



Full wwPDB EM Validation Report ⓘ

Mar 20, 2026 – 05:17 AM UTC

PDB ID : 7PI8 / pdb_00007pi8
EMDB ID : EMD-13432
Title : 70S ribosome with P-site tRNA in spectinomycin-treated *Mycoplasma pneumoniae* cells
Authors : Xue, L.; Lenz, S.; Rappsilber, J.; Mahamid, J.
Deposited on : 2021-08-19
Resolution : 8.90 Å (reported)
Based on initial models : 7OOC, 4V7C, 7OOD

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

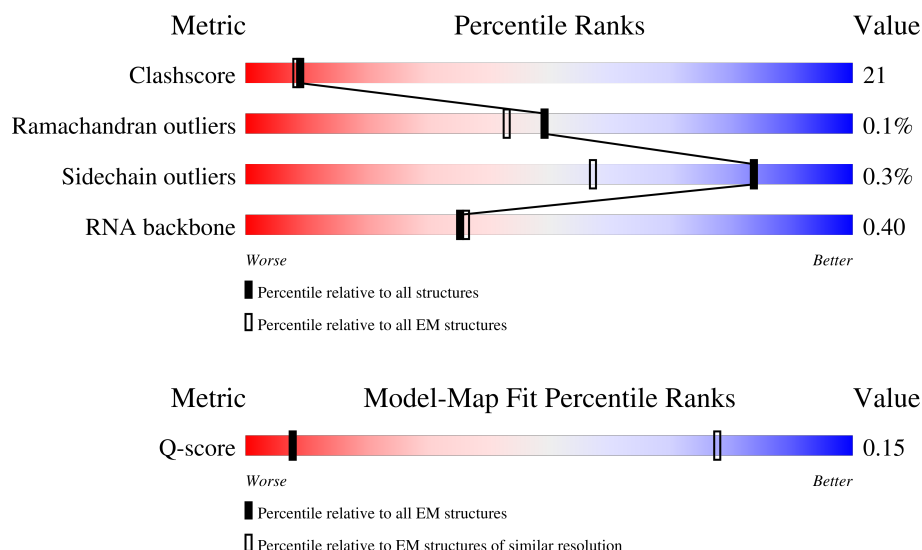
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance i

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

The reported resolution of this entry is 8.90 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	258 (8.40 - 9.40)

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

Mol	Chain	Length	Quality of chain
1	0	48	19% 73% 25% .
2	1	59	27% 64% 36%
3	2	37	8% 43% 57%

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Mol	Chain	Length	Quality of chain
4	A	294	
5	B	273	
6	C	205	
7	D	219	
8	E	215	
9	F	155	
10	G	142	
11	H	132	
12	I	108	
13	J	121	
14	K	139	
15	L	124	
16	M	61	
17	N	86	
18	O	94	
19	P	85	
20	Q	104	
21	R	87	
22	S	87	
23	T	60	
24	a	287	
25	b	287	
26	c	212	
27	d	180	
28	e	184	

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Mol	Chain	Length	Quality of chain
29	f	149	
30	g	161	
31	h	137	
32	i	146	
33	j	122	
34	k	151	
35	l	139	
36	m	124	
37	n	116	
38	o	119	
39	p	127	
40	q	100	
41	r	159	
42	s	237	
43	t	111	
44	u	104	
45	v	65	
46	w	111	
47	x	97	
48	y	57	
49	z	53	
50	3	2907	
51	4	108	
52	5	1520	
53	7	76	

2 Entry composition

There are 53 unique types of molecules in this entry. The entry contains 144524 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0	47	Total	C	N	O	S	0	0
			380	236	81	61	2		

- Molecule 2 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1	59	Total	C	N	O	S	0	0
			477	300	99	77	1		

- Molecule 3 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	37	Total	C	N	O	S	0	0
			304	189	65	46	4		

- Molecule 4 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	A	240	Total	C	N	O	S	0	0
			1921	1226	334	352	9		

- Molecule 5 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	B	215	Total	C	N	O	S	0	0
			1698	1073	313	307	5		

- Molecule 6 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	C	203	Total	C	N	O	S	0	0
			1660	1051	314	290	5		

- Molecule 7 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	153	Total	C	N	O	S	0	0
			1173	742	226	202	3		

- Molecule 8 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	167	Total	C	N	O	S	0	0
			1362	857	240	263	2		

- Molecule 9 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	154	Total	C	N	O	S	0	0
			1246	785	239	216	6		

- Molecule 10 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	141	Total	C	N	O	S	0	0
			1110	723	193	192	2		

- Molecule 11 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	128	Total	C	N	O	S	0	0
			1028	655	191	181	1		

- Molecule 12 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	I	101	Total	C	N	O	S	0	0
			809	523	142	143	1		

- Molecule 13 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	114	Total	C	N	O	S	0	0
			829	514	153	156	6		

- Molecule 14 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	K	136	Total	C	N	O	S	0	0
			1076	680	213	181	2		

- Molecule 15 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	L	118	Total	C	N	O		0	0
			951	594	191	166			

- Molecule 16 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	M	60	Total	C	N	O	S	0	0
			474	302	96	72	4		

- Molecule 17 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	N	83	Total	C	N	O		0	0
			673	428	125	120			

- Molecule 18 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	O	80	Total	C	N	O	S	0	0
			646	414	119	111	2		

- Molecule 19 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	P	83	Total	C	N	O		0	0
			675	425	135	115			

- Molecule 20 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Q	65	Total	C	N	O	S	0	0
			535	342	103	86	4		

- Molecule 21 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	R	84	Total	C	N	O	S	0	0
			682	435	127	118	2		

- Molecule 22 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	S	77	Total	C	N	O	S	0	0
			629	383	135	111			

- Molecule 23 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	T	53	Total	C	N	O	S	0	0
			471	295	103	72	1		

- Molecule 24 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	a	285	Total	C	N	O	S	0	0
			2225	1385	437	397	6		

- Molecule 25 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	b	229	Total	C	N	O	S	0	0
			1762	1119	318	318	7		

- Molecule 26 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	c	210	Total	C	N	O	S	0	0
			1644	1047	297	297	3		

- Molecule 27 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	d	175	Total	C	N	O	S	0	0
			1388	893	245	246	4		

- Molecule 28 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	e	176	Total	C	N	O	0	0
			1396	899	247	250		

- Molecule 29 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	f	145	Total	C	N	O	S	0
			1182	763	206	210	3	0

- Molecule 30 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	g	126	Total	C	N	O	S	0
			960	612	167	178	3	0

- Molecule 31 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	h	128	Total	C	N	O	S	0
			959	616	160	177	6	0

- Molecule 32 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms				AltConf	Trace
32	i	144	Total	C	N	O	S	0
			1164	737	213	209	5	0

- Molecule 33 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	j	122	Total	C	N	O	S	0
			944	595	178	167	4	0

- Molecule 34 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms				AltConf	Trace
34	k	148	Total	C	N	O	0	0
			1153	731	226	196		

- Molecule 35 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	l	136	Total	C	N	O	S	0	0
			1079	694	196	182	7		

- Molecule 36 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	m	119	Total	C	N	O	S	0	0
			958	609	175	171	3		

- Molecule 37 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	n	112	Total	C	N	O	S	0	0
			889	557	175	155	2		

- Molecule 38 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	o	115	Total	C	N	O	S	0	0
			938	592	180	165	1		

- Molecule 39 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	p	114	Total	C	N	O	S	0	0
			947	603	188	154	2		

- Molecule 40 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	q	99	Total	C	N	O	S	0	0
			811	525	148	134	4		

- Molecule 41 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	r	139	Total	C	N	O	S	0	0
			1068	663	207	191	7		

- Molecule 42 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	s	92	Total	C	N	O	S	0	0
			720	475	122	122	1		

- Molecule 43 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	t	111	Total	C	N	O	S	0	0
			872	550	166	153	3		

- Molecule 44 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	u	86	Total	C	N	O	S	0	0
			657	409	130	117	1		

- Molecule 45 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	v	63	Total	C	N	O	S	0	0
			513	317	108	87	1		

- Molecule 46 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
46	w	100	Total	C	N	O	0	0
			818	517	153	148		

- Molecule 47 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	x	44	Total	C	N	O	S	0	0
			344	221	55	64	4		

- Molecule 48 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	y	56	Total	C	N	O	S	0	0
			452	274	98	75	5		

- Molecule 49 is a protein called 50S ribosomal protein L33 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	z	50	Total	C	N	O	S	0	0
			408	255	81	68	4		

- Molecule 50 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	3	2878	Total	C	N	O	P	0	0
			61664	27558	11236	19995	2875		

- Molecule 51 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	4	105	Total	C	N	O	P	0	0
			2239	1003	409	724	103		

- Molecule 52 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	5	1493	Total	C	N	O	P	0	0
			31943	14279	5792	10382	1490		

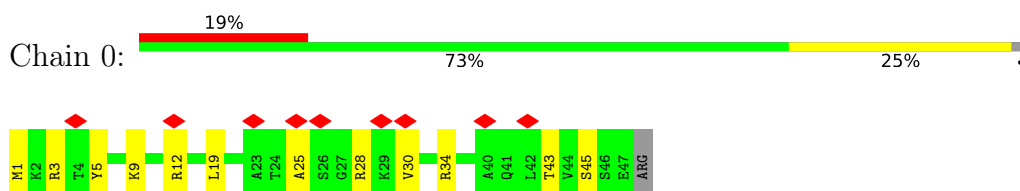
- Molecule 53 is a RNA chain called tRNA-Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	7	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		

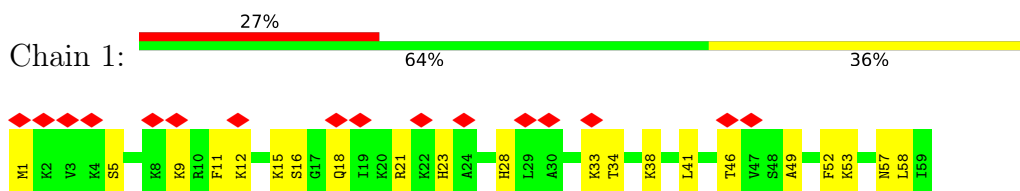
3 Residue-property plots

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

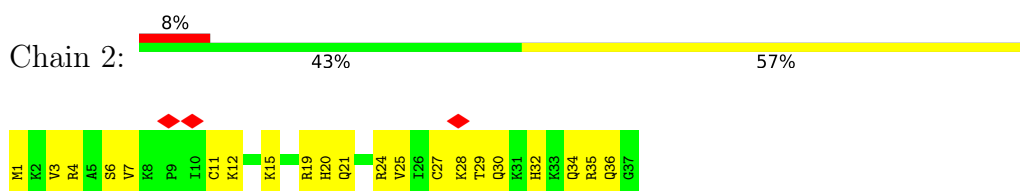
- Molecule 1: 50S ribosomal protein L34



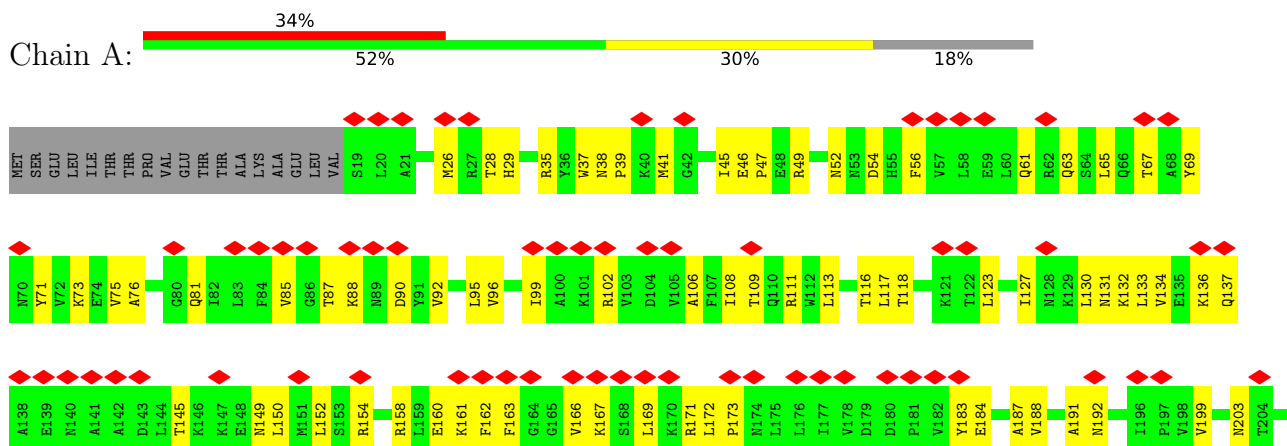
- Molecule 2: 50S ribosomal protein L35



- Molecule 3: 50S ribosomal protein L36

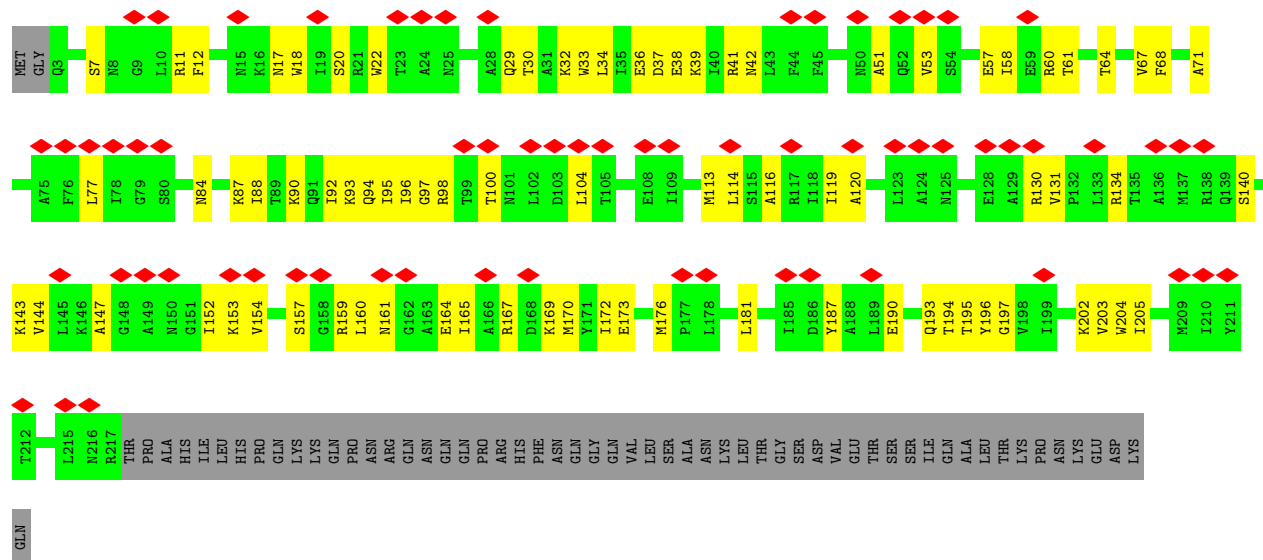


- Molecule 4: 30S ribosomal protein S2

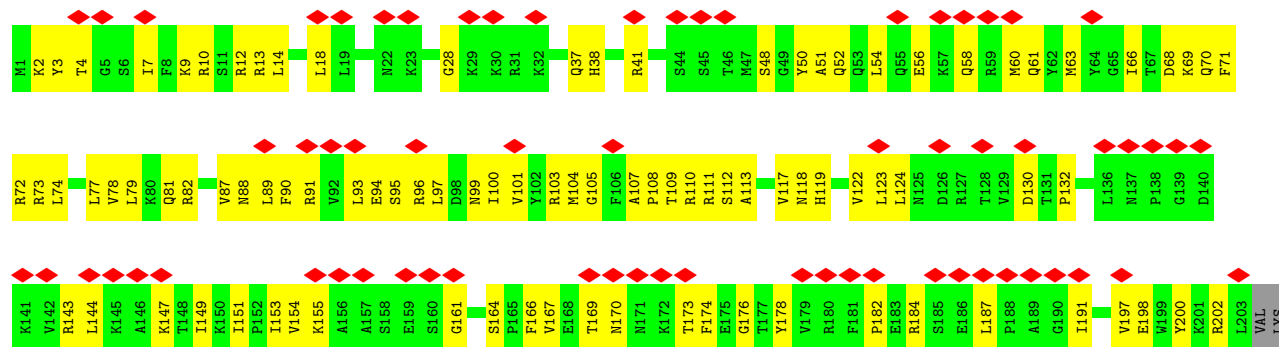




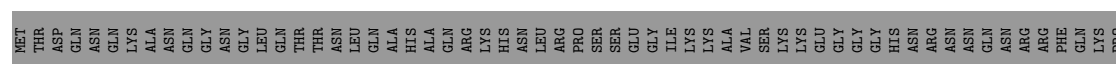
• Molecule 5: 30S ribosomal protein S3

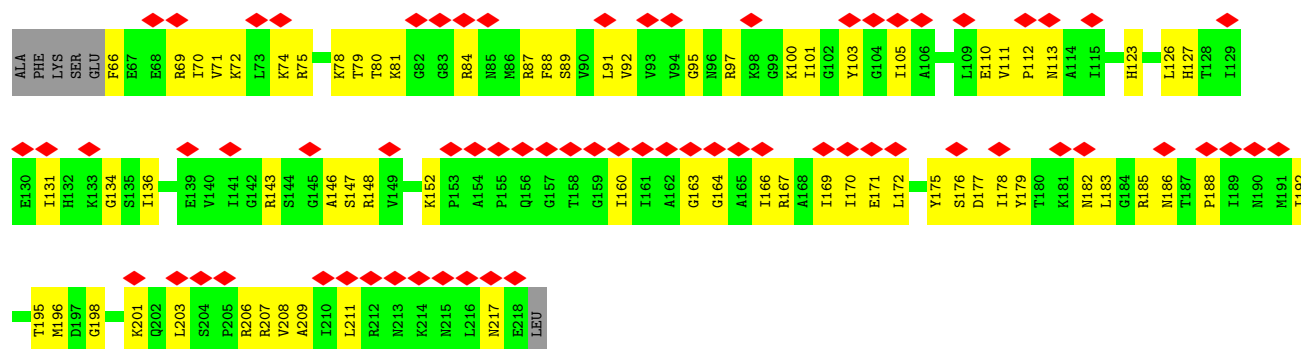


• Molecule 6: 30S ribosomal protein S4

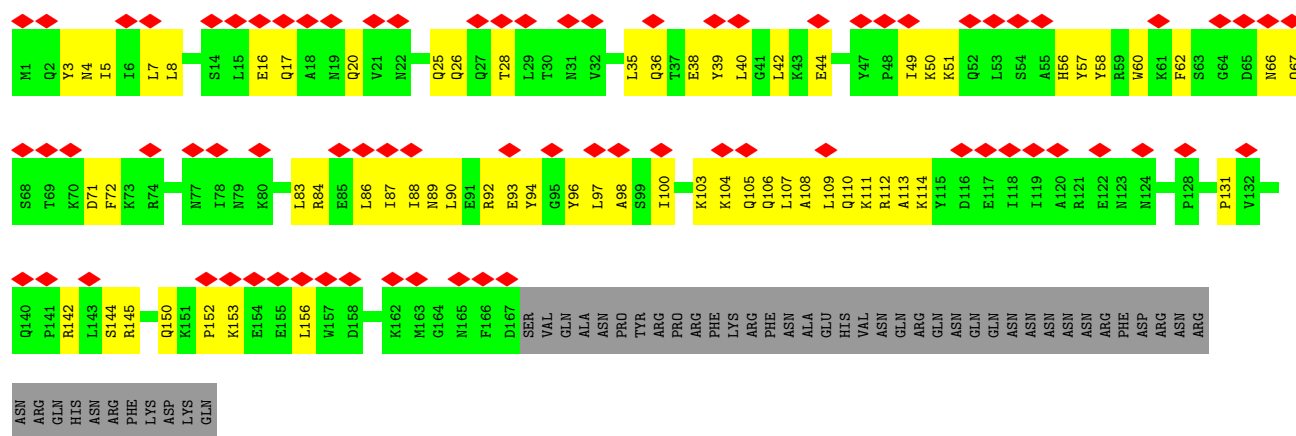


• Molecule 7: 30S ribosomal protein S5

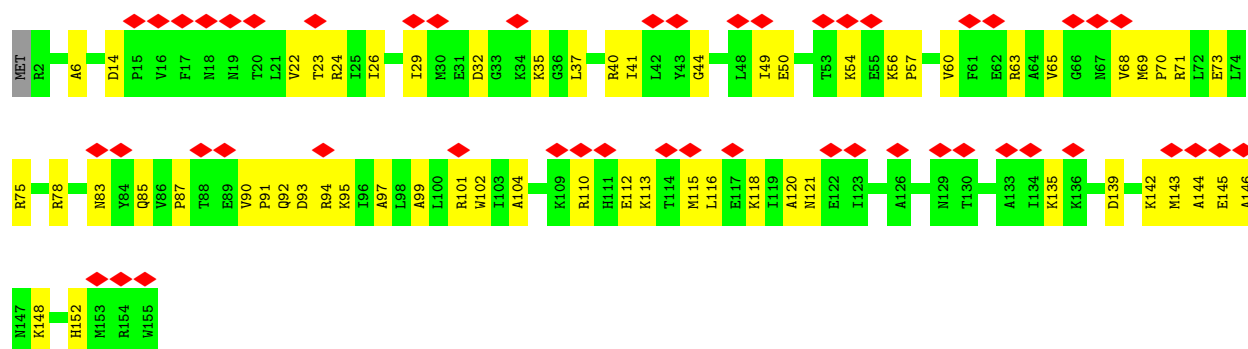




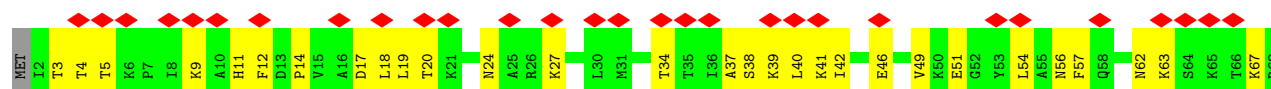
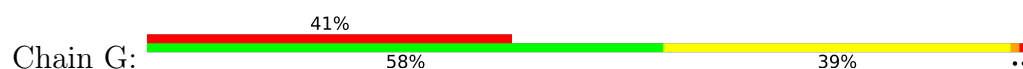
• Molecule 8: 30S ribosomal protein S6

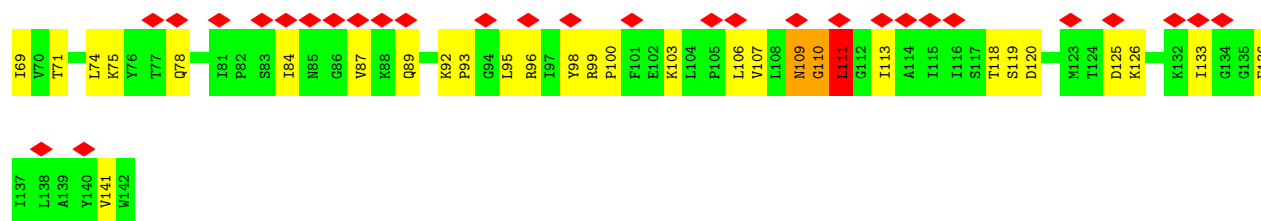


• Molecule 9: 30S ribosomal protein S7

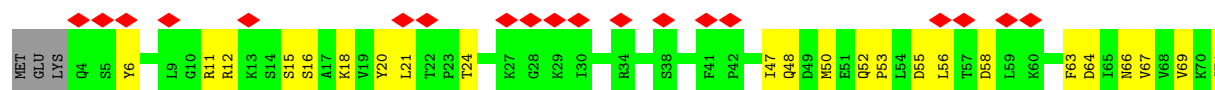


• Molecule 10: 30S ribosomal protein S8

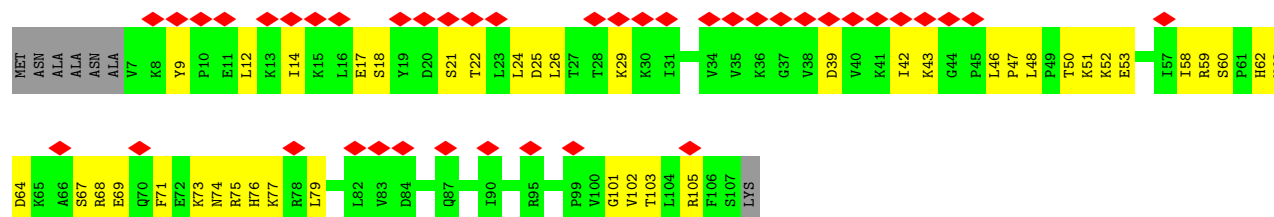




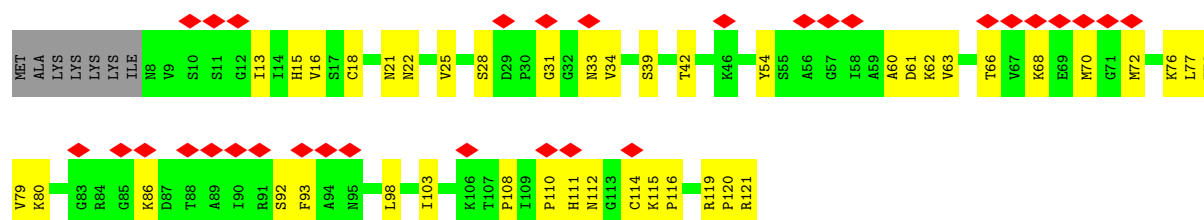
• Molecule 11: 30S ribosomal protein S9



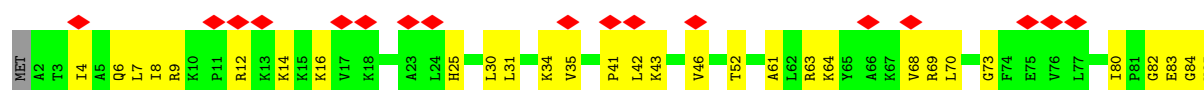
• Molecule 12: 30S ribosomal protein S10

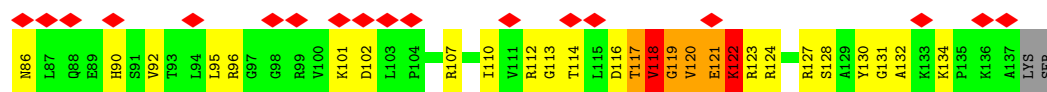


• Molecule 13: 30S ribosomal protein S11

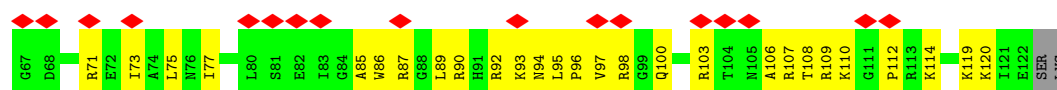
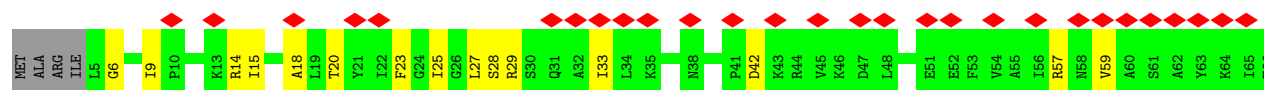


• Molecule 14: 30S ribosomal protein S12





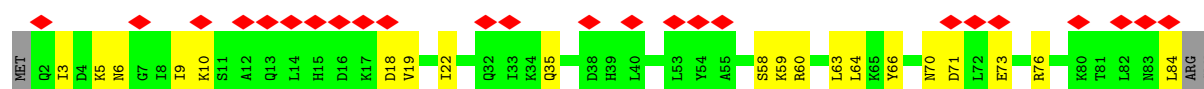
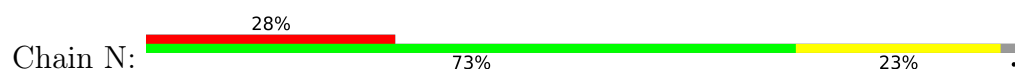
• Molecule 15: 30S ribosomal protein S13



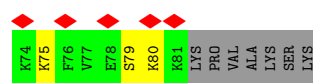
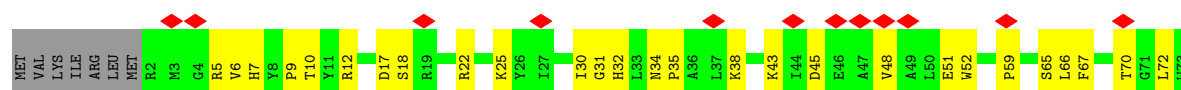
• Molecule 16: 30S ribosomal protein S14 type Z



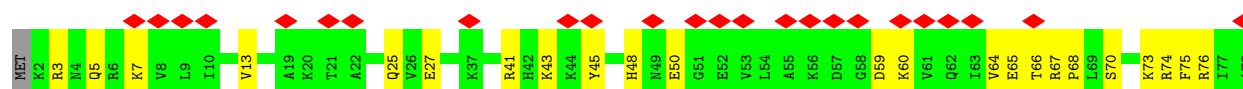
• Molecule 17: 30S ribosomal protein S15

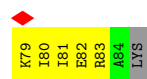


• Molecule 18: 30S ribosomal protein S16

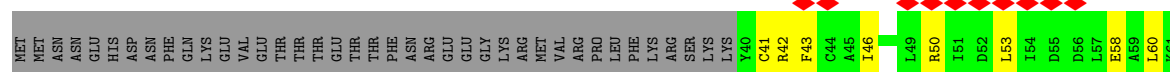
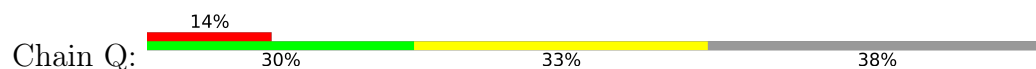


• Molecule 19: 30S ribosomal protein S17

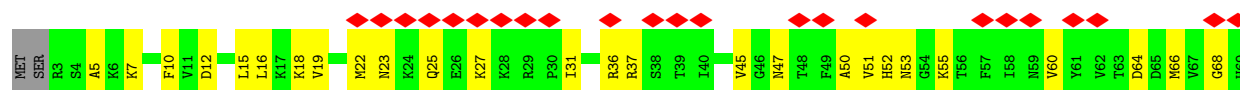




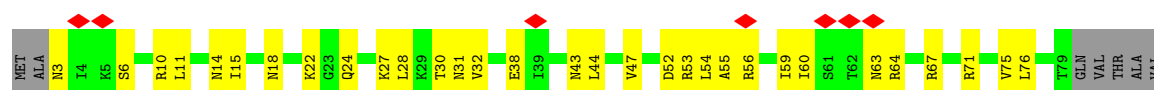
- Molecule 20: 30S ribosomal protein S18



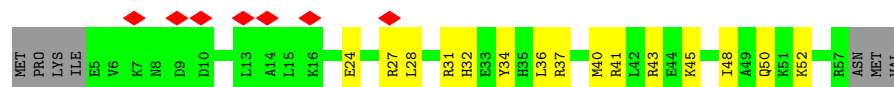
- Molecule 21: 30S ribosomal protein S19



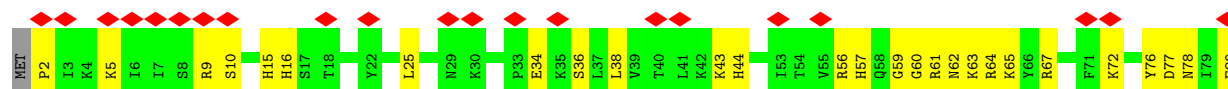
- Molecule 22: 30S ribosomal protein S20

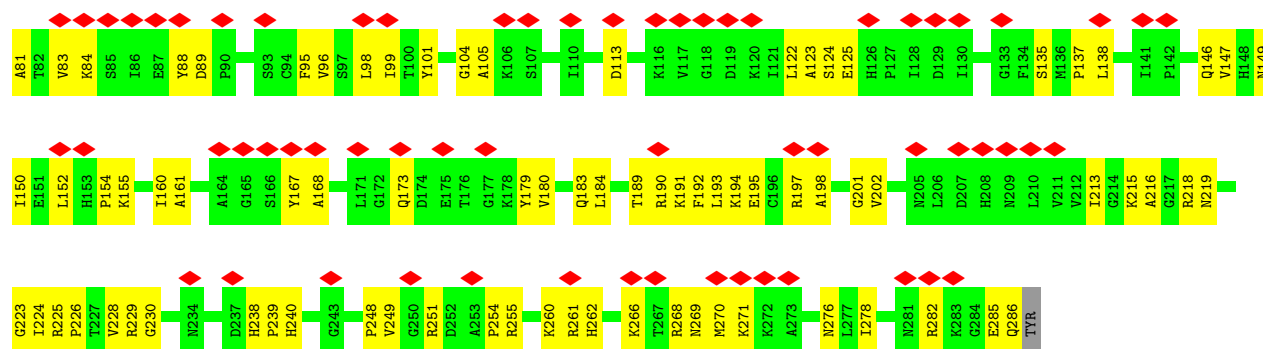


- Molecule 23: 30S ribosomal protein S21

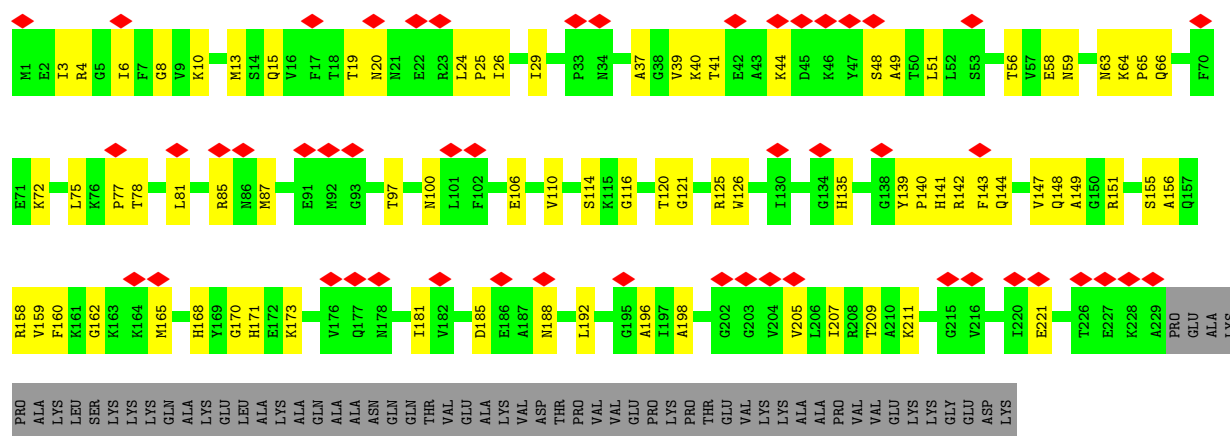


- Molecule 24: 50S ribosomal protein L2

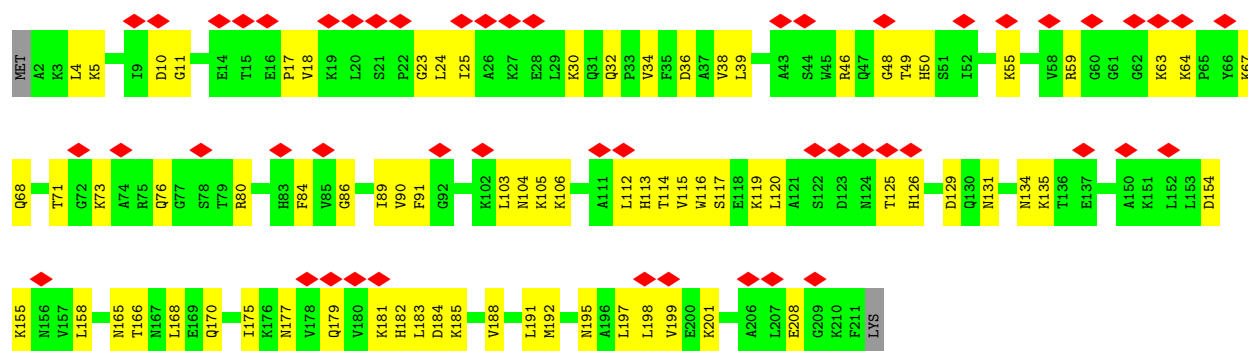




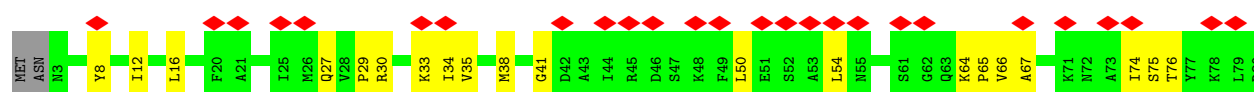
• Molecule 25: 50S ribosomal protein L3

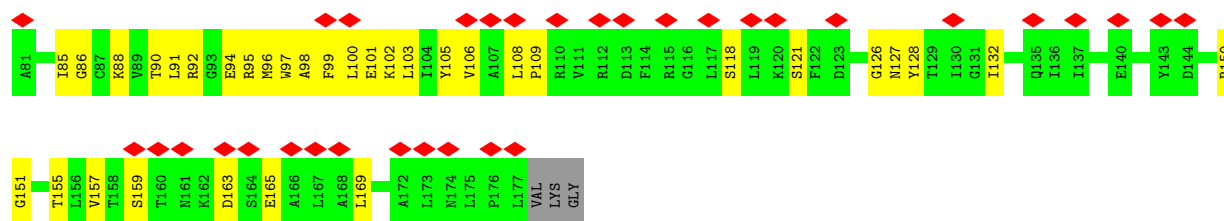


• Molecule 26: 50S ribosomal protein L4

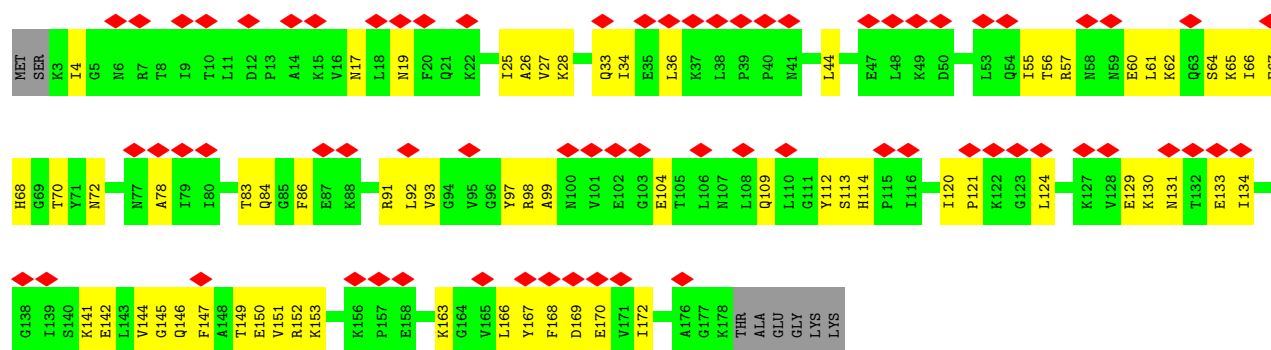
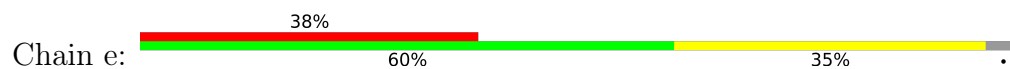


• Molecule 27: 50S ribosomal protein L5

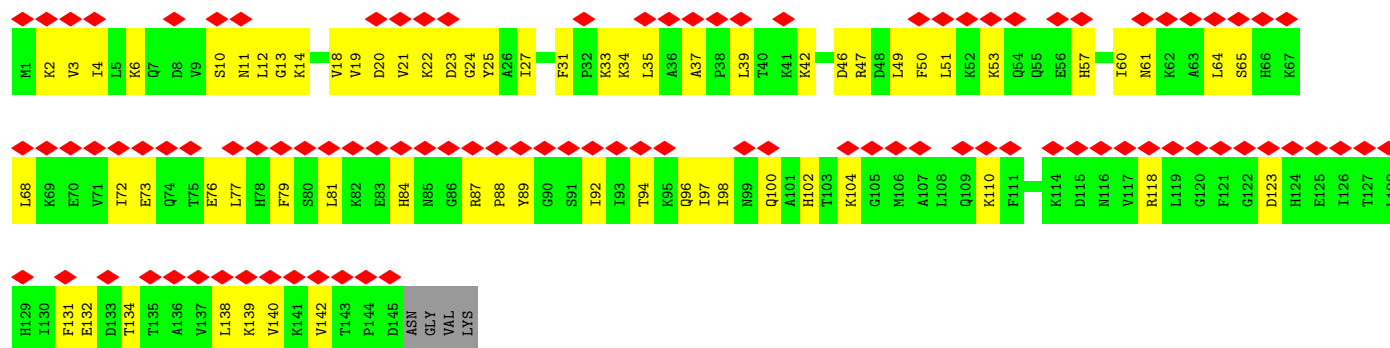




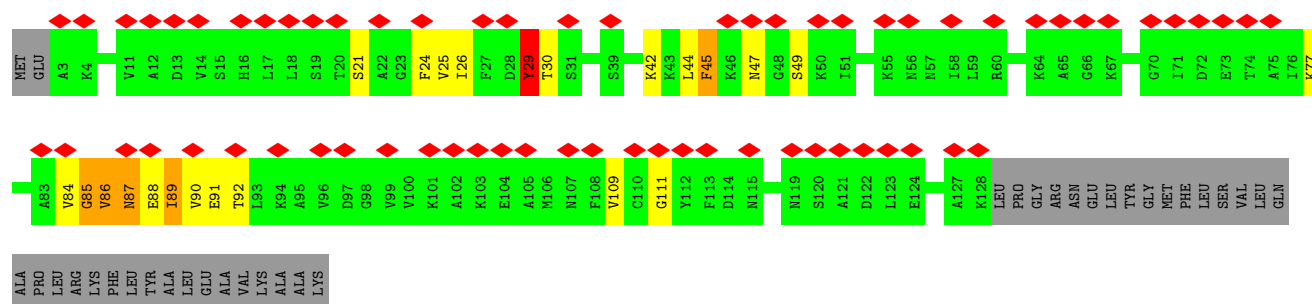
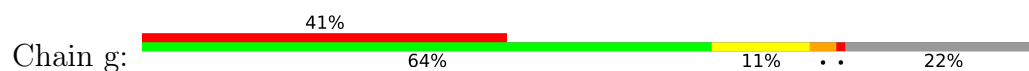
• Molecule 28: 50S ribosomal protein L6



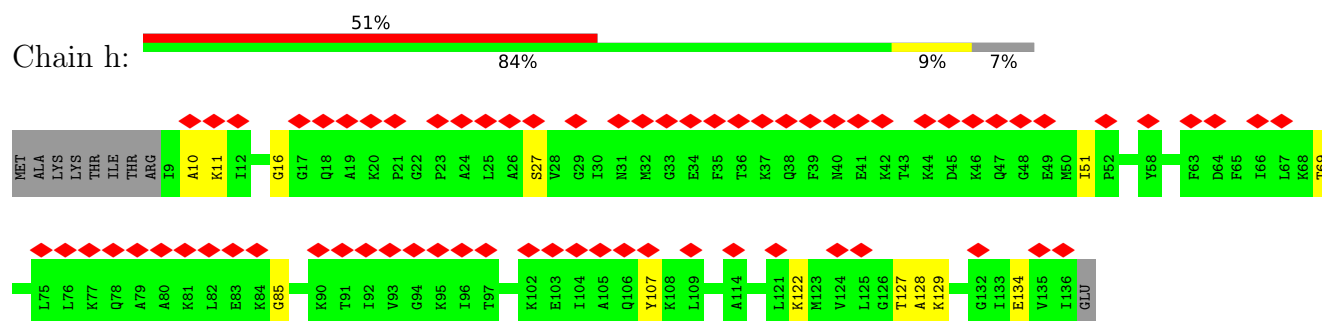
• Molecule 29: 50S ribosomal protein L9



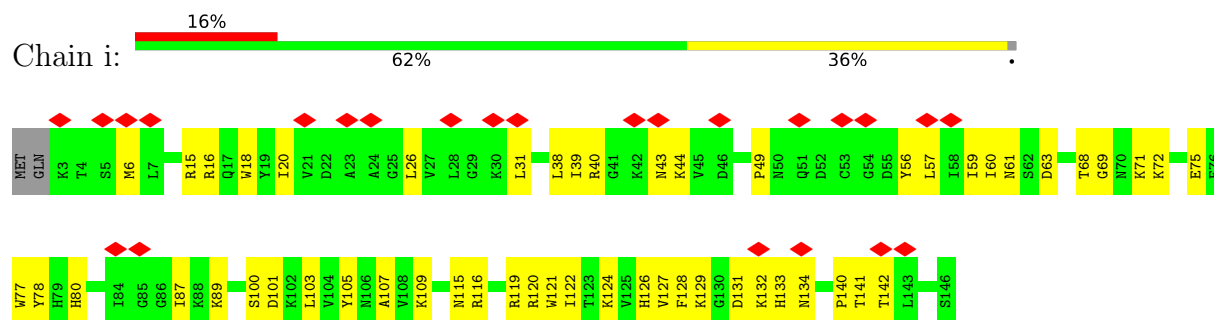
• Molecule 30: 50S ribosomal protein L10



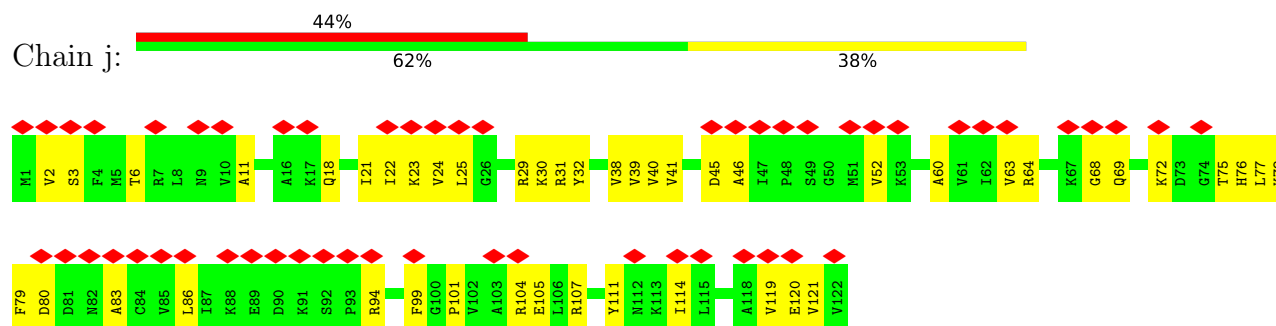
- Molecule 31: 50S ribosomal protein L11



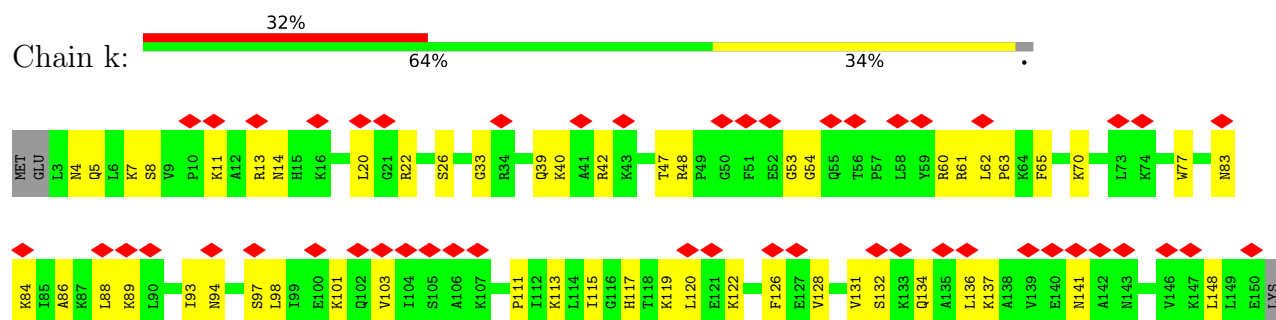
- Molecule 32: 50S ribosomal protein L13



- Molecule 33: 50S ribosomal protein L14

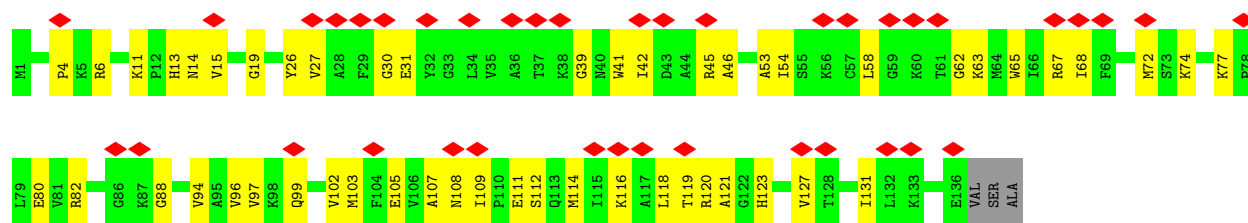


- Molecule 34: 50S ribosomal protein L15

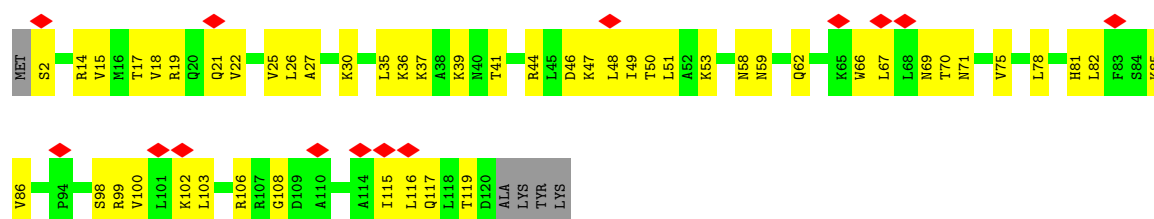


- Molecule 35: 50S ribosomal protein L16

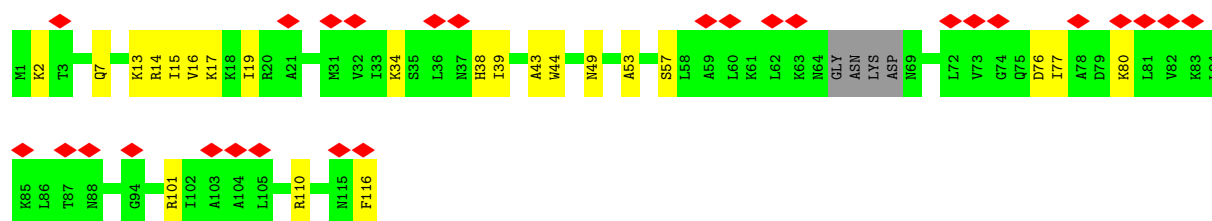
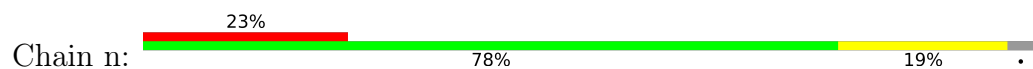




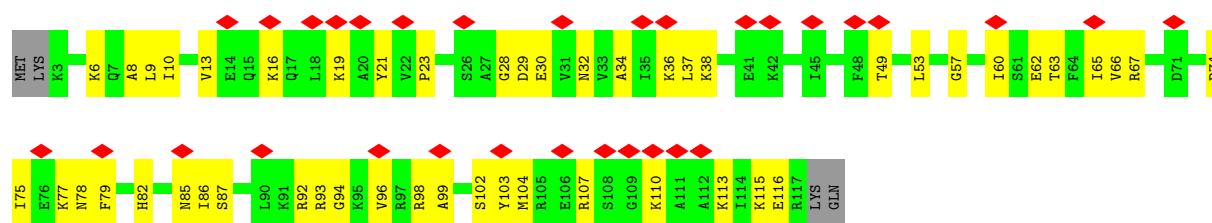
• Molecule 36: 50S ribosomal protein L17



• Molecule 37: 50S ribosomal protein L18

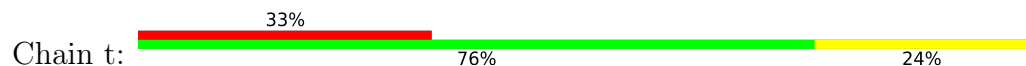


• Molecule 38: 50S ribosomal protein L19

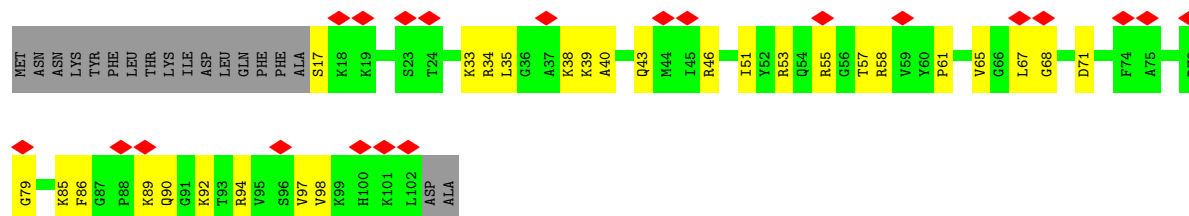


• Molecule 39: 50S ribosomal protein L20





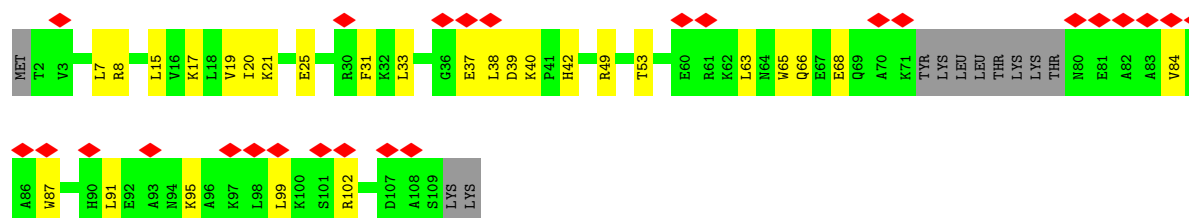
- Molecule 44: 50S ribosomal protein L27



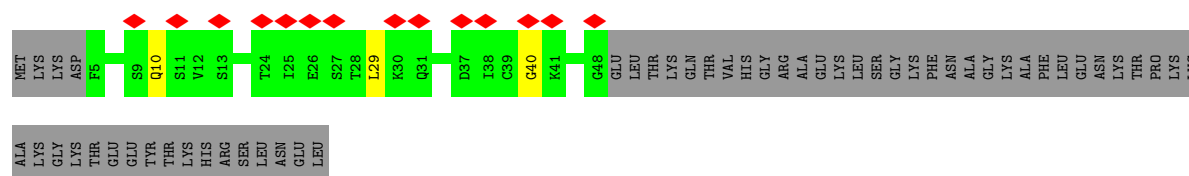
- Molecule 45: 50S ribosomal protein L28



- Molecule 46: 50S ribosomal protein L29

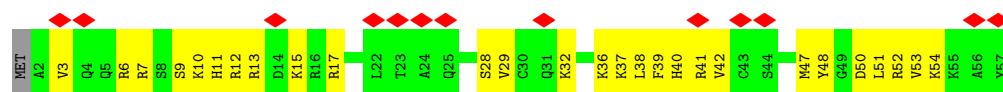


- Molecule 47: 50S ribosomal protein L31

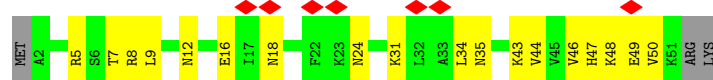


- Molecule 48: 50S ribosomal protein L32

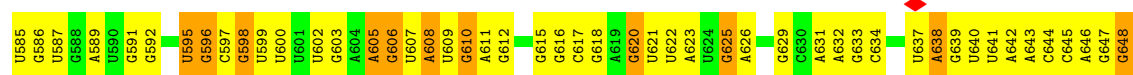
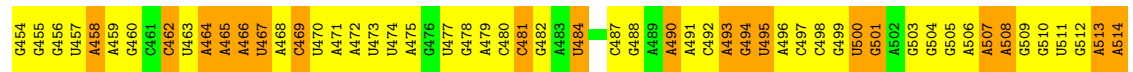
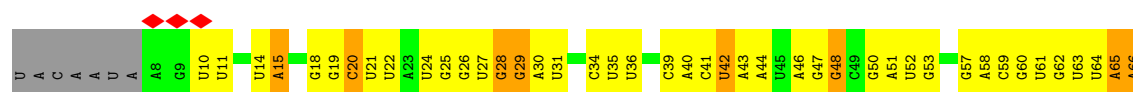




• Molecule 49: 50S ribosomal protein L33 1

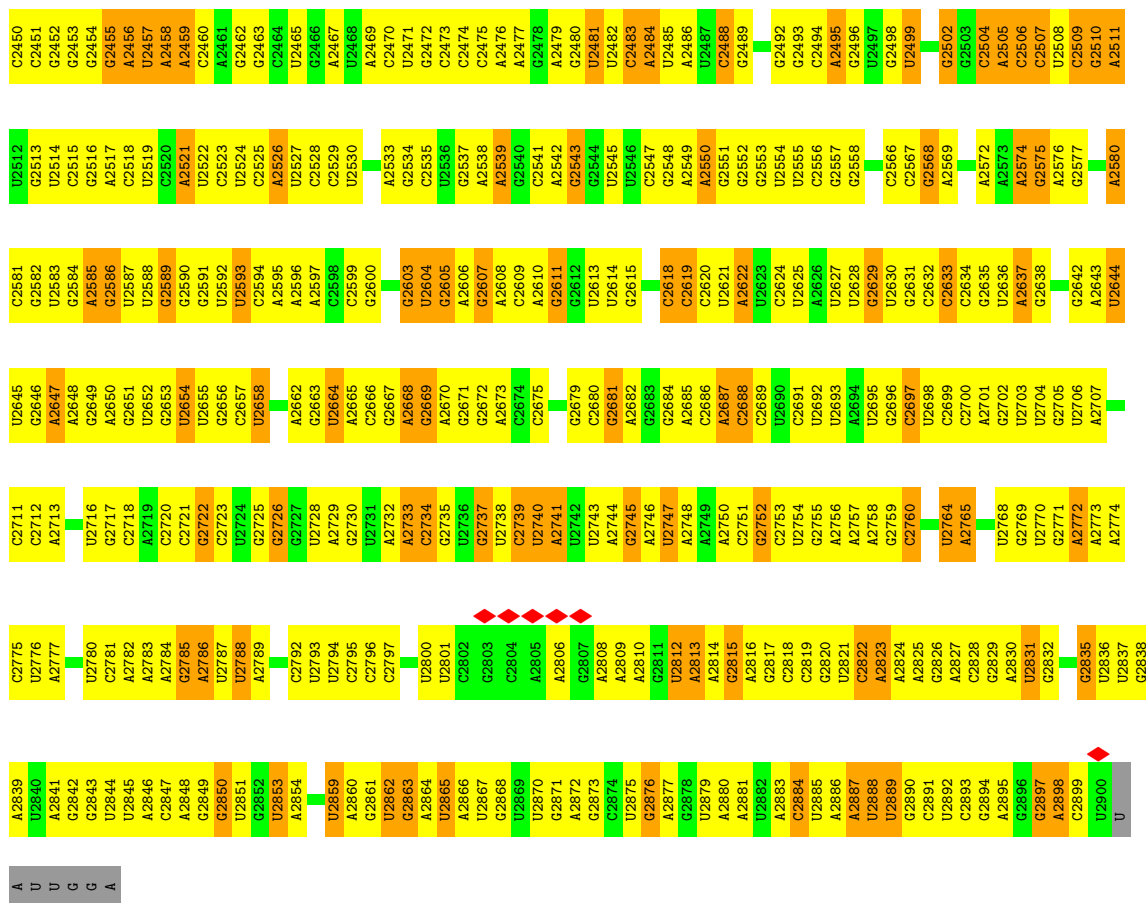


• Molecule 50: 23S ribosomal RNA



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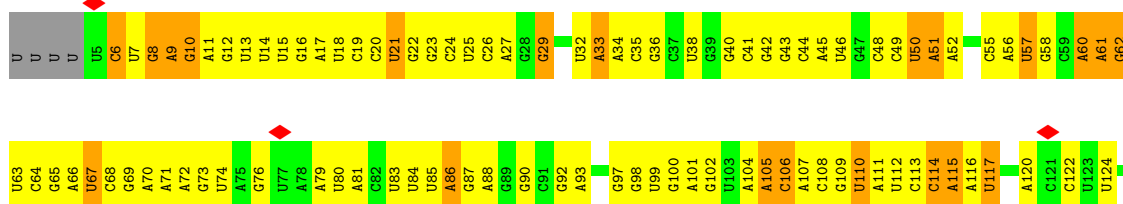
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U2428	C2368	C2305	U2238	G2169	U2112	G2051	U1988	U1848	U1714	U1586
C2429	U2369	A2306	U2240	A2170	U2113	C2052	U1989	A1849	A1715	U1587
U2430	G2372	U2307	G2242	C2171	C2114	G2053	U1990	C1850	G1716	A1588
C2431	U2373	C2308	A2241	A2172	A2115	U2054	U1991	A1908	A1788	C1652
U2432	C2374	G2243	U2243	G2173	U2116	A2055	U1992	U1930	A1791	A1656
A2433	U2375	C2309	U2244	C2174	G2117	A2056	U1993	C1931	A1792	G1657
C2434	C2376	U2310	G2245	U2175	A2119	C2057	U1994	U1932	A1793	U1658
U2435	U2377	C2311	G2246	G2176	C2120	G2058	A1995	U1933	A1794	C1659
C2436	C2378	U2312	G2247	G2177	A2121	G2059	U1996	G1934	C1795	C1595
U2437	U2379	U2313	C2248	A2178	C2122	U2060	U1997	U1935	A1796	U1596
A2438	C2380	U2314	A2249	C2179	A2123	A2061	U1998	G1936	C1797	G1662
C2439	U2381	G2315	G2250	A2180	G2063	G2062	U1999	U1937	A1798	A1601
U2440	A2382	U2316	U2251	U2181	U2124	C2064	U2000	U1938	C1799	G1602
C2441	C2383	C2317	U2252	A2182	A2125	G2065	C2003	A1939	U1801	A1664
U2442	U2384	U2318	U2253	C2181	U2126	A2066	G2004	G1940	G1731	A1665
C2443	A2385	A2319	A2254	C2182	A2127	G2067	G2005	U1941	A1865	G1666
U2444	U2386	U2320	U2255	U2183	G2127	A2068	C2006	G1942	A1866	G1667
A2445	C2387	C2321	G2258	A2184	C2128	G2069	U2007	U1943	A1867	A1668
C2446	U2388	U2322	U2259	C2185	U2129	A2070	A2008	A1944	U1868	U1670
U2447	C2389	U2323	U2260	G2186	C2130	A2071	U2009	A1945	U1869	C1671
C2448	U2390	U2324	U2261	U2187	U2131	A2072	U2010	A1946	G1736	
A2449	U2391	U2325	U2262	U2188	U2132	A2073	U2011	A1947		
C2450	U2392	U2326	U2263	U2189	U2133	A2074	U2012	A1948		
U2451	C2393	U2327	U2264	U2190	U2134	A2075	U2013	A1949		
A2452	U2394	U2328	U2265	U2191	U2135	A2076	U2014	A1950		
C2453	U2395	U2329	U2266	U2192	U2136	A2077	U2015	A1951		
U2454	C2396	U2330	U2267	U2193	U2137	A2078	U2016	A1952		
A2455	U2397	U2331	U2268	U2194	U2138	A2079	U2017	A1953		
C2456	U2398	U2332	U2269	U2195	U2139	A2080	U2018	A1954		
U2457	C2399	U2333	U2270	U2196	U2140	A2081	U2019	A1955		
A2458	U2399	U2334	U2271	U2197	U2141	A2082	U2020	A1956		
C2459	U2400	U2335	U2272	U2198	U2142	A2083	U2021	A1957		
U2460	C2401	U2336	U2273	U2199	U2143	A2084	U2022	A1958		
A2461	U2402	U2337	U2274	U2200	U2144	A2085	U2023	A1959		
C2462	U2403	U2338	U2275	U2201	U2145	A2086	U2024	A1960		
U2463	C2404	U2339	U2276	U2202	U2146	A2087	U2025	A1961		
A2464	U2405	U2340	U2277	U2203	U2147	A2088	U2026	A1962		
C2465	U2406	U2341	U2278	U2204	U2148	A2089	U2027	A1963		
U2466	C2407	U2342	U2279	U2205	U2149	A2090	U2028	U1964		
A2467	U2408	U2343	U2280	U2206	U2150	U2091	U2029	U1965		
C2468	U2409	U2344	U2281	U2207	U2151	U2092	U2030	U1966		
U2469	C2410	U2345	U2282	U2208	U2152	U2093	U2031	U1967		
A2470	U2411	U2346	U2283	U2209	U2153	U2094	U2032	U1968		
C2471	C2412	U2347	U2284	U2210	U2154	U2095	U2033	U1969		
U2472	U2413	G2350	U2285	U2211	U2155	U2096	U2034	U1970		
A2473	C2414	U2351	G2351	U2212	U2156	U2097	U2035	U1971		
C2474	U2415	U2352	G2352	U2213	U2157	U2098	U2036	U1972		
U2475	A2416	C2353	U2214	U2214	U2158	U2099	U2037	U1973		
C2476	U2417	U2354	U2215	U2215	U2159	U2100	U2038	U1974		
A2477	C2418	C2355	U2216	U2216	U2160	A2101	U2039	U1975		
U2478	U2419	U2356	U2217	U2217	U2161	U2102	U2040	U1976		
C2479	A2420	U2357	U2218	U2218	U2162	U2103	C2041	U1977		
U2480	C2421	C2358	U2219	U2219	U2163	C2104	U2042	U1978		
A2481	U2422	U2359	U2220	U2220	U2164	U2105	U2043	U1979		
C2482	C2423	U2360	U2221	U2221	U2165	G2106	U2044	U1980		
U2483	U2424	C2361	U2222	U2222	U2166	C2107	U2045	U1981		
A2484	C2425	A2362	U2223	U2223	U2167	A2108	U2046	U1982		
C2485	U2426	C2363	U2224	U2224	U2168	U2109	U2047	U1983		
U2486	C2427	U2364	U2225	U2225	U2169	A2110	U2048	U1984		
A2487	U2428	C2365	U2226	U2226	U2170	U2111	U2049	U1985		
C2488	C2429	U2366	U2227	U2227	U2171	U2112	A2049	U1986		
U2489	U2430	C2367	U2228	U2228	U2172	U2113	U2050	C1987		
A2490	C2431	U2368	U2229	U2229	U2173	U2114	G2051	U1988		
C2491	U2432	C2369	U2230	U2230	U2174	U2115	C2052	U1989		
U2492	A2433	U2370	U2231	U2231	U2175	C2114	G2053	U1990		
C2493	C2434	C2371	U2232	U2232	U2176	A2115	U2054	U1991		
U2494	U2435	U2372	U2233	U2233	U2177	U2116	A2055	U1992		
A2495	C2436	C2373	U2234	U2234	U2178	G2117	A2056	U1993		
C2496	U2437	U2374	U2235	U2235	U2179	U2118	C2057	U1994		
U2497	A2438	C2375	U2236	U2236	U2180	U2119	U2058	U1995		
A2498	C2439	U2376	U2237	U2237	U2181	C2120	G2059	U1996		
C2499	U2440	C2377	U2238	U2238	U2182	A2121	U2060	U1997		
U2500	A2441	U2378	U2239	U2239	U2183	C2122	A2061	U1998		
C2501	C2442	C2379	U2240	U2240	U2184	U2123	G2062	U1999		
U2502	U2443	U2380	U2241	U2241	U2185	G2063	U2063	U2000		
A2503	C2444	C2381	U2242	U2242	U2186	U2124	G2064	C2003		
C2504	U2445	U2382	U2243	U2243	U2187	A2125	G2065	G2004		
U2505	A2446	C2383	U2244	U2244	U2188	U2126	A2066	G2005		
C2506	C2447	U2384	U2245	U2245	U2189	A2127	G2067	G200		



