2122:U:H3	1.64	0.44
58:A:2339:G:H3'	58:A:2340:A:H8	1.83	0.44
1:a:664:U:C4'	8:k:49:ASN:HD22	2.31	0.44
1:a:1421:G:OP1	14:t:29:ARG:HD3	2.18	0.44
11:q:9:TYR:O	11:q:9:TYR:CD2	2.70	0.44
11:q:41:GLU:OE2	11:q:54:ARG:NH1	2.51	0.44
13:s:41:ILE:C	50:y:60:ARG:NH2	2.75	0.44
18:f:17:ARG:NH1	58:A:1612:U:C2	2.86	0.44
18:f:30:ILE:HD11	18:f:75:LEU:HB2	1.99	0.44
22:w:1:C:N4	22:w:72:C:N4	2.63	0.44
23:x:105:SER:OG	23:x:106:PHE:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:0:410:UNK:O	24:0:422:UNK:N	2.51	0.44
27:E:121:ASN:ND2	35:M:3:VAL:HG23	2.33	0.44
28:F:26:GLU:OE1	28:F:27:PHE:CE2	2.70	0.44
36:N:111:GLU:C	36:N:111:GLU:CD	2.86	0.44
38:P:88:ILE:O	38:P:92:ALA:CB	2.65	0.44
58:A:334:G:H1	58:A:347:U:H3	1.66	0.44
58:A:1572:G:H22	58:A:1600:G:H22	0.78	0.44
58:A:1582:C:H2'	58:A:1583:U:C5'	2.48	0.44
1:a:264:U:C4	1:a:265:G:C5	3.06	0.43
1:a:730:C:H1'	10:o:22:THR:O	2.18	0.43
1:a:1032:U:O2'	23:x:77:ARG:HB3	2.18	0.43
1:a:1322:G:C4'	23:x:94:GLY:CA	2.95	0.43
6:i:133:ARG:HG3	15:n:61:TRP:HE1	1.82	0.43
14:t:5:LYS:HB2	14:t:5:LYS:HE3	1.82	0.43
22:w:32:G:C3'	22:w:33:C:H5'	2.48	0.43
24:0:124:UNK:O	24:0:131:UNK:CB	2.66	0.43
28:F:64:LEU:HD12	28:F:72:PRO:HB2	2.00	0.43
37:O:67:MET:HE2	37:O:67:MET:HB3	1.80	0.43
40:R:26:GLY:O	40:R:30:ARG:NH1	2.51	0.43
53:2:28:ARG:NH2	58:A:210:G:OP2	2.51	0.43
58:A:832:G:H3'	58:A:833:A:H8	1.83	0.43
58:A:1593:U:H3'	58:A:1594:G:N7	2.33	0.43
58:A:1601:G:C5	58:A:1602:U:C4	3.05	0.43
1:a:104:A:N6	14:t:10:ARG:CZ	2.82	0.43
1:a:122:G:OP1	1:a:585:U:O2'	2.31	0.43
1:a:256:U:H2'	1:a:257:G:H8	1.82	0.43
1:a:502:C:N4	9:l:50:ARG:NH1	2.65	0.43
1:a:613:G:H2'	1:a:614:C:H6	1.83	0.43
1:a:644:G:N2	1:a:721:G:H1	2.02	0.43
1:a:1081:A:N7	16:b:171:ILE:HG23	2.33	0.43
1:a:1109:C:HO2'	1:a:1110:A:H8	1.64	0.43
22:w:9:G:H1'	22:w:46:G:H2'	2.00	0.43
23:x:53:LYS:HE3	23:x:114:VAL:HB	1.99	0.43
23:x:86:VAL:HG11	23:x:110:PHE:HD1	1.84	0.43
33:K:76:ARG:O	33:K:76:ARG:HG2	2.17	0.43
42:T:41:ASP:OD2	51:z:38:LYS:HB2	2.17	0.43
45:W:37:LEU:HD22	45:W:47:LEU:HD11	2.00	0.43
49:v:23:LEU:HD11	49:v:53:LEU:HD22	2.00	0.43
51:z:14:ARG:HB3	58:A:13:G:H5''	2.01	0.43
57:B:21:C:H2'	57:B:22:A:H8	1.81	0.43
58:A:1562:C:C2'	58:A:1563:A:H8	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:2007:C:OP2	58:A:2045:G:N1	2.46	0.43
58:A:2323:G:H2'	58:A:2324:A:H8	1.83	0.43
1:a:129:C:C5'	14:t:70:ASN:OD1	2.67	0.43
1:a:928:A:O2'	1:a:1315:A:N3	2.48	0.43
1:a:965:A:H5'	1:a:966:C:OP2	2.18	0.43
1:a:968:U:C2	13:s:54:GLY:O	2.60	0.43
1:a:1060:A:H4'	3:e:46:VAL:CG1	2.49	0.43
1:a:1097:G:H2'	6:i:126:ARG:HH12	1.83	0.43
1:a:1421:G:P	14:t:29:ARG:HD3	2.58	0.43
2:c:67:ILE:HD11	2:c:102:ILE:HG12	2.00	0.43
4:g:51:ARG:HB2	4:g:58:PRO:HG3	1.98	0.43
28:F:11:LEU:CD2	28:F:108:ASP:N	2.80	0.43
28:F:79:LYS:HE3	28:F:81:ILE:CG1	2.47	0.43
36:N:124:LYS:HD2	58:A:2708:G:H1'	1.99	0.43
45:W:37:LEU:HD12	45:W:37:LEU:HA	1.84	0.43
49:v:11:SER:HB2	58:A:1106:A:H3'	2.00	0.43
58:A:325:U:O4	58:A:450:G:O6	2.36	0.43
58:A:1525:U:H2'	58:A:1526:A:C8	2.53	0.43
58:A:1551:U:H3'	58:A:1552:A:H8	1.83	0.43
58:A:1568:C:N4	58:A:1569:A:N6	2.66	0.43
58:A:1592:G:O2'	58:A:1593:U:O4'	2.32	0.43
58:A:1607:C:C5	58:A:1607:C:OP2	2.70	0.43
58:A:3070:G:H4'	58:A:3071:A:H5'	1.99	0.43
1:a:67:C:H6	1:a:67:C:H5''	1.84	0.43
1:a:144:G:H2'	1:a:145:G:C8	2.53	0.43
1:a:905:A:H2'	1:a:906:C:O4'	2.19	0.43
1:a:1359:U:O4	4:g:9:LYS:NZ	2.49	0.43
2:c:128:ALA:CB	3:e:19:ARG:HD3	2.33	0.43
27:E:181:ASP:OD1	27:E:181:ASP:N	2.43	0.43
30:H:104:ILE:O	30:H:109:GLY:N	2.43	0.43
34:L:7:ARG:NH2	34:L:20:LEU:CD1	2.43	0.43
37:O:48:ALA:O	37:O:52:ILE:HG13	2.18	0.43
38:P:43:SER:HB3	38:P:46:HIS:H	1.83	0.43
44:V:4:HIS:ND1	44:V:96:ARG:CZ	2.68	0.43
44:V:97:ILE:CD1	44:V:104:ASP:HA	2.48	0.43
45:W:107:THR:OG1	45:W:134:GLU:CA	2.67	0.43
50:y:62:GLU:O	50:y:65:TYR:CG	2.72	0.43
50:y:62:GLU:O	50:y:65:TYR:CD2	2.72	0.43
58:A:176:G:OP2	58:A:176:G:N2	2.42	0.43
58:A:254:G:H4'	58:A:472:C:H4'	1.99	0.43
58:A:621:U:H2'	58:A:622:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:947:U:H2'	58:A:948:G:H8	1.83	0.43
58:A:1439:G:H3'	58:A:1440:C:H4'	2.00	0.43
58:A:1561:C:H5'	58:A:1561:C:H6	1.83	0.43
58:A:1596:C:O2	58:A:1597:G:C4	2.72	0.43
58:A:3022:G:H2'	58:A:3023:G:C8	2.53	0.43
1:a:349:A:H2'	1:a:350:G:O4'	2.18	0.43
1:a:413:G:H2'	1:a:428:G:H21	1.84	0.43
1:a:507:G:O2'	1:a:515:A:N1	2.51	0.43
1:a:588:A:C2	1:a:589:A:H1'	2.53	0.43
1:a:701:G:C8	12:r:62:ARG:NH2	2.83	0.43
6:i:37:VAL:HG23	6:i:87:LEU:HB3	2.00	0.43
7:j:9:ARG:HH21	7:j:71:LYS:HD3	1.84	0.43
22:w:28:U:H2'	22:w:44:A:N1	2.33	0.43
22:w:34:U:H2'	22:w:36:A:OP2	2.18	0.43
22:w:70:C:C4	22:w:71:G:N7	2.87	0.43
22:w:77:A:H2'	58:A:2645:G:O2'	2.19	0.43
27:E:103:PRO:HD2	27:E:106:MET:HE3	2.00	0.43
28:F:146:HIS:CE1	50:y:35:VAL:HG23	2.53	0.43
31:I:57:VAL:HA	31:I:60:ALA:HB3	2.00	0.43
31:I:57:VAL:O	31:I:61:ALA:N	2.51	0.43
36:N:39:HIS:HB3	36:N:99:PRO:HD3	1.99	0.43
36:N:108:TYR:CD2	36:N:110:ASP:OD1	2.70	0.43
57:B:89:C:P	57:B:89:C:C6	3.10	0.43
58:A:219:G:O2'	58:A:233:A:N3	2.42	0.43
58:A:845:C:OP1	58:A:1992:U:O2'	2.27	0.43
1:a:256:U:H2'	1:a:257:G:C8	2.54	0.43
1:a:510:G:O6	23:x:81:LYS:CG	2.52	0.43
1:a:806:C:H5'	5:h:13:ARG:CZ	2.49	0.43
1:a:895:A:H4'	1:a:896:A:O5'	2.18	0.43
1:a:1300:A:H4'	13:s:10:PHE:CG	2.54	0.43
2:c:41:LEU:HD23	2:c:90:LEU:HD23	2.00	0.43
22:w:27:G:OP2	22:w:28:U:OP2	2.37	0.43
23:x:61:ASP:OD2	23:x:121:LEU:CD2	2.60	0.43
23:x:84:GLN:HE21	23:x:84:GLN:N	2.16	0.43
23:x:122:ARG:HA	23:x:125:LYS:CB	2.25	0.43
26:D:159:ARG:HB2	26:D:160:VAL:H	1.66	0.43
28:F:138:GLY:HA3	58:A:2529:A:C5'	2.27	0.43
43:U:4:ILE:CD1	43:U:4:ILE:N	2.82	0.43
43:U:94:ASP:O	43:U:95:LEU:HB3	2.19	0.43
45:W:80:THR:HG21	45:W:83:LEU:CD2	2.48	0.43
49:v:19:GLN:HG2	49:v:50:VAL:HG12	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:1:19:LYS:O	52:1:21:ARG:NH2	2.51	0.43
52:1:24:ILE:HD13	58:A:2643:U:H4'	2.01	0.43
57:B:52:G:O2'	57:B:53:A:N7	2.45	0.43
58:A:334:G:H2'	58:A:335:G:H8	1.84	0.43
58:A:1575:A:C2'	58:A:1576:C:H5'	2.48	0.43
58:A:1665:U:H2'	58:A:1666:A:C8	2.54	0.43
58:A:2325:U:O4	58:A:2410:A:N1	2.51	0.43
58:A:2422:A:N1	58:A:2450:C:N4	2.64	0.43
1:a:251:G:N1	1:a:266:G:C6	2.87	0.43
1:a:397:A:H5'	1:a:398:C:OP1	2.18	0.43
1:a:409:G:H2'	1:a:410:G:O4'	2.18	0.43
1:a:436:C:HO2'	17:d:149:PRO:HG3	1.82	0.43
1:a:495:G:C5	1:a:496:U:C5	3.06	0.43
1:a:948:G:C2'	23:x:98:ARG:HD3	2.49	0.43
1:a:1040:U:C5'	7:j:53:ARG:O	2.66	0.43
1:a:1209:C:OP1	19:m:108:ARG:CZ	2.67	0.43
1:a:1472:G:H2'	1:a:1473:A:H8	1.84	0.43
1:a:1493:C:OP1	21:u:8:ARG:NH2	2.52	0.43
12:r:39:ARG:HH12	12:r:78:PRO:HD3	1.83	0.43
22:w:54:G:H2'	22:w:55:U:C6	2.54	0.43
24:0:121:UNK:CB	24:0:134:UNK:O	2.66	0.43
27:E:9:THR:HG22	27:E:128:THR:HG23	2.00	0.43
28:F:45:MET:HE3	28:F:64:LEU:HG	2.01	0.43
29:G:18:THR:OG1	29:G:25:SER:O	2.31	0.43
29:G:151:ARG:HH21	58:A:2968:G:H4'	1.83	0.43
33:K:93:LEU:HG	33:K:100:VAL:HG21	2.01	0.43
36:N:110:ASP:OD1	36:N:110:ASP:N	2.43	0.43
41:S:26:LYS:NZ	58:A:1281:G:O3'	2.51	0.43
43:U:94:ASP:C	43:U:96:PHE:N	2.75	0.43
44:V:77:ASP:OD1	44:V:77:ASP:N	2.49	0.43
57:B:20:G:HO2'	57:B:21:C:H5'	1.76	0.43
58:A:1559:A:C2	58:A:1560:U:C2	3.06	0.43
58:A:1592:G:O2'	58:A:1593:U:C5'	2.67	0.43
58:A:2467:U:H2'	58:A:2468:U:C6	2.54	0.43
1:a:926:G:C2	1:a:1322:G:C6	3.07	0.43
1:a:1035:A:C6	1:a:1187:G:N3	2.87	0.43
1:a:1099:C:OP2	6:i:31:ARG:NH2	2.52	0.43
4:g:31:LEU:HD23	4:g:33:GLU:HA	2.00	0.43
11:q:26:TYR:HE1	11:q:73:ARG:HG3	1.84	0.43
11:q:72:ASP:OD1	11:q:97:ALA:N	2.51	0.43
22:w:60:A:H3'	22:w:61:U:H6	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:x:75:ARG:HB2	23:x:82:ASN:C	2.43	0.43
23:x:76:ASN:O	23:x:77:ARG:HB2	2.18	0.43
23:x:119:GLY:O	23:x:123:ARG:HG3	2.19	0.43
25:C:67:PHE:HB3	25:C:153:ALA:HB3	2.01	0.43
26:D:143:ALA:HB1	58:A:1875:U:H4'	2.00	0.43
33:K:73:PHE:CE1	33:K:88:THR:HG22	2.54	0.43
42:T:35:SER:O	42:T:39:ALA:N	2.51	0.43
43:U:73:PHE:CD2	58:A:62:G:H4'	2.53	0.43
45:W:104:GLU:HG2	45:W:136:GLU:C	2.44	0.43
50:y:62:GLU:O	50:y:65:TYR:CD1	2.71	0.43
57:B:23:G:H1	57:B:60:G:H1	1.65	0.43
58:A:1525:U:H2'	58:A:1526:A:H8	1.83	0.43
58:A:1596:C:O2	58:A:1597:G:C8	2.72	0.43
1:a:262:G:H5'	14:t:68:HIS:CG	2.54	0.43
1:a:1184:C:OP1	15:n:2:ALA:CB	2.60	0.43
1:a:1216:U:H2'	1:a:1217:A:O4'	2.19	0.43
4:g:83:ALA:HA	22:w:39:A:C2	2.54	0.43
5:h:18:ASN:ND2	5:h:74:ILE:O	2.52	0.43
7:j:49:TYR:HE2	15:n:37:PHE:CE2	2.37	0.43
8:k:96:LYS:HG3	8:k:97:GLY:H	1.82	0.43
27:E:24:LEU:HD21	27:E:208:ASN:HB3	2.01	0.43
27:E:77:GLY:N	58:A:789:G:H5''	2.33	0.43
28:F:73:GLU:HG2	57:B:42:C:C4	2.43	0.43
33:K:143:LYS:HE3	33:K:143:LYS:HB3	1.69	0.43
36:N:108:TYR:HB3	36:N:114:ALA:HB2	2.01	0.43
37:O:68:LYS:HB2	58:A:2932:G:H5'	1.99	0.43
43:U:75:LYS:HB2	43:U:75:LYS:HE3	1.87	0.43
45:W:8:PRO:O	45:W:8:PRO:HG2	2.19	0.43
48:Z:48:ARG:HD2	58:A:58:G:OP1	2.18	0.43
57:B:85:C:C3'	57:B:85:C:C6	3.02	0.43
58:A:1621:C:H2'	58:A:1622:G:C8	2.54	0.43
58:A:3041:C:OP2	58:A:3042:A:N6	2.50	0.43
1:a:827:U:H2'	1:a:828:G:H5'	1.98	0.43
1:a:948:G:N2	6:i:149:LYS:HE3	2.34	0.43
23:x:122:ARG:C	23:x:125:LYS:H	2.27	0.43
25:C:54:LYS:HZ1	58:A:2032:A:P	2.38	0.43
26:D:7:LEU:HG	26:D:207:VAL:HG22	2.01	0.43
26:D:160:VAL:O	26:D:161:PHE:HB2	2.19	0.43
31:I:51:VAL:N	58:A:1202:A:OP1	2.51	0.43
33:K:65:SER:OG	58:A:1259:U:OP2	2.35	0.43
44:V:28:PRO:HG3	58:A:82:G:O3'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:y:62:GLU:HG2	50:y:65:TYR:CE1	2.54	0.43
53:2:9:GLN:HG3	58:A:802:C:OP1	2.19	0.43
55:4:22:ARG:CD	55:4:22:ARG:N	2.78	0.43
58:A:1571:C:C4	58:A:1573:U:C4	3.04	0.43
58:A:1596:C:N3	58:A:1598:U:C2	2.87	0.43
1:a:456:C:O2'	1:a:457:A:O5'	2.30	0.42
1:a:614:C:H2'	1:a:615:G:C8	2.54	0.42
1:a:858:A:H4'	5:h:15:ARG:HH12	1.78	0.42
1:a:963:U:H5'	15:n:21:TYR:CE1	2.54	0.42
1:a:1366:C:C4'	22:w:35:C:C5	2.96	0.42
7:j:24:LYS:NZ	7:j:90:ILE:O	2.45	0.42
25:C:125:ILE:HG23	25:C:193:VAL:HG11	2.01	0.42
32:J:90:GLY:HA2	32:J:99:VAL:HG11	2.01	0.42
34:L:4:GLN:HE22	58:A:2176:A:H61	1.66	0.42
35:M:49:MET:HB2	35:M:58:HIS:CE1	2.54	0.42
58:A:502:C:O2	58:A:2081:U:O2'	2.36	0.42
58:A:1000:C:H2'	58:A:1001:C:H5''	2.00	0.42
58:A:1569:A:H8	58:A:1569:A:O5'	2.01	0.42
58:A:2693:A:N6	58:A:2705:G:O2'	2.51	0.42
1:a:698:A:C8	8:k:127:HIS:HB2	2.54	0.42
1:a:730:C:C2'	10:o:22:THR:O	2.67	0.42
1:a:747:A:H2'	1:a:748:A:O4'	2.20	0.42
1:a:1082:A:O2'	1:a:1083:C:H5'	2.19	0.42
1:a:1138:A:H62	1:a:1159:G:H21	1.67	0.42
1:a:1209:C:O3'	19:m:116:THR:HG23	2.19	0.42
1:a:1271:A:H2'	1:a:1272:G:H5'	2.01	0.42
1:a:1320:G:C5	1:a:1321:A:C6	3.07	0.42
1:a:1447:C:OP1	39:Q:108:LYS:HE3	2.20	0.42
4:g:1:MET:HB2	4:g:7:ALA:HB2	2.01	0.42
9:l:31:ARG:HA	9:l:81:LEU:HA	2.01	0.42
29:G:160:GLY:HA3	29:G:164:ARG:HH21	1.84	0.42
33:K:27:ARG:CG	33:K:27:ARG:NH1	2.82	0.42
37:O:14:SER:OG	58:A:2913:U:O2'	2.32	0.42
38:P:68:ALA:HA	38:P:71:ARG:HB2	2.01	0.42
44:V:4:HIS:CD2	44:V:96:ARG:NH1	2.86	0.42
46:X:64:PRO:HG2	46:X:85:ARG:HH22	1.83	0.42
49:v:4:LEU:HD12	49:v:4:LEU:HA	1.82	0.42
57:B:21:C:H6	57:B:21:C:O5'	2.01	0.42
57:B:85:C:O2	57:B:86:U:N3	2.52	0.42
58:A:241:A:H61	58:A:255:A:H5''	1.83	0.42
58:A:1551:U:C4	58:A:1619:U:O4	2.71	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1791:A:H2'	58:A:1792:A:C8	2.54	0.42
1:a:20:A:H4'	3:e:47:SER:H	1.83	0.42
1:a:84:U:H3'	1:a:85:C:C5	2.55	0.42
1:a:404:G:O2'	1:a:478:A:N1	2.48	0.42
1:a:485:G:C8	1:a:515:A:C4	3.07	0.42
1:a:1130:C:H2'	1:a:1131:G:C8	2.54	0.42
1:a:1321:A:O2'	23:x:94:GLY:N	2.51	0.42
1:a:1323:U:H6	1:a:1323:U:O5'	2.03	0.42
3:e:186:ILE:CG2	3:e:187:GLU:N	2.79	0.42
4:g:82:GLY:O	23:x:130:ILE:CG2	2.66	0.42
14:t:8:ILE:O	14:t:11:ILE:N	2.52	0.42
27:E:145:LEU:HA	27:E:148:LEU:CD1	2.38	0.42
28:F:40:LYS:HG2	28:F:164:VAL:HB	2.00	0.42
32:J:102:VAL:O	32:J:142:GLU:N	2.48	0.42
33:K:15:TRP:CE3	33:K:55:ILE:HD11	2.54	0.42
36:N:61:GLY:O	36:N:108:TYR:CE1	2.72	0.42
43:U:6:ASP:CG	48:Z:23:ARG:HG3	2.44	0.42
45:W:62:GLY:C	45:W:63:THR:HG23	2.44	0.42
1:a:484:C:C2	1:a:522:G:N2	2.88	0.42
1:a:653:G:H1	1:a:697:C:H42	1.68	0.42
1:a:1035:A:H5''	23:x:78:ARG:CG	2.23	0.42
1:a:1311:G:H5'	19:m:29:ARG:HG3	2.00	0.42
1:a:1354:G:O3'	6:i:91:GLY:CA	2.43	0.42
1:a:1408:A:H2'	1:a:1409:A:O4'	2.19	0.42
4:g:107:PHE:CE2	4:g:137:ARG:HG3	2.54	0.42
6:i:26:ILE:O	6:i:41:LEU:N	2.52	0.42
7:j:56:HIS:NE2	7:j:57:LYS:CE	2.83	0.42
8:k:43:ILE:CG1	8:k:51:ILE:CG1	2.98	0.42
21:u:11:ARG:HG2	21:u:11:ARG:HH11	1.84	0.42
22:w:22:A:C8	22:w:49:C:C5	3.06	0.42
23:x:38:ARG:NH1	23:x:85:HIS:CD2	2.87	0.42
24:0:243:UNK:CB	24:0:435:UNK:N	2.82	0.42
25:C:132:PRO:HD2	25:C:135:ASN:ND2	2.35	0.42
26:D:185:VAL:HG22	26:D:192:LEU:HG	2.01	0.42
28:F:32:VAL:HG21	57:B:55:G:H5'	2.01	0.42
33:K:77:HIS:CD2	33:K:77:HIS:C	2.97	0.42
33:K:142:ILE:HG22	33:K:143:LYS:H	1.79	0.42
40:R:97:GLU:O	40:R:101:SER:OG	2.35	0.42
44:V:96:ARG:CZ	44:V:96:ARG:CB	2.94	0.42
44:V:97:ILE:HD13	44:V:103:LYS:O	2.16	0.42
58:A:844:G:H5'	58:A:845:C:H5''	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:891:G:N2	58:A:2465:A:OP1	2.51	0.42
58:A:1586:C:C3'	58:A:1587:G:H5''	2.49	0.42
58:A:2814:A:H2'	58:A:2815:C:C6	2.55	0.42
1:a:12:A:H5'	3:e:131:ILE:HG22	2.02	0.42
1:a:647:G:O2'	10:o:49:ASP:O	2.37	0.42
8:k:51:ILE:HG13	8:k:52:ALA:N	2.35	0.42
15:n:14:PRO:HG3	15:n:20:ALA:HB2	2.01	0.42
16:b:141:LYS:O	16:b:145:GLU:HB2	2.19	0.42
22:w:17:C:C5	22:w:18:U:O4	2.73	0.42
29:G:61:ARG:O	29:G:65:LEU:CB	2.67	0.42
33:K:1:MET:HE2	58:A:642:G:OP1	2.20	0.42
37:O:33:ARG:HB2	37:O:114:GLU:HG2	2.00	0.42
37:O:52:ILE:HD12	37:O:94:TYR:CB	2.48	0.42
41:S:6:ILE:O	41:S:7:VAL:HG22	2.12	0.42
45:W:36:VAL:HG11	57:B:75:U:H1'	2.00	0.42
52:1:19:LYS:HB2	52:1:21:ARG:CZ	2.48	0.42
57:B:33:C:H2'	57:B:34:G:O4'	2.20	0.42
58:A:1595:G:C2	58:A:1597:G:C5	3.07	0.42
58:A:1690:A:H2'	58:A:1691:A:C8	2.55	0.42
1:a:207:G:H5'	14:t:52:HIS:HE2	1.82	0.42
1:a:262:G:C5'	14:t:68:HIS:HB2	2.50	0.42
1:a:384:G:H2'	1:a:385:C:C6	2.54	0.42
1:a:421:U:H3	2:c:126:ARG:HH22	1.35	0.42
1:a:640:U:H2'	1:a:641:G:O4'	2.20	0.42
1:a:688:C:H2'	1:a:689:A:C8	2.55	0.42
1:a:755:G:H2'	1:a:756:G:O4'	2.19	0.42
3:e:19:ARG:HA	17:d:40:ARG:HH12	1.29	0.42
5:h:25:VAL:O	5:h:61:VAL:HA	2.20	0.42
6:i:26:ILE:HG23	6:i:109:LEU:HD13	2.01	0.42
7:j:8:ILE:HG23	7:j:98:VAL:HG13	2.01	0.42
18:f:17:ARG:NH1	58:A:1612:U:C1'	2.36	0.42
27:E:176:HIS:CE1	58:A:708:G:O6	2.73	0.42
43:U:45:ALA:O	43:U:49:ILE:HG12	2.20	0.42
50:y:41:CYS:O	50:y:44:PHE:CD2	2.73	0.42
52:1:13:LEU:HD23	52:1:53:GLU:HB3	2.02	0.42
55:4:2:LYS:HE2	55:4:34:GLN:HG2	2.01	0.42
58:A:79:G:N2	58:A:100:A:OP2	2.44	0.42
58:A:2539:G:H2'	58:A:2540:G:C8	2.54	0.42
1:a:335:C:H2'	1:a:336:A:C8	2.54	0.42
1:a:426:U:H5'	1:a:427:U:OP2	2.19	0.42
1:a:505:C:OP1	9:l:86:ARG:HD3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:701:G:N7	12:r:62:ARG:NH2	2.64	0.42
1:a:832:U:H2'	1:a:833:C:C6	2.55	0.42
1:a:1088:G:H5'	2:c:176:HIS:ND1	2.34	0.42
1:a:1435:U:H4'	1:a:1436:G:O5'	2.19	0.42
1:a:1452:A:H2'	1:a:1453:A:H8	1.85	0.42
2:c:91:GLU:HG2	2:c:98:VAL:H	1.85	0.42
4:g:147:ALA:HB1	22:w:42:C:H5'	2.02	0.42
19:m:79:ARG:HA	19:m:82:ILE:HG22	2.01	0.42
23:x:73:HIS:CD2	23:x:84:GLN:HG3	2.55	0.42
27:E:118:ARG:NH2	27:E:189:LEU:HA	2.34	0.42
28:F:75:ARG:HD2	28:F:75:ARG:HA	1.85	0.42
28:F:185:LYS:O	28:F:185:LYS:HG3	2.19	0.42
43:U:21:TYR:HA	43:U:24:ILE:HG12	2.00	0.42
44:V:89:ASP:O	44:V:91:THR:N	2.53	0.42
45:W:54:PHE:HE2	45:W:92:ILE:HG21	1.84	0.42
47:Y:28:ARG:NH1	47:Y:30:ASN:OD1	2.53	0.42
48:Z:48:ARG:CG	58:A:58:G:OP1	2.68	0.42
52:1:25:THR:OG1	58:A:2510:A:N6	2.52	0.42
53:2:15:ARG:NH1	53:2:47:ALA:HB1	2.35	0.42
57:B:18:C:O2'	57:B:19:G:H5'	2.20	0.42
58:A:196:A:H2	58:A:2658:A:H62	1.66	0.42
58:A:1606:G:C2	58:A:1607:C:N3	2.87	0.42
1:a:105:A:C6	1:a:326:G:C6	3.08	0.42
1:a:511:U:OP1	1:a:511:U:H4'	2.20	0.42
1:a:674:G:C1'	23:x:130:ILE:CB	2.66	0.42
11:q:42:ASP:OD1	11:q:55:THR:OG1	2.25	0.42
17:d:99:ARG:NH2	17:d:186:ILE:O	2.53	0.42
21:u:26:VAL:HG21	58:A:2157:G:C5'	2.50	0.42
22:w:38:A:C2	23:x:128:ARG:C	2.98	0.42
26:D:51:GLN:HE21	26:D:81:VAL:HG11	1.85	0.42
28:F:9:PRO:HG2	28:F:12:LYS:HE3	2.00	0.42
34:L:108:GLU:CG	34:L:109:LYS:N	2.73	0.42
37:O:9:ARG:HG2	37:O:14:SER:HA	2.01	0.42
37:O:20:LEU:C	37:O:20:LEU:CD2	2.85	0.42
38:P:90:GLU:O	38:P:94:ALA:CB	2.68	0.42
42:T:95:ARG:HG3	42:T:101:PHE:CD2	2.55	0.42
45:W:64:ASN:HB2	45:W:108:VAL:HG11	2.00	0.42
45:W:141:PRO:HG3	45:W:168:VAL:HG21	2.01	0.42
46:X:42:GLY:N	46:X:57:ASP:OD2	2.46	0.42
47:Y:37:ARG:HB3	47:Y:46:LYS:HD3	2.00	0.42
58:A:150:C:H2'	58:A:151:A:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:1118:A:OP2	58:A:1273:G:N1	2.37	0.42
58:A:1174:G:H4'	58:A:1204:A:H8	1.84	0.42
58:A:1565:A:C2'	58:A:1606:G:N1	2.82	0.42
58:A:2457:U:H2'	58:A:2458:G:C8	2.55	0.42
1:a:645:G:C8	1:a:713:G:C2	3.08	0.42
1:a:914:C:C5	4:g:3:ARG:HD3	2.55	0.42
1:a:964:U:C2	1:a:965:A:C6	3.07	0.42
1:a:1417:A:H2'	1:a:1418:G:O4'	2.20	0.42