• Molecule 51: 5S ribosomal RNA



• Molecule 52: 16S ribosomal RNA



G1034	A128	A197	G262	C329	C591	A452	C517	C578	A645	A712	A779	C843	A907	A973	G1034
A1035	U129	A198	C263	C330	A392	C453	A518	G579	A646	A713	U780	U844	A908	C974	A1035
C1036	G130	A199	C264	C331	A393	U454	G519	G580	U647	C714	A781	C845	A909	C975	C1036
A1037	G131	G200	U265	A332	U394	U455	U456	A581	C648	A715	G782	G846	A910	U976	A1037
G1038	G132	G201	A266	U333	G395	U456	U456	G582	U649	C716	G783	G847	G911	U977	G1038
U1040	G133	A202	G133	U334	C396	U456	U456	G583	A650	C717	U784	U848	G912	A978	G1039
G1041	G134	C203	A270	C335	C397	A460	A460	C584	G651	A718	U785	A849	A913	C979	U1040
U1042	A135	C204	G271	U336	G398	A461	A461	G585	A652	G719	U786	G850	A914	C980	G1041
G1043	U205	C204	G272	C337	G399	A462	A462	U652	A653	U720	A787	U851	A915	U981	U1042
U1044	G206	G206	C273	C338	G400	U463	U463	G590	U654	G721	U788	G852	U916	A982	U1043
C1044	A137	C207	A274	U339	U401	A464	A464	A591	G655	G722	A789	G853	U917	C983	U1044
U1045	G138	C208	U275	A340	G402	A465	A465	A592	U656	C723	U790	A854	A918	A984	C1045
C1046	U140	A209	U276	A341	G403	U466	U466	A593	G657	G724	A791	G855	C919	C985	U1046
U1047	A141	A209	G277	G404	A403	G467	G467	A594	U658	A725	C792	U855	G920	U986	U1047
G1048	A142	A210	A278	G343	C405	U468	U468	G595	U659	G726	C793	A858	G921	U987	G1048
U1049	U143	G211	C279	G344	G406	U469	U469	U596	A660	G727	U796	A859	G922	U988	U1049
U1050	U213	G212	A288	G345	A407	U470	U470	C597	G661	G728	A797	C860	G923	A989	U1050
G1051	G145	U214	U288	G346	U408	A471	A471	U598	G662	C729	G797	A861	A930	C990	U1051
U1052	A146	C215	U289	G347	G409	G472	G472	A595	G663	G730	U798	C862	A931	A901	G1052
C1053	A147	U216	U290	C348	U412	G473	G473	G599	A664	A731	U799	A863	C931	U992	U1053
G1055	U217	U221	C291	A349	G413	U474	U474	G602	U665	A732	G800	U864	A932	C993	C1054
U1056	U218	U221	C292	G350	G414	U475	U475	U603	U666	A733	C803	U865	A933	G994	G1055
C1057	A148	U219	U291	C351	U414	U476	U476	A605	U667	A734	A804	A866	G934	C995	U1056
A1058	A150	U220	C291	A352	U415	G477	G477	A607	U668	C735	A804	A867	G935	U996	C1057
G1059	U156	U221	C292	A352	U416	U478	U478	A607	U669	U736	C805	G868	G936	G997	A1058
U1060	A157	U221	U292	A355	U417	U479	U479	A607	U670	U737	C808	U869	G937	G998	G1059
C1061	A158	U227	G293	C356	U418	U480	U480	G608	U671	A738	C809	A870	U938	C999	C1060
C1062	U159	G228	A294	G357	U419	U481	U481	G609	A672	G739	A810	A871	G939	A1000	U1061
G1063	G295	G229	G295	G358	A420	U482	U482	C610	A673	C740	A811	C872	A940	C990	C1062
U1064	C230	G230	U299	A359	U421	U483	U483	A611	U674	U741	U812	U873	G941	A901	G1063
G1065	U231	G231	A300	G360	A422	U484	U484	G612	U675	U742	A813	G875	G942	C992	U1064
U1066	G163	G232	A300	U361	U423	U485	U485	C616	U676	U743	A814	C876	G943	C993	G1065
C1067	C164	C233	A301	U362	U424	U486	U486	U617	U677	U744	C815	C877	A944	U1006	U1066
G1068	U166	C234	A302	U363	G425	U487	U487	U618	U678	U745	G816	C878	G945	U1007	U1067
U1069	A167	C235	U304	U364	U426	U488	U488	A619	U679	U746	A817	C879	G946	C1008	G1068
G1070	A168	C236	A305	U365	A427	U489	U489	C620	U680	U747	U818	G880	G947	G1009	U1069
A1071	G169	U237	A306	A367	U428	U490	U490	A621	U681	U748	U819	G881	U948	A1010	U1070
G1072	A170	U238	G306	C367	A429	U491	U491	C622	U682	U749	G820	G882	G949	A1011	A1071
C1073	C308	U240	A307	C368	G430	U492	U492	A623	U683	C751	A821	U883	C950	A1012	G1072
U1074	C241	C241	A309	A369	U431	U493	U493	G624	U684	G752	U822	U884	U951	C1013	C1073
G1075	A242	A242	C310	U370	U432	U494	U494	U625	U685	U753	A823	G885	U952	A1014	U1074
U1076	G243	G243	A311	U371	C433	U495	U495	U626	U686	U754	C824	U886	A953	U1015	U1075
G1079	A246	A246	A312	A372	U434	U500	U500	U627	U687	U755	A825	C887	U954	A1016	U1076
U1080	G314	G314	U313	A373	U435	A501	A501	U628	A692	A756	A826	U888	U955	A1017	G1079
U1081	G315	G315	G314	C375	U436	C502	C502	A629	A693	G762	G827	U889	U956	U1018	U1080
U1082	G316	G316	G314	A377	U437	G503	G503	U630	A694	A763	C828	U890	C957	G1019	U1081
G1085	A317	U248	A317	A378	U438	A504	A504	G631	U694	A764	G829	C891	A959	G	G1085
U1086	C318	U249	C318	A379	U439	C505	C505	A632	U698	U767	U830	G892	C960	A	U1086
C1087	G251	U251	G320	A380	U441	U506	U506	A633	U699	U768	C831	C893	G961	G	C1087
U1088	U252	U252	A321	U383	U442	A507	A507	U634	U702	G769	C832	A894	G962	U	U1088
G1089	G253	G253	A322	G384	G443	A508	A508	G635	A703	U770	G833	A895	A966	U	C1089
C1091	G254	G254	G322	U385	G444	A509	A509	A637	U704	G771	G834	G896	A967	A	G1091
A1092	G255	G255	A323	U386	G445	A510	A510	U638	A705	A773	C836	U897	C967	G	U1092
U1093	U257	U257	C324	U387	A446	A511	A511	A639	U706	G774	G837	A902	C968	U	A1092
C1094	A258	A258	A325	G387	G447	A512	A512	C640	U707	A775	A838	A903	A969	U	U1093
G1095	A259	A259	G326	G388	G448	U513	U513	U643	U708	G776	A904	A904	A970	A	C1094
A1096	G327	G327	G328	A389	U449	U514	U514	U644	U709	A777	C940	U905	A971	G	G1095
	G390	G390		G390	U450	G515	G515	U644	U711	A778		C906	A972		U1033



Category	Count
G2	15
G3	10
G4	10
G5	10
G6	10
G7	10
G8	10
G9	10
G10	10
G11	10
G12	10
G13	10
G14	10
G15	10
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G70	10
G71	10
G72	10
G73	10
G74	10
G75	10
G76	10
G77	10

4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	485	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	3.2	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3750	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.837	Depositor
Minimum map value	-0.665	Depositor
Average map value	0.026	Depositor
Map value standard deviation	0.131	Depositor
Recommended contour level	0.5	Depositor
Map size (Å)	435.328, 435.328, 435.328	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.7005, 1.7005, 1.7005	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	0	0.13	0/383	0.39	0/504
2	1	0.14	0/484	0.43	0/637
3	2	0.18	0/306	0.49	0/401
4	A	0.15	0/1954	0.40	0/2642
5	B	0.16	0/1721	0.41	0/2323
6	C	0.17	0/1691	0.44	0/2267
7	D	0.15	0/1188	0.43	0/1593
8	E	0.17	0/1384	0.42	0/1867
9	F	0.15	0/1266	0.42	0/1700
10	G	0.24	0/1126	0.58	3/1517 (0.2%)
11	H	0.15	0/1044	0.42	0/1395
12	I	0.15	0/820	0.42	0/1103
13	J	0.15	0/844	0.39	0/1136
14	K	0.27	0/1094	0.53	1/1468 (0.1%)
15	L	0.16	0/962	0.45	0/1289
16	M	0.15	0/483	0.38	0/643
17	N	0.13	0/679	0.39	0/907
18	O	0.14	0/659	0.42	0/885
19	P	0.14	0/684	0.44	0/913
20	Q	0.20	0/545	0.52	0/730
21	R	0.15	0/698	0.42	0/936
22	S	0.15	0/631	0.39	0/838
23	T	0.16	0/475	0.48	0/621
24	a	0.15	0/2267	0.41	0/3044
25	b	0.14	0/1795	0.41	0/2412
26	c	0.13	0/1671	0.41	0/2246
27	d	0.20	0/1409	0.47	0/1894
28	e	0.15	0/1420	0.41	0/1912
29	f	0.16	0/1205	0.46	0/1616
30	g	0.40	0/969	0.78	3/1295 (0.2%)
31	h	0.14	0/968	0.43	0/1298
32	i	0.13	0/1186	0.37	0/1592
33	j	0.14	0/953	0.40	0/1275
34	k	0.15	0/1170	0.40	0/1559

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	l	0.16	0/1104	0.43	0/1481
36	m	0.15	0/973	0.41	0/1309
37	n	0.14	0/897	0.41	0/1198
38	o	0.16	0/948	0.47	0/1262
39	p	0.14	0/961	0.39	0/1278
40	q	0.17	0/828	0.41	0/1111
41	r	0.16	0/1077	0.41	0/1441
42	s	0.14	0/732	0.42	1/988 (0.1%)
43	t	0.15	0/879	0.41	0/1165
44	u	0.17	0/665	0.48	0/884
45	v	0.17	0/519	0.41	0/695
46	w	0.14	0/826	0.37	0/1104
47	x	0.13	0/353	0.38	0/474
48	y	0.30	0/457	0.54	0/601
49	z	0.15	0/412	0.45	0/547
50	3	0.10	0/69073	0.26	0/107710
51	4	0.11	0/2505	0.27	0/3902
52	5	0.10	0/35768	0.25	0/55764
53	7	0.10	0/1808	0.26	0/2817
All	All	0.13	0/156919	0.32	8/234189 (0.0%)

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	G	110	GLY	N-CA-C	-8.54	104.91	115.08
30	g	91	GLU	N-CA-C	-8.21	102.36	112.38
42	s	3	VAL	N-CA-C	-5.72	107.71	113.20
10	G	111	LEU	CA-C-N	-5.27	114.02	121.13
10	G	111	LEU	C-N-CA	-5.27	114.02	121.13
30	g	29	TYR	CB-CA-C	-5.22	102.81	110.06
14	K	119	GLY	N-CA-C	-5.20	108.89	115.08
30	g	29	TYR	N-CA-C	-5.05	102.73	110.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	380	0	429	11	0
2	1	477	0	530	19	0
3	2	304	0	350	19	0
4	A	1921	0	1973	59	0
5	B	1698	0	1768	70	0
6	C	1660	0	1719	83	0
7	D	1173	0	1267	51	0
8	E	1362	0	1377	70	0
9	F	1246	0	1308	47	0
10	G	1110	0	1226	52	0
11	H	1028	0	1094	41	0
12	I	809	0	894	36	0
13	J	829	0	855	36	0
14	K	1076	0	1170	53	0
15	L	951	0	1014	34	0
16	M	474	0	509	25	0
17	N	673	0	730	14	0
18	O	646	0	677	22	0
19	P	675	0	728	22	0
20	Q	535	0	562	41	0
21	R	682	0	691	29	0
22	S	629	0	681	29	0
23	T	471	0	522	16	0
24	a	2225	0	2301	98	0
25	b	1762	0	1808	69	0
26	c	1644	0	1731	54	0
27	d	1388	0	1469	46	0
28	e	1396	0	1481	44	0
29	f	1182	0	1228	71	0
30	g	960	0	1014	17	0
31	h	959	0	1039	11	0
32	i	1164	0	1192	42	0
33	j	944	0	1019	37	0
34	k	1153	0	1256	43	0
35	l	1079	0	1134	42	0
36	m	958	0	1011	40	0
37	n	889	0	952	17	0
38	o	938	0	1008	48	0
39	p	947	0	1028	34	0
40	q	811	0	858	34	0
41	r	1068	0	1150	43	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	s	720	0	803	27	0
43	t	872	0	972	19	0
44	u	657	0	695	25	0
45	v	513	0	560	25	0
46	w	818	0	870	22	0
47	x	344	0	333	3	0
48	y	452	0	472	28	0
49	z	408	0	440	13	0
50	3	61664	0	30954	2116	0
51	4	2239	0	1137	70	0
52	5	31943	0	16058	1168	0
53	7	1618	0	821	41	0
All	All	144524	0	98868	4665	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 (4665) 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)
29:f:4:ILE:CD1	29:f:37:ALA:HB3	1.51	1.40
52:5:407:A:N6	52:5:409:G:H21	1.26	1.34
52:5:407:A:H62	52:5:409:G:N2	1.27	1.30
29:f:4:ILE:HD11	29:f:37:ALA:CB	1.59	1.29
29:f:4:ILE:HD12	29:f:37:ALA:N	1.50	1.26
50:3:1698:A:H61	50:3:2003:C:N4	1.37	1.21
29:f:4:ILE:CD1	29:f:37:ALA:CB	2.14	1.18
50:3:1698:A:N6	50:3:2003:C:H42	1.42	1.16
50:3:1807:C:H42	50:3:1824:G:N2	1.46	1.13
50:3:2483:C:H42	50:3:2537:G:N2	1.45	1.13
50:3:1807:C:N4	50:3:1824:G:H22	1.50	1.09
50:3:2483:C:N4	50:3:2537:G:H22	1.50	1.07
44:u:79:GLY:HA3	44:u:98:VAL:O	1.56	1.06
52:5:779:A:H62	52:5:797:G:N2	1.54	1.05
29:f:4:ILE:HD12	29:f:37:ALA:H	0.88	1.05
50:3:535:G:C2	50:3:540:A:N6	2.26	1.04
52:5:612:G:H1	52:5:624:U:H3	1.03	1.03
52:5:779:A:N6	52:5:797:G:H21	1.58	1.02
52:5:317:A:N6	52:5:328:G:H1	1.57	1.02
50:3:742:G:H1	50:3:759:U:H3	1.01	1.01
50:3:1067:A:N6	50:3:1157:G:H1	1.59	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:4:ILE:CD1	29:f:37:ALA:N	2.24	1.00
50:3:2405:G:H1	50:3:2427:U:H3	1.07	0.99
50:3:2534:G:H1	50:3:2545:U:H3	1.01	0.98
50:3:1246:U:H3	50:3:1263:G:H1	1.11	0.98
50:3:80:U:H3	50:3:109:G:H1	1.13	0.97
50:3:2299:U:H3	50:3:2349:G:H1	0.97	0.97
50:3:2752:G:H1	50:3:2768:U:H3	1.14	0.95
52:5:1237:G:H1	52:5:1248:U:H3	0.99	0.95
50:3:2059:G:H1	50:3:2625:U:H3	1.09	0.95
52:5:317:A:H61	52:5:328:G:H1	0.96	0.95
50:3:137:U:H3	50:3:146:G:H1	1.01	0.95
50:3:1027:U:H3	50:3:1198:G:H1	1.14	0.94
52:5:599:G:H1	52:5:634:U:H3	1.16	0.94
50:3:629:G:H1	50:3:696:U:H3	0.94	0.94
36:m:2:SER:N	50:3:1692:A:HO2'	1.64	0.93
50:3:662:U:H5''	50:3:663:A:H5''	1.50	0.93
48:y:42:VAL:HG12	48:y:48:TYR:HB2	1.49	0.93
52:5:69:G:H1	52:5:86:A:H61	1.05	0.93
50:3:1801:U:H3	50:3:1832:G:H1	0.95	0.92
52:5:514:U:H3	52:5:531:A:N6	1.67	0.92
50:3:535:G:N2	50:3:540:A:C6	2.38	0.92
50:3:990:G:H1	50:3:999:U:H3	1.09	0.91
52:5:69:G:H1	52:5:86:A:N6	1.69	0.91
50:3:633:G:H1	50:3:692:U:H3	1.10	0.91
52:5:1380:G:H21	52:5:1493:A:H1'	1.36	0.90
3:2:4:ARG:H	3:2:36:GLN:HG2	1.37	0.90
52:5:762:G:H1	52:5:809:G:HO2'	0.92	0.90
50:3:305:U:H3	50:3:399:G:H1	0.93	0.90
52:5:445:A:C8	52:5:483:U:N3	2.39	0.90
50:3:1070:U:H3	50:3:1155:G:H1	1.20	0.90
52:5:779:A:H62	52:5:797:G:H21	0.91	0.90
50:3:250:U:H3	50:3:256:G:H1	1.19	0.89
29:f:13:GLY:O	29:f:20:ASP:OD1	1.90	0.88
35:l:13:HIS:H	50:3:947:A:H62	1.21	0.88
50:3:1871:U:H3	50:3:1885:G:H1	1.17	0.88
27:d:132:ILE:O	27:d:151:GLY:HA3	1.73	0.87
29:f:18:VAL:O	29:f:19:VAL:HG23	1.74	0.87
50:3:2655:U:H3	50:3:2681:G:H1	1.21	0.87
50:3:2088:U:H3	50:3:2247:G:H1	0.87	0.86
52:5:13:U:H3	52:5:23:G:H1	1.19	0.85
50:3:1940:G:H1	50:3:1974:U:H3	1.22	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1487:U:H3	52:5:1498:G:H1	1.24	0.84
9:F:41:ILE:HD11	52:5:1215:U:H5'	1.56	0.84
50:3:2595:A:N6	50:3:2615:G:N2	2.25	0.84
50:3:730:G:H1	50:3:802:U:H3	1.24	0.84
29:f:4:ILE:CD1	29:f:37:ALA:CA	2.56	0.83
25:b:148:GLN:NE2	50:3:2582:G:N3	2.27	0.82
50:3:1759:C:H2'	50:3:1760:G:C8	2.13	0.82
6:C:9:LYS:NZ	52:5:540:U:OP1	2.13	0.82
24:a:104:GLY:HA3	50:3:1525:G:H21	1.44	0.82
50:3:1374:U:H3	50:3:1634:A:H61	1.26	0.82
21:R:19:VAL:O	21:R:23:ASN:HB2	1.80	0.82
14:K:61:ALA:HB3	14:K:63:ARG:HE	1.45	0.81
50:3:1252:C:O2	50:3:1257:G:N2	2.12	0.81
52:5:660:A:H61	52:5:739:G:H1	1.28	0.81
50:3:2483:C:H42	50:3:2537:G:H22	0.82	0.81
50:3:1702:A:H62	50:3:1998:U:H3	1.24	0.81
50:3:574:G:H1	50:3:587:U:H3	1.28	0.81
50:3:2306:A:H61	50:3:2326:G:H2'	1.46	0.80
52:5:1453:C:H2'	52:5:1454:G:H8	1.47	0.80
21:R:51:VAL:HG11	21:R:71:LEU:HD21	1.63	0.80
50:3:1807:C:H42	50:3:1824:G:H22	0.85	0.80
50:3:1037:A:N6	50:3:1189:G:H21	1.79	0.80
50:3:2706:U:H3	50:3:2717:G:H1	0.82	0.80
52:5:144:U:H3	52:5:149:G:H1	1.29	0.80
12:I:46:LEU:HD23	12:I:79:LEU:HD23	1.63	0.80
27:d:38:MET:O	27:d:86:GLY:HA3	1.82	0.80
52:5:407:A:N7	52:5:409:G:N3	2.30	0.80
29:f:20:ASP:OD1	29:f:21:VAL:N	2.14	0.80
52:5:824:U:H2'	52:5:864:U:H3	1.45	0.80
50:3:577:C:O2	50:3:584:G:N2	2.15	0.79
20:Q:41:CYS:HB2	20:Q:78:ASN:HA	1.64	0.79
46:w:33:LEU:HD13	46:w:38:LEU:HD22	1.64	0.79
50:3:535:G:C2	50:3:540:A:C6	2.71	0.79
52:5:834:G:H2'	52:5:835:G:C8	2.17	0.79
52:5:1213:A:N7	52:5:1275:U:O2	2.14	0.79
50:3:535:G:N2	50:3:540:A:N6	2.30	0.79
50:3:1814:G:O2'	50:3:1816:A:N6	2.15	0.79
47:x:10:GLN:H	47:x:29:LEU:HB2	1.47	0.79
50:3:1999:G:N2	50:3:2003:C:O2'	2.16	0.79
39:p:23:SER:HB2	39:p:28:HIS:HB3	1.64	0.79
50:3:1095:U:H5'	50:3:1097:G:H5'	1.65	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:981:U:H2'	52:5:982:A:H8	1.48	0.78
45:v:32:ASN:HB2	50:3:433:A:H5''	1.63	0.78
50:3:1037:A:H62	50:3:1189:G:N2	1.81	0.78
50:3:2527:U:O2	50:3:2529:C:N4	2.16	0.78
4:A:88:LYS:NZ	4:A:90:ASP:OD1	2.14	0.78
9:F:110:ARG:NH2	9:F:112:GLU:OE1	2.17	0.78
50:3:2684:G:H2'	50:3:2685:A:C8	2.19	0.78
52:5:1136:G:N1	52:5:1151:A:C2	2.51	0.78
50:3:1950:U:H4'	50:3:1951:A:H3'	1.66	0.77
50:3:1071:G:H1	50:3:1154:U:H3	1.32	0.77
5:B:153:LYS:HE3	5:B:172:ILE:HD13	1.67	0.77
24:a:251:ARG:HH12	50:3:2082:U:H5''	1.48	0.77
4:A:76:ALA:HB3	4:A:239:ALA:HB1	1.66	0.77
50:3:1252:C:N3	50:3:1257:G:N1	2.32	0.77
52:5:933:A:N3	52:5:1351:U:O2'	2.17	0.77
50:3:154:U:H2'	50:3:155:A:H8	1.49	0.76
50:3:2321:C:H2'	50:3:2322:G:H8	1.49	0.76
52:5:1012:A:H5''	52:5:1013:C:H5	1.50	0.76
20:Q:73:ARG:HG3	20:Q:79:CYS:HA	1.67	0.76
40:q:72:LYS:HG3	40:q:79:HIS:HE1	1.50	0.76
50:3:577:C:N3	50:3:584:G:N1	2.32	0.76
52:5:136:U:H3	52:5:157:A:H62	1.33	0.76
33:j:64:ARG:NH2	33:j:99:PHE:O	2.19	0.76
11:H:124:ARG:HG3	52:5:1322:U:H4'	1.68	0.76
50:3:278:U:O2	50:3:291:G:O6	2.02	0.76
50:3:546:U:H3'	50:3:547:G:C8	2.20	0.76
11:H:116:LYS:HG3	52:5:1343:G:H5''	1.68	0.75
35:l:120:ARG:NH1	50:3:2477:A:OP1	2.18	0.75
50:3:1261:U:H2'	50:3:1262:G:H8	1.51	0.75
52:5:331:C:O2'	52:5:1408:A:N3	2.19	0.75
50:3:2054:C:O2'	50:3:2827:A:N1	2.19	0.75
50:3:2118:U:H5'	50:3:2152:C:H42	1.51	0.75
52:5:253:G:H1	52:5:265:U:H3	1.31	0.75
12:I:39:ASP:HB3	12:I:42:ILE:HD11	1.68	0.75
24:a:179:TYR:HB3	24:a:191:LYS:HB3	1.68	0.75
50:3:1456:C:N4	50:3:1604:A:OP2	2.19	0.75
39:p:53:LYS:HA	50:3:1031:U:H5'	1.68	0.75
50:3:220:A:N7	50:3:467:U:C2	2.55	0.75
36:m:50:THR:HG21	50:3:2844:U:H5''	1.69	0.74
50:3:154:U:H2'	50:3:155:A:C8	2.22	0.74
52:5:186:A:N7	52:5:187:A:N6	2.35	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:159:ARG:HG2	5:B:165:ILE:HG12	1.70	0.74
50:3:1556:U:H3	50:3:1574:G:H1	1.35	0.74
29:f:4:ILE:HD12	29:f:37:ALA:CA	2.18	0.74
29:f:4:ILE:HD13	29:f:37:ALA:CB	2.16	0.74
50:3:1037:A:N6	50:3:1189:G:N2	2.35	0.74
49:z:12:ASN:HB3	49:z:48:LYS:HZ3	1.50	0.74
8:E:50:LYS:HD3	8:E:51:LYS:HG2	1.69	0.74
52:5:671:G:H2'	52:5:672:A:H8	1.53	0.74
52:5:1057:C:O2	52:5:1166:A:N6	2.21	0.74
52:5:1148:U:H2'	52:5:1149:G:H8	1.52	0.74
5:B:134:ARG:HE	7:D:112:PRO:HG2	1.51	0.74
52:5:534:C:H2'	52:5:535:A:H8	1.51	0.73
48:y:3:VAL:HG22	50:3:2063:G:H21	1.52	0.73
50:3:89:U:H5''	50:3:90:G:H5''	1.71	0.73
6:C:69:LYS:NZ	52:5:396:C:OP1	2.22	0.73
32:i:39:ILE:HD11	32:i:57:LEU:HB2	1.70	0.73
36:m:99:ARG:NH1	36:m:119:THR:O	2.21	0.73
50:3:312:U:H2'	50:3:313:G:C8	2.24	0.73
18:O:9:PRO:HB2	18:O:35:PRO:HG2	1.68	0.73
35:l:62:GLY:HA3	35:l:107:ALA:O	1.89	0.73
50:3:2176:G:N2	50:3:2179:A:OP2	2.21	0.73
50:3:883:A:H61	50:3:968:U:H3	1.35	0.73
50:3:1772:G:H22	50:3:1994:U:H3	1.37	0.73
6:C:104:MET:HE2	6:C:167:VAL:HG23	1.69	0.73
26:c:68:GLN:NE2	50:3:2452:G:OP1	2.21	0.73
50:3:1422:U:H5''	50:3:1637:A:H4'	1.71	0.73
52:5:1068:G:N2	52:5:1071:A:OP2	2.16	0.73
17:N:6:ASN:OD1	17:N:10:LYS:NZ	2.21	0.73
50:3:1612:U:H2'	50:3:1613:A:H8	1.52	0.73
52:5:311:A:HO2'	52:5:326:C:HO2'	1.37	0.73
50:3:293:G:H2'	50:3:294:G:C4	2.24	0.72
50:3:2645:U:H3	50:3:2784:A:H62	1.37	0.72
52:5:664:A:H2'	52:5:665:G:H8	1.54	0.72
52:5:1226:A:N3	52:5:1344:C:O2'	2.22	0.72
5:B:11:ARG:HH11	5:B:181:LEU:HA	1.54	0.72
29:f:39:LEU:O	29:f:39:LEU:HD23	1.89	0.72
52:5:514:U:H3	52:5:531:A:H62	0.83	0.72
11:H:71:GLY:O	11:H:77:GLN:NE2	2.22	0.72
50:3:2107:A:H2'	50:3:2108:C:C6	2.25	0.72
6:C:200:TYR:O	52:5:9:A:N6	2.23	0.72
14:K:43:LYS:NZ	52:5:358:G:O2'	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:183:GLN:NE2	24:a:189:THR:OG1	2.23	0.72
50:3:569:U:H3	50:3:592:G:H1	1.35	0.72
50:3:1314:A:O2'	50:3:1316:U:OP2	2.08	0.72
50:3:1807:C:N3	50:3:1824:G:N1	2.36	0.72
52:5:733:A:H2'	52:5:734:A:H8	1.53	0.72
50:3:954:A:H5''	50:3:2276:A:H61	1.55	0.72
41:r:88:ARG:NH2	50:3:782:U:O2	2.23	0.72
50:3:1067:A:H61	50:3:1157:G:H1	0.80	0.72
50:3:1801:U:O2	50:3:1832:G:N2	2.18	0.72
2:1:15:LYS:HE3	50:3:664:G:H5'	1.70	0.72
13:J:121:ARG:NH1	52:5:1497:U:OP1	2.23	0.72
50:3:1746:U:H3	50:3:1753:G:H1	1.37	0.72
50:3:2058:G:N2	50:3:2059:G:O6	2.21	0.72
52:5:813:A:OP1	52:5:1501:G:O2'	2.08	0.72
7:D:182:ASN:ND2	7:D:186:ASN:OD1	2.23	0.72
22:S:44:LEU:HD22	22:S:76:LEU:HD13	1.71	0.72
50:3:2054:C:H2'	50:3:2055:A:H8	1.54	0.72
52:5:1075:G:H21	52:5:1093:A:H62	1.37	0.72
50:3:2584:G:O2'	50:3:2587:U:OP2	2.07	0.71
52:5:939:G:N2	52:5:1313:A:OP2	2.20	0.71
50:3:887:A:H61	50:3:963:U:H3	1.38	0.71
6:C:144:LEU:HB3	6:C:174:PHE:HB3	1.70	0.71
50:3:2655:U:O2	50:3:2681:G:N2	2.19	0.71
52:5:239:A:H62	52:5:277:G:H1'	1.55	0.71
52:5:1011:A:N3	52:5:1193:U:O2'	2.21	0.71
52:5:1417:U:H3	52:5:1435:G:H22	1.38	0.71
50:3:1505:G:H1	50:3:1538:U:H3	1.38	0.71
52:5:1055:G:H5'	52:5:1057:C:H5'	1.73	0.71
16:M:60:SER:HB3	52:5:1105:C:H1'	1.73	0.71
38:o:107:ARG:NH1	50:3:1761:C:O2'	2.24	0.71
49:z:16:GLU:OE2	50:3:2408:G:O2'	2.07	0.71
50:3:989:G:H1	50:3:1000:U:H3	1.38	0.71
50:3:1137:C:H2'	50:3:1138:A:H8	1.55	0.71
4:A:35:ARG:HH21	4:A:52:ASN:HD21	1.39	0.71
6:C:73:ARG:HH22	6:C:77:LEU:HD11	1.56	0.71
38:o:94:GLY:HA2	38:o:115:LYS:HA	1.72	0.71
52:5:788:G:H22	52:5:1472:G:H5'	1.56	0.71
50:3:488:G:N2	50:3:493:A:O2'	2.24	0.71
50:3:1831:G:H2'	50:3:1832:G:H8	1.53	0.71
52:5:763:A:N7	52:5:810:U:O2	2.23	0.71
14:K:14:LYS:O	14:K:16:LYS:NZ	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1232:U:H2'	50:3:1233:A:C8	2.26	0.71
50:3:2062:C:N4	50:3:2508:U:O2'	2.24	0.71
50:3:2572:A:N6	50:3:2655:U:O2'	2.22	0.71
50:3:513:A:OP1	50:3:536:A:N6	2.24	0.70
52:5:1495:C:H2'	52:5:1496:G:H8	1.55	0.70
52:5:1405:U:H3	52:5:1445:G:H1	1.36	0.70
50:3:855:A:OP2	50:3:1009:A:N6	2.24	0.70
50:3:2262:C:H2'	50:3:2263:G:H8	1.56	0.70
50:3:2745:G:H2'	50:3:2746:A:C8	2.26	0.70
50:3:519:A:OP2	50:3:520:C:N4	2.13	0.70
50:3:1747:G:N2	50:3:1752:A:OP2	2.25	0.70
52:5:716:C:OP2	52:5:717:C:N4	2.24	0.70
23:T:36:LEU:HD21	23:T:41:ARG:HE	1.56	0.70
46:w:63:LEU:O	46:w:66:GLN:NE2	2.25	0.70
50:3:605:A:H61	50:3:2036:G:H21	1.40	0.70
50:3:2364:A:H2	50:3:2369:G:H1	1.39	0.70
52:5:1325:U:O2	52:5:1346:G:O6	2.10	0.70
6:C:202:ARG:HG3	52:5:29:G:H4'	1.74	0.70
50:3:2303:U:H3	50:3:2345:G:H1	1.39	0.70
52:5:19:C:H2'	52:5:20:C:H6	1.57	0.70
52:5:1001:A:H5'	52:5:1030:G:H5'	1.74	0.70
26:c:175:ILE:HG22	26:c:177:ASN:H	1.57	0.70
52:5:499:U:O2	52:5:542:G:O6	2.10	0.70
6:C:89:LEU:HD12	6:C:93:LEU:HD23	1.73	0.70
41:r:57:ASN:OD1	41:r:61:ASN:ND2	2.25	0.70
52:5:331:C:H2'	52:5:332:A:C8	2.27	0.70
52:5:975:C:H5''	52:5:976:U:H5	1.57	0.70
6:C:61:GLN:HE22	6:C:68:ASP:HA	1.56	0.70
26:c:154:ASP:OD1	26:c:155:LYS:NZ	2.25	0.70
50:3:410:G:N1	50:3:437:A:OP2	2.23	0.70
52:5:861:A:O2'	52:5:867:A:N1	2.24	0.70
52:5:1501:G:H2'	52:5:1502:G:C8	2.27	0.70
14:K:114:THR:OG1	14:K:117:THR:OG1	2.06	0.69
26:c:23:GLY:HA3	26:c:208:GLU:HA	1.73	0.69
26:c:165:ASN:HB3	26:c:168:LEU:HG	1.74	0.69
28:e:167:TYR:H	28:e:170:GLU:HB3	1.55	0.69
41:r:38:ASN:HB3	48:y:38:LEU:HD13	1.73	0.69
45:v:36:CYS:SG	45:v:37:LYS:N	2.64	0.69
50:3:237:A:N6	50:3:268:C:O2'	2.24	0.69
50:3:2310:C:N4	50:3:2311:G:O6	2.25	0.69
9:F:145:GLU:H	9:F:148:LYS:HB2	1.58	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K:96:ARG:NH1	52:5:549:U:O2	2.25	0.69
50:3:2483:C:N3	50:3:2537:G:N1	2.39	0.69
6:C:88:ASN:OD1	6:C:91:ARG:NH1	2.24	0.69
40:q:84:GLY:H	50:3:1254:U:H4'	1.56	0.69
41:r:128:ARG:NH1	50:3:1248:A:N3	2.40	0.69
50:3:1070:U:O4	50:3:1155:G:O6	2.09	0.69
52:5:1298:U:H5''	52:5:1337:U:H5''	1.73	0.69
50:3:67:C:O2'	50:3:492:C:N3	2.24	0.69
5:B:36:GLU:OE1	5:B:60:ARG:NH2	2.26	0.69
20:Q:94:ARG:NH1	52:5:715:A:N1	2.40	0.69
52:5:136:U:O4	52:5:157:A:N7	2.25	0.69
52:5:580:C:O2	52:5:756:A:N6	2.25	0.69
7:D:136:ILE:HG12	7:D:178:ILE:HD11	1.74	0.69
29:f:47:ARG:HH22	29:f:51:LEU:HD22	1.56	0.69
34:k:62:LEU:HD12	34:k:63:PRO:HD2	1.74	0.69
50:3:224:G:H21	50:3:465:A:H62	1.40	0.69
50:3:585:U:H2'	50:3:586:G:H8	1.58	0.69
50:3:1702:A:N6	50:3:1998:U:H3	1.90	0.69
50:3:2054:C:H2'	50:3:2055:A:C8	2.28	0.69
50:3:2829:G:N2	50:3:2829:G:OP2	2.25	0.69
52:5:376:G:N2	52:5:379:A:OP2	2.25	0.69
52:5:789:A:O2'	52:5:792:C:N4	2.25	0.69
29:f:2:LYS:HG2	29:f:37:ALA:O	1.93	0.69
32:i:60:ILE:HG23	32:i:131:ASP:HB3	1.74	0.69
50:3:629:G:O6	50:3:696:U:O4	2.11	0.69
52:5:971:A:H2'	52:5:1336:C:H42	1.58	0.69
10:G:92:LYS:HB2	10:G:95:LEU:HB3	1.75	0.69
50:3:2634:C:H2'	50:3:2635:G:H8	1.57	0.69
6:C:74:LEU:HD13	6:C:93:LEU:HD11	1.75	0.68
21:R:5:ALA:HB1	52:5:1287:G:H3'	1.75	0.68
21:R:60:VAL:HG21	21:R:74:PHE:HB3	1.74	0.68
26:c:48:GLY:O	50:3:40:A:O2'	2.11	0.68
50:3:1449:G:H2'	50:3:1450:G:H8	1.56	0.68
50:3:1793:A:O2'	50:3:1945:A:N6	2.26	0.68
7:D:208:VAL:HA	7:D:211:LEU:HG	1.76	0.68
18:O:65:SER:HB3	52:5:451:G:H5'	1.75	0.68
44:u:53:ARG:HG2	44:u:55:ARG:HH12	1.58	0.68
50:3:35:U:O2'	50:3:482:G:N2	2.26	0.68
9:F:101:ARG:HH22	52:5:1351:U:H5'	1.59	0.68
20:Q:68:ALA:O	52:5:715:A:N6	2.26	0.68
6:C:111:ARG:HG2	52:5:403:A:H5''	1.73	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:l:53:ALA:HB1	35:l:120:ARG:HD3	1.73	0.68
50:3:2797:C:O2'	50:3:2895:A:N3	2.26	0.68
52:5:858:A:O2'	52:5:1069:U:O4	2.11	0.68
52:5:1381:U:O4	52:5:1471:C:N4	2.26	0.68
18:O:66:LEU:O	18:O:70:THR:OG1	2.10	0.68
21:R:52:HIS:NE2	52:5:981:U:O2	2.23	0.68
50:3:1959:A:N6	50:3:2568:G:C2	2.62	0.68
52:5:66:A:N7	52:5:377:A:N6	2.41	0.68
9:F:78:ARG:HE	9:F:83:ASN:HB3	1.58	0.68
25:b:56:THR:HA	25:b:78:THR:HA	1.75	0.68
50:3:673:A:H1'	50:3:687:G:H21	1.58	0.68
50:3:2595:A:H62	50:3:2615:G:N2	1.88	0.68
9:F:101:ARG:NH1	52:5:1350:A:O2'	2.26	0.68
24:a:216:ALA:HB2	50:3:1797:C:H4'	1.74	0.68
50:3:854:A:O2'	50:3:872:C:O2'	2.12	0.68
50:3:2383:G:N1	50:3:2386:A:OP2	2.23	0.68
52:5:1261:A:H2'	52:5:1262:A:C8	2.29	0.68
14:K:113:GLY:HA3	14:K:131:GLY:HA3	1.76	0.68
28:e:92:LEU:HG	28:e:97:TYR:HB3	1.76	0.68
41:r:66:GLY:HA2	41:r:69:LEU:HD12	1.76	0.68
50:3:598:G:H1	50:3:609:U:H3	1.42	0.68
50:3:2170:A:OP2	50:3:2174:G:N2	2.26	0.68
45:v:38:VAL:HG21	45:v:48:ILE:HG12	1.76	0.68
50:3:716:G:H1	50:3:831:U:H3	1.40	0.68
50:3:2150:C:O2	50:3:2155:G:N2	2.16	0.68
4:A:154:ARG:NH1	52:5:1144:A:O2'	2.27	0.67
5:B:194:THR:HG23	5:B:196:TYR:H	1.58	0.67
50:3:2299:U:O4	50:3:2349:G:O6	2.12	0.67
50:3:2599:C:N4	50:3:2600:G:O6	2.27	0.67
52:5:830:U:H3	52:5:847:G:H1	1.42	0.67
8:E:16:GLU:HG3	8:E:20:GLN:HE21	1.59	0.67
25:b:8:GLY:O	25:b:205:VAL:HB	1.94	0.67
33:j:76:HIS:HB3	38:o:78:ASN:HB3	1.76	0.67
52:5:305:A:O2'	52:5:605:A:N1	2.27	0.67
52:5:1329:G:H2'	52:5:1330:A:H8	1.58	0.67
10:G:92:LYS:NZ	52:5:871:U:OP1	2.26	0.67
50:3:411:U:O2'	50:3:458:A:N6	2.27	0.67
50:3:742:G:O6	50:3:759:U:O4	2.12	0.67
50:3:1310:U:O2	50:3:1314:A:N7	2.28	0.67
50:3:2090:G:H1	50:3:2244:U:H3	1.42	0.67
4:A:203:ASN:HD21	4:A:219:ASN:HD21	1.42	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:20:TYR:HB2	11:H:66:ASN:HB3	1.75	0.67
26:c:32:GLN:H	34:k:11:LYS:HE3	1.60	0.67
30:g:89:ILE:HA	30:g:92:THR:HB	1.76	0.67
50:3:2455:G:N2	50:3:2457:U:O2'	2.26	0.67
40:q:61:LYS:NZ	50:3:583:U:OP1	2.26	0.67
50:3:740:A:H2'	50:3:741:A:C8	2.28	0.67
22:S:71:ARG:NH2	52:5:256:G:OP2	2.27	0.67
50:3:579:U:OP2	50:3:581:A:N6	2.28	0.67
7:D:70:ILE:HG22	7:D:92:VAL:HG12	1.77	0.67
52:5:213:U:OP1	52:5:461:G:N2	2.28	0.67
52:5:579:G:N2	52:5:756:A:OP2	2.27	0.67
4:A:111:ARG:NE	52:5:1091:C:OP1	2.27	0.67
50:3:2529:C:O2'	50:3:2572:A:N3	2.28	0.67
24:a:72:LYS:NZ	24:a:155:LYS:O	2.28	0.67
24:a:240:HIS:NE2	24:a:255:ARG:O	2.27	0.67
50:3:1890:U:O2'	50:3:1891:A:O5'	2.12	0.67
50:3:2645:U:O4	50:3:2784:A:N7	2.28	0.67
52:5:320:G:N1	52:5:323:A:OP2	2.26	0.67
38:o:53:LEU:HB2	38:o:65:ILE:HG13	1.76	0.67
52:5:205:U:O2	52:5:210:G:O6	2.13	0.67
28:e:166:LEU:HD21	28:e:172:ILE:HD11	1.77	0.66
50:3:2424:C:N4	50:3:2425:C:N4	2.44	0.66
51:4:60:C:H2'	51:4:61:A:C8	2.31	0.66
52:5:707:G:H2'	52:5:708:A:H8	1.60	0.66
9:F:90:VAL:O	9:F:95:LYS:NZ	2.29	0.66
33:j:63:VAL:HG13	33:j:64:ARG:HG3	1.77	0.66
50:3:1775:G:H1	50:3:1991:U:H3	1.43	0.66
52:5:1039:G:N2	52:5:1189:U:O2	2.28	0.66
9:F:135:LYS:NZ	9:F:139:ASP:OD1	2.28	0.66
10:G:18:LEU:HB2	10:G:41:LYS:HE3	1.77	0.66
34:k:98:LEU:HB3	34:k:103:VAL:HB	1.77	0.66
50:3:703:A:H2'	50:3:705:A:H62	1.60	0.66
52:5:662:G:O6	52:5:721:G:O6	2.13	0.66
14:K:84:GLY:HA3	14:K:119:GLY:HA3	1.76	0.66
24:a:2:PRO:HG2	24:a:25:LEU:HD21	1.76	0.66
50:3:1048:A:H2'	50:3:1049:U:H6	1.60	0.66
50:3:1077:G:O6	50:3:1149:G:C6	2.48	0.66
7:D:69:ARG:HH12	7:D:171:GLU:HB2	1.60	0.66
17:N:3:ILE:HD11	17:N:35:GLN:HB2	1.77	0.66
37:n:76:ASP:OD1	37:n:77:ILE:N	2.29	0.66
40:q:30:GLY:H	40:q:59:VAL:HB	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:665:C:O2'	50:3:675:U:O2	2.13	0.66
50:3:947:A:N3	50:3:2272:C:O2'	2.23	0.66
50:3:1204:A:N6	50:3:1212:C:N3	2.43	0.66
50:3:640:U:O2	50:3:658:G:O6	2.13	0.66
50:3:662:U:H4'	50:3:689:U:H3	1.61	0.66
50:3:901:C:N4	50:3:946:A:N7	2.44	0.66
50:3:1959:A:N6	50:3:2568:G:N2	2.43	0.66
51:4:31:G:O6	51:4:48:A:N6	2.29	0.66
52:5:556:G:OP2	52:5:557:A:O2'	2.14	0.66
52:5:660:A:N6	52:5:739:G:H1	1.94	0.66
52:5:1037:A:H61	52:5:1188:A:H2	1.43	0.66
18:O:38:LYS:HB3	52:5:449:A:H2'	1.75	0.66
36:m:36:LYS:HD2	50:3:1685:G:H4'	1.78	0.66
50:3:865:A:N6	50:3:2073:C:O2	2.28	0.66
50:3:1494:U:H3	50:3:1550:G:H1	1.42	0.66
52:5:1228:C:O2	52:5:1329:G:O2'	2.12	0.66
5:B:39:LYS:HE2	16:M:26:ARG:HD3	1.78	0.66
8:E:8:LEU:HB2	8:E:84:ARG:HB2	1.78	0.66
14:K:68:VAL:HG11	14:K:95:LEU:HD21	1.78	0.66
28:e:146:GLN:OE1	50:3:2752:G:N2	2.27	0.66
50:3:1026:A:H5''	50:3:1192:U:H5''	1.77	0.66
50:3:2070:C:N4	50:3:2509:C:O2	2.28	0.66
52:5:1280:A:N6	52:5:1304:U:O2	2.29	0.66
50:3:915:A:N6	50:3:936:G:O2'	2.28	0.66
50:3:1994:U:H2'	50:3:1995:G:H8	1.60	0.66
52:5:63:U:O2'	52:5:375:C:O2	2.14	0.66
8:E:36:GLN:HE22	8:E:38:GLU:HG3	1.61	0.66
19:P:5:GLN:NE2	52:5:112:U:O2'	2.29	0.66
24:a:65:LYS:HZ1	50:3:1603:A:H4'	1.61	0.66
50:3:1335:A:OP2	50:3:1640:G:N1	2.19	0.66
50:3:2015:C:H2'	50:3:2016:G:H8	1.59	0.66
50:3:2036:G:N1	50:3:2040:A:OP2	2.29	0.66
3:2:19:ARG:HG3	50:3:2764:U:H3'	1.78	0.65
22:S:63:ASN:ND2	52:5:258:A:O2'	2.29	0.65
32:i:78:TYR:HB3	32:i:87:ILE:HD11	1.77	0.65
50:3:633:G:O6	50:3:692:U:O4	2.13	0.65
50:3:1903:A:C6	50:3:1904:G:O6	2.49	0.65
50:3:2123:A:OP1	50:3:2124:A:N6	2.27	0.65
7:D:110:GLU:HG2	7:D:112:PRO:HD2	1.79	0.65
22:S:10:ARG:O	22:S:14:ASN:ND2	2.29	0.65
26:c:106:LYS:HD3	50:3:634:C:H4'	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:r:77:ASN:HB2	41:r:102:ASN:HB2	1.79	0.65
50:3:1011:A:N7	50:3:1025:G:N2	2.44	0.65
52:5:43:G:H1	52:5:396:C:H42	1.42	0.65
52:5:460:A:N1	52:5:467:G:O6	2.28	0.65
4:A:95:LEU:HD21	4:A:229:MET:HG2	1.77	0.65
5:B:37:ASP:HB3	5:B:60:ARG:HD2	1.77	0.65
6:C:147:LYS:HG3	52:5:488:U:H5''	1.76	0.65
8:E:114:LYS:HE3	20:Q:42:ARG:HG3	1.77	0.65
29:f:6:LYS:NZ	29:f:33:LYS:O	2.25	0.65
50:3:618:G:H3'	50:3:1281:A:H61	1.61	0.65
50:3:1841:U:H4'	50:3:1842:G:H5''	1.78	0.65
50:3:2101:A:H1'	50:3:2206:A:H61	1.61	0.65
39:p:7:LYS:HE2	50:3:1245:G:H5''	1.77	0.65
45:v:27:ARG:NH2	50:3:2240:U:OP1	2.29	0.65
50:3:514:A:N6	50:3:535:G:O2'	2.30	0.65
52:5:92:G:OP1	52:5:321:A:N6	2.30	0.65
14:K:25:HIS:NE2	52:5:551:A:O2'	2.28	0.65
50:3:721:G:N7	50:3:823:A:N6	2.44	0.65
50:3:1890:U:O2'	50:3:1891:A:N3	2.28	0.65
52:5:920:G:H1	52:5:1366:U:H3	1.45	0.65
7:D:91:LEU:HD13	7:D:105:ILE:HG13	1.76	0.65
11:H:71:GLY:HA2	52:5:1225:A:H4'	1.79	0.65
8:E:142:ARG:HB3	10:G:5:THR:HA	1.77	0.65
12:I:18:SER:HB3	12:I:102:VAL:HA	1.77	0.65
14:K:43:LYS:HB2	14:K:70:LEU:HD23	1.79	0.65
26:c:24:LEU:HD22	26:c:120:LEU:HD22	1.79	0.65
28:e:4:ILE:HG12	50:3:2759:G:H1'	1.78	0.65
31:h:10:ALA:HB3	31:h:27:SER:HB2	1.79	0.65
50:3:107:C:O2	50:3:328:A:O2'	2.15	0.65
50:3:843:G:H2'	50:3:844:G:C8	2.32	0.65
50:3:2667:G:N2	50:3:2670:A:OP2	2.26	0.65
51:4:44:A:OP2	51:4:45:C:N4	2.22	0.65
9:F:148:LYS:NZ	13:J:54:TYR:OH	2.30	0.65
50:3:243:U:H3	50:3:262:G:H1	1.45	0.65
52:5:882:U:H2'	52:5:902:A:H61	1.62	0.65
16:M:3:LYS:NZ	52:5:1178:C:OP1	2.29	0.65
37:n:14:ARG:HA	37:n:17:LYS:HE3	1.79	0.65
48:y:10:LYS:HG2	48:y:13:ARG:HH12	1.60	0.65
50:3:569:U:O4	50:3:592:G:O6	2.15	0.65
50:3:2516:G:H1	50:3:2588:U:H3	1.45	0.65
52:5:412:G:H2'	52:5:413:G:H8	1.60	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:108:PRO:HG2	52:5:404:A:H4'	1.79	0.64
6:C:117:VAL:HG11	6:C:132:PRO:HB3	1.78	0.64
7:D:66:PHE:N	7:D:95:GLY:O	2.30	0.64
32:i:109:LYS:NZ	50:3:2047:U:OP1	2.29	0.64
34:k:93:ILE:HG23	34:k:98:LEU:HD21	1.79	0.64
42:s:62:PRO:HD3	42:s:77:LEU:HB2	1.79	0.64
50:3:1077:G:C5	50:3:1149:G:C2	2.85	0.64
50:3:1261:U:H2'	50:3:1262:G:C8	2.31	0.64
50:3:1641:A:N6	50:3:1657:G:OP2	2.27	0.64
52:5:687:G:H21	52:5:694:U:H5	1.45	0.64
5:B:18:TRP:HE1	16:M:56:VAL:HG22	1.62	0.64
32:i:80:HIS:HD2	32:i:87:ILE:HB	1.63	0.64
44:u:85:LYS:HB3	44:u:90:GLN:HB3	1.77	0.64
50:3:781:U:H5''	50:3:782:U:H5'	1.78	0.64
50:3:2845:U:H2'	50:3:2846:A:H8	1.61	0.64
50:3:2853:U:O2	50:3:2872:A:N6	2.30	0.64
52:5:1390:G:O6	52:5:1460:U:O2	2.16	0.64
9:F:68:VAL:HG13	9:F:99:ALA:HB1	1.79	0.64
25:b:155:SER:OG	50:3:2039:G:N2	2.30	0.64
26:c:64:LYS:NZ	50:3:710:A:OP1	2.29	0.64
32:i:116:ARG:NH1	50:3:565:C:N3	2.44	0.64
50:3:1428:U:H2'	50:3:1429:G:C8	2.32	0.64
32:i:18:TRP:HB3	32:i:140:PRO:HB3	1.79	0.64
33:j:25:LEU:HD11	33:j:40:VAL:HG23	1.79	0.64
35:l:54:ILE:HD11	35:l:121:ALA:HB2	1.80	0.64
44:u:68:GLY:O	44:u:71:ASP:N	2.30	0.64
50:3:1020:G:OP2	50:3:1020:G:N2	2.17	0.64
50:3:1837:C:H2'	50:3:1838:A:H8	1.63	0.64
50:3:2436:G:H5''	50:3:2437:G:H5'	1.78	0.64
52:5:1139:A:H2'	52:5:1140:A:C8	2.32	0.64
29:f:2:LYS:HG3	29:f:4:ILE:H	1.63	0.64
41:r:28:LYS:NZ	41:r:69:LEU:O	2.29	0.64
52:5:27:A:N7	52:5:555:G:N2	2.45	0.64
52:5:670:G:H2'	52:5:671:G:C8	2.33	0.64
52:5:929:C:O2'	52:5:1318:C:OP2	2.15	0.64
50:3:2552:G:H1'	50:3:2654:U:H4'	1.80	0.64
52:5:1405:U:O2	52:5:1445:G:N2	2.23	0.64
13:J:22:ASN:ND2	52:5:686:C:OP1	2.31	0.64
50:3:854:A:HO2'	50:3:872:C:HO2'	1.46	0.64
50:3:1099:C:N4	50:3:1105:A:OP1	2.31	0.64
50:3:1759:C:O2'	50:3:1760:G:O4'	2.10	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2796:C:O2'	50:3:2812:U:O2	2.16	0.64
52:5:206:G:N2	52:5:209:A:OP2	2.27	0.64
52:5:514:U:O4	52:5:531:A:N7	2.30	0.64
52:5:711:G:H2'	52:5:712:A:C8	2.33	0.64
52:5:1378:C:O2'	52:5:1474:A:N6	2.28	0.64
27:d:30:ARG:NH1	51:4:29:C:OP1	2.31	0.64
50:3:219:G:H21	50:3:468:A:H61	1.46	0.64
50:3:548:A:H2'	50:3:549:A:C8	2.33	0.64
50:3:1549:U:H3'	50:3:1550:G:H8	1.62	0.64
50:3:1627:U:H2'	50:3:1628:G:H8	1.63	0.64
52:5:255:G:H2'	52:5:256:G:H8	1.63	0.64
52:5:852:G:H1	52:5:863:A:H3'	1.62	0.64
21:R:79:ASN:OD1	52:5:953:A:N6	2.31	0.64
50:3:714:G:H2'	50:3:715:G:H8	1.63	0.64
51:4:96:G:OP2	51:4:97:A:N6	2.28	0.64
52:5:892:G:O6	52:5:896:G:N1	2.30	0.64
6:C:10:ARG:HH12	52:5:541:C:H5''	1.62	0.63
50:3:537:A:H3'	50:3:540:A:H62	1.63	0.63
51:4:95:G:H2'	51:4:96:G:H8	1.63	0.63
52:5:368:C:N4	52:5:384:G:OP2	2.21	0.63
52:5:1012:A:OP2	52:5:1013:C:N4	2.25	0.63
8:E:66:ASN:ND2	52:5:736:U:OP1	2.31	0.63
15:L:89:LEU:HD13	15:L:92:ARG:HH11	1.63	0.63
18:O:79:SER:OG	18:O:80:LYS:NZ	2.29	0.63
26:c:49:THR:HG21	50:3:478:G:H1'	1.80	0.63
52:5:585:G:N2	52:5:751:C:OP2	2.31	0.63
45:v:26:ARG:NH1	50:3:193:G:OP2	2.31	0.63
45:v:35:PRO:HB3	45:v:49:LEU:HD13	1.80	0.63
50:3:876:A:N6	50:3:974:C:N3	2.46	0.63
52:5:100:G:H21	52:5:102:G:H1	1.45	0.63
52:5:818:A:H2'	52:5:819:G:H8	1.64	0.63
52:5:1320:A:N6	52:5:1350:A:N7	2.47	0.63
6:C:96:ARG:HB2	6:C:99:ASN:HD22	1.63	0.63
29:f:65:SER:HB2	29:f:134:THR:HG21	1.79	0.63
33:j:75:THR:OG1	38:o:78:ASN:O	2.13	0.63
50:3:137:U:O4	50:3:146:G:O6	2.17	0.63
50:3:1296:G:HO2'	50:3:2019:G:H1	1.47	0.63
50:3:1702:A:N3	50:3:1704:C:N4	2.46	0.63
50:3:2234:C:H3'	50:3:2235:A:H8	1.64	0.63
52:5:372:G:N2	52:5:383:U:O2	2.32	0.63
52:5:1051:U:H2'	52:5:1052:G:C8	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:697:U:H2'	50:3:698:A:H8	1.64	0.63
50:3:1459:A:H2'	50:3:1460:G:C8	2.34	0.63
50:3:2274:A:N6	50:3:2281:A:OP2	2.32	0.63
52:5:694:U:H1'	52:5:782:G:H21	1.62	0.63
29:f:77:LEU:HD23	29:f:138:LEU:HD11	1.81	0.63
50:3:539:U:O2'	50:3:1265:G:OP1	2.16	0.63
50:3:902:U:H3	50:3:939:U:H3'	1.64	0.63
50:3:1017:A:O2'	50:3:2043:C:O2	2.14	0.63
50:3:1872:U:HO2'	50:3:1873:A:H8	1.46	0.63
50:3:2609:C:H2'	50:3:2611:G:C8	2.33	0.63
50:3:2646:G:H1	50:3:2783:A:H2'	1.64	0.63
52:5:652:A:H1'	52:5:752:G:H5'	1.80	0.63
52:5:709:A:H2'	52:5:710:G:C8	2.34	0.63
52:5:1330:A:H2'	52:5:1331:A:C8	2.34	0.63
10:G:99:ARG:NE	10:G:103:LYS:O	2.29	0.63
50:3:140:G:N2	50:3:143:A:OP2	2.32	0.63
50:3:2743:U:H2'	50:3:2744:A:H8	1.63	0.63
52:5:720:U:H4'	52:5:721:G:H5''	1.81	0.63
22:S:18:ASN:ND2	52:5:318:C:H4'	2.14	0.63
32:i:131:ASP:OD2	32:i:132:LYS:NZ	2.29	0.63
52:5:206:G:H1'	52:5:209:A:H62	1.63	0.63
8:E:71:ASP:OD1	8:E:72:PHE:N	2.32	0.63
50:3:680:A:H2'	50:3:682:A:H8	1.63	0.63
50:3:2031:C:H2'	50:3:2032:G:C8	2.34	0.63
52:5:710:G:H2'	52:5:711:G:C8	2.34	0.63
4:A:38:ASN:HD22	4:A:41:MET:HG2	1.63	0.62
50:3:334:A:H1'	50:3:353:G:H1'	1.80	0.62
50:3:641:U:O2	50:3:657:A:N7	2.32	0.62
50:3:1027:U:O4	50:3:1198:G:O6	2.17	0.62
50:3:2339:G:O2'	50:3:2344:A:N6	2.32	0.62
12:I:51:LYS:HB3	12:I:75:ARG:HB3	1.80	0.62
26:c:4:LEU:HD11	26:c:126:HIS:HA	1.80	0.62
45:v:33:LEU:HA	45:v:51:SER:HA	1.79	0.62
50:3:900:G:N2	50:3:950:U:O2	2.31	0.62
50:3:1867:G:H2'	50:3:1868:A:H8	1.62	0.62
50:3:2595:A:N6	50:3:2615:G:C2	2.67	0.62
4:A:188:VAL:O	4:A:192:ASN:ND2	2.26	0.62
6:C:14:LEU:HD11	6:C:58:GLN:HG3	1.81	0.62
24:a:83:VAL:HG22	24:a:99:ILE:HG22	1.81	0.62
27:d:33:LYS:HE2	27:d:92:ARG:HH22	1.64	0.62
42:s:41:LYS:NZ	50:3:1631:A:OP1	2.28	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1765:G:OP2	50:3:1766:A:N6	2.32	0.62
50:3:2481:U:OP1	50:3:2537:G:N2	2.32	0.62
52:5:421:G:H2'	52:5:422:A:H8	1.64	0.62
52:5:631:C:H2'	52:5:632:A:C8	2.35	0.62
50:3:1007:C:O2'	50:3:1019:A:N1	2.30	0.62
50:3:2631:G:H2'	50:3:2632:C:C6	2.35	0.62
36:m:51:LEU:O	36:m:59:ASN:ND2	2.32	0.62
50:3:87:G:H2'	50:3:88:G:C8	2.35	0.62
50:3:914:G:H22	50:3:936:G:H2'	1.64	0.62
50:3:1444:C:O2'	50:3:1445:U:O5'	2.18	0.62
50:3:2424:C:C4	50:3:2425:C:N4	2.67	0.62
51:4:58:C:H2'	51:4:59:A:C8	2.33	0.62
4:A:160:GLU:OE1	4:A:167:LYS:NZ	2.30	0.62
6:C:123:LEU:HD23	6:C:143:ARG:HG3	1.80	0.62
10:G:92:LYS:HD3	10:G:95:LEU:HD23	1.81	0.62
27:d:74:ILE:HG13	50:3:2319:A:H4'	1.82	0.62
35:l:30:GLY:HA3	35:l:105:GLU:HB2	1.80	0.62
50:3:1649:C:OP2	50:3:1651:C:N4	2.32	0.62
50:3:1698:A:H3'	50:3:1699:A:H8	1.63	0.62
50:3:2689:C:O2	50:3:2733:A:N6	2.32	0.62
52:5:1329:G:H2'	52:5:1330:A:C8	2.35	0.62
52:5:1449:G:O2'	52:5:1450:C:O4'	2.17	0.62
4:A:26:MET:HE2	4:A:28:THR:H	1.63	0.62
20:Q:78:ASN:HD22	20:Q:83:GLN:HA	1.65	0.62
25:b:97:THR:OG1	25:b:100:ASN:ND2	2.33	0.62
29:f:3:VAL:O	29:f:3:VAL:HG12	2.00	0.62
50:3:1702:A:N7	50:3:1998:U:O4	2.33	0.62
50:3:2160:U:H2'	50:3:2161:G:H8	1.64	0.62
52:5:1401:A:H2'	52:5:1402:U:C6	2.35	0.62
52:5:1402:U:H3	52:5:1449:G:H1	1.48	0.62
34:k:48:ARG:NH1	50:3:199:A:OP1	2.31	0.62
41:r:126:LYS:NZ	50:3:579:U:OP1	2.33	0.62
50:3:641:U:C2	50:3:657:A:N7	2.67	0.62
50:3:1301:G:O2'	50:3:1652:A:N7	2.33	0.62
50:3:2451:C:H2'	50:3:2452:G:C8	2.35	0.62
52:5:1387:U:H2'	52:5:1388:A:C8	2.35	0.62
26:c:131:ASN:O	26:c:135:LYS:NZ	2.32	0.62
28:e:83:THR:HG23	28:e:84:GLN:HG2	1.80	0.62
34:k:61:ARG:NH1	50:3:2437:G:O6	2.33	0.62
35:l:39:GLY:HA2	35:l:97:VAL:O	1.99	0.62
50:3:793:C:H2'	50:3:794:G:C8	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:990:G:O6	50:3:999:U:O4	2.18	0.62
52:5:499:U:O2'	52:5:547:C:O2'	2.18	0.62
53:7:30:G:H2'	53:7:31:G:H8	1.65	0.62
43:t:43:THR:OG1	50:3:534:U:O2'	2.16	0.62
50:3:1104:A:H4'	50:3:1105:A:H2'	1.82	0.62
33:j:119:VAL:HG13	33:j:120:GLU:HG2	1.82	0.61
34:k:42:ARG:NH1	50:3:841:C:OP2	2.33	0.61
40:q:96:ARG:HB3	40:q:98:VAL:HG23	1.82	0.61
50:3:1725:G:O6	50:3:1731:G:N2	2.33	0.61
51:4:77:G:C2	51:4:78:C:H1'	2.35	0.61
52:5:290:G:H1	52:5:299:U:H3	1.48	0.61
52:5:1302:C:H2'	52:5:1303:A:H8	1.65	0.61
9:F:78:ARG:H	52:5:1356:U:H1'	1.65	0.61
50:3:752:C:H3'	50:3:753:A:H8	1.64	0.61
50:3:1007:C:H4'	50:3:1019:A:H2	1.65	0.61
50:3:1285:U:O2	50:3:2510:G:N1	2.33	0.61
50:3:2382:A:H2'	50:3:2383:G:C8	2.35	0.61
50:3:2433:A:OP2	50:3:2434:A:O2'	2.16	0.61
52:5:10:G:H2'	52:5:11:A:H8	1.65	0.61
52:5:455:U:H3	52:5:472:G:H1	1.47	0.61
52:5:1051:U:H2'	52:5:1052:G:H8	1.64	0.61
50:3:1296:G:N2	50:3:2020:A:OP2	2.33	0.61
50:3:2307:G:O6	50:3:2325:U:O2	2.17	0.61
50:3:2849:G:H1	50:3:2875:U:H3	1.47	0.61
51:4:95:G:H2'	51:4:96:G:C8	2.35	0.61
52:5:1288:C:H2'	52:5:1289:U:C6	2.36	0.61
20:Q:65:SER:OG	20:Q:69:LYS:N	2.32	0.61
21:R:81:LYS:HG2	21:R:84:THR:H	1.62	0.61
50:3:301:G:H2'	50:3:302:G:H8	1.65	0.61
50:3:1243:A:H2'	50:3:1244:A:C8	2.35	0.61
50:3:2691:C:H41	50:3:2735:G:H21	1.49	0.61
52:5:316:G:H2'	52:5:317:A:H8	1.65	0.61
52:5:369:A:H61	52:5:387:G:H1'	1.65	0.61
25:b:3:ILE:HD11	25:b:211:LYS:HE3	1.80	0.61
49:z:35:ASN:HA	49:z:46:VAL:HA	1.82	0.61
50:3:1954:C:H2'	50:3:1955:G:C8	2.35	0.61
50:3:2124:A:O2'	50:3:2126:A:OP2	2.16	0.61
52:5:1417:U:H2'	52:5:1418:G:H8	1.64	0.61
28:e:4:ILE:HG22	28:e:72:ASN:HB3	1.83	0.61
42:s:71:PHE:O	50:3:66:A:O2'	2.19	0.61
52:5:445:A:H8	52:5:483:U:N3	1.97	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1136:G:N1	52:5:1151:A:H2	1.99	0.61
6:C:169:THR:HG22	6:C:176:GLY:HA3	1.81	0.61
29:f:4:ILE:HD11	29:f:37:ALA:HB3	0.70	0.61
34:k:53:GLY:HA3	50:3:867:G:H1'	1.82	0.61
45:v:6:GLN:HG3	45:v:49:LEU:HB2	1.82	0.61
50:3:625:G:H2'	50:3:626:A:C8	2.36	0.61
20:Q:92:ARG:O	20:Q:96:LEU:HD23	1.99	0.61
50:3:864:A:H62	50:3:2255:A:HO2'	1.48	0.61
50:3:2353:G:H4'	50:3:2354:A:H3'	1.83	0.61
50:3:2382:A:H2'	50:3:2383:G:H8	1.66	0.61
52:5:1193:U:H2'	52:5:1194:A:C8	2.36	0.61
1:0:43:THR:HG23	1:0:45:SER:H	1.65	0.61
11:H:69:VAL:HG21	11:H:77:GLN:HG3	1.83	0.61
24:a:44:HIS:CE1	50:3:1820:U:H5''	2.35	0.61
49:z:7:THR:OG1	49:z:50:VAL:O	2.18	0.61
50:3:700:U:H2'	50:3:701:A:H8	1.65	0.61
50:3:1385:U:H3	50:3:1402:G:H1	1.47	0.61
50:3:1630:A:H2'	50:3:1631:A:C8	2.35	0.61
52:5:198:A:O2'	52:5:217:U:O2'	2.19	0.61
17:N:70:ASN:OD1	17:N:71:ASP:N	2.34	0.61
24:a:190:ARG:NH2	50:3:1807:C:OP2	2.34	0.61
27:d:50:LEU:HD11	27:d:85:ILE:HA	1.83	0.61
28:e:153:LYS:NZ	50:3:2770:U:O2'	2.33	0.61
33:j:69:GLN:NE2	33:j:105:GLU:OE1	2.34	0.61
50:3:683:G:H2'	50:3:684:A:H8	1.65	0.61
50:3:1391:U:H2'	50:3:1392:G:H8	1.64	0.61
50:3:2552:G:H2'	50:3:2553:G:C8	2.36	0.61
35:l:67:ARG:HB2	35:l:103:MET:HA	1.83	0.60
46:w:7:LEU:HD23	46:w:8:ARG:HH12	1.66	0.60
50:3:299:A:H2'	50:3:300:G:C8	2.36	0.60
50:3:679:A:N1	50:3:2377:A:O2'	2.34	0.60
50:3:891:G:H2'	50:3:892:G:H8	1.66	0.60
50:3:2825:A:H2'	50:3:2826:G:O4'	2.01	0.60
52:5:242:A:N6	52:5:275:A:O4'	2.34	0.60
52:5:537:A:H2'	52:5:538:G:C8	2.35	0.60
52:5:1216:G:H2'	52:5:1217:G:H8	1.66	0.60
4:A:35:ARG:HD3	52:5:827:C:H5''	1.83	0.60
6:C:4:THR:H	6:C:111:ARG:HH12	1.47	0.60
10:G:4:THR:HG21	10:G:69:ILE:HD11	1.83	0.60
11:H:124:ARG:HB3	52:5:1318:C:H4'	1.83	0.60
28:e:113:SER:OG	50:3:2675:C:N3	2.32	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:i:100:SER:H	32:i:129:LYS:HD2	1.65	0.60
50:3:229:C:H41	50:3:230:G:N2	1.98	0.60
50:3:296:U:N3	50:3:407:U:O2	2.34	0.60
50:3:869:U:H2'	50:3:870:A:C8	2.36	0.60
50:3:2378:G:H2'	50:3:2379:G:H8	1.66	0.60
52:5:314:G:H2'	52:5:315:G:O4'	2.01	0.60
52:5:409:G:O3'	52:5:425:G:N2	2.34	0.60
52:5:815:G:O2'	52:5:817:U:OP2	2.17	0.60
9:F:87:PRO:HG3	9:F:143:MET:HE3	1.81	0.60
20:Q:43:PHE:HA	20:Q:46:ILE:HG22	1.83	0.60
20:Q:101:PHE:O	52:5:715:A:N6	2.34	0.60
25:b:49:ALA:HB2	25:b:85:ARG:HD2	1.83	0.60
25:b:185:ASP:OD2	38:o:16:LYS:NZ	2.33	0.60
26:c:125:THR:HG23	26:c:198:LEU:HA	1.82	0.60
28:e:27:VAL:HB	28:e:34:ILE:HB	1.84	0.60
44:u:57:THR:HG21	50:3:2344:A:H61	1.65	0.60
50:3:197:U:H2'	50:3:198:G:C8	2.36	0.60
50:3:223:A:N3	50:3:238:U:O2'	2.33	0.60
50:3:622:U:H2'	50:3:623:A:C8	2.37	0.60
50:3:874:U:O2'	50:3:1222:A:N3	2.34	0.60
50:3:1641:A:N6	50:3:1656:A:OP2	2.33	0.60
50:3:2059:G:O6	50:3:2625:U:O4	2.19	0.60
50:3:2554:U:O2'	50:3:2574:A:N3	2.34	0.60
50:3:2630:U:O2'	50:3:2828:C:N4	2.34	0.60
52:5:169:G:H1	52:5:196:G:H22	1.49	0.60
52:5:317:A:N1	52:5:328:G:N2	2.42	0.60
52:5:558:U:OP2	52:5:564:G:N2	2.33	0.60
52:5:936:G:H4'	52:5:1324:A:H4'	1.83	0.60
52:5:1471:C:H2'	52:5:1472:G:C8	2.36	0.60
3:2:28:LYS:HG3	3:2:29:THR:HG23	1.82	0.60
32:i:20:ILE:HG13	32:i:140:PRO:HG2	1.82	0.60
37:n:101:ARG:NE	51:4:47:C:OP1	2.22	0.60
43:t:91:TYR:HB3	50:3:331:A:H5''	1.83	0.60
50:3:731:A:H2'	50:3:732:G:C8	2.36	0.60
50:3:898:A:O2'	51:4:76:A:N3	2.34	0.60
50:3:1230:U:H2'	50:3:1231:G:C8	2.35	0.60
50:3:1778:G:H2'	50:3:1779:G:C8	2.36	0.60
50:3:2096:U:H2'	50:3:2097:A:C8	2.36	0.60
50:3:2556:C:N4	50:3:2557:G:O6	2.34	0.60
52:5:442:G:H2'	52:5:443:G:H8	1.66	0.60
52:5:621:C:H2'	52:5:622:A:C8	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:30:LYS:NZ	50:3:633:G:OP1	2.24	0.60
28:e:142:GLU:O	50:3:2753:C:O2'	2.19	0.60
50:3:535:G:N1	50:3:538:A:OP2	2.34	0.60
50:3:2108:C:H2'	50:3:2109:A:C8	2.37	0.60
50:3:2644:U:H2'	50:3:2645:U:C6	2.37	0.60
51:4:94:A:H3'	51:4:95:G:H8	1.67	0.60
11:H:129:PHE:HB3	52:5:1316:C:H5''	1.83	0.60
12:I:24:LEU:HD13	12:I:102:VAL:HG11	1.84	0.60
15:L:86:TRP:N	21:R:73:GLU:O	2.35	0.60
25:b:149:ALA:HB3	50:3:2059:G:H1'	1.83	0.60
41:r:21:CYS:O	41:r:25:VAL:N	2.34	0.60
50:3:2595:A:N6	50:3:2615:G:H21	1.99	0.60
51:4:3:U:OP1	51:4:59:A:O2'	2.19	0.60
9:F:78:ARG:NH2	52:5:1356:U:O2	2.34	0.60
14:K:63:ARG:NH2	14:K:102:ASP:OD2	2.32	0.60
26:c:125:THR:HG21	26:c:199:VAL:HG12	1.83	0.60
27:d:30:ARG:HH12	51:4:29:C:H5''	1.67	0.60
33:j:25:LEU:HB2	33:j:38:VAL:HG13	1.83	0.60
45:v:57:THR:HG22	50:3:410:G:H2'	1.84	0.60
50:3:27:U:H3'	50:3:28:G:C8	2.37	0.60
50:3:1714:U:H3	50:3:1771:C:H4'	1.66	0.60
50:3:1806:G:H5'	50:3:1826:A:H61	1.66	0.60
50:3:1838:A:N6	50:3:1982:G:O6	2.35	0.60
50:3:2297:G:N2	50:3:2354:A:OP1	2.34	0.60
3:2:35:ARG:NH2	50:3:2750:A:OP1	2.35	0.60
24:a:152:LEU:HA	24:a:192:PHE:HZ	1.67	0.60
50:3:300:G:H2'	50:3:301:G:C8	2.37	0.60
50:3:2291:U:O2	50:3:2333:G:O6	2.20	0.60
50:3:2473:C:H2'	50:3:2474:C:C6	2.36	0.60
52:5:100:G:H1	52:5:308:C:H42	1.50	0.60
52:5:981:U:H2'	52:5:982:A:C8	2.34	0.60
14:K:61:ALA:HB2	52:5:527:G:H1	1.65	0.60
36:m:26:LEU:HB3	36:m:78:LEU:HD21	1.83	0.60
50:3:706:C:H2'	50:3:707:C:C6	2.37	0.60
50:3:1536:C:H2'	50:3:1537:A:C8	2.36	0.60
50:3:1938:U:H2'	50:3:1939:A:H8	1.67	0.60
52:5:1112:U:H3	52:5:1128:G:H1	1.48	0.60
52:5:1316:C:H2'	52:5:1317:A:C8	2.36	0.60
8:E:112:ARG:O	8:E:112:ARG:NH1	2.29	0.60
23:T:40:MET:HA	23:T:43:ARG:HG2	1.84	0.60
50:3:221:A:N7	50:3:467:U:O2	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:730:G:H2'	50:3:731:A:C8	2.37	0.60
50:3:730:G:H2'	50:3:731:A:H8	1.67	0.60
50:3:2747:U:O2	50:3:2772:A:N7	2.35	0.60
52:5:145:G:O2'	52:5:147:A:N6	2.22	0.60
26:c:129:ASP:OD2	26:c:131:ASN:ND2	2.29	0.59
36:m:50:THR:HA	36:m:53:LYS:HE2	1.84	0.59
50:3:450:C:H2'	50:3:451:A:H8	1.67	0.59
52:5:880:G:H1	52:5:905:U:H3	1.50	0.59
4:A:171:ARG:NH2	4:A:172:LEU:O	2.34	0.59
11:H:47:ILE:HA	11:H:50:MET:HE2	1.84	0.59
25:b:64:LYS:NZ	50:3:2795:C:O3'	2.36	0.59
33:j:22:ILE:HG13	33:j:23:LYS:HG3	1.83	0.59
45:v:18:ARG:NH1	45:v:22:LYS:O	2.34	0.59
50:3:1460:G:H2'	50:3:1461:A:C8	2.37	0.59
50:3:1499:C:H2'	50:3:1500:A:H8	1.66	0.59
50:3:2514:U:OP2	50:3:2584:G:N1	2.30	0.59
52:5:932:A:H1'	52:5:1354:G:H22	1.67	0.59
13:J:25:VAL:HB	13:J:63:VAL:HG21	1.84	0.59
21:R:10:PHE:HE2	21:R:37:ARG:HH11	1.49	0.59
38:o:98:ARG:HH12	50:3:1761:C:H42	1.50	0.59
43:t:76:LEU:HD22	43:t:89:ILE:HG13	1.83	0.59
50:3:606:G:O6	50:3:2036:G:O2'	2.18	0.59
50:3:746:G:H2'	50:3:747:A:H8	1.67	0.59
50:3:2739:C:H2'	50:3:2740:U:C6	2.37	0.59
5:B:37:ASP:HB3	5:B:60:ARG:HH11	1.67	0.59
8:E:8:LEU:O	8:E:83:LEU:N	2.26	0.59
14:K:112:ARG:HB3	14:K:130:TYR:HA	1.84	0.59
50:3:535:G:N2	50:3:540:A:C5	2.70	0.59
4:A:47:PRO:O	4:A:49:ARG:NH2	2.35	0.59
7:D:152:LYS:HB2	7:D:179:TYR:HB2	1.84	0.59
8:E:35:LEU:HB2	8:E:60:TRP:HB3	1.85	0.59
10:G:34:THR:HG22	10:G:71:THR:HG22	1.85	0.59
28:e:124:LEU:HD21	28:e:144:VAL:HA	1.85	0.59
50:3:1736:G:OP2	50:3:1772:G:O2'	2.18	0.59
50:3:2249:A:H2'	50:3:2250:G:C8	2.38	0.59
50:3:2495:A:H2'	50:3:2496:G:C8	2.37	0.59
50:3:2645:U:H3'	50:3:2646:G:H8	1.68	0.59
52:5:144:U:H2'	52:5:145:G:C8	2.36	0.59
52:5:664:A:H2'	52:5:665:G:C8	2.37	0.59
52:5:916:U:H2'	52:5:917:G:C8	2.37	0.59
15:L:23:PHE:HA	52:5:1304:U:H5''	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:P:48:HIS:HB3	19:P:73:LYS:HD2	1.83	0.59
25:b:142:ARG:N	50:3:1691:U:OP1	2.35	0.59
29:f:102:HIS:HB3	50:3:166:A:C8	2.37	0.59
38:o:96:VAL:HG12	38:o:98:ARG:H	1.67	0.59
50:3:25:G:O6	50:3:553:A:N6	2.35	0.59
50:3:192:U:H3	50:3:212:G:H1	1.50	0.59
50:3:333:A:N6	50:3:356:A:O2'	2.35	0.59
50:3:660:U:H2'	50:3:661:G:C8	2.37	0.59
50:3:892:G:H2'	50:3:893:A:C8	2.37	0.59
50:3:1058:U:H1'	50:3:1157:G:H5'	1.83	0.59
50:3:1140:U:H2'	50:3:1141:U:C6	2.38	0.59
52:5:90:G:N2	52:5:375:C:O3'	2.36	0.59
1:0:34:ARG:NH1	50:3:503:G:OP2	2.36	0.59
29:f:10:SER:HB2	29:f:14:LYS:HD2	1.85	0.59
35:l:97:VAL:HG22	35:l:103:MET:SD	2.42	0.59
50:3:2266:C:O2'	50:3:2435:C:OP2	2.20	0.59
52:5:373:A:H2'	52:5:374:G:H8	1.67	0.59
52:5:599:G:N2	52:5:634:U:O2	2.28	0.59
52:5:1139:A:H2'	52:5:1140:A:H8	1.67	0.59
6:C:197:VAL:HG13	6:C:198:GLU:HG3	1.85	0.59
41:r:132:GLN:HG2	50:3:580:U:H4'	1.84	0.59
50:3:42:U:H2'	50:3:43:A:C8	2.38	0.59
50:3:250:U:O2	50:3:256:G:N2	2.33	0.59
50:3:322:A:H2'	50:3:323:A:C8	2.37	0.59
50:3:884:A:O2'	50:3:885:A:O5'	2.18	0.59
50:3:992:G:H2'	50:3:993:A:H2'	1.85	0.59
50:3:1633:C:H2'	50:3:1634:A:H8	1.68	0.59
52:5:13:U:O2	52:5:23:G:N2	2.33	0.59
52:5:554:C:H2'	52:5:555:G:H8	1.67	0.59
4:A:106:ALA:HB1	4:A:166:VAL:HA	1.85	0.59
9:F:148:LYS:O	9:F:152:HIS:N	2.30	0.59
39:p:49:ARG:O	39:p:53:LYS:NZ	2.36	0.59
48:y:15:LYS:HD3	50:3:2052:C:H5''	1.85	0.59
49:z:43:LYS:NZ	49:z:44:VAL:O	2.35	0.59
50:3:1117:U:H2'	50:3:1118:U:O4'	2.02	0.59
50:3:1240:U:H5'	50:3:1241:U:H3'	1.84	0.59
50:3:2353:G:H1'	50:3:2389:A:H2'	1.84	0.59
52:5:169:G:N2	52:5:219:A:O2'	2.35	0.59
52:5:957:C:H2'	52:5:958:G:H8	1.68	0.59
52:5:1124:U:H5	52:5:1125:C:C2	2.20	0.59
5:B:113:MET:HG2	5:B:147:ALA:HB3	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:78:LYS:HD3	52:5:1072:G:H5'	1.85	0.59
11:H:120:LEU:HD22	11:H:126:ALA:HA	1.85	0.59
29:f:73:GLU:O	29:f:139:LYS:NZ	2.34	0.59
34:k:94:ASN:OD1	34:k:97:SER:OG	2.19	0.59
39:p:3:ILE:HD13	50:3:1279:U:H5'	1.84	0.59
50:3:663:A:N6	50:3:673:A:O4'	2.36	0.59
50:3:787:C:OP2	50:3:1788:A:N6	2.36	0.59
50:3:1248:A:H2'	50:3:1249:A:C8	2.37	0.59
50:3:2044:C:H2'	50:3:2045:C:C6	2.38	0.59
1:0:30:VAL:O	1:0:34:ARG:HG3	2.02	0.58
24:a:80:GLU:HG2	24:a:122:LEU:HD13	1.85	0.58
26:c:119:LYS:HE3	26:c:191:LEU:HB3	1.84	0.58
42:s:2:ASP:OD2	50:3:146:G:O2'	2.19	0.58
50:3:480:C:H2'	50:3:481:C:C5	2.37	0.58
50:3:712:A:H4'	50:3:2078:A:H5'	1.83	0.58
50:3:847:C:O2	50:3:1256:A:O2'	2.18	0.58
50:3:1164:A:N6	50:3:2499:U:OP1	2.36	0.58
50:3:1239:G:O2'	50:3:1267:A:N1	2.31	0.58
2:1:9:LYS:NZ	50:3:253:C:O2	2.35	0.58
9:F:94:ARG:NH1	52:5:1352:A:OP1	2.37	0.58
27:d:66:VAL:O	27:d:88:LYS:N	2.30	0.58
36:m:15:VAL:O	36:m:19:ARG:HG3	2.02	0.58
37:n:110:ARG:NH2	50:3:2384:A:N3	2.51	0.58
49:z:34:LEU:HD11	50:3:2352:U:H2'	1.83	0.58
50:3:563:A:O2'	50:3:565:C:N4	2.36	0.58
50:3:1959:A:C8	50:3:2568:G:H1'	2.38	0.58
50:3:1972:C:H3'	50:3:1973:U:H2'	1.85	0.58
52:5:1110:C:H2'	52:5:1111:G:H8	1.66	0.58
5:B:154:VAL:HG12	5:B:203:VAL:HG23	1.85	0.58
39:p:54:ARG:HE	50:3:1190:A:H5''	1.68	0.58
40:q:24:LYS:HA	40:q:90:THR:HG23	1.85	0.58
44:u:86:PHE:CE1	44:u:94:ARG:HG2	2.38	0.58
50:3:360:G:H2'	50:3:361:G:C8	2.38	0.58
50:3:995:A:N3	50:3:2465:U:O2'	2.34	0.58
50:3:1085:A:H3'	50:3:1086:G:H8	1.68	0.58
50:3:1780:A:C5	50:3:1836:A:H1'	2.39	0.58
52:5:612:G:O6	52:5:624:U:O4	2.22	0.58
36:m:21:GLN:OE1	50:3:1305:G:O2'	2.20	0.58
50:3:573:A:H3'	50:3:574:G:H8	1.68	0.58
50:3:2253:U:H5''	50:3:2254:G:H5''	1.85	0.58
52:5:68:C:H2'	52:5:69:G:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:590:G:H1	52:5:644:U:H3	1.48	0.58
52:5:1222:U:O2	52:5:1264:G:O6	2.20	0.58
53:7:27:A:OP2	53:7:28:A:N6	2.36	0.58
35:l:26:TYR:O	35:l:67:ARG:NH1	2.37	0.58
50:3:442:G:N2	50:3:457:U:O2'	2.29	0.58
50:3:519:A:N6	50:3:533:G:O2'	2.36	0.58
50:3:1063:A:OP2	50:3:1161:A:N6	2.31	0.58
50:3:2039:G:OP2	50:3:2462:G:O2'	2.20	0.58
52:5:1321:G:N1	52:5:1349:A:OP2	2.30	0.58
5:B:17:ASN:OD1	5:B:18:TRP:N	2.36	0.58
7:D:87:ARG:NH1	52:5:1072:G:OP2	2.31	0.58
10:G:120:ASP:OD1	52:5:637:A:O2'	2.20	0.58
13:J:108:PRO:HA	52:5:673:A:H5''	1.85	0.58
24:a:248:PRO:HD3	50:3:1978:U:H3	1.69	0.58
25:b:162:GLY:H	50:3:2627:U:H4'	1.68	0.58
33:j:86:LEU:HB3	33:j:94:ARG:HD2	1.85	0.58
50:3:1511:C:H2'	50:3:1512:A:C8	2.38	0.58
50:3:2849:G:H2'	50:3:2850:G:C8	2.39	0.58
52:5:56:A:OP2	52:5:348:C:N4	2.36	0.58
52:5:321:A:H2'	52:5:322:G:C8	2.39	0.58
52:5:480:C:C5	52:5:481:U:H2'	2.38	0.58
52:5:1216:G:H2'	52:5:1217:G:C8	2.39	0.58
8:E:104:LYS:O	8:E:108:ALA:N	2.31	0.58
9:F:75:ARG:NH2	52:5:1356:U:O4	2.34	0.58
13:J:33:ASN:HB2	52:5:681:U:H1'	1.85	0.58
28:e:19:ASN:HB3	28:e:26:ALA:HB3	1.85	0.58
36:m:98:SER:OG	36:m:117:GLN:O	2.13	0.58
42:s:63:THR:O	42:s:75:SER:N	2.33	0.58
46:w:95:LYS:O	46:w:99:LEU:HG	2.04	0.58
50:3:405:C:H2'	50:3:406:C:C6	2.38	0.58
50:3:2521:A:H2'	50:3:2522:U:C6	2.38	0.58
52:5:289:U:OP1	52:5:608:G:N2	2.34	0.58
52:5:1213:A:N7	52:5:1275:U:C2	2.72	0.58
52:5:1279:G:N2	52:5:1305:G:O2'	2.37	0.58
8:E:107:LEU:O	8:E:111:LYS:HG2	2.03	0.58
34:k:86:ALA:O	34:k:122:LYS:NZ	2.31	0.58
50:3:27:U:H3	50:3:550:A:H62	1.52	0.58
50:3:373:U:H2'	50:3:374:A:H8	1.68	0.58
50:3:597:C:H2'	50:3:598:G:C8	2.39	0.58
50:3:1508:G:OP2	50:3:1508:G:H4'	2.02	0.58
52:5:644:U:H2'	52:5:645:A:C8	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:832:G:H2'	52:5:833:G:H8	1.67	0.58
52:5:945:U:H2'	52:5:946:G:C8	2.38	0.58
52:5:1495:C:H2'	52:5:1496:G:C8	2.38	0.58
1:0:19:LEU:HD12	50:3:126:C:H5''	1.86	0.58
2:1:16:SER:OG	2:1:18:GLN:NE2	2.36	0.58
20:Q:83:GLN:NE2	52:5:718:A:OP2	2.36	0.58
34:k:53:GLY:O	50:3:866:G:N2	2.37	0.58
38:o:53:LEU:HD21	38:o:104:MET:HB3	1.86	0.58
50:3:638:A:N6	50:3:639:G:O6	2.37	0.58
50:3:1932:C:O2	50:3:1936:G:O6	2.22	0.58
52:5:1034:G:O2'	52:5:1035:A:O5'	2.22	0.58
5:B:187:TYR:HB2	5:B:204:TRP:CD1	2.39	0.58
10:G:96:ARG:NH2	52:5:640:C:O2'	2.37	0.58
25:b:165:MET:O	50:3:2628:U:O2'	2.22	0.58
50:3:251:G:O2'	50:3:254:G:O6	2.17	0.58
52:5:369:A:O2'	52:5:448:A:N6	2.37	0.58
52:5:407:A:N7	52:5:409:G:C2	2.72	0.58
52:5:483:U:H2'	52:5:484:A:H8	1.68	0.58
53:7:9:U:O2	53:7:15:A:N7	2.37	0.58
5:B:29:GLN:HB2	5:B:32:LYS:HE3	1.85	0.57
7:D:206:ARG:NH2	7:D:207:ARG:HG2	2.18	0.57
8:E:35:LEU:HB3	8:E:62:PHE:HB3	1.85	0.57
8:E:49:ILE:HG23	8:E:50:LYS:H	1.67	0.57
13:J:39:SER:O	13:J:42:THR:OG1	2.18	0.57
24:a:150:ILE:HG23	24:a:198:ALA:HB2	1.86	0.57
35:l:118:LEU:HD13	35:l:131:ILE:HG23	1.86	0.57
50:3:1480:A:N6	50:3:1487:U:O2'	2.37	0.57
50:3:1723:A:OP2	50:3:1732:A:N6	2.34	0.57
50:3:1744:U:H2'	50:3:1745:A:C8	2.39	0.57
52:5:442:G:H2'	52:5:443:G:C8	2.39	0.57
52:5:733:A:H2'	52:5:734:A:C8	2.38	0.57
52:5:943:C:O2'	52:5:1339:U:O4	2.21	0.57
5:B:169:LYS:NZ	5:B:170:MET:O	2.38	0.57
6:C:184:ARG:O	6:C:184:ARG:NH2	2.37	0.57
20:Q:78:ASN:ND2	20:Q:83:GLN:OE1	2.36	0.57
31:h:11:LYS:HB3	50:3:1133:A:H4'	1.86	0.57
40:q:79:HIS:CE1	40:q:81:LYS:HG2	2.39	0.57
50:3:1798:A:C2	50:3:1836:A:H4'	2.39	0.57
50:3:2819:C:H2'	50:3:2820:G:H8	1.69	0.57
52:5:375:C:N4	52:5:376:G:O6	2.36	0.57
8:E:97:LEU:HG	8:E:98:ALA:H	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:19:LEU:HD22	10:G:87:VAL:HG21	1.86	0.57
10:G:109:ASN:O	10:G:109:ASN:ND2	2.37	0.57
13:J:120:PRO:HA	52:5:793:C:H5''	1.86	0.57
18:O:22:ARG:NH1	52:5:371:U:O2	2.37	0.57
18:O:31:GLY:HA2	18:O:43:LYS:HG2	1.86	0.57
22:S:6:SER:OG	52:5:92:G:N1	2.34	0.57
23:T:24:GLU:HA	23:T:27:ARG:HG2	1.87	0.57
24:a:229:ARG:NH1	50:3:1796:A:OP2	2.29	0.57
39:p:48:ASP:OD2	50:3:569:U:O2'	2.16	0.57
50:3:67:C:H2'	50:3:68:C:H6	1.68	0.57
50:3:559:C:O2'	50:3:589:A:OP1	2.22	0.57
50:3:727:C:H2'	50:3:728:A:C8	2.39	0.57
50:3:1350:A:H2'	50:3:1351:G:H8	1.68	0.57
50:3:1747:G:O2'	50:3:1752:A:N6	2.30	0.57
50:3:2353:G:O6	50:3:2379:G:O6	2.22	0.57
50:3:2473:C:H2'	50:3:2474:C:H6	1.69	0.57
50:3:2572:A:N6	50:3:2655:U:HO2'	2.01	0.57
52:5:833:G:H1	52:5:844:U:H3	1.50	0.57
52:5:892:G:N2	52:5:894:A:H3'	2.19	0.57
52:5:1220:A:H2'	52:5:1221:A:H8	1.68	0.57
20:Q:94:ARG:NH1	52:5:716:C:N3	2.53	0.57
50:3:2849:G:H2'	50:3:2850:G:H8	1.70	0.57
52:5:773:G:H4'	52:5:774:A:C8	2.40	0.57
52:5:831:C:H2'	52:5:832:G:C8	2.40	0.57
4:A:29:HIS:CE1	4:A:56:PHE:H	2.22	0.57
7:D:185:ARG:NH1	52:5:21:U:OP2	2.33	0.57
15:L:90:ARG:HD2	15:L:95:LEU:HB3	1.87	0.57
24:a:173:GLN:HG2	24:a:180:VAL:HG12	1.86	0.57
41:r:14:PRO:HG3	41:r:101:SER:HB2	1.85	0.57
50:3:683:G:H2'	50:3:684:A:C8	2.40	0.57
50:3:904:C:N3	50:3:949:C:O2'	2.28	0.57
50:3:1160:G:H3'	50:3:1161:A:H8	1.70	0.57
50:3:1499:C:H2'	50:3:1500:A:C8	2.39	0.57
50:3:1867:G:H2'	50:3:1868:A:C8	2.39	0.57
50:3:1884:A:H2'	50:3:1885:G:C8	2.39	0.57
50:3:1919:A:H2'	52:5:1469:G:H21	1.69	0.57
50:3:2068:G:O2'	50:3:2070:C:OP2	2.17	0.57
52:5:895:A:C8	52:5:896:G:H1'	2.39	0.57
53:7:70:G:H2'	53:7:71:A:H8	1.70	0.57
34:k:61:ARG:O	50:3:2400:A:O2'	2.22	0.57
34:k:77:TRP:CE2	34:k:111:PRO:HG2	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:71:ASN:ND2	50:3:1307:G:N3	2.52	0.57
50:3:562:C:N4	50:3:2785:G:O2'	2.38	0.57
50:3:641:U:O2	50:3:657:A:C5	2.58	0.57
50:3:1007:C:H2'	50:3:1008:A:C8	2.39	0.57
50:3:1698:A:N6	50:3:2003:C:N4	2.21	0.57
50:3:2101:A:H1'	50:3:2206:A:N6	2.19	0.57
52:5:72:A:H2'	52:5:73:G:H8	1.69	0.57
52:5:622:A:H2'	52:5:623:G:H8	1.69	0.57
6:C:60:MET:HE3	6:C:191:ILE:HG13	1.87	0.57
25:b:114:SER:O	25:b:171:HIS:ND1	2.38	0.57
50:3:893:A:H2'	50:3:894:G:C8	2.39	0.57
50:3:1903:A:N1	50:3:1904:G:O6	2.37	0.57
50:3:2471:U:H2'	50:3:2472:G:C8	2.40	0.57
52:5:67:U:H4'	52:5:159:U:C4	2.40	0.57
52:5:1414:U:H2'	52:5:1415:G:C8	2.40	0.57
5:B:41:ARG:HH11	5:B:58:ILE:HG13	1.68	0.57
12:I:51:LYS:HE2	52:5:1254:A:H62	1.70	0.57
19:P:7:LYS:HB2	19:P:64:VAL:HA	1.86	0.57
50:3:137:U:O2	50:3:146:G:N2	2.32	0.57
50:3:1082:A:H1'	50:3:1146:A:H62	1.68	0.57
50:3:1785:U:O4	50:3:1791:A:O2'	2.21	0.57
50:3:2471:U:H2'	50:3:2472:G:H8	1.68	0.57
52:5:85:U:O2'	52:5:87:G:N7	2.38	0.57
52:5:483:U:H2'	52:5:484:A:C8	2.39	0.57
52:5:1055:G:O3'	52:5:1165:G:N2	2.38	0.57
18:O:5:ARG:NH2	18:O:6:VAL:O	2.37	0.57
24:a:38:LEU:HD21	24:a:65:LYS:HD3	1.86	0.57
24:a:76:TYR:OH	50:3:1516:G:O2'	2.18	0.57
28:e:99:ALA:H	28:e:131:ASN:HB3	1.70	0.57
35:l:77:LYS:N	50:3:993:A:OP1	2.34	0.57
48:y:47:MET:HG2	48:y:52:ARG:HA	1.87	0.57
50:3:24:U:H2'	50:3:25:G:H8	1.69	0.57
50:3:1592:A:H4'	50:3:1593:U:H3'	1.87	0.57
50:3:2859:U:H2'	50:3:2860:A:C8	2.39	0.57
52:5:240:U:O4	52:5:887:C:N3	2.38	0.57
52:5:412:G:H2'	52:5:413:G:C8	2.40	0.57
52:5:1380:G:N3	52:5:1493:A:O2'	2.36	0.57
52:5:1383:A:H1'	52:5:1469:G:N1	2.20	0.57
14:K:101:LYS:NZ	52:5:524:C:OP1	2.30	0.57
19:P:70:SER:O	19:P:74:ARG:NH2	2.29	0.57
24:a:180:VAL:N	24:a:192:PHE:O	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:98:ARG:HB2	28:e:109:GLN:HB2	1.86	0.57
28:e:121:PRO:HG2	28:e:124:LEU:HB3	1.86	0.57
50:3:1323:A:H2'	50:3:1324:A:C8	2.39	0.57
50:3:1409:G:H2'	50:3:1410:A:H8	1.70	0.57
50:3:1752:A:H3'	50:3:1753:G:H8	1.70	0.57
50:3:2088:U:H2'	50:3:2089:A:H8	1.70	0.57
50:3:2380:U:H2'	50:3:2381:G:C8	2.39	0.57
50:3:2752:G:N2	50:3:2768:U:O2	2.35	0.57
52:5:117:U:O2'	52:5:258:A:O2'	2.21	0.57
52:5:201:G:H2'	52:5:202:A:H8	1.70	0.57
52:5:294:A:H2'	52:5:295:G:C8	2.40	0.57
52:5:528:G:N2	52:5:528:G:OP2	2.37	0.57
52:5:1012:A:H5''	52:5:1013:C:C5	2.36	0.57
52:5:1453:C:H2'	52:5:1454:G:C8	2.36	0.57
13:J:61:ASP:HB2	13:J:92:SER:HB2	1.87	0.56
23:T:48:ILE:O	23:T:52:LYS:HG2	2.05	0.56
40:q:61:LYS:HG2	40:q:91:LYS:HE3	1.85	0.56
50:3:894:G:N3	50:3:2276:A:H2'	2.20	0.56
50:3:1008:A:H8	50:3:1008:A:OP2	1.87	0.56
50:3:1297:U:O2'	50:3:1298:A:OP1	2.23	0.56
50:3:1324:A:H2'	50:3:1325:C:O4'	2.04	0.56
50:3:2534:G:N2	50:3:2545:U:O2	2.28	0.56
50:3:2572:A:N1	50:3:2655:U:H4'	2.20	0.56
51:4:11:A:N6	51:4:67:G:O2'	2.38	0.56
52:5:80:U:H2'	52:5:81:A:C8	2.39	0.56
52:5:1267:G:H2'	52:5:1268:G:H8	1.69	0.56
5:B:67:VAL:HG23	5:B:104:LEU:HD13	1.86	0.56
13:J:119:ARG:HH21	13:J:121:ARG:HB2	1.70	0.56
22:S:31:ASN:HB3	22:S:47:VAL:HG22	1.86	0.56
28:e:141:LYS:HE2	50:3:2754:U:H5''	1.86	0.56
50:3:15:A:N6	50:3:561:A:OP2	2.29	0.56
50:3:158:U:H2'	50:3:159:G:C8	2.40	0.56
50:3:343:A:N3	50:3:363:G:O2'	2.35	0.56
50:3:933:A:H3'	50:3:934:C:H6	1.70	0.56
50:3:1012:G:H2'	50:3:1013:G:C8	2.40	0.56
50:3:2332:U:O4	50:3:2339:G:O6	2.21	0.56
52:5:677:C:H2'	52:5:678:A:C8	2.40	0.56
52:5:818:A:H2'	52:5:819:G:C8	2.40	0.56
52:5:1383:A:H1'	52:5:1469:G:H1	1.70	0.56
5:B:38:GLU:OE1	5:B:42:ASN:ND2	2.31	0.56
6:C:68:ASP:HB3	6:C:72:ARG:HH11	1.68	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:76:GLY:N	52:5:1347:U:OP1	2.36	0.56
20:Q:80:GLN:HG3	20:Q:84:ARG:HH11	1.68	0.56
32:i:20:ILE:HB	32:i:142:THR:HA	1.85	0.56
33:j:107:ARG:HH21	33:j:121:VAL:HG11	1.70	0.56
50:3:158:U:H2'	50:3:159:G:H8	1.70	0.56
50:3:714:G:H2'	50:3:715:G:C8	2.40	0.56
50:3:1837:C:H2'	50:3:1838:A:C8	2.40	0.56
50:3:1876:G:N2	50:3:1879:A:OP2	2.33	0.56
50:3:2323:U:H2'	50:3:2324:A:C8	2.40	0.56
50:3:2669:G:H2'	50:3:2670:A:C8	2.39	0.56
52:5:13:U:O4	52:5:23:G:O6	2.24	0.56
52:5:69:G:N2	52:5:86:A:N1	2.51	0.56
52:5:708:A:H2'	52:5:709:A:H8	1.69	0.56
52:5:970:A:H4'	52:5:971:A:H5''	1.88	0.56
52:5:1030:G:H2'	52:5:1031:A:C8	2.39	0.56
6:C:130:ASP:OD2	52:5:436:U:O2'	2.22	0.56
14:K:6:GLN:HE21	52:5:874:C:H3'	1.70	0.56
15:L:114:LYS:O	52:5:1202:A:O2'	2.20	0.56
25:b:158:ARG:NH2	50:3:2031:C:O3'	2.38	0.56
27:d:27:GLN:NE2	51:4:55:A:O2'	2.38	0.56
29:f:18:VAL:O	29:f:19:VAL:CG2	2.49	0.56
50:3:955:A:O2'	51:4:78:C:O3'	2.23	0.56
50:3:1012:G:H2'	50:3:1013:G:H8	1.69	0.56
50:3:1230:U:H2'	50:3:1231:G:H8	1.67	0.56
50:3:1961:A:H61	50:3:1993:U:H5''	1.71	0.56
50:3:2865:U:H2'	50:3:2866:A:C8	2.40	0.56
52:5:292:U:H1'	52:5:554:C:H1'	1.87	0.56
9:F:24:ARG:NH1	52:5:1351:U:OP1	2.28	0.56
15:L:9:ILE:HG21	15:L:18:ALA:HB1	1.88	0.56
28:e:17:ASN:H	28:e:28:LYS:HB3	1.70	0.56
38:o:98:ARG:HH12	50:3:1761:C:N4	2.04	0.56
46:w:49:ARG:NE	50:3:78:C:OP1	2.38	0.56
51:4:80:G:H22	51:4:85:A:N6	2.02	0.56
52:5:110:U:O3'	52:5:630:G:N2	2.38	0.56
18:O:32:HIS:HB3	18:O:43:LYS:HE3	1.87	0.56
22:S:6:SER:HG	52:5:92:G:H1	1.47	0.56
42:s:60:ARG:O	42:s:77:LEU:HA	2.05	0.56
44:u:65:VAL:HG22	44:u:97:VAL:HG23	1.88	0.56
50:3:1270:C:H2'	50:3:1271:A:C8	2.41	0.56
50:3:2447:A:H61	50:3:2593:U:H4'	1.69	0.56
52:5:38:U:O2'	52:5:545:A:N1	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:35:ARG:HH11	52:5:827:C:H5''	1.70	0.56
9:F:113:LYS:HB3	52:5:1272:C:C2	2.41	0.56
11:H:24:THR:HG23	11:H:64:ASP:HB2	1.88	0.56
11:H:72:GLY:O	52:5:1224:C:O2'	2.15	0.56
12:I:46:LEU:HD12	12:I:47:PRO:HD2	1.87	0.56
14:K:84:GLY:O	14:K:112:ARG:NH1	2.39	0.56
27:d:16:LEU:HD13	27:d:29:PRO:HD2	1.87	0.56
27:d:121:SER:HB2	27:d:128:TYR:CE1	2.41	0.56
50:3:455:G:H2'	50:3:456:G:C8	2.40	0.56
50:3:490:A:OP1	50:3:491:A:N6	2.38	0.56
50:3:622:U:H2'	50:3:623:A:H8	1.70	0.56
50:3:2313:U:H2'	50:3:2314:U:C6	2.40	0.56
50:3:2670:A:H3'	50:3:2671:G:H8	1.71	0.56
50:3:2703:U:O2	50:3:2722:G:O6	2.23	0.56
51:4:6:U:H2'	51:4:7:G:C8	2.41	0.56
52:5:254:G:H2'	52:5:255:G:H8	1.71	0.56
52:5:1148:U:H2'	52:5:1149:G:C8	2.39	0.56
52:5:1446:A:H2'	52:5:1447:U:C6	2.41	0.56
43:t:44:ARG:HD3	50:3:516:A:H5''	1.87	0.56
50:3:46:A:H2'	50:3:47:G:C8	2.39	0.56
50:3:245:U:H5	50:3:260:A:H62	1.53	0.56
50:3:458:A:H3'	50:3:459:A:H8	1.70	0.56
50:3:647:G:N2	50:3:651:A:N7	2.54	0.56
50:3:955:A:N6	50:3:2276:A:OP2	2.38	0.56
50:3:2021:A:H2'	50:3:2022:A:C4	2.41	0.56
50:3:2103:C:H2'	50:3:2104:A:H8	1.70	0.56
50:3:2867:U:H2'	50:3:2868:G:C8	2.40	0.56
52:5:376:G:O2'	52:5:378:A:N6	2.34	0.56
52:5:572:A:O2'	52:5:876:C:O2	2.23	0.56
52:5:838:A:H2'	52:5:839:U:O4'	2.05	0.56
52:5:871:U:H2'	52:5:872:C:C6	2.40	0.56
6:C:81:GLN:OE1	6:C:88:ASN:ND2	2.36	0.56
28:e:34:ILE:HG21	28:e:78:ALA:HB1	1.88	0.56
28:e:62:LYS:O	28:e:66:ILE:HG12	2.06	0.56
31:h:127:THR:HA	50:3:1094:G:H21	1.70	0.56
34:k:126:PHE:CE2	34:k:128:VAL:HB	2.41	0.56
50:3:203:A:N6	50:3:2442:A:OP1	2.36	0.56
50:3:1672:C:OP1	50:3:2718:C:O2'	2.23	0.56
50:3:2094:A:H2'	50:3:2095:A:C8	2.41	0.56
50:3:2575:G:H2'	50:3:2576:A:H8	1.69	0.56
50:3:2812:U:O2'	50:3:2894:G:N2	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:882:U:H5'	52:5:883:A:H2'	1.87	0.56
9:F:112:GLU:HB3	9:F:118:LYS:HB3	1.88	0.56
14:K:121:GLU:C	14:K:123:ARG:H	2.14	0.56
16:M:61:TRP:HD1	52:5:1161:G:H21	1.53	0.56
20:Q:64:LEU:HD13	20:Q:90:LEU:HD13	1.88	0.56
38:o:19:LYS:HE3	38:o:82:HIS:HA	1.87	0.56
42:s:41:LYS:HB3	42:s:55:VAL:HG21	1.87	0.56
50:3:1159:C:H2'	50:3:1160:G:O4'	2.06	0.56
50:3:1161:A:H4'	50:3:1162:A:H5''	1.88	0.56
50:3:1635:G:O2'	50:3:1636:U:O4'	2.24	0.56
50:3:1869:G:H1	50:3:1887:U:H3	1.54	0.56
50:3:2552:G:H2'	50:3:2553:G:H8	1.70	0.56
52:5:826:G:H1	52:5:851:U:H3	1.52	0.56
52:5:1366:U:H2'	52:5:1367:G:C8	2.41	0.56
14:K:85:HIS:HA	14:K:112:ARG:HH22	1.71	0.55
20:Q:87:ALA:HB1	52:5:717:C:O2'	2.06	0.55
42:s:27:TYR:OH	42:s:91:ILE:O	2.17	0.55
45:v:29:TRP:NE1	50:3:2240:U:OP1	2.39	0.55
50:3:189:U:H2'	50:3:190:G:C8	2.40	0.55
50:3:1246:U:O4	50:3:1263:G:O6	2.23	0.55
50:3:1463:G:H2'	50:3:1464:G:H8	1.72	0.55
50:3:2321:C:H2'	50:3:2322:G:C8	2.38	0.55
50:3:2823:A:O2'	50:3:2825:A:N7	2.38	0.55
51:4:75:U:H2'	51:4:76:A:C8	2.41	0.55
51:4:85:A:H2'	51:4:86:G:C8	2.41	0.55
52:5:261:G:H3'	52:5:263:C:H5	1.71	0.55
52:5:435:U:O2'	52:5:438:A:N6	2.39	0.55
50:3:225:A:N7	50:3:463:U:O2	2.40	0.55
50:3:788:G:H2'	50:3:789:A:C8	2.40	0.55
50:3:1198:G:H2'	50:3:1199:A:H8	1.72	0.55
50:3:1627:U:H2'	50:3:1628:G:C8	2.42	0.55
50:3:1709:C:H3'	50:3:1710:A:H8	1.72	0.55
50:3:2229:C:H2'	50:3:2230:A:H8	1.71	0.55
52:5:63:U:O2	52:5:375:C:O2'	2.22	0.55
52:5:537:A:H2'	52:5:538:G:H8	1.71	0.55
52:5:1290:G:N1	52:5:1293:A:OP2	2.37	0.55
5:B:157:SER:OG	52:5:1049:G:OP1	2.18	0.55
10:G:39:LYS:HG3	10:G:40:LEU:HD12	1.88	0.55
11:H:97:LYS:NZ	52:5:1154:A:OP2	2.34	0.55
23:T:43:ARG:NH2	52:5:1503:U:OP2	2.39	0.55
28:e:60:GLU:OE2	28:e:65:LYS:NZ	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:389:C:H2'	50:3:390:A:C8	2.41	0.55
50:3:546:U:H2'	50:3:547:G:O4'	2.06	0.55
50:3:610:G:H2'	50:3:611:A:C8	2.41	0.55
50:3:645:C:H2'	50:3:646:A:C8	2.41	0.55
50:3:1154:U:H2'	50:3:1155:G:C8	2.41	0.55
50:3:2231:A:H3'	50:3:2232:G:H8	1.70	0.55
52:5:202:A:N6	52:5:214:U:O4	2.39	0.55
52:5:316:G:H2'	52:5:317:A:C8	2.41	0.55
52:5:912:G:H2'	52:5:913:A:H8	1.72	0.55
4:A:113:LEU:HD11	4:A:162:PHE:HB3	1.87	0.55
19:P:65:GLU:OE1	52:5:112:U:O2'	2.25	0.55
25:b:173:LYS:O	50:3:2781:C:H5''	2.06	0.55
43:t:88:LYS:HB3	43:t:105:LYS:HE3	1.88	0.55
50:3:296:U:H3	50:3:300:G:N2	2.04	0.55
50:3:1244:A:H4'	50:3:1269:C:H4'	1.88	0.55
50:3:1253:G:H1	50:3:1256:A:P	2.30	0.55
50:3:2400:A:H2'	50:3:2401:U:O4'	2.07	0.55
50:3:2547:C:H2'	50:3:2548:G:H8	1.70	0.55
52:5:373:A:H2'	52:5:374:G:C8	2.42	0.55
52:5:421:G:H2'	52:5:422:A:C8	2.40	0.55
52:5:481:U:H1'	52:5:482:G:H5''	1.88	0.55
52:5:608:G:H2'	52:5:609:G:H8	1.69	0.55
52:5:1244:A:O2'	52:5:1286:G:N2	2.40	0.55
35:l:11:LYS:NZ	35:l:88:GLY:O	2.29	0.55
50:3:129:U:H2'	50:3:130:C:C6	2.41	0.55
50:3:159:G:H2'	50:3:160:A:C8	2.42	0.55
50:3:989:G:H2'	50:3:990:G:H8	1.72	0.55
50:3:1506:U:H2'	50:3:1507:G:C8	2.41	0.55
50:3:2701:A:H2'	50:3:2702:G:H8	1.72	0.55
50:3:2845:U:H2'	50:3:2846:A:C8	2.41	0.55
52:5:45:A:H2'	52:5:46:U:O4'	2.07	0.55
52:5:265:U:H2'	52:5:266:A:C8	2.42	0.55
52:5:711:G:H2'	52:5:712:A:H8	1.71	0.55
52:5:1288:C:H2'	52:5:1289:U:H6	1.71	0.55
9:F:22:VAL:O	9:F:26:ILE:HG13	2.06	0.55
15:L:90:ARG:HA	15:L:93:LYS:HE2	1.88	0.55
27:d:91:LEU:HA	27:d:95:ARG:HH21	1.72	0.55
28:e:86:PHE:CG	28:e:141:LYS:HG3	2.42	0.55
35:l:62:GLY:HA2	35:l:108:ASN:HB2	1.87	0.55
50:3:165:U:O2	50:3:167:A:N6	2.36	0.55
50:3:1262:G:H2'	50:3:1263:G:C8	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1572:U:H2'	50:3:1573:A:C8	2.42	0.55
50:3:1858:U:H3	50:3:1898:G:H1	1.54	0.55
52:5:87:G:H2'	52:5:88:A:C8	2.42	0.55
52:5:576:A:H2'	52:5:577:G:C8	2.42	0.55
52:5:1505:G:H2'	52:5:1506:A:H8	1.72	0.55
53:7:29:C:H2'	53:7:30:G:H8	1.72	0.55
3:2:30:GLN:HB3	50:3:2535:C:H5''	1.87	0.55
6:C:103:ARG:HB3	6:C:164:SER:HB3	1.88	0.55
14:K:30:LEU:HD23	14:K:31:LEU:HB3	1.87	0.55
16:M:8:VAL:O	16:M:12:ARG:N	2.40	0.55
21:R:78:ARG:NE	52:5:1296:C:OP1	2.40	0.55
23:T:37:ARG:NH1	52:5:1502:G:O6	2.40	0.55
48:y:12:ARG:HD3	50:3:2028:G:H5''	1.88	0.55
50:3:330:A:H2'	50:3:331:A:C8	2.42	0.55
50:3:535:G:N3	50:3:540:A:C6	2.75	0.55
50:3:562:C:N4	50:3:2787:U:OP2	2.29	0.55
50:3:1237:G:H2'	50:3:1238:A:C8	2.42	0.55
50:3:2119:A:H2'	50:3:2120:G:H8	1.72	0.55
50:3:2205:U:O2	50:3:2206:A:O2'	2.25	0.55
50:3:2826:G:O2'	50:3:2828:C:OP2	2.20	0.55
52:5:10:G:H2'	52:5:11:A:C8	2.41	0.55
52:5:1225:A:H2	52:5:1345:G:H1'	1.72	0.55
5:B:130:ARG:HH12	5:B:194:THR:HA	1.72	0.55
6:C:202:ARG:NH2	52:5:292:U:OP1	2.39	0.55
24:a:213:ILE:HA	24:a:218:ARG:HH11	1.72	0.55
33:j:18:GLN:H	33:j:45:ASP:HB3	1.71	0.55
50:3:1311:G:N1	50:3:1314:A:OP2	2.39	0.55
50:3:1511:C:H2'	50:3:1512:A:H8	1.71	0.55
50:3:2348:U:H2'	50:3:2349:G:C8	2.42	0.55
51:4:12:U:H2'	51:4:13:G:H21	1.72	0.55
52:5:337:C:H2'	52:5:338:C:H6	1.71	0.55
52:5:896:G:H2'	52:5:897:A:H8	1.72	0.55
52:5:1055:G:H4'	52:5:1056:U:H4'	1.89	0.55
8:E:86:LEU:HD11	20:Q:95:TYR:HE2	1.72	0.55
12:I:64:ASP:OD2	12:I:67:SER:OG	2.23	0.55
27:d:95:ARG:NH2	51:4:41:C:O2'	2.40	0.55
38:o:34:ALA:HB3	38:o:87:SER:OG	2.06	0.55
44:u:46:ARG:NH1	50:3:2361:G:O3'	2.39	0.55
50:3:840:G:N2	50:3:864:A:OP1	2.40	0.55
50:3:1608:C:H2'	50:3:1609:U:C6	2.41	0.55
50:3:2134:G:H2'	50:3:2135:C:C6	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:76:G:N2	52:5:79:A:OP2	2.29	0.55
52:5:233:C:H2'	52:5:234:G:C8	2.41	0.55
5:B:159:ARG:NH1	5:B:196:TYR:O	2.39	0.55
8:E:4:ASN:HB2	8:E:88:ILE:HB	1.88	0.55
9:F:35:LYS:HD3	52:5:1348:G:H5''	1.88	0.55
21:R:36:ARG:HG3	21:R:71:LEU:HD22	1.88	0.55
32:i:107:ALA:O	50:3:1173:G:O2'	2.20	0.55
33:j:29:ARG:HA	33:j:29:ARG:HE	1.71	0.55
35:l:58:LEU:HG	35:l:109:ILE:HD12	1.88	0.55
50:3:161:U:H2'	50:3:162:G:C8	2.41	0.55
50:3:349:G:H2'	50:3:350:C:C6	2.41	0.55
50:3:612:G:O2'	50:3:2026:A:OP1	2.21	0.55
50:3:1166:G:N1	50:3:2031:C:O2'	2.40	0.55
50:3:1335:A:N7	50:3:1656:A:N6	2.54	0.55
51:4:35:C:N3	51:4:46:C:O2'	2.40	0.55
5:B:11:ARG:HB3	5:B:181:LEU:HD22	1.88	0.54
21:R:70:LYS:HG3	52:5:1294:U:H5''	1.88	0.54
24:a:123:ALA:HA	24:a:135:SER:HB3	1.89	0.54
26:c:49:THR:HB	50:3:478:G:H21	1.72	0.54
46:w:17:LYS:O	46:w:21:LYS:HG3	2.07	0.54
50:3:410:G:H4'	50:3:411:U:O5'	2.07	0.54
50:3:546:U:H3'	50:3:547:G:H8	1.69	0.54
50:3:733:C:H5''	50:3:734:A:H5''	1.89	0.54
50:3:1612:U:H2'	50:3:1613:A:C8	2.39	0.54
50:3:2609:C:H2'	50:3:2611:G:H8	1.70	0.54
52:5:69:G:H21	52:5:137:A:H2	1.54	0.54
52:5:603:U:O2	52:5:630:G:O6	2.24	0.54
52:5:1214:A:H61	52:5:1270:C:H2'	1.71	0.54
3:2:11:CYS:SG	3:2:12:LYS:N	2.76	0.54
4:A:88:LYS:HB3	4:A:92:VAL:HB	1.90	0.54
8:E:3:TYR:HB3	8:E:62:PHE:CE1	2.42	0.54
11:H:119:GLY:N	52:5:1342:C:OP1	2.39	0.54
41:r:34:ASN:O	41:r:38:ASN:ND2	2.40	0.54
45:v:16:ASN:ND2	50:3:419:A:O5'	2.39	0.54
50:3:480:C:H2'	50:3:481:C:H5	1.71	0.54
50:3:738:U:O4	50:3:761:G:O2'	2.24	0.54
50:3:1307:G:H2'	50:3:1308:A:C8	2.41	0.54
50:3:2706:U:O4	50:3:2717:G:O6	2.24	0.54
52:5:1267:G:H2'	52:5:1268:G:C8	2.42	0.54
6:C:52:GLN:O	6:C:56:GLU:HG2	2.08	0.54
7:D:131:ILE:HA	7:D:175:TYR:HE1	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Q:81:MET:O	20:Q:84:ARG:HG2	2.08	0.54
24:a:276:ASN:O	24:a:286:GLN:NE2	2.41	0.54
39:p:13:ARG:NH1	50:3:616:G:OP2	2.40	0.54
45:v:12:PRO:HB2	45:v:28:LYS:HG2	1.88	0.54
50:3:734:A:H1'	50:3:1668:G:H2'	1.88	0.54
50:3:915:A:OP2	50:3:936:G:N2	2.37	0.54
50:3:1428:U:H2'	50:3:1429:G:H8	1.72	0.54
50:3:1433:U:H2'	50:3:1434:U:C6	2.42	0.54
50:3:1553:G:N2	50:3:1577:A:OP2	2.32	0.54
50:3:2007:U:H2'	50:3:2008:A:C8	2.42	0.54
50:3:2210:G:O2'	50:3:2212:U:OP2	2.25	0.54
50:3:2831:U:H2'	50:3:2832:G:C8	2.42	0.54
52:5:401:U:H3	52:5:497:A:H62	1.55	0.54
52:5:873:U:H2'	52:5:874:C:C6	2.41	0.54
52:5:1262:A:H61	52:5:1346:G:H1'	1.73	0.54
5:B:93:LYS:O	5:B:97:GLY:N	2.39	0.54
6:C:94:GLU:OE2	6:C:110:ARG:NH1	2.40	0.54
8:E:83:LEU:O	8:E:84:ARG:NH2	2.41	0.54
25:b:40:LYS:O	25:b:48:SER:HA	2.07	0.54
39:p:48:ASP:O	39:p:52:LYS:HG2	2.07	0.54
44:u:33:LYS:NZ	50:3:2395:U:O2'	2.39	0.54
50:3:645:C:H2'	50:3:646:A:H8	1.73	0.54
52:5:173:U:H3	52:5:192:A:H61	1.53	0.54
52:5:1461:G:H2'	52:5:1462:G:C8	2.42	0.54
4:A:116:THR:HA	4:A:123:LEU:HD11	1.89	0.54
9:F:14:ASP:HB2	9:F:23:THR:HG23	1.89	0.54
24:a:62:ASN:O	24:a:64:ARG:NH1	2.41	0.54
33:j:23:LYS:HB2	33:j:40:VAL:HB	1.88	0.54
50:3:433:A:O2'	50:3:2238:G:N2	2.40	0.54
50:3:1744:U:H2'	50:3:1745:A:H8	1.73	0.54
50:3:2093:U:H2'	50:3:2094:A:H8	1.72	0.54
50:3:2828:C:H3'	50:3:2829:G:H21	1.72	0.54
51:4:71:A:O2'	51:4:72:A:O4'	2.23	0.54
51:4:73:U:H3'	51:4:74:G:H8	1.73	0.54
52:5:1126:U:O4	52:5:1127:A:N6	2.40	0.54
52:5:1172:A:H2'	52:5:1173:A:C8	2.42	0.54
6:C:99:ASN:OD1	6:C:110:ARG:NE	2.40	0.54
7:D:69:ARG:HH11	7:D:172:LEU:HG	1.71	0.54
15:L:94:ASN:ND2	15:L:109:ARG:O	2.40	0.54
35:l:27:VAL:HB	35:l:102:VAL:HG11	1.90	0.54
36:m:69:ASN:O	50:3:1321:C:O2'	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:n:14:ARG:NH1	50:3:2342:U:O2	2.40	0.54
40:q:87:GLN:HE21	50:3:1029:A:H1'	1.72	0.54
49:z:8:ARG:HB2	49:z:50:VAL:HB	1.90	0.54
50:3:118:G:OP2	50:3:120:A:O2'	2.14	0.54
50:3:330:A:H2'	50:3:331:A:H8	1.73	0.54
50:3:409:A:H61	50:3:437:A:H3'	1.72	0.54
50:3:824:A:N6	50:3:1647:A:O3'	2.40	0.54
50:3:2161:G:C2	50:3:2162:U:C4	2.96	0.54
50:3:2844:U:H2'	50:3:2845:U:C6	2.42	0.54
52:5:947:U:H2'	52:5:948:U:H6	1.71	0.54
12:I:52:LYS:HA	12:I:74:ASN:HA	1.90	0.54
42:s:6:VAL:HG23	42:s:7:LEU:HD12	1.90	0.54
50:3:1071:G:O6	50:3:1154:U:O4	2.26	0.54
50:3:1307:G:H2'	50:3:1308:A:H8	1.73	0.54
50:3:2304:U:OP2	50:3:2342:U:N3	2.41	0.54
52:5:460:A:H2'	52:5:461:G:H8	1.72	0.54
52:5:575:A:H2'	52:5:576:A:C8	2.43	0.54
52:5:787:A:H2'	52:5:788:G:C5	2.43	0.54
52:5:986:U:H1'	52:5:988:G:H8	1.72	0.54
52:5:1245:A:H2'	52:5:1246:A:C8	2.43	0.54
52:5:1402:U:O2	52:5:1449:G:N2	2.41	0.54
7:D:80:THR:O	52:5:1373:A:N6	2.41	0.54
8:E:16:GLU:HG3	8:E:20:GLN:NE2	2.22	0.54
8:E:90:LEU:HA	8:E:94:TYR:HE1	1.73	0.54
24:a:230:GLY:HA3	24:a:238:HIS:CE1	2.43	0.54
33:j:60:ALA:HB2	33:j:86:LEU:HD13	1.89	0.54
50:3:251:G:N2	50:3:255:A:OP2	2.35	0.54
50:3:383:U:H2'	50:3:384:G:C8	2.43	0.54
50:3:389:C:H2'	50:3:390:A:H8	1.73	0.54
50:3:1023:C:O2'	50:3:1036:A:N3	2.38	0.54
50:3:1107:C:H2'	50:3:1128:G:H1	1.73	0.54
50:3:1237:G:H2'	50:3:1238:A:H8	1.72	0.54
50:3:1363:C:H2'	50:3:1364:A:C8	2.42	0.54
50:3:1519:A:H2'	50:3:1520:A:C8	2.43	0.54
50:3:2268:C:H2'	50:3:2269:C:H6	1.73	0.54
50:3:2692:U:C2	50:3:2735:G:H1'	2.42	0.54
52:5:133:G:H2'	52:5:134:G:C8	2.43	0.54
52:5:799:A:C2	52:5:800:G:H1'	2.42	0.54
52:5:997:G:H22	52:5:1029:C:H2'	1.72	0.54
6:C:68:ASP:O	6:C:72:ARG:HG3	2.08	0.54
8:E:144:SER:HA	10:G:62:ASN:HA	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:145:ARG:HB3	10:G:63:LYS:HD3	1.90	0.54
13:J:34:VAL:O	52:5:681:U:O2'	2.14	0.54
14:K:42:LEU:HD22	14:K:96:ARG:HA	1.90	0.54
15:L:85:ALA:HA	21:R:74:PHE:HA	1.90	0.54
22:S:24:GLN:HB3	22:S:54:LEU:HD21	1.90	0.54
32:i:59:ILE:HD13	32:i:127:VAL:HG22	1.90	0.54
33:j:111:TYR:HB3	33:j:114:ILE:HD12	1.90	0.54
50:3:18:G:H2'	50:3:19:G:H8	1.73	0.54
50:3:127:A:O2'	50:3:128:A:O4'	2.17	0.54
50:3:401:G:O2'	50:3:402:A:OP1	2.26	0.54
50:3:847:C:H5''	50:3:1280:G:O2'	2.08	0.54
50:3:2297:G:H2'	50:3:2298:G:C8	2.43	0.54
52:5:891:C:H2'	52:5:892:G:C8	2.42	0.54
6:C:70:GLN:NE2	52:5:398:G:OP1	2.38	0.54
7:D:79:THR:OG1	52:5:916:U:O2	2.23	0.54
8:E:156:LEU:N	10:G:78:GLN:OE1	2.36	0.54
10:G:67:LYS:HG2	52:5:650:A:C5	2.43	0.54
10:G:119:SER:OG	52:5:637:A:N3	2.35	0.54
12:I:62:HIS:ND1	52:5:1173:A:O2'	2.40	0.54
28:e:67:PHE:HA	28:e:70:THR:HG22	1.90	0.54
42:s:3:VAL:HG13	42:s:5:ASN:H	1.72	0.54
43:t:9:LYS:HD2	43:t:23:ILE:HD11	1.89	0.54
50:3:625:G:H2'	50:3:626:A:H8	1.72	0.54
50:3:674:G:O2'	50:3:675:U:O4'	2.18	0.54
50:3:2041:C:H2'	50:3:2042:A:C8	2.43	0.54
52:5:242:A:N6	52:5:277:G:C4	2.76	0.54
52:5:515:G:N1	52:5:531:A:OP1	2.38	0.54
52:5:1300:C:H2'	52:5:1301:U:C6	2.43	0.54
1:0:5:TYR:OH	1:0:12:ARG:NH1	2.41	0.53
3:2:25:VAL:HG22	3:2:34:GLN:H	1.72	0.53
11:H:21:LEU:HD11	11:H:63:PHE:HD1	1.73	0.53
20:Q:80:GLN:HG3	20:Q:84:ARG:NH1	2.23	0.53
24:a:271:LYS:HD3	50:3:2235:A:H5''	1.90	0.53
25:b:140:PRO:HB2	25:b:143:PHE:CD1	2.42	0.53
33:j:104:ARG:NH2	33:j:121:VAL:O	2.40	0.53
38:o:36:LYS:HB3	38:o:38:LYS:NZ	2.23	0.53
41:r:61:ASN:ND2	50:3:530:G:N3	2.57	0.53
50:3:305:U:O2	50:3:399:G:N2	2.31	0.53
50:3:1242:G:H22	50:3:1266:G:H1'	1.74	0.53
52:5:445:A:H8	52:5:483:U:C4	2.26	0.53
52:5:461:G:H3'	52:5:462:G:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:514:U:H3'	52:5:515:G:C8	2.43	0.53
52:5:1188:A:O2'	52:5:1190:G:N7	2.37	0.53
5:B:134:ARG:NE	7:D:112:PRO:HG2	2.21	0.53
25:b:65:PRO:HG3	50:3:2795:C:H1'	1.90	0.53
29:f:138:LEU:HD12	29:f:139:LYS:H	1.73	0.53
34:k:39:GLN:HG3	50:3:840:G:H5''	1.90	0.53
41:r:57:ASN:O	41:r:61:ASN:N	2.40	0.53
50:3:62:G:O6	50:3:67:C:N4	2.41	0.53
50:3:1010:G:OP1	50:3:1218:G:O2'	2.22	0.53
50:3:1262:G:H2'	50:3:1263:G:H8	1.73	0.53
50:3:2160:U:H2'	50:3:2161:G:C8	2.43	0.53
52:5:87:G:H2'	52:5:88:A:H8	1.72	0.53
52:5:276:U:H3'	52:5:277:G:H8	1.73	0.53
52:5:882:U:H3'	52:5:883:A:H8	1.73	0.53
6:C:97:LEU:HD13	6:C:124:LEU:HD13	1.90	0.53
14:K:34:LYS:NZ	14:K:35:VAL:O	2.39	0.53
24:a:152:LEU:HA	24:a:192:PHE:CZ	2.43	0.53
25:b:63:ASN:HB3	25:b:66:GLN:HB2	1.91	0.53
45:v:4:LYS:HD3	45:v:9:LEU:HG	1.90	0.53
48:y:13:ARG:NH1	50:3:552:C:OP1	2.41	0.53
50:3:2141:A:H8	50:3:2164:G:H21	1.56	0.53
50:3:2334:U:O2'	50:3:2396:A:N6	2.40	0.53
52:5:313:U:H2'	52:5:314:G:C8	2.43	0.53
52:5:317:A:H4'	52:5:1411:A:H5'	1.91	0.53
52:5:797:G:H2'	52:5:798:U:C6	2.44	0.53
5:B:37:ASP:OD1	5:B:38:GLU:N	2.42	0.53
6:C:117:VAL:HA	6:C:122:VAL:HB	1.89	0.53
7:D:100:LYS:HE3	7:D:126:LEU:HB3	1.91	0.53
10:G:100:PRO:HG3	52:5:597:C:H5''	1.91	0.53
13:J:18:CYS:SG	13:J:86:LYS:NZ	2.72	0.53
33:j:29:ARG:HA	33:j:29:ARG:NE	2.24	0.53
34:k:89:LYS:HD3	34:k:122:LYS:HD3	1.89	0.53
40:q:47:ALA:HB3	40:q:48:PRO:HD3	1.90	0.53
41:r:133:GLN:NE2	50:3:581:A:OP2	2.41	0.53
50:3:857:U:O4	50:3:858:A:N6	2.41	0.53
50:3:1475:C:H1'	50:3:1578:A:H1'	1.89	0.53
50:3:1831:G:H2'	50:3:1832:G:C8	2.39	0.53
51:4:11:A:H4'	51:4:13:G:C8	2.43	0.53
52:5:677:C:H2'	52:5:678:A:H8	1.73	0.53
52:5:922:G:H1	52:5:1365:U:H3	1.56	0.53
52:5:989:A:N7	52:5:1191:U:H4'	2.22	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1300:C:H2'	52:5:1301:U:H6	1.73	0.53
3:2:1:MET:N	3:2:34:GLN:HA	2.24	0.53
23:T:31:ARG:NH1	23:T:32:HIS:HE1	2.07	0.53
24:a:81:ALA:HA	24:a:101:TYR:HA	1.89	0.53
25:b:19:THR:OG1	25:b:221:GLU:O	2.27	0.53
33:j:11:ALA:HB2	33:j:83:ALA:HB1	1.91	0.53
41:r:41:LYS:HZ3	50:3:2016:G:H5''	1.74	0.53
50:3:615:G:H1	50:3:1288:C:H42	1.55	0.53
50:3:1038:G:H2'	50:3:1039:G:H8	1.74	0.53
50:3:2828:C:O5'	50:3:2829:G:N2	2.41	0.53
52:5:310:C:H2'	52:5:311:A:C8	2.42	0.53
52:5:916:U:H2'	52:5:917:G:H8	1.72	0.53
52:5:975:C:O2	52:5:975:C:H2'	2.09	0.53
52:5:1261:A:H2	52:5:1327:G:H1'	1.74	0.53
52:5:1390:G:H2'	52:5:1391:A:O4'	2.09	0.53
52:5:1489:C:H2'	52:5:1490:G:C8	2.44	0.53
10:G:113:ILE:N	10:G:141:VAL:O	2.36	0.53
10:G:119:SER:HA	52:5:639:A:C6	2.44	0.53
17:N:60:ARG:O	17:N:64:LEU:HG	2.07	0.53
19:P:81:ILE:HG22	19:P:82:GLU:H	1.73	0.53
20:Q:88:LYS:HD3	20:Q:91:LYS:HE3	1.90	0.53
24:a:59:GLY:HA3	50:3:726:U:H5''	1.90	0.53
32:i:15:ARG:HH22	32:i:44:LYS:HZ2	1.54	0.53
33:j:77:LEU:HB3	38:o:77:LYS:HE3	1.89	0.53
36:m:22:VAL:HA	36:m:25:VAL:HG12	1.91	0.53
44:u:79:GLY:CA	44:u:98:VAL:O	2.45	0.53
48:y:38:LEU:HG	48:y:41:ARG:HD3	1.90	0.53
50:3:42:U:H2'	50:3:43:A:H8	1.72	0.53
50:3:410:G:N2	50:3:411:U:O4	2.32	0.53
50:3:507:A:H2'	50:3:508:A:C4	2.44	0.53
50:3:700:U:H2'	50:3:701:A:C8	2.42	0.53
50:3:1135:C:H2'	50:3:1136:U:O4'	2.09	0.53
50:3:2104:A:H2'	50:3:2105:G:C8	2.43	0.53
50:3:2451:C:H2'	50:3:2452:G:H8	1.72	0.53
50:3:2716:U:H2'	50:3:2717:G:H8	1.72	0.53
50:3:2861:G:N2	50:3:2864:A:OP2	2.27	0.53
52:5:15:U:H3	52:5:17:A:H3'	1.72	0.53
52:5:576:A:H2'	52:5:577:G:H8	1.74	0.53
52:5:598:U:H2'	52:5:599:G:H8	1.74	0.53
52:5:621:C:H2'	52:5:622:A:H8	1.72	0.53
52:5:671:G:H2'	52:5:672:A:C8	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:858:A:H2'	52:5:859:A:C8	2.44	0.53
6:C:9:LYS:NZ	52:5:425:G:OP2	2.36	0.53
10:G:118:THR:HB	10:G:133:ILE:HG22	1.91	0.53
16:M:31:ARG:NH2	52:5:972:A:OP2	2.41	0.53
24:a:63:LYS:NZ	50:3:727:C:H5''	2.23	0.53
48:y:11:HIS:ND1	50:3:2028:G:OP1	2.39	0.53
50:3:762:A:H3'	50:3:763:G:C8	2.44	0.53
50:3:781:U:H2'	50:3:2619:C:H4'	1.90	0.53
50:3:1864:A:O2'	50:3:1865:A:N7	2.38	0.53
50:3:2575:G:H2'	50:3:2576:A:C8	2.44	0.53
52:5:106:C:N4	52:5:232:G:OP2	2.42	0.53
52:5:505:C:H3'	52:5:506:U:H2'	1.89	0.53
52:5:1227:A:H2'	52:5:1228:C:C6	2.43	0.53
52:5:1306:A:H2'	52:5:1307:A:O4'	2.09	0.53
7:D:110:GLU:OE1	7:D:113:ASN:ND2	2.42	0.53
24:a:78:ASN:HB3	29:f:84:HIS:HE1	1.73	0.53
31:h:16:GLY:H	31:h:51:ILE:H	1.57	0.53
36:m:103:LEU:HD23	48:y:42:VAL:HG11	1.91	0.53
50:3:67:C:H2'	50:3:68:C:C6	2.44	0.53
50:3:615:G:H2'	50:3:616:G:H8	1.73	0.53
50:3:1056:A:H2'	50:3:1057:G:H4'	1.91	0.53
50:3:1201:A:H2'	50:3:1202:A:H8	1.73	0.53
50:3:1306:G:H2'	50:3:1307:G:H8	1.74	0.53
50:3:1348:C:N3	50:3:1359:C:N4	2.57	0.53
50:3:2241:A:N6	50:3:2242:G:O6	2.42	0.53
50:3:2332:U:C4	50:3:2339:G:O6	2.62	0.53
50:3:2704:U:H2'	50:3:2705:G:C8	2.43	0.53
52:5:709:A:H2'	52:5:710:G:H8	1.74	0.53
15:L:25:ILE:HG23	15:L:29:ARG:HB2	1.90	0.53
22:S:18:ASN:HD21	52:5:318:C:H4'	1.74	0.53
38:o:57:GLY:HA3	38:o:62:GLU:HA	1.91	0.53
39:p:69:ARG:NH2	50:3:1047:A:OP2	2.42	0.53
42:s:7:LEU:HB3	46:w:31:PHE:HZ	1.74	0.53
45:v:10:ARG:NH1	50:3:432:G:OP2	2.38	0.53
50:3:1449:G:O2'	50:3:1519:A:N6	2.41	0.53
50:3:1692:A:H2'	50:3:1693:U:C6	2.44	0.53
50:3:1854:A:N6	50:3:1856:G:O6	2.42	0.53
50:3:2213:A:H2'	50:3:2214:A:H8	1.74	0.53
50:3:2334:U:N3	50:3:2397:G:O6	2.42	0.53
50:3:2685:A:H2'	50:3:2686:C:C6	2.44	0.53
51:4:31:G:H2'	51:4:32:G:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:515:G:H21	52:5:528:G:H5''	1.74	0.53
52:5:708:A:H2'	52:5:709:A:C8	2.43	0.53
13:J:42:THR:OG1	13:J:62:LYS:NZ	2.42	0.53
39:p:10:ARG:NH2	50:3:30:A:O2'	2.41	0.53
50:3:159:G:H2'	50:3:160:A:H8	1.74	0.53
50:3:163:A:N3	50:3:2216:U:O2'	2.37	0.53
50:3:639:G:H2'	50:3:640:U:O4'	2.09	0.53
50:3:1462:A:O2'	50:3:1463:G:O4'	2.26	0.53
50:3:2424:C:C4	50:3:2425:C:C4	2.97	0.53
50:3:2475:C:N4	50:3:2476:A:H62	2.07	0.53
50:3:2847:C:H2'	50:3:2848:A:H8	1.73	0.53
5:B:131:VAL:O	5:B:161:ASN:ND2	2.42	0.52
16:M:32:ALA:N	52:5:971:A:OP1	2.40	0.52
26:c:18:VAL:HG21	26:c:201:LYS:HE2	1.91	0.52
27:d:150:ARG:HH11	50:3:2314:U:H3	1.57	0.52
29:f:87:ARG:HG3	29:f:88:PRO:HD2	1.90	0.52
29:f:94:THR:O	29:f:98:ILE:HG12	2.08	0.52
35:l:45:ARG:NH1	35:l:46:ALA:HB2	2.24	0.52
36:m:14:ARG:NH2	50:3:2009:U:O5'	2.41	0.52
50:3:577:C:N4	50:3:584:G:O6	2.36	0.52
50:3:774:A:H1'	50:3:775:C:H5	1.74	0.52
50:3:1008:A:OP2	50:3:1009:A:H5''	2.08	0.52
50:3:2734:C:O2'	50:3:2735:G:H8	1.93	0.52
50:3:2893:C:H2'	50:3:2894:G:O4'	2.09	0.52
52:5:15:U:N3	52:5:18:U:OP2	2.40	0.52
52:5:1354:G:H2'	52:5:1355:U:C6	2.45	0.52
52:5:1397:G:H2'	52:5:1398:G:C8	2.44	0.52
4:A:130:LEU:HD22	4:A:167:LYS:HE2	1.91	0.52
5:B:152:ILE:H	5:B:173:GLU:HB2	1.72	0.52
16:M:21:TYR:HE2	16:M:23:ARG:HE	1.57	0.52
38:o:107:ARG:CZ	50:3:1761:C:H4'	2.39	0.52
40:q:19:THR:HA	40:q:92:LEU:O	2.09	0.52
50:3:344:A:H1'	50:3:345:A:H2'	1.90	0.52
50:3:442:G:N1	50:3:457:U:C2	2.78	0.52
50:3:907:A:N6	50:3:945:U:O4	2.43	0.52
50:3:1038:G:H2'	50:3:1039:G:C8	2.44	0.52
50:3:1096:U:H4'	50:3:1097:G:OP2	2.10	0.52
50:3:1112:A:H61	50:3:1123:A:H2'	1.74	0.52
50:3:1714:U:N3	50:3:1771:C:H4'	2.24	0.52
50:3:2548:G:O2'	50:3:2748:A:N3	2.31	0.52
52:5:573:G:H21	52:5:574:C:H5	1.56	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1079:G:H2'	52:5:1080:G:C8	2.45	0.52
52:5:1228:C:H2'	52:5:1229:A:C8	2.44	0.52
2:1:5:SER:OG	50:3:256:G:O6	2.25	0.52
4:A:96:VAL:HA	4:A:99:ILE:HG22	1.91	0.52
8:E:89:ASN:CG	8:E:90:LEU:H	2.17	0.52
12:I:60:SER:O	16:M:41:ARG:NH2	2.42	0.52
14:K:107:ARG:NH1	52:5:905:U:OP2	2.43	0.52
36:m:67:LEU:HG	36:m:75:VAL:HG12	1.92	0.52
50:3:442:G:H2'	50:3:443:C:C6	2.44	0.52
50:3:792:G:H2'	50:3:793:C:H5'	1.91	0.52
50:3:1341:U:H5''	50:3:1342:C:H5	1.74	0.52
50:3:1391:U:H2'	50:3:1392:G:C8	2.44	0.52
50:3:1834:U:H5''	50:3:1978:U:H4'	1.92	0.52
52:5:536:U:H2'	52:5:537:A:C8	2.44	0.52
52:5:849:A:OP2	52:5:865:U:N3	2.32	0.52
52:5:994:C:N4	52:5:1033:U:O2	2.42	0.52
8:E:97:LEU:HD13	52:5:658:G:H5''	1.92	0.52
29:f:76:GLU:HB3	29:f:139:LYS:HZ3	1.74	0.52
41:r:7:GLN:HB3	41:r:103:LEU:H	1.75	0.52
41:r:78:GLN:NE2	41:r:79:GLY:O	2.40	0.52
50:3:1657:G:H2'	50:3:1658:U:C6	2.44	0.52
50:3:2146:A:H2'	50:3:2147:G:C8	2.43	0.52
52:5:240:U:H4'	52:5:241:C:H5'	1.90	0.52
52:5:655:G:O6	52:5:744:U:O2	2.28	0.52
52:5:1379:C:H2'	52:5:1380:G:C8	2.45	0.52
52:5:1410:A:H2'	52:5:1411:A:H8	1.75	0.52
6:C:104:MET:HE3	6:C:169:THR:HG23	1.91	0.52
14:K:82:GLY:HA3	14:K:112:ARG:HE	1.75	0.52
27:d:35:VAL:HG22	27:d:155:THR:OG1	2.09	0.52
50:3:713:C:H2'	50:3:714:G:H8	1.74	0.52
50:3:1084:C:H2'	50:3:1085:A:H8	1.75	0.52
52:5:24:C:OP2	52:5:559:U:N3	2.31	0.52
52:5:460:A:H2'	52:5:461:G:C8	2.45	0.52
52:5:1197:G:OP2	52:5:1296:C:N4	2.42	0.52
6:C:73:ARG:NH1	52:5:619:A:O2'	2.43	0.52
6:C:118:ASN:OD1	6:C:119:HIS:N	2.42	0.52
43:t:104:PHE:HB2	43:t:109:ASN:H	1.74	0.52
46:w:91:LEU:O	46:w:95:LYS:HG2	2.09	0.52
50:3:145:A:H2'	50:3:146:G:C8	2.44	0.52
50:3:270:G:H2'	50:3:271:G:O4'	2.09	0.52
50:3:694:U:H2'	50:3:695:G:H8	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:902:U:N3	50:3:940:A:OP2	2.43	0.52
50:3:1151:U:H2'	50:3:1152:U:C6	2.44	0.52
50:3:1336:A:H61	50:3:1642:G:H22	1.58	0.52
50:3:1663:G:H2'	50:3:1664:A:C8	2.45	0.52
50:3:1947:U:O2'	50:3:1950:U:O2	2.27	0.52
50:3:2381:G:H2'	50:3:2382:A:H8	1.74	0.52
52:5:313:U:H2'	52:5:314:G:H8	1.75	0.52
52:5:808:C:H4'	52:5:895:A:N6	2.25	0.52
52:5:1203:A:H2'	52:5:1204:A:C8	2.45	0.52
52:5:1328:C:H2'	52:5:1329:G:H8	1.74	0.52
3:2:21:GLN:HB2	50:3:1158:C:H4'	1.92	0.52
4:A:199:VAL:HG12	4:A:213:PHE:HB2	1.91	0.52
11:H:66:ASN:ND2	52:5:1121:U:O2	2.43	0.52
13:J:68:LYS:HD3	13:J:98:LEU:HB2	1.91	0.52
26:c:46:ARG:HB3	26:c:50:HIS:HE1	1.74	0.52
27:d:29:PRO:HB2	27:d:169:LEU:HD11	1.91	0.52
42:s:26:LYS:HG2	42:s:84:THR:HG22	1.91	0.52
44:u:38:LYS:HB3	44:u:39:LYS:HE2	1.91	0.52
50:3:172:U:H2'	50:3:173:C:C6	2.45	0.52
50:3:364:A:H1'	50:3:1240:U:C4	2.44	0.52
50:3:469:C:H2'	50:3:470:U:C6	2.45	0.52
50:3:965:U:H2'	50:3:966:U:C6	2.45	0.52
50:3:1116:U:H2'	50:3:1117:U:C6	2.44	0.52
50:3:1355:C:H2'	50:3:1356:G:C4	2.45	0.52
50:3:2701:A:H2'	50:3:2702:G:C8	2.44	0.52
52:5:80:U:H2'	52:5:81:A:H8	1.75	0.52
52:5:892:G:O2'	52:5:894:A:N6	2.38	0.52
2:1:49:ALA:HA	2:1:52:PHE:HB2	1.91	0.52
3:2:11:CYS:HB2	3:2:32:HIS:CG	2.45	0.52
10:G:54:LEU:HA	10:G:75:LYS:HB2	1.91	0.52
18:O:48:VAL:O	18:O:52:TRP:HD1	1.93	0.52
22:S:52:ASP:OD2	52:5:195:U:O2'	2.23	0.52
25:b:139:TYR:OH	50:3:781:U:O4	2.28	0.52
33:j:80:ASP:OD2	38:o:67:ARG:NH2	2.40	0.52
41:r:6:LYS:HA	41:r:104:VAL:HB	1.92	0.52
43:t:1:MET:SD	50:3:85:U:H5''	2.50	0.52
50:3:63:U:N3	50:3:97:A:N3	2.58	0.52
50:3:501:G:N3	50:3:718:U:O2'	2.38	0.52
50:3:812:G:H2'	50:3:813:G:C8	2.44	0.52
50:3:1094:G:H2'	50:3:1095:U:C5	2.45	0.52
50:3:1111:C:H2'	50:3:1112:A:C8	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1634:A:H2'	50:3:1634:A:N3	2.24	0.52
50:3:1796:A:H2'	50:3:1797:C:O4'	2.09	0.52
50:3:1881:C:H2'	50:3:1882:G:O4'	2.09	0.52
50:3:1903:A:H2'	50:3:1904:G:C8	2.44	0.52
50:3:2392:U:H5''	50:3:2394:A:OP1	2.10	0.52
50:3:2481:U:OP1	50:3:2483:C:N4	2.43	0.52
50:3:2567:C:H2'	50:3:2568:G:C8	2.45	0.52
50:3:2684:G:N2	50:3:2740:U:H3	2.08	0.52
51:4:23:A:OP2	51:4:25:A:N6	2.40	0.52
52:5:786:U:H1'	52:5:789:A:N7	2.25	0.52
52:5:1086:U:OP1	52:5:1099:G:N1	2.34	0.52
52:5:1115:G:O2'	52:5:1116:U:O5'	2.27	0.52
52:5:1403:A:H2'	52:5:1404:U:O4'	2.09	0.52
6:C:60:MET:HE1	6:C:63:MET:HE2	1.92	0.52
17:N:58:SER:HB2	52:5:579:G:H5'	1.90	0.52
19:P:3:ARG:HH11	52:5:115:A:H61	1.58	0.52
20:Q:94:ARG:NH2	52:5:716:C:O2	2.35	0.52
22:S:71:ARG:O	22:S:75:VAL:HG23	2.10	0.52
24:a:122:LEU:HG	24:a:124:SER:HB3	1.92	0.52
27:d:151:GLY:N	50:3:2313:U:O2	2.42	0.52
50:3:984:C:H2'	50:3:985:A:H8	1.75	0.52
50:3:1474:C:H2'	50:3:1475:C:H6	1.74	0.52
50:3:1865:A:H61	50:3:1891:A:H2'	1.75	0.52
50:3:2120:G:H3'	50:3:2121:A:H8	1.73	0.52
50:3:2469:A:H2'	50:3:2470:C:C6	2.45	0.52
52:5:22:G:H2'	52:5:23:G:C8	2.45	0.52
52:5:272:G:H2'	52:5:273:C:C6	2.45	0.52
52:5:409:G:H1'	52:5:425:G:H21	1.75	0.52
52:5:644:U:H2'	52:5:645:A:H8	1.74	0.52
52:5:1333:C:O2'	52:5:1335:G:N7	2.32	0.52
11:H:110:LYS:HE3	52:5:1160:G:H1'	1.92	0.52
15:L:96:PRO:HD3	15:L:109:ARG:HG2	1.92	0.52
17:N:5:LYS:O	17:N:9:ILE:HG12	2.09	0.52
47:x:10:GLN:N	47:x:29:LEU:HB2	2.22	0.52
50:3:62:G:N2	50:3:64:U:O2	2.43	0.52
50:3:666:G:N2	50:3:668:A:H3'	2.25	0.52
50:3:739:G:N2	50:3:761:G:H1'	2.25	0.52
50:3:1432:C:H2'	50:3:1433:U:C6	2.45	0.52
50:3:1677:G:H2'	50:3:1678:U:C2	2.45	0.52
50:3:1712:A:H2	50:3:1997:C:H1'	1.74	0.52
50:3:1921:C:H5	52:5:1384:A:H4'	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2072:C:H5'	50:3:2259:G:H21	1.75	0.52
50:3:2291:U:O4	50:3:2292:A:N6	2.43	0.52
50:3:2585:A:H2'	50:3:2622:A:H62	1.75	0.52
50:3:2872:A:H2'	50:3:2873:G:C8	2.45	0.52
52:5:83:U:H2'	52:5:84:U:C6	2.45	0.52
52:5:823:C:H2'	52:5:824:U:C6	2.45	0.52
52:5:1194:A:H2'	52:5:1195:G:C8	2.45	0.52
52:5:1320:A:N7	52:5:1349:A:H5''	2.24	0.52
52:5:1432:A:H2'	52:5:1433:G:C8	2.45	0.52
8:E:86:LEU:HG	20:Q:96:LEU:HD11	1.92	0.51
24:a:219:ASN:O	24:a:223:GLY:N	2.43	0.51
25:b:29:ILE:HD13	25:b:205:VAL:HG11	1.92	0.51
27:d:74:ILE:HG22	27:d:76:THR:H	1.75	0.51
28:e:44:LEU:HD11	28:e:68:HIS:HA	1.91	0.51
29:f:138:LEU:HD12	29:f:139:LYS:N	2.24	0.51
32:i:26:LEU:HG	32:i:31:LEU:HD13	1.92	0.51
38:o:63:THR:OG1	38:o:78:ASN:OD1	2.23	0.51
39:p:65:ASN:O	39:p:69:ARG:HG2	2.10	0.51
46:w:102:ARG:NH2	50:3:1626:C:H5''	2.24	0.51
46:w:102:ARG:HH22	50:3:1626:C:H5''	1.74	0.51
50:3:205:C:O2'	50:3:424:G:O6	2.28	0.51
50:3:1385:U:H2'	50:3:1386:G:O4'	2.10	0.51
50:3:1689:A:H61	50:3:2012:A:H1'	1.74	0.51
50:3:1937:G:O2'	50:3:1975:G:O6	2.24	0.51
50:3:2884:C:H2'	50:3:2885:U:H6	1.75	0.51
52:5:400:G:HO2'	52:5:436:U:H3	1.54	0.51
52:5:635:G:H2'	52:5:636:G:O4'	2.10	0.51
52:5:961:G:C6	53:7:35:G:H4'	2.45	0.51
52:5:1309:U:OP1	52:5:1311:G:N2	2.37	0.51
53:7:11:G:H2'	53:7:12:C:C6	2.45	0.51
53:7:30:G:H2'	53:7:31:G:C8	2.44	0.51
11:H:18:LYS:NZ	52:5:1124:U:O2	2.41	0.51
25:b:58:GLU:HG2	25:b:59:ASN:H	1.76	0.51
45:v:16:ASN:HB3	45:v:24:ILE:HG13	1.92	0.51
46:w:40:LYS:HB3	46:w:42:HIS:CE1	2.45	0.51
50:3:325:G:H1	50:3:383:U:H3	1.56	0.51
50:3:597:C:O2'	50:3:1283:A:N6	2.30	0.51
50:3:671:C:H2'	50:3:672:G:H8	1.75	0.51
50:3:1645:C:H2'	50:3:1646:G:C8	2.44	0.51
50:3:1659:C:H2'	50:3:1660:A:C4	2.44	0.51
50:3:1883:A:H3'	50:3:1884:A:H8	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2330:A:H2'	50:3:2331:G:C8	2.44	0.51
50:3:2737:G:C6	50:3:2738:U:O4	2.63	0.51
52:5:124:U:H3	52:5:221:U:H3	1.58	0.51
52:5:134:G:H2'	52:5:135:A:O4'	2.10	0.51
52:5:249:U:H2'	52:5:250:G:H8	1.75	0.51
52:5:536:U:H2'	52:5:537:A:H8	1.74	0.51
52:5:568:G:H2'	52:5:569:U:C6	2.45	0.51
52:5:808:C:H4'	52:5:895:A:H61	1.74	0.51
52:5:977:U:H1'	52:5:979:C:C4	2.45	0.51
52:5:1036:C:N4	52:5:1186:U:O2	2.42	0.51
52:5:1110:C:H2'	52:5:1111:G:C8	2.44	0.51
52:5:1399:U:H3'	52:5:1400:A:H8	1.75	0.51
52:5:1478:A:O4'	52:5:1505:G:N2	2.36	0.51
4:A:35:ARG:HH21	4:A:52:ASN:ND2	2.07	0.51
12:I:50:THR:HB	12:I:76:HIS:HA	1.90	0.51
13:J:80:LYS:HE3	52:5:704:U:H5''	1.92	0.51
21:R:55:LYS:O	52:5:981:U:O2'	2.25	0.51
22:S:11:LEU:O	22:S:15:ILE:HG12	2.10	0.51
25:b:135:HIS:CE1	50:3:1706:C:H41	2.28	0.51
37:n:49:ASN:OD1	51:4:7:G:O2'	2.27	0.51
50:3:1449:G:H2'	50:3:1450:G:C8	2.43	0.51
50:3:1984:A:H2'	50:3:1985:A:H8	1.75	0.51
52:5:1405:U:H2'	52:5:1406:U:C6	2.45	0.51
52:5:1487:U:H2'	52:5:1488:A:H8	1.75	0.51
25:b:3:ILE:HG23	25:b:209:THR:H	1.75	0.51
26:c:25:ILE:O	26:c:113:HIS:NE2	2.43	0.51
35:l:72:MET:HE3	35:l:94:VAL:HG13	1.93	0.51
50:3:71:C:O2	50:3:75:A:O2'	2.22	0.51
50:3:173:C:H2'	50:3:174:A:C8	2.46	0.51
50:3:246:G:H1'	50:3:247:U:H5	1.74	0.51
50:3:493:A:H61	50:3:506:A:H5''	1.76	0.51
50:3:855:A:H61	50:3:1008:A:H2'	1.75	0.51
50:3:1535:A:H2'	50:3:1536:C:O4'	2.10	0.51
50:3:1803:U:H2'	50:3:1804:A:H8	1.74	0.51
52:5:51:A:N7	52:5:356:G:N2	2.58	0.51
52:5:337:C:H2'	52:5:338:C:C6	2.45	0.51
52:5:1049:G:O6	52:5:1174:U:C2	2.64	0.51
52:5:1059:G:O6	52:5:1085:G:O2'	2.25	0.51
52:5:1136:G:O6	52:5:1151:A:N1	2.42	0.51
52:5:1194:A:H2'	52:5:1195:G:H8	1.75	0.51
52:5:1197:G:OP2	52:5:1295:U:N3	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:74:LYS:O	7:D:89:SER:N	2.39	0.51
8:E:113:ALA:HB1	52:5:838:A:C6	2.46	0.51
11:H:125:ARG:NH2	52:5:1317:A:N3	2.58	0.51
27:d:35:VAL:HB	27:d:88:LYS:NZ	2.25	0.51
27:d:99:PHE:O	27:d:103:LEU:HD23	2.11	0.51
50:3:337:U:H2'	50:3:338:G:C8	2.45	0.51
50:3:513:A:O2'	50:3:514:A:OP1	2.25	0.51
50:3:662:U:H4'	50:3:689:U:N3	2.26	0.51
50:3:694:U:H2'	50:3:695:G:C8	2.46	0.51
50:3:1476:C:H2'	50:3:1477:A:C8	2.46	0.51
50:3:1834:U:H2'	50:3:1835:G:O4'	2.10	0.51
50:3:2137:A:H4'	50:3:2165:A:C6	2.46	0.51
50:3:2234:C:H3'	50:3:2235:A:C8	2.46	0.51
50:3:2604:U:O2'	50:3:2605:G:O5'	2.21	0.51
50:3:2835:G:H5'	50:3:2836:U:H5'	1.93	0.51
50:3:2850:G:H2'	50:3:2851:U:C6	2.45	0.51
52:5:254:G:H2'	52:5:255:G:C8	2.46	0.51
52:5:319:U:H2'	52:5:320:G:C8	2.45	0.51
52:5:1208:G:O2'	52:5:1340:G:OP1	2.27	0.51
22:S:30:THR:OG1	52:5:1432:A:OP1	2.25	0.51
24:a:60:GLY:N	50:3:727:C:OP1	2.43	0.51
25:b:168:HIS:HB2	50:3:2630:U:H5'	1.91	0.51
32:i:77:TRP:CE2	32:i:103:LEU:HD11	2.46	0.51
33:j:21:ILE:HD13	33:j:41:VAL:HG12	1.93	0.51
34:k:132:SER:O	34:k:136:LEU:N	2.37	0.51
39:p:77:VAL:HA	39:p:80:ASN:HD22	1.75	0.51
41:r:19:LEU:O	41:r:23:LEU:HG	2.11	0.51
50:3:188:G:H2'	50:3:189:U:C6	2.46	0.51
50:3:265:G:H2'	50:3:266:A:H8	1.75	0.51
50:3:381:A:H2'	50:3:382:U:C6	2.46	0.51
50:3:1340:U:O2'	50:3:1342:C:N4	2.44	0.51
50:3:1854:A:H2'	50:3:1855:A:H5''	1.92	0.51
50:3:2122:G:O2'	50:3:2175:U:O2	2.28	0.51
50:3:2538:A:OP2	50:3:2543:G:N2	2.43	0.51
50:3:2820:G:N3	50:3:2887:A:O2'	2.33	0.51
51:4:66:A:H3'	51:4:67:G:H8	1.75	0.51
52:5:1472:G:N2	52:5:1494:A:H1'	2.26	0.51
20:Q:78:ASN:ND2	20:Q:83:GLN:HA	2.26	0.51
35:l:63:LYS:HD2	35:l:65:TRP:NE1	2.26	0.51
43:t:43:THR:HG1	50:3:534:U:HO2'	1.49	0.51
50:3:251:G:OP2	50:3:253:C:N4	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:474:U:H2'	50:3:475:A:C8	2.46	0.51
50:3:720:A:H2	50:3:822:C:H1'	1.75	0.51
50:3:874:U:H2'	50:3:875:G:C8	2.46	0.51
50:3:1340:U:O2'	50:3:1367:G:N1	2.37	0.51
50:3:1798:A:H2	50:3:1836:A:H4'	1.75	0.51
50:3:2522:U:H2'	50:3:2523:C:C6	2.46	0.51
50:3:2700:C:H2'	50:3:2701:A:H8	1.74	0.51
50:3:2854:A:N7	50:3:2872:A:O2'	2.42	0.51
51:4:59:A:O2'	51:4:60:C:OP1	2.28	0.51
52:5:292:U:H2'	52:5:293:G:C8	2.46	0.51
52:5:471:A:H2'	52:5:472:G:H8	1.75	0.51
52:5:1156:G:H4'	52:5:1157:G:H5'	1.92	0.51
52:5:1220:A:H2'	52:5:1221:A:C8	2.46	0.51
9:F:37:LEU:HG	9:F:40:ARG:HH22	1.76	0.51
11:H:48:GLN:NE2	11:H:48:GLN:O	2.44	0.51
15:L:95:LEU:HD11	15:L:110:LYS:HE3	1.92	0.51
34:k:13:ARG:HG3	34:k:14:ASN:H	1.75	0.51
37:n:43:ALA:HB3	37:n:53:ALA:H	1.75	0.51
50:3:75:A:H5''	50:3:77:G:H1'	1.93	0.51
50:3:187:C:O2'	50:3:468:A:N3	2.35	0.51
50:3:381:A:H2'	50:3:382:U:H6	1.75	0.51
50:3:985:A:OP1	50:3:997:G:H4'	2.10	0.51
50:3:1437:A:C6	50:3:1628:G:C6	2.99	0.51
50:3:1517:G:H2'	50:3:1521:A:H61	1.75	0.51
50:3:2309:A:H2'	50:3:2310:C:C6	2.45	0.51
50:3:2459:A:H4'	53:7:75:C:H42	1.75	0.51
50:3:2792:C:H2'	50:3:2793:U:H6	1.76	0.51
52:5:170:A:H2'	52:5:171:A:H8	1.76	0.51
52:5:631:C:H2'	52:5:632:A:H8	1.75	0.51
52:5:892:G:N2	52:5:895:A:C6	2.79	0.51
52:5:973:A:H61	52:5:1290:G:H1'	1.76	0.51
52:5:1228:C:H2'	52:5:1229:A:H8	1.76	0.51
53:7:53:A:H2'	53:7:54:G:C8	2.45	0.51
5:B:7:SER:OG	5:B:204:TRP:NE1	2.34	0.51
7:D:164:GLY:O	7:D:167:ARG:HG2	2.11	0.51
14:K:120:VAL:HG21	14:K:130:TYR:HB3	1.92	0.51
27:d:132:ILE:O	27:d:151:GLY:CA	2.54	0.51
50:3:39:C:H2'	50:3:40:A:C8	2.46	0.51
50:3:71:C:H2'	50:3:72:G:C8	2.45	0.51
50:3:226:A:H62	50:3:236:G:H1'	1.74	0.51
50:3:288:A:H2'	50:3:289:U:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:495:U:H2'	50:3:496:A:C8	2.46	0.51
50:3:780:G:H2'	50:3:783:G:H21	1.75	0.51
50:3:860:C:H4'	50:3:2436:G:C5	2.46	0.51
50:3:1844:C:O2'	50:3:1934:A:H1'	2.11	0.51
52:5:255:G:H2'	52:5:256:G:C8	2.44	0.51
52:5:509:C:O2'	52:5:510:U:OP2	2.23	0.51
52:5:710:G:H2'	52:5:711:G:H8	1.73	0.51
52:5:880:G:N2	52:5:905:U:O2	2.32	0.51
53:7:68:G:H2'	53:7:69:A:C8	2.46	0.51
6:C:149:ILE:HD12	6:C:154:VAL:HG12	1.93	0.51
14:K:122:LYS:C	14:K:124:ARG:HG3	2.36	0.51
21:R:55:LYS:HD2	52:5:953:A:H5'	1.93	0.51
22:S:67:ARG:NH2	52:5:257:U:OP2	2.39	0.51
30:g:85:GLY:HA3	30:g:89:ILE:HB	1.92	0.51
44:u:86:PHE:O	44:u:92:LYS:HB2	2.11	0.51
46:w:15:LEU:O	46:w:19:VAL:HG23	2.11	0.51
49:z:5:ARG:NH1	50:3:2293:C:OP2	2.44	0.51
50:3:256:G:H2'	50:3:257:C:C6	2.46	0.51
50:3:446:A:H5''	50:3:447:G:H5''	1.93	0.51
50:3:495:U:H2'	50:3:496:A:H8	1.76	0.51
50:3:812:G:H2'	50:3:813:G:H8	1.75	0.51
50:3:1346:G:H2'	50:3:1347:A:C8	2.46	0.51
50:3:1672:C:O2'	50:3:2706:U:O2	2.28	0.51
50:3:1715:A:O2'	50:3:1769:A:H2'	2.11	0.51
50:3:2081:U:H2'	50:3:2082:U:H6	1.75	0.51
50:3:2315:G:H5'	50:3:2316:G:C4	2.46	0.51
50:3:2589:G:H22	50:3:2618:C:H2'	1.76	0.51
50:3:2664:U:H2'	50:3:2665:A:H8	1.74	0.51
50:3:2721:C:O2'	50:3:2723:C:OP2	2.26	0.51
52:5:43:G:H2'	52:5:44:C:C6	2.46	0.51
52:5:500:G:H2'	52:5:501:A:C8	2.46	0.51
52:5:503:G:H2'	52:5:504:A:H8	1.76	0.51
9:F:65:VAL:HA	9:F:68:VAL:HG12	1.93	0.50
12:I:53:GLU:N	12:I:73:LYS:O	2.41	0.50
24:a:270:MET:N	24:a:270:MET:SD	2.84	0.50
29:f:92:ILE:HG22	29:f:118:ARG:HH11	1.76	0.50
32:i:20:ILE:N	32:i:141:THR:O	2.44	0.50
33:j:68:GLY:HA3	33:j:78:LYS:HA	1.93	0.50
34:k:26:SER:N	50:3:848:U:OP2	2.44	0.50
39:p:57:ARG:NH1	50:3:1190:A:OP2	2.44	0.50
40:q:6:VAL:HG22	40:q:11:GLN:HG2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:382:U:H2'	50:3:383:U:C6	2.46	0.50
50:3:665:C:H2'	50:3:666:G:C8	2.46	0.50
50:3:2102:U:H2'	50:3:2103:C:C6	2.46	0.50
50:3:2381:G:H2'	50:3:2382:A:C8	2.46	0.50
50:3:2595:A:C6	50:3:2615:G:N2	2.79	0.50
51:4:38:U:O2'	51:4:40:U:O2'	2.27	0.50
52:5:656:U:H2'	52:5:657:G:C8	2.46	0.50
52:5:657:G:O6	52:5:743:A:N6	2.41	0.50
52:5:1161:G:H2'	52:5:1162:G:H8	1.75	0.50
4:A:35:ARG:NH1	52:5:827:C:OP1	2.44	0.50
6:C:37:GLN:OE1	52:5:415:C:O2'	2.29	0.50
14:K:7:LEU:HD11	14:K:12:ARG:HE	1.76	0.50
25:b:116:GLY:HA2	25:b:170:GLY:HA3	1.93	0.50
31:h:129:LYS:O	50:3:1112:A:O2'	2.21	0.50
38:o:93:ARG:HE	38:o:116:GLU:HB2	1.75	0.50
50:3:227:A:O2'	50:3:456:G:N3	2.37	0.50
50:3:450:C:O2	50:3:1871:U:O2'	2.23	0.50
50:3:559:C:H2'	50:3:560:U:O4'	2.11	0.50
50:3:859:G:H1'	50:3:2366:A:N7	2.26	0.50
50:3:1140:U:H2'	50:3:1141:U:H6	1.75	0.50
50:3:1196:U:H2'	50:3:1197:G:H8	1.76	0.50
50:3:1346:G:H2'	50:3:1347:A:H8	1.77	0.50
50:3:1954:C:H2'	50:3:1955:G:H8	1.73	0.50
50:3:2184:A:H2'	50:3:2185:C:C6	2.45	0.50
50:3:2475:C:H42	50:3:2476:A:H62	1.58	0.50
52:5:19:C:H1'	52:5:1070:G:H21	1.76	0.50
52:5:372:G:N1	52:5:383:U:C2	2.79	0.50
52:5:707:G:H2'	52:5:708:A:C8	2.45	0.50
52:5:747:C:H2'	52:5:748:U:C6	2.47	0.50
52:5:769:U:H2'	52:5:770:G:C8	2.46	0.50
52:5:936:G:H1	52:5:1316:C:H42	1.57	0.50
52:5:997:G:H1'	52:5:1030:G:H22	1.76	0.50
3:2:1:MET:H1	3:2:34:GLN:HA	1.76	0.50
4:A:69:TYR:CD2	4:A:235:ALA:HB2	2.46	0.50
8:E:25:GLN:HA	8:E:28:THR:HG23	1.94	0.50
11:H:11:ARG:NH1	52:5:1109:U:OP2	2.44	0.50
21:R:15:LEU:HA	21:R:18:LYS:HB2	1.93	0.50
24:a:15:HIS:NE2	50:3:1781:C:N3	2.59	0.50
24:a:180:VAL:O	24:a:192:PHE:N	2.39	0.50
26:c:67:LYS:O	26:c:71:THR:OG1	2.23	0.50
39:p:45:ALA:O	39:p:49:ARG:HG3	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:145:A:H2'	50:3:146:G:H8	1.76	0.50
50:3:292:G:C6	50:3:293:G:C6	2.99	0.50
50:3:1801:U:H2'	50:3:1802:C:C6	2.46	0.50
50:3:2164:G:O2'	50:3:2165:A:O4'	2.29	0.50
50:3:2700:C:H2'	50:3:2701:A:C8	2.46	0.50
50:3:2705:G:H2'	50:3:2706:U:C6	2.46	0.50
50:3:2764:U:H1'	50:3:2765:A:H5''	1.93	0.50
8:E:3:TYR:HB2	8:E:62:PHE:O	2.11	0.50
18:O:12:ARG:HA	18:O:32:HIS:HA	1.91	0.50
20:Q:92:ARG:HA	52:5:732:A:H4'	1.93	0.50
24:a:260:LYS:NZ	50:3:1811:A:O3'	2.28	0.50
29:f:21:VAL:HG12	29:f:22:LYS:N	2.26	0.50
32:i:126:HIS:HB3	32:i:128:PHE:HE2	1.75	0.50
41:r:29:THR:O	41:r:33:GLN:HG3	2.11	0.50
50:3:399:G:O6	50:3:400:A:N6	2.43	0.50
50:3:500:U:H3'	50:3:501:G:C8	2.47	0.50
50:3:542:A:H5''	50:3:543:U:H2'	1.93	0.50
50:3:1308:A:H2'	50:3:1309:G:C8	2.46	0.50
50:3:1404:C:H2'	50:3:1405:G:C8	2.47	0.50
50:3:1938:U:H2'	50:3:1939:A:C8	2.45	0.50
50:3:2404:G:H2'	50:3:2405:G:H8	1.75	0.50
50:3:2444:G:N2	50:3:2606:A:N3	2.50	0.50
52:5:386:U:H2'	52:5:387:G:C8	2.46	0.50
52:5:407:A:N1	52:5:426:U:N3	2.60	0.50
52:5:743:A:H2'	52:5:744:U:O4'	2.11	0.50
53:7:70:G:H2'	53:7:71:A:C8	2.45	0.50
4:A:109:THR:OG1	4:A:161:LYS:O	2.27	0.50
4:A:117:LEU:HD22	4:A:191:ALA:HA	1.93	0.50
5:B:164:GLU:HB3	5:B:167:ARG:HB2	1.93	0.50
10:G:38:SER:O	10:G:42:ILE:HG12	2.12	0.50
19:P:73:LYS:H	19:P:74:ARG:NH2	2.10	0.50
27:d:90:THR:O	51:4:41:C:H1'	2.10	0.50
31:h:85:GLY:O	50:3:1098:G:O2'	2.30	0.50
35:l:39:GLY:CA	35:l:97:VAL:O	2.59	0.50
36:m:44:ARG:HA	36:m:47:LYS:HE2	1.94	0.50
39:p:50:ARG:NH1	50:3:1029:A:OP2	2.43	0.50
41:r:129:VAL:O	41:r:133:GLN:HG2	2.12	0.50
46:w:49:ARG:O	46:w:53:THR:HG23	2.11	0.50
50:3:746:G:H2'	50:3:747:A:C8	2.45	0.50
50:3:974:C:H2'	50:3:975:G:C8	2.46	0.50
50:3:2850:G:H2'	50:3:2851:U:H6	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:4:15:C:N3	51:4:66:A:N6	2.60	0.50
52:5:892:G:N2	52:5:895:A:C5	2.79	0.50
52:5:976:U:H5''	52:5:977:U:OP2	2.12	0.50
52:5:1049:G:O6	52:5:1174:U:O2	2.30	0.50
52:5:1153:G:N2	52:5:1155:A:H3'	2.27	0.50
7:D:79:THR:HA	7:D:84:ARG:HG2	1.92	0.50
13:J:114:CYS:SG	13:J:115:LYS:N	2.85	0.50
27:d:96:MET:O	27:d:100:LEU:HG	2.12	0.50
33:j:24:VAL:HA	33:j:39:VAL:HG12	1.92	0.50
50:3:59:C:H2'	50:3:60:G:C8	2.46	0.50
50:3:333:A:N6	50:3:356:A:HO2'	2.10	0.50
50:3:803:G:H2'	50:3:804:U:C6	2.46	0.50
50:3:952:U:O2'	50:3:953:G:OP1	2.29	0.50
50:3:1123:A:H4'	50:3:1124:G:H8	1.76	0.50
50:3:1488:U:H2'	50:3:1489:G:C8	2.46	0.50
50:3:1558:A:OP2	50:3:1570:A:N6	2.45	0.50
50:3:2004:G:H2'	50:3:2005:G:C8	2.47	0.50
50:3:2089:A:H3'	50:3:2090:G:H8	1.77	0.50
50:3:2647:A:H2'	50:3:2648:A:O4'	2.11	0.50
52:5:50:U:O4	52:5:358:G:N2	2.42	0.50
52:5:63:U:H2'	52:5:64:C:C6	2.47	0.50
52:5:334:A:O2'	52:5:335:C:H5'	2.12	0.50
52:5:692:A:H61	52:5:783:G:H21	1.59	0.50
52:5:1142:G:N2	52:5:1145:A:OP2	2.43	0.50
24:a:146:GLN:O	24:a:201:GLY:N	2.43	0.50
25:b:156:ALA:HB1	25:b:160:PHE:CE1	2.47	0.50
26:c:55:LYS:HZ3	26:c:90:VAL:HG23	1.77	0.50
29:f:61:ASN:ND2	29:f:132:GLU:OE1	2.44	0.50
41:r:88:ARG:NE	41:r:94:ASN:OD1	2.44	0.50
43:t:25:LEU:HD23	43:t:26:LYS:HG3	1.94	0.50
48:y:52:ARG:C	48:y:54:LYS:H	2.19	0.50
50:3:160:A:H2'	50:3:161:U:O4'	2.12	0.50
50:3:482:G:H1'	50:3:490:A:H61	1.77	0.50
50:3:621:U:H2'	50:3:622:U:C6	2.47	0.50
50:3:713:C:H2'	50:3:714:G:C8	2.47	0.50
50:3:987:U:H2'	50:3:988:G:H8	1.77	0.50
50:3:1440:U:H2'	50:3:1441:A:C8	2.47	0.50
50:3:2172:A:H3'	50:3:2173:G:H8	1.77	0.50
50:3:2892:U:H2'	50:3:2893:C:C6	2.46	0.50
5:B:160:LEU:HD13	5:B:164:GLU:HB2	1.94	0.50
7:D:111:VAL:HB	7:D:112:PRO:HD3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:12:ARG:HH21	11:H:76:GLY:HA2	1.77	0.50
24:a:9:ARG:HB3	50:3:1730:C:OP1	2.12	0.50
37:n:2:LYS:HB2	37:n:7:GLN:HB2	1.94	0.50
38:o:98:ARG:NH1	50:3:2725:G:O2'	2.45	0.50
50:3:477:U:H2'	50:3:478:G:C8	2.47	0.50
50:3:1087:C:H2'	50:3:1088:A:H8	1.77	0.50
50:3:1289:G:H2'	50:3:1290:G:C8	2.46	0.50
50:3:1446:G:H1'	50:3:1614:G:C6	2.47	0.50
50:3:1633:C:H2'	50:3:1634:A:C8	2.46	0.50
50:3:2504:C:H3'	50:3:2505:A:H8	1.77	0.50
52:5:620:A:OP2	52:5:621:C:N4	2.45	0.50
52:5:931:C:H1'	52:5:1358:U:H3	1.77	0.50
52:5:937:G:H22	52:5:1315:U:H3	1.60	0.50
52:5:943:C:H2'	52:5:944:A:C8	2.46	0.50
52:5:1217:G:N2	52:5:1269:U:O2	2.43	0.50
9:F:69:MET:O	9:F:71:ARG:NH2	2.44	0.50
16:M:6:LEU:HD11	52:5:976:U:H5''	1.93	0.50
18:O:6:VAL:HG12	18:O:7:HIS:ND1	2.27	0.50
19:P:67:ARG:HH21	52:5:260:C:H4'	1.76	0.50
24:a:180:VAL:HG22	24:a:192:PHE:O	2.12	0.50
27:d:38:MET:O	27:d:86:GLY:CA	2.58	0.50
28:e:145:GLY:O	28:e:149:THR:HG23	2.12	0.50
32:i:69:GLY:O	32:i:72:LYS:NZ	2.34	0.50
39:p:95:SER:O	39:p:99:ILE:HG13	2.12	0.50
48:y:12:ARG:HH11	50:3:2624:C:H5''	1.77	0.50
50:3:373:U:H2'	50:3:374:A:C8	2.47	0.50
50:3:494:G:N2	50:3:506:A:OP2	2.43	0.50
50:3:1614:G:H2'	50:3:1615:G:O4'	2.12	0.50
50:3:1705:U:C2	50:3:1707:U:H5''	2.47	0.50
50:3:2794:U:H2'	50:3:2795:C:C6	2.47	0.50
52:5:977:U:H1'	52:5:979:C:N4	2.27	0.50
52:5:1038:G:H2'	52:5:1039:G:C8	2.46	0.50
52:5:1094:C:H2'	52:5:1095:G:C8	2.47	0.50
53:7:55:U:O4	53:7:59:A:N7	2.44	0.50
3:2:29:THR:OG1	3:2:32:HIS:ND1	2.42	0.49
10:G:20:THR:O	10:G:24:ASN:ND2	2.44	0.49
30:g:25:VAL:HA	30:g:111:GLY:HA3	1.94	0.49
30:g:42:LYS:O	30:g:45:PHE:HB3	2.12	0.49
30:g:77:LYS:HA	50:3:1143:U:H5''	1.94	0.49
34:k:60:ARG:O	50:3:2401:U:O2'	2.29	0.49
50:3:320:A:H2'	50:3:321:A:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:322:A:H2'	50:3:323:A:H8	1.75	0.49
50:3:1198:G:H2'	50:3:1199:A:C8	2.47	0.49
50:3:1451:A:H2'	50:3:1452:G:H8	1.77	0.49
50:3:1669:A:H2'	50:3:1670:U:C6	2.46	0.49
50:3:1829:U:H2'	50:3:1830:G:C8	2.47	0.49
50:3:2100:G:N7	50:3:2233:A:H2'	2.27	0.49
50:3:2261:G:H2'	50:3:2262:C:O4'	2.12	0.49
52:5:55:C:H3'	52:5:348:C:H5	1.77	0.49
8:E:5:ILE:HG12	8:E:87:ILE:HD12	1.94	0.49
25:b:151:ARG:NH2	50:3:2584:G:OP1	2.45	0.49
29:f:98:ILE:HG13	29:f:110:LYS:HD3	1.95	0.49
38:o:98:ARG:HG2	38:o:99:ALA:H	1.76	0.49
50:3:1128:G:N2	50:3:1129:U:O4	2.45	0.49
50:3:2088:U:O2	50:3:2247:G:N2	2.31	0.49
50:3:2757:A:H3'	50:3:2758:A:H2'	1.95	0.49
50:3:2792:C:H2'	50:3:2793:U:C6	2.46	0.49
50:3:2831:U:H2'	50:3:2832:G:H8	1.77	0.49
51:4:60:C:H2'	51:4:61:A:H8	1.76	0.49
52:5:70:A:H2'	52:5:71:A:H8	1.76	0.49
52:5:308:C:H2'	52:5:309:A:H8	1.77	0.49
52:5:503:G:H2'	52:5:504:A:C8	2.47	0.49
52:5:946:G:H2'	52:5:947:U:C6	2.47	0.49
52:5:1184:C:H2'	52:5:1185:C:C6	2.47	0.49
52:5:1244:A:O2'	52:5:1299:C:O2	2.30	0.49
5:B:22:TRP:HH2	5:B:34:LEU:HG	1.77	0.49
7:D:209:ALA:HB2	7:D:217:ASN:HB3	1.94	0.49
13:J:119:ARG:HB2	23:T:34:TYR:HD1	1.77	0.49
20:Q:100:PRO:HG2	20:Q:103:LYS:HB3	1.95	0.49
24:a:89:ASP:HB2	24:a:96:VAL:HG13	1.94	0.49
25:b:51:LEU:HD11	25:b:81:LEU:HB3	1.94	0.49
31:h:122:LYS:HB2	50:3:1116:U:H4'	1.94	0.49
50:3:319:G:H2'	50:3:320:A:H8	1.77	0.49
50:3:465:A:OP2	50:3:465:A:H8	1.95	0.49
50:3:465:A:H2'	50:3:466:A:C5	2.47	0.49
50:3:498:C:H2'	50:3:499:G:C8	2.47	0.49
50:3:870:A:H2'	50:3:871:G:H8	1.77	0.49
50:3:992:G:C6	50:3:994:U:H5''	2.48	0.49
50:3:1338:G:N7	50:3:1339:U:N3	2.60	0.49
50:3:1447:A:O2'	50:3:1448:U:H5''	2.13	0.49
50:3:1816:A:O2'	50:3:1817:A:O4'	2.27	0.49
50:3:1901:C:H2'	50:3:1902:C:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2650:A:H2'	50:3:2651:G:C8	2.48	0.49
52:5:445:A:N7	52:5:483:U:C2	2.81	0.49
52:5:516:C:H5'	52:5:528:G:H1'	1.93	0.49
52:5:1055:G:O6	52:5:1167:C:N4	2.45	0.49
52:5:1245:A:H2'	52:5:1246:A:H8	1.77	0.49
52:5:1250:A:H3'	52:5:1251:G:H8	1.77	0.49
6:C:3:TYR:OH	6:C:118:ASN:ND2	2.45	0.49
20:Q:58:GLU:O	20:Q:62:ARG:HG3	2.11	0.49
34:k:4:ASN:O	34:k:8:SER:N	2.46	0.49
35:l:45:ARG:NH2	50:3:2493:G:H5'	2.27	0.49
37:n:15:ILE:O	37:n:19:ILE:HG13	2.12	0.49
50:3:173:C:H2'	50:3:174:A:H8	1.77	0.49
50:3:300:G:H2'	50:3:301:G:H8	1.77	0.49
50:3:674:G:H2'	50:3:675:U:C6	2.48	0.49
50:3:1158:C:H2'	50:3:1159:C:C6	2.47	0.49
50:3:1507:G:O2'	50:3:1508:G:P	2.70	0.49
50:3:1856:G:H2'	50:3:1857:G:H8	1.77	0.49
50:3:2521:A:H2'	50:3:2522:U:H6	1.77	0.49
50:3:2842:G:H2'	50:3:2843:G:H8	1.77	0.49
52:5:73:G:H2'	52:5:74:U:C6	2.47	0.49
52:5:305:A:H1'	52:5:606:A:C2	2.48	0.49
52:5:655:G:O6	52:5:744:U:C2	2.66	0.49
52:5:721:G:H2'	52:5:722:G:C8	2.47	0.49
52:5:834:G:C6	52:5:835:G:O6	2.65	0.49
52:5:1489:C:H2'	52:5:1490:G:H8	1.77	0.49
53:7:27:A:H3'	53:7:28:A:H8	1.76	0.49
5:B:187:TYR:HE1	5:B:202:LYS:HB3	1.76	0.49
7:D:147:SER:OG	7:D:183:LEU:O	2.27	0.49
7:D:188:PRO:O	7:D:192:ILE:HG12	2.11	0.49
8:E:50:LYS:O	8:E:51:LYS:HE2	2.12	0.49
9:F:29:ILE:HG22	9:F:104:ALA:HB2	1.95	0.49
19:P:60:LYS:HG3	19:P:81:ILE:HB	1.94	0.49
27:d:165:GLU:O	27:d:169:LEU:HG	2.12	0.49
30:g:29:TYR:O	30:g:30:THR:C	2.56	0.49
35:l:82:ARG:NH1	50:3:2258:G:O2'	2.45	0.49
50:3:20:C:O2	50:3:587:U:H4'	2.13	0.49
50:3:379:A:O2'	50:3:381:A:N6	2.44	0.49
50:3:425:U:H4'	50:3:426:U:OP2	2.09	0.49
50:3:1119:A:H1'	50:3:1140:U:O2'	2.12	0.49
50:3:1227:C:H2'	50:3:1228:G:H8	1.76	0.49
50:3:2015:C:H2'	50:3:2016:G:C8	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2528:C:H41	50:3:2550:A:H61	1.61	0.49
50:3:2645:U:H3'	50:3:2646:G:C8	2.47	0.49
52:5:569:U:H2'	52:5:912:G:H4'	1.94	0.49
52:5:598:U:H2'	52:5:599:G:C8	2.47	0.49
52:5:1225:A:H2'	52:5:1226:A:C8	2.48	0.49
53:7:29:C:H2'	53:7:30:G:C8	2.47	0.49
8:E:26:GLN:HE22	8:E:60:TRP:NE1	2.09	0.49
13:J:21:ASN:HB2	52:5:688:G:OP2	2.13	0.49
23:T:31:ARG:NH2	52:5:715:A:O2'	2.45	0.49
32:i:101:ASP:OD1	32:i:101:ASP:N	2.46	0.49
35:l:111:GLU:HA	35:l:114:MET:HE3	1.93	0.49
50:3:538:A:C2	50:3:540:A:H2'	2.48	0.49
50:3:985:A:N6	50:3:1005:G:O6	2.46	0.49
50:3:1342:C:H5'	50:3:1644:A:N1	2.27	0.49
50:3:1455:A:N6	50:3:1605:A:OP2	2.33	0.49
50:3:1803:U:H2'	50:3:1804:A:C8	2.48	0.49
50:3:2058:G:H5'	50:3:2586:G:H5''	1.94	0.49
50:3:2100:G:H2'	50:3:2101:A:C8	2.48	0.49
50:3:2888:U:H1'	50:3:2889:U:H5	1.77	0.49
52:5:212:G:H2'	52:5:213:U:C6	2.47	0.49
30:g:21:SER:CB	30:g:87:ASN:H	2.26	0.49
50:3:827:G:H4'	50:3:828:A:C4	2.47	0.49
50:3:1786:U:OP2	50:3:1791:A:N6	2.45	0.49
50:3:2140:G:H1'	50:3:2165:A:H61	1.78	0.49
50:3:2388:C:H2'	50:3:2389:A:C8	2.47	0.49
50:3:2603:G:N1	50:3:2606:A:OP2	2.39	0.49
52:5:326:C:H3'	52:5:327:G:H8	1.78	0.49
52:5:518:A:N1	52:5:534:C:H1'	2.28	0.49
52:5:575:A:H2'	52:5:576:A:H8	1.77	0.49
52:5:678:A:H2'	52:5:679:U:C6	2.47	0.49
52:5:763:A:H2'	52:5:764:A:O4'	2.12	0.49
52:5:1485:C:H2'	52:5:1486:C:H6	1.77	0.49
4:A:102:ARG:HG3	4:A:102:ARG:HH21	1.77	0.49
6:C:78:VAL:HG21	6:C:89:LEU:HB2	1.95	0.49
25:b:110:VAL:HG13	25:b:205:VAL:HG13	1.94	0.49
28:e:28:LYS:HA	28:e:33:GLN:HG2	1.95	0.49
35:l:65:TRP:HB2	35:l:105:GLU:HG3	1.94	0.49
40:q:74:ILE:HG12	40:q:79:HIS:CG	2.48	0.49
45:v:14:TYR:CD1	50:3:192:U:H5''	2.48	0.49
50:3:122:G:H2'	50:3:123:G:H8	1.78	0.49
50:3:358:A:N6	50:3:373:U:O4'	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:511:U:H2'	50:3:512:G:O4'	2.13	0.49
50:3:534:U:H2'	50:3:535:G:O4'	2.13	0.49
50:3:535:G:N3	50:3:540:A:N1	2.61	0.49
50:3:558:C:H2'	50:3:559:C:C6	2.48	0.49
50:3:625:G:H1	50:3:700:U:H3	1.60	0.49
50:3:1048:A:H2'	50:3:1049:U:C6	2.46	0.49
50:3:1086:G:H5'	50:3:2760:C:H1'	1.95	0.49
50:3:1290:G:H2'	50:3:1291:C:C6	2.48	0.49
50:3:1298:A:N3	50:3:2020:A:N6	2.61	0.49
50:3:1439:U:H2'	50:3:1440:U:C6	2.48	0.49
50:3:1754:U:H2'	50:3:1755:A:C8	2.48	0.49
50:3:2162:U:H2'	50:3:2163:U:O4'	2.13	0.49
50:3:2290:G:H21	50:3:2398:U:H3	1.60	0.49
50:3:2750:A:H2'	50:3:2751:C:C6	2.48	0.49
52:5:249:U:H2'	52:5:250:G:C8	2.47	0.49
52:5:835:G:H2'	52:5:836:C:C6	2.48	0.49
15:L:14:ARG:HA	15:L:42:ASP:HB2	1.95	0.49
20:Q:103:LYS:HG3	20:Q:104:ASP:H	1.78	0.49
50:3:21:U:H2'	50:3:22:U:C6	2.48	0.49
50:3:1321:C:H2'	50:3:1322:A:C8	2.46	0.49
50:3:2088:U:O4	50:3:2247:G:O6	2.31	0.49
50:3:2378:G:H2'	50:3:2379:G:C8	2.47	0.49
50:3:2380:U:H2'	50:3:2381:G:H8	1.76	0.49
51:4:29:C:O2'	51:4:51:A:N1	2.45	0.49
52:5:99:U:H2'	52:5:100:G:C8	2.48	0.49
52:5:288:A:O2'	52:5:607:A:N6	2.45	0.49
52:5:1147:U:H2'	52:5:1148:U:C6	2.47	0.49
52:5:1447:U:O4	52:5:1448:A:N6	2.46	0.49
2:1:28:HIS:HB2	50:3:2401:U:H5	1.77	0.49
8:E:7:LEU:HA	8:E:84:ARG:O	2.12	0.49
12:I:17:GLU:OE2	12:I:103:THR:HG23	2.13	0.49
12:I:58:ILE:HA	12:I:68:ARG:HA	1.94	0.49
21:R:15:LEU:HD12	21:R:18:LYS:HB2	1.94	0.49
24:a:5:LYS:HE2	24:a:16:HIS:HB2	1.95	0.49
24:a:240:HIS:CE1	24:a:254:PRO:HB2	2.48	0.49
35:l:123:HIS:HB3	50:3:2475:C:H4'	1.95	0.49
38:o:67:ARG:NE	38:o:74:PRO:HB2	2.28	0.49
50:3:230:G:H5''	50:3:261:A:H4'	1.95	0.49
50:3:361:G:H2'	50:3:362:U:O4'	2.13	0.49
50:3:580:U:OP1	50:3:1249:A:O2'	2.31	0.49
50:3:723:U:H4'	50:3:1787:A:N1	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1994:U:H2'	50:3:1995:G:C8	2.44	0.49
50:3:2145:A:H2'	50:3:2146:A:H8	1.77	0.49
50:3:2557:G:H2'	50:3:2558:G:H8	1.77	0.49
52:5:372:G:N1	52:5:383:U:N3	2.61	0.49
52:5:957:C:H2'	52:5:958:G:C8	2.48	0.49
52:5:985:C:H2'	52:5:986:U:C6	2.48	0.49
52:5:999:C:O4'	52:5:1029:C:O2'	2.30	0.49
11:H:16:SER:OG	52:5:1124:U:O3'	2.29	0.48
24:a:268:ARG:HH22	24:a:278:ILE:HD11	1.78	0.48
25:b:116:GLY:H	25:b:171:HIS:CD2	2.31	0.48
26:c:119:LYS:HB3	26:c:197:LEU:HD21	1.95	0.48
29:f:4:ILE:HD13	29:f:37:ALA:HB2	1.94	0.48
29:f:6:LYS:HD2	29:f:34:LYS:HA	1.95	0.48
38:o:6:LYS:O	50:3:2879:U:O2'	2.29	0.48
41:r:57:ASN:HD21	50:3:529:G:H21	1.61	0.48
50:3:24:U:H2'	50:3:25:G:C8	2.47	0.48
50:3:172:U:H2'	50:3:173:C:H6	1.78	0.48
50:3:320:A:H2'	50:3:321:A:C8	2.48	0.48
50:3:412:A:C2	50:3:413:G:H1'	2.48	0.48
50:3:1062:A:H2'	50:3:1063:A:H8	1.78	0.48
50:3:1227:C:H2'	50:3:1228:G:C8	2.48	0.48