2:c:141:MET:SD	2:c:149:ILE:HG21	2.60	0.42
6:i:46:GLY:CA	6:i:82:ASP:OD2	2.68	0.42
25:C:241:SER:N	58:A:2195:U:O2	2.52	0.42
27:E:155:LEU:HD11	27:E:178:ILE:HD11	2.01	0.42
27:E:171:ASN:O	27:E:171:ASN:ND2	2.51	0.42
28:F:121:PHE:CD2	28:F:121:PHE:O	2.73	0.42
45:W:21:LYS:O	45:W:25:ARG:HG2	2.19	0.42
58:A:218:A:N3	58:A:234:U:O2'	2.38	0.42
58:A:286:G:H21	58:A:287:A:H62	1.66	0.42
58:A:1668:C:O2'	58:A:1764:A:N3	2.41	0.42
58:A:2593:A:H2'	58:A:2594:G:H8	1.85	0.42
1:a:196:G:H2'	1:a:197:G:C8	2.55	0.42
1:a:228:A:H2'	1:a:229:U:O4'	2.20	0.42
1:a:509:G:H5'	1:a:510:G:OP2	2.20	0.42
1:a:1206:U:H1'	13:s:78:ARG:HD3	2.01	0.42
1:a:1221:U:H1'	4:g:38:LEU:CD2	2.49	0.42
1:a:1295:U:H2'	1:a:1296:C:C6	2.55	0.42
2:c:110:SER:CB	2:c:144:PRO:HG3	2.48	0.42
19:m:11:ARG:NH2	28:F:151:ASP:HB3	2.34	0.42
20:p:73:LEU:HD23	20:p:76:ILE:HD12	2.02	0.42
22:w:13:C:OP2	22:w:13:C:C6	2.73	0.42
22:w:39:A:H2'	22:w:40:C:H5'	2.02	0.42
23:x:103:ALA:CB	23:x:109:ALA:HB2	2.41	0.42
25:C:177:MET:HE2	25:C:183:ARG:HB3	2.02	0.42
27:E:176:HIS:HE1	58:A:708:G:O6	2.03	0.42
28:F:56:LEU:CD2	28:F:56:LEU:N	2.83	0.42
28:F:56:LEU:N	28:F:56:LEU:HD23	2.34	0.42
33:K:7:LYS:HG3	58:A:626:G:OP1	2.20	0.42
42:T:18:ARG:HH12	58:A:1436:C:H2'	1.84	0.42
49:v:50:VAL:O	49:v:54:VAL:HG22	2.19	0.42
57:B:79:A:N1	57:B:94:G:C6	2.88	0.42
58:A:159:A:N3	58:A:2431:C:O2'	2.48	0.42
58:A:742:G:O2'	58:A:2575:G:OP1	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:A:922:U:O2'	58:A:2284:A:N1	2.48	0.42
58:A:1599:U:C2'	58:A:1600:G:OP1	2.68	0.42
1:a:10:G:O6	3:e:124:ALA:C	2.61	0.41
1:a:10:G:O6	3:e:124:ALA:CB	2.67	0.41
1:a:104:A:H62	14:t:10:ARG:NH2	2.16	0.41
1:a:136:G:O2'	11:q:6:GLY:C	2.63	0.41
1:a:207:G:C5'	14:t:52:HIS:CE1	2.97	0.41
1:a:491:C:O2'	1:a:514:U:H1'	2.20	0.41
1:a:690:G:H5''	18:f:54:LYS:NZ	2.35	0.41
1:a:847:A:H2'	1:a:848:C:C6	2.55	0.41
1:a:1019:U:H2'	1:a:1020:G:O4'	2.20	0.41
1:a:1194:A:N6	1:a:1196:G:N3	2.68	0.41
1:a:1260:A:H5''	7:j:9:ARG:HH12	1.84	0.41
1:a:1322:G:O2'	23:x:95:PRO:HA	2.19	0.41
1:a:1494:C:H2'	1:a:1495:G:C8	2.54	0.41
4:g:71:PRO:HA	4:g:142:HIS:HE1	1.85	0.41
5:h:106:ILE:HD12	5:h:115:ASP:HA	2.02	0.41
12:r:33:LYS:HG3	18:f:7:MET:HE1	2.02	0.41
16:b:211:ALA:O	16:b:214:THR:OG1	2.28	0.41
22:w:19:G:O2'	22:w:20:G:H5'	2.19	0.41
22:w:65:G:H2'	22:w:66:C:O4'	2.20	0.41
24:0:423:UNK:O	24:0:425:UNK:N	2.53	0.41
25:C:30:GLU:O	25:C:34:VAL:HG23	2.19	0.41
25:C:98:LEU:HD22	25:C:98:LEU:H	1.84	0.41
28:F:47:VAL:HG21	28:F:92:ILE:C	2.45	0.41
28:F:56:LEU:HD23	28:F:57:ILE:H	1.85	0.41
37:O:44:LEU:HD23	37:O:113:ILE:CD1	2.50	0.41
38:P:88:ILE:O	38:P:92:ALA:HB2	2.19	0.41
39:Q:99:LEU:HD11	39:Q:109:ILE:HD11	2.02	0.41
44:V:72:MET:HE3	58:A:383:U:H5'	2.01	0.41
48:Z:57:VAL:O	48:Z:61:LEU:HG	2.19	0.41
58:A:1007:G:H2'	58:A:1008:G:H8	1.84	0.41
58:A:2364:C:H2'	58:A:2365:A:C8	2.55	0.41
1:a:770:A:OP1	23:x:125:LYS:HD2	2.20	0.41
1:a:1163:G:H3'	1:a:1164:U:H5'	2.03	0.41
1:a:1324:C:O2'	6:i:146:GLN:CB	2.69	0.41
1:a:1363:U:O2'	1:a:1364:U:OP2	2.37	0.41
5:h:8:ALA:O	5:h:12:THR:OG1	2.30	0.41
8:k:43:ILE:CG1	8:k:51:ILE:CD1	2.92	0.41
8:k:44:THR:HG23	8:k:49:ASN:C	2.45	0.41
21:u:25:ARG:HD3	21:u:29:ARG:NH2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:w:70:C:N4	22:w:71:G:N7	2.68	0.41
27:E:76:GLN:HE22	27:E:83:GLN:NE2	2.18	0.41
28:F:32:VAL:O	28:F:33:MET:HB2	2.20	0.41
34:L:8:LEU:HD22	34:L:84:ALA:HB2	2.01	0.41
42:T:7:PHE:N	42:T:8:PRO:HD3	2.34	0.41
45:W:39:GLY:HA3	45:W:42:THR:H	1.86	0.41
52:1:15:CYS:HB3	52:1:20:HIS:H	1.81	0.41
53:2:22:ARG:O	53:2:26:ARG:CD	2.58	0.41
58:A:1291:G:N2	58:A:1292:U:O3'	2.52	0.41
58:A:1567:C:C4	58:A:1568:C:C5	3.08	0.41
58:A:1805:G:H2'	58:A:1806:A:H8	1.85	0.41
1:a:21:U:H2'	1:a:22:C:C6	2.56	0.41
1:a:648:A:O2'	10:o:46:HIS:HB3	2.19	0.41
1:a:1034:C:O2	23:x:78:ARG:CG	2.68	0.41
1:a:1480:C:H2'	1:a:1481:G:O4'	2.20	0.41
22:w:9:G:C2	22:w:47:A:C8	3.08	0.41
22:w:12:G:H2'	22:w:13:C:C6	2.56	0.41
22:w:32:G:H2'	22:w:33:C:C5'	2.30	0.41
22:w:37:U:O3'	22:w:38:A:O4'	2.39	0.41
22:w:45:A:N1	22:w:46:G:C4	2.88	0.41
23:x:34:VAL:HG11	23:x:36:LYS:HZ3	1.84	0.41
23:x:122:ARG:O	23:x:125:LYS:HB2	2.21	0.41
26:D:154:CYS:SG	58:A:2796:A:C3'	3.08	0.41
34:L:9:LYS:O	34:L:83:ALA:HA	2.20	0.41
37:O:43:ALA:O	37:O:46:PRO:CD	2.68	0.41
37:O:94:TYR:O	37:O:116:VAL:HG22	2.19	0.41
38:P:77:LYS:HB3	38:P:112:ARG:HD3	2.01	0.41
41:S:92:GLN:HE22	58:A:1281:G:H21	1.67	0.41
45:W:63:THR:C	45:W:64:ASN:CG	2.87	0.41
46:X:15:ASP:HB2	58:A:2487:C:H41	1.83	0.41
50:y:26:SER:OG	50:y:27:THR:N	2.53	0.41
58:A:2497:A:H2'	58:A:2498:A:C8	2.55	0.41
58:A:2922:U:H2'	58:A:2923:C:C6	2.56	0.41
1:a:101:G:H2'	1:a:102:C:O4'	2.20	0.41
1:a:178:A:C2	1:a:209:A:C4	3.08	0.41
1:a:324:G:P	14:t:21:ASN:HD21	2.43	0.41
1:a:332:G:OP2	14:t:5:LYS:N	2.53	0.41
1:a:947:U:N3	23:x:36:LYS:HB3	2.14	0.41
1:a:1135:G:H2'	1:a:1136:A:H8	1.85	0.41
1:a:1197:U:H2'	1:a:1198:C:C6	2.55	0.41
2:c:186:LEU:HA	2:c:198:VAL:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:e:27:GLY:O	3:e:28:ARG:HG3	2.21	0.41
3:e:120:MET:O	3:e:150:ALA:HA	2.20	0.41
11:q:32:MET:HB3	11:q:32:MET:HE2	1.76	0.41
22:w:2:G:C6	22:w:71:G:O6	2.73	0.41
22:w:8:U:O5'	22:w:8:U:C6	2.70	0.41
22:w:38:A:C6	22:w:39:A:C5	3.09	0.41
27:E:3:LEU:O	27:E:4:LYS:HG3	2.20	0.41
27:E:78:SER:OG	27:E:79:THR:N	2.53	0.41
29:G:110:TYR:HD1	58:A:2891:C:H1'	1.85	0.41
36:N:58:ILE:HG23	36:N:108:TYR:OH	2.20	0.41
37:O:99:LYS:HE2	58:A:3037:C:H5''	2.02	0.41
39:Q:28:HIS:ND1	39:Q:41:VAL:HG12	2.36	0.41
44:V:83:VAL:HG11	44:V:96:ARG:CG	2.39	0.41
45:W:104:GLU:HG2	45:W:137:ALA:CA	2.45	0.41
52:1:8:ARG:NH1	58:A:2509:C:C4	2.79	0.41
52:1:27:LYS:HZ1	52:1:34:ASP:CB	2.31	0.41
53:2:28:ARG:HH22	58:A:210:G:P	2.43	0.41
58:A:1579:C:O5'	58:A:1579:C:C6	2.74	0.41
58:A:1596:C:H1'	58:A:1597:G:OP1	2.20	0.41
58:A:1627:U:H2'	58:A:1628:A:H8	1.85	0.41
1:a:11:G:H5'	3:e:149:LEU:HD11	2.02	0.41
1:a:605:G:H2'	1:a:606:U:H6	1.86	0.41
7:j:57:LYS:O	7:j:58:TYR:CG	2.73	0.41
20:p:5:ILE:HG12	20:p:22:VAL:HG22	2.03	0.41
23:x:65:TYR:C	23:x:65:TYR:CD2	2.96	0.41
33:K:3:THR:HG21	58:A:1113:C:C2	2.46	0.41
37:O:63:ARG:HA	37:O:63:ARG:HD3	1.94	0.41
54:3:2:PRO:HD2	58:A:683:G:H1'	2.02	0.41
54:3:28:ASN:HD22	58:A:2616:A:H5''	1.84	0.41
58:A:442:U:H2'	58:A:443:C:C6	2.56	0.41
58:A:1558:C:C2'	58:A:1559:A:C8	2.84	0.41
58:A:1571:C:N4	58:A:1573:U:N3	2.67	0.41
58:A:1598:U:C2	58:A:1600:G:C8	3.09	0.41
1:a:324:G:N1	1:a:327:A:OP2	2.51	0.41
1:a:408:G:H4'	17:d:104:ARG:HD3	2.02	0.41
1:a:531:U:HO2'	9:l:83:ARG:NH2	2.17	0.41
1:a:664:U:H4'	8:k:49:ASN:ND2	2.35	0.41
1:a:828:G:N2	1:a:829:G:C4	2.88	0.41
2:c:46:LEU:HD23	2:c:51:ILE:HD13	2.02	0.41
12:r:39:ARG:HA	12:r:42:ILE:HG12	2.02	0.41
16:b:15:HIS:NE2	24:0:8:UNK:O	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:d:60:TYR:CD2	17:d:89:LEU:HG	2.56	0.41
18:f:29:VAL:HA	18:f:32:LYS:HE2	2.02	0.41
20:p:8:THR:OG1	20:p:29:ARG:O	2.37	0.41
22:w:8:U:H2'	22:w:22:A:H2	1.80	0.41
23:x:78:ARG:C	23:x:80:ARG:N	2.78	0.41
28:F:182:PHE:CE2	28:F:184:PHE:HE2	2.37	0.41
33:K:15:TRP:O	33:K:16:TYR:CD1	2.74	0.41
37:O:81:ALA:O	37:O:85:PRO:CD	2.65	0.41
43:U:94:ASP:C	43:U:96:PHE:H	2.21	0.41
45:W:131:ILE:HD11	45:W:178:VAL:CG1	2.47	0.41
46:X:64:PRO:HB2	46:X:85:ARG:HH22	1.77	0.41
57:B:27:A:H2'	57:B:28:A:C8	2.55	0.41
57:B:85:C:C2	57:B:86:U:C4	3.09	0.41
57:B:86:U:H3'	57:B:86:U:H6	1.86	0.41
58:A:937:U:H2'	58:A:938:G:C8	2.56	0.41
58:A:1596:C:N4	58:A:1598:U:H3	2.17	0.41
58:A:1678:U:H3	58:A:2926:A:H61	1.68	0.41
1:a:184:U:O3'	14:t:84:ASN:ND2	2.53	0.41
1:a:251:G:C4	1:a:266:G:N7	2.89	0.41
1:a:715:G:HO2'	18:f:89:LYS:NZ	2.14	0.41
1:a:956:A:OP1	15:n:32:SER:HB2	2.20	0.41
1:a:1211:C:P	23:x:65:TYR:OH	2.78	0.41
1:a:1410:C:H2'	1:a:1411:A:C8	2.56	0.41
2:c:135:LYS:HG2	3:e:26:ARG:HH21	1.74	0.41
11:q:40:LEU:O	11:q:56:THR:HA	2.21	0.41
16:b:114:LEU:HD21	16:b:145:GLU:HG3	2.01	0.41
16:b:140:GLU:O	16:b:144:LEU:HB3	2.21	0.41
22:w:77:A:C2'	58:A:2645:G:O2'	2.69	0.41
25:C:118:GLU:O	25:C:129:ASN:HB2	2.20	0.41
35:M:55:MET:HA	35:M:56:PRO:HD3	1.91	0.41
43:U:34:HIS:HA	43:U:35:PRO:HD3	1.86	0.41
58:A:760:U:H2'	58:A:761:G:C8	2.55	0.41
58:A:1301:G:H2'	58:A:1302:G:O4'	2.21	0.41
58:A:1571:C:N4	58:A:1596:C:H41	2.19	0.41
58:A:1882:A:H61	58:A:2220:C:N4	2.17	0.41
58:A:2781:G:H2'	58:A:2782:C:C6	2.56	0.41
1:a:498:C:H5	1:a:509:G:H3'	1.85	0.41
2:c:137:ILE:HG23	2:c:149:ILE:CD1	2.50	0.41
6:i:112:PRO:O	6:i:115:ARG:HB3	2.21	0.41
8:k:43:ILE:CG1	8:k:51:ILE:HD11	2.32	0.41
22:w:38:A:C4	23:x:128:ARG:HG3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:C:35:ARG:O	25:C:62:TYR:HB3	2.19	0.41
26:D:124:ALA:HB3	26:D:129:ARG:HG3	2.02	0.41
28:F:45:MET:HB2	28:F:64:LEU:HD11	2.02	0.41
32:J:16:GLN:HG2	32:J:55:VAL:HG12	2.02	0.41
45:W:29:ARG:HH12	57:B:90:G:H4'	1.85	0.41
46:X:62:LEU:HA	46:X:62:LEU:HD23	1.86	0.41
50:y:38:CYS:SG	50:y:40:GLN:OE1	2.79	0.41
57:B:37:C:H2'	57:B:38:C:O4'	2.21	0.41
58:A:721:A:N3	58:A:730:G:N2	2.63	0.41
58:A:1580:A:O2'	58:A:1581:C:H5'	2.21	0.41
58:A:1584:U:C3'	58:A:1584:U:C6	3.03	0.41
58:A:2649:A:H4'	58:A:2650:A:H5''	2.03	0.41
1:a:129:C:H5''	14:t:70:ASN:OD1	2.21	0.41
1:a:269:U:H2'	1:a:270:A:C8	2.55	0.41
1:a:604:U:H2'	1:a:605:G:H8	1.85	0.41
1:a:719:C:OP2	18:f:2:ARG:NH1	2.40	0.41
1:a:727:U:H2'	1:a:728:A:O4'	2.21	0.41
1:a:765:G:C6	1:a:766:G:N7	2.88	0.41
1:a:804:U:H2'	1:a:805:A:C8	2.56	0.41
1:a:1082:A:H2'	1:a:1083:C:C6	2.56	0.41
1:a:1248:U:O2'	1:a:1249:G:O5'	2.39	0.41
1:a:1452:A:H2'	1:a:1453:A:C8	2.56	0.41
1:a:1488:G:OP1	1:a:1491:A:H4'	2.21	0.41
2:c:122:GLN:OE1	2:c:135:LYS:HE2	2.20	0.41
3:e:142:CYS:SG	3:e:143:ALA:N	2.93	0.41
22:w:11:A:N1	22:w:26:C:N4	2.68	0.41
22:w:34:U:C6	22:w:34:U:C3'	3.04	0.41
22:w:57:C:H3'	22:w:57:C:H6	1.85	0.41
22:w:73:A:C5'	58:A:2068:U:O2'	2.43	0.41
23:x:61:ASP:OD2	23:x:121:LEU:CG	2.69	0.41
24:0:141:UNK:O	24:0:142:UNK:C	2.68	0.41
24:0:207:UNK:CB	24:0:432:UNK:CA	2.95	0.41
25:C:19:SER:O	25:C:21:PHE:CD2	2.74	0.41
25:C:56:GLY:HA3	58:A:807:C:P	2.61	0.41
27:E:189:LEU:HD13	35:M:9:LEU:HD11	2.02	0.41
28:F:64:LEU:HD23	28:F:64:LEU:HA	1.90	0.41
33:K:37:ARG:NH1	58:A:1125:C:OP1	2.46	0.41
33:K:75:TYR:HD1	33:K:75:TYR:H	1.68	0.41
34:L:67:LYS:HD2	34:L:67:LYS:HA	1.83	0.41
36:N:106:LEU:HD12	36:N:118:LEU:HG	2.03	0.41
41:S:6:ILE:O	41:S:39:VAL:HG13	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:T:54:VAL:HG22	42:T:110:ILE:HD13	2.03	0.41
44:V:30:ARG:HD2	44:V:32:LYS:HD2	2.02	0.41
46:X:15:ASP:CA	58:A:2486:U:O4	2.68	0.41
50:y:1:MET:H3	57:B:40:A:N6	1.93	0.41
52:1:28:ASN:OD1	52:1:31:ASN:HB2	2.21	0.41
52:1:36:LEU:CD2	52:1:38:ILE:CD1	2.95	0.41
58:A:256:A:H2'	58:A:257:A:C8	2.56	0.41
58:A:600:A:H2	58:A:674:U:H4'	1.86	0.41
58:A:733:U:H2'	58:A:734:C:C6	2.56	0.41
58:A:969:C:H2'	58:A:970:G:H8	1.86	0.41
58:A:1393:C:H2'	58:A:1394:A:H8	1.85	0.41
58:A:1558:C:N1	58:A:1559:A:N7	2.68	0.41
58:A:1606:G:N2	58:A:1607:C:C2	2.88	0.41
58:A:1607:C:C6	58:A:1608:U:C5	3.08	0.41
58:A:1633:U:H2'	58:A:1634:C:C6	2.56	0.41
58:A:1921:G:H2'	58:A:1922:G:C8	2.53	0.41
58:A:2176:A:N3	58:A:2784:C:O2'	2.46	0.41
1:a:63:A:C2	1:a:354:G:C8	3.09	0.41
1:a:672:U:O4	8:k:37:ASN:CG	2.64	0.41
2:c:107:ASN:ND2	2:c:143:GLN:HB3	2.36	0.41
12:r:76:LEU:HD21	18:f:60:TYR:CE1	2.56	0.41
14:t:15:GLU:O	14:t:18:ARG:HG3	2.21	0.41
16:b:69:PHE:HB3	16:b:80:ILE:HG23	2.03	0.41
22:w:57:C:N1	22:w:58:A:H8	2.13	0.41
25:C:260:PRO:O	25:C:263:PRO:HG3	2.21	0.41
26:D:49:ALA:HA	26:D:86:LEU:H	1.86	0.41
33:K:18:ILE:HD13	33:K:18:ILE:HG21	1.80	0.41
33:K:134:ALA:O	33:K:135:GLN:CG	2.69	0.41
38:P:127:PHE:O	58:A:2601:A:O2'	2.31	0.41
57:B:34:G:N1	57:B:44:C:C4	2.88	0.41
57:B:88:C:C3'	57:B:88:C:C6	3.03	0.41
58:A:996:G:H3'	58:A:997:G:H8	1.86	0.41
58:A:1086:C:H2'	58:A:1087:G:H8	1.86	0.41
58:A:1595:G:N3	58:A:1597:G:N7	2.69	0.41
1:a:24:U:H2'	1:a:25:G:O4'	2.21	0.40
1:a:310:G:OP2	20:p:28:ARG:NH1	2.54	0.40
1:a:355:C:H2'	1:a:356:A:O4'	2.21	0.40
1:a:407:A:C2	1:a:436:C:C2	3.09	0.40
1:a:586:G:H5''	1:a:587:A:H5'	2.02	0.40
1:a:1270:A:C2	1:a:1271:A:C4	3.09	0.40
1:a:1423:U:H2'	1:a:1424:G:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:w:22:A:C5	22:w:49:C:C4	3.09	0.40
28:F:115:LEU:HD23	28:F:183:PRO:CG	2.51	0.40
33:K:15:TRP:H	33:K:15:TRP:HD1	1.64	0.40
48:Z:44:ASN:O	48:Z:47:LEU:N	2.51	0.40
58:A:49:A:OP2	58:A:114:G:N1	2.50	0.40
58:A:1142:G:O2'	58:A:1263:G:O2'	2.39	0.40
58:A:1569:A:C2	58:A:1603:G:N3	2.89	0.40
58:A:1688:G:N2	58:A:1748:A:H1'	2.36	0.40
58:A:1704:U:H2'	58:A:1705:C:C6	2.56	0.40
1:a:1163:G:C3'	1:a:1164:U:H5'	2.51	0.40
1:a:1199:C:H2'	1:a:1200:A:H8	1.79	0.40
1:a:1258:C:H2'	1:a:1260:A:H8	1.86	0.40
1:a:1300:A:H4'	13:s:10:PHE:CD1	2.56	0.40
6:i:41:LEU:HD13	6:i:41:LEU:HA	1.92	0.40
6:i:139:LYS:HB2	6:i:143:LYS:HD3	2.03	0.40
17:d:102:LEU:HD23	17:d:102:LEU:HA	1.91	0.40
19:m:22:ILE:HD12	19:m:25:ILE:HD12	2.02	0.40
22:w:49:C:O2'	22:w:50:G:OP1	2.33	0.40
23:x:59:ARG:NE	23:x:59:ARG:HA	2.35	0.40
23:x:123:ARG:C	23:x:125:LYS:N	2.77	0.40
24:0:207:UNK:CB	24:0:432:UNK:C	2.99	0.40
25:C:161:VAL:HG13	25:C:178:PRO:HB3	2.02	0.40
28:F:10:ARG:O	28:F:13:GLN:HB3	2.21	0.40
28:F:154:ASP:OD1	28:F:155:ARG:N	2.48	0.40
30:H:24:GLY:O	30:H:28:ASN:HB2	2.21	0.40
34:L:109:LYS:C	34:L:110:LYS:CG	2.85	0.40
36:N:21:ALA:HB2	36:N:98:LYS:HB2	2.02	0.40
38:P:14:ARG:HH21	57:B:46:A:H5''	1.86	0.40
41:S:8:LYS:HG2	41:S:13:GLN:HG2	2.04	0.40
58:A:1558:C:C4	58:A:1559:A:C5	3.10	0.40
58:A:1561:C:H41	58:A:1611:A:N6	2.13	0.40
58:A:1562:C:C3'	58:A:1562:C:C6	3.04	0.40
58:A:1599:U:O3'	58:A:1599:U:P	2.79	0.40
58:A:1761:G:H2'	58:A:1762:C:C6	2.56	0.40
58:A:1922:G:H2'	58:A:1923:G:H8	1.86	0.40
1:a:1034:C:H41	23:x:75:ARG:CG	2.28	0.40
1:a:1384:G:C6	1:a:1385:C:C2	3.09	0.40
3:e:205:ALA:O	3:e:209:ALA:CB	2.69	0.40
6:i:147:TYR:CD2	6:i:147:TYR:O	2.74	0.40
17:d:111:GLN:HG2	17:d:115:HIS:CD2	2.57	0.40
22:w:21:U:O2'	22:w:22:A:P	2.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:C:24:ILE:CD1	25:C:84:TYR:HB2	2.52	0.40
26:D:151:ILE:CG1	26:D:164:THR:CG2	2.88	0.40
27:E:55:ARG:HD2	27:E:82:PRO:HD3	2.04	0.40
28:F:47:VAL:HG23	28:F:92:ILE:HG22	2.02	0.40
31:I:48:THR:N	31:I:81:PHE:O	2.47	0.40
43:U:4:ILE:CG1	48:Z:58:TYR:HE1	2.34	0.40
50:y:60:ARG:C	50:y:60:ARG:HD3	2.47	0.40
50:y:62:GLU:O	50:y:65:TYR:CE1	2.74	0.40
52:l:24:ILE:HG21	58:A:2643:U:H4'	2.02	0.40
57:B:85:C:H3'	57:B:85:C:C6	2.56	0.40
57:B:86:U:HO2'	57:B:87:U:H6	1.59	0.40
58:A:97:U:OP1	58:A:98:U:O2'	2.33	0.40
58:A:1224:G:H2'	58:A:1225:G:H8	1.86	0.40
58:A:1571:C:O2'	58:A:1572:G:N7	2.55	0.40
58:A:1579:C:C6	58:A:1579:C:C3'	3.04	0.40
58:A:1854:U:H2'	58:A:1855:A:H8	1.85	0.40
1:a:234:C:H4'	11:q:81:PRO:HG3	2.03	0.40
1:a:264:U:O2	11:q:81:PRO:HG2	2.21	0.40
1:a:375:U:H5''	20:p:69:PRO:HG3	2.03	0.40
1:a:914:C:C6	4:g:3:ARG:HD3	2.56	0.40
3:e:27:GLY:C	3:e:28:ARG:HG3	2.47	0.40
5:h:94:LEU:CD1	5:h:118:ALA:HB1	2.48	0.40
9:l:107:VAL:HB	9:l:117:TYR:HB3	2.02	0.40
16:b:154:MET:HG3	16:b:156:LYS:H	1.86	0.40
18:f:17:ARG:HD3	58:A:1560:U:O2	2.20	0.40
22:w:56:U:O2'	22:w:57:C:H5	2.05	0.40
26:D:130:HIS:ND1	26:D:165:ARG:HD2	2.36	0.40
30:H:43:ALA:O	30:H:47:ALA:CB	2.68	0.40
30:H:91:LEU:HD12	30:H:125:LYS:HA	2.04	0.40
38:P:24:ARG:HH11	38:P:24:ARG:HD2	1.72	0.40
42:T:117:ARG:HD2	42:T:117:ARG:HA	1.78	0.40
43:U:83:ILE:HD12	58:A:1456:G:N1	2.28	0.40
45:W:21:LYS:HZ2	57:B:80:C:H42	1.60	0.40
45:W:62:GLY:O	45:W:63:THR:CB	2.70	0.40
58:A:859:G:H4'	58:A:1876:A:H4'	2.03	0.40
58:A:1559:A:C2	58:A:1560:U:N3	2.90	0.40
58:A:1570:C:O2'	58:A:1572:G:OP1	2.40	0.40
58:A:1574:G:H5'	58:A:1575:A:OP2	2.22	0.40
58:A:1582:C:C4	58:A:1583:U:C4	3.10	0.40
58:A:2686:U:H2'	58:A:2687:U:C6	2.56	0.40
1:a:20:A:O2'	3:e:46:VAL:HG13	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:310:G:H5'	20:p:32:ARG:HB2	2.03	0.40
1:a:498:C:C5	1:a:509:G:H3'	2.57	0.40
1:a:1038:G:H5'	2:c:188:GLU:OE2	2.21	0.40
1:a:1076:C:H2'	1:a:1077:C:C6	2.57	0.40
1:a:1081:A:C6	16:b:175:GLU:OE2	2.75	0.40
1:a:1132:U:C4'	7:j:41:PRO:HB2	2.51	0.40
1:a:1187:G:H2'	1:a:1188:C:O4'	2.22	0.40
1:a:1476:A:H2'	1:a:1477:A:H2'	2.03	0.40
2:c:7:PRO:HA	2:c:10:PHE:HB3	2.03	0.40
16:b:54:TYR:OH	16:b:223:GLU:OE1	2.29	0.40
16:b:67:VAL:HG22	16:b:160:ALA:HB3	2.03	0.40
17:d:72:GLU:O	17:d:76:ARG:HB2	2.22	0.40
24:0:316:UNK:O	24:0:458:UNK:CB	2.70	0.40
27:E:3:LEU:O	27:E:4:LYS:CG	2.70	0.40
30:H:100:VAL:HG13	30:H:146:LEU:HD21	2.04	0.40
33:K:114:LEU:HD23	33:K:114:LEU:HA	1.91	0.40
35:M:82:ASP:O	35:M:86:ALA:CB	2.70	0.40
43:U:58:ASN:HD22	58:A:1456:G:N2	2.18	0.40
43:U:66:ARG:C	43:U:75:LYS:H	2.27	0.40
45:W:129:ASN:C	45:W:130:THR:HG23	2.45	0.40
50:y:62:GLU:O	50:y:65:TYR:CE2	2.75	0.40
55:4:22:ARG:HB3	55:4:36:GLN:HG2	2.04	0.40
58:A:860:G:H21	58:A:865:A:H61	1.70	0.40
58:A:1551:U:O4	58:A:1618:C:N4	2.54	0.40
58:A:2350:G:H2'	58:A:2351:A:C8	2.56	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	c	208/275 (76%)	184 (88%)	17 (8%)	7 (3%)	<b>3</b> <b>17</b>