50:3:2158:C:H2'	50:3:2159:U:C6	2.48	0.48
52:5:356:G:H2'	52:5:357:G:C8	2.48	0.48
52:5:534:C:H2'	52:5:535:A:C8	2.40	0.48
52:5:787:A:N6	53:7:38:G:H21	2.11	0.48
52:5:1266:U:H2'	52:5:1267:G:C8	2.48	0.48
8:E:92:ARG:HG2	20:Q:50:ARG:HE	1.78	0.48
8:E:96:TYR:HB2	8:E:100:ILE:HG21	1.95	0.48
12:I:48:LEU:HD12	12:I:77:LYS:HB3	1.95	0.48
15:L:73:ILE:O	15:L:77:ILE:HG13	2.12	0.48
39:p:83:LYS:NZ	50:3:1186:A:O5'	2.45	0.48
39:p:91:ARG:H	39:p:94:LEU:HB2	1.77	0.48
44:u:57:THR:HB	50:3:2339:G:H1'	1.95	0.48
48:y:48:TYR:CD1	48:y:48:TYR:C	2.91	0.48
50:3:331:A:H3'	50:3:332:G:H8	1.77	0.48
52:5:136:U:H3	52:5:157:A:N6	2.08	0.48
52:5:406:G:H2'	52:5:426:U:C4	2.48	0.48
52:5:1463:A:H2'	52:5:1464:G:C8	2.48	0.48
53:7:67:C:H2'	53:7:68:G:C8	2.47	0.48
4:A:158:ARG:NH1	52:5:1088:C:H5''	2.28	0.48
5:B:18:TRP:NE1	16:M:55:GLY:H	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K:4:ILE:O	14:K:8:ILE:HG12	2.14	0.48
14:K:30:LEU:O	14:K:31:LEU:HG	2.13	0.48
24:a:225:ARG:NH1	50:3:726:U:OP1	2.39	0.48
24:a:282:ARG:NH1	50:3:1804:A:OP2	2.45	0.48
25:b:151:ARG:HG2	50:3:2580:A:C8	2.48	0.48
26:c:24:LEU:HD23	26:c:116:TRP:HB3	1.95	0.48
26:c:158:LEU:HA	26:c:179:GLN:HG2	1.95	0.48
28:e:152:ARG:NH1	28:e:170:GLU:OE2	2.36	0.48
34:k:84:LYS:NZ	50:3:662:U:O2	2.46	0.48
34:k:117:HIS:HE1	34:k:137:LYS:HD2	1.78	0.48
38:o:36:LYS:HB3	38:o:38:LYS:HZ3	1.78	0.48
39:p:36:GLN:O	39:p:40:GLN:HG2	2.13	0.48
50:3:142:A:O2'	50:3:143:A:O4'	2.31	0.48
50:3:337:U:H2'	50:3:338:G:H8	1.78	0.48
50:3:512:G:H22	50:3:514:A:H3'	1.79	0.48
50:3:662:U:O2'	50:3:689:U:O4	2.32	0.48
50:3:672:G:H4'	50:3:674:G:H4'	1.95	0.48
50:3:1016:A:C2	50:3:1171:G:H4'	2.47	0.48
50:3:1044:C:H1'	50:3:1045:A:N7	2.28	0.48
50:3:1094:G:H3'	50:3:1095:U:H2'	1.94	0.48
50:3:2181:A:H3'	50:3:2182:C:C5	2.48	0.48
50:3:2450:C:H2'	50:3:2451:C:H6	1.79	0.48
50:3:2523:C:H2'	50:3:2524:U:C6	2.48	0.48
52:5:162:C:O2'	52:5:1422:A:O2'	2.27	0.48
52:5:351:C:H1'	52:5:384:G:H1'	1.95	0.48
52:5:764:A:H4'	52:5:1500:G:H4'	1.95	0.48
52:5:915:U:O2'	52:5:1072:G:O2'	2.30	0.48
52:5:1105:C:H2'	52:5:1106:U:C6	2.49	0.48
52:5:1182:C:H2'	52:5:1183:C:H6	1.78	0.48
36:m:46:ASP:O	36:m:50:THR:HG23	2.14	0.48
36:m:49:ILE:O	36:m:53:LYS:HG3	2.14	0.48
42:s:60:ARG:NH2	50:3:1367:G:N7	2.61	0.48
49:z:34:LEU:O	49:z:47:HIS:N	2.33	0.48
50:3:50:G:H1	50:3:179:A:H5''	1.79	0.48
50:3:86:A:OP2	50:3:103:G:N2	2.46	0.48
50:3:228:A:H2'	50:3:229:C:O4'	2.14	0.48
50:3:406:C:H2'	50:3:407:U:C6	2.48	0.48
50:3:905:U:H2'	50:3:906:G:O4'	2.14	0.48
50:3:1093:U:H2'	50:3:1094:G:C8	2.48	0.48
50:3:1100:U:H2'	50:3:1101:U:C6	2.48	0.48
50:3:1474:C:H2'	50:3:1475:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1521:A:H2'	50:3:1523:C:C2	2.48	0.48
50:3:2400:A:N6	50:3:2432:C:C2	2.82	0.48
52:5:63:U:H1'	52:5:375:C:H1'	1.96	0.48
52:5:308:C:H2'	52:5:309:A:C8	2.48	0.48
52:5:399:C:H2'	52:5:400:G:C8	2.48	0.48
52:5:433:C:H2'	52:5:434:U:C6	2.48	0.48
52:5:1230:G:OP2	52:5:1254:A:N6	2.46	0.48
4:A:85:VAL:HG22	4:A:108:ILE:HD12	1.96	0.48
5:B:97:GLY:C	5:B:98:ARG:HD3	2.39	0.48
9:F:91:PRO:O	9:F:95:LYS:N	2.44	0.48
12:I:75:ARG:HE	12:I:77:LYS:HE2	1.78	0.48
13:J:116:PRO:HG3	23:T:32:HIS:HA	1.96	0.48
23:T:50:GLN:NE2	52:5:720:U:OP2	2.36	0.48
25:b:198:ALA:HB2	50:3:2687:A:H4'	1.94	0.48
27:d:91:LEU:HB2	27:d:95:ARG:HE	1.78	0.48
41:r:41:LYS:NZ	50:3:2016:G:H5''	2.29	0.48
50:3:1375:G:C4	50:3:1634:A:N6	2.82	0.48
50:3:1450:G:O6	50:3:1611:C:N4	2.46	0.48
50:3:1699:A:H2'	50:3:1700:G:H8	1.77	0.48
50:3:2243:G:H2'	50:3:2244:U:H6	1.78	0.48
50:3:2467:A:N1	50:3:2502:G:H1'	2.29	0.48
52:5:65:G:H4'	52:5:66:A:H3'	1.95	0.48
52:5:441:U:H2'	52:5:442:G:C8	2.48	0.48
52:5:736:U:H2'	52:5:737:U:C6	2.48	0.48
52:5:737:U:H2'	52:5:738:A:H8	1.78	0.48
52:5:878:U:H4'	52:5:879:G:H5''	1.96	0.48
4:A:73:LYS:HA	4:A:239:ALA:HB2	1.95	0.48
10:G:106:LEU:HD12	10:G:110:GLY:CA	2.43	0.48
12:I:46:LEU:HB3	12:I:79:LEU:HB3	1.95	0.48
15:L:106:ALA:HA	52:5:943:C:OP1	2.13	0.48
23:T:37:ARG:NH2	52:5:1502:G:N7	2.62	0.48
24:a:226:PRO:HB3	50:3:1796:A:O3'	2.13	0.48
42:s:2:ASP:HB3	50:3:146:G:H4'	1.96	0.48
50:3:208:A:H4'	50:3:209:G:H4'	1.95	0.48
50:3:335:G:O2'	50:3:336:C:O5'	2.28	0.48
50:3:699:U:H2'	50:3:700:U:C6	2.48	0.48
50:3:1014:G:H2'	50:3:1015:G:C8	2.49	0.48
50:3:2051:G:H2'	50:3:2052:C:C6	2.48	0.48
50:3:2644:U:H2'	50:3:2645:U:H6	1.76	0.48
50:3:2885:U:H2'	50:3:2886:A:H8	1.78	0.48
52:5:63:U:H2'	52:5:64:C:H6	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:168:A:C6	52:5:169:G:H1'	2.49	0.48
52:5:357:G:H2'	52:5:358:G:C8	2.49	0.48
52:5:622:A:H2'	52:5:623:G:C8	2.48	0.48
52:5:790:U:H3	52:5:1494:A:H61	1.62	0.48
52:5:827:C:H2'	52:5:828:U:C6	2.48	0.48
52:5:1055:G:N2	52:5:1165:G:O3'	2.46	0.48
6:C:10:ARG:HE	6:C:14:LEU:HG	1.79	0.48
17:N:18:ASP:OD1	17:N:18:ASP:N	2.46	0.48
19:P:25:GLN:NE2	19:P:27:GLU:OE2	2.47	0.48
19:P:66:THR:HG21	19:P:76:ARG:HD3	1.94	0.48
25:b:72:LYS:HD3	50:3:2794:U:H5''	1.95	0.48
50:3:110:A:H2'	50:3:111:G:O4'	2.14	0.48
50:3:202:C:O2'	50:3:203:A:H5'	2.13	0.48
50:3:820:U:H2'	50:3:821:C:C6	2.49	0.48
50:3:831:U:H2'	50:3:832:C:C6	2.48	0.48
50:3:917:G:H2'	50:3:918:G:H8	1.78	0.48
50:3:1446:G:O2'	50:3:1613:A:N6	2.33	0.48
50:3:1503:A:OP2	50:3:1540:G:N2	2.45	0.48
50:3:1872:U:O2'	50:3:1873:A:H8	1.97	0.48
50:3:1937:G:N2	50:3:1976:A:O5'	2.46	0.48
50:3:2364:A:H2'	50:3:2365:U:O4'	2.14	0.48
50:3:2547:C:H2'	50:3:2548:G:C8	2.48	0.48
50:3:2859:U:H2'	50:3:2860:A:H8	1.79	0.48
51:4:11:A:H4'	51:4:13:G:N7	2.29	0.48
52:5:22:G:H21	52:5:908:A:H62	1.61	0.48
52:5:111:A:N1	52:5:232:G:N1	2.62	0.48
52:5:333:U:H2'	52:5:334:A:C8	2.49	0.48
52:5:803:C:H2'	52:5:804:A:H8	1.78	0.48
52:5:1072:G:H2'	52:5:1073:A:H8	1.78	0.48
6:C:99:ASN:O	6:C:103:ARG:HG2	2.13	0.48
9:F:49:ILE:HG13	9:F:120:ALA:HB1	1.95	0.48
15:L:90:ARG:NE	15:L:96:PRO:O	2.46	0.48
25:b:171:HIS:CD2	50:3:2825:A:H5''	2.49	0.48
36:m:103:LEU:HD22	48:y:54:LYS:HE3	1.96	0.48
43:t:31:ARG:HE	43:t:33:GLN:HG3	1.79	0.48
50:3:319:G:H2'	50:3:320:A:C8	2.49	0.48
50:3:383:U:H2'	50:3:384:G:H8	1.78	0.48
50:3:609:U:H2'	50:3:610:G:C8	2.49	0.48
50:3:1045:A:H2'	50:3:1046:A:C4	2.49	0.48
50:3:1265:G:H2'	50:3:1266:G:C4	2.49	0.48
50:3:1308:A:H2'	50:3:1309:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1396:A:H2'	50:3:1397:G:C8	2.49	0.48
50:3:1754:U:H2'	50:3:1755:A:H8	1.79	0.48
50:3:1937:G:H22	50:3:1976:A:P	2.37	0.48
50:3:2281:A:H2'	50:3:2282:A:C8	2.49	0.48
50:3:2405:G:N2	50:3:2427:U:O2	2.36	0.48
52:5:34:A:H61	52:5:549:U:H3	1.61	0.48
52:5:570:A:H4'	52:5:911:G:O2'	2.13	0.48
52:5:1061:U:H2'	52:5:1062:C:H6	1.78	0.48
52:5:1148:U:OP2	52:5:1157:G:O2'	2.30	0.48
5:B:193:GLN:NE2	5:B:194:THR:O	2.47	0.48
14:K:127:ARG:HA	14:K:132:ALA:HB3	1.96	0.48
18:O:25:LYS:HE2	52:5:306:G:H4'	1.96	0.48
24:a:56:ARG:NE	50:3:1831:G:OP1	2.47	0.48
25:b:20:ASN:O	33:j:72:LYS:NZ	2.45	0.48
29:f:24:GLY:O	29:f:25:TYR:HD1	1.97	0.48
50:3:591:G:H2'	50:3:592:G:H8	1.77	0.48
50:3:768:G:N2	50:3:769:A:N7	2.61	0.48
50:3:855:A:N6	50:3:1008:A:H2'	2.29	0.48
50:3:1057:G:N2	50:3:1177:A:N7	2.62	0.48
50:3:1206:U:O2'	50:3:1207:U:O4'	2.24	0.48
50:3:2307:G:O6	50:3:2325:U:C2	2.66	0.48
50:3:2506:C:H2'	50:3:2507:C:C6	2.49	0.48
52:5:8:G:H5'	52:5:294:A:C8	2.49	0.48
52:5:105:A:O2'	52:5:107:A:N7	2.43	0.48
52:5:388:G:H2'	52:5:389:A:C8	2.49	0.48
52:5:948:U:C2	52:5:949:G:C8	3.02	0.48
52:5:972:A:N6	52:5:1199:U:OP1	2.40	0.48
52:5:976:U:H2'	52:5:977:U:C5	2.49	0.48
52:5:1061:U:H2'	52:5:1062:C:C6	2.49	0.48
52:5:1410:A:H2'	52:5:1411:A:C8	2.49	0.48
3:2:3:VAL:O	50:3:2473:C:H5''	2.14	0.48
6:C:73:ARG:HD2	52:5:397:C:H5''	1.96	0.48
13:J:110:PRO:HD2	23:T:28:LEU:HD21	1.96	0.48
15:L:100:GLN:NE2	52:5:944:A:OP1	2.40	0.48
19:P:7:LYS:H	19:P:64:VAL:HG12	1.79	0.48
19:P:59:ASP:OD2	19:P:83:ARG:NH2	2.46	0.48
28:e:104:GLU:HA	28:e:120:ILE:HD12	1.96	0.48
37:n:53:ALA:HB1	37:n:80:LYS:HE3	1.96	0.48
41:r:40:PRO:HG2	50:3:2016:G:H4'	1.96	0.48
46:w:68:GLU:OE1	46:w:68:GLU:N	2.46	0.48
50:3:339:U:H2'	50:3:340:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:802:U:H2'	50:3:803:G:C8	2.48	0.48
50:3:1016:A:H2'	50:3:1017:A:C4	2.48	0.48
50:3:1371:G:O2'	50:3:1372:U:OP1	2.30	0.48
50:3:2003:C:C4	50:3:2734:C:H5''	2.48	0.48
50:3:2462:G:N2	50:3:2507:C:N3	2.62	0.48
51:4:42:G:N2	51:4:45:C:O2	2.47	0.48
52:5:275:A:H5''	52:5:276:U:H2'	1.96	0.48
52:5:369:A:O4'	52:5:478:G:H5'	2.14	0.48
52:5:821:U:H2'	52:5:822:A:C8	2.49	0.48
52:5:1414:U:H2'	52:5:1415:G:H8	1.79	0.48
9:F:6:ALA:N	52:5:1353:C:OP1	2.40	0.47
12:I:18:SER:O	12:I:76:HIS:N	2.47	0.47
16:M:19:ARG:HH22	52:5:1194:A:P	2.37	0.47
18:O:17:ASP:OD1	18:O:18:SER:N	2.47	0.47
24:a:43:LYS:HD2	24:a:63:LYS:NZ	2.29	0.47
27:d:34:ILE:O	27:d:91:LEU:HD23	2.14	0.47
35:l:14:ASN:HB3	35:l:72:MET:SD	2.54	0.47
36:m:35:LEU:O	36:m:39:LYS:HG2	2.13	0.47
50:3:78:C:H2'	50:3:79:U:H6	1.79	0.47
50:3:608:A:H2'	50:3:609:U:H6	1.78	0.47
50:3:780:G:O2'	50:3:783:G:N3	2.43	0.47
50:3:1077:G:N7	50:3:1149:G:N1	2.62	0.47
50:3:1162:A:N1	50:3:2471:U:O2'	2.46	0.47
50:3:1389:G:H2'	50:3:1390:C:C6	2.49	0.47
50:3:1437:A:H2'	50:3:1438:G:H8	1.79	0.47
50:3:2090:G:O6	50:3:2244:U:O4	2.31	0.47
50:3:2156:G:O2'	50:3:2170:A:N6	2.48	0.47
50:3:2699:C:H2'	50:3:2700:C:C6	2.49	0.47
50:3:2706:U:O2	50:3:2717:G:N2	2.29	0.47
51:4:85:A:H2'	51:4:86:G:H8	1.79	0.47
52:5:561:A:O2'	52:5:565:G:OP2	2.26	0.47
52:5:1093:A:H2'	52:5:1094:C:C6	2.49	0.47
52:5:1386:C:H2'	52:5:1387:U:C6	2.49	0.47
52:5:1477:A:H2'	52:5:1479:G:C8	2.49	0.47
53:7:39:A:H2'	53:7:40:A:H8	1.78	0.47
4:A:163:PHE:O	4:A:167:LYS:NZ	2.48	0.47
8:E:107:LEU:HD22	20:Q:46:ILE:HD12	1.96	0.47
12:I:63:VAL:HG12	52:5:958:G:H21	1.79	0.47
26:c:59:ARG:NE	50:3:488:G:N7	2.61	0.47
28:e:91:ARG:HG3	28:e:168:PHE:HD1	1.79	0.47
32:i:68:THR:HG21	50:3:1176:U:H5''	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:q:61:LYS:HZ1	40:q:63:GLY:HA3	1.79	0.47
41:r:124:LEU:O	41:r:127:LYS:HG2	2.14	0.47
50:3:34:C:H2'	50:3:35:U:C6	2.49	0.47
50:3:214:C:H2'	50:3:215:A:C8	2.49	0.47
50:3:257:C:H2'	50:3:258:G:O4'	2.14	0.47
50:3:869:U:H2'	50:3:870:A:H8	1.78	0.47
50:3:884:A:H2'	50:3:885:A:C8	2.49	0.47
50:3:1208:A:H2'	50:3:1209:U:H4'	1.95	0.47
50:3:1334:U:H1'	50:3:1657:G:H22	1.79	0.47
50:3:1371:G:N3	50:3:1371:G:H2'	2.29	0.47
50:3:1890:U:O2'	50:3:1891:A:O4'	2.32	0.47
50:3:2116:U:H3'	50:3:2117:G:N7	2.29	0.47
50:3:2145:A:H2'	50:3:2146:A:C8	2.49	0.47
50:3:2752:G:O6	50:3:2768:U:O4	2.32	0.47
52:5:11:A:H2'	52:5:12:G:C8	2.49	0.47
52:5:385:A:H5''	52:5:386:U:H5	1.79	0.47
52:5:579:G:H22	52:5:756:A:P	2.36	0.47
52:5:1151:A:H2'	52:5:1152:G:C8	2.49	0.47
52:5:1321:G:N2	52:5:1322:U:O4	2.41	0.47
53:7:5:C:N3	53:7:71:A:N6	2.62	0.47
6:C:28:GLY:N	52:5:407:A:H8	2.13	0.47
9:F:44:GLY:HA3	9:F:116:LEU:HD23	1.96	0.47
36:m:82:LEU:HD12	36:m:86:VAL:HB	1.96	0.47
36:m:106:ARG:HD2	36:m:108:GLY:HA3	1.97	0.47
50:3:474:U:H2'	50:3:475:A:H8	1.79	0.47
50:3:816:A:N1	50:3:1783:G:O2'	2.33	0.47
50:3:1661:A:H2'	50:3:1662:G:H8	1.79	0.47
50:3:2094:A:H2'	50:3:2095:A:H8	1.78	0.47
50:3:2151:G:H1'	50:3:2154:A:H61	1.79	0.47
50:3:2254:G:H2'	50:3:2255:A:C8	2.49	0.47
50:3:2865:U:H2'	50:3:2866:A:H8	1.78	0.47
51:4:12:U:O2'	51:4:13:G:H5'	2.14	0.47
52:5:69:G:N2	52:5:137:A:H2	2.11	0.47
52:5:611:A:H2'	52:5:612:G:H8	1.79	0.47
52:5:826:G:H2'	52:5:827:C:C6	2.50	0.47
52:5:869:U:O4	52:5:870:A:N6	2.48	0.47
52:5:1344:C:H2'	52:5:1345:G:C8	2.50	0.47
5:B:57:GLU:HB2	5:B:68:PHE:HB2	1.96	0.47
10:G:51:GLU:OE1	10:G:51:GLU:N	2.48	0.47
14:K:52:THR:HA	14:K:64:LYS:HA	1.95	0.47
15:L:23:PHE:CE2	52:5:1304:U:H4'	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:87:ARG:HH22	52:5:1295:U:H5'	1.79	0.47
24:a:65:LYS:NZ	50:3:1603:A:H4'	2.27	0.47
40:q:72:LYS:HG2	40:q:81:LYS:HB2	1.96	0.47
42:s:37:LYS:HG3	50:3:1633:C:OP1	2.14	0.47
45:v:3:LYS:HB3	45:v:12:PRO:HD3	1.96	0.47
50:3:60:G:O2'	50:3:75:A:N1	2.40	0.47
50:3:192:U:H2'	50:3:193:G:O4'	2.13	0.47
50:3:219:G:H21	50:3:468:A:N6	2.11	0.47
50:3:453:U:H2'	50:3:454:G:H8	1.79	0.47
50:3:766:C:H2'	50:3:767:C:C6	2.49	0.47
50:3:894:G:O2'	50:3:895:G:O4'	2.31	0.47
50:3:1201:A:H2'	50:3:1202:A:C8	2.48	0.47
50:3:2122:G:H22	50:3:2126:A:H5'	1.79	0.47
52:5:731:A:H2'	52:5:732:A:C8	2.49	0.47
52:5:880:G:H2'	52:5:881:G:C8	2.49	0.47
52:5:1065:G:H1	52:5:1074:U:H3	1.62	0.47
52:5:1263:A:N1	52:5:1346:G:O2'	2.46	0.47
5:B:193:GLN:NE2	5:B:197:GLY:O	2.47	0.47
8:E:92:ARG:NH2	20:Q:92:ARG:HH12	2.12	0.47
10:G:93:PRO:HG2	52:5:872:C:H5'	1.95	0.47
22:S:27:LYS:HD3	52:5:1431:A:O2'	2.14	0.47
22:S:60:ILE:HG23	22:S:64:ARG:NH1	2.30	0.47
39:p:64:LEU:O	39:p:68:LEU:HG	2.14	0.47
41:r:122:LYS:O	41:r:126:LYS:HG2	2.14	0.47
50:3:122:G:H2'	50:3:123:G:C8	2.50	0.47
50:3:229:C:N4	50:3:230:G:N3	2.62	0.47
50:3:291:G:C4	50:3:292:G:C8	3.03	0.47
50:3:481:C:H2'	50:3:482:G:C8	2.49	0.47
50:3:740:A:H2'	50:3:741:A:H8	1.76	0.47
50:3:1010:G:C4'	50:3:1026:A:H61	2.27	0.47
50:3:1139:C:H2'	50:3:1140:U:C6	2.49	0.47
50:3:1374:U:H3	50:3:1634:A:N6	2.05	0.47
50:3:1818:G:H2'	50:3:1819:G:H8	1.79	0.47
50:3:2190:G:H2'	50:3:2191:G:H8	1.78	0.47
51:4:61:A:H2'	51:4:62:G:C8	2.49	0.47
52:5:41:C:H2'	52:5:42:G:C8	2.49	0.47
52:5:70:A:H2'	52:5:71:A:C8	2.50	0.47
52:5:236:C:H2'	52:5:237:A:C8	2.49	0.47
52:5:287:U:H2'	52:5:288:A:C8	2.50	0.47
52:5:1209:C:H1'	52:5:1339:U:O2	2.13	0.47
52:5:1241:G:N2	52:5:1243:A:O5'	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:12:LYS:HE2	34:k:65:PHE:HB3	1.95	0.47
2:1:57:ASN:OD1	2:1:58:LEU:N	2.48	0.47
6:C:66:ILE:HD11	6:C:71:PHE:HD2	1.80	0.47
6:C:87:VAL:HG12	6:C:91:ARG:NE	2.30	0.47
24:a:59:GLY:H	24:a:61:ARG:CZ	2.28	0.47
24:a:138:LEU:HB2	24:a:194:LYS:HA	1.97	0.47
28:e:55:ILE:O	28:e:68:HIS:NE2	2.47	0.47
34:k:42:ARG:NH2	50:3:842:U:OP2	2.31	0.47
41:r:98:LYS:NZ	50:3:1351:G:OP1	2.48	0.47
44:u:39:LYS:HB3	44:u:43:GLN:HG3	1.97	0.47
50:3:215:A:H2'	50:3:216:C:C6	2.50	0.47
50:3:682:A:N3	50:3:682:A:H2'	2.30	0.47
50:3:697:U:H2'	50:3:698:A:C8	2.45	0.47
50:3:735:G:H2'	50:3:736:G:C8	2.50	0.47
50:3:1020:G:H5''	50:3:1021:C:H5	1.80	0.47
50:3:1806:G:O4'	50:3:1826:A:N6	2.47	0.47
50:3:1953:U:H2'	50:3:1954:C:C6	2.50	0.47
51:4:104:C:H2'	51:4:105:A:C8	2.50	0.47
52:5:915:U:H2'	52:5:916:U:C6	2.50	0.47
52:5:1007:U:H2'	52:5:1008:G:C8	2.49	0.47
52:5:1212:C:H1'	52:5:1308:G:H2'	1.97	0.47
4:A:184:GLU:HB3	4:A:187:ALA:HB3	1.96	0.47
5:B:195:THR:O	52:5:1181:G:O2'	2.32	0.47
6:C:50:TYR:CZ	6:C:54:LEU:HD11	2.49	0.47
6:C:95:SER:HA	6:C:100:ILE:HD11	1.96	0.47
7:D:148:ARG:HB2	7:D:183:LEU:HD22	1.96	0.47
8:E:92:ARG:HH11	8:E:93:GLU:HB2	1.79	0.47
8:E:103:LYS:HD3	8:E:103:LYS:HA	1.67	0.47
8:E:109:LEU:O	8:E:113:ALA:N	2.47	0.47
9:F:73:GLU:HB2	9:F:90:VAL:HB	1.97	0.47
11:H:79:GLY:O	11:H:82:ARG:HG3	2.15	0.47
12:I:71:PHE:HE1	16:M:56:VAL:HG12	1.79	0.47
13:J:31:GLY:O	52:5:705:A:O2'	2.27	0.47
13:J:111:HIS:HB2	52:5:672:A:C2	2.50	0.47
15:L:120:LYS:HE2	53:7:29:C:H5''	1.97	0.47
24:a:77:ASP:OD1	24:a:197:ARG:NH1	2.40	0.47
24:a:113:ASP:N	24:a:202:VAL:O	2.40	0.47
26:c:80:ARG:NH2	50:3:505:G:OP1	2.48	0.47
26:c:105:LYS:NZ	50:3:656:G:O6	2.25	0.47
27:d:30:ARG:O	27:d:159:SER:N	2.46	0.47
27:d:126:GLY:HA2	27:d:163:ASP:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:27:ALA:HB2	36:m:70:THR:HG21	1.95	0.47
42:s:36:SER:O	42:s:40:VAL:HG23	2.15	0.47
43:t:36:VAL:HG11	43:t:39:LEU:HD22	1.96	0.47
44:u:38:LYS:N	44:u:51:ILE:O	2.37	0.47
50:3:263:C:H2'	50:3:264:G:H8	1.80	0.47
50:3:496:A:H2'	50:3:497:C:O4'	2.15	0.47
50:3:511:U:H5''	50:3:545:C:H5'	1.96	0.47
50:3:778:U:H2'	50:3:779:C:C6	2.50	0.47
50:3:898:A:H3'	50:3:899:A:C8	2.49	0.47
50:3:1257:G:H2'	50:3:1258:C:C6	2.50	0.47
50:3:1271:A:H2'	50:3:1272:A:C8	2.50	0.47
50:3:1379:C:O2'	50:3:1605:A:O2'	2.33	0.47
50:3:1451:A:H2'	50:3:1452:G:C8	2.50	0.47
50:3:1458:A:H2'	50:3:1459:A:C8	2.50	0.47
50:3:1470:C:H2'	50:3:1471:A:C8	2.50	0.47
50:3:1809:A:OP1	50:3:2211:G:N2	2.47	0.47
50:3:1866:G:H22	50:3:1891:A:H8	1.63	0.47
50:3:2191:G:H2'	50:3:2192:U:C6	2.49	0.47
50:3:2240:U:H2'	50:3:2241:A:O4'	2.14	0.47
52:5:169:G:H1	52:5:196:G:N2	2.13	0.47
52:5:287:U:H2'	52:5:288:A:H8	1.80	0.47
52:5:393:A:N7	52:5:545:A:O2'	2.44	0.47
52:5:578:C:H3'	52:5:579:G:H8	1.79	0.47
52:5:891:C:H2'	52:5:892:G:N7	2.30	0.47
52:5:902:A:H2'	52:5:903:A:H8	1.79	0.47
52:5:961:G:N1	53:7:35:G:H4'	2.29	0.47
52:5:1072:G:H2'	52:5:1073:A:C8	2.50	0.47
52:5:1328:C:H2'	52:5:1329:G:C8	2.50	0.47
52:5:1390:G:N7	52:5:1461:G:N1	2.63	0.47
52:5:1505:G:H2'	52:5:1506:A:C8	2.49	0.47
53:7:39:A:H2'	53:7:40:A:C8	2.50	0.47
1:0:9:LYS:HE3	50:3:1337:G:H5''	1.96	0.47
14:K:121:GLU:C	14:K:123:ARG:N	2.73	0.47
17:N:22:ILE:H	17:N:22:ILE:HD12	1.80	0.47
30:g:89:ILE:CA	30:g:92:THR:HB	2.45	0.47
32:i:133:HIS:ND1	32:i:134:ASN:OD1	2.42	0.47
36:m:51:LEU:HD21	36:m:62:GLN:HB2	1.96	0.47
40:q:33:ILE:HB	40:q:35:LEU:HD21	1.96	0.47
48:y:6:ARG:HD2	50:3:2024:C:H4'	1.97	0.47
50:3:252:G:O4'	50:3:254:G:N2	2.47	0.47
50:3:428:U:H2'	50:3:429:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:454:G:H2'	50:3:455:G:H8	1.79	0.47
50:3:680:A:H2'	50:3:682:A:C8	2.49	0.47
50:3:728:A:H2'	50:3:729:U:C6	2.50	0.47
50:3:731:A:H2'	50:3:732:G:H8	1.79	0.47
50:3:763:G:O2'	50:3:765:A:H8	1.98	0.47
50:3:860:C:O4'	50:3:2366:A:N6	2.48	0.47
50:3:1718:C:H2'	50:3:1719:C:H6	1.78	0.47
50:3:2825:A:H2	50:3:2830:A:H61	1.63	0.47
52:5:679:U:H2'	52:5:680:G:C8	2.50	0.47
52:5:776:C:H2'	52:5:777:A:O4'	2.15	0.47
52:5:922:G:O2'	52:5:1506:A:O2'	2.26	0.47
52:5:1502:G:H2'	52:5:1503:U:C6	2.50	0.47
18:O:10:THR:HG23	18:O:34:ASN:HB2	1.97	0.47
24:a:147:VAL:O	24:a:168:ALA:N	2.42	0.47
27:d:35:VAL:HG12	27:d:90:THR:HG23	1.97	0.47
32:i:121:TRP:HA	32:i:124:LYS:HE2	1.96	0.47
36:m:30:LYS:HB2	36:m:115:ILE:HD11	1.96	0.47
45:v:58:LEU:HB3	45:v:63:ARG:HB2	1.96	0.47
50:3:220:A:C8	50:3:467:U:N3	2.83	0.47
50:3:412:A:H1'	50:3:437:A:H62	1.79	0.47
50:3:591:G:H2'	50:3:592:G:C8	2.50	0.47
50:3:603:G:H2'	50:3:2037:A:N7	2.30	0.47
50:3:1021:C:H2'	50:3:1022:C:C6	2.50	0.47
50:3:1683:G:H2'	50:3:1684:A:C8	2.50	0.47
50:3:1863:G:N1	50:3:1894:U:O4	2.47	0.47
50:3:2146:A:H2'	50:3:2147:G:H8	1.78	0.47
50:3:2376:C:H2'	50:3:2377:A:C8	2.49	0.47
50:3:2669:G:H2'	50:3:2670:A:H8	1.78	0.47
51:4:69:C:H2'	51:4:70:G:O4'	2.15	0.47
2:1:21:ARG:NE	2:1:46:THR:O	2.48	0.47
5:B:130:ARG:O	6:C:41:ARG:NE	2.47	0.47
7:D:206:ARG:HH21	7:D:207:ARG:HG2	1.79	0.47
12:I:59:ARG:HG2	12:I:69:GLU:HG2	1.97	0.47
21:R:7:LYS:HB3	21:R:10:PHE:HD1	1.80	0.47
24:a:168:ALA:HB2	24:a:184:LEU:HD23	1.98	0.47
29:f:84:HIS:N	29:f:87:ARG:O	2.46	0.47
29:f:94:THR:HG23	29:f:110:LYS:HZ3	1.80	0.47
34:k:117:HIS:ND1	34:k:134:GLN:O	2.47	0.47
46:w:84:VAL:HA	46:w:87:TRP:HD1	1.79	0.47
50:3:226:A:O2'	50:3:228:A:O4'	2.27	0.47
50:3:558:C:H2'	50:3:559:C:H6	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:885:A:H2'	50:3:886:U:C6	2.50	0.47
50:3:1070:U:C4	50:3:1155:G:O6	2.68	0.47
50:3:1896:A:H2'	50:3:1897:A:O4'	2.15	0.47
50:3:2891:C:H2'	50:3:2892:U:C6	2.50	0.47
52:5:56:A:H2'	52:5:56:A:N3	2.29	0.47
52:5:358:G:N1	52:5:361:U:OP2	2.40	0.47
52:5:556:G:H2'	52:5:557:A:C2	2.50	0.47
52:5:602:G:H2'	52:5:603:U:O4'	2.15	0.47
52:5:682:G:O2'	52:5:683:G:O4'	2.24	0.47
52:5:1136:G:C6	52:5:1151:A:N1	2.83	0.47
52:5:1273:A:O2'	52:5:1275:U:O4'	2.31	0.47
26:c:115:VAL:HG21	26:c:188:VAL:HG23	1.97	0.46
26:c:185:LYS:HB3	50:3:648:G:H1	1.80	0.46
33:j:77:LEU:HA	38:o:77:LYS:HG3	1.98	0.46
34:k:22:ARG:O	34:k:26:SER:OG	2.32	0.46
50:3:189:U:H2'	50:3:190:G:H8	1.78	0.46
50:3:227:A:H2'	50:3:456:G:H21	1.79	0.46
50:3:864:A:N6	50:3:2255:A:O2'	2.35	0.46
50:3:1572:U:H2'	50:3:1573:A:H8	1.79	0.46
50:3:1766:A:O2'	50:3:2720:C:OP1	2.32	0.46
51:4:2:U:H2'	51:4:3:U:C6	2.50	0.46
52:5:131:G:H2'	52:5:132:G:H8	1.79	0.46
52:5:1364:C:H2'	52:5:1365:U:H6	1.79	0.46
52:5:1398:G:H2'	52:5:1399:U:H6	1.80	0.46
52:5:1441:C:H2'	52:5:1442:A:O4'	2.14	0.46
4:A:127:ILE:O	4:A:131:ASN:ND2	2.48	0.46
6:C:153:ILE:H	6:C:153:ILE:HD12	1.80	0.46
13:J:16:VAL:HG13	13:J:79:VAL:HG23	1.97	0.46
22:S:53:ARG:NH1	52:5:197:A:OP2	2.48	0.46
28:e:44:LEU:HD11	28:e:68:HIS:CD2	2.50	0.46
28:e:112:TYR:HB3	28:e:114:HIS:H	1.80	0.46
29:f:2:LYS:HG3	29:f:3:VAL:N	2.30	0.46
36:m:81:HIS:CE1	36:m:85:LYS:HD2	2.49	0.46
43:t:8:ASP:OD1	43:t:8:ASP:N	2.44	0.46
50:3:174:A:H2'	50:3:175:A:C8	2.51	0.46
50:3:195:A:H2'	50:3:196:G:C8	2.50	0.46
50:3:386:U:H2'	50:3:387:U:H6	1.79	0.46
50:3:501:G:H21	50:3:718:U:H1'	1.79	0.46
50:3:899:A:H2'	50:3:900:G:C5	2.51	0.46
50:3:1246:U:H2'	50:3:1247:C:C6	2.51	0.46
50:3:1445:U:H2'	50:3:1446:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1450:G:N1	50:3:1611:C:N3	2.64	0.46
50:3:1615:G:H2'	50:3:1616:G:H8	1.79	0.46
50:3:1819:G:H2'	50:3:1820:U:C6	2.50	0.46
50:3:1977:A:H1'	50:3:1979:G:C8	2.50	0.46
50:3:2005:G:H2'	50:3:2006:C:C6	2.50	0.46
50:3:2103:C:H2'	50:3:2104:A:C8	2.50	0.46
50:3:2229:C:H2'	50:3:2230:A:C8	2.49	0.46
50:3:2488:C:H2'	50:3:2489:G:O4'	2.14	0.46
50:3:2787:U:H5''	50:3:2788:U:H2'	1.97	0.46
51:4:58:C:H2'	51:4:59:A:H8	1.79	0.46
52:5:19:C:H2'	52:5:20:C:C6	2.44	0.46
52:5:112:U:O2	52:5:230:G:N2	2.48	0.46
52:5:940:G:H3'	52:5:941:A:H8	1.79	0.46
52:5:1044:G:H21	52:5:1047:U:H3'	1.80	0.46
5:B:104:LEU:HD23	5:B:104:LEU:H	1.80	0.46
7:D:97:ARG:HE	7:D:172:LEU:HD23	1.79	0.46
19:P:5:GLN:NE2	19:P:65:GLU:OE1	2.48	0.46
22:S:55:ALA:HA	22:S:60:ILE:HB	1.97	0.46
25:b:24:LEU:HB3	25:b:26:ILE:HD11	1.98	0.46
27:d:8:TYR:HA	27:d:12:ILE:HD13	1.98	0.46
29:f:46:ASP:HA	29:f:49:LEU:HB3	1.97	0.46
33:j:22:ILE:HB	50:3:1959:A:H2	1.81	0.46
34:k:120:LEU:HD12	34:k:122:LYS:H	1.80	0.46
38:o:103:TYR:CE2	50:3:1761:C:H5'	2.51	0.46
50:3:26:G:H2'	50:3:27:U:H6	1.80	0.46
50:3:203:A:H62	50:3:2439:U:H3	1.63	0.46
50:3:269:A:N6	50:3:315:A:O4'	2.49	0.46
50:3:511:U:O2	50:3:515:A:N7	2.49	0.46
50:3:632:A:H2'	50:3:633:G:H8	1.80	0.46
50:3:1473:C:O2	50:3:1580:G:N2	2.48	0.46
50:3:1776:G:H2'	50:3:1777:G:C8	2.51	0.46
50:3:1903:A:H2'	50:3:1904:G:H8	1.81	0.46
50:3:2504:C:H3'	50:3:2505:A:C8	2.49	0.46
52:5:18:U:H2'	52:5:19:C:C6	2.50	0.46
52:5:386:U:H2'	52:5:387:G:H8	1.81	0.46
52:5:753:C:H2'	52:5:754:U:O4'	2.15	0.46
52:5:939:G:N2	52:5:1312:G:H8	2.13	0.46
52:5:1067:C:H2'	52:5:1068:G:H8	1.79	0.46
52:5:1330:A:O2'	52:5:1331:A:H5'	2.14	0.46
8:E:92:ARG:HH21	20:Q:92:ARG:HH12	1.63	0.46
10:G:106:LEU:HD12	10:G:110:GLY:HA2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:36:ASP:HA	26:c:39:LEU:HB2	1.97	0.46
26:c:192:MET:O	26:c:195:ASN:ND2	2.48	0.46
28:e:149:THR:HG21	50:3:2753:C:H5'	1.96	0.46
29:f:57:HIS:HA	29:f:60:ILE:HG12	1.98	0.46
32:i:101:ASP:O	32:i:105:TYR:HB2	2.16	0.46
33:j:101:PRO:HG3	38:o:75:ILE:HD13	1.98	0.46
39:p:24:PHE:HD1	50:3:19:G:H4'	1.80	0.46
44:u:86:PHE:C	44:u:90:GLN:HA	2.40	0.46
50:3:1369:U:OP1	50:3:1636:U:O2'	2.24	0.46
50:3:1587:U:O2'	50:3:1588:A:OP1	2.27	0.46
50:3:2011:G:C5	50:3:2012:A:C8	3.03	0.46
50:3:2268:C:H2'	50:3:2269:C:C6	2.50	0.46
51:4:12:U:H5'	51:4:13:G:C2	2.50	0.46
52:5:98:G:H1'	52:5:350:G:H5''	1.97	0.46
52:5:147:A:H2'	52:5:148:A:C4	2.50	0.46
52:5:667:U:H2'	52:5:668:U:C6	2.49	0.46
52:5:808:C:O2	52:5:808:C:H2'	2.15	0.46
4:A:61:GLN:NE2	4:A:216:PRO:O	2.48	0.46
5:B:93:LYS:HA	5:B:96:ILE:HG22	1.98	0.46
8:E:66:ASN:ND2	8:E:67:GLN:OE1	2.48	0.46
11:H:6:TYR:HB2	11:H:21:LEU:HB3	1.96	0.46
13:J:112:ASN:O	52:5:713:A:O2'	2.27	0.46
22:S:22:LYS:HG2	52:5:1433:G:H5''	1.97	0.46
32:i:56:TYR:HE1	32:i:124:LYS:HD2	1.81	0.46
50:3:853:G:N1	50:3:1219:U:OP2	2.32	0.46
50:3:887:A:N6	50:3:963:U:H3	2.09	0.46
50:3:982:G:H2'	50:3:983:A:H8	1.79	0.46
50:3:1304:U:OP2	50:3:1679:U:O2'	2.24	0.46
50:3:1319:C:H2'	50:3:1320:C:H6	1.80	0.46
50:3:1336:A:H61	50:3:1642:G:N2	2.13	0.46
50:3:1460:G:N2	50:3:1596:U:O2	2.48	0.46
50:3:1860:A:OP2	50:3:1895:G:H2'	2.15	0.46
50:3:2097:A:H2'	50:3:2098:U:O4'	2.15	0.46
50:3:2197:U:H2'	50:3:2198:G:H8	1.81	0.46
52:5:294:A:C6	52:5:295:G:C6	3.04	0.46
52:5:366:C:H2'	52:5:367:A:C8	2.50	0.46
52:5:397:C:H2'	52:5:398:G:C8	2.50	0.46
52:5:888:A:H2'	52:5:889:U:O4'	2.15	0.46
52:5:905:U:H2'	52:5:906:C:C6	2.51	0.46
52:5:1065:G:H2'	52:5:1066:U:C6	2.50	0.46
52:5:1297:G:H2'	52:5:1298:U:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1496:G:H2'	52:5:1497:U:H6	1.81	0.46
15:L:28:SER:OG	52:5:1302:C:H5''	2.15	0.46
24:a:125:GLU:HA	24:a:137:PRO:HD3	1.96	0.46
24:a:161:ALA:N	50:3:1825:U:O2'	2.49	0.46
24:a:261:ARG:HD3	24:a:262:HIS:H	1.81	0.46
26:c:76:GLN:HG2	26:c:84:PHE:CE2	2.51	0.46
26:c:170:GLN:O	50:3:355:A:H5'	2.16	0.46
27:d:66:VAL:HG22	27:d:67:ALA:H	1.81	0.46
31:h:69:THR:HB	31:h:107:TYR:O	2.15	0.46
34:k:70:LYS:HE2	50:3:249:G:H5'	1.98	0.46
35:l:63:LYS:HD2	35:l:65:TRP:CE2	2.51	0.46
37:n:38:HIS:CD2	37:n:57:SER:HB3	2.51	0.46
50:3:194:A:N6	50:3:211:A:H1'	2.31	0.46
50:3:497:C:H2'	50:3:498:C:H6	1.81	0.46
50:3:722:C:H2'	50:3:723:U:O4'	2.16	0.46
50:3:743:G:N1	50:3:759:U:O4	2.48	0.46
50:3:1730:C:H2'	50:3:1731:G:O4'	2.16	0.46
50:3:1982:G:H2'	50:3:1983:U:O4'	2.15	0.46
50:3:2066:A:H1'	50:3:2511:A:H2	1.81	0.46
50:3:2159:U:H2'	50:3:2160:U:C6	2.50	0.46
50:3:2260:G:H2'	50:3:2261:G:H8	1.80	0.46
50:3:2291:U:C2	50:3:2333:G:O6	2.68	0.46
52:5:62:G:H2'	52:5:63:U:C6	2.51	0.46
52:5:66:A:C4	52:5:202:A:H1'	2.51	0.46
52:5:165:A:H2'	52:5:166:U:O4'	2.15	0.46
52:5:345:A:H2'	52:5:346:G:C8	2.50	0.46
52:5:798:U:H2'	52:5:799:A:C8	2.50	0.46
52:5:1248:U:H2'	52:5:1249:G:O4'	2.16	0.46
7:D:87:ARG:HH12	52:5:1072:G:H8	1.64	0.46
8:E:39:TYR:HB3	8:E:58:TYR:HD1	1.81	0.46
10:G:46:GLU:HA	10:G:49:VAL:HG12	1.98	0.46
13:J:121:ARG:NE	52:5:792:C:H4'	2.30	0.46
20:Q:60:LEU:HB3	20:Q:90:LEU:HD21	1.97	0.46
29:f:76:GLU:HB2	29:f:139:LYS:HG3	1.97	0.46
31:h:122:LYS:O	50:3:1115:G:O2'	2.34	0.46
32:i:6:MET:HE2	40:q:21:PHE:HE1	1.79	0.46
35:l:42:ILE:HG23	35:l:46:ALA:HB3	1.96	0.46
35:l:62:GLY:CA	35:l:107:ALA:O	2.61	0.46
36:m:103:LEU:HD11	36:m:115:ILE:HB	1.98	0.46
38:o:107:ARG:HD3	38:o:107:ARG:HA	1.69	0.46
50:3:117:C:H2'	50:3:118:G:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:736:G:C2	50:3:737:U:H1'	2.50	0.46
50:3:1093:U:O4	50:3:1115:G:O6	2.33	0.46
50:3:1127:C:H2'	50:3:1128:G:O4'	2.16	0.46
50:3:1260:U:H2'	50:3:1261:U:C6	2.51	0.46
50:3:1492:G:H5''	50:3:1493:A:H5'	1.98	0.46
50:3:1862:A:N6	50:3:1895:G:N3	2.63	0.46
50:3:1889:U:H2'	50:3:1890:U:C4	2.50	0.46
50:3:2108:C:H2'	50:3:2109:A:N9	2.31	0.46
50:3:2223:C:H2'	50:3:2224:A:C8	2.51	0.46
50:3:2224:A:H2'	50:3:2225:G:H8	1.81	0.46
50:3:2307:G:C6	50:3:2326:G:H1'	2.51	0.46
50:3:2316:G:H5'	50:3:2318:A:OP2	2.15	0.46
50:3:2632:C:H2'	50:3:2633:C:C5	2.50	0.46
50:3:2740:U:H5''	50:3:2741:A:O4'	2.16	0.46
52:5:770:G:O6	52:5:804:A:N6	2.49	0.46
52:5:1062:C:H2'	52:5:1063:G:C8	2.51	0.46
52:5:1080:G:H2'	52:5:1081:U:O4'	2.16	0.46
52:5:1223:A:H2'	52:5:1224:C:C6	2.50	0.46
52:5:1471:C:H1'	52:5:1492:G:N2	2.31	0.46
6:C:38:HIS:NE2	52:5:509:C:O2	2.47	0.46
6:C:68:ASP:HB2	52:5:543:C:H5'	1.96	0.46
7:D:101:ILE:HG13	7:D:127:HIS:CE1	2.51	0.46
24:a:59:GLY:O	24:a:225:ARG:HD2	2.15	0.46
24:a:249:VAL:HG13	24:a:251:ARG:H	1.80	0.46
26:c:114:THR:O	26:c:117:SER:OG	2.27	0.46
29:f:3:VAL:O	29:f:3:VAL:CG1	2.63	0.46
50:3:130:C:H2'	50:3:131:C:C6	2.51	0.46
50:3:611:A:C8	50:3:2025:C:H5'	2.51	0.46
50:3:1338:G:N3	50:3:1644:A:O2'	2.48	0.46
50:3:1691:U:H2'	50:3:1692:A:C8	2.51	0.46
50:3:1861:A:OP2	50:3:1895:G:N2	2.48	0.46
50:3:2582:G:H2'	50:3:2583:U:C6	2.51	0.46
50:3:2668:A:O2'	50:3:2669:G:O4'	2.33	0.46
50:3:2702:G:H2'	50:3:2703:U:O4'	2.15	0.46
51:4:75:U:H2'	51:4:76:A:H8	1.80	0.46
52:5:591:A:H2'	52:5:592:A:C8	2.51	0.46
52:5:722:G:H2'	52:5:723:C:C6	2.51	0.46
52:5:781:A:H2'	52:5:782:G:H8	1.79	0.46
52:5:1243:A:H2'	52:5:1244:A:O4'	2.16	0.46
52:5:1283:G:H2'	52:5:1284:A:H8	1.79	0.46
6:C:78:VAL:HG21	6:C:89:LEU:HD13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:163:GLY:O	7:D:167:ARG:HB3	2.16	0.46
14:K:122:LYS:O	14:K:124:ARG:HG3	2.15	0.46
18:O:18:SER:HA	52:5:373:A:H5''	1.97	0.46
23:T:45:LYS:NZ	52:5:718:A:N3	2.60	0.46
24:a:57:HIS:CD2	24:a:224:ILE:HG12	2.51	0.46
30:g:47:ASN:C	30:g:49:SER:N	2.74	0.46
35:l:41:TRP:CD1	35:l:96:VAL:HG23	2.50	0.46
48:y:9:SER:HG	48:y:11:HIS:HD1	1.64	0.46
48:y:48:TYR:C	48:y:48:TYR:HD1	2.24	0.46
50:3:10:U:H2'	50:3:11:U:C6	2.51	0.46
50:3:20:C:O2'	50:3:587:U:H5''	2.16	0.46
50:3:47:G:H5''	50:3:48:G:H5'	1.97	0.46
50:3:251:G:N2	50:3:254:G:H8	2.13	0.46
50:3:273:C:N4	50:3:295:U:O2'	2.48	0.46
50:3:401:G:H3'	50:3:402:A:H5''	1.98	0.46
50:3:913:U:H2'	50:3:914:G:O4'	2.15	0.46
50:3:1077:G:C5	50:3:1149:G:N1	2.84	0.46
50:3:1086:G:H2'	50:3:1087:C:C6	2.51	0.46
50:3:1475:C:H2'	50:3:1476:C:C6	2.51	0.46
50:3:1609:U:H2'	50:3:1610:U:C6	2.51	0.46
50:3:2031:C:H2'	50:3:2032:G:H8	1.79	0.46
50:3:2407:G:H2'	50:3:2408:G:C8	2.51	0.46
50:3:2817:G:H2'	50:3:2818:C:H6	1.80	0.46
50:3:2821:U:O2'	50:3:2841:A:H1'	2.16	0.46
52:5:22:G:N3	52:5:909:A:N6	2.64	0.46
52:5:400:G:O2'	52:5:496:A:N6	2.49	0.46
52:5:1146:A:H2'	52:5:1147:U:C6	2.50	0.46
52:5:1432:A:H2'	52:5:1433:G:H8	1.81	0.46
4:A:46:GLU:OE2	4:A:49:ARG:NH1	2.48	0.46
6:C:81:GLN:CD	6:C:88:ASN:HD22	2.24	0.46
21:R:36:ARG:HD3	21:R:72:GLY:HA3	1.98	0.46
26:c:5:LYS:HA	26:c:17:PRO:HA	1.98	0.46
26:c:34:VAL:O	26:c:38:VAL:HG12	2.16	0.46
32:i:63:ASP:HB3	32:i:129:LYS:HE3	1.97	0.46
32:i:105:TYR:CZ	32:i:122:ILE:HG13	2.51	0.46
41:r:41:LYS:NZ	50:3:2016:G:OP1	2.49	0.46
50:3:382:U:H2'	50:3:383:U:H6	1.79	0.46
50:3:653:G:H2'	50:3:654:G:C8	2.51	0.46
50:3:671:C:H2'	50:3:672:G:C8	2.50	0.46
50:3:1057:G:H1	50:3:1175:C:H2'	1.81	0.46
50:3:1326:C:O2'	50:3:1329:U:O3'	2.33	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1645:C:H2'	50:3:1646:G:H8	1.80	0.46
50:3:1711:A:H2'	50:3:1712:A:C8	2.51	0.46
50:3:1903:A:N1	50:3:1904:G:C6	2.84	0.46
50:3:2061:A:H3'	50:3:2063:G:H5''	1.98	0.46
50:3:2387:U:H2'	50:3:2388:C:C6	2.51	0.46
50:3:2406:U:H2'	50:3:2407:G:C8	2.51	0.46
52:5:317:A:N6	52:5:328:G:N1	2.29	0.46
52:5:922:G:OP1	52:5:1480:G:N2	2.49	0.46
52:5:1106:U:H2'	52:5:1107:U:C6	2.50	0.46
52:5:1107:U:H2'	52:5:1108:A:C4	2.51	0.46
5:B:84:ASN:O	5:B:87:LYS:HG2	2.16	0.45
8:E:42:LEU:HD13	8:E:56:HIS:CE1	2.52	0.45
25:b:41:THR:HB	25:b:44:LYS:HG2	1.98	0.45
29:f:27:ILE:HB	29:f:31:PHE:CZ	2.51	0.45
42:s:20:GLN:O	42:s:25:LYS:NZ	2.35	0.45
50:3:643:A:H62	50:3:655:G:H21	1.64	0.45
50:3:653:G:H2'	50:3:654:G:H8	1.81	0.45
50:3:1002:A:H2'	50:3:1003:U:C6	2.50	0.45
50:3:1077:G:O6	50:3:1149:G:C5	2.70	0.45
50:3:1085:A:C2	50:3:1086:G:H1'	2.51	0.45
50:3:1610:U:H2'	50:3:1611:C:C6	2.51	0.45
50:3:1802:C:H2'	50:3:1803:U:C6	2.51	0.45
50:3:1829:U:H2'	50:3:1830:G:H8	1.81	0.45
50:3:2299:U:O2'	50:3:2382:A:N3	2.49	0.45
50:3:2419:A:H2'	50:3:2420:A:C8	2.50	0.45
50:3:2695:U:H2'	50:3:2696:G:O4'	2.16	0.45
50:3:2755:G:H21	50:3:2765:A:H62	1.63	0.45
50:3:2842:G:C4	50:3:2843:G:C8	3.04	0.45
51:4:2:U:N3	51:4:107:G:O6	2.48	0.45
52:5:289:U:H2'	52:5:290:G:C8	2.51	0.45
52:5:315:G:H2'	52:5:316:G:C8	2.50	0.45
52:5:413:G:H1	52:5:423:U:H3	1.62	0.45
52:5:957:C:C2	52:5:958:G:C8	3.04	0.45
52:5:1219:C:H2'	52:5:1220:A:C8	2.51	0.45
52:5:1424:C:H2'	52:5:1425:A:O4'	2.15	0.45
25:b:65:PRO:O	50:3:2794:U:O2'	2.33	0.45
25:b:156:ALA:HB1	25:b:160:PHE:HE1	1.80	0.45
27:d:75:SER:HB3	53:7:58:G:H1'	1.98	0.45
41:r:34:ASN:OD1	41:r:35:ILE:N	2.49	0.45
50:3:400:A:N6	50:3:401:G:O6	2.48	0.45
50:3:767:C:H2'	50:3:768:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:904:C:O2	50:3:904:C:H2'	2.16	0.45
50:3:1207:U:O2	50:3:1208:A:N6	2.47	0.45
50:3:2009:U:H2'	50:3:2010:A:C8	2.50	0.45
50:3:2288:G:H2'	50:3:2289:C:C6	2.52	0.45
50:3:2345:G:H2'	50:3:2346:G:C8	2.51	0.45
50:3:2495:A:H2'	50:3:2496:G:H8	1.80	0.45
50:3:2613:U:H2'	50:3:2614:U:C6	2.51	0.45
52:5:578:C:H2'	52:5:579:G:O4'	2.16	0.45
52:5:732:A:H2'	52:5:733:A:C8	2.51	0.45
2:1:11:PHE:CE1	2:1:21:ARG:HB3	2.52	0.45
16:M:40:CYS:HB3	16:M:43:CYS:HB3	1.97	0.45
21:R:66:MET:HG3	21:R:68:GLY:H	1.82	0.45
24:a:83:VAL:HA	24:a:99:ILE:HA	1.98	0.45
26:c:89:ILE:HG22	26:c:91:PHE:H	1.80	0.45
29:f:131:PHE:HB2	29:f:134:THR:HG22	1.99	0.45
36:m:58:ASN:O	36:m:62:GLN:HG2	2.17	0.45
50:3:263:C:H2'	50:3:264:G:C8	2.52	0.45
50:3:335:G:H5'	50:3:368:C:H2'	1.99	0.45
50:3:341:G:N1	50:3:344:A:OP2	2.34	0.45
50:3:464:A:C6	50:3:465:A:C6	3.04	0.45
50:3:510:G:C5	50:3:545:C:C5	3.05	0.45
50:3:1683:G:H2'	50:3:1684:A:H8	1.81	0.45
50:3:1818:G:H2'	50:3:1819:G:C8	2.51	0.45
50:3:2018:U:H2'	50:3:2019:G:O4'	2.17	0.45
50:3:2238:G:H2'	50:3:2239:U:C6	2.51	0.45
50:3:2764:U:H4'	50:3:2765:A:OP1	2.17	0.45
50:3:2853:U:H4'	50:3:2854:A:H5'	1.98	0.45
52:5:42:G:H2'	52:5:43:G:C8	2.52	0.45
52:5:166:U:H3	52:5:197:A:H5''	1.81	0.45
52:5:510:U:H2'	52:5:511:A:H8	1.81	0.45
52:5:669:U:H2'	52:5:670:G:C8	2.52	0.45
52:5:935:U:H4'	52:5:1349:A:H2	1.82	0.45
52:5:988:G:N7	52:5:1188:A:N6	2.64	0.45
52:5:994:C:H2'	52:5:995:U:O4'	2.16	0.45
52:5:1364:C:H2'	52:5:1365:U:C6	2.52	0.45
4:A:87:THR:HB	4:A:183:TYR:HE1	1.80	0.45
5:B:37:ASP:HB2	5:B:58:ILE:HG21	1.99	0.45
5:B:53:VAL:HA	5:B:71:ALA:HA	1.98	0.45
5:B:119:ILE:HD12	5:B:144:VAL:HG22	1.98	0.45
5:B:169:LYS:HD2	5:B:169:LYS:HA	1.76	0.45
7:D:78:LYS:HA	52:5:16:G:N2	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:67:VAL:HG21	11:H:81:ILE:HD13	1.98	0.45
12:I:21:SER:HB2	12:I:76:HIS:CE1	2.52	0.45
17:N:59:LYS:O	17:N:63:LEU:HG	2.16	0.45
25:b:6:ILE:HG22	25:b:207:ILE:HB	1.99	0.45
27:d:8:TYR:HA	27:d:12:ILE:CD1	2.47	0.45
28:e:55:ILE:HG13	28:e:68:HIS:CD2	2.52	0.45
36:m:67:LEU:HD11	36:m:78:LEU:HD13	1.98	0.45
37:n:44:TRP:CZ2	51:4:6:U:H1'	2.50	0.45
49:z:24:ASN:ND2	50:3:2294:A:OP2	2.50	0.45
50:3:884:A:H2'	50:3:885:A:N7	2.32	0.45
50:3:894:G:N2	50:3:2277:A:OP2	2.50	0.45
50:3:1354:U:O2'	50:3:2017:G:O2'	2.32	0.45
50:3:1807:C:O2	50:3:1824:G:O6	2.35	0.45
50:3:2447:A:H4'	50:3:2448:C:H3'	1.98	0.45
50:3:2684:G:H2'	50:3:2685:A:H8	1.74	0.45
50:3:2847:C:C2	50:3:2848:A:C8	3.04	0.45
52:5:26:C:H2'	52:5:27:A:H8	1.80	0.45
52:5:97:G:H2'	52:5:98:G:H8	1.81	0.45
52:5:203:C:H2'	52:5:204:C:C6	2.51	0.45
52:5:608:G:H1	52:5:628:A:H61	1.63	0.45
52:5:731:A:H2'	52:5:732:A:H8	1.80	0.45
52:5:931:C:C2	52:5:932:A:C8	3.04	0.45
52:5:1370:C:H5'	52:5:1376:G:H21	1.82	0.45
52:5:1417:U:H2'	52:5:1418:G:C8	2.49	0.45
52:5:1485:C:H2'	52:5:1486:C:C6	2.51	0.45
6:C:109:THR:OG1	52:5:404:A:OP1	2.26	0.45
7:D:127:HIS:CE1	7:D:196:MET:HE3	2.52	0.45
9:F:115:MET:HA	9:F:118:LYS:HG2	1.97	0.45
11:H:15:SER:HB2	11:H:77:GLN:NE2	2.31	0.45
15:L:119:LYS:HD2	15:L:119:LYS:HA	1.77	0.45
18:O:51:GLU:OE1	18:O:51:GLU:N	2.49	0.45
24:a:9:ARG:HG2	50:3:1729:G:H5'	1.99	0.45
25:b:15:GLN:NE2	38:o:60:ILE:O	2.47	0.45
35:l:19:GLY:O	35:l:99:GLN:NE2	2.49	0.45
38:o:10:ILE:HA	38:o:13:VAL:HG12	1.98	0.45
39:p:65:ASN:HD21	39:p:69:ARG:HH21	1.64	0.45
41:r:18:ARG:O	41:r:22:GLN:HG2	2.16	0.45
43:t:10:VAL:HG22	43:t:74:LEU:HD12	1.97	0.45
44:u:89:LYS:HD2	50:3:952:U:OP1	2.17	0.45
50:3:190:G:H2'	50:3:191:G:C8	2.52	0.45
50:3:363:G:O4'	50:3:513:A:H1'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:982:G:H2'	50:3:983:A:C8	2.51	0.45
50:3:1233:A:N6	50:3:1274:A:H61	2.15	0.45
50:3:1363:C:H2'	50:3:1364:A:H8	1.81	0.45
50:3:1495:A:OP2	50:3:1548:A:N6	2.46	0.45
50:3:1529:U:H2'	50:3:1530:G:C8	2.52	0.45
50:3:2189:U:H2'	50:3:2190:G:C8	2.52	0.45
50:3:2372:C:H2'	50:3:2373:G:O4'	2.15	0.45
50:3:2533:A:H2'	50:3:2534:G:H8	1.81	0.45
50:3:2897:G:O2'	50:3:2898:A:O5'	2.34	0.45
52:5:6:C:N4	52:5:7:U:O4	2.49	0.45
52:5:305:A:H2'	52:5:306:G:H8	1.82	0.45
52:5:334:A:H2'	52:5:335:C:C6	2.51	0.45
52:5:417:U:H4'	52:5:418:U:OP2	2.16	0.45
52:5:573:G:H4'	52:5:574:C:C5'	2.46	0.45
52:5:650:A:O2'	52:5:651:G:H8	1.99	0.45
52:5:812:A:H61	52:5:1504:G:H2'	1.82	0.45
52:5:885:U:H2'	52:5:886:A:C8	2.51	0.45
52:5:913:A:C4	52:5:914:A:C8	3.04	0.45
52:5:1096:A:H2'	52:5:1097:G:H8	1.81	0.45
52:5:1415:G:H2'	52:5:1416:U:C6	2.52	0.45
5:B:61:THR:OG1	5:B:64:THR:O	2.26	0.45
6:C:12:ARG:NH1	52:5:409:G:O6	2.49	0.45
6:C:79:LEU:O	6:C:82:ARG:NH2	2.31	0.45
7:D:177:ASP:N	7:D:177:ASP:OD1	2.46	0.45
7:D:203:LEU:HD21	7:D:207:ARG:HE	1.81	0.45
10:G:109:ASN:O	10:G:109:ASN:CG	2.58	0.45
11:H:128:GLN:HB3	52:5:1207:U:OP1	2.17	0.45
24:a:215:LYS:HG3	24:a:218:ARG:H	1.80	0.45
33:j:30:LYS:HG3	33:j:32:TYR:H	1.81	0.45
35:l:31:GLU:HB2	35:l:107:ALA:HA	1.98	0.45
36:m:18:VAL:O	36:m:22:VAL:HG13	2.16	0.45
36:m:108:GLY:HA2	50:3:1316:U:O4	2.16	0.45
50:3:140:G:O2'	50:3:142:A:N6	2.48	0.45
50:3:313:G:H2'	50:3:314:G:C8	2.52	0.45
50:3:1701:G:N1	50:3:1999:G:OP2	2.29	0.45
50:3:1718:C:H2'	50:3:1719:C:C6	2.51	0.45
50:3:1869:G:H2'	50:3:1870:G:C8	2.52	0.45
50:3:2096:U:H2'	50:3:2097:A:H8	1.79	0.45
50:3:2299:U:H1'	50:3:2382:A:H1'	1.98	0.45
50:3:2345:G:H2'	50:3:2346:G:H8	1.81	0.45
50:3:2651:G:H2'	50:3:2652:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2699:C:H2'	50:3:2700:C:H6	1.80	0.45
52:5:199:A:N1	52:5:216:G:O2'	2.46	0.45
52:5:369:A:N1	52:5:387:G:O2'	2.41	0.45
52:5:409:G:N1	52:5:426:U:OP2	2.41	0.45
52:5:546:G:H2'	52:5:547:C:C6	2.51	0.45
52:5:610:C:H2'	52:5:611:A:C8	2.51	0.45
52:5:715:A:H5'	52:5:716:C:OP2	2.17	0.45
52:5:943:C:H5'	52:5:1280:A:H4'	1.98	0.45
52:5:1438:U:H2'	52:5:1439:G:H8	1.82	0.45
5:B:140:SER:O	5:B:144:VAL:HG23	2.16	0.45
6:C:73:ARG:NH2	6:C:77:LEU:HD11	2.29	0.45
8:E:35:LEU:HD23	8:E:35:LEU:H	1.81	0.45
8:E:110:GLN:HA	8:E:113:ALA:HB3	1.99	0.45
8:E:150:GLN:HB3	10:G:57:PHE:CZ	2.51	0.45
11:H:56:LEU:HD23	11:H:56:LEU:H	1.82	0.45
15:L:20:THR:HG22	15:L:27:LEU:HA	1.98	0.45
24:a:173:GLN:HA	24:a:180:VAL:HA	1.99	0.45
29:f:100:GLN:O	29:f:104:LYS:HG3	2.16	0.45
38:o:110:LYS:HE2	52:5:1439:G:OP2	2.17	0.45
39:p:113:LYS:HD3	39:p:113:LYS:HA	1.73	0.45
40:q:6:VAL:HG21	40:q:49:TYR:HE1	1.81	0.45
45:v:21:SER:HB2	50:3:2086:U:O3'	2.17	0.45
50:3:19:G:H2'	50:3:20:C:C6	2.52	0.45
50:3:237:A:H62	50:3:268:C:HO2'	1.59	0.45
50:3:891:G:H2'	50:3:892:G:C8	2.50	0.45
50:3:985:A:C6	50:3:1005:G:C6	3.05	0.45
50:3:987:U:H2'	50:3:988:G:C8	2.51	0.45
50:3:998:C:O2'	50:3:2505:A:OP1	2.34	0.45
50:3:1016:A:N6	50:3:1171:G:OP2	2.49	0.45
50:3:1406:A:O2'	50:3:1408:G:OP2	2.34	0.45
50:3:1443:A:O2'	50:3:1445:U:OP2	2.31	0.45
50:3:2596:A:N6	50:3:2615:G:H1	2.15	0.45
52:5:26:C:H2'	52:5:27:A:C8	2.51	0.45
52:5:288:A:OP2	52:5:301:G:N1	2.37	0.45
52:5:288:A:H3'	52:5:289:U:H6	1.82	0.45
52:5:1069:U:H5	52:5:1070:G:C6	2.34	0.45
52:5:1270:C:H5''	52:5:1271:U:OP2	2.16	0.45
9:F:110:ARG:NH1	9:F:121:ASN:OD1	2.40	0.45
10:G:87:VAL:HG12	10:G:141:VAL:HG13	1.99	0.45
12:I:9:TYR:HE2	12:I:12:LEU:HD12	1.82	0.45
13:J:119:ARG:HB2	23:T:34:TYR:CD1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:73:LYS:HD3	50:3:1287:C:H5'	1.98	0.45
35:l:42:ILE:HD11	35:l:127:VAL:HG11	1.98	0.45
40:q:38:VAL:HG13	40:q:50:LEU:HD12	1.98	0.45
41:r:43:ALA:O	41:r:47:ILE:HD13	2.17	0.45
41:r:115:GLN:O	41:r:119:LYS:HG2	2.17	0.45
42:s:86:PRO:HB2	42:s:89:ILE:HG22	1.99	0.45
50:3:117:C:O2'	50:3:127:A:H1'	2.16	0.45
50:3:528:U:H2'	50:3:529:G:C8	2.52	0.45
50:3:1003:U:H2'	50:3:1004:U:C6	2.52	0.45
50:3:1021:C:H2'	50:3:1022:C:H6	1.82	0.45
50:3:2093:U:H2'	50:3:2094:A:C8	2.51	0.45
50:3:2216:U:H2'	50:3:2217:G:C8	2.52	0.45
50:3:2685:A:H2'	50:3:2686:C:H6	1.82	0.45
51:4:94:A:C2	51:4:95:G:H1'	2.51	0.45
52:5:104:A:O2'	52:5:236:C:N4	2.40	0.45
52:5:538:G:H2'	52:5:539:G:H8	1.82	0.45
52:5:836:C:H2'	52:5:837:G:O4'	2.17	0.45
52:5:895:A:H8	52:5:896:G:H1'	1.80	0.45
52:5:914:A:N3	52:5:915:U:H5	2.15	0.45
52:5:1182:C:H2'	52:5:1183:C:C6	2.52	0.45
52:5:1262:A:H2'	52:5:1263:A:O4'	2.17	0.45
52:5:1394:G:H1	52:5:1456:U:H3	1.63	0.45
52:5:1496:G:H2'	52:5:1497:U:C6	2.52	0.45
2:1:5:SER:O	2:1:9:LYS:HG3	2.17	0.45
2:1:33:LYS:HE2	2:1:38:LYS:HA	1.99	0.45
3:2:15:LYS:O	3:2:25:VAL:HA	2.17	0.45
9:F:91:PRO:HD2	9:F:94:ARG:HB2	1.99	0.45
9:F:97:ALA:O	9:F:101:ARG:HG3	2.17	0.45
11:H:12:ARG:HD2	11:H:79:GLY:HA3	1.99	0.45
13:J:60:ALA:HB1	13:J:93:PHE:CE1	2.52	0.45
19:P:79:LYS:HG2	19:P:80:ILE:H	1.82	0.45
22:S:22:LYS:NZ	52:5:1434:C:OP1	2.32	0.45
29:f:94:THR:O	29:f:97:ILE:HG12	2.17	0.45
30:g:24:PHE:HA	30:g:85:GLY:H	1.81	0.45
33:j:72:LYS:HE3	33:j:72:LYS:HB3	1.69	0.45
39:p:34:ALA:HA	39:p:37:THR:HG22	1.99	0.45
40:q:84:GLY:N	50:3:1254:U:H4'	2.26	0.45
48:y:28:SER:HB2	48:y:39:PHE:HD1	1.82	0.45
50:3:612:G:H5'	50:3:2024:C:H3'	1.99	0.45
50:3:631:A:H2'	50:3:632:A:H8	1.82	0.45
50:3:1039:G:H2'	50:3:1040:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1333:C:H2'	50:3:1334:U:O4'	2.17	0.45
50:3:1755:A:H2'	50:3:1756:A:C8	2.52	0.45
50:3:2729:A:H2'	50:3:2730:G:O4'	2.17	0.45
50:3:2846:A:H2'	50:3:2847:C:H6	1.82	0.45
52:5:292:U:H2'	52:5:293:G:H8	1.81	0.45
52:5:473:A:H2'	52:5:474:G:C8	2.52	0.45
52:5:552:U:H2'	52:5:553:C:C6	2.52	0.45
52:5:673:A:H2'	52:5:674:U:H6	1.82	0.45
1:0:12:ARG:NH2	50:3:500:U:O2'	2.50	0.45
4:A:137:GLN:HE21	4:A:152:LEU:HB3	1.81	0.45
4:A:145:THR:O	4:A:149:ASN:N	2.39	0.45
5:B:33:TRP:CD1	5:B:60:ARG:HE	2.34	0.45
6:C:10:ARG:NH1	6:C:13:ARG:HD2	2.32	0.45
13:J:39:SER:O	13:J:62:LYS:NZ	2.49	0.45
14:K:80:ILE:HG12	14:K:110:ILE:HD12	1.99	0.45
21:R:12:ASP:OD1	21:R:37:ARG:HD3	2.17	0.45
24:a:146:GLN:HB3	24:a:167:TYR:HB2	1.98	0.45
25:b:39:VAL:C	25:b:40:LYS:HD2	2.41	0.45
27:d:118:SER:N	27:d:128:TYR:OH	2.47	0.45
30:g:90:VAL:C	30:g:92:THR:N	2.72	0.45
44:u:89:LYS:HE3	51:4:69:C:H5''	1.99	0.45
50:3:641:U:N3	50:3:657:A:C8	2.85	0.45
50:3:659:C:H2'	50:3:660:U:C6	2.52	0.45
50:3:863:U:H4'	50:3:866:G:N1	2.32	0.45
50:3:1093:U:H3	50:3:1115:G:H1	1.65	0.45
50:3:1369:U:H5'	50:3:1636:U:C5	2.52	0.45
50:3:1687:G:N1	50:3:2010:A:OP2	2.47	0.45
50:3:2057:C:H3'	50:3:2057:C:OP2	2.18	0.45
50:3:2271:C:H2'	50:3:2272:C:H6	1.81	0.45
50:3:2278:G:H2'	50:3:2279:G:O4'	2.17	0.45
50:3:2351:U:H2'	50:3:2352:U:C6	2.52	0.45
52:5:232:G:H2'	52:5:233:C:O4'	2.17	0.45
52:5:236:C:H2'	52:5:237:A:H8	1.82	0.45
52:5:407:A:C5	52:5:409:G:N3	2.85	0.45
52:5:577:G:H4'	52:5:725:A:H1'	1.99	0.45
52:5:722:G:H2'	52:5:723:C:H6	1.82	0.45
52:5:871:U:H2'	52:5:872:C:H6	1.82	0.45
2:1:53:LYS:HD3	50:3:975:G:OP1	2.17	0.44
15:L:25:ILE:HD13	15:L:29:ARG:HD3	2.00	0.44
23:T:37:ARG:HB3	52:5:1501:G:OP2	2.16	0.44
26:c:80:ARG:HA	26:c:86:GLY:HA3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:61:LEU:HB3	28:e:64:SER:HB3	1.99	0.44
29:f:81:LEU:HD13	29:f:142:VAL:HG13	1.97	0.44
34:k:54:GLY:O	50:3:861:U:O2'	2.31	0.44
38:o:6:LYS:C	38:o:8:ALA:H	2.26	0.44
44:u:58:ARG:HH11	50:3:2338:G:H5''	1.81	0.44
50:3:309:A:H5'	50:3:310:U:OP2	2.17	0.44
50:3:800:C:H2'	50:3:801:U:C6	2.52	0.44
50:3:1152:U:H2'	50:3:1153:U:C6	2.52	0.44
50:3:1312:A:H2'	50:3:1313:G:O4'	2.17	0.44
50:3:1554:A:N6	50:3:1576:G:O2'	2.51	0.44
50:3:2379:G:H2'	50:3:2380:U:O4'	2.16	0.44
50:3:2607:G:H2'	50:3:2608:A:C8	2.52	0.44
52:5:248:U:O2'	52:5:271:G:N2	2.50	0.44
52:5:439:U:H2'	52:5:440:U:H6	1.82	0.44
52:5:982:A:H2'	52:5:983:G:H8	1.82	0.44
52:5:1244:A:H8	52:5:1244:A:O5'	2.00	0.44
53:7:67:C:N4	53:7:68:G:O6	2.50	0.44
5:B:152:ILE:HG22	5:B:154:VAL:HG13	1.99	0.44
7:D:143:ARG:HH12	7:D:146:ALA:HA	1.82	0.44
8:E:105:GLN:HG2	8:E:106:GLN:N	2.32	0.44
10:G:27:LYS:HE3	52:5:854:A:N3	2.31	0.44
10:G:74:LEU:HD12	10:G:84:ILE:HD13	1.99	0.44
16:M:28:GLY:N	52:5:1177:U:O2'	2.50	0.44
19:P:43:LYS:HB3	19:P:45:TYR:HE1	1.83	0.44
24:a:239:PRO:HG2	24:a:240:HIS:HD2	1.82	0.44
26:c:182:HIS:CE1	26:c:184:ASP:H	2.35	0.44
27:d:41:GLY:N	50:3:2315:G:O6	2.50	0.44
29:f:20:ASP:CG	29:f:21:VAL:N	2.74	0.44
29:f:110:LYS:HG3	50:3:2227:U:H5''	1.99	0.44
33:j:104:ARG:HG3	33:j:107:ARG:HE	1.82	0.44
38:o:65:ILE:HG22	38:o:78:ASN:HB2	1.98	0.44
43:t:70:PHE:HB2	43:t:73:LYS:HG3	1.98	0.44
44:u:61:PRO:HG3	44:u:67:LEU:HD11	1.99	0.44
50:3:65:A:H3'	50:3:66:A:C8	2.53	0.44
50:3:191:G:H2'	50:3:192:U:H6	1.82	0.44
50:3:2302:C:N3	50:3:2347:G:N1	2.64	0.44
50:3:2484:A:H2'	50:3:2485:U:C6	2.52	0.44
52:5:111:A:H5''	52:5:602:G:H21	1.81	0.44
52:5:692:A:C2	52:5:693:A:H1'	2.53	0.44
52:5:738:A:H2'	52:5:739:G:C8	2.53	0.44
52:5:1390:G:O6	52:5:1460:U:C2	2.70	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:9:LYS:NZ	50:3:251:G:O6	2.48	0.44
5:B:20:SER:OG	16:M:52:ALA:O	2.29	0.44
5:B:51:ALA:HB1	5:B:77:LEU:HG	1.99	0.44
8:E:72:PHE:CE2	8:E:87:ILE:HD11	2.52	0.44
8:E:103:LYS:HB3	8:E:106:GLN:HE21	1.83	0.44
15:L:15:ILE:HA	15:L:18:ALA:HB3	1.99	0.44
19:P:50:GLU:HG2	19:P:76:ARG:HD2	2.00	0.44
24:a:228:VAL:HA	50:3:1796:A:H5''	1.99	0.44
25:b:196:ALA:HB1	50:3:2688:C:H1'	1.99	0.44
26:c:5:LYS:HG2	26:c:17:PRO:HB3	2.00	0.44
27:d:105:TYR:HA	47:x:40:GLY:HA3	2.00	0.44
28:e:57:ARG:HD2	28:e:64:SER:OG	2.17	0.44
50:3:192:U:O2	50:3:212:G:N2	2.48	0.44
50:3:252:G:O5'	50:3:253:C:H5''	2.17	0.44
50:3:851:U:H2'	50:3:852:C:C6	2.52	0.44
50:3:873:G:H2'	50:3:874:U:C6	2.53	0.44
50:3:952:U:HO2'	50:3:953:G:P	2.39	0.44
50:3:1485:A:N6	50:3:2711:C:N3	2.66	0.44
50:3:1887:U:N3	50:3:1888:U:O4	2.50	0.44
50:3:1941:C:H2'	50:3:1942:G:O4'	2.17	0.44
50:3:2421:U:H2'	50:3:2422:G:O4'	2.17	0.44
50:3:2444:G:H2'	50:3:2445:C:C6	2.52	0.44
50:3:2813:A:OP2	50:3:2894:G:N2	2.49	0.44
52:5:279:C:C2	52:5:280:G:C8	3.05	0.44
52:5:288:A:H3'	52:5:289:U:C6	2.52	0.44
52:5:363:U:OP1	52:5:390:G:N2	2.50	0.44
52:5:1363:U:H2'	52:5:1364:C:H6	1.83	0.44
52:5:1487:U:H2'	52:5:1488:A:C8	2.52	0.44
8:E:144:SER:HB3	10:G:3:THR:HA	1.98	0.44
9:F:60:VAL:HA	9:F:63:ARG:HD2	1.98	0.44
27:d:33:LYS:HE2	27:d:92:ARG:NH2	2.29	0.44
32:i:119:ARG:HG3	32:i:120:ARG:HD3	1.98	0.44
35:l:112:SER:O	35:l:116:LYS:HG2	2.16	0.44
42:s:26:LYS:HE2	42:s:26:LYS:HB2	1.85	0.44
45:v:56:ARG:NH2	50:3:436:G:N7	2.65	0.44
50:3:443:C:H2'	50:3:444:C:C6	2.52	0.44
50:3:766:C:H2'	50:3:767:C:H6	1.82	0.44
50:3:874:U:H2'	50:3:875:G:H8	1.81	0.44
50:3:889:G:H1	50:3:961:U:H3	1.65	0.44
50:3:1520:A:H2'	50:3:1521:A:C8	2.53	0.44
50:3:1551:U:H2'	50:3:1552:C:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1780:A:OP1	50:3:1835:G:H3'	2.17	0.44
50:3:1959:A:N7	50:3:2568:G:H1'	2.32	0.44
50:3:2493:G:H2'	50:3:2494:C:C6	2.51	0.44
50:3:2664:U:H2'	50:3:2665:A:C8	2.51	0.44
50:3:2822:C:H2'	50:3:2823:A:C8	2.53	0.44
52:5:73:G:H2'	52:5:74:U:H6	1.82	0.44
52:5:991:A:H2'	52:5:992:U:C6	2.52	0.44
52:5:1001:A:N7	52:5:1019:G:N2	2.64	0.44
52:5:1094:C:H2'	52:5:1095:G:H8	1.82	0.44
52:5:1279:G:N2	52:5:1305:G:HO2'	2.14	0.44
52:5:1321:G:N2	52:5:1349:A:O5'	2.32	0.44
2:1:1:MET:HE1	50:3:625:G:H1'	1.99	0.44
25:b:37:ALA:HA	25:b:75:LEU:HD21	2.00	0.44
26:c:63:LYS:HB3	50:3:832:C:OP1	2.18	0.44
27:d:102:LYS:O	27:d:106:VAL:HG22	2.17	0.44
32:i:16:ARG:NH1	32:i:56:TYR:OH	2.50	0.44
32:i:49:PRO:HB2	50:3:591:G:O2'	2.18	0.44
34:k:40:LYS:NZ	34:k:47:THR:OG1	2.49	0.44
43:t:38:GLY:HA2	43:t:41:LYS:NZ	2.33	0.44
50:3:200:A:OP1	50:3:202:C:N4	2.50	0.44
50:3:231:A:N6	50:3:446:A:N3	2.65	0.44
50:3:294:G:O2'	50:3:295:U:O4'	2.20	0.44
50:3:1248:A:H2'	50:3:1249:A:H8	1.82	0.44
50:3:1306:G:H2'	50:3:1307:G:C8	2.51	0.44
50:3:1344:U:H2'	50:3:1345:G:C8	2.52	0.44
50:3:1373:C:H2'	50:3:1374:U:C6	2.53	0.44
50:3:1434:U:H2'	50:3:1435:A:C8	2.53	0.44
50:3:1615:G:H2'	50:3:1616:G:C8	2.53	0.44
50:3:2077:A:H2'	50:3:2078:A:C8	2.53	0.44
50:3:2243:G:H2'	50:3:2244:U:C6	2.53	0.44
50:3:2425:C:H2'	50:3:2426:A:C8	2.53	0.44
50:3:2432:C:O2	50:3:2437:G:O2'	2.21	0.44
50:3:2566:C:H2'	50:3:2567:C:C6	2.53	0.44
50:3:2605:G:O2'	50:3:2606:A:O4'	2.28	0.44
50:3:2607:G:H2'	50:3:2608:A:H8	1.82	0.44
51:4:14:U:O4	51:4:67:G:N2	2.51	0.44
52:5:108:C:H2'	52:5:109:G:O4'	2.18	0.44
52:5:146:A:H61	52:5:339:U:H4'	1.82	0.44
52:5:951:U:H2'	52:5:952:U:C6	2.53	0.44
52:5:1058:A:H1'	52:5:1059:G:C8	2.53	0.44
3:2:20:HIS:O	3:2:21:GLN:HG2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:26:MET:HA	4:A:26:MET:HE3	1.99	0.44
8:E:92:ARG:HH22	20:Q:88:LYS:HB2	1.83	0.44
14:K:46:VAL:HG13	14:K:90:HIS:HA	2.00	0.44
16:M:39:VAL:HG11	16:M:44:PHE:HD1	1.82	0.44
20:Q:84:ARG:HH21	52:5:661:G:H5'	1.82	0.44
24:a:10:SER:O	50:3:1729:G:O2'	2.34	0.44
28:e:129:GLU:OE1	28:e:130:LYS:HG3	2.18	0.44
33:j:30:LYS:O	33:j:31:ARG:HG2	2.17	0.44
38:o:32:ASN:HA	38:o:49:THR:HA	1.99	0.44
48:y:37:LYS:NZ	50:3:2888:U:H3	2.16	0.44
49:z:7:THR:OG1	49:z:49:GLU:OE2	2.28	0.44
50:3:78:C:H2'	50:3:79:U:C6	2.53	0.44
50:3:188:G:H2'	50:3:189:U:H6	1.82	0.44
50:3:612:G:H4'	50:3:2026:A:OP2	2.17	0.44
50:3:697:U:C2	50:3:698:A:N7	2.86	0.44
50:3:852:C:O2'	50:3:874:U:H5''	2.17	0.44
50:3:1077:G:C6	50:3:1149:G:C6	3.06	0.44
50:3:1470:C:H2'	50:3:1471:A:H8	1.83	0.44
50:3:1473:C:H2'	50:3:1474:C:C6	2.53	0.44
50:3:1845:C:N4	50:3:1906:G:OP2	2.44	0.44
50:3:2005:G:H2'	50:3:2006:C:H6	1.82	0.44
50:3:2141:A:H1'	50:3:2165:A:C2	2.52	0.44
50:3:2388:C:H2'	50:3:2389:A:H8	1.83	0.44
50:3:2514:U:H2'	50:3:2515:C:C6	2.53	0.44
52:5:25:U:O2'	52:5:522:G:O2'	2.27	0.44
52:5:140:U:H2'	52:5:141:A:H8	1.81	0.44
52:5:164:C:H2'	52:5:165:A:C8	2.53	0.44
52:5:1127:A:O2'	52:5:1128:G:H5''	2.18	0.44
53:7:55:U:H2'	53:7:56:U:C6	2.52	0.44
7:D:75:ARG:HA	7:D:88:PHE:HA	1.98	0.44
7:D:103:TYR:HE2	7:D:105:ILE:HD11	1.83	0.44
11:H:101:LYS:NZ	52:5:1152:G:OP2	2.45	0.44
16:M:61:TRP:CD1	52:5:1161:G:H21	2.33	0.44
24:a:152:LEU:HD23	24:a:152:LEU:O	2.18	0.44
34:k:119:LYS:HD2	34:k:141:ASN:HB2	2.00	0.44
38:o:37:LEU:C	38:o:38:LYS:HD3	2.43	0.44
46:w:17:LYS:O	46:w:20:ILE:HG12	2.18	0.44
50:3:73:A:OP2	50:3:113:U:O2'	2.31	0.44
50:3:154:U:O2'	50:3:155:A:H5'	2.18	0.44
50:3:852:C:H2'	50:3:853:G:O4'	2.18	0.44
50:3:1353:G:OP1	50:3:1681:G:O2'	2.23	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2274:A:H1'	50:3:2280:U:O4	2.18	0.44
50:3:2357:G:H2'	50:3:2358:U:O4'	2.16	0.44
50:3:2636:U:H5''	50:3:2637:A:C8	2.53	0.44
52:5:304:U:H2'	52:5:305:A:C8	2.53	0.44
52:5:649:U:O4	52:5:749:G:O2'	2.29	0.44
4:A:203:ASN:ND2	4:A:219:ASN:HD21	2.12	0.44
5:B:90:LYS:O	5:B:94:GLN:HG2	2.18	0.44
5:B:120:ALA:HB1	5:B:190:GLU:HG3	1.98	0.44
6:C:151:ILE:HG22	6:C:154:VAL:H	1.82	0.44
14:K:134:LYS:HD2	52:5:498:G:H5''	2.00	0.44
15:L:107:ARG:HB3	15:L:112:PRO:HA	1.99	0.44
22:S:28:LEU:O	22:S:32:VAL:HG23	2.17	0.44
27:d:94:GLU:HA	27:d:97:TRP:HD1	1.83	0.44
50:3:230:G:H1	50:3:454:G:H21	1.65	0.44
50:3:331:A:H3'	50:3:332:G:C8	2.53	0.44
50:3:410:G:N2	50:3:436:G:H2'	2.33	0.44
50:3:1844:C:H3'	50:3:1906:G:O6	2.18	0.44
50:3:1885:G:H2'	50:3:1886:C:C6	2.53	0.44
51:4:46:C:H2'	51:4:47:C:C6	2.52	0.44
52:5:100:G:N2	52:5:102:G:H1	2.14	0.44
52:5:233:C:H2'	52:5:234:G:H8	1.83	0.44
52:5:394:U:H2'	52:5:395:G:H8	1.83	0.44
52:5:402:G:H2'	52:5:403:A:H8	1.82	0.44
52:5:573:G:H4'	52:5:574:C:H5'	1.98	0.44
52:5:583:G:H2'	52:5:584:C:O4'	2.17	0.44
52:5:651:G:H2'	52:5:652:A:C8	2.53	0.44
52:5:947:U:H5''	52:5:959:A:H61	1.83	0.44
52:5:1156:G:H1'	52:5:1157:G:C4	2.53	0.44
52:5:1274:G:N2	52:5:1275:U:O4	2.49	0.44
5:B:140:SER:O	5:B:143:LYS:HG3	2.17	0.44
6:C:13:ARG:NH1	52:5:540:U:O2'	2.50	0.44
10:G:14:PRO:HA	10:G:17:ASP:HB3	2.00	0.44
10:G:19:LEU:HD12	10:G:89:GLN:HB3	2.00	0.44
18:O:59:PRO:HG2	18:O:67:PHE:CZ	2.53	0.44
24:a:63:LYS:HA	24:a:63:LYS:HD2	1.78	0.44
26:c:165:ASN:OD1	26:c:166:THR:N	2.51	0.44
29:f:84:HIS:HB2	29:f:89:TYR:HB2	2.00	0.44
39:p:91:ARG:HB2	39:p:94:LEU:HD13	2.00	0.44
48:y:29:VAL:HA	48:y:36:LYS:HD2	2.00	0.44
50:3:69:U:C2	50:3:70:G:C8	3.06	0.44
50:3:229:C:H41	50:3:230:G:H21	1.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:516:A:N3	50:3:516:A:H2'	2.33	0.44
50:3:692:U:H2'	50:3:693:U:H6	1.82	0.44
50:3:741:A:H2'	50:3:742:G:O4'	2.18	0.44
50:3:791:A:H2'	50:3:792:G:O4'	2.18	0.44
50:3:1106:G:H21	50:3:1124:G:H2'	1.82	0.44
50:3:2197:U:H2'	50:3:2198:G:C8	2.52	0.44
50:3:2418:G:H2'	50:3:2419:A:O4'	2.18	0.44
50:3:2712:C:C2	50:3:2713:A:C8	3.06	0.44
52:5:22:G:N2	52:5:908:A:H62	2.15	0.44
52:5:72:A:H2'	52:5:73:G:C8	2.51	0.44
52:5:308:C:C2	52:5:309:A:C8	3.06	0.44
52:5:329:C:H2'	52:5:330:C:C6	2.53	0.44
52:5:849:A:H2'	52:5:850:G:C8	2.53	0.44
52:5:1178:C:H2'	52:5:1179:A:C8	2.53	0.44
1:0:1:MET:HB3	50:3:1787:A:C5	2.53	0.43
3:2:24:ARG:NH1	3:2:35:ARG:HH11	2.15	0.43
8:E:153:LYS:H	10:G:56:ASN:ND2	2.16	0.43
13:J:77:LEU:HD23	13:J:103:ILE:HG12	1.98	0.43
14:K:86:ASN:HD22	14:K:116:ASP:HA	1.83	0.43
15:L:6:GLY:O	15:L:57:ARG:NH1	2.51	0.43
15:L:97:VAL:HG23	15:L:98:ARG:HD2	2.00	0.43
20:Q:53:LEU:HD21	20:Q:92:ARG:HB3	1.99	0.43
24:a:213:ILE:HD12	50:3:1798:A:H5''	1.99	0.43
36:m:14:ARG:HH22	50:3:2009:U:P	2.41	0.43
39:p:24:PHE:CD1	50:3:19:G:H4'	2.53	0.43
41:r:24:ILE:HD12	41:r:35:ILE:HG21	1.99	0.43
50:3:59:C:H2'	50:3:60:G:H8	1.82	0.43
50:3:134:U:H2'	50:3:135:A:C8	2.53	0.43
50:3:196:G:H2'	50:3:197:U:H5'	1.99	0.43
50:3:235:U:H2'	50:3:236:G:O4'	2.18	0.43
50:3:397:G:H2'	50:3:398:C:C6	2.53	0.43
50:3:529:G:H2'	50:3:530:G:C8	2.53	0.43
50:3:848:U:H2'	50:3:849:C:C6	2.53	0.43
50:3:866:G:H2'	50:3:867:G:C8	2.53	0.43
50:3:922:C:N4	50:3:928:G:H22	2.15	0.43
50:3:1086:G:H2'	50:3:1087:C:H6	1.83	0.43
50:3:1219:U:C2	50:3:1220:A:C8	3.06	0.43
50:3:1775:G:H2'	50:3:1776:G:C8	2.53	0.43
50:3:1993:U:H2'	50:3:1994:U:C6	2.52	0.43
50:3:2568:G:H2'	50:3:2569:A:C8	2.53	0.43
50:3:2862:U:H4'	50:3:2863:G:OP1	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:369:A:H5''	52:5:477:U:O2'	2.17	0.43
52:5:822:A:H2'	52:5:823:C:C6	2.53	0.43
52:5:936:G:H2'	52:5:937:G:C8	2.53	0.43
52:5:1400:A:N1	52:5:1401:A:C6	2.86	0.43
20:Q:99:VAL:HB	20:Q:104:ASP:HA	2.01	0.43
24:a:154:PRO:O	50:3:2212:U:O2'	2.35	0.43
24:a:285:GLU:HG3	24:a:286:GLN:HG2	2.00	0.43
34:k:5:GLN:O	50:3:1273:U:N3	2.50	0.43
34:k:20:LEU:HD11	50:3:620:G:C5	2.53	0.43
39:p:106:ASN:HA	39:p:109:VAL:HG22	1.99	0.43
45:v:18:ARG:NH2	50:3:205:C:OP1	2.51	0.43
50:3:101:C:H1'	50:3:103:G:C2	2.53	0.43
50:3:703:A:H5'	50:3:704:G:H5''	2.00	0.43
50:3:732:G:H2'	50:3:733:C:C6	2.53	0.43
50:3:871:G:H2'	50:3:872:C:O4'	2.18	0.43
50:3:1301:G:H4'	50:3:1652:A:H62	1.83	0.43
50:3:1349:C:H2'	50:3:1350:A:O4'	2.18	0.43
50:3:1475:C:H2'	50:3:1476:C:H6	1.83	0.43
50:3:1596:U:H2'	50:3:1597:U:C6	2.53	0.43
50:3:1625:G:H2'	50:3:1626:C:C6	2.53	0.43
50:3:2011:G:H2'	50:3:2011:G:N3	2.32	0.43
50:3:2205:U:H1'	50:3:2206:A:H2'	2.00	0.43
50:3:2704:U:H2'	50:3:2705:G:H8	1.83	0.43
52:5:149:G:H2'	52:5:150:A:H8	1.82	0.43
52:5:669:U:H2'	52:5:670:G:H8	1.83	0.43
52:5:932:A:H2	52:5:1352:A:H4'	1.82	0.43
2:1:33:LYS:HD2	2:1:41:LEU:HD12	2.00	0.43
4:A:169:LEU:HD11	4:A:173:PRO:HG3	2.00	0.43
8:E:106:GLN:HG2	52:5:837:G:H2'	2.01	0.43
22:S:38:GLU:O	22:S:43:ASN:ND2	2.50	0.43
28:e:146:GLN:O	28:e:150:GLU:HG2	2.19	0.43
37:n:13:LYS:HA	37:n:16:VAL:HG12	2.00	0.43
39:p:88:GLU:HG2	40:q:45:ILE:HG21	1.99	0.43
46:w:21:LYS:O	46:w:25:GLU:HG2	2.17	0.43
48:y:7:ARG:HD2	50:3:1292:A:H2	1.84	0.43
50:3:27:U:H3'	50:3:28:G:N7	2.32	0.43
50:3:30:A:H2'	50:3:31:U:C6	2.53	0.43
50:3:256:G:H2'	50:3:257:C:H6	1.82	0.43
50:3:309:A:H3'	50:3:310:U:C2	2.53	0.43
50:3:314:G:O3'	50:3:315:A:H3'	2.18	0.43
50:3:473:U:H2'	50:3:474:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:716:G:H22	50:3:831:U:H3	1.66	0.43
50:3:914:G:N2	50:3:936:G:H2'	2.32	0.43
50:3:1063:A:H2'	50:3:1064:A:C8	2.54	0.43
50:3:1436:C:H2'	50:3:1437:A:C8	2.53	0.43
50:3:1856:G:C2	50:3:1857:G:N7	2.86	0.43
50:3:2012:A:C5	50:3:2013:C:C5	3.06	0.43
50:3:2213:A:H2'	50:3:2214:A:C8	2.52	0.43
50:3:2244:U:H2'	50:3:2245:G:O4'	2.18	0.43
50:3:2671:G:H2'	50:3:2672:G:O4'	2.19	0.43
50:3:2679:G:H2'	50:3:2680:C:C6	2.53	0.43
52:5:843:C:H2'	52:5:844:U:C6	2.54	0.43
52:5:932:A:C6	52:5:933:A:C6	3.06	0.43
52:5:975:C:H3'	52:5:976:U:C6	2.52	0.43
52:5:980:C:H2'	52:5:981:U:C6	2.53	0.43
52:5:1065:G:H2'	52:5:1066:U:H6	1.82	0.43
52:5:1074:U:O2'	52:5:1093:A:OP2	2.31	0.43
52:5:1087:C:H2'	52:5:1088:C:C6	2.52	0.43
52:5:1154:A:H2'	52:5:1155:A:C8	2.52	0.43
52:5:1237:G:O6	52:5:1248:U:O4	2.35	0.43
52:5:1285:G:H2'	52:5:1286:G:H8	1.83	0.43
52:5:1351:U:H2'	52:5:1352:A:C8	2.54	0.43
53:7:22:A:O4'	53:7:49:C:N4	2.52	0.43
4:A:71:TYR:O	4:A:75:VAL:HG23	2.17	0.43
4:A:218:ASN:O	4:A:224:SER:OG	2.31	0.43
6:C:166:PHE:CE2	6:C:182:PRO:HB3	2.54	0.43
14:K:9:ARG:NH1	52:5:874:C:H5''	2.33	0.43
20:Q:80:GLN:HG2	52:5:831:C:H4'	2.00	0.43
28:e:147:PHE:O	28:e:151:VAL:HG23	2.18	0.43
34:k:7:LYS:HA	50:3:1273:U:H1'	2.00	0.43
41:r:9:ARG:HG3	41:r:100:SER:HB2	2.00	0.43
48:y:28:SER:N	48:y:37:LYS:O	2.36	0.43
50:3:28:G:H2'	50:3:29:G:C4	2.54	0.43
50:3:83:G:H2'	50:3:84:G:O4'	2.19	0.43
50:3:85:U:N3	50:3:104:A:OP1	2.48	0.43
50:3:176:U:H2'	50:3:177:U:C6	2.53	0.43
50:3:210:U:C2	50:3:211:A:C8	3.07	0.43
50:3:535:G:N3	50:3:540:A:N6	2.63	0.43
50:3:608:A:H2'	50:3:609:U:C6	2.53	0.43
50:3:917:G:H2'	50:3:918:G:C8	2.53	0.43
50:3:1349:C:H3'	50:3:1350:A:H8	1.82	0.43
50:3:1389:G:O2'	50:3:2223:C:O2'	2.29	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2043:C:H2'	50:3:2044:C:C6	2.54	0.43
50:3:2337:U:H2'	50:3:2338:G:H8	1.83	0.43
50:3:2383:G:N2	50:3:2386:A:N7	2.63	0.43
50:3:2732:A:H2'	50:3:2733:A:C8	2.53	0.43
51:4:2:U:H3	51:4:106:A:H2	1.65	0.43
52:5:204:C:H2'	52:5:205:U:O4'	2.17	0.43
52:5:1079:G:H2'	52:5:1080:G:H8	1.80	0.43
52:5:1172:A:H2'	52:5:1173:A:H8	1.81	0.43
4:A:81:GLN:HB3	4:A:173:PRO:HA	1.99	0.43
5:B:116:ALA:HB2	5:B:205:ILE:HG22	2.00	0.43
12:I:14:ILE:HA	12:I:105:ARG:O	2.19	0.43
13:J:70:MET:HG3	13:J:72:MET:HE2	1.99	0.43
17:N:60:ARG:HD2	17:N:64:LEU:HD21	2.00	0.43
18:O:72:LEU:HA	18:O:75:LYS:NZ	2.32	0.43
21:R:53:ASN:OD1	21:R:77:THR:HA	2.18	0.43
24:a:228:VAL:HG21	50:3:817:A:C8	2.53	0.43
25:b:148:GLN:HE22	50:3:2582:G:H1'	1.84	0.43
28:e:25:ILE:HB	28:e:36:LEU:HB2	1.99	0.43
29:f:42:LYS:HA	29:f:46:ASP:HB2	2.00	0.43
34:k:83:ASN:OD1	34:k:84:LYS:N	2.51	0.43
36:m:37:LYS:O	36:m:41:THR:HG22	2.18	0.43
49:z:9:LEU:O	49:z:18:ASN:HB2	2.18	0.43
50:3:142:A:H2'	50:3:143:A:C8	2.53	0.43
50:3:247:U:H2'	50:3:248:A:C8	2.53	0.43
50:3:606:G:O2'	50:3:608:A:OP1	2.29	0.43
50:3:954:A:H5''	50:3:2276:A:N6	2.28	0.43
50:3:985:A:N6	50:3:1005:G:C6	2.86	0.43
50:3:1507:G:O2'	50:3:1508:G:OP1	2.34	0.43
50:3:1635:G:H2'	50:3:1636:U:C6	2.53	0.43
50:3:2169:G:H5''	50:3:2170:A:H3'	2.01	0.43
50:3:2181:A:H2'	50:3:2181:A:N3	2.33	0.43
50:3:2591:G:H2'	50:3:2592:U:C6	2.53	0.43
50:3:2632:C:N3	50:3:2633:C:N4	2.66	0.43
50:3:2754:U:H2'	50:3:2755:G:O4'	2.18	0.43
52:5:200:G:H2'	52:5:201:G:C8	2.52	0.43
52:5:479:A:N6	52:5:480:C:O2	2.52	0.43
52:5:930:A:H1'	52:5:1359:C:N3	2.34	0.43
52:5:1046:A:C2	52:5:1181:G:C4	3.07	0.43
52:5:1115:G:N2	52:5:1118:A:H62	2.16	0.43
53:7:53:A:N6	53:7:64:G:C6	2.86	0.43
1:0:3:ARG:HH21	50:3:1646:G:N2	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:34:THR:O	2:1:38:LYS:N	2.43	0.43
4:A:45:ILE:HG21	4:A:54:ASP:HB3	2.00	0.43
4:A:158:ARG:NH2	52:5:1089:C:OP2	2.51	0.43
6:C:105:GLY:HA3	6:C:161:GLY:HA3	2.00	0.43
14:K:86:ASN:HB3	14:K:116:ASP:C	2.44	0.43
15:L:108:THR:HG21	52:5:1280:A:H2'	2.01	0.43
21:R:45:VAL:HG21	21:R:64:ASP:HA	2.01	0.43
27:d:64:LYS:O	51:4:40:U:H4'	2.18	0.43
39:p:12:ARG:NH2	50:3:1281:A:OP1	2.51	0.43
50:3:18:G:H2'	50:3:19:G:C8	2.53	0.43
50:3:81:C:H2'	50:3:82:G:C8	2.53	0.43
50:3:198:G:H2'	50:3:199:A:O4'	2.18	0.43
50:3:301:G:H2'	50:3:302:G:C8	2.51	0.43
50:3:664:G:H2'	50:3:665:C:H6	1.83	0.43
50:3:933:A:H3'	50:3:934:C:C6	2.53	0.43
50:3:1026:A:H1'	50:3:1191:A:N3	2.34	0.43
50:3:1228:G:H2'	50:3:1229:U:O4'	2.17	0.43
50:3:1233:A:H61	50:3:1274:A:N6	2.17	0.43
50:3:1243:A:O2'	50:3:1244:A:O4'	2.28	0.43
50:3:1417:G:H2'	50:3:1418:U:C6	2.53	0.43
50:3:1889:U:H2'	50:3:1890:U:C2	2.54	0.43
50:3:1999:G:O2'	50:3:2004:G:O6	2.32	0.43
50:3:2745:G:H2'	50:3:2746:A:H8	1.78	0.43
52:5:115:A:C5	52:5:186:A:H1'	2.54	0.43
52:5:499:U:O2	52:5:542:G:C6	2.71	0.43
52:5:769:U:H2'	52:5:770:G:H8	1.84	0.43
52:5:822:A:H2'	52:5:823:C:H6	1.83	0.43
5:B:92:ILE:O	5:B:95:ILE:HG22	2.18	0.43
6:C:166:PHE:HD1	6:C:167:VAL:HG13	1.84	0.43
10:G:111:LEU:HD12	10:G:111:LEU:C	2.43	0.43
12:I:22:THR:O	12:I:26:LEU:HG	2.19	0.43
14:K:34:LYS:HB2	14:K:34:LYS:HE2	1.82	0.43
14:K:128:SER:HB2	52:5:36:G:H21	1.84	0.43
33:j:31:ARG:HE	50:3:2003:C:P	2.41	0.43
34:k:13:ARG:HD2	50:3:696:U:H1'	2.00	0.43
50:3:60:G:H2'	50:3:61:U:C6	2.53	0.43
50:3:470:U:O2'	50:3:472:A:N7	2.46	0.43
50:3:631:A:H2'	50:3:632:A:C8	2.54	0.43
50:3:823:A:H5'	50:3:825:U:C5	2.54	0.43
50:3:1004:U:C2	50:3:1005:G:C8	3.07	0.43
50:3:1165:U:O2'	50:3:1166:G:H2'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1369:U:OP1	50:3:1425:U:N3	2.40	0.43
50:3:1717:C:H2'	50:3:1718:C:C6	2.54	0.43
50:3:1855:A:C2	50:3:1856:G:H1'	2.54	0.43
50:3:1956:G:H2'	50:3:1957:G:C8	2.54	0.43
50:3:1961:A:H1'	50:3:1963:U:O4	2.19	0.43
50:3:2642:G:H2'	50:3:2643:A:C8	2.53	0.43
50:3:2880:A:H2'	50:3:2881:A:C8	2.54	0.43
52:5:140:U:H2'	52:5:141:A:C8	2.53	0.43
52:5:312:A:N6	52:5:334:A:H61	2.17	0.43
52:5:538:G:H2'	52:5:539:G:C8	2.53	0.43
52:5:970:A:H8	52:5:1331:A:O2'	2.01	0.43
52:5:1268:G:C2'	52:5:1269:U:H5'	2.48	0.43
52:5:1307:A:H2'	52:5:1308:G:O4'	2.19	0.43
1:0:43:THR:HG22	50:3:127:A:H62	1.83	0.43
2:1:23:HIS:ND1	2:1:41:LEU:HD23	2.33	0.43
6:C:96:ARG:HB2	6:C:99:ASN:ND2	2.33	0.43
6:C:107:ALA:HB1	6:C:112:SER:OG	2.19	0.43
6:C:113:ALA:O	6:C:117:VAL:HG23	2.18	0.43
7:D:169:ILE:HD13	7:D:195:THR:HG21	2.01	0.43
14:K:124:ARG:H	52:5:536:U:H5''	1.83	0.43
19:P:48:HIS:ND1	19:P:75:PHE:O	2.49	0.43
24:a:57:HIS:HE2	50:3:1830:G:P	2.41	0.43
24:a:183:GLN:OE1	24:a:184:LEU:N	2.51	0.43
25:b:65:PRO:HB3	50:3:2794:U:O2	2.18	0.43
35:l:80:GLU:HB2	44:u:17:SER:HA	2.01	0.43
37:n:77:ILE:HA	37:n:80:LYS:HB2	2.01	0.43
42:s:37:LYS:O	42:s:41:LYS:HG2	2.19	0.43
50:3:69:U:H2'	50:3:70:G:H8	1.82	0.43
50:3:454:G:C2	50:3:455:G:C5	3.06	0.43
50:3:480:C:N3	50:3:481:C:N4	2.65	0.43
50:3:708:C:N4	50:3:843:G:O6	2.51	0.43
50:3:806:A:H2'	50:3:807:U:O4'	2.19	0.43
50:3:858:A:H2'	50:3:859:G:H8	1.83	0.43
50:3:1028:C:H2'	50:3:1029:A:H8	1.83	0.43
50:3:1589:A:H2'	50:3:1590:U:C6	2.54	0.43
50:3:1930:U:H2'	50:3:1931:C:C6	2.53	0.43
50:3:1979:G:H2'	50:3:1980:G:C8	2.54	0.43
50:3:2454:G:H4'	50:3:2456:A:C6	2.54	0.43
52:5:57:U:H2'	52:5:58:G:C8	2.54	0.43
52:5:239:A:N6	52:5:277:G:H1'	2.29	0.43
52:5:439:U:H2'	52:5:440:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:472:G:H2'	52:5:473:A:H8	1.84	0.43
52:5:515:G:N2	52:5:528:G:OP1	2.52	0.43
52:5:854:A:H3'	52:5:855:G:H8	1.83	0.43
52:5:982:A:N6	52:5:1194:A:N1	2.67	0.43
3:2:4:ARG:NH1	3:2:6:SER:O	2.51	0.43
10:G:11:HIS:CG	10:G:12:PHE:H	2.37	0.43
10:G:38:SER:HB2	10:G:41:LYS:HB2	2.01	0.43
25:b:159:VAL:HG23	50:3:2059:G:C4	2.54	0.43
40:q:67:LYS:HB2	40:q:86:ARG:HH21	1.84	0.43
50:3:71:C:H2'	50:3:72:G:H8	1.84	0.43
50:3:260:A:H2'	50:3:261:A:H8	1.84	0.43
50:3:422:A:H3'	50:3:423:C:C5	2.54	0.43
50:3:615:G:H2'	50:3:616:G:C8	2.53	0.43
50:3:639:G:H1'	50:3:692:U:O2'	2.17	0.43
50:3:643:A:H62	50:3:655:G:N2	2.17	0.43
50:3:793:C:H2'	50:3:794:G:H8	1.82	0.43
50:3:1638:C:H2'	50:3:1639:C:C6	2.53	0.43
50:3:2017:G:H2'	50:3:2018:U:H6	1.84	0.43
50:3:2080:C:H2'	50:3:2081:U:H6	1.83	0.43
50:3:2450:C:H2'	50:3:2451:C:C6	2.54	0.43
50:3:2815:G:H2'	50:3:2816:A:C8	2.54	0.43
50:3:2838:G:H2'	50:3:2883:A:H61	1.84	0.43
51:4:64:G:N2	51:4:98:A:OP2	2.40	0.43
52:5:23:G:H5'	52:5:879:G:H5'	2.00	0.43
52:5:616:C:H2'	52:5:618:U:O4	2.19	0.43
52:5:673:A:H2'	52:5:674:U:C6	2.54	0.43
52:5:778:A:C8	52:5:799:A:C2	3.07	0.43
52:5:1052:G:C2'	52:5:1053:U:H5'	2.49	0.43
52:5:1321:G:O2'	52:5:1348:G:N1	2.50	0.43
52:5:1366:U:O2'	52:5:1506:A:H5''	2.19	0.43
52:5:1498:G:H2'	52:5:1499:G:C8	2.54	0.43
8:E:17:GLN:HA	8:E:20:GLN:CD	2.44	0.43
10:G:99:ARG:HA	10:G:99:ARG:HD2	1.86	0.43
12:I:51:LYS:HE3	52:5:1229:A:OP2	2.19	0.43
15:L:71:ARG:O	15:L:75:LEU:HG	2.19	0.43
16:M:3:LYS:NZ	52:5:1040:U:H5	2.16	0.43
20:Q:86:VAL:O	20:Q:90:LEU:HG	2.18	0.43
25:b:4:ARG:HH11	25:b:87:MET:HG3	1.83	0.43
34:k:88:LEU:HD21	34:k:101:LYS:HD2	2.01	0.43
34:k:113:LYS:HE3	34:k:115:ILE:HD11	1.99	0.43
50:3:34:C:N3	50:3:510:G:N1	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:488:G:H1'	50:3:494:G:N1	2.33	0.43
50:3:1027:U:H5''	50:3:1216:U:H3'	2.00	0.43
50:3:1400:U:H1'	50:3:2222:C:C2	2.54	0.43
50:3:1832:G:H2'	50:3:1833:G:C8	2.54	0.43
50:3:1866:G:N2	50:3:1891:A:H8	2.17	0.43
50:3:1897:A:H2'	50:3:1898:G:O4'	2.19	0.43
50:3:1932:C:O2	50:3:1936:G:C6	2.72	0.43
50:3:2537:G:H5''	50:3:2538:A:H5''	1.99	0.43
50:3:2568:G:H2'	50:3:2569:A:H8	1.83	0.43
50:3:2657:C:H2'	50:3:2658:U:C6	2.54	0.43
50:3:2891:C:H2'	50:3:2892:U:H6	1.83	0.43
52:5:61:A:H61	52:5:374:G:H1'	1.83	0.43
52:5:251:G:H2'	52:5:252:U:H6	1.84	0.43
52:5:655:G:H2'	52:5:656:U:H6	1.84	0.43
52:5:917:G:H3'	52:5:918:A:C8	2.54	0.43
52:5:1263:A:H3'	52:5:1264:G:H8	1.82	0.43
4:A:132:LYS:O	4:A:136:LYS:HG3	2.19	0.42
4:A:234:ASP:OD2	4:A:246:PHE:HB2	2.19	0.42
9:F:32:ASP:HA	52:5:1325:U:H4'	2.01	0.42
10:G:109:ASN:C	10:G:111:LEU:H	2.26	0.42
13:J:63:VAL:HA	13:J:66:THR:OG1	2.19	0.42
25:b:139:TYR:OH	50:3:2620:C:OP1	2.29	0.42
44:u:40:ALA:H	44:u:43:GLN:HG3	1.84	0.42
50:3:66:A:H2'	50:3:67:C:C6	2.54	0.42
50:3:264:G:O2'	50:3:642:A:N6	2.45	0.42
50:3:306:G:H2'	50:3:307:C:C6	2.54	0.42
50:3:359:G:H2'	50:3:360:G:C8	2.54	0.42
50:3:907:A:H2'	50:3:908:A:O4'	2.19	0.42
50:3:1239:G:H4'	50:3:1242:G:H4'	2.00	0.42
50:3:1710:A:H2'	50:3:1711:A:O4'	2.19	0.42
50:3:1967:U:H2'	50:3:1968:C:O4'	2.18	0.42
50:3:2066:A:N6	50:3:2511:A:OP2	2.52	0.42
50:3:2748:A:N6	50:3:2772:A:O4'	2.52	0.42
52:5:514:U:H3'	52:5:515:G:H8	1.82	0.42
52:5:597:C:H2'	52:5:598:U:H6	1.84	0.42
52:5:828:U:H2'	52:5:829:G:O4'	2.18	0.42
52:5:862:C:H2'	52:5:863:A:O4'	2.19	0.42
52:5:1109:U:H2'	52:5:1110:C:C6	2.53	0.42
52:5:1261:A:N3	52:5:1327:G:O2'	2.40	0.42
53:7:65:C:H2'	53:7:66:C:C6	2.54	0.42
4:A:130:LEU:O	4:A:134:VAL:HG23	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:124:ARG:NH1	52:5:1319:U:H5''	2.34	0.42
17:N:19:VAL:HG12	52:5:747:C:H1'	2.02	0.42
18:O:30:ILE:HA	18:O:45:ASP:HB2	2.01	0.42
24:a:57:HIS:HD2	24:a:224:ILE:HG12	1.84	0.42
25:b:10:LYS:HA	25:b:29:ILE:HG12	2.00	0.42
36:m:19:ARG:HG2	36:m:66:TRP:CZ3	2.54	0.42
36:m:39:LYS:HA	36:m:39:LYS:HD2	1.84	0.42
50:3:830:A:H2'	50:3:831:U:C6	2.54	0.42
50:3:849:C:H2'	50:3:850:G:H8	1.83	0.42
50:3:1139:C:H2'	50:3:1140:U:H6	1.84	0.42
50:3:1320:C:H2'	50:3:1321:C:C6	2.55	0.42
50:3:2163:U:H2'	50:3:2164:G:C4	2.54	0.42
50:3:2260:G:H2'	50:3:2261:G:C8	2.54	0.42
50:3:2699:C:H4'	50:3:2875:U:H4'	2.01	0.42
52:5:7:U:H5''	52:5:294:A:O2'	2.18	0.42
52:5:41:C:H2'	52:5:42:G:H8	1.85	0.42
52:5:104:A:H4'	52:5:105:A:C4	2.54	0.42
52:5:205:U:O2	52:5:210:G:C6	2.73	0.42
52:5:346:G:H2'	52:5:347:G:C8	2.54	0.42
52:5:982:A:H2'	52:5:983:G:C8	2.54	0.42
52:5:1272:C:H4'	52:5:1273:A:C4	2.55	0.42
52:5:1376:G:O6	52:5:1479:G:N2	2.52	0.42
52:5:1443:A:H3'	52:5:1444:G:H8	1.84	0.42
3:2:7:VAL:HG13	3:2:36:GLN:O	2.18	0.42
14:K:122:LYS:O	52:5:536:U:H5''	2.19	0.42
17:N:73:GLU:HA	17:N:76:ARG:HB2	2.01	0.42
38:o:21:TYR:CZ	38:o:23:PRO:HG3	2.55	0.42
38:o:67:ARG:HE	38:o:74:PRO:HB2	1.84	0.42
40:q:39:LEU:HA	40:q:50:LEU:HG	2.00	0.42
41:r:117:LEU:O	41:r:121:GLN:HG3	2.19	0.42
42:s:11:VAL:HG12	42:s:13:THR:HG23	2.01	0.42
50:3:217:A:C6	50:3:218:G:C6	3.07	0.42
50:3:596:G:H2'	50:3:597:C:H6	1.84	0.42
50:3:682:A:C4	50:3:683:G:C8	3.07	0.42
50:3:998:C:H2'	50:3:999:U:C6	2.53	0.42
50:3:1146:A:H2	50:3:1147:G:N2	2.16	0.42
50:3:1291:C:H2'	50:3:1292:A:O4'	2.19	0.42
50:3:1321:C:H2'	50:3:1322:A:H8	1.85	0.42
50:3:1337:G:H2'	50:3:1338:G:C8	2.53	0.42
50:3:1403:G:H2'	50:3:1404:C:C6	2.54	0.42
50:3:1447:A:O4'	50:3:1613:A:N6	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1583:G:H2'	50:3:1584:U:C6	2.54	0.42
50:3:2147:G:C2	50:3:2148:U:H5	2.37	0.42
52:5:712:A:H2'	52:5:713:A:C8	2.54	0.42
52:5:851:U:H2'	52:5:852:G:O4'	2.19	0.42
52:5:1438:U:H2'	52:5:1439:G:C8	2.54	0.42
11:H:87:ARG:O	11:H:90:LEU:HG	2.20	0.42
14:K:120:VAL:HG11	14:K:130:TYR:HB3	2.01	0.42
15:L:103:ARG:HD3	52:5:1203:A:H62	1.84	0.42
29:f:12:LEU:HG	50:3:2102:U:OP1	2.20	0.42
29:f:27:ILE:HB	29:f:31:PHE:CE2	2.54	0.42
31:h:16:GLY:N	31:h:51:ILE:H	2.17	0.42
34:k:61:ARG:HG2	50:3:2400:A:N3	2.35	0.42
38:o:34:ALA:HB3	38:o:87:SER:HG	1.82	0.42
46:w:38:LEU:HG	46:w:39:ASP:H	1.85	0.42
50:3:57:G:C2	50:3:117:C:C2	3.07	0.42
50:3:87:G:H2'	50:3:88:G:H8	1.81	0.42
50:3:152:A:H2'	50:3:153:U:C6	2.54	0.42
50:3:557:G:H2'	50:3:558:C:C6	2.55	0.42
50:3:929:G:O2'	50:3:930:C:O4'	2.31	0.42
50:3:1475:C:O2'	50:3:1577:A:N3	2.47	0.42
50:3:1575:C:H2'	50:3:1576:G:O4'	2.20	0.42
50:3:1620:A:H3'	50:3:1621:U:H6	1.83	0.42
50:3:1658:U:H5''	50:3:1659:C:OP2	2.19	0.42
50:3:2495:A:C2	50:3:2496:G:C5	3.08	0.42
50:3:2539:A:O2'	50:3:2666:C:O2'	2.21	0.42
51:4:13:G:O2'	51:4:14:U:H5'	2.19	0.42
52:5:130:G:H2'	52:5:131:G:C8	2.55	0.42
52:5:201:G:H22	52:5:214:U:H3	1.66	0.42
52:5:429:A:H2'	52:5:430:G:O4'	2.19	0.42
52:5:804:A:H2'	52:5:805:C:C6	2.54	0.42
52:5:1086:U:H2'	52:5:1087:C:O4'	2.20	0.42
4:A:133:LEU:HB3	4:A:152:LEU:HD11	2.02	0.42
5:B:114:LEU:HD12	5:B:114:LEU:HA	1.93	0.42
7:D:71:VAL:HG23	7:D:72:LYS:H	1.83	0.42
9:F:70:PRO:HB3	9:F:102:TRP:CZ3	2.54	0.42
20:Q:84:ARG:O	20:Q:88:LYS:HG2	2.19	0.42
24:a:149:ASN:H	24:a:161:ALA:HB3	1.85	0.42
29:f:57:HIS:O	29:f:61:ASN:HB2	2.18	0.42
35:l:4:PRO:HB3	50:3:907:A:H4'	2.02	0.42
42:s:51:LYS:O	46:w:87:TRP:HZ2	2.03	0.42
44:u:34:ARG:N	44:u:34:ARG:HD2	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:297:G:H5'	50:3:298:U:C5	2.54	0.42
50:3:451:A:C6	50:3:2417:G:C6	3.08	0.42
50:3:854:A:H5''	50:3:1009:A:N1	2.35	0.42
50:3:920:G:H1	50:3:930:C:N4	2.16	0.42
50:3:1252:C:N4	50:3:1257:G:O6	2.40	0.42
50:3:1419:U:H2'	50:3:1421:A:N7	2.34	0.42
50:3:1819:G:H2'	50:3:1820:U:H6	1.84	0.42
50:3:1865:A:N6	50:3:1891:A:H2'	2.33	0.42
50:3:1920:A:C5	52:5:1469:G:H4'	2.54	0.42
50:3:2145:A:N6	50:3:2161:G:O6	2.52	0.42
50:3:2288:G:H21	50:3:2396:A:H2	1.67	0.42
50:3:2472:G:H2'	50:3:2473:C:C6	2.54	0.42
51:4:90:G:H2'	51:4:91:A:O4'	2.19	0.42
52:5:702:U:H2'	52:5:703:A:O4'	2.20	0.42
52:5:922:G:N2	52:5:1365:U:O2	2.46	0.42
52:5:956:U:H3'	52:5:957:C:H6	1.85	0.42
52:5:1226:A:H2'	52:5:1227:A:C8	2.54	0.42
52:5:1277:C:H3'	52:5:1278:G:C8	2.55	0.42
52:5:1293:A:H4'	52:5:1294:U:H5'	2.02	0.42
52:5:1363:U:H2'	52:5:1364:C:C6	2.55	0.42
4:A:37:TRP:CZ3	4:A:39:PRO:HA	2.54	0.42
5:B:159:ARG:HD2	5:B:194:THR:HG21	2.01	0.42
6:C:111:ARG:HD3	52:5:403:A:OP1	2.19	0.42
12:I:59:ARG:O	16:M:45:ARG:NH2	2.52	0.42
14:K:12:ARG:NH2	52:5:560:U:O3'	2.52	0.42
25:b:13:MET:HE1	50:3:2688:C:O3'	2.19	0.42
26:c:182:HIS:CG	26:c:183:LEU:N	2.87	0.42
32:i:38:LEU:HA	32:i:43:ASN:ND2	2.35	0.42
34:k:48:ARG:NH2	50:3:199:A:H5''	2.34	0.42
35:l:119:THR:O	35:l:123:HIS:N	2.48	0.42
50:3:175:A:H2'	50:3:176:U:C6	2.54	0.42
50:3:410:G:H1'	50:3:411:U:OP2	2.19	0.42
50:3:595:U:H2'	50:3:605:A:H1'	2.02	0.42
50:3:2018:U:H3'	50:3:2019:G:H8	1.85	0.42
50:3:2043:C:H2'	50:3:2044:C:H6	1.84	0.42
50:3:2291:U:O2	50:3:2333:G:C6	2.73	0.42
50:3:2306:A:H1'	50:3:2330:A:H5'	2.02	0.42
50:3:2646:G:N1	50:3:2783:A:H2'	2.32	0.42
51:4:96:G:H2'	51:4:97:A:H5'	2.02	0.42
52:5:325:A:O2'	52:5:327:G:OP2	2.38	0.42
52:5:597:C:H2'	52:5:598:U:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:835:G:C6	52:5:836:C:N4	2.88	0.42
52:5:976:U:H2'	52:5:977:U:C6	2.55	0.42
52:5:1326:C:H2'	52:5:1327:G:C8	2.55	0.42
53:7:27:A:H3'	53:7:28:A:C8	2.54	0.42
1:0:25:ALA:HA	1:0:28:ARG:HE	1.83	0.42
3:2:27:CYS:SG	3:2:28:LYS:N	2.92	0.42
4:A:61:GLN:O	4:A:65:LEU:HD23	2.20	0.42
9:F:92:GLN:H	9:F:92:GLN:CD	2.24	0.42
11:H:109:ASP:O	11:H:110:LYS:HG2	2.19	0.42
14:K:41:PRO:O	14:K:42:LEU:HD23	2.19	0.42
14:K:42:LEU:O	14:K:43:LYS:HD3	2.20	0.42
16:M:39:VAL:HG11	16:M:44:PHE:CD1	2.54	0.42
22:S:3:ASN:N	52:5:60:A:N7	2.66	0.42
24:a:59:GLY:H	24:a:61:ARG:NH1	2.18	0.42
29:f:21:VAL:CG1	29:f:22:LYS:N	2.82	0.42
30:g:84:VAL:O	30:g:86:VAL:N	2.52	0.42
37:n:34:LYS:NZ	51:4:46:C:O5'	2.38	0.42
38:o:29:ASP:OD1	38:o:94:GLY:N	2.51	0.42
40:q:82:LYS:NZ	50:3:848:U:H4'	2.35	0.42
50:3:130:C:H2'	50:3:131:C:H6	1.84	0.42
50:3:188:G:C4	50:3:217:A:C6	3.08	0.42
50:3:190:G:H2'	50:3:191:G:H8	1.84	0.42
50:3:192:U:H1'	50:3:1393:A:N6	2.34	0.42
50:3:247:U:H2'	50:3:248:A:H8	1.83	0.42
50:3:345:A:N6	50:3:363:G:OP1	2.29	0.42
50:3:422:A:H3'	50:3:423:C:H5	1.84	0.42
50:3:710:A:H5''	50:3:837:A:H62	1.85	0.42
50:3:1115:G:C6	50:3:1116:U:C4	3.08	0.42
50:3:1213:U:H2'	50:3:1214:U:C6	2.55	0.42
50:3:1426:C:H2'	50:3:1427:C:C6	2.55	0.42
50:3:1472:C:H2'	50:3:1473:C:O4'	2.20	0.42
50:3:1848:U:C2	50:3:1849:G:C8	3.07	0.42
50:3:2267:G:H5'	50:3:2435:C:H3'	2.02	0.42
50:3:2529:C:H2'	50:3:2530:U:O4'	2.20	0.42
50:3:2697:C:OP2	50:3:2876:G:N2	2.52	0.42
50:3:2819:C:H2'	50:3:2820:G:C8	2.52	0.42
52:5:35:C:H2'	52:5:36:G:H8	1.84	0.42
52:5:148:A:H3'	52:5:149:G:O4'	2.19	0.42
52:5:198:A:H2'	52:5:199:A:H5''	2.02	0.42
52:5:512:U:H2'	52:5:513:G:C8	2.55	0.42
52:5:539:G:H2'	52:5:540:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:543:C:O2'	52:5:547:C:H5''	2.20	0.42
52:5:737:U:H2'	52:5:738:A:C8	2.54	0.42
52:5:752:G:H2'	52:5:753:C:C6	2.55	0.42
52:5:872:C:H2'	52:5:873:U:C6	2.54	0.42
52:5:892:G:N3	52:5:895:A:N6	2.67	0.42
52:5:911:G:H2'	52:5:912:G:H8	1.85	0.42
52:5:913:A:H2'	52:5:914:A:H8	1.84	0.42
52:5:1118:A:O2'	52:5:1119:C:OP1	2.32	0.42
52:5:1229:A:H2'	52:5:1230:G:C8	2.55	0.42
52:5:1452:C:H2'	52:5:1453:C:C6	2.55	0.42
53:7:53:A:C2	53:7:54:G:C5	3.08	0.42
12:I:29:LYS:HB3	12:I:29:LYS:HE2	1.71	0.42
21:R:25:GLN:CD	21:R:27:LYS:H	2.28	0.42
25:b:144:GLN:HE21	25:b:147:VAL:HG13	1.85	0.42
28:e:56:THR:HA	28:e:68:HIS:CE1	2.55	0.42
30:g:26:ILE:O	30:g:109:VAL:HB	2.19	0.42
38:o:92:ARG:HB3	38:o:115:LYS:HG3	2.00	0.42
42:s:6:VAL:O	42:s:31:VAL:HA	2.20	0.42
50:3:274:A:H2'	50:3:275:A:O4'	2.20	0.42
50:3:437:A:H2'	50:3:438:A:O4'	2.19	0.42
50:3:895:G:N2	50:3:953:G:H2'	2.34	0.42
50:3:1471:A:H2'	50:3:1472:C:C6	2.54	0.42
50:3:1480:A:H61	50:3:1487:U:H1'	1.84	0.42
50:3:1539:U:H2'	50:3:1540:G:C8	2.55	0.42
50:3:1666:A:H2'	50:3:1667:G:C8	2.55	0.42
50:3:1729:G:H2'	50:3:1730:C:H4'	2.01	0.42
50:3:1777:G:N1	50:3:1990:C:N3	2.67	0.42
50:3:1838:A:O2'	50:3:1839:C:H5'	2.19	0.42
50:3:2107:A:C6	50:3:2108:C:N4	2.87	0.42
50:3:2230:A:H2'	50:3:2231:A:C8	2.55	0.42
50:3:2667:G:N2	50:3:2669:G:H3'	2.35	0.42
50:3:2863:G:O2'	50:3:2864:A:O4'	2.21	0.42
52:5:369:A:C2	52:5:370:A:C8	3.08	0.42
52:5:369:A:H1'	52:5:478:G:N3	2.35	0.42
52:5:774:A:C4	52:5:775:G:C8	3.07	0.42
52:5:861:A:H2'	52:5:862:C:C6	2.55	0.42
52:5:1321:G:H1'	52:5:1322:U:H5	1.84	0.42
52:5:1449:G:H2'	52:5:1450:C:C6	2.55	0.42
52:5:1490:G:H2'	52:5:1491:A:C8	2.54	0.42
53:7:43:G:H2'	53:7:43:G:N3	2.35	0.42
4:A:63:GLN:O	4:A:67:THR:HG23	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:73:ARG:O	6:C:77:LEU:HG	2.20	0.42
7:D:95:GLY:HA2	7:D:100:LYS:O	2.20	0.42
10:G:98:TYR:CZ	10:G:136:GLU:HB2	2.55	0.42
10:G:125:ASP:OD1	10:G:126:LYS:N	2.52	0.42
12:I:21:SER:O	12:I:25:ASP:N	2.46	0.42
15:L:87:ARG:NH1	21:R:73:GLU:OE2	2.53	0.42
16:M:40:CYS:HB3	16:M:43:CYS:CB	2.50	0.42
24:a:34:GLU:OE2	24:a:36:SER:OG	2.38	0.42
24:a:67:ARG:HD2	24:a:67:ARG:N	2.34	0.42
24:a:152:LEU:HD13	50:3:1808:C:OP2	2.20	0.42
24:a:193:LEU:HG	24:a:195:GLU:H	1.84	0.42
26:c:201:LYS:HE3	26:c:201:LYS:HB2	1.69	0.42
27:d:98:ALA:HA	27:d:101:GLU:CD	2.45	0.42
38:o:13:VAL:HA	38:o:16:LYS:HZ2	1.84	0.42
41:r:41:LYS:HD3	41:r:41:LYS:N	2.35	0.42
50:3:41:C:H2'	50:3:42:U:C6	2.55	0.42
50:3:195:A:H2'	50:3:196:G:H8	1.85	0.42
50:3:422:A:H2'	50:3:422:A:N3	2.34	0.42
50:3:740:A:C4	50:3:762:A:C2	3.07	0.42
50:3:839:A:H2'	50:3:841:C:C4	2.55	0.42
50:3:858:A:H2'	50:3:859:G:C8	2.54	0.42
50:3:1006:U:H2'	50:3:1007:C:O4'	2.20	0.42
50:3:1304:U:H2'	50:3:1305:G:C8	2.55	0.42
50:3:1379:C:H4'	50:3:1606:A:H4'	2.01	0.42
50:3:1605:A:H2'	50:3:1606:A:H8	1.85	0.42
50:3:1879:A:H2'	50:3:1880:G:O4'	2.19	0.42
50:3:2691:C:H41	50:3:2735:G:N2	2.15	0.42
50:3:2752:G:H2'	50:3:2753:C:C6	2.55	0.42
52:5:240:U:C4	52:5:888:A:C6	3.08	0.42
52:5:581:A:N6	52:5:755:U:O2'	2.53	0.42
52:5:625:U:H2'	52:5:626:G:C8	2.55	0.42
52:5:1109:U:H2'	52:5:1110:C:H6	1.83	0.42
52:5:1150:G:H2'	52:5:1151:A:H8	1.85	0.42
52:5:1279:G:H2'	52:5:1305:G:H21	1.85	0.42
52:5:1390:G:C5	52:5:1461:G:C2	3.08	0.42
53:7:53:A:H2'	53:7:54:G:H8	1.84	0.42
5:B:87:LYS:O	5:B:90:LYS:HG3	2.20	0.42
12:I:43:LYS:HB2	52:5:1114:A:H4'	2.01	0.42
21:R:31:ILE:O	21:R:50:ALA:HB3	2.20	0.42
24:a:2:PRO:HB2	24:a:25:LEU:HD11	2.02	0.42
25:b:151:ARG:HH21	50:3:2583:U:H5''	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:23:ASP:O	50:3:2101:A:H5'	2.19	0.42
32:i:40:ARG:HH22	50:3:1043:C:P	2.43	0.42
32:i:119:ARG:HA	32:i:122:ILE:HG22	2.01	0.42
35:l:74:LYS:HG3	35:l:94:VAL:HG11	2.02	0.42
38:o:28:GLY:HA2	38:o:113:LYS:HE3	2.01	0.42
40:q:85:HIS:CD2	40:q:87:GLN:HG2	2.54	0.42
50:3:430:U:H2'	50:3:431:U:C6	2.55	0.42
50:3:1219:U:H2'	50:3:1220:A:C8	2.55	0.42
50:3:1471:A:H2'	50:3:1472:C:H6	1.84	0.42
50:3:1874:G:H2'	50:3:1875:C:C6	2.55	0.42
50:3:2060:G:H2'	50:3:2061:A:C8	2.55	0.42
50:3:2337:U:H2'	50:3:2338:G:C8	2.55	0.42
50:3:2368:A:H3'	50:3:2369:G:H8	1.85	0.42
50:3:2383:G:H2'	50:3:2385:A:N7	2.34	0.42
52:5:34:A:H4'	52:5:359:A:H2	1.84	0.42
52:5:84:U:H2'	52:5:85:U:C6	2.55	0.42
52:5:138:A:N7	52:5:156:U:N3	2.67	0.42
52:5:205:U:H2'	52:5:206:G:C8	2.55	0.42
52:5:973:A:C8	52:5:974:C:H5	2.38	0.42
52:5:1431:A:H2'	52:5:1432:A:C8	2.55	0.42
53:7:17:U:H3	53:7:19:G:H3'	1.84	0.42
5:B:22:TRP:HZ3	5:B:30:THR:OG1	2.03	0.41
8:E:107:LEU:HD22	20:Q:46:ILE:HA	2.02	0.41
9:F:139:ASP:HA	9:F:142:LYS:HE2	2.02	0.41
12:I:48:LEU:HB2	12:I:77:LYS:HB2	2.02	0.41
21:R:16:LEU:HA	21:R:19:VAL:HG12	2.02	0.41
24:a:84:LYS:N	24:a:98:LEU:O	2.40	0.41
24:a:262:HIS:NE2	50:3:1831:G:N3	2.68	0.41
29:f:53:LYS:NZ	50:3:285:U:H1'	2.35	0.41
40:q:72:LYS:CG	40:q:81:LYS:HB2	2.50	0.41
50:3:86:A:N1	50:3:100:U:O2'	2.41	0.41
50:3:283:A:N6	50:3:285:U:O4'	2.53	0.41
50:3:563:A:H62	50:3:2049:A:H3'	1.85	0.41
50:3:580:U:C5	50:3:1249:A:H2'	2.54	0.41
50:3:755:C:H2'	50:3:756:A:H8	1.85	0.41
50:3:972:C:H2'	50:3:973:U:C6	2.55	0.41
50:3:1032:A:H61	50:3:1194:U:H3	1.66	0.41
50:3:1064:A:H3'	50:3:1065:G:H8	1.84	0.41
50:3:1483:G:C2	50:3:1484:G:C8	3.08	0.41
50:3:1688:A:C4	50:3:1689:A:C8	3.08	0.41
50:3:1698:A:N6	50:3:2003:C:C4	2.81	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1814:G:H2'	50:3:1815:U:H2'	2.02	0.41
50:3:2017:G:H2'	50:3:2018:U:C6	2.55	0.41
50:3:2081:U:H2'	50:3:2082:U:C6	2.53	0.41
50:3:2140:G:H1'	50:3:2165:A:N6	2.35	0.41
50:3:2196:G:H2'	50:3:2197:U:C6	2.55	0.41
50:3:2681:G:C4	50:3:2682:A:C8	3.09	0.41
52:5:33:A:N1	52:5:551:A:N6	2.68	0.41
52:5:350:G:H2'	52:5:351:C:C6	2.55	0.41
52:5:448:A:N6	52:5:478:G:OP2	2.36	0.41
52:5:624:U:H2'	52:5:625:U:C6	2.54	0.41
52:5:634:U:H2'	52:5:635:G:C8	2.55	0.41
52:5:663:G:N1	52:5:737:U:N3	2.68	0.41
52:5:1042:G:H2'	52:5:1043:U:C6	2.55	0.41
52:5:1106:U:H3	52:5:1160:G:H1	1.68	0.41
5:B:12:PHE:CE2	5:B:18:TRP:HA	2.55	0.41
7:D:160:ILE:HB	7:D:176:SER:O	2.20	0.41
8:E:92:ARG:HE	8:E:93:GLU:H	1.68	0.41
9:F:56:LYS:HD2	9:F:57:PRO:HD2	2.02	0.41
9:F:144:ALA:C	9:F:146:ALA:H	2.28	0.41
10:G:9:LYS:NZ	52:5:750:A:H61	2.18	0.41
17:N:66:TYR:OH	52:5:750:A:OP1	2.37	0.41
18:O:72:LEU:HA	18:O:75:LYS:HZ2	1.85	0.41
24:a:125:GLU:OE2	24:a:197:ARG:NE	2.54	0.41
33:j:2:VAL:HG13	33:j:6:THR:HG21	2.02	0.41
50:3:352:C:H2'	50:3:353:G:C8	2.55	0.41
50:3:421:A:N6	50:3:423:C:H2'	2.34	0.41
50:3:584:G:H2'	50:3:585:U:C6	2.54	0.41
50:3:810:G:C4	50:3:829:A:C8	3.09	0.41
50:3:1085:A:N3	50:3:2759:G:H2'	2.35	0.41
50:3:1461:A:H2'	50:3:1462:A:C8	2.55	0.41
50:3:1862:A:N6	50:3:1863:G:O6	2.53	0.41
50:3:2126:A:N6	50:3:2176:G:O2'	2.51	0.41
50:3:2273:U:C3'	50:3:2274:A:H5''	2.50	0.41
50:3:2355:C:OP2	50:3:2390:G:H4'	2.20	0.41
51:4:22:G:H2'	51:4:25:A:N1	2.34	0.41
52:5:14:U:H3'	52:5:15:U:C6	2.54	0.41
52:5:461:G:H3'	52:5:462:G:C8	2.54	0.41
52:5:932:A:C2	52:5:1352:A:H4'	2.55	0.41
52:5:1067:C:H2'	52:5:1068:G:C8	2.55	0.41
52:5:1214:A:H1'	52:5:1216:G:C5	2.54	0.41
52:5:1359:C:H2'	52:5:1360:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:7:26:C:H2'	53:7:27:A:H8	1.83	0.41
53:7:66:C:H2'	53:7:67:C:C6	2.55	0.41
6:C:7:ILE:HG12	6:C:18:LEU:HB2	2.01	0.41
7:D:134:GLY:HA2	7:D:175:TYR:CG	2.55	0.41
7:D:192:ILE:HA	7:D:195:THR:HG22	2.01	0.41
8:E:44:GLU:OE1	8:E:44:GLU:N	2.54	0.41
12:I:17:GLU:OE1	12:I:17:GLU:N	2.54	0.41
12:I:43:LYS:HD3	52:5:1114:A:O2'	2.21	0.41
22:S:60:ILE:HD12	22:S:64:ARG:HH12	1.85	0.41
27:d:30:ARG:NH1	51:4:29:C:H5''	2.35	0.41
29:f:11:ASN:ND2	50:3:2102:U:H5''	2.35	0.41
29:f:79:PHE:CE1	29:f:96:GLN:HB3	2.54	0.41
30:g:47:ASN:C	30:g:49:SER:H	2.28	0.41
32:i:61:ASN:HA	32:i:129:LYS:O	2.21	0.41
32:i:115:ASN:HD21	50:3:591:G:H5''	1.85	0.41
36:m:100:VAL:HG22	36:m:116:LEU:HD13	2.02	0.41
37:n:34:LYS:HA	37:n:39:ILE:HG23	2.03	0.41
42:s:10:PRO:HD3	46:w:31:PHE:CD1	2.56	0.41
49:z:31:LYS:HB2	49:z:31:LYS:HE3	1.84	0.41
50:3:135:A:C6	50:3:149:A:N1	2.88	0.41
50:3:497:C:H2'	50:3:498:C:C6	2.55	0.41
50:3:501:G:O2'	50:3:718:U:H4'	2.20	0.41
50:3:1867:G:H1	50:3:1890:U:H3	1.68	0.41
50:3:1955:G:H2'	50:3:1956:G:H8	1.85	0.41
50:3:2023:U:H4'	50:3:2064:G:O3'	2.20	0.41
52:5:130:G:C2	52:5:165:A:C2	3.09	0.41
52:5:406:G:H1'	52:5:430:G:N2	2.35	0.41
52:5:1100:C:H2'	52:5:1101:A:C8	2.55	0.41
52:5:1221:A:H2'	52:5:1222:U:O4'	2.21	0.41
5:B:64:THR:N	5:B:100:THR:HG22	2.35	0.41
5:B:172:ILE:HD11	5:B:176:MET:HB2	2.03	0.41
6:C:90:PHE:CD2	6:C:187:LEU:HD12	2.55	0.41
8:E:92:ARG:HE	8:E:93:GLU:N	2.19	0.41
8:E:152:PRO:HA	10:G:56:ASN:HD21	1.86	0.41
10:G:119:SER:HA	52:5:639:A:N6	2.36	0.41
11:H:12:ARG:HD3	11:H:76:GLY:HA2	2.03	0.41
13:J:115:LYS:HB3	52:5:775:G:O2'	2.20	0.41
14:K:69:ARG:HH21	14:K:73:GLY:HA2	1.84	0.41
22:S:53:ARG:HD2	22:S:56:ARG:HH11	1.84	0.41
26:c:10:ASP:OD1	26:c:11:GLY:N	2.53	0.41
26:c:112:LEU:HA	26:c:115:VAL:HG12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:181:LYS:HA	26:c:181:LYS:HD3	1.87	0.41
35:l:68:ILE:HD13	35:l:103:MET:SD	2.60	0.41
38:o:85:ASN:O	38:o:86:ILE:HD13	2.21	0.41
40:q:58:VAL:O	40:q:92:LEU:HB2	2.19	0.41
40:q:67:LYS:HA	40:q:86:ARG:HG2	2.02	0.41
42:s:9:LYS:O	42:s:30:VAL:HG12	2.19	0.41
50:3:210:U:H2'	50:3:211:A:O4'	2.20	0.41
50:3:307:C:H2'	50:3:308:A:H8	1.84	0.41
50:3:563:A:H2'	50:3:2049:A:N1	2.35	0.41
50:3:579:U:N3	50:3:584:G:H1'	2.35	0.41
50:3:1294:G:O5'	50:3:1295:A:H2'	2.20	0.41
50:3:1356:G:O2'	50:3:1357:U:H2'	2.21	0.41
50:3:1497:A:H2'	50:3:1498:U:C6	2.56	0.41
50:3:1856:G:H2'	50:3:1857:G:C8	2.54	0.41
50:3:2077:A:H2'	50:3:2078:A:H8	1.86	0.41
50:3:2603:G:N2	50:3:2605:G:H8	2.18	0.41
50:3:2744:A:C2'	50:3:2745:G:H5'	2.50	0.41
51:4:1:U:H2'	51:4:2:U:C6	2.56	0.41
51:4:7:G:H2'	51:4:8:C:C6	2.55	0.41
52:5:61:A:H4'	52:5:62:G:OP1	2.20	0.41
52:5:98:G:H2'	52:5:99:U:H6	1.85	0.41
52:5:251:G:H2'	52:5:252:U:C6	2.56	0.41
52:5:407:A:H2	52:5:428:A:C6	2.38	0.41
52:5:513:G:H2'	52:5:514:U:H6	1.85	0.41
52:5:610:C:H2'	52:5:611:A:H8	1.86	0.41
52:5:664:A:P	52:5:729:C:HO2'	2.43	0.41
52:5:834:G:N1	52:5:835:G:C6	2.88	0.41
52:5:912:G:H2'	52:5:913:A:C8	2.53	0.41
52:5:973:A:N6	52:5:1290:G:H1'	2.35	0.41
6:C:2:LYS:NZ	52:5:400:G:N7	2.67	0.41
7:D:81:LYS:HB3	52:5:917:G:H4'	2.01	0.41
8:E:40:LEU:HB2	8:E:57:TYR:HB2	2.01	0.41
11:H:53:PRO:HG3	11:H:105:LEU:HD22	2.03	0.41
20:Q:78:ASN:O	20:Q:83:GLN:HB2	2.21	0.41
29:f:25:TYR:O	50:3:2100:G:O2'	2.38	0.41
30:g:24:PHE:CB	30:g:84:VAL:HA	2.51	0.41
38:o:66:VAL:HB	38:o:79:PHE:HE2	1.85	0.41
41:r:61:ASN:CG	50:3:531:G:H1'	2.45	0.41
42:s:3:VAL:C	42:s:5:ASN:H	2.28	0.41
50:3:117:C:H1'	50:3:128:A:N3	2.36	0.41
50:3:349:G:H2'	50:3:350:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:462:C:H2'	50:3:463:U:O4'	2.20	0.41
50:3:500:U:H3'	50:3:501:G:H8	1.85	0.41
50:3:602:U:O4'	50:3:982:G:O2'	2.32	0.41
50:3:774:A:H1'	50:3:775:C:C5	2.55	0.41
50:3:859:G:H2'	50:3:860:C:C6	2.56	0.41
50:3:960:A:H2'	50:3:961:U:O4'	2.20	0.41
50:3:1094:G:C6	50:3:1115:G:C6	3.08	0.41
50:3:1104:A:O2'	50:3:1109:G:O6	2.39	0.41
50:3:1110:C:C2	50:3:1111:C:C5	3.09	0.41
50:3:1331:G:H5'	50:3:1676:G:H21	1.84	0.41
50:3:1417:G:H2'	50:3:1418:U:H6	1.84	0.41
50:3:1514:U:C4	50:3:1525:G:O6	2.74	0.41
50:3:1526:U:H2'	50:3:1527:U:C6	2.55	0.41
50:3:1791:A:N3	50:3:1791:A:H2'	2.35	0.41
50:3:1832:G:H2'	50:3:1833:G:H8	1.86	0.41
50:3:1869:G:H2'	50:3:1870:G:H8	1.85	0.41
50:3:2011:G:C4	50:3:2012:A:C8	3.08	0.41
50:3:2038:A:N3	50:3:2463:G:O2'	2.35	0.41
50:3:2059:G:H3'	50:3:2060:G:H8	1.85	0.41
50:3:2107:A:C6	50:3:2198:G:C6	3.08	0.41
50:3:2412:A:N6	50:3:2422:G:C6	2.88	0.41
50:3:2844:U:H2'	50:3:2845:U:H6	1.84	0.41
52:5:114:C:H5'	52:5:115:A:OP1	2.21	0.41
52:5:311:A:O2'	52:5:326:C:O2'	2.15	0.41
52:5:383:U:H5''	52:5:384:G:OP1	2.20	0.41
52:5:862:C:H3'	52:5:863:A:H8	1.86	0.41
52:5:933:A:H2'	52:5:934:G:O4'	2.20	0.41
52:5:1195:G:H2'	52:5:1196:G:H8	1.86	0.41
52:5:1486:C:H2'	52:5:1487:U:H6	1.85	0.41
7:D:166:ILE:O	7:D:170:ILE:HG12	2.21	0.41
8:E:92:ARG:NE	8:E:93:GLU:H	2.18	0.41
9:F:37:LEU:HG	9:F:40:ARG:NH2	2.35	0.41
9:F:75:ARG:N	9:F:85:GLN:OE1	2.49	0.41
13:J:22:ASN:HD21	52:5:686:C:H5''	1.86	0.41
24:a:57:HIS:NE2	50:3:1830:G:OP1	2.50	0.41
25:b:125:ARG:HG2	25:b:126:TRP:CE2	2.55	0.41
25:b:158:ARG:CD	50:3:2031:C:H5''	2.50	0.41
29:f:35:LEU:HD22	29:f:50:PHE:CE1	2.55	0.41
32:i:126:HIS:HB3	32:i:128:PHE:CE2	2.54	0.41
35:l:14:ASN:HD21	35:l:74:LYS:HA	1.85	0.41
38:o:30:GLU:HB3	38:o:92:ARG:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:t:44:ARG:HA	50:3:516:A:O3'	2.21	0.41
46:w:65:TRP:NE1	50:3:147:C:H4'	2.36	0.41
50:3:230:G:N2	50:3:455:G:O4'	2.48	0.41
50:3:610:G:O3'	50:3:1285:U:O2'	2.39	0.41
50:3:658:G:O2'	50:3:659:C:H5'	2.21	0.41
50:3:775:C:H4'	50:3:1791:A:H5''	2.02	0.41
50:3:900:G:H2'	50:3:901:C:C6	2.55	0.41
50:3:1000:U:O2'	50:3:2281:A:N3	2.44	0.41
50:3:1206:U:H2'	50:3:1207:U:C6	2.55	0.41
50:3:1276:A:H2'	50:3:1277:A:O4'	2.21	0.41
50:3:1336:A:H2'	50:3:1337:G:O4'	2.20	0.41
50:3:1473:C:H2'	50:3:1474:C:H6	1.84	0.41
50:3:1802:C:H2'	50:3:1803:U:H6	1.84	0.41
50:3:1889:U:H2'	50:3:1890:U:C5	2.56	0.41
50:3:2259:G:C4	50:3:2260:G:C8	3.09	0.41
50:3:2548:G:H2'	50:3:2549:A:O4'	2.20	0.41
52:5:639:A:H2'	52:5:640:C:C6	2.55	0.41
52:5:651:G:H2'	52:5:652:A:H8	1.84	0.41
52:5:819:G:H2'	52:5:820:A:C8	2.55	0.41
52:5:826:G:H2'	52:5:827:C:H6	1.85	0.41
52:5:1238:C:H2'	52:5:1239:U:C6	2.55	0.41
52:5:1362:G:H2'	52:5:1363:U:C6	2.54	0.41
53:7:34:U:O2	53:7:37:A:H8	2.04	0.41
2:1:23:HIS:ND1	2:1:41:LEU:HA	2.35	0.41
6:C:167:VAL:HG12	6:C:178:TYR:HA	2.02	0.41
11:H:58:ASP:HB3	11:H:63:PHE:HE2	1.86	0.41
13:J:28:SER:HB3	13:J:34:VAL:HA	2.03	0.41
21:R:22:MET:HE1	21:R:47:ASN:HD22	1.86	0.41
24:a:154:PRO:HB2	24:a:155:LYS:NZ	2.36	0.41
24:a:266:LYS:HD2	24:a:266:LYS:HA	1.90	0.41
28:e:91:ARG:NH2	28:e:133:GLU:OE2	2.54	0.41
41:r:65:ASN:ND2	41:r:67:ASP:OD2	2.53	0.41
50:3:313:G:H22	50:3:394:C:N4	2.19	0.41
50:3:427:A:O2'	50:3:446:A:OP1	2.32	0.41
50:3:455:G:C6	50:3:456:G:C6	3.09	0.41
50:3:598:G:C6	50:3:610:G:N1	2.89	0.41
50:3:692:U:H2'	50:3:693:U:C6	2.54	0.41
50:3:723:U:H2'	50:3:724:A:H8	1.86	0.41
50:3:856:A:N6	50:3:1008:A:O2'	2.53	0.41
50:3:885:A:O2'	50:3:886:U:O4'	2.30	0.41
50:3:975:G:H2'	50:3:976:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1196:U:H2'	50:3:1197:G:C8	2.56	0.41
50:3:2071:C:H1'	50:3:2458:A:N1	2.36	0.41
50:3:2267:G:C8	50:3:2435:C:C4	3.09	0.41
50:3:2876:G:H2'	50:3:2877:A:C8	2.55	0.41
51:4:17:C:H2'	51:4:18:U:C6	2.56	0.41
51:4:76:A:C2	51:4:77:G:H1'	2.56	0.41
52:5:304:U:H2'	52:5:305:A:H8	1.86	0.41
52:5:428:A:C6	52:5:429:A:C5	3.08	0.41
52:5:796:A:H3'	52:5:797:G:H8	1.86	0.41
52:5:941:A:H2'	52:5:942:G:C8	2.56	0.41
52:5:1178:C:H2'	52:5:1179:A:H8	1.85	0.41
52:5:1359:C:H2'	52:5:1360:G:H8	1.86	0.41
5:B:22:TRP:HA	12:I:101:GLY:HA2	2.02	0.41
5:B:88:ILE:O	5:B:92:ILE:HG12	2.21	0.41
5:B:159:ARG:NE	5:B:196:TYR:HB2	2.35	0.41
8:E:112:ARG:HD2	8:E:112:ARG:HA	1.74	0.41
14:K:41:PRO:HB3	52:5:551:A:C8	2.56	0.41
25:b:56:THR:OG1	25:b:77:PRO:O	2.32	0.41
27:d:54:LEU:HD23	27:d:65:PRO:HB2	2.02	0.41
29:f:123:ASP:OD1	29:f:123:ASP:N	2.54	0.41
40:q:82:LYS:HE3	40:q:82:LYS:HB2	1.84	0.41
50:3:370:C:H2'	50:3:371:C:C6	2.56	0.41
50:3:404:C:H2'	50:3:405:C:C6	2.55	0.41
50:3:504:G:H2'	50:3:505:G:O4'	2.21	0.41
50:3:644:C:H2'	50:3:645:C:C6	2.55	0.41
50:3:1305:G:H2'	50:3:1306:G:C8	2.56	0.41
50:3:1527:U:H2'	50:3:1528:G:H8	1.86	0.41
50:3:1591:C:OP2	50:3:1592:A:O2'	2.27	0.41
50:3:1629:U:H2'	50:3:1630:A:C8	2.55	0.41
50:3:2101:A:C6	50:3:2102:U:C4	3.08	0.41
50:3:2118:U:OP2	50:3:2152:C:N4	2.54	0.41
50:3:2134:G:H2'	50:3:2135:C:H6	1.83	0.41
50:3:2747:U:H3'	50:3:2771:G:H1	1.86	0.41
51:4:30:U:C2	51:4:49:G:N2	2.89	0.41
52:5:24:C:H2'	52:5:25:U:C6	2.56	0.41
52:5:246:A:H1'	52:5:248:U:C4	2.55	0.41
52:5:767:U:H2'	52:5:768:G:C8	2.56	0.41
53:7:18:C:O4'	53:7:62:C:H5'	2.20	0.41
5:B:20:SER:OG	5:B:20:SER:O	2.39	0.41
8:E:114:LYS:HD3	8:E:114:LYS:HA	1.91	0.41
12:I:63:VAL:HG11	52:5:959:A:H1'	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:15:HIS:HD1	13:J:78:PHE:HB2	1.86	0.41
15:L:28:SER:CB	52:5:1302:C:H5''	2.51	0.41
21:R:19:VAL:HA	21:R:22:MET:HG3	2.01	0.41
22:S:59:ILE:H	22:S:59:ILE:HG13	1.72	0.41
24:a:101:TYR:N	24:a:105:ALA:O	2.46	0.41
24:a:160:ILE:HG23	50:3:1806:G:N2	2.36	0.41
25:b:25:PRO:HD3	50:3:2737:G:OP1	2.20	0.41
25:b:106:GLU:HG3	25:b:181:ILE:HD12	2.02	0.41
25:b:139:TYR:OH	50:3:780:G:OP2	2.38	0.41
25:b:165:MET:HB3	50:3:2628:U:H1'	2.03	0.41
25:b:188:ASN:HD22	38:o:9:LEU:HD13	1.86	0.41
27:d:127:ASN:OD1	27:d:157:VAL:HG23	2.21	0.41
29:f:25:TYR:CD1	50:3:2099:U:H5''	2.56	0.41
29:f:60:ILE:O	29:f:64:LEU:HG	2.20	0.41
30:g:24:PHE:HB2	30:g:84:VAL:HA	2.02	0.41
30:g:24:PHE:O	30:g:111:GLY:HA2	2.21	0.41
32:i:116:ARG:HD3	50:3:563:A:H5''	2.03	0.41
34:k:33:GLY:HA2	50:3:1221:G:H5''	2.03	0.41
40:q:66:ARG:NH2	50:3:585:U:OP1	2.53	0.41
40:q:67:LYS:HE2	50:3:1253:G:N7	2.35	0.41
41:r:15:GLN:HE22	48:y:17:ARG:NE	2.19	0.41
48:y:10:LYS:HG2	48:y:13:ARG:NH1	2.31	0.41
48:y:32:LYS:HZ3	48:y:50:ASP:CA	2.33	0.41
50:3:296:U:C4	50:3:407:U:H1'	2.56	0.41
50:3:386:U:H2'	50:3:387:U:C6	2.55	0.41
50:3:453:U:H2'	50:3:454:G:C8	2.55	0.41
50:3:512:G:H1	50:3:514:A:H5''	1.86	0.41
50:3:563:A:HO2'	50:3:565:C:N4	2.19	0.41
50:3:598:G:O6	50:3:610:G:N1	2.54	0.41
50:3:650:G:H2'	50:3:651:A:C8	2.56	0.41
50:3:682:A:H3'	50:3:683:G:H8	1.86	0.41
50:3:696:U:H2'	50:3:697:U:H6	1.86	0.41
50:3:866:G:H2'	50:3:867:G:H8	1.86	0.41
50:3:945:U:H2'	50:3:946:A:C8	2.56	0.41
50:3:957:G:H2'	50:3:958:C:C6	2.56	0.41
50:3:1177:A:O2'	50:3:1178:A:H3'	2.20	0.41
50:3:1219:U:H2'	50:3:1220:A:H8	1.86	0.41
50:3:1265:G:OP2	50:3:1265:G:H8	2.03	0.41
50:3:1287:C:H2'	50:3:1288:C:C6	2.56	0.41
50:3:1383:G:H2'	50:3:1384:C:C6	2.56	0.41
50:3:1638:C:H2'	50:3:1639:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1775:G:H2'	50:3:1776:G:H8	1.85	0.41
50:3:1871:U:O4	50:3:1885:G:O6	2.39	0.41
50:3:2058:G:H4'	50:3:2059:G:OP1	2.20	0.41
50:3:2102:U:H2'	50:3:2103:C:H6	1.86	0.41
50:3:2154:A:H2'	50:3:2155:G:C8	2.56	0.41
50:3:2220:A:H8	50:3:2220:A:OP2	2.04	0.41
50:3:2299:U:H5''	50:3:2388:C:O2'	2.21	0.41
50:3:2403:C:H2'	50:3:2404:G:C8	2.56	0.41
50:3:2472:G:H2'	50:3:2473:C:H6	1.84	0.41
50:3:2634:C:H2'	50:3:2635:G:C8	2.46	0.41
50:3:2828:C:H2'	50:3:2829:G:O4'	2.20	0.41
52:5:131:G:N2	52:5:164:C:N3	2.69	0.41
52:5:385:A:H3'	52:5:386:U:H6	1.86	0.41
52:5:616:C:N4	52:5:619:A:OP2	2.54	0.41
52:5:767:U:H2'	52:5:768:G:H8	1.86	0.41
52:5:834:G:C6	52:5:835:G:C6	3.09	0.41
52:5:912:G:N3	52:5:913:A:C8	2.89	0.41
52:5:1016:A:H2'	52:5:1017:A:C8	2.56	0.41
52:5:1056:U:P	52:5:1165:G:H22	2.44	0.41
52:5:1156:G:C4	52:5:1157:G:C2	3.08	0.41
52:5:1324:A:H2'	52:5:1325:U:O4'	2.20	0.41
7:D:198:GLY:HA2	7:D:201:LYS:HG2	2.02	0.41
8:E:8:LEU:HB2	8:E:84:ARG:CB	2.50	0.41
8:E:131:PRO:HD2	52:5:840:C:H42	1.86	0.41
14:K:118:VAL:HB	14:K:119:GLY:H	1.70	0.41
14:K:121:GLU:O	14:K:123:ARG:N	2.54	0.41
15:L:33:ILE:HG23	15:L:59:VAL:HG13	2.02	0.41
24:a:88:TYR:HA	24:a:95:PHE:CD1	2.56	0.41
25:b:141:HIS:ND1	50:3:1691:U:OP1	2.53	0.41
25:b:151:ARG:O	50:3:2039:G:N2	2.54	0.41
26:c:119:LYS:HG3	26:c:191:LEU:HD23	2.03	0.41
29:f:68:LEU:O	29:f:72:ILE:HG12	2.21	0.41
35:l:6:ARG:HH11	50:3:906:G:H4'	1.86	0.41
36:m:102:LYS:HE3	48:y:40:HIS:HB3	2.03	0.41
41:r:69:LEU:HD23	41:r:109:ASP:HA	2.03	0.41
42:s:6:VAL:HG12	42:s:32:ASN:HB2	2.02	0.41
50:3:72:G:N2	50:3:73:A:N1	2.55	0.41
50:3:106:C:H2'	50:3:107:C:H6	1.86	0.41
50:3:109:G:H2'	50:3:110:A:H8	1.86	0.41
50:3:178:A:H3'	50:3:179:A:C8	2.56	0.41
50:3:530:G:H2'	50:3:531:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:656:G:H8	50:3:658:G:O6	2.04	0.41
50:3:898:A:H2'	50:3:899:A:O4'	2.21	0.41
50:3:1092:A:H2'	50:3:1093:U:C6	2.55	0.41
50:3:1298:A:C4	50:3:2020:A:N6	2.89	0.41
50:3:1462:A:O2'	50:3:1463:G:O5'	2.25	0.41
50:3:2071:C:H2'	50:3:2072:C:C6	2.56	0.41
50:3:2088:U:H2'	50:3:2089:A:C8	2.53	0.41
50:3:2224:A:H2'	50:3:2225:G:C8	2.55	0.41
50:3:2447:A:N1	50:3:2593:U:H4'	2.36	0.41
50:3:2524:U:H2'	50:3:2525:C:C6	2.55	0.41
50:3:2696:G:N1	50:3:2728:U:OP2	2.43	0.41
50:3:2707:A:C6	50:3:2717:G:C6	3.09	0.41
50:3:2867:U:H2'	50:3:2868:G:H8	1.85	0.41
52:5:20:C:O2'	52:5:570:A:N1	2.41	0.41
52:5:61:A:H1'	52:5:62:G:O4'	2.21	0.41
52:5:452:A:N6	52:5:476:U:H3	2.18	0.41
52:5:663:G:H2'	52:5:664:A:C8	2.55	0.41
52:5:675:U:H2'	52:5:676:U:H6	1.86	0.41
52:5:713:A:H2'	52:5:714:C:C6	2.56	0.41
52:5:955:U:H6	52:5:1198:C:H5'	1.85	0.41
53:7:54:G:C2	53:7:55:U:C4	3.09	0.41
4:A:92:VAL:O	4:A:96:VAL:HG13	2.21	0.40
6:C:48:SER:H	6:C:51:ALA:HB3	1.86	0.40
7:D:123:HIS:HA	7:D:126:LEU:HG	2.02	0.40
9:F:113:LYS:HB3	52:5:1272:C:N3	2.36	0.40
16:M:27:CYS:HB3	52:5:1177:U:O2'	2.21	0.40
22:S:71:ARG:HH22	52:5:255:G:H3'	1.86	0.40
25:b:158:ARG:HA	50:3:2059:G:N3	2.36	0.40
36:m:17:THR:O	36:m:21:GLN:HG2	2.21	0.40
39:p:94:LEU:HD21	40:q:4:ILE:HG21	2.02	0.40
50:3:101:C:OP1	50:3:102:A:H8	2.03	0.40
50:3:188:G:C5	50:3:217:A:N6	2.89	0.40
50:3:251:G:H21	50:3:254:G:H8	1.69	0.40
50:3:538:A:H2	50:3:540:A:H2'	1.84	0.40
50:3:598:G:C6	50:3:599:U:C4	3.10	0.40
50:3:838:U:H2'	50:3:839:A:C8	2.56	0.40
50:3:1084:C:N3	50:3:2759:G:N1	2.69	0.40
50:3:1223:C:H2'	50:3:1224:G:C8	2.56	0.40
50:3:1245:G:C6	50:3:1265:G:N1	2.88	0.40
50:3:1507:G:O6	50:3:1537:A:N6	2.54	0.40
50:3:1626:C:H2'	50:3:1627:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1745:A:H2'	50:3:1746:U:C6	2.57	0.40
50:3:2054:C:C2	50:3:2055:A:N7	2.89	0.40
50:3:2095:A:H2'	50:3:2096:U:C6	2.56	0.40
50:3:2156:G:H2'	50:3:2157:A:C8	2.56	0.40
50:3:2203:U:H2'	50:3:2204:C:C6	2.56	0.40
50:3:2203:U:H2'	50:3:2204:C:H6	1.86	0.40
50:3:2273:U:H3'	50:3:2274:A:H5''	2.03	0.40
50:3:2391:G:H2'	50:3:2392:U:C6	2.56	0.40
50:3:2526:A:N3	50:3:2526:A:H2'	2.36	0.40
50:3:2747:U:C2	50:3:2772:A:N7	2.89	0.40
50:3:2848:A:C4	50:3:2849:G:C8	3.09	0.40
52:5:355:A:N3	52:5:355:A:H2'	2.36	0.40
52:5:507:A:N7	52:5:508:A:N6	2.68	0.40
52:5:1009:G:O2'	52:5:1011:A:N7	2.50	0.40
52:5:1290:G:N2	52:5:1292:A:H3'	2.36	0.40
5:B:187:TYR:HB2	5:B:204:TRP:NE1	2.37	0.40
8:E:144:SER:HB3	10:G:4:THR:H	1.86	0.40
9:F:93:ASP:OD1	9:F:94:ARG:N	2.54	0.40
10:G:37:ALA:HB2	10:G:69:ILE:C	2.47	0.40
10:G:67:LYS:HG2	52:5:650:A:C4	2.56	0.40
11:H:101:LYS:HB3	11:H:101:LYS:HE2	1.87	0.40
19:P:13:VAL:HG12	19:P:59:ASP:O	2.21	0.40
19:P:41:ARG:NH1	52:5:234:G:OP1	2.55	0.40
24:a:269:ASN:OD1	24:a:271:LYS:HB2	2.21	0.40
25:b:26:ILE:HG22	25:b:192:LEU:HD22	2.02	0.40
28:e:93:VAL:O	28:e:163:LYS:HA	2.20	0.40
29:f:77:LEU:HB2	29:f:140:VAL:HG22	2.03	0.40
31:h:128:ALA:HB3	31:h:134:GLU:HA	2.03	0.40
32:i:78:TYR:CZ	32:i:89:LYS:HG3	2.56	0.40
32:i:115:ASN:ND2	50:3:591:G:H5''	2.37	0.40
33:j:46:ALA:HB1	33:j:52:VAL:HG23	2.03	0.40
34:k:131:VAL:HG22	34:k:148:LEU:HD13	2.03	0.40
38:o:102:SER:OG	50:3:2726:G:OP1	2.30	0.40
40:q:75:SER:OG	50:3:597:C:OP1	2.32	0.40
40:q:75:SER:OG	40:q:76:GLN:NE2	2.54	0.40
41:r:110:ASN:HB2	41:r:111:PRO:HD2	2.03	0.40
43:t:3:ARG:HD2	50:3:370:C:H5'	2.04	0.40
45:v:32:ASN:N	50:3:433:A:OP1	2.40	0.40
45:v:56:ARG:NH2	50:3:436:G:OP2	2.47	0.40
50:3:60:G:H2'	50:3:61:U:H6	1.85	0.40
50:3:271:G:H2'	50:3:272:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:499:G:H2'	50:3:501:G:N7	2.35	0.40
50:3:529:G:H2'	50:3:530:G:H8	1.87	0.40
50:3:569:U:H2'	50:3:570:C:C6	2.55	0.40
50:3:609:U:O2'	50:3:610:G:H5'	2.21	0.40
50:3:715:G:H2'	50:3:716:G:C8	2.56	0.40
50:3:844:G:H2'	50:3:845:U:H6	1.85	0.40
50:3:962:U:H2'	50:3:963:U:C6	2.56	0.40
50:3:1265:G:O2'	50:3:1266:G:O4'	2.29	0.40
50:3:1337:G:N2	50:3:1644:A:O2'	2.54	0.40
50:3:1357:U:O2'	50:3:1358:C:H5'	2.20	0.40
50:3:1621:U:H2'	50:3:1622:C:H6	1.86	0.40
50:3:1965:C:H2'	50:3:1966:G:C8	2.56	0.40
50:3:2228:U:H2'	50:3:2229:C:C6	2.56	0.40
50:3:2522:U:H2'	50:3:2523:C:H6	1.85	0.40
50:3:2645:U:H2'	50:3:2646:G:O4'	2.22	0.40
51:4:16:G:H1'	51:4:65:G:N2	2.36	0.40
52:5:21:U:H2'	52:5:22:G:O4'	2.21	0.40
52:5:475:U:O5'	52:5:475:U:H6	2.04	0.40
52:5:516:C:N4	52:5:527:G:OP2	2.55	0.40
52:5:1208:G:H2'	52:5:1209:C:C6	2.55	0.40
53:7:26:C:H2'	53:7:27:A:C8	2.56	0.40
4:A:118:THR:HG21	52:5:1092:A:H61	1.86	0.40
4:A:150:LEU:HD23	4:A:150:LEU:HA	1.94	0.40
6:C:4:THR:N	6:C:111:ARG:HH22	2.19	0.40
9:F:50:GLU:O	9:F:54:LYS:HD3	2.22	0.40
18:O:10:THR:HA	18:O:34:ASN:HA	2.04	0.40
19:P:68:PRO:HD3	52:5:230:G:H4'	2.04	0.40
32:i:20:ILE:CG1	32:i:140:PRO:HG2	2.50	0.40
33:j:64:ARG:HD3	33:j:79:PHE:CD1	2.56	0.40
36:m:44:ARG:O	36:m:48:LEU:HG	2.22	0.40
39:p:1:MET:HA	50:3:481:C:OP1	2.21	0.40
44:u:35:LEU:O	50:3:2278:G:H4'	2.21	0.40
44:u:38:LYS:HG2	50:3:2363:C:H4'	2.03	0.40
50:3:109:G:H2'	50:3:110:A:C8	2.55	0.40
50:3:293:G:H2'	50:3:294:G:N3	2.36	0.40
50:3:299:A:N6	50:3:440:C:O2'	2.49	0.40
50:3:348:A:N6	50:3:349:G:O6	2.54	0.40
50:3:484:U:C4	50:3:616:G:H1'	2.56	0.40
50:3:851:U:OP1	50:3:1216:U:O2'	2.38	0.40
50:3:1262:G:C2	50:3:1263:G:C5	3.09	0.40
50:3:1354:U:H3'	50:3:1355:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1458:A:H2'	50:3:1459:A:H8	1.85	0.40
50:3:1874:G:H2'	50:3:1875:C:H6	1.86	0.40
50:3:2016:G:C6	50:3:2017:G:C5	3.09	0.40
50:3:2055:A:C6	50:3:2629:G:N1	2.89	0.40
50:3:2073:C:H2'	50:3:2074:G:C8	2.56	0.40
50:3:2297:G:H1	50:3:2351:U:H3	1.69	0.40
50:3:2775:C:H2'	50:3:2776:U:O4'	2.21	0.40
51:4:47:C:N4	51:4:48:A:H62	2.20	0.40
52:5:648:C:H2'	52:5:649:U:C6	2.56	0.40
52:5:663:G:N2	52:5:737:U:O2	2.55	0.40
52:5:1105:C:H2'	52:5:1106:U:H6	1.85	0.40
53:7:10:A:N6	53:7:24:A:H62	2.19	0.40
4:A:237:ALA:O	4:A:242:MET:N	2.52	0.40
6:C:97:LEU:O	6:C:101:VAL:HG23	2.21	0.40
6:C:170:ASN:HB2	6:C:173:THR:OG1	2.20	0.40
8:E:103:LYS:NZ	52:5:837:G:OP2	2.52	0.40
11:H:52:GLN:HA	11:H:55:ASP:OD2	2.22	0.40
11:H:128:GLN:HA	52:5:1316:C:O2'	2.21	0.40
14:K:83:GLU:HA	52:5:519:G:OP1	2.21	0.40
14:K:134:LYS:HB3	14:K:134:LYS:HE2	1.87	0.40
16:M:29:ARG:HG3	16:M:41:ARG:HG2	2.04	0.40
17:N:84:LEU:HD13	50:3:748:G:OP2	2.21	0.40
26:c:134:ASN:O	26:c:135:LYS:HG2	2.21	0.40
27:d:108:LEU:N	27:d:109:PRO:HD2	2.36	0.40
29:f:18:VAL:C	29:f:19:VAL:HG23	2.43	0.40
29:f:76:GLU:CB	29:f:139:LYS:HG3	2.50	0.40
32:i:71:LYS:HD2	32:i:75:GLU:OE2	2.21	0.40
35:l:15:VAL:HG13	35:l:41:TRP:HE1	1.86	0.40
39:p:35:LYS:O	39:p:39:ILE:HG12	2.21	0.40
39:p:52:LYS:HB2	39:p:56:PHE:CE2	2.56	0.40
46:w:37:GLU:OE1	46:w:37:GLU:N	2.53	0.40
50:3:106:C:H2'	50:3:107:C:C6	2.56	0.40
50:3:134:U:H2'	50:3:135:A:H8	1.86	0.40
50:3:191:G:H2'	50:3:192:U:C6	2.57	0.40
50:3:759:U:C4	50:3:760:G:C6	3.09	0.40
50:3:1188:C:N4	50:3:1189:G:O6	2.55	0.40
50:3:1203:G:C2	50:3:1204:A:N7	2.90	0.40
50:3:1355:C:O2	50:3:1681:G:N2	2.54	0.40
50:3:1456:C:C4	50:3:1603:A:H5''	2.57	0.40
50:3:2128:G:H5'	50:3:2178:A:O3'	2.21	0.40
50:3:2231:A:H3'	50:3:2232:G:C8	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2308:U:H2'	50:3:2309:A:C8	2.57	0.40
50:3:2401:U:H2'	50:3:2402:C:H6	1.86	0.40
50:3:2523:C:H2'	50:3:2524:U:H6	1.86	0.40
50:3:2647:A:C8	50:3:2786:A:C6	3.10	0.40
50:3:2822:C:O2'	50:3:2823:A:H5'	2.20	0.40
52:5:272:G:H2'	52:5:273:C:H6	1.85	0.40
52:5:348:C:H4'	52:5:350:G:OP1	2.22	0.40
52:5:481:U:O2'	52:5:482:G:OP2	2.37	0.40
52:5:725:A:H2'	52:5:726:A:O4'	2.22	0.40
52:5:975:C:H3'	52:5:976:U:C5	2.56	0.40
52:5:1012:A:H3'	52:5:1013:C:C6	2.56	0.40
52:5:1142:G:C2	52:5:1146:A:N6	2.89	0.40
52:5:1262:A:H61	52:5:1346:G:C1'	2.35	0.40
52:5:1287:G:C2	52:5:1288:C:C5	3.09	0.40
6:C:149:ILE:HG13	6:C:155:LYS:HG2	2.03	0.40
13:J:13:ILE:HG23	13:J:76:LYS:HB2	2.04	0.40
14:K:46:VAL:HG22	14:K:92:VAL:HG22	2.04	0.40
22:S:44:LEU:HD12	22:S:44:LEU:HA	1.85	0.40
25:b:120:THR:OG1	25:b:121:GLY:N	2.53	0.40
26:c:103:LEU:HD12	26:c:104:ASN:N	2.36	0.40
28:e:99:ALA:HB3	28:e:134:ILE:HD11	2.03	0.40
33:j:3:SER:O	33:j:6:THR:OG1	2.25	0.40
37:n:110:ARG:HG3	37:n:116:PHE:CZ	2.56	0.40
38:o:6:LYS:HD2	50:3:2880:A:H4'	2.02	0.40
43:t:89:ILE:HG21	43:t:102:ARG:HD2	2.03	0.40
45:v:59:LYS:HG3	45:v:64:LEU:HA	2.03	0.40
48:y:40:HIS:NE2	50:3:2887:A:H4'	2.36	0.40
50:3:27:U:O2	50:3:27:U:H2'	2.21	0.40
50:3:307:C:H2'	50:3:308:A:C8	2.57	0.40
50:3:617:C:H2'	50:3:618:G:C8	2.57	0.40
50:3:632:A:H2'	50:3:633:G:C8	2.57	0.40
50:3:660:U:H2'	50:3:661:G:H8	1.84	0.40
50:3:870:A:H2'	50:3:871:G:C8	2.55	0.40
50:3:955:A:H62	50:3:2276:A:H8	1.67	0.40
50:3:978:G:H4'	50:3:1220:A:O2'	2.21	0.40
50:3:1087:C:H2'	50:3:1088:A:C8	2.55	0.40
50:3:1270:C:H2'	50:3:1271:A:H8	1.83	0.40
50:3:1390:C:H2'	50:3:1391:U:C6	2.57	0.40
50:3:1696:C:H2'	50:3:1697:C:C1'	2.51	0.40
50:3:2035:U:H2'	50:3:2036:G:C8	2.56	0.40
50:3:2107:A:C2	50:3:2108:C:N3	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2151:G:H1'	50:3:2154:A:N6	2.36	0.40
50:3:2292:A:N3	50:3:2296:A:H2	2.19	0.40
50:3:2656:G:H2'	50:3:2657:C:H6	1.86	0.40
50:3:2716:U:H2'	50:3:2717:G:C8	2.53	0.40
52:5:149:G:H2'	52:5:150:A:C8	2.56	0.40
52:5:228:G:H21	52:5:259:A:H2	1.68	0.40
52:5:590:G:H2'	52:5:591:A:C8	2.57	0.40
52:5:1184:C:O2'	52:5:1189:U:O4	2.36	0.40
52:5:1269:U:O2'	52:5:1276:U:O4	2.29	0.40
52:5:1281:U:H2'	52:5:1282:U:C6	2.56	0.40
53:7:56:U:C2	53:7:57:C:H3'	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	
1	0	45/48 (94%)	45 (100%)	0	0	100	100
2	1	57/59 (97%)	50 (88%)	7 (12%)	0	100	100
3	2	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
4	A	238/294 (81%)	228 (96%)	10 (4%)	0	100	100
5	B	213/273 (78%)	201 (94%)	12 (6%)	0	100	100
6	C	201/205 (98%)	192 (96%)	9 (4%)	0	100	100
7	D	151/219 (69%)	144 (95%)	7 (5%)	0	100	100
8	E	165/215 (77%)	148 (90%)	17 (10%)	0	100	100
9	F	152/155 (98%)	140 (92%)	12 (8%)	0	100	100
10	G	139/142 (98%)	128 (92%)	10 (7%)	1 (1%)	18	56
11	H	126/132 (96%)	117 (93%)	9 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	I	99/108 (92%)	89 (90%)	10 (10%)	0	100	100
13	J	112/121 (93%)	105 (94%)	7 (6%)	0	100	100
14	K	134/139 (96%)	116 (87%)	16 (12%)	2 (2%)	8	40
15	L	116/124 (94%)	101 (87%)	15 (13%)	0	100	100
16	M	58/61 (95%)	55 (95%)	3 (5%)	0	100	100
17	N	81/86 (94%)	77 (95%)	4 (5%)	0	100	100
18	O	78/94 (83%)	73 (94%)	5 (6%)	0	100	100
19	P	81/85 (95%)	79 (98%)	2 (2%)	0	100	100
20	Q	63/104 (61%)	53 (84%)	10 (16%)	0	100	100
21	R	82/87 (94%)	73 (89%)	9 (11%)	0	100	100
22	S	75/87 (86%)	75 (100%)	0	0	100	100
23	T	51/60 (85%)	47 (92%)	4 (8%)	0	100	100
24	a	283/287 (99%)	262 (93%)	21 (7%)	0	100	100
25	b	227/287 (79%)	211 (93%)	16 (7%)	0	100	100
26	c	208/212 (98%)	201 (97%)	7 (3%)	0	100	100
27	d	173/180 (96%)	163 (94%)	10 (6%)	0	100	100
28	e	174/184 (95%)	167 (96%)	6 (3%)	1 (1%)	21	59
29	f	143/149 (96%)	128 (90%)	15 (10%)	0	100	100
30	g	124/161 (77%)	112 (90%)	11 (9%)	1 (1%)	16	54
31	h	126/137 (92%)	112 (89%)	14 (11%)	0	100	100
32	i	142/146 (97%)	134 (94%)	8 (6%)	0	100	100
33	j	120/122 (98%)	116 (97%)	4 (3%)	0	100	100
34	k	146/151 (97%)	134 (92%)	12 (8%)	0	100	100
35	l	134/139 (96%)	126 (94%)	8 (6%)	0	100	100
36	m	117/124 (94%)	108 (92%)	9 (8%)	0	100	100
37	n	108/116 (93%)	99 (92%)	9 (8%)	0	100	100
38	o	113/119 (95%)	101 (89%)	12 (11%)	0	100	100
39	p	112/127 (88%)	107 (96%)	5 (4%)	0	100	100
40	q	97/100 (97%)	86 (89%)	11 (11%)	0	100	100
41	r	137/159 (86%)	132 (96%)	5 (4%)	0	100	100
42	s	90/237 (38%)	85 (94%)	5 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	t	109/111 (98%)	98 (90%)	11 (10%)	0	100	100
44	u	84/104 (81%)	77 (92%)	7 (8%)	0	100	100
45	v	61/65 (94%)	58 (95%)	3 (5%)	0	100	100
46	w	96/111 (86%)	93 (97%)	3 (3%)	0	100	100
47	x	42/97 (43%)	40 (95%)	2 (5%)	0	100	100
48	y	54/57 (95%)	48 (89%)	5 (9%)	1 (2%)	6	32
49	z	48/53 (91%)	43 (90%)	5 (10%)	0	100	100
All	All	5820/6670 (87%)	5408 (93%)	406 (7%)	6 (0%)	49	83

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
14	K	122	LYS
28	e	169	ASP
10	G	109	ASN
30	g	85	GLY
48	y	53	VAL
14	K	118	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	40/41 (98%)	40 (100%)	0	100	100
2	1	51/51 (100%)	51 (100%)	0	100	100
3	2	35/35 (100%)	35 (100%)	0	100	100
4	A	212/262 (81%)	212 (100%)	0	100	100
5	B	180/232 (78%)	180 (100%)	0	100	100
6	C	181/183 (99%)	181 (100%)	0	100	100
7	D	123/178 (69%)	123 (100%)	0	100	100
8	E	150/196 (76%)	150 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	F	131/132 (99%)	131 (100%)	0	100	100
10	G	123/124 (99%)	121 (98%)	2 (2%)	55	70
11	H	111/115 (96%)	111 (100%)	0	100	100
12	I	95/99 (96%)	95 (100%)	0	100	100
13	J	91/97 (94%)	91 (100%)	0	100	100
14	K	117/120 (98%)	112 (96%)	5 (4%)	26	47
15	L	100/105 (95%)	100 (100%)	0	100	100
16	M	47/48 (98%)	47 (100%)	0	100	100
17	N	76/78 (97%)	76 (100%)	0	100	100
18	O	69/82 (84%)	69 (100%)	0	100	100
19	P	73/75 (97%)	73 (100%)	0	100	100
20	Q	56/94 (60%)	56 (100%)	0	100	100
21	R	74/77 (96%)	74 (100%)	0	100	100
22	S	70/77 (91%)	70 (100%)	0	100	100
23	T	49/56 (88%)	49 (100%)	0	100	100
24	a	241/243 (99%)	241 (100%)	0	100	100
25	b	186/233 (80%)	186 (100%)	0	100	100
26	c	182/184 (99%)	182 (100%)	0	100	100
27	d	150/154 (97%)	150 (100%)	0	100	100
28	e	153/159 (96%)	153 (100%)	0	100	100
29	f	131/134 (98%)	131 (100%)	0	100	100
30	g	101/129 (78%)	94 (93%)	7 (7%)	14	36
31	h	102/110 (93%)	102 (100%)	0	100	100
32	i	126/128 (98%)	126 (100%)	0	100	100
33	j	103/103 (100%)	103 (100%)	0	100	100
34	k	123/126 (98%)	123 (100%)	0	100	100
35	l	113/115 (98%)	113 (100%)	0	100	100
36	m	105/109 (96%)	105 (100%)	0	100	100
37	n	96/99 (97%)	96 (100%)	0	100	100
38	o	101/105 (96%)	101 (100%)	0	100	100
39	p	100/108 (93%)	100 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
40	q	90/91 (99%)	90 (100%)	0	100	100
41	r	116/132 (88%)	116 (100%)	0	100	100
42	s	82/208 (39%)	82 (100%)	0	100	100
43	t	96/96 (100%)	96 (100%)	0	100	100
44	u	69/85 (81%)	69 (100%)	0	100	100
45	v	58/60 (97%)	58 (100%)	0	100	100
46	w	87/98 (89%)	87 (100%)	0	100	100
47	x	41/86 (48%)	41 (100%)	0	100	100
48	y	48/49 (98%)	47 (98%)	1 (2%)	47	65
49	z	47/50 (94%)	47 (100%)	0	100	100
All	All	5101/5751 (89%)	5086 (100%)	15 (0%)	84	86