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	e	196/214 (92%)	176 (90%)	19 (10%)	1 (0%)	25	54
4	g	154/156 (99%)	144 (94%)	9 (6%)	1 (1%)	22	50
5	h	128/132 (97%)	119 (93%)	8 (6%)	1 (1%)	16	44
6	i	124/150 (83%)	108 (87%)	13 (10%)	3 (2%)	5	23
7	j	95/101 (94%)	84 (88%)	10 (10%)	1 (1%)	12	37
8	k	115/138 (83%)	103 (90%)	10 (9%)	2 (2%)	7	28
9	l	120/124 (97%)	93 (78%)	26 (22%)	1 (1%)	16	44
10	o	85/89 (96%)	81 (95%)	4 (5%)	0	100	100
11	q	90/98 (92%)	79 (88%)	11 (12%)	0	100	100
12	r	62/84 (74%)	54 (87%)	8 (13%)	0	100	100
13	s	76/93 (82%)	68 (90%)	8 (10%)	0	100	100
14	t	82/86 (95%)	77 (94%)	5 (6%)	0	100	100
15	n	58/61 (95%)	53 (91%)	5 (9%)	0	100	100
16	b	226/277 (82%)	211 (93%)	15 (7%)	0	100	100
17	d	198/201 (98%)	185 (93%)	12 (6%)	1 (0%)	25	54
18	f	94/96 (98%)	90 (96%)	4 (4%)	0	100	100
19	m	114/124 (92%)	102 (90%)	12 (10%)	0	100	100
20	p	111/156 (71%)	104 (94%)	7 (6%)	0	100	100
21	u	30/33 (91%)	28 (93%)	2 (7%)	0	100	100
23	x	98/230 (43%)	80 (82%)	15 (15%)	3 (3%)	3	18
25	C	271/278 (98%)	234 (86%)	33 (12%)	4 (2%)	8	30
26	D	212/217 (98%)	197 (93%)	10 (5%)	5 (2%)	5	23
27	E	205/215 (95%)	179 (87%)	20 (10%)	6 (3%)	3	19
28	F	179/187 (96%)	163 (91%)	14 (8%)	2 (1%)	12	37
29	G	174/179 (97%)	166 (95%)	8 (5%)	0	100	100
30	H	149/151 (99%)	139 (93%)	9 (6%)	1 (1%)	19	47
31	I	124/175 (71%)	118 (95%)	6 (5%)	0	100	100
32	J	131/142 (92%)	118 (90%)	13 (10%)	0	100	100
33	K	145/147 (99%)	132 (91%)	10 (7%)	3 (2%)	5	24
34	L	119/122 (98%)	106 (89%)	10 (8%)	3 (2%)	4	22
35	M	143/147 (97%)	128 (90%)	15 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	N	132/138 (96%)	111 (84%)	20 (15%)	1 (1%)	16	44
37	O	115/199 (58%)	101 (88%)	11 (10%)	3 (3%)	4	22
38	P	124/127 (98%)	119 (96%)	5 (4%)	0	100	100
39	Q	111/113 (98%)	102 (92%)	9 (8%)	0	100	100
40	R	122/129 (95%)	120 (98%)	2 (2%)	0	100	100
41	S	100/103 (97%)	94 (94%)	5 (5%)	1 (1%)	13	39
42	T	112/153 (73%)	103 (92%)	6 (5%)	3 (3%)	4	21
43	U	92/100 (92%)	76 (83%)	11 (12%)	5 (5%)	1	10
44	V	93/105 (89%)	83 (89%)	8 (9%)	2 (2%)	5	24
45	W	184/215 (86%)	156 (85%)	22 (12%)	6 (3%)	3	18
46	X	80/88 (91%)	61 (76%)	14 (18%)	5 (6%)	1	7
47	Y	61/64 (95%)	57 (93%)	4 (7%)	0	100	100
48	Z	61/77 (79%)	59 (97%)	1 (2%)	1 (2%)	8	29
49	v	58/61 (95%)	53 (91%)	5 (9%)	0	100	100
50	y	64/75 (85%)	60 (94%)	3 (5%)	1 (2%)	8	29
51	z	52/57 (91%)	51 (98%)	1 (2%)	0	100	100
52	1	48/55 (87%)	40 (83%)	5 (10%)	3 (6%)	1	7
53	2	43/47 (92%)	41 (95%)	2 (5%)	0	100	100
54	3	61/64 (95%)	54 (88%)	7 (12%)	0	100	100
55	4	35/37 (95%)	29 (83%)	5 (14%)	1 (3%)	3	19
56	5	21/24 (88%)	20 (95%)	1 (5%)	0	100	100
All	All	6085/6909 (88%)	5493 (90%)	515 (8%)	77 (1%)	13	33