All (15) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
10	G	107	VAL
10	G	111	LEU
14	K	117	THR
14	K	118	VAL
14	K	120	VAL
14	K	121	GLU
14	K	122	LYS
30	g	29	TYR
30	g	44	LEU
30	g	45	PHE
30	g	86	VAL
30	g	87	ASN
30	g	88	GLU
30	g	89	ILE
48	y	51	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (80) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	6	GLN
2	1	18	GLN
2	1	44	GLN

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Mol	Chain	Res	Type
3	2	30	GLN
4	A	29	HIS
4	A	38	ASN
4	A	63	GLN
4	A	97	ASN
4	A	131	ASN
4	A	207	ASN
4	A	219	ASN
4	A	220	HIS
4	A	221	GLN
5	B	15	ASN
5	B	86	GLN
5	B	139	GLN
5	B	150	ASN
6	C	61	GLN
6	C	115	GLN
7	D	127	HIS
8	E	4	ASN
8	E	20	GLN
8	E	22	ASN
8	E	56	HIS
8	E	106	GLN
10	G	56	ASN
10	G	109	ASN
11	H	4	GLN
13	J	22	ASN
14	K	6	GLN
14	K	27	ASN
17	N	15	HIS
18	O	69	GLN
19	P	5	GLN
19	P	25	GLN
20	Q	71	ASN
22	S	14	ASN
22	S	18	ASN
22	S	46	ASN
23	T	8	ASN
23	T	32	HIS
24	a	126	HIS
24	a	209	ASN
24	a	238	HIS
25	b	67	GLN

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Mol	Chain	Res	Type
25	b	80	HIS
25	b	100	ASN
25	b	148	GLN
25	b	177	GLN
26	c	32	GLN
26	c	50	HIS
26	c	130	GLN
26	c	134	ASN
26	c	195	ASN
28	e	33	GLN
29	f	7	GLN
29	f	11	ASN
29	f	28	HIS
29	f	74	GLN
29	f	84	HIS
29	f	100	GLN
29	f	109	GLN
32	i	80	HIS
32	i	126	HIS
33	j	112	ASN
35	l	108	ASN
35	l	113	GLN
37	n	37	ASN
37	n	38	HIS
38	o	5	ASN
38	o	47	ASN
39	p	80	ASN
40	q	76	GLN
40	q	99	HIS
41	r	15	GLN
41	r	112	ASN
42	s	5	ASN
44	u	84	GLN
44	u	100	HIS
45	v	6	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
50	3	2875/2907 (98%)	898 (31%)	40 (1%)
51	4	103/108 (95%)	34 (33%)	4 (3%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
52	5	1490/1520 (98%)	382 (25%)	7 (0%)
53	7	75/76 (98%)	30 (40%)	0
All	All	4543/4611 (98%)	1344 (29%)	51 (1%)

All (1344) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
50	3	14	U
50	3	15	A
50	3	20	C
50	3	28	G
50	3	29	G
50	3	36	U
50	3	42	U
50	3	44	A
50	3	48	G
50	3	51	A
50	3	52	U
50	3	53	G
50	3	58	A
50	3	65	A
50	3	66	A
50	3	73	A
50	3	74	U
50	3	76	A
50	3	77	G
50	3	82	G
50	3	86	A
50	3	90	G
50	3	98	C
50	3	103	G
50	3	104	A
50	3	108	G
50	3	111	G
50	3	119	A
50	3	121	U
50	3	126	C
50	3	132	G
50	3	136	G
50	3	139	G
50	3	141	A
50	3	142	A

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Mol	Chain	Res	Type
50	3	144	C
50	3	152	A
50	3	155	A
50	3	162	G
50	3	163	A
50	3	165	U
50	3	166	A
50	3	169	U
50	3	170	A
50	3	178	A
50	3	179	A
50	3	181	G
50	3	184	A
50	3	186	A
50	3	187	C
50	3	188	G
50	3	197	U
50	3	200	A
50	3	208	A
50	3	210	U
50	3	219	G
50	3	220	A
50	3	226	A
50	3	227	A
50	3	229	C
50	3	231	A
50	3	232	A
50	3	237	A
50	3	247	U
50	3	251	G
50	3	252	G
50	3	256	G
50	3	259	A
50	3	268	C
50	3	269	A
50	3	270	G
50	3	276	A
50	3	277	C
50	3	283	A
50	3	284	U
50	3	286	A
50	3	287	G

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Mol	Chain	Res	Type
50	3	291	G
50	3	293	G
50	3	294	G
50	3	295	U
50	3	296	U
50	3	297	G
50	3	298	U
50	3	299	A
50	3	306	G
50	3	309	A
50	3	310	U
50	3	312	U
50	3	314	G
50	3	315	A
50	3	316	C
50	3	319	G
50	3	328	A
50	3	333	A
50	3	336	C
50	3	341	G
50	3	345	A
50	3	346	G
50	3	351	G
50	3	352	C
50	3	356	A
50	3	357	A
50	3	359	G
50	3	363	G
50	3	364	A
50	3	366	A
50	3	372	G
50	3	377	U
50	3	380	A
50	3	386	U
50	3	396	A
50	3	397	G
50	3	401	G
50	3	402	A
50	3	404	C
50	3	408	G
50	3	409	A
50	3	410	G