All (77) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	c	138	GLN
2	c	143	GLN
2	c	144	PRO
4	g	154	TYR
8	k	116	VAL
23	x	78	ARG
25	C	58	HIS
25	C	145	VAL
25	C	262	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
26	D	151	ILE
27	E	94	LYS
27	E	152	LYS
28	F	47	VAL
33	K	142	ILE
34	L	89	ASN
42	T	7	PHE
42	T	118	PRO
45	W	40	HIS
45	W	83	LEU
48	Z	10	LEU
52	1	34	ASP
2	c	63	VAL
2	c	149	ILE
3	e	186	ILE
5	h	56	VAL
9	l	59	SER
23	x	128	ARG
25	C	146	GLU
26	D	155	ALA
27	E	65	PRO
28	F	142	GLN
33	K	140	PHE
36	N	59	LYS
37	O	15	SER
43	U	75	LYS
45	W	63	THR
46	X	12	ASN
46	X	16	SER
46	X	17	ALA
55	4	23	VAL
6	i	43	PRO
6	i	81	PHE
26	D	161	PHE
33	K	2	PRO
34	L	90	ASP
37	O	116	VAL
45	W	85	VAL
45	W	104	GLU
52	1	33	PRO
2	c	137	ILE
8	k	36	PHE

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Mol	Chain	Res	Type
17	d	189	PRO
26	D	150	SER
27	E	4	LYS
27	E	93	PRO
30	H	125	LYS
37	O	60	LEU
42	T	8	PRO
43	U	6	ASP
43	U	67	LYS
44	V	90	GLU
44	V	101	ASN
45	W	87	PRO
46	X	83	VAL
52	l	7	VAL
2	c	145	ASN
6	i	42	VAL
26	D	157	PRO
27	E	132	GLU
43	U	5	THR
46	X	85	ARG
7	j	43	PRO
41	S	7	VAL
43	U	10	ILE
23	x	43	PRO
50	y	42	HIS
34	L	93	PRO

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	c	171/212 (81%)	165 (96%)	6 (4%)	31 56
3	e	139/147 (95%)	137 (99%)	2 (1%)	62 77
4	g	132/132 (100%)	129 (98%)	3 (2%)	45 67
5	h	106/108 (98%)	106 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
6	i	102/125 (82%)	97 (95%)	5 (5%)	21	48
7	j	88/90 (98%)	87 (99%)	1 (1%)	70	81
8	k	91/105 (87%)	90 (99%)	1 (1%)	70	81
9	l	103/105 (98%)	103 (100%)	0	100	100
10	o	75/77 (97%)	75 (100%)	0	100	100
11	q	78/83 (94%)	76 (97%)	2 (3%)	41	64
12	r	55/72 (76%)	53 (96%)	2 (4%)	30	56
13	s	69/84 (82%)	68 (99%)	1 (1%)	62	77
14	t	69/70 (99%)	68 (99%)	1 (1%)	62	77
15	n	49/50 (98%)	49 (100%)	0	100	100
16	b	191/218 (88%)	191 (100%)	0	100	100
17	d	175/176 (99%)	174 (99%)	1 (1%)	84	90
18	f	85/85 (100%)	85 (100%)	0	100	100
19	m	99/104 (95%)	99 (100%)	0	100	100
20	p	92/118 (78%)	92 (100%)	0	100	100
21	u	30/31 (97%)	23 (77%)	7 (23%)	0	2
23	x	88/199 (44%)	67 (76%)	21 (24%)	0	1
25	C	214/218 (98%)	206 (96%)	8 (4%)	29	54
26	D	160/163 (98%)	157 (98%)	3 (2%)	52	71
27	E	167/173 (96%)	158 (95%)	9 (5%)	18	44
28	F	150/156 (96%)	138 (92%)	12 (8%)	10	31
29	G	148/150 (99%)	147 (99%)	1 (1%)	81	88
30	H	90/116 (78%)	90 (100%)	0	100	100
31	I	89/120 (74%)	89 (100%)	0	100	100
32	J	102/108 (94%)	102 (100%)	0	100	100
33	K	120/120 (100%)	116 (97%)	4 (3%)	33	58
34	L	99/100 (99%)	98 (99%)	1 (1%)	73	83
35	M	112/114 (98%)	111 (99%)	1 (1%)	75	86
36	N	112/116 (97%)	109 (97%)	3 (3%)	40	63
37	O	96/158 (61%)	89 (93%)	7 (7%)	11	36
38	P	93/94 (99%)	93 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
39	Q	100/100 (100%)	99 (99%)	1 (1%)	73	83
40	R	97/99 (98%)	97 (100%)	0	100	100
41	S	82/83 (99%)	81 (99%)	1 (1%)	67	80
42	T	90/117 (77%)	88 (98%)	2 (2%)	47	68
43	U	82/85 (96%)	72 (88%)	10 (12%)	4	15
44	V	81/86 (94%)	71 (88%)	10 (12%)	4	14
45	W	152/168 (90%)	144 (95%)	8 (5%)	19	45
46	X	59/63 (94%)	55 (93%)	4 (7%)	13	38
47	Y	50/51 (98%)	50 (100%)	0	100	100
48	Z	58/66 (88%)	55 (95%)	3 (5%)	19	45
49	v	53/54 (98%)	52 (98%)	1 (2%)	52	71
50	y	57/63 (90%)	54 (95%)	3 (5%)	19	45
51	z	43/46 (94%)	43 (100%)	0	100	100
52	1	48/52 (92%)	41 (85%)	7 (15%)	2	10
53	2	35/36 (97%)	34 (97%)	1 (3%)	37	61
54	3	53/54 (98%)	53 (100%)	0	100	100
55	4	35/35 (100%)	34 (97%)	1 (3%)	37	61
56	5	18/19 (95%)	18 (100%)	0	100	100
All	All	5032/5574 (90%)	4878 (97%)	154 (3%)	37	60

All (154) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	c	109	GLU
2	c	141	MET
2	c	142	ARG
2	c	143	GLN
2	c	147	LYS
2	c	186	LEU
3	e	182	ARG
3	e	184	LEU
4	g	77	SER
4	g	78	ARG
4	g	148	ASN
6	i	39	VAL
6	i	40	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
6	i	41	LEU
6	i	81	PHE
6	i	84	TYR
7	j	57	LYS
8	k	47	GLN
11	q	8	LYS
11	q	76	LEU
12	r	19	LYS
12	r	74	VAL
13	s	29	GLN
14	t	8	ILE
17	d	86	LEU
21	u	4	VAL
21	u	6	LYS
21	u	8	ARG
21	u	10	LYS
21	u	11	ARG
21	u	24	THR
21	u	30	LYS
23	x	39	ASN
23	x	60	PHE
23	x	63	THR
23	x	73	HIS
23	x	74	GLU
23	x	75	ARG
23	x	76	ASN
23	x	77	ARG
23	x	78	ARG
23	x	81	LYS
23	x	84	GLN
23	x	87	GLU
23	x	89	THR
23	x	91	ARG
23	x	93	ARG
23	x	96	VAL
23	x	100	GLU
23	x	118	GLU
23	x	120	ARG
23	x	127	ARG
23	x	129	LYS
25	C	31	LYS
25	C	35	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	C	71	ASP
25	C	73	ASP
25	C	106	ILE
25	C	225	VAL
25	C	247	VAL
25	C	258	ARG
26	D	151	ILE
26	D	156	THR
26	D	159	ARG
27	E	4	LYS
27	E	31	ILE
27	E	33	LEU
27	E	124	ILE
27	E	130	LEU
27	E	150	GLU
27	E	177	VAL
27	E	178	ILE
27	E	201	LEU
28	F	6	LYS
28	F	10	ARG
28	F	11	LEU
28	F	34	GLN
28	F	55	LYS
28	F	92	ILE
28	F	96	VAL
28	F	108	ASP
28	F	110	LEU
28	F	118	ILE
28	F	185	LYS
28	F	186	GLU
29	G	90	ILE
33	K	75	TYR
33	K	76	ARG
33	K	113	LYS
33	K	141	GLU
34	L	8	LEU
35	M	57	ILE
36	N	34	ILE
36	N	92	TRP
36	N	122	ILE
37	O	5	THR
37	O	14	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
37	O	16	HIS
37	O	54	HIS
37	O	79	LEU
37	O	115	LEU
37	O	117	ARG
39	Q	32	ILE
41	S	103	LYS
42	T	6	GLU
42	T	118	PRO
43	U	9	ASP
43	U	10	ILE
43	U	12	LEU
43	U	59	THR
43	U	68	ARG
43	U	77	LYS
43	U	79	THR
43	U	94	ASP
43	U	95	LEU
43	U	96	PHE
44	V	10	LEU
44	V	20	LYS
44	V	22	LYS
44	V	30	ARG
44	V	41	ILE
44	V	77	ASP
44	V	89	ASP
44	V	95	VAL
44	V	96	ARG
44	V	99	LYS
45	W	6	ASN
45	W	7	ILE
45	W	64	ASN
45	W	83	LEU
45	W	104	GLU
45	W	105	LYS
45	W	129	ASN
45	W	133	ILE
46	X	14	ARG
46	X	15	ASP
46	X	38	VAL
46	X	85	ARG
48	Z	5	THR

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Mol	Chain	Res	Type
48	Z	14	THR
48	Z	47	LEU
49	v	51	HIS
50	y	38	CYS
50	y	44	PHE
50	y	60	ARG
52	1	22	ASN
52	1	23	TYR
52	1	26	LYS
52	1	27	LYS
52	1	35	ARG
52	1	37	GLU
52	1	42	CYS
53	2	27	THR
55	4	22	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (132) such sidechains are listed below:

Mol	Chain	Res	Type
2	c	97	GLN
2	c	107	ASN
2	c	117	GLN
2	c	122	GLN
3	e	163	HIS
4	g	49	GLN
4	g	122	ASN
4	g	148	ASN
5	h	22	HIS
5	h	35	ASN
5	h	117	GLN
6	i	57	ASN
6	i	61	ASN
7	j	47	ASN
7	j	99	ASN
8	k	31	HIS
8	k	37	ASN
8	k	47	GLN
8	k	49	ASN
8	k	58	HIS
8	k	78	ASN
8	k	84	GLN
8	k	86	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
8	k	125	GLN
9	l	46	ASN
9	l	73	ASN
9	l	77	HIS
10	o	42	HIS
13	s	22	GLN
13	s	29	GLN
13	s	52	HIS
14	t	3	ASN
14	t	7	GLN
14	t	21	ASN
15	n	31	HIS
16	b	15	HIS
16	b	24	ASN
16	b	36	ASN
16	b	75	GLN
16	b	167	ASN
16	b	203	ASN
17	d	49	GLN
17	d	84	ASN
18	f	80	ASN
23	x	73	HIS
23	x	76	ASN
23	x	79	GLN
23	x	84	GLN
23	x	85	HIS
25	C	38	HIS
25	C	53	HIS
25	C	58	HIS
25	C	96	HIS
25	C	130	ASN
25	C	135	ASN
25	C	203	ASN
25	C	205	ASN
25	C	245	HIS
26	D	34	ASN
26	D	80	HIS
26	D	142	GLN
27	E	35	HIS
27	E	83	GLN
27	E	121	ASN
27	E	184	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
27	E	202	ASN
28	F	34	GLN
28	F	44	ASN
28	F	134	ASN
28	F	142	GLN
28	F	146	HIS
28	F	169	ASN
29	G	22	GLN
29	G	66	HIS
30	H	118	GLN
30	H	137	HIS
30	H	147	ASN
31	I	16	GLN
32	J	33	HIS
32	J	119	ASN
33	K	47	ASN
33	K	96	HIS
33	K	103	ASN
33	K	132	HIS
33	K	135	GLN
34	L	4	GLN
35	M	58	HIS
35	M	76	GLN
35	M	127	ASN
36	N	57	HIS
36	N	96	ASN
37	O	16	HIS
37	O	77	HIS
38	P	41	ASN
38	P	50	GLN
40	R	39	GLN
40	R	41	HIS
41	S	67	HIS
41	S	76	HIS
41	S	85	HIS
41	S	90	HIS
41	S	92	GLN
42	T	67	ASN
42	T	68	ASN
43	U	27	ASN
43	U	58	ASN
45	W	40	HIS

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Mol	Chain	Res	Type
45	W	46	HIS
45	W	91	ASN
45	W	101	GLN
45	W	126	GLN
46	X	29	GLN
46	X	46	HIS
46	X	79	ASN
48	Z	44	ASN
48	Z	52	GLN
49	v	8	GLN
49	v	42	GLN
49	v	48	ASN
49	v	51	HIS
50	y	20	HIS
50	y	40	GLN
52	1	48	HIS
52	1	49	GLN
53	2	11	ASN
53	2	19	HIS
54	3	7	HIS
54	3	28	ASN
54	3	31	HIS
54	3	35	HIS
55	4	36	GLN
56	5	17	ASN

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	a	1504/1528 (98%)	398 (26%)	0
22	w	76/77 (98%)	41 (53%)	0
57	B	116/118 (98%)	33 (28%)	1 (0%)
58	A	3096/3120 (99%)	785 (25%)	28 (0%)
All	All	4792/4843 (98%)	1257 (26%)	29 (0%)

All (1257) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	a	11	G
1	a	12	A
1	a	13	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	a	26	G
1	a	36	A
1	a	43	G
1	a	45	G
1	a	48	G
1	a	51	C
1	a	52	U
1	a	53	U
1	a	54	A
1	a	55	A
1	a	59	A
1	a	62	C
1	a	67	C
1	a	68	G
1	a	77	G
1	a	81	C
1	a	82	U
1	a	83	U
1	a	85	C
1	a	87	G
1	a	92	A
1	a	93	C
1	a	94	U
1	a	101	G
1	a	112	A
1	a	113	G
1	a	116	A
1	a	117	C
1	a	118	A
1	a	123	G
1	a	128	U
1	a	136	G
1	a	139	C
1	a	160	C
1	a	170	U
1	a	174	G
1	a	179	C
1	a	180	A
1	a	181	C
1	a	192	G
1	a	194	A
1	a	201	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	a	210	A
1	a	211	A
1	a	213	C
1	a	214	U
1	a	215	U
1	a	216	U
1	a	217	U
1	a	218	G
1	a	226	G
1	a	242	U
1	a	243	A
1	a	245	C
1	a	247	G
1	a	251	G
1	a	262	G
1	a	266	G
1	a	267	C
1	a	279	A
1	a	280	C
1	a	281	G
1	a	283	C
1	a	289	G
1	a	301	G
1	a	314	C
1	a	319	G
1	a	321	A
1	a	329	A
1	a	332	G
1	a	338	A
1	a	344	A
1	a	345	C
1	a	350	G
1	a	351	G
1	a	352	C
1	a	353	A
1	a	354	G
1	a	356	A
1	a	367	U
1	a	372	C
1	a	373	A
1	a	382	A
1	a	390	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	a	392	C
1	a	397	A
1	a	398	C
1	a	406	G
1	a	411	A
1	a	414	A
1	a	415	C
1	a	421	U
1	a	422	C
1	a	423	G
1	a	424	G
1	a	426	U
1	a	427	U
1	a	428	G
1	a	429	U
1	a	430	A
1	a	434	C
1	a	436	C
1	a	438	U
1	a	450	G
1	a	451	A
1	a	452	A
1	a	453	G
1	a	454	C
1	a	456	C
1	a	457	A
1	a	458	A
1	a	459	G
1	a	461	G
1	a	464	G
1	a	465	G
1	a	466	U
1	a	477	G
1	a	478	A
1	a	479	A
1	a	482	A
1	a	484	C
1	a	485	G
1	a	486	G
1	a	491	C
1	a	496	U
1	a	497	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	a	498	C
1	a	499	C
1	a	505	C
1	a	507	G
1	a	509	G
1	a	511	U
1	a	512	A
1	a	513	A
1	a	515	A
1	a	519	A
1	a	520	G
1	a	525	C
1	a	527	A
1	a	539	A
1	a	542	U
1	a	544	C
1	a	552	A
1	a	553	A
1	a	554	A
1	a	556	A
1	a	557	G
1	a	612	U
1	a	613	G
1	a	629	G
1	a	633	A
1	a	641	G
1	a	645	G
1	a	666	U
1	a	667	A
1	a	668	G
1	a	680	G
1	a	682	A
1	a	683	G
1	a	700	C
1	a	701	G
1	a	702	G
1	a	703	U
1	a	704	G
1	a	711	G
1	a	713	G
1	a	728	A
1	a	729	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	a	735	G
1	a	757	A
1	a	761	A
1	a	764	A
1	a	765	G
1	a	771	G
1	a	772	A
1	a	773	U
1	a	774	A
1	a	779	G
1	a	782	A
1	a	789	G
1	a	793	U
1	a	794	A
1	a	795	A
1	a	797	C
1	a	799	G
1	a	800	U
1	a	808	A
1	a	818	U
1	a	821	C
1	a	822	U
1	a	828	G
1	a	829	G
1	a	830	G
1	a	835	G
1	a	840	G
1	a	841	U
1	a	865	C
1	a	884	G
1	a	895	A
1	a	896	A
1	a	908	G
1	a	909	G
1	a	913	C
1	a	914	C
1	a	915	G
1	a	916	C
1	a	917	A
1	a	921	G
1	a	930	C
1	a	932	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	a	940	A
1	a	942	U
1	a	943	U
1	a	945	G
1	a	947	U
1	a	948	G
1	a	950	A
1	a	951	A
1	a	953	G
1	a	954	C
1	a	955	G
1	a	956	A
1	a	957	A
1	a	959	A
1	a	971	G
1	a	973	U
1	a	974	U
1	a	975	G
1	a	982	A
1	a	984	A
1	a	986	G
1	a	987	A
1	a	988	C
1	a	992	G
1	a	996	G
1	a	999	A
1	a	1000	U
1	a	1003	C
1	a	1007	U
1	a	1008	C
1	a	1010	C
1	a	1011	U
1	a	1013	G
1	a	1014	U
1	a	1020	G
1	a	1021	U
1	a	1022	G
1	a	1024	G
1	a	1025	C
1	a	1028	G
1	a	1033	G
1	a	1034	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	a	1035	A
1	a	1036	U
1	a	1045	U
1	a	1047	A
1	a	1048	G
1	a	1054	G
1	a	1064	G
1	a	1074	G
1	a	1075	U
1	a	1079	G
1	a	1081	A
1	a	1085	A
1	a	1104	G
1	a	1108	C
1	a	1110	A
1	a	1112	C
1	a	1115	G
1	a	1116	U
1	a	1117	U
1	a	1118	A
1	a	1120	G
1	a	1123	G
1	a	1128	C
1	a	1129	U
1	a	1132	U
1	a	1133	G
1	a	1138	A
1	a	1140	U
1	a	1141	G
1	a	1147	G
1	a	1149	C
1	a	1150	A
1	a	1152	C
1	a	1162	G
1	a	1164	U
1	a	1165	G
1	a	1171	G
1	a	1172	A
1	a	1176	C
1	a	1177	A
1	a	1178	A
1	a	1181	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	a	1182	A
1	a	1183	U
1	a	1193	U
1	a	1194	A
1	a	1206	U
1	a	1207	C
1	a	1217	A
1	a	1219	A
1	a	1231	A
1	a	1233	A
1	a	1235	G
1	a	1238	U
1	a	1239	G
1	a	1241	G
1	a	1242	A
1	a	1248	U
1	a	1249	G
1	a	1251	G
1	a	1254	G
1	a	1255	G
1	a	1261	A
1	a	1265	U
1	a	1266	U
1	a	1267	U
1	a	1268	C
1	a	1269	A
1	a	1272	G
1	a	1281	A
1	a	1282	G
1	a	1283	U
1	a	1284	U
1	a	1285	C
1	a	1287	G
1	a	1298	G
1	a	1299	C
1	a	1300	A
1	a	1301	A
1	a	1302	C
1	a	1305	G
1	a	1313	G
1	a	1320	G
1	a	1321	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	a	1322	G
1	a	1323	U
1	a	1327	U
1	a	1328	A
1	a	1329	G
1	a	1335	G
1	a	1343	G
1	a	1344	C
1	a	1345	A
1	a	1346	A
1	a	1347	C
1	a	1351	G
1	a	1353	G
1	a	1357	A
1	a	1363	U
1	a	1364	U
1	a	1381	A
1	a	1382	C
1	a	1383	C
1	a	1385	C
1	a	1389	U
1	a	1402	G
1	a	1406	G
1	a	1407	U
1	a	1424	G
1	a	1425	G
1	a	1426	C
1	a	1429	A
1	a	1430	A
1	a	1434	U
1	a	1435	U
1	a	1436	G
1	a	1438	G
1	a	1459	G
1	a	1460	A
1	a	1466	G
1	a	1468	U
1	a	1471	G
1	a	1478	G
1	a	1481	G
1	a	1482	U
1	a	1483	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	a	1486	A
1	a	1487	A
1	a	1488	G
1	a	1490	U
1	a	1491	A
1	a	1492	G
1	a	1501	G
1	a	1502	A
1	a	1503	A
1	a	1504	G
1	a	1511	C
1	a	1512	U
1	a	1513	G
1	a	1514	G
1	a	1516	U
1	a	1517	C
1	a	1518	A
22	w	2	G
22	w	3	C
22	w	5	G
22	w	6	G
22	w	7	G
22	w	9	G
22	w	10	G
22	w	13	C
22	w	14	A
22	w	15	G
22	w	17	C
22	w	18	U
22	w	19	G
22	w	20	G
22	w	21	U
22	w	22	A
22	w	23	G
22	w	26	C
22	w	27	G
22	w	29	C
22	w	33	C
22	w	34	U
22	w	35	C
22	w	38	A
22	w	39	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
22	w	40	C
22	w	44	A
22	w	45	A
22	w	49	C
22	w	50	G
22	w	57	C
22	w	58	A
22	w	60	A
22	w	61	U
22	w	65	G
22	w	68	C
22	w	70	C
22	w	71	G
22	w	72	C
22	w	75	C
22	w	77	A
57	B	4	A
57	B	5	C
57	B	7	G
57	B	10	G
57	B	12	C
57	B	13	C
57	B	22	A
57	B	23	G
57	B	24	G
57	B	25	G
57	B	26	A
57	B	30	G
57	B	34	G
57	B	35	G
57	B	37	C
57	B	40	A
57	B	41	U
57	B	44	C
57	B	45	G
57	B	47	A
57	B	52	G
57	B	53	A
57	B	56	C
57	B	66	C
57	B	67	A
57	B	68	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
57	B	85	C
57	B	86	U
57	B	88	C
57	B	90	G
57	B	102	A
57	B	106	C
57	B	113	G
58	A	7	U
58	A	11	A
58	A	12	G
58	A	20	G
58	A	29	C
58	A	31	U
58	A	32	G
58	A	33	G
58	A	52	G
58	A	58	G
58	A	59	G
58	A	60	A
58	A	68	A
58	A	71	A
58	A	72	G
58	A	77	G
58	A	80	G
58	A	81	A
58	A	88	A
58	A	89	A
58	A	90	C
58	A	93	A
58	A	94	G
58	A	98	U
58	A	99	G
58	A	115	A
58	A	117	U
58	A	122	A
58	A	125	C
58	A	128	G
58	A	136	U
58	A	143	G
58	A	161	U
58	A	164	A
58	A	173	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	175	G
58	A	180	A
58	A	186	G
58	A	195	A
58	A	198	A
58	A	203	A
58	A	205	U
58	A	212	A
58	A	214	G
58	A	215	A
58	A	220	A
58	A	221	A
58	A	227	A
58	A	229	U
58	A	230	G
58	A	231	U
58	A	237	C
58	A	245	G
58	A	248	G
58	A	250	G
58	A	264	G
58	A	265	A
58	A	272	A
58	A	274	C
58	A	275	C
58	A	279	U
58	A	283	U
58	A	285	U
58	A	286	G
58	A	287	A
58	A	288	U
58	A	291	C
58	A	292	G
58	A	296	A
58	A	297	G
58	A	299	G
58	A	300	G
58	A	301	U
58	A	302	U
58	A	303	G
58	A	305	G
58	A	309	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	313	G
58	A	314	G
58	A	315	U
58	A	317	G
58	A	318	U
58	A	319	G
58	A	322	A
58	A	323	C
58	A	326	A
58	A	327	U
58	A	329	U
58	A	330	U
58	A	331	U
58	A	336	C
58	A	337	U
58	A	338	C
58	A	346	C
58	A	351	G
58	A	352	G
58	A	357	U
58	A	358	G
58	A	361	A
58	A	364	A
58	A	366	G
58	A	370	U
58	A	384	G
58	A	393	U
58	A	404	A
58	A	412	A
58	A	416	C
58	A	417	C
58	A	424	G
58	A	425	U
58	A	427	A
58	A	434	G
58	A	438	U
58	A	445	U
58	A	446	G
58	A	449	G
58	A	450	G
58	A	452	G
58	A	453	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	454	U
58	A	459	A
58	A	460	G
58	A	468	G
58	A	471	C
58	A	472	C
58	A	474	G
58	A	489	A
58	A	491	U
58	A	493	U
58	A	498	G
58	A	505	C
58	A	509	U
58	A	512	G
58	A	530	G
58	A	543	U
58	A	544	U
58	A	547	U
58	A	555	G
58	A	561	G
58	A	562	G
58	A	566	A
58	A	567	A
58	A	568	A
58	A	569	G
58	A	585	G
58	A	589	A
58	A	591	G
58	A	592	A
58	A	594	U
58	A	595	A
58	A	596	C
58	A	605	G
58	A	617	U
58	A	618	C
58	A	619	C
58	A	620	G
58	A	639	C
58	A	640	G
58	A	641	U
58	A	642	G
58	A	643	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	644	G
58	A	647	G
58	A	649	U
58	A	655	G
58	A	665	G
58	A	666	A
58	A	667	A
58	A	678	A
58	A	679	G
58	A	684	G
58	A	685	G
58	A	689	U
58	A	696	A
58	A	706	G
58	A	707	G
58	A	708	G
58	A	709	U
58	A	712	G
58	A	721	A
58	A	725	A
58	A	728	G
58	A	730	G
58	A	731	A
58	A	740	A
58	A	747	A
58	A	753	A
58	A	757	G
58	A	758	A
58	A	760	U
58	A	763	G
58	A	765	G
58	A	766	G
58	A	768	G
58	A	769	U
58	A	770	A
58	A	774	G
58	A	784	G
58	A	785	A
58	A	794	G
58	A	801	U
58	A	830	A
58	A	832	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	838	G
58	A	845	C
58	A	862	U
58	A	863	G
58	A	868	C
58	A	871	A
58	A	872	G
58	A	879	A
58	A	880	G
58	A	890	G
58	A	891	G
58	A	897	A
58	A	899	G
58	A	904	A
58	A	908	A
58	A	915	U
58	A	917	A
58	A	919	A
58	A	920	G
58	A	921	C
58	A	927	C
58	A	942	U
58	A	944	A
58	A	945	G
58	A	960	G
58	A	961	U
58	A	966	U
58	A	971	G
58	A	973	G
58	A	974	G
58	A	975	U
58	A	981	U
58	A	982	A
58	A	994	A
58	A	995	U
58	A	996	G
58	A	1001	C
58	A	1002	C
58	A	1003	A
58	A	1007	G
58	A	1009	U
58	A	1011	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	1012	C
58	A	1013	U
58	A	1014	G
58	A	1016	C
58	A	1022	C
58	A	1025	A
58	A	1029	C
58	A	1030	C
58	A	1042	A
58	A	1044	U
58	A	1046	C
58	A	1047	A
58	A	1048	A
58	A	1049	G
58	A	1058	A
58	A	1062	A
58	A	1063	G
58	A	1068	C
58	A	1070	G
58	A	1074	A
58	A	1076	A
58	A	1078	G
58	A	1085	G
58	A	1091	A
58	A	1092	G
58	A	1098	A
58	A	1100	C
58	A	1101	A
58	A	1107	G
58	A	1114	G
58	A	1130	C
58	A	1131	G
58	A	1140	G
58	A	1141	U
58	A	1143	G
58	A	1144	A
58	A	1151	U
58	A	1163	A
58	A	1164	A
58	A	1169	A
58	A	1171	C
58	A	1173	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	1175	A
58	A	1178	U
58	A	1181	G
58	A	1184	U
58	A	1185	A
58	A	1186	G
58	A	1187	A
58	A	1188	A
58	A	1189	G
58	A	1190	C
58	A	1191	A
58	A	1192	G
58	A	1201	G
58	A	1202	A
58	A	1205	G
58	A	1206	A
58	A	1207	G
58	A	1209	G
58	A	1212	U
58	A	1213	A
58	A	1215	U
58	A	1216	A
58	A	1224	G
58	A	1229	A
58	A	1230	G
58	A	1232	G
58	A	1233	A
58	A	1237	U
58	A	1238	G
58	A	1239	C
58	A	1240	G
58	A	1244	A
58	A	1246	A
58	A	1250	U
58	A	1251	A
58	A	1253	C
58	A	1254	G
58	A	1260	C
58	A	1261	A
58	A	1270	G
58	A	1275	A
58	A	1292	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	1293	G
58	A	1303	U
58	A	1325	U
58	A	1332	G
58	A	1335	G
58	A	1343	G
58	A	1344	A
58	A	1345	G
58	A	1347	G
58	A	1353	G
58	A	1362	A
58	A	1363	G
58	A	1365	G
58	A	1368	A
58	A	1369	A
58	A	1371	G
58	A	1372	C
58	A	1386	G
58	A	1389	U
58	A	1404	C
58	A	1409	C
58	A	1415	A
58	A	1416	A
58	A	1417	A
58	A	1440	C
58	A	1444	U
58	A	1448	C
58	A	1456	G
58	A	1462	G
58	A	1465	C
58	A	1467	U
58	A	1480	A
58	A	1493	A
58	A	1494	U
58	A	1499	A
58	A	1501	C
58	A	1507	G
58	A	1510	A
58	A	1521	C
58	A	1522	G
58	A	1529	U
58	A	1531	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	1532	G
58	A	1533	U
58	A	1534	C
58	A	1539	A
58	A	1540	U
58	A	1546	A
58	A	1549	G
58	A	1550	G
58	A	1551	U
58	A	1552	A
58	A	1553	C
58	A	1554	U
58	A	1555	A
58	A	1556	A
58	A	1561	C
58	A	1562	C
58	A	1563	A
58	A	1564	A
58	A	1565	A
58	A	1566	A
58	A	1567	C
58	A	1568	C
58	A	1570	C
58	A	1571	C
58	A	1572	G
58	A	1573	U
58	A	1574	G
58	A	1578	G
58	A	1580	A
58	A	1584	U
58	A	1587	G
58	A	1588	G
58	A	1589	G
58	A	1590	G
58	A	1591	U
58	A	1592	G
58	A	1593	U
58	A	1595	G
58	A	1596	C
58	A	1597	G
58	A	1598	U
58	A	1599	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	1600	G
58	A	1601	G
58	A	1602	U
58	A	1604	G
58	A	1605	G
58	A	1606	G
58	A	1607	C
58	A	1609	G
58	A	1610	C
58	A	1611	A
58	A	1625	G
58	A	1629	G
58	A	1630	U
58	A	1632	G
58	A	1633	U
58	A	1636	A
58	A	1637	G
58	A	1638	C
58	A	1639	G
58	A	1640	A
58	A	1641	U
58	A	1642	G
58	A	1648	A
58	A	1649	C
58	A	1654	G
58	A	1658	G
58	A	1672	C
58	A	1674	G
58	A	1676	G
58	A	1678	U
58	A	1679	A
58	A	1680	A
58	A	1681	U
58	A	1688	G
58	A	1703	G
58	A	1710	A
58	A	1711	G
58	A	1713	U
58	A	1715	A
58	A	1717	U
58	A	1721	U
58	A	1724	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	1727	A
58	A	1728	U
58	A	1731	A
58	A	1737	A
58	A	1744	A
58	A	1748	A
58	A	1753	C
58	A	1754	G
58	A	1767	U
58	A	1768	C
58	A	1769	G
58	A	1774	U
58	A	1778	A
58	A	1780	G
58	A	1786	G
58	A	1787	A
58	A	1789	A
58	A	1792	A
58	A	1798	U
58	A	1803	A
58	A	1813	C
58	A	1826	A
58	A	1836	A
58	A	1837	G
58	A	1845	G
58	A	1852	A
58	A	1863	G
58	A	1864	U
58	A	1866	C
58	A	1869	G
58	A	1870	U
58	A	1871	G
58	A	1872	A
58	A	1878	G
58	A	1887	A
58	A	1892	G
58	A	1893	C
58	A	1903	C
58	A	1906	U
58	A	1916	A
58	A	1917	G
58	A	1933	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	1958	C
58	A	1967	G
58	A	1973	C
58	A	1974	A
58	A	1975	A
58	A	1981	U
58	A	1990	A
58	A	1998	C
58	A	1999	U
58	A	2017	C
58	A	2018	G
58	A	2026	A
58	A	2028	G
58	A	2033	U
58	A	2046	A
58	A	2052	G
58	A	2062	G
58	A	2064	A
58	A	2074	G
58	A	2075	G
58	A	2083	A
58	A	2085	C
58	A	2086	U
58	A	2088	C
58	A	2089	C
58	A	2090	U
58	A	2091	U
58	A	2092	U
58	A	2093	G
58	A	2094	G
58	A	2095	G
58	A	2096	G
58	A	2106	A
58	A	2107	G
58	A	2111	U
58	A	2112	U
58	A	2118	C
58	A	2120	A
58	A	2130	G
58	A	2131	G
58	A	2137	A
58	A	2138	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	2140	A
58	A	2142	A
58	A	2151	A
58	A	2153	G
58	A	2154	G
58	A	2160	A
58	A	2161	A
58	A	2163	U
58	A	2167	U
58	A	2179	U
58	A	2190	A
58	A	2191	C
58	A	2194	A
58	A	2195	U
58	A	2196	G
58	A	2206	C
58	A	2215	U
58	A	2217	U
58	A	2221	A
58	A	2244	A
58	A	2247	A
58	A	2251	G
58	A	2255	A
58	A	2256	G
58	A	2257	A
58	A	2263	G
58	A	2267	C
58	A	2276	G
58	A	2279	C
58	A	2280	G
58	A	2284	A
58	A	2285	G
58	A	2286	A
58	A	2299	C
58	A	2315	U
58	A	2316	G
58	A	2317	G
58	A	2319	G
58	A	2320	C
58	A	2322	C
58	A	2323	G
58	A	2325	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	2328	G
58	A	2334	U
58	A	2335	G
58	A	2337	A
58	A	2338	G
58	A	2339	G
58	A	2340	A
58	A	2341	U
58	A	2342	A
58	A	2343	G
58	A	2346	G
58	A	2348	G
58	A	2349	A
58	A	2351	A
58	A	2353	U
58	A	2354	G
58	A	2355	U
58	A	2356	G
58	A	2357	A
58	A	2362	C
58	A	2368	C
58	A	2371	G
58	A	2380	G
58	A	2382	G
58	A	2383	U
58	A	2384	C
58	A	2385	G
58	A	2386	U
58	A	2387	U
58	A	2388	G
58	A	2390	U
58	A	2392	A
58	A	2393	A
58	A	2394	A
58	A	2395	U
58	A	2396	A
58	A	2404	G
58	A	2407	C
58	A	2408	G
58	A	2409	U
58	A	2410	A
58	A	2411	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	2413	G
58	A	2414	G
58	A	2418	U
58	A	2421	A
58	A	2427	G
58	A	2433	U
58	A	2434	A
58	A	2436	A
58	A	2446	G
58	A	2449	A
58	A	2462	G
58	A	2463	G
58	A	2467	U
58	A	2473	U
58	A	2476	G
58	A	2490	A
58	A	2502	A
58	A	2506	G
58	A	2507	C
58	A	2510	A
58	A	2511	A
58	A	2512	A
58	A	2529	A
58	A	2531	G
58	A	2532	G
58	A	2545	G
58	A	2546	A
58	A	2549	G
58	A	2551	A
58	A	2558	C
58	A	2559	A
58	A	2567	U
58	A	2571	C
58	A	2574	C
58	A	2578	A
58	A	2582	A
58	A	2585	U
58	A	2586	G
58	A	2596	G
58	A	2601	A
58	A	2607	G
58	A	2608	G

*Continued on next page...*

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	2609	A
58	A	2612	A
58	A	2614	U
58	A	2615	G
58	A	2616	A
58	A	2626	U
58	A	2627	C
58	A	2630	A
58	A	2631	G
58	A	2640	G
58	A	2643	U
58	A	2647	U
58	A	2648	C
58	A	2649	A
58	A	2650	A
58	A	2651	C
58	A	2653	G
58	A	2654	A
58	A	2655	U
58	A	2659	A
58	A	2665	C
58	A	2669	G
58	A	2671	G
58	A	2672	A
58	A	2673	U
58	A	2676	C
58	A	2677	A
58	A	2682	G
58	A	2694	G
58	A	2698	C
58	A	2700	A
58	A	2702	A
58	A	2705	G
58	A	2715	U
58	A	2718	G
58	A	2726	G
58	A	2729	G
58	A	2737	G
58	A	2742	A
58	A	2744	C
58	A	2753	G
58	A	2758	A

*Continued on next page...*

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	2759	G
58	A	2786	U
58	A	2788	A
58	A	2790	A
58	A	2791	G
58	A	2793	G
58	A	2796	A
58	A	2797	C
58	A	2802	G
58	A	2810	U
58	A	2826	A
58	A	2827	G
58	A	2833	U
58	A	2837	U
58	A	2839	U
58	A	2853	C
58	A	2860	U
58	A	2865	G
58	A	2866	A
58	A	2870	C
58	A	2876	C
58	A	2878	A
58	A	2887	G
58	A	2893	G
58	A	2897	G
58	A	2906	U
58	A	2908	U
58	A	2913	U
58	A	2915	C
58	A	2926	A
58	A	2936	C
58	A	2938	G
58	A	2942	G
58	A	2950	C
58	A	2956	G
58	A	2957	A
58	A	2963	U
58	A	2968	G
58	A	2972	A
58	A	2975	G
58	A	2976	C
58	A	2977	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
58	A	2982	A
58	A	2985	G
58	A	2989	A
58	A	2990	A
58	A	2993	U
58	A	3002	A
58	A	3004	C
58	A	3005	A
58	A	3009	U
58	A	3011	C
58	A	3014	A
58	A	3015	C
58	A	3021	A
58	A	3022	G
58	A	3023	G
58	A	3029	U
58	A	3039	C
58	A	3042	A
58	A	3045	C
58	A	3047	A
58	A	3056	A
58	A	3057	U
58	A	3070	G
58	A	3082	U
58	A	3088	C
58	A	3093	A
58	A	3094	A
58	A	3095	C
58	A	3101	C
58	A	3105	C
58	A	3106	C
58	A	3107	G
58	A	3112	A
58	A	3113	A
58	A	3114	A
58	A	3115	A

All (29) RNA pucker outliers are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
57	B	66	C
58	A	84	U

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Mol	Chain	Res	Type
58	A	89	A
58	A	97	U
58	A	316	U
58	A	336	C
58	A	357	U
58	A	445	U
58	A	456	C
58	A	567	A
58	A	974	G
58	A	980	C
58	A	981	U
58	A	1002	C
58	A	1010	U
58	A	1084	U
58	A	1117	U
58	A	1186	G
58	A	1562	C
58	A	1571	C
58	A	1595	G
58	A	1596	C
58	A	1597	G
58	A	1730	U
58	A	2085	C
58	A	2088	C
58	A	2094	G
58	A	2350	G
58	A	2381	A

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

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

#### 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

#### 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

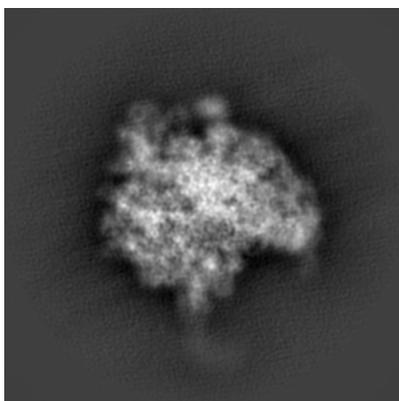
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-6921. These allow visual inspection of the internal detail of the map and identification of artifacts.

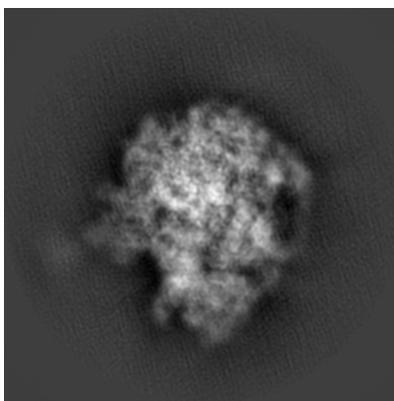
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

### 6.1 Orthogonal projections [i](#)

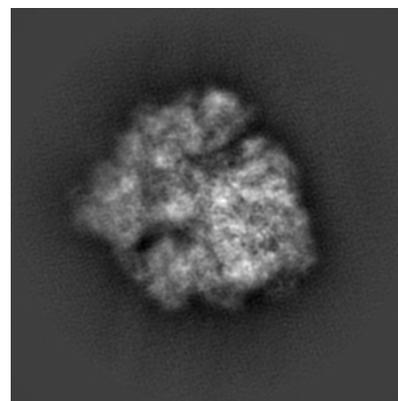
#### 6.1.1 Primary map



X



Y

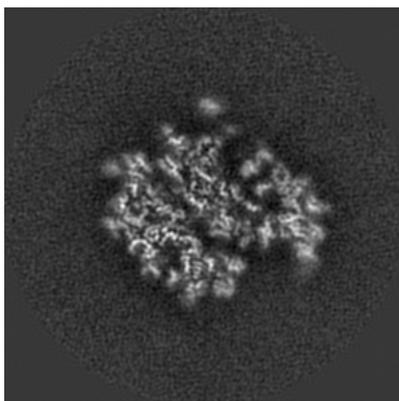


Z

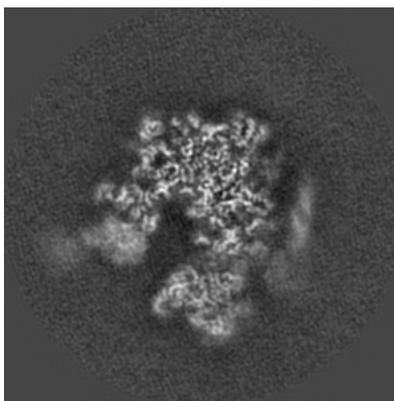
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices [i](#)

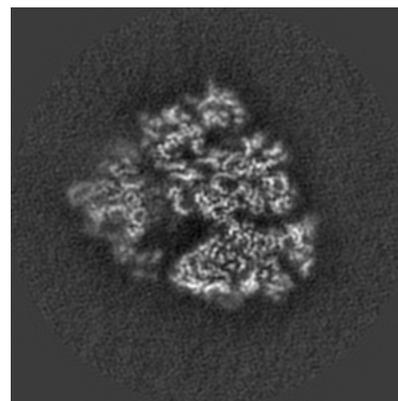
#### 6.2.1 Primary map



X Index: 164



Y Index: 164

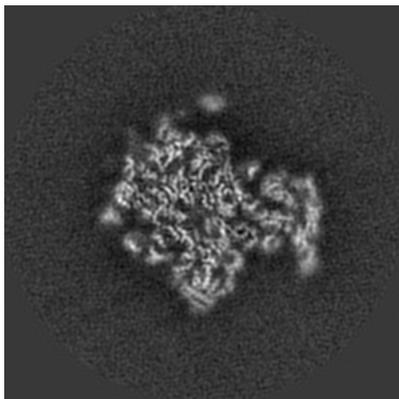


Z Index: 164

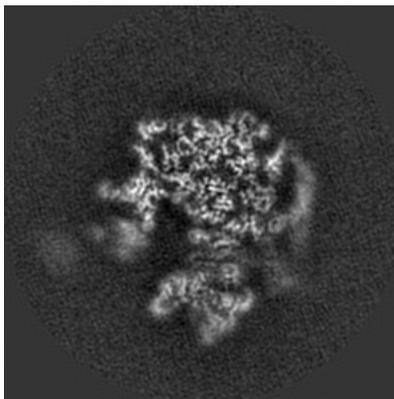
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

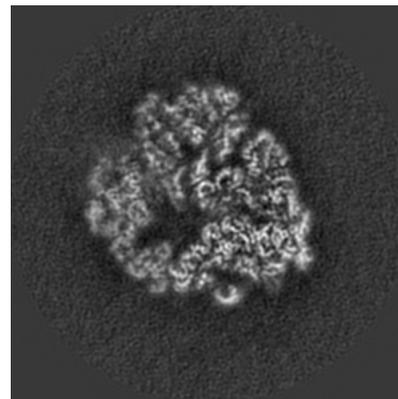
### 6.3.1 Primary map



X Index: 171



Y Index: 169

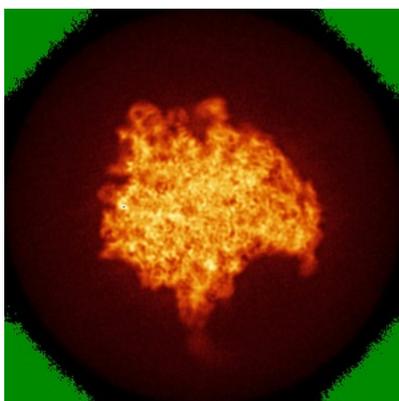


Z Index: 157

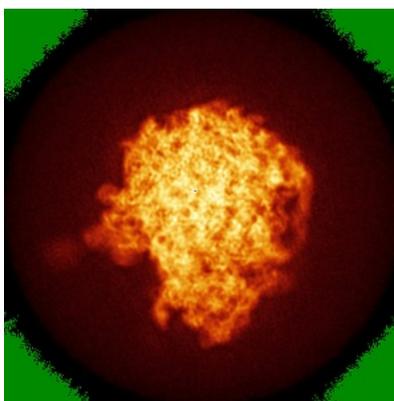
The images above show the largest variance slices of the map in three orthogonal directions.

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

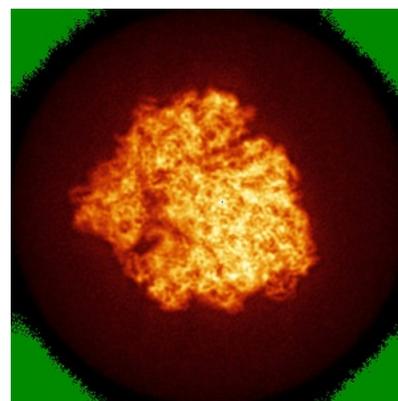
### 6.4.1 Primary map



X



Y



Z

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

## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.03. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

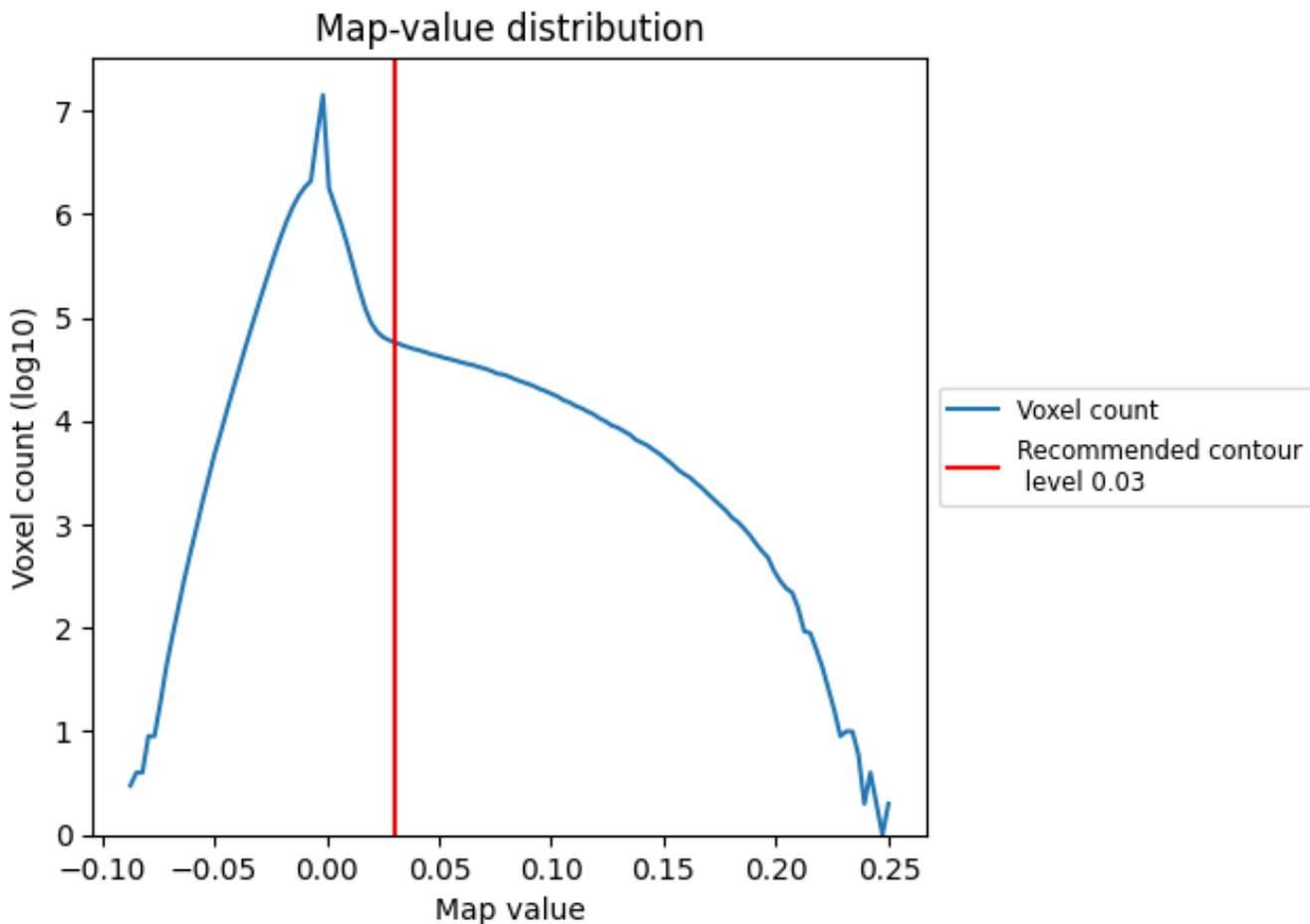
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

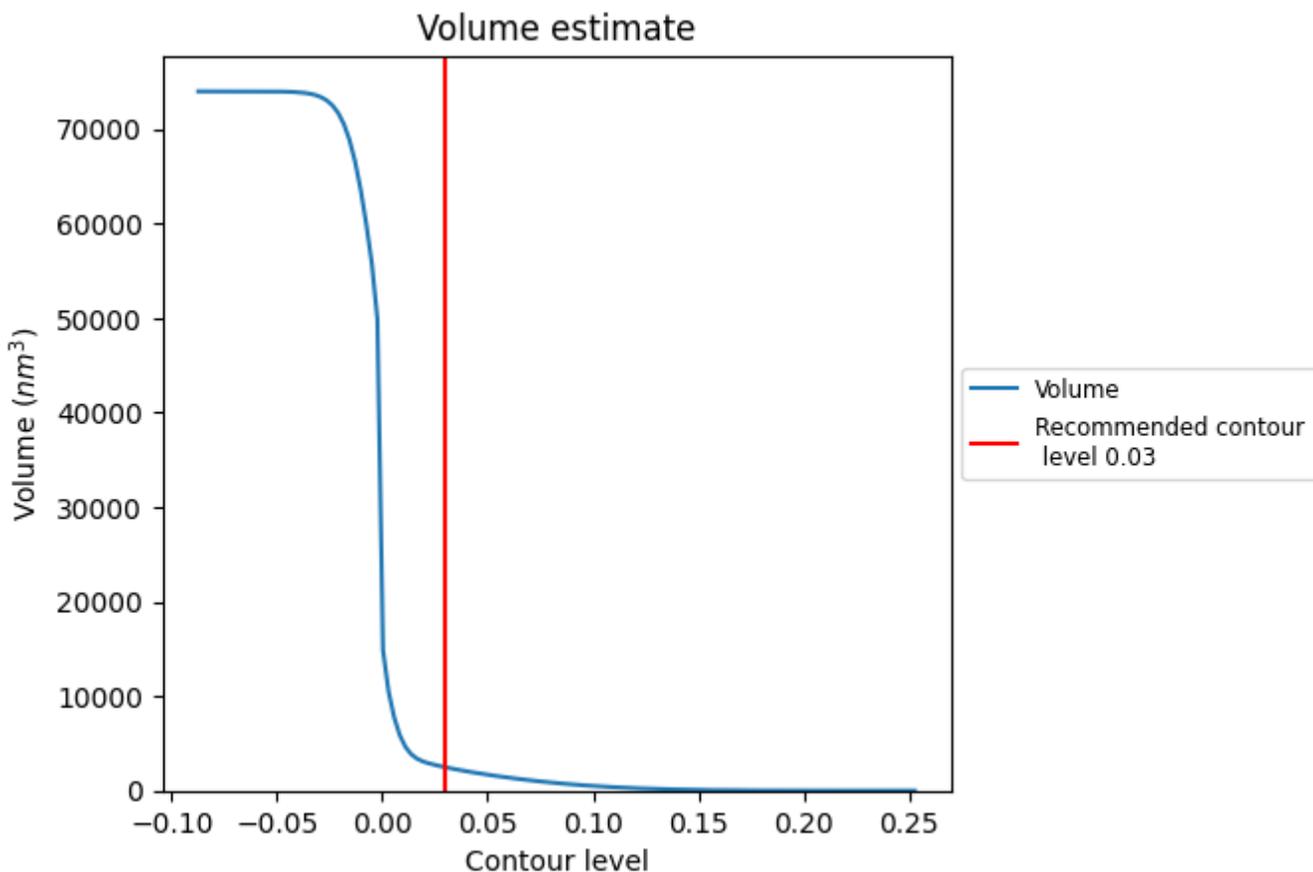
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



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

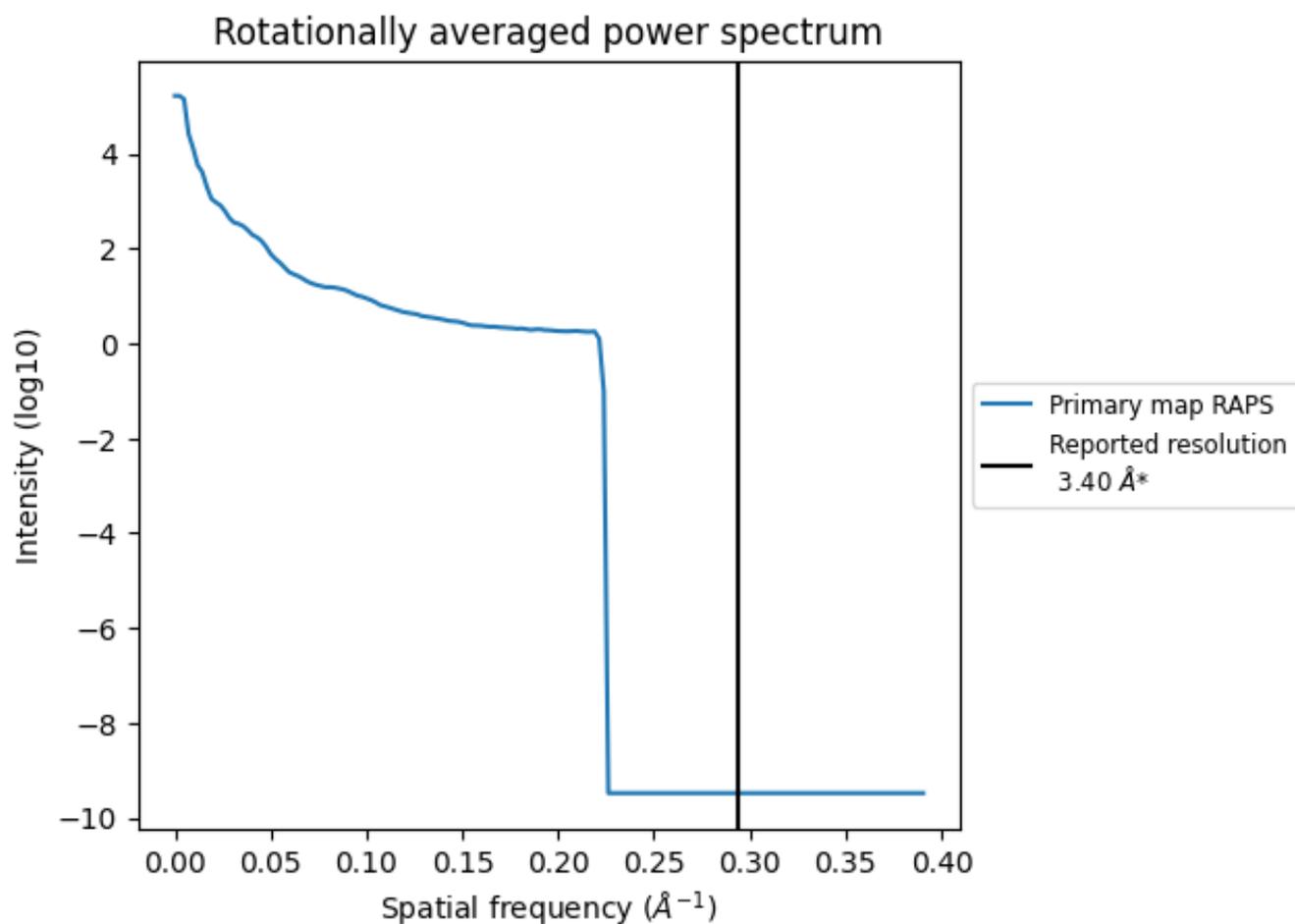
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2473  $\text{nm}^3$ ; this corresponds to an approximate mass of 2234 kDa.

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

### 7.3 Rotationally averaged power spectrum [i](#)



\*Reported resolution corresponds to spatial frequency of  $0.294 \text{\AA}^{-1}$

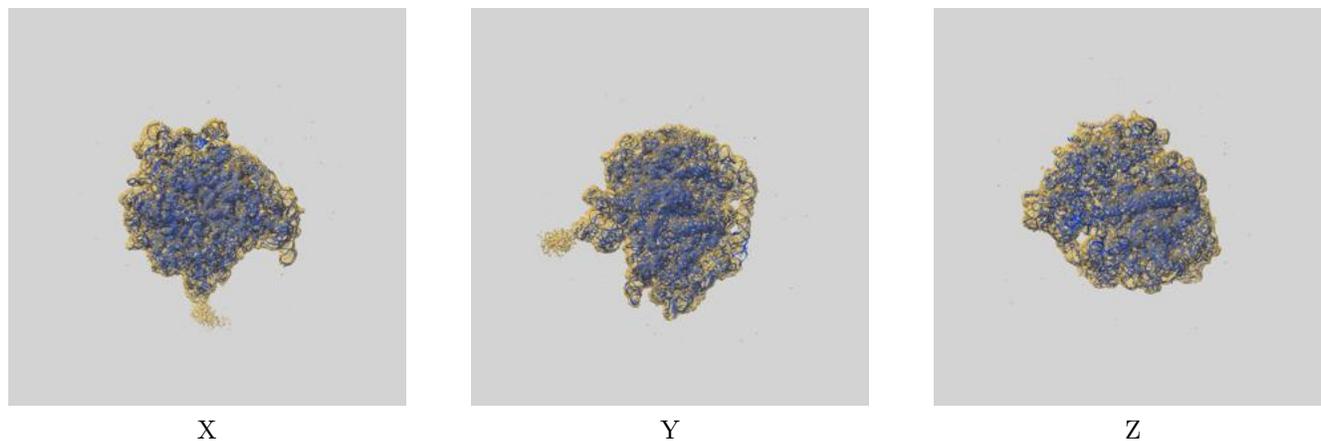
## 8 Fourier-Shell correlation

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

## 9 Map-model fit [i](#)

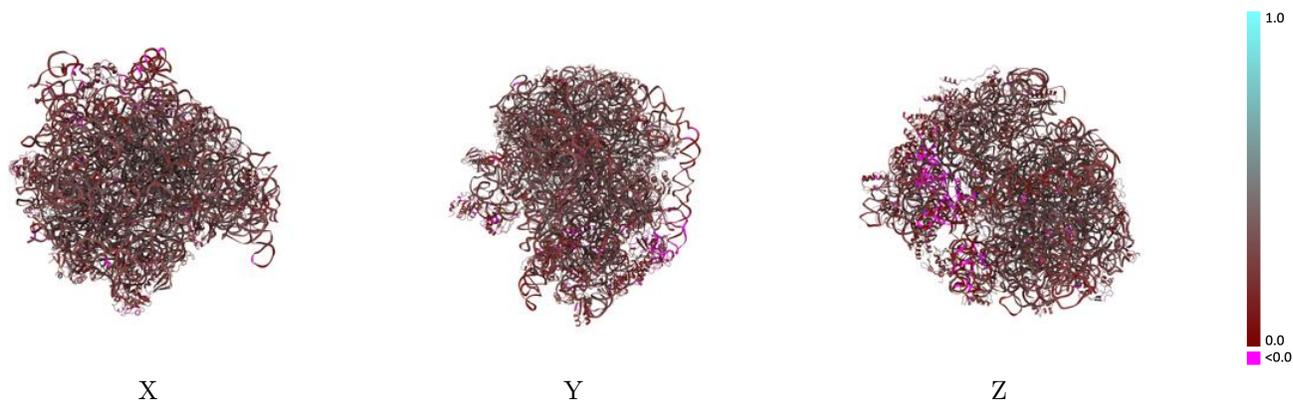
This section contains information regarding the fit between EMDB map EMD-6921 and PDB model 5ZEP. Per-residue inclusion information can be found in section 3 on page 15.

### 9.1 Map-model overlay [i](#)



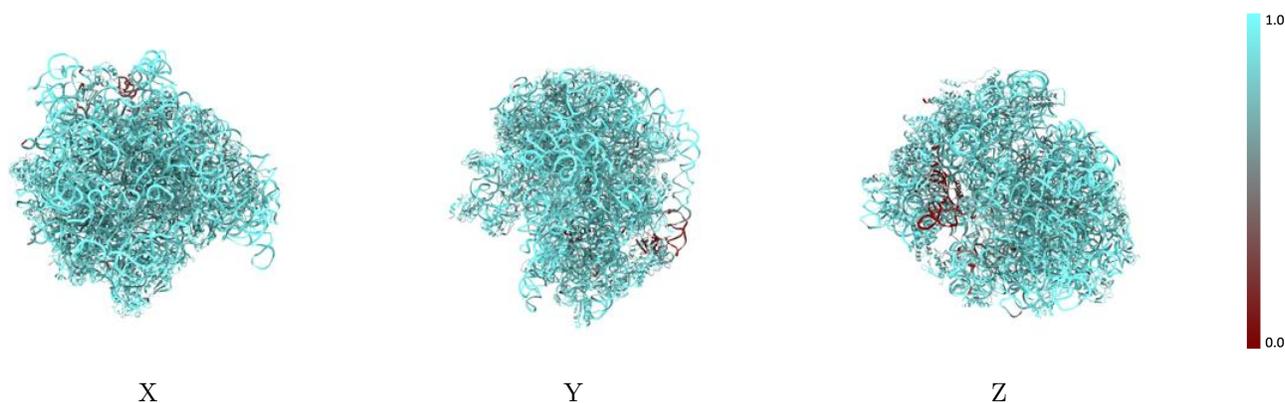
The images above show the 3D surface view of the map at the recommended contour level 0.03 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



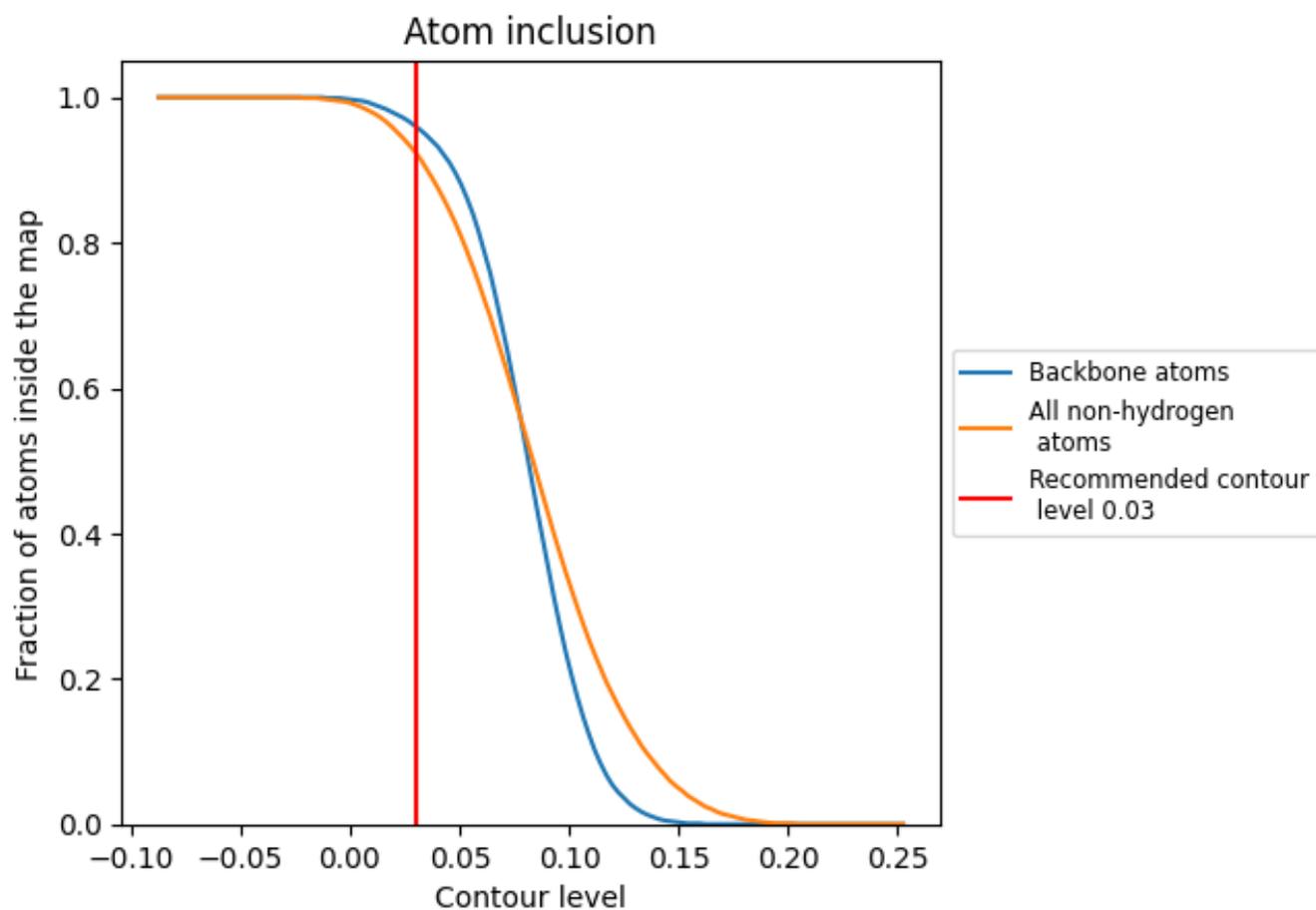
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.03).

## 9.4 Atom inclusion [i](#)

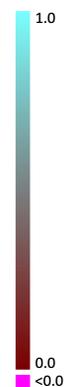


At the recommended contour level, 96% of all backbone atoms, 92% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9240	 0.2750
0	 0.4170	 0.0310
1	 0.8560	 0.2240
2	 0.8370	 0.3070
3	 0.8210	 0.2930
4	 0.8850	 0.2810
5	 0.8270	 0.2680
A	 0.9680	 0.2950
B	 0.9760	 0.2680
C	 0.8200	 0.2850
D	 0.8540	 0.2870
E	 0.8670	 0.2690
F	 0.8780	 0.2420
G	 0.9110	 0.2520
H	 0.8720	 0.2260
I	 0.8400	 0.1300
J	 0.8630	 0.1190
K	 0.8560	 0.2760
L	 0.7560	 0.2780
M	 0.8450	 0.2700
N	 0.8330	 0.2880
O	 0.8120	 0.2510
P	 0.9100	 0.2480
Q	 0.8040	 0.2540
R	 0.8550	 0.2450
S	 0.8680	 0.3080
T	 0.8290	 0.2830
U	 0.8340	 0.2990
V	 0.8780	 0.2290
W	 0.8890	 0.2550
X	 0.8060	 0.2590
Y	 0.8460	 0.3030
Z	 0.8420	 0.2110
a	 0.9860	 0.3000
b	 0.8330	 0.1980



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Chain	Atom inclusion	Q-score
c	 0.8420	 0.2040
d	 0.8530	 0.1940
e	 0.8140	 0.2510
f	 0.8650	 0.2630
g	 0.8400	 0.2020
h	 0.8760	 0.2830
i	 0.9170	 0.2300
j	 0.8770	 0.2300
k	 0.8600	 0.2540
l	 0.8090	 0.2680
m	 0.8560	 0.2020
n	 0.8420	 0.2520
o	 0.8440	 0.2410
p	 0.8680	 0.2440
q	 0.8140	 0.2600
r	 0.8850	 0.2500
s	 0.8470	 0.2270
t	 0.8300	 0.1930
u	 0.6830	 0.2450
v	 0.8310	 0.2500
w	 0.6690	 0.1340
x	 0.2420	 -0.0160
y	 0.8460	 0.2190
z	 0.8210	 0.2820