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Mol	Chain	Res	Type
50	3	411	U
50	3	414	C
50	3	419	A
50	3	421	A
50	3	422	A
50	3	423	C
50	3	424	G
50	3	425	U
50	3	426	U
50	3	428	U
50	3	432	G
50	3	434	G
50	3	437	A
50	3	439	U
50	3	440	C
50	3	441	U
50	3	442	G
50	3	447	G
50	3	458	A
50	3	460	G
50	3	462	C
50	3	464	A
50	3	465	A
50	3	466	A
50	3	467	U
50	3	469	C
50	3	471	A
50	3	479	A
50	3	481	C
50	3	484	U
50	3	487	C
50	3	490	A
50	3	493	A
50	3	494	G
50	3	495	U
50	3	500	U
50	3	501	G
50	3	507	A
50	3	508	A
50	3	509	G
50	3	514	A
50	3	515	A

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Mol	Chain	Res	Type
50	3	516	A
50	3	517	G
50	3	519	A
50	3	520	C
50	3	530	G
50	3	533	G
50	3	539	U
50	3	543	U
50	3	549	A
50	3	557	G
50	3	562	C
50	3	566	G
50	3	567	U
50	3	568	G
50	3	578	A
50	3	580	U
50	3	581	A
50	3	582	A
50	3	583	U
50	3	595	U
50	3	596	G
50	3	598	G
50	3	600	U
50	3	605	A
50	3	606	G
50	3	607	U
50	3	608	A
50	3	610	G
50	3	620	G
50	3	625	G
50	3	637	U
50	3	638	A
50	3	648	G
50	3	654	G
50	3	657	A
50	3	659	C
50	3	661	G
50	3	663	A
50	3	664	G
50	3	670	G
50	3	673	A
50	3	674	G

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Mol	Chain	Res	Type
50	3	681	A
50	3	682	A
50	3	687	G
50	3	689	U
50	3	691	G
50	3	703	A
50	3	705	A
50	3	706	C
50	3	713	C
50	3	717	U
50	3	718	U
50	3	721	G
50	3	722	C
50	3	730	G
50	3	734	A
50	3	737	U
50	3	738	U
50	3	739	G
50	3	746	G
50	3	749	U
50	3	750	A
50	3	752	C
50	3	761	G
50	3	763	G
50	3	764	G
50	3	765	A
50	3	775	C
50	3	776	U
50	3	782	U
50	3	783	G
50	3	784	A
50	3	792	G
50	3	795	G
50	3	797	U
50	3	798	G
50	3	800	C
50	3	809	A
50	3	810	G
50	3	811	G
50	3	812	G
50	3	816	A
50	3	817	A

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Mol	Chain	Res	Type
50	3	818	A
50	3	819	U
50	3	820	U
50	3	823	A
50	3	825	U
50	3	827	G
50	3	828	A
50	3	829	A
50	3	838	U
50	3	840	G
50	3	846	U
50	3	847	C
50	3	854	A
50	3	862	U
50	3	863	U
50	3	865	A
50	3	866	G
50	3	876	A
50	3	880	C
50	3	882	C
50	3	883	A
50	3	884	A
50	3	885	A
50	3	887	A
50	3	893	A
50	3	902	U
50	3	904	C
50	3	907	A
50	3	917	G
50	3	929	G
50	3	930	C
50	3	931	G
50	3	932	U
50	3	933	A
50	3	935	U
50	3	936	G
50	3	938	A
50	3	944	U
50	3	947	A
50	3	949	C
50	3	952	U
50	3	953	G

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Mol	Chain	Res	Type
50	3	958	C
50	3	968	U
50	3	975	G
50	3	977	A
50	3	978	G
50	3	981	A
50	3	982	G
50	3	986	G
50	3	989	G
50	3	993	A
50	3	994	U
50	3	997	G
50	3	1005	G
50	3	1008	A
50	3	1009	A
50	3	1013	G
50	3	1016	A
50	3	1017	A
50	3	1018	G
50	3	1019	A
50	3	1024	A
50	3	1025	G
50	3	1026	A
50	3	1027	U
50	3	1030	U
50	3	1031	U
50	3	1032	A
50	3	1035	U
50	3	1045	A
50	3	1046	A
50	3	1047	A
50	3	1048	A
50	3	1049	U
50	3	1054	U
50	3	1057	G
50	3	1061	A
50	3	1067	A
50	3	1068	U
50	3	1069	G
50	3	1075	G
50	3	1080	A
50	3	1081	A

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Mol	Chain	Res	Type
50	3	1082	A
50	3	1087	C
50	3	1089	A
50	3	1091	G
50	3	1092	A
50	3	1095	U
50	3	1096	U
50	3	1097	G
50	3	1100	U
50	3	1101	U
50	3	1102	A
50	3	1103	G
50	3	1105	A
50	3	1106	G
50	3	1107	C
50	3	1113	U
50	3	1114	C
50	3	1115	G
50	3	1119	A
50	3	1122	G
50	3	1123	A
50	3	1124	G
50	3	1125	U
50	3	1126	G
50	3	1132	C
50	3	1133	A
50	3	1140	U
50	3	1147	G
50	3	1151	U
50	3	1154	U
50	3	1167	U
50	3	1168	A
50	3	1170	C
50	3	1171	G
50	3	1174	G
50	3	1175	C
50	3	1176	U
50	3	1177	A
50	3	1178	A
50	3	1179	G
50	3	1186	A
50	3	1189	G

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Mol	Chain	Res	Type
50	3	1191	A
50	3	1193	U
50	3	1203	G
50	3	1204	A
50	3	1209	U
50	3	1210	A
50	3	1215	G
50	3	1217	G
50	3	1226	G
50	3	1234	U
50	3	1235	U
50	3	1236	G
50	3	1240	U
50	3	1241	U
50	3	1242	G
50	3	1243	A
50	3	1250	A
50	3	1251	G
50	3	1253	G
50	3	1255	G
50	3	1256	A
50	3	1257	G
50	3	1265	G
50	3	1266	G
50	3	1267	A
50	3	1268	U
50	3	1269	C
50	3	1271	A
50	3	1278	G
50	3	1279	U
50	3	1281	A
50	3	1282	G
50	3	1283	A
50	3	1284	A
50	3	1285	U
50	3	1286	G
50	3	1292	A
50	3	1293	U
50	3	1295	A
50	3	1297	U
50	3	1298	A
50	3	1301	G

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Mol	Chain	Res	Type
50	3	1304	U
50	3	1317	C
50	3	1326	C
50	3	1328	A
50	3	1329	U
50	3	1330	U
50	3	1342	C
50	3	1353	G
50	3	1354	U
50	3	1355	C
50	3	1356	G
50	3	1358	C
50	3	1360	U
50	3	1361	U
50	3	1369	U
50	3	1370	A
50	3	1372	U
50	3	1378	C
50	3	1380	U
50	3	1388	G
50	3	1393	A
50	3	1400	U
50	3	1402	G
50	3	1406	A
50	3	1407	U
50	3	1418	U
50	3	1431	A
50	3	1435	A
50	3	1442	G
50	3	1444	C
50	3	1445	U
50	3	1447	A
50	3	1448	U
50	3	1455	A
50	3	1457	A
50	3	1459	A
50	3	1461	A
50	3	1463	G
50	3	1466	U
50	3	1467	U
50	3	1469	C
50	3	1480	A

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Mol	Chain	Res	Type
50	3	1481	U
50	3	1483	G
50	3	1485	A
50	3	1486	U
50	3	1487	U
50	3	1489	G
50	3	1491	G
50	3	1502	A
50	3	1506	U
50	3	1507	G
50	3	1508	G
50	3	1510	A
50	3	1514	U
50	3	1515	A
50	3	1518	C
50	3	1519	A
50	3	1522	U
50	3	1532	A
50	3	1533	U
50	3	1534	A
50	3	1541	A
50	3	1544	G
50	3	1549	U
50	3	1550	G
50	3	1555	G
50	3	1557	G
50	3	1571	G
50	3	1577	A
50	3	1580	G
50	3	1584	U
50	3	1585	A
50	3	1586	U
50	3	1587	U
50	3	1588	A
50	3	1589	A
50	3	1592	A
50	3	1593	U
50	3	1594	G
50	3	1601	A
50	3	1603	A
50	3	1608	C
50	3	1612	U

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Mol	Chain	Res	Type
50	3	1617	U
50	3	1618	U
50	3	1619	A
50	3	1629	U
50	3	1635	G
50	3	1636	U
50	3	1640	G
50	3	1641	A
50	3	1642	G
50	3	1643	A
50	3	1644	A
50	3	1648	A
50	3	1651	C
50	3	1652	A
50	3	1653	C
50	3	1656	A
50	3	1658	U
50	3	1660	A
50	3	1663	G
50	3	1664	A
50	3	1665	G
50	3	1668	G
50	3	1679	U
50	3	1681	G
50	3	1682	C
50	3	1683	G
50	3	1686	U
50	3	1687	G
50	3	1692	A
50	3	1694	A
50	3	1695	G
50	3	1697	C
50	3	1698	A
50	3	1699	A
50	3	1702	A
50	3	1704	C
50	3	1706	C
50	3	1707	U
50	3	1708	G
50	3	1709	C
50	3	1727	U
50	3	1729	G

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Mol	Chain	Res	Type
50	3	1730	C
50	3	1735	A
50	3	1736	G
50	3	1743	U
50	3	1748	U
50	3	1752	A
50	3	1762	A
50	3	1763	G
50	3	1764	U
50	3	1765	G
50	3	1766	A
50	3	1769	A
50	3	1770	A
50	3	1771	C
50	3	1778	G
50	3	1780	A
50	3	1784	U
50	3	1786	U
50	3	1787	A
50	3	1788	A
50	3	1791	A
50	3	1795	C
50	3	1807	C
50	3	1809	A
50	3	1813	C
50	3	1815	U
50	3	1821	G
50	3	1822	A
50	3	1823	U
50	3	1836	A
50	3	1837	C
50	3	1839	C
50	3	1842	G
50	3	1846	A
50	3	1847	G
50	3	1850	C
50	3	1855	A
50	3	1858	U
50	3	1865	A
50	3	1866	G
50	3	1873	A
50	3	1876	G

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Mol	Chain	Res	Type
50	3	1890	U
50	3	1891	A
50	3	1892	A
50	3	1893	C
50	3	1906	G
50	3	1907	A
50	3	1908	A
50	3	1920	A
50	3	1926	A
50	3	1934	A
50	3	1936	G
50	3	1937	G
50	3	1938	U
50	3	1944	A
50	3	1945	A
50	3	1947	U
50	3	1952	G
50	3	1953	U
50	3	1959	A
50	3	1960	A
50	3	1962	U
50	3	1963	U
50	3	1968	C
50	3	1971	G
50	3	1974	U
50	3	1977	A
50	3	1979	G
50	3	1982	G
50	3	1984	A
50	3	1987	C
50	3	1988	A
50	3	1989	U
50	3	1997	C
50	3	1998	U
50	3	1999	G
50	3	2000	U
50	3	2003	C
50	3	2009	U
50	3	2011	G
50	3	2012	A
50	3	2023	U
50	3	2028	G

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Mol	Chain	Res	Type
50	3	2030	A
50	3	2035	U
50	3	2037	A
50	3	2038	A
50	3	2040	A
50	3	2041	C
50	3	2043	C
50	3	2048	U
50	3	2050	G
50	3	2051	G
50	3	2056	A
50	3	2057	C
50	3	2059	G
50	3	2062	C
50	3	2063	G
50	3	2067	A
50	3	2068	G
50	3	2070	C
50	3	2071	C
50	3	2076	G
50	3	2079	G
50	3	2080	C
50	3	2084	A
50	3	2086	U
50	3	2099	U
50	3	2100	G
50	3	2106	G
50	3	2107	A
50	3	2109	A
50	3	2110	U
50	3	2111	U
50	3	2112	A
50	3	2114	C
50	3	2115	A
50	3	2117	G
50	3	2118	U
50	3	2119	A
50	3	2123	A
50	3	2124	A
50	3	2126	A
50	3	2127	G
50	3	2131	G

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Mol	Chain	Res	Type
50	3	2132	G
50	3	2133	A
50	3	2134	G
50	3	2140	G
50	3	2148	U
50	3	2152	C
50	3	2153	U
50	3	2154	A
50	3	2164	G
50	3	2166	U
50	3	2167	G
50	3	2170	A
50	3	2173	G
50	3	2177	G
50	3	2180	U
50	3	2181	A
50	3	2182	C
50	3	2193	U
50	3	2194	G
50	3	2195	U
50	3	2198	G
50	3	2202	U
50	3	2206	A
50	3	2211	G
50	3	2212	U
50	3	2219	U
50	3	2220	A
50	3	2222	C
50	3	2231	A
50	3	2233	A
50	3	2242	G
50	3	2246	G
50	3	2247	G
50	3	2254	G
50	3	2259	G
50	3	2267	G
50	3	2270	U
50	3	2274	A
50	3	2276	A
50	3	2277	A
50	3	2285	G
50	3	2286	A

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Mol	Chain	Res	Type
50	3	2291	U
50	3	2295	A
50	3	2296	A
50	3	2304	U
50	3	2305	C
50	3	2313	U
50	3	2315	G
50	3	2316	G
50	3	2317	A
50	3	2319	A
50	3	2320	U
50	3	2324	A
50	3	2330	A
50	3	2333	G
50	3	2341	G
50	3	2342	U
50	3	2343	A
50	3	2344	A
50	3	2351	U
50	3	2355	C
50	3	2358	U
50	3	2359	G
50	3	2362	A
50	3	2366	A
50	3	2367	C
50	3	2380	U
50	3	2382	A
50	3	2387	U
50	3	2391	G
50	3	2393	C
50	3	2396	A
50	3	2397	G
50	3	2400	A
50	3	2401	U
50	3	2410	C
50	3	2411	C
50	3	2414	U
50	3	2415	A
50	3	2418	G
50	3	2433	A
50	3	2435	C
50	3	2436	G

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Mol	Chain	Res	Type
50	3	2437	G
50	3	2438	A
50	3	2440	A
50	3	2442	A
50	3	2447	A
50	3	2449	U
50	3	2453	G
50	3	2455	G
50	3	2456	A
50	3	2457	U
50	3	2458	A
50	3	2459	A
50	3	2460	C
50	3	2479	A
50	3	2480	G
50	3	2481	U
50	3	2482	U
50	3	2483	C
50	3	2484	A
50	3	2486	A
50	3	2488	C
50	3	2492	G
50	3	2495	A
50	3	2498	G
50	3	2499	U
50	3	2502	G
50	3	2505	A
50	3	2506	C
50	3	2507	C
50	3	2509	C
50	3	2510	G
50	3	2511	A
50	3	2513	G
50	3	2517	A
50	3	2518	C
50	3	2519	U
50	3	2521	A
50	3	2526	A
50	3	2539	A
50	3	2541	C
50	3	2542	A
50	3	2543	G

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Mol	Chain	Res	Type
50	3	2550	A
50	3	2551	G
50	3	2555	U
50	3	2568	G
50	3	2574	A
50	3	2575	G
50	3	2577	G
50	3	2580	A
50	3	2581	C
50	3	2585	A
50	3	2586	G
50	3	2589	G
50	3	2590	G
50	3	2593	U
50	3	2594	C
50	3	2597	A
50	3	2603	G
50	3	2604	U
50	3	2605	G
50	3	2607	G
50	3	2610	A
50	3	2611	G
50	3	2618	C
50	3	2619	C
50	3	2621	U
50	3	2622	A
50	3	2629	G
50	3	2633	C
50	3	2637	A
50	3	2638	G
50	3	2644	U
50	3	2647	A
50	3	2649	G
50	3	2653	G
50	3	2654	U
50	3	2658	U
50	3	2662	A
50	3	2663	G
50	3	2664	U
50	3	2668	A
50	3	2669	G
50	3	2673	A

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Mol	Chain	Res	Type
50	3	2681	G
50	3	2687	A
50	3	2688	C
50	3	2693	U
50	3	2697	C
50	3	2698	U
50	3	2722	G
50	3	2726	G
50	3	2733	A
50	3	2734	C
50	3	2737	G
50	3	2739	C
50	3	2740	U
50	3	2741	A
50	3	2745	G
50	3	2747	U
50	3	2752	G
50	3	2756	A
50	3	2760	C
50	3	2765	A
50	3	2769	G
50	3	2772	A
50	3	2773	A
50	3	2774	A
50	3	2777	A
50	3	2780	U
50	3	2782	A
50	3	2785	G
50	3	2786	A
50	3	2788	U
50	3	2789	A
50	3	2800	U
50	3	2801	U
50	3	2806	A
50	3	2808	A
50	3	2809	A
50	3	2810	A
50	3	2812	U
50	3	2813	A
50	3	2814	A
50	3	2815	G
50	3	2822	C

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Mol	Chain	Res	Type
50	3	2823	A
50	3	2824	A
50	3	2831	U
50	3	2835	G
50	3	2837	U
50	3	2839	A
50	3	2850	G
50	3	2853	U
50	3	2859	U
50	3	2862	U
50	3	2863	G
50	3	2865	U
50	3	2870	U
50	3	2871	G
50	3	2876	G
50	3	2884	C
50	3	2887	A
50	3	2888	U
50	3	2889	U
50	3	2890	G
50	3	2897	G
50	3	2898	A
50	3	2899	C
51	4	10	C
51	4	11	A
51	4	19	G
51	4	22	G
51	4	23	A
51	4	24	A
51	4	25	A
51	4	27	A
51	4	28	C
51	4	33	U
51	4	38	U
51	4	40	U
51	4	42	G
51	4	45	C
51	4	46	C
51	4	49	G
51	4	50	C
51	4	51	A
51	4	54	U

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Mol	Chain	Res	Type
51	4	55	A
51	4	60	C
51	4	74	G
51	4	78	C
51	4	79	U
51	4	80	G
51	4	86	G
51	4	88	G
51	4	89	A
51	4	93	U
51	4	97	A
51	4	98	A
51	4	99	A
51	4	102	A
51	4	108	C
52	5	6	C
52	5	8	G
52	5	9	A
52	5	10	G
52	5	21	U
52	5	29	G
52	5	32	U
52	5	33	A
52	5	40	G
52	5	48	C
52	5	49	C
52	5	50	U
52	5	51	A
52	5	52	A
52	5	57	U
52	5	60	A
52	5	61	A
52	5	62	G
52	5	67	U
52	5	86	A
52	5	93	A
52	5	101	A
52	5	105	A
52	5	106	C
52	5	110	U
52	5	113	C
52	5	114	C

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Mol	Chain	Res	Type
52	5	115	A
52	5	116	A
52	5	117	U
52	5	120	A
52	5	122	C
52	5	128	A
52	5	130	G
52	5	132	G
52	5	135	A
52	5	137	A
52	5	142	G
52	5	147	A
52	5	149	G
52	5	159	U
52	5	160	A
52	5	167	A
52	5	169	G
52	5	171	A
52	5	176	G
52	5	177	G
52	5	186	A
52	5	187	A
52	5	197	A
52	5	198	A
52	5	199	A
52	5	203	C
52	5	220	U
52	5	221	U
52	5	227	A
52	5	233	C
52	5	236	C
52	5	240	U
52	5	241	C
52	5	243	G
52	5	247	G
52	5	257	U
52	5	259	A
52	5	262	G
52	5	263	C
52	5	264	C
52	5	266	A
52	5	270	A

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Mol	Chain	Res	Type
52	5	271	G
52	5	276	U
52	5	277	G
52	5	285	G
52	5	294	A
52	5	300	A
52	5	302	A
52	5	315	G
52	5	316	G
52	5	321	A
52	5	323	A
52	5	324	C
52	5	325	A
52	5	326	C
52	5	328	G
52	5	335	C
52	5	340	A
52	5	342	G
52	5	344	G
52	5	345	A
52	5	347	G
52	5	348	C
52	5	352	A
52	5	363	U
52	5	364	U
52	5	368	C
52	5	377	A
52	5	378	A
52	5	380	G
52	5	385	A
52	5	392	A
52	5	394	U
52	5	400	G
52	5	402	G
52	5	407	A
52	5	408	U
52	5	409	G
52	5	412	G
52	5	417	U
52	5	418	U
52	5	419	A
52	5	420	A

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Mol	Chain	Res	Type
52	5	423	U
52	5	425	G
52	5	426	U
52	5	446	A
52	5	449	A
52	5	450	U
52	5	452	A
52	5	453	C
52	5	456	U
52	5	461	G
52	5	463	U
52	5	464	A
52	5	466	U
52	5	469	C
52	5	471	A
52	5	476	U
52	5	477	U
52	5	478	G
52	5	480	C
52	5	481	U
52	5	482	G
52	5	483	U
52	5	488	U
52	5	489	U
52	5	493	A
52	5	494	A
52	5	497	A
52	5	499	U
52	5	506	U
52	5	507	A
52	5	509	C
52	5	516	C
52	5	517	C
52	5	519	G
52	5	525	G
52	5	529	U
52	5	530	A
52	5	531	A
52	5	532	U
52	5	533	A
52	5	545	A
52	5	548	G

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Mol	Chain	Res	Type
52	5	551	A
52	5	553	C
52	5	554	C
52	5	557	A
52	5	560	U
52	5	561	A
52	5	562	U
52	5	568	G
52	5	571	A
52	5	573	G
52	5	574	C
52	5	575	A
52	5	594	A
52	5	596	U
52	5	609	G
52	5	610	C
52	5	618	U
52	5	619	A
52	5	628	A
52	5	630	G
52	5	637	A
52	5	638	A
52	5	643	U
52	5	647	U
52	5	650	A
52	5	653	G
52	5	662	G
52	5	692	A
52	5	698	U
52	5	702	U
52	5	704	U
52	5	715	A
52	5	718	A
52	5	719	G
52	5	720	U
52	5	721	G
52	5	728	G
52	5	735	C
52	5	742	C
52	5	745	U
52	5	746	A
52	5	750	A

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Mol	Chain	Res	Type
52	5	752	G
52	5	756	A
52	5	768	G
52	5	774	A
52	5	785	U
52	5	787	A
52	5	791	A
52	5	809	G
52	5	814	C
52	5	815	G
52	5	817	U
52	5	818	A
52	5	825	A
52	5	829	G
52	5	838	A
52	5	846	G
52	5	849	A
52	5	855	G
52	5	865	U
52	5	870	A
52	5	882	U
52	5	883	A
52	5	894	A
52	5	895	A
52	5	896	G
52	5	908	A
52	5	910	C
52	5	911	G
52	5	917	G
52	5	922	G
52	5	929	C
52	5	930	A
52	5	933	A
52	5	934	G
52	5	939	G
52	5	953	A
52	5	955	U
52	5	956	U
52	5	960	C
52	5	964	A
52	5	965	C
52	5	966	A

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Mol	Chain	Res	Type
52	5	967	C
52	5	969	A
52	5	970	A
52	5	971	A
52	5	972	A
52	5	976	U
52	5	977	U
52	5	978	A
52	5	984	A
52	5	985	C
52	5	987	U
52	5	988	G
52	5	990	C
52	5	997	G
52	5	999	C
52	5	1000	A
52	5	1003	G
52	5	1006	A
52	5	1013	C
52	5	1014	A
52	5	1015	U
52	5	1030	G
52	5	1031	A
52	5	1034	G
52	5	1035	A
52	5	1036	C
52	5	1044	G
52	5	1045	C
52	5	1046	A
52	5	1047	U
52	5	1053	U
52	5	1057	C
52	5	1058	A
52	5	1071	A
52	5	1073	A
52	5	1075	G
52	5	1082	U
52	5	1085	G
52	5	1086	U
52	5	1088	C
52	5	1089	C
52	5	1092	A

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Mol	Chain	Res	Type
52	5	1103	C
52	5	1104	C
52	5	1109	U
52	5	1116	U
52	5	1118	A
52	5	1119	C
52	5	1121	U
52	5	1122	U
52	5	1123	G
52	5	1124	U
52	5	1134	C
52	5	1135	U
52	5	1136	G
52	5	1141	U
52	5	1142	G
52	5	1143	C
52	5	1158	A
52	5	1159	A
52	5	1165	G
52	5	1169	U
52	5	1171	A
52	5	1172	A
52	5	1176	A
52	5	1187	U
52	5	1188	A
52	5	1199	U
52	5	1200	G
52	5	1201	C
52	5	1202	A
52	5	1208	G
52	5	1211	A
52	5	1213	A
52	5	1214	A
52	5	1215	U
52	5	1216	G
52	5	1225	A
52	5	1231	U
52	5	1232	C
52	5	1245	A
52	5	1254	A
52	5	1255	A
52	5	1256	U

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Mol	Chain	Res	Type
52	5	1260	U
52	5	1261	A
52	5	1269	U
52	5	1271	U
52	5	1274	G
52	5	1276	U
52	5	1278	G
52	5	1279	G
52	5	1281	U
52	5	1297	G
52	5	1304	U
52	5	1310	C
52	5	1312	G
52	5	1315	U
52	5	1322	U
52	5	1327	G
52	5	1331	A
52	5	1337	U
52	5	1338	A
52	5	1339	U
52	5	1343	G
52	5	1350	A
52	5	1354	G
52	5	1356	U
52	5	1369	A
52	5	1371	A
52	5	1372	C
52	5	1373	A
52	5	1374	C
52	5	1375	C
52	5	1381	U
52	5	1385	A
52	5	1388	A
52	5	1393	A
52	5	1394	G
52	5	1397	G
52	5	1400	A
52	5	1403	A
52	5	1404	U
52	5	1417	U
52	5	1420	U
52	5	1421	A

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Mol	Chain	Res	Type
52	5	1423	C
52	5	1426	U
52	5	1428	A
52	5	1429	G
52	5	1450	C
52	5	1451	A
52	5	1452	C
52	5	1461	G
52	5	1467	A
52	5	1468	A
52	5	1469	G
52	5	1475	A
52	5	1480	G
52	5	1481	U
52	5	1482	A
52	5	1492	G
52	5	1495	C
52	5	1504	G
52	5	1505	G
53	7	3	G
53	7	4	U
53	7	9	U
53	7	10	A
53	7	17	U
53	7	18	C
53	7	19	G
53	7	20	G
53	7	22	A
53	7	23	G
53	7	28	A
53	7	37	A
53	7	43	G
53	7	44	U
53	7	47	G
53	7	48	U
53	7	49	C
53	7	50	G
53	7	51	G
53	7	52	C
53	7	54	G
53	7	57	C
53	7	58	G

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Mol	Chain	Res	Type
53	7	59	A
53	7	63	U
53	7	64	G
53	7	71	A
53	7	73	C
53	7	75	C
53	7	76	C

All (51) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
50	3	296	U
50	3	309	A
50	3	311	G
50	3	315	A
50	3	410	G
50	3	425	U
50	3	500	U
50	3	513	A
50	3	579	U
50	3	605	A
50	3	688	U
50	3	760	G
50	3	881	A
50	3	884	A
50	3	929	G
50	3	952	U
50	3	1048	A
50	3	1096	U
50	3	1209	U
50	3	1297	U
50	3	1371	G
50	3	1507	G
50	3	1583	G
50	3	1585	A
50	3	1587	U
50	3	1618	U
50	3	1635	G
50	3	1820	U
50	3	2116	U
50	3	2118	U
50	3	2342	U

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Mol	Chain	Res	Type
50	3	2365	U
50	3	2504	C
50	3	2506	C
50	3	2604	U
50	3	2668	A
50	3	2764	U
50	3	2823	A
50	3	2862	U
50	3	2897	G
51	4	10	C
51	4	50	C
51	4	54	U
51	4	59	A
52	5	61	A
52	5	146	A
52	5	240	U
52	5	419	A
52	5	1034	G
52	5	1115	G
52	5	1270	C

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 ⓘ

There are no chain breaks in this entry.

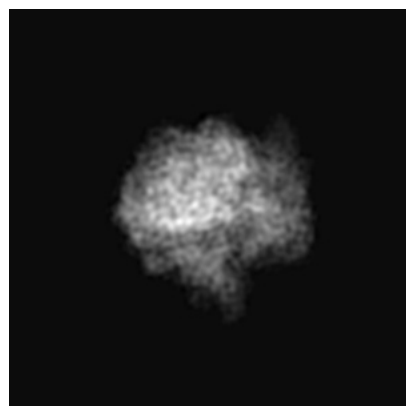
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13432. These allow visual inspection of the internal detail of the map and identification of artifacts.

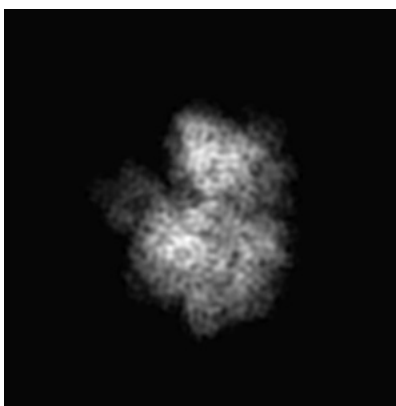
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

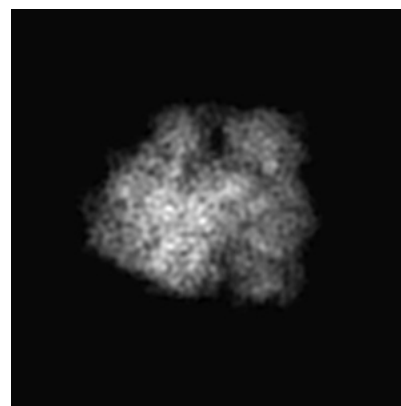
6.1.1 Primary map



X

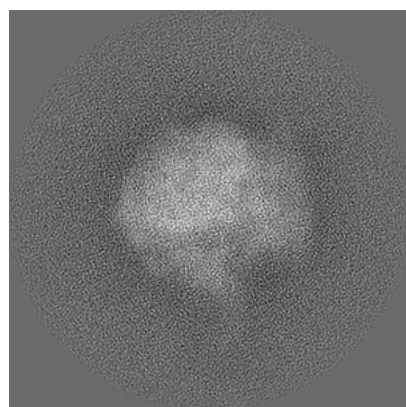


Y

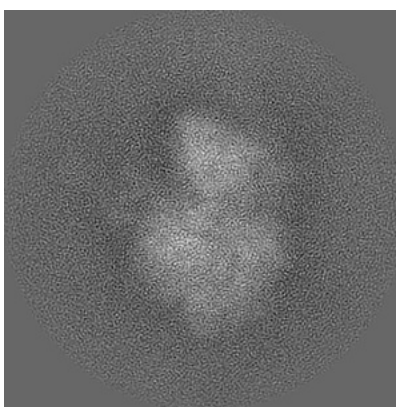


Z

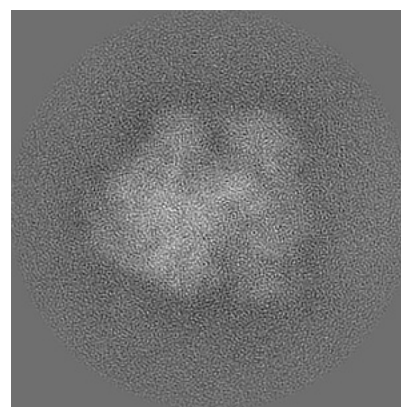
6.1.2 Raw map



X



Y

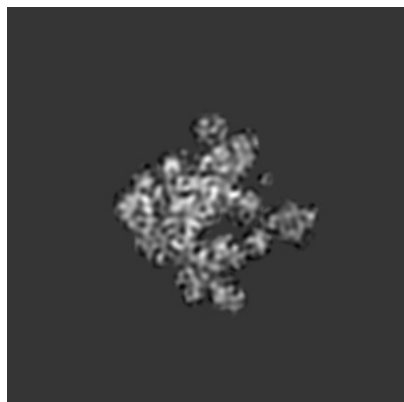


Z

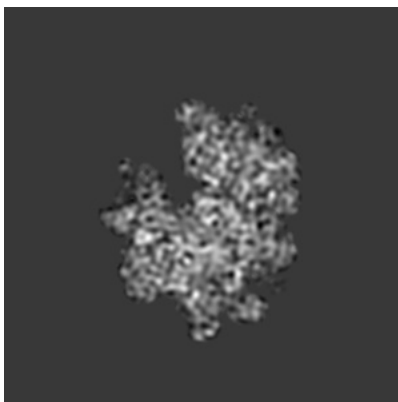
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

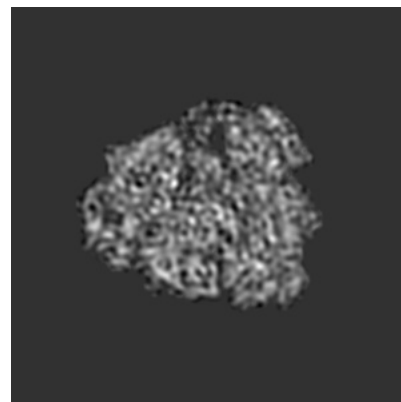
6.2.1 Primary map



X Index: 128

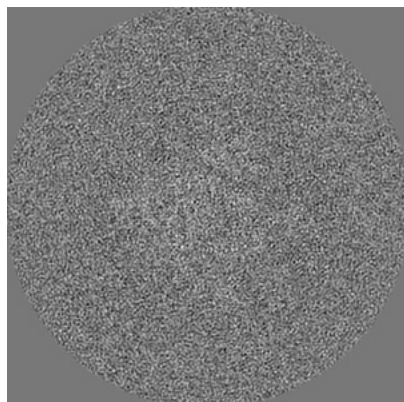


Y Index: 128

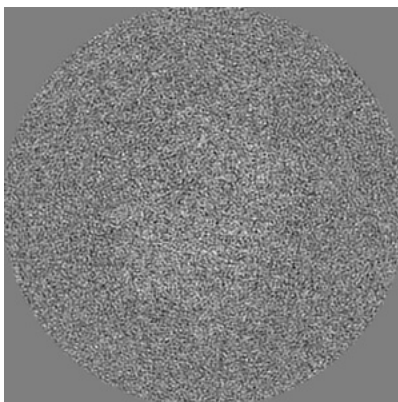


Z Index: 128

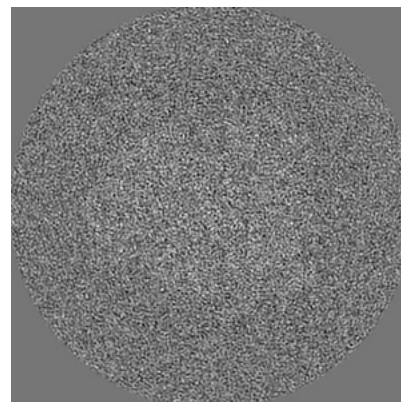
6.2.2 Raw map



X Index: 128



Y Index: 128

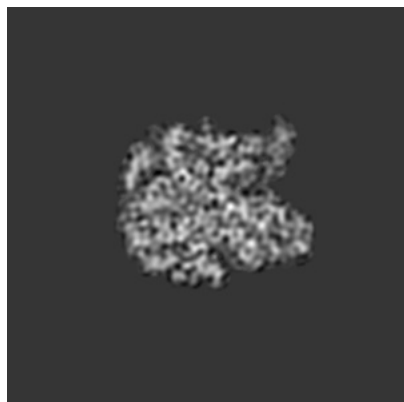


Z Index: 128

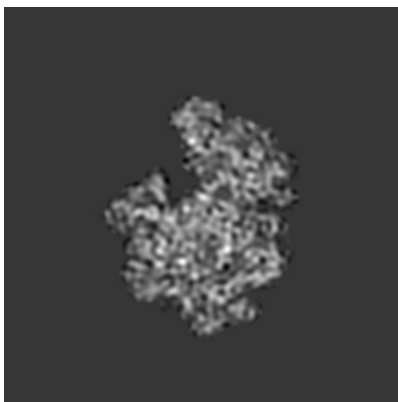
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

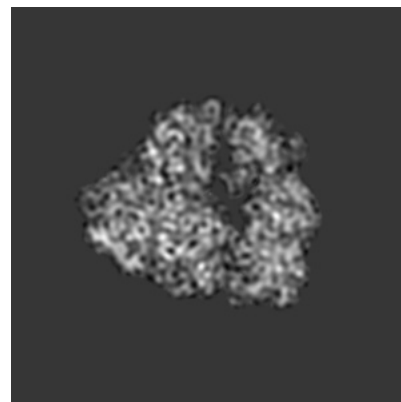
6.3.1 Primary map



X Index: 104

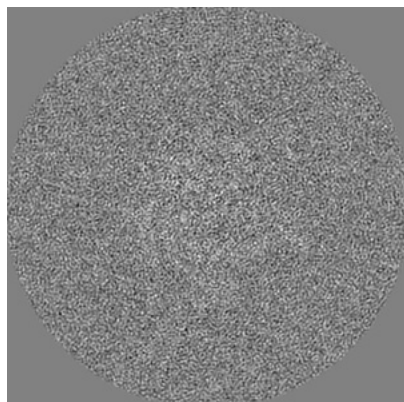


Y Index: 121

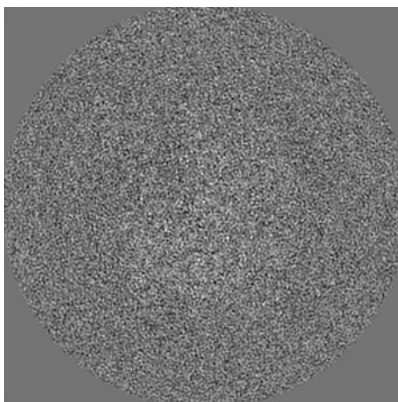


Z Index: 120

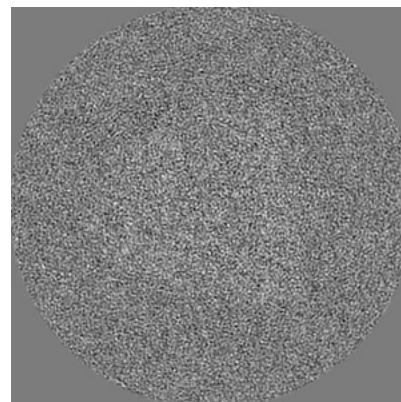
6.3.2 Raw map



X Index: 122



Y Index: 127

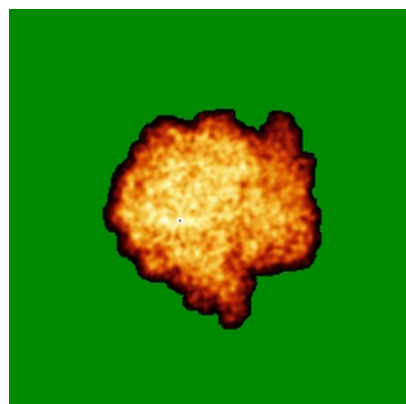


Z Index: 127

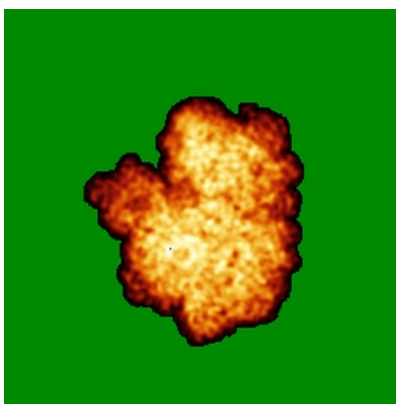
The images above show the largest variance slices of the map in three orthogonal directions.

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

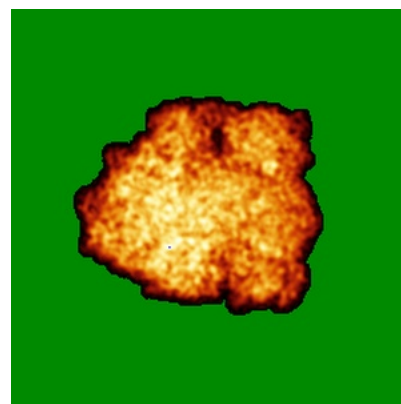
6.4.1 Primary map



X

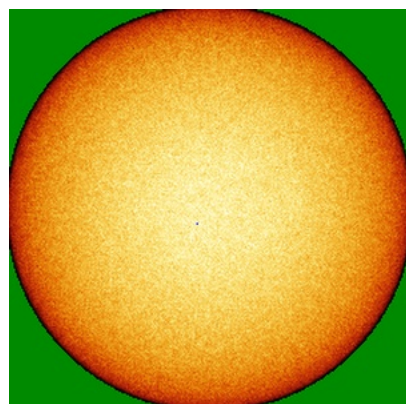


Y

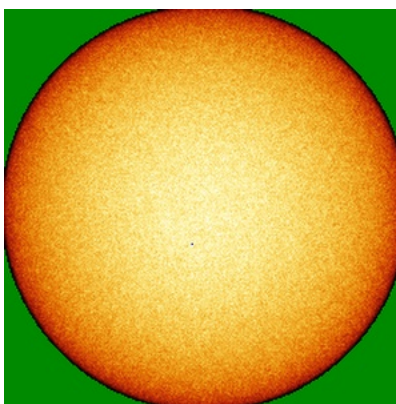


Z

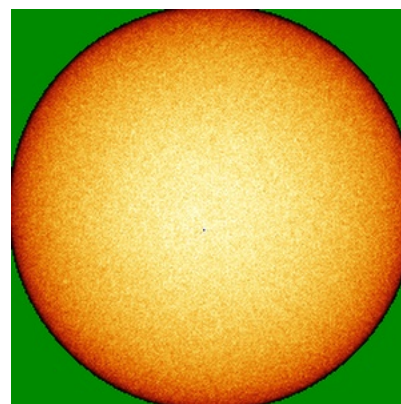
6.4.2 Raw map



X



Y



Z

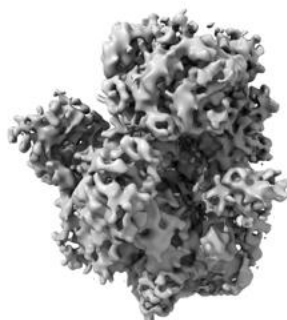
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

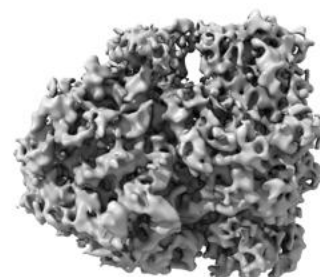
6.5.1 Primary map



X



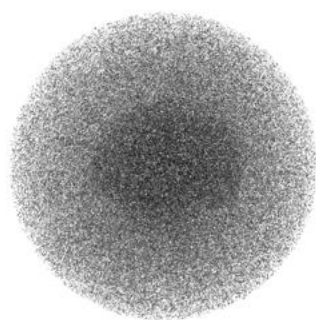
Y



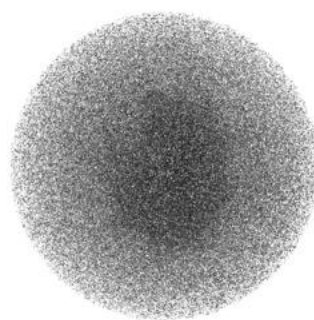
Z

The images above show the 3D surface view of the map at the recommended contour level 0.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

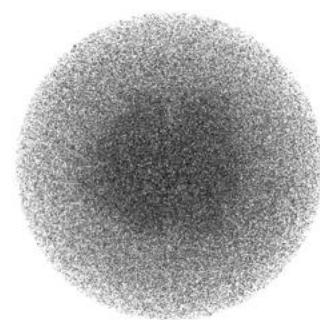
6.5.2 Raw map



X



Y



Z

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

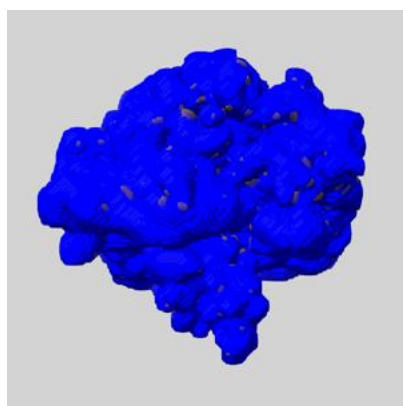
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

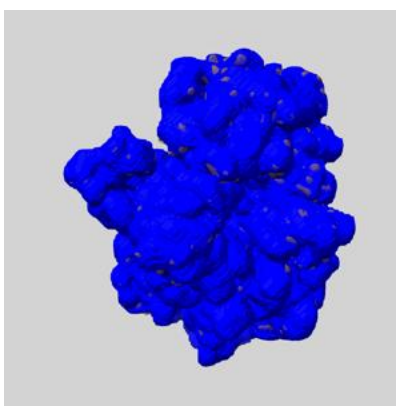
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

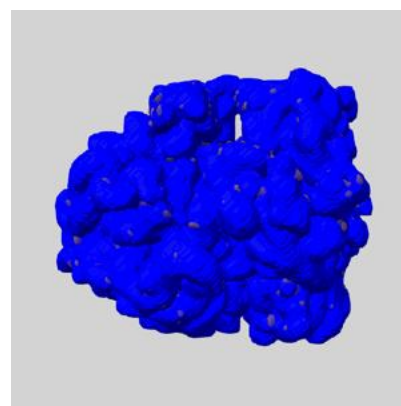
6.6.1 emd_13432_msk_1.map [i](#)



X



Y

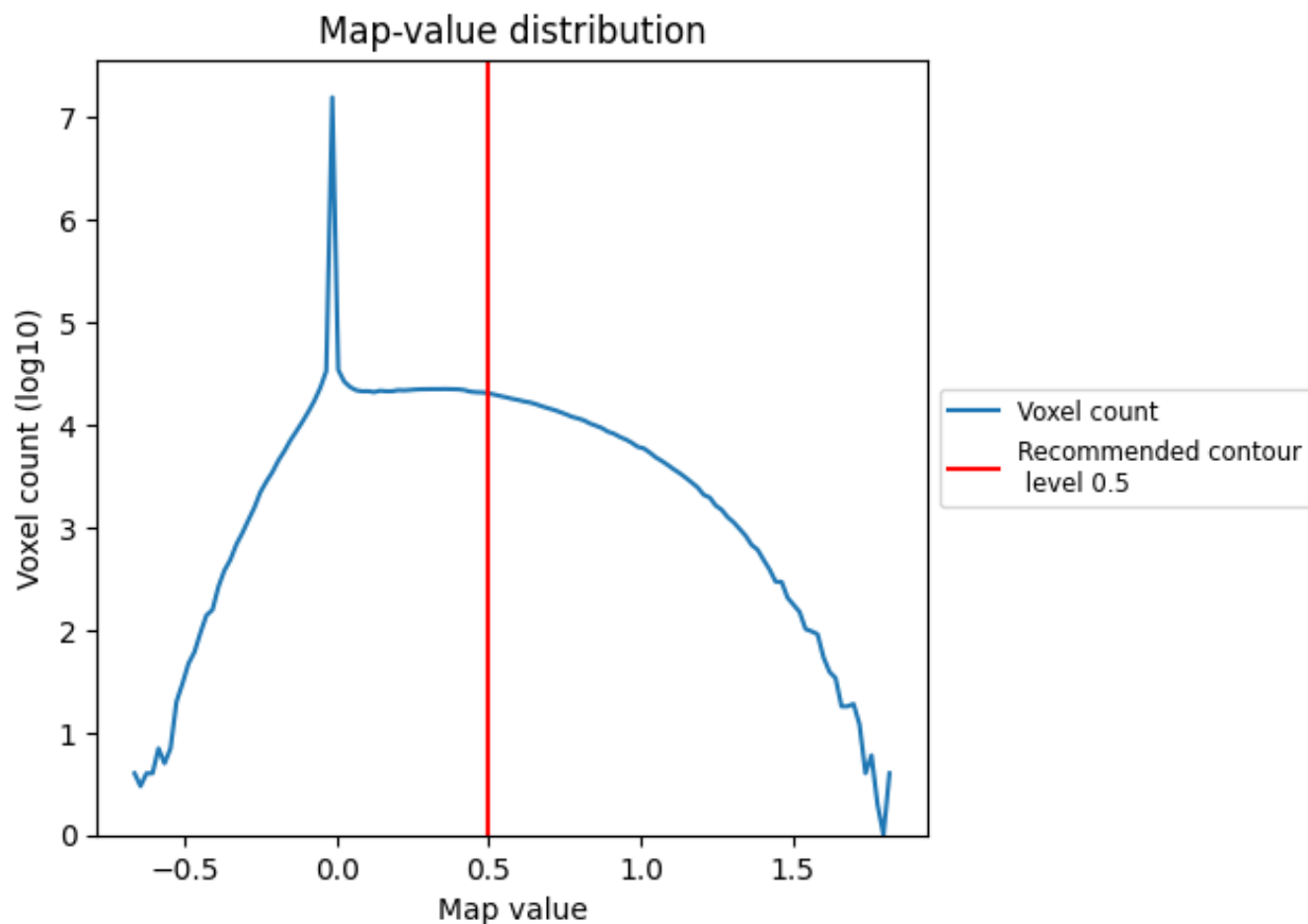


Z

7 Map analysis [i](#)

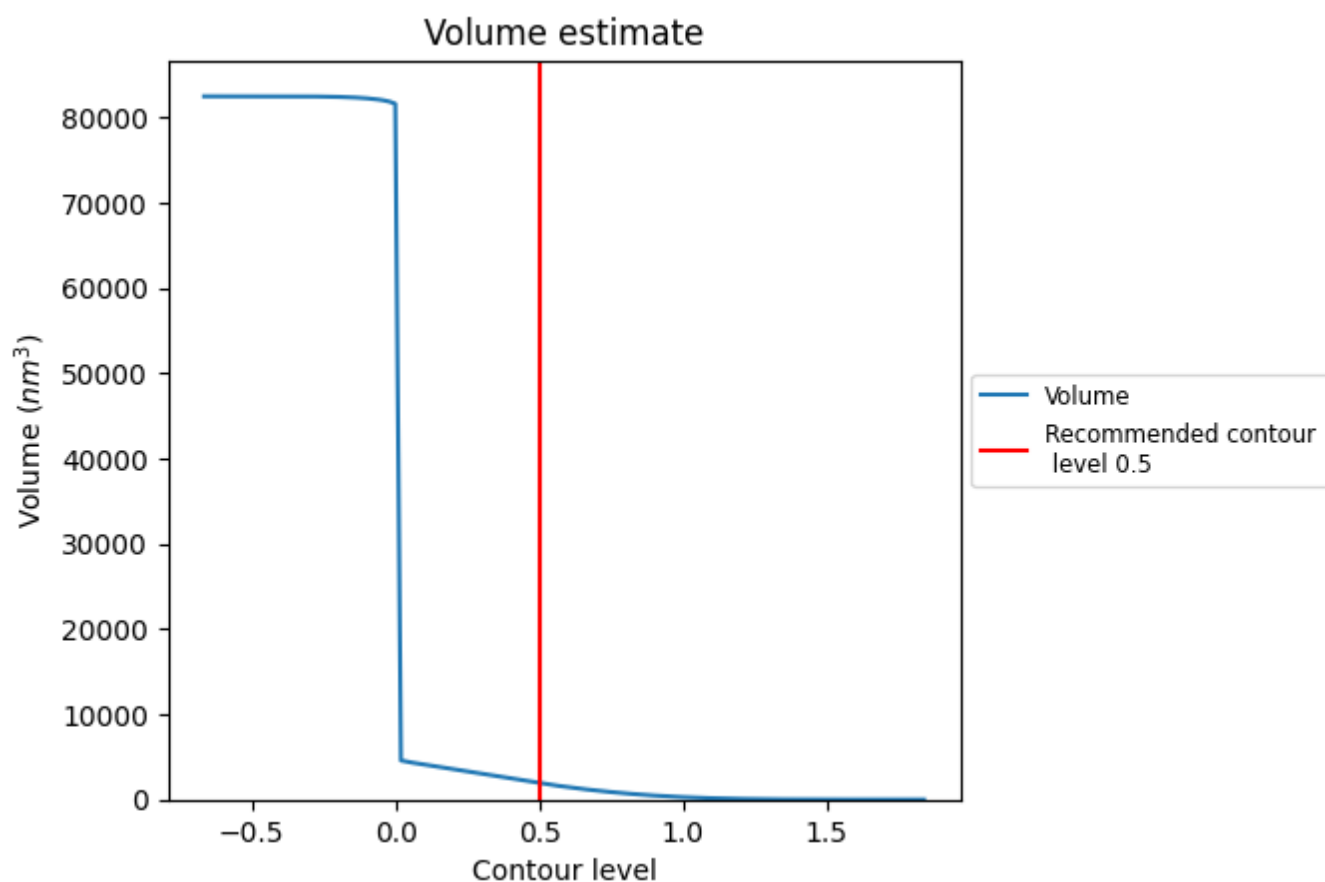
This section contains the results of statistical analysis of the map.

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.

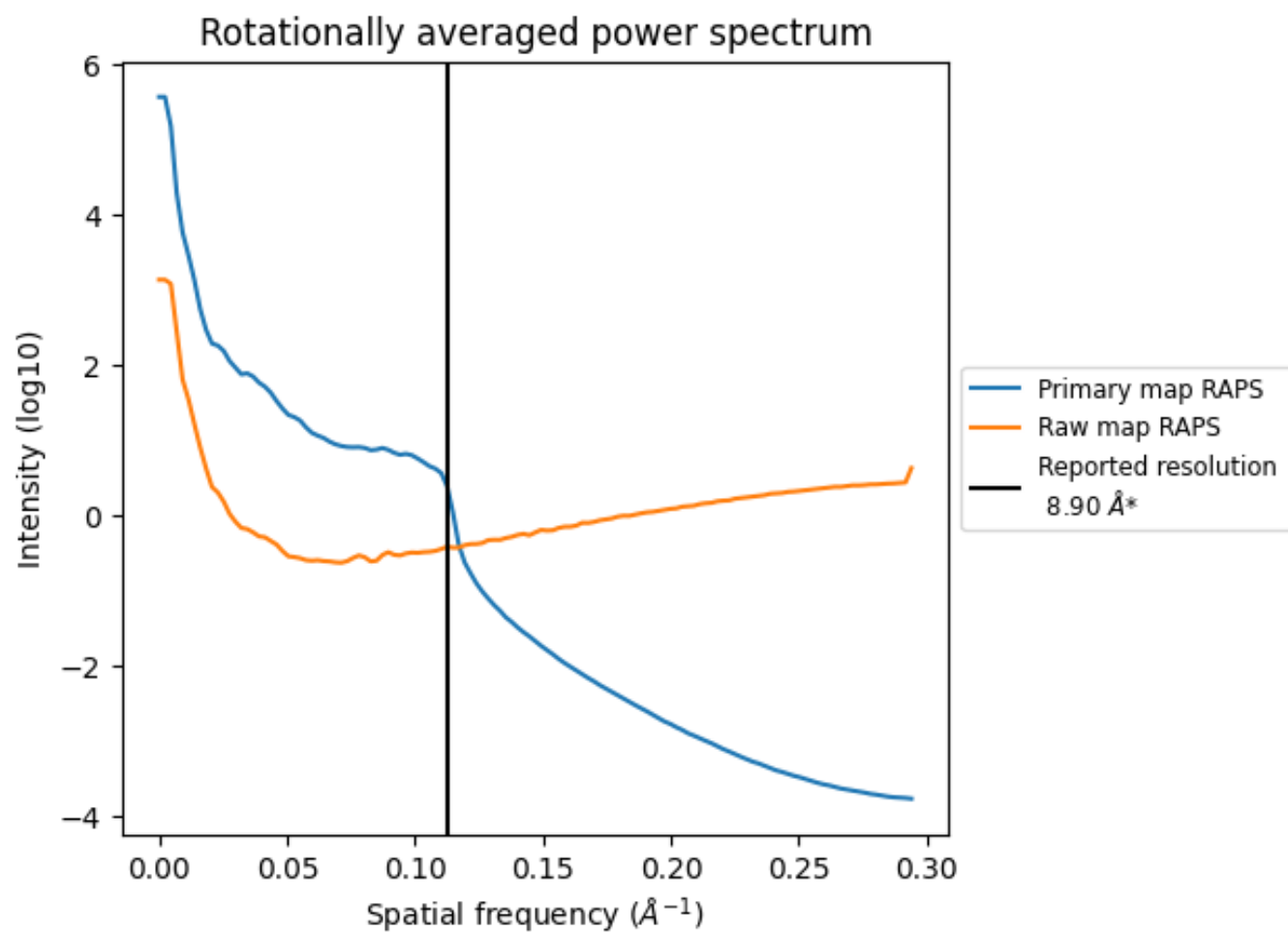
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1938 nm^3 ; this corresponds to an approximate mass of 1751 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

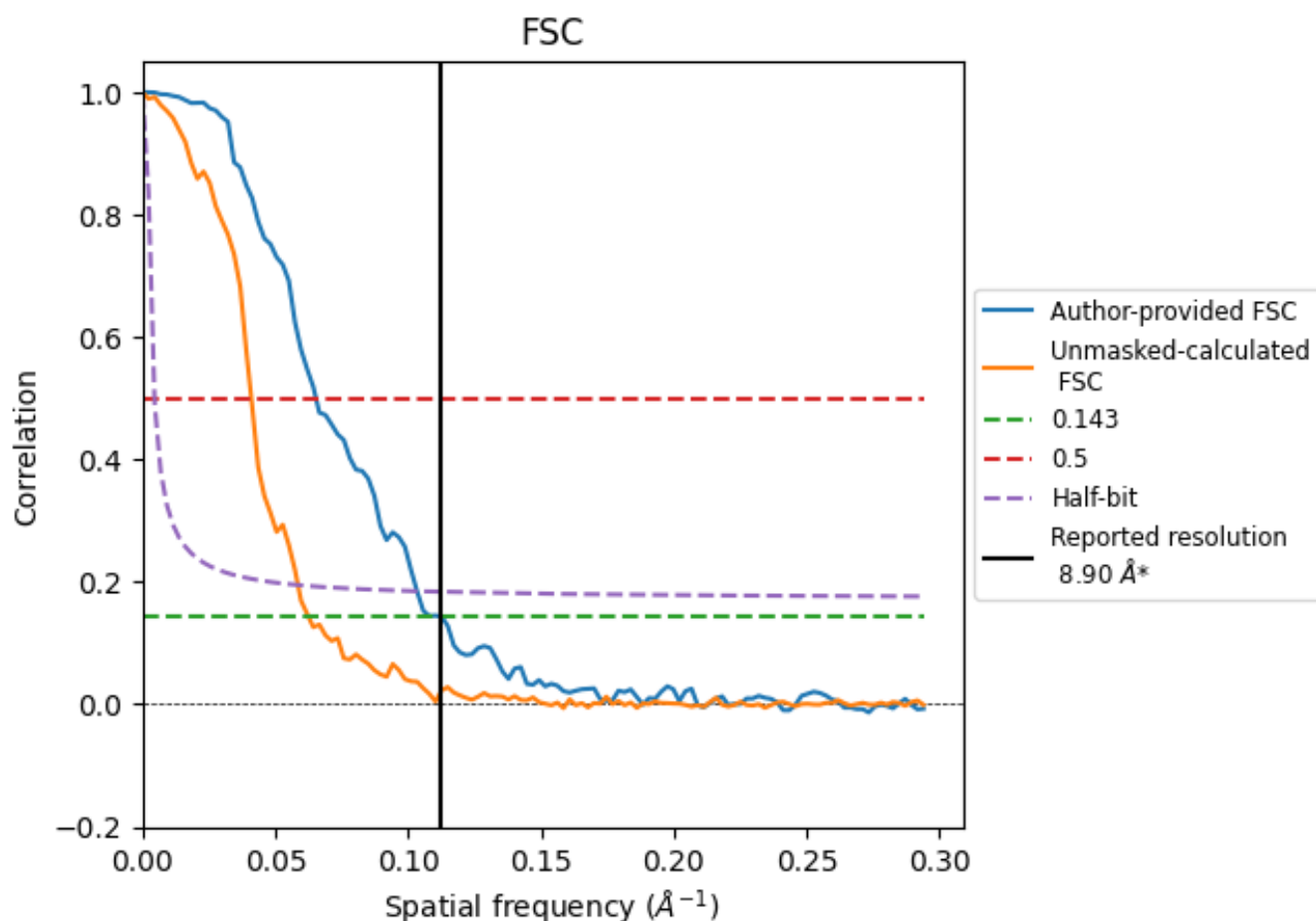


*Reported resolution corresponds to spatial frequency of 0.112 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.112 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

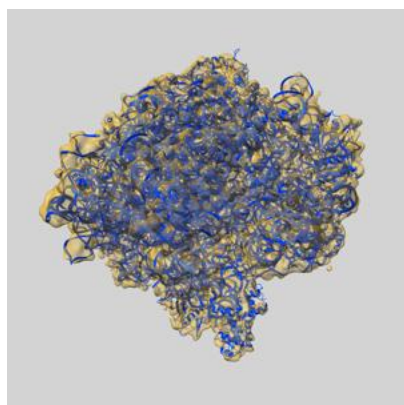
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	8.90	-	-
Author-provided FSC curve	8.88	15.31	9.68
Unmasked-calculated*	16.00	24.39	17.06

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 16.00 differs from the reported value 8.9 by more than 10 %

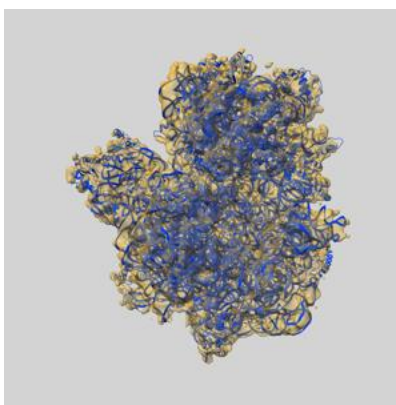
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-13432 and PDB model 7PI8. Per-residue inclusion information can be found in section 3 on page 13.

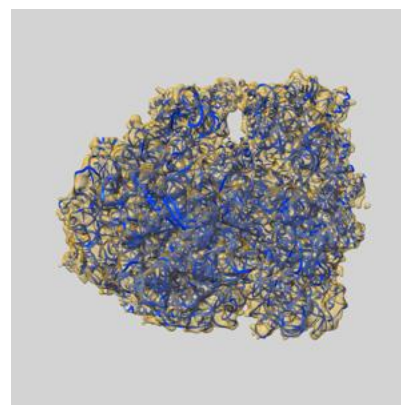
9.1 Map-model overlay [i](#)



X



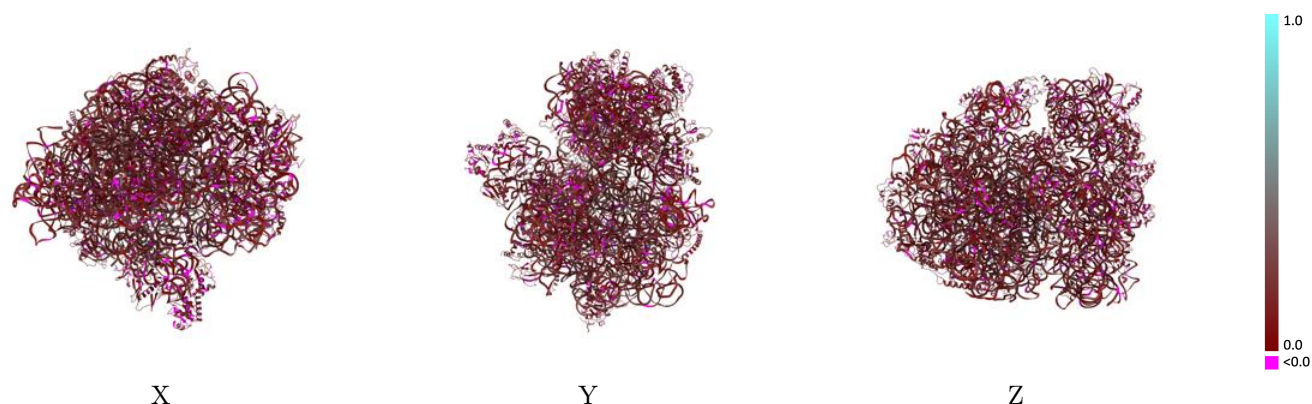
Y



Z

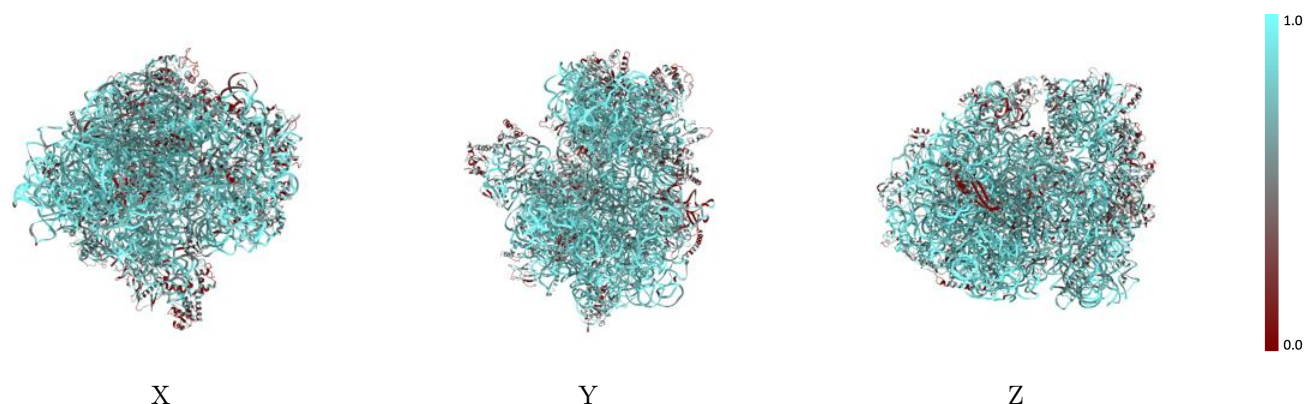
The images above show the 3D surface view of the map at the recommended contour level 0.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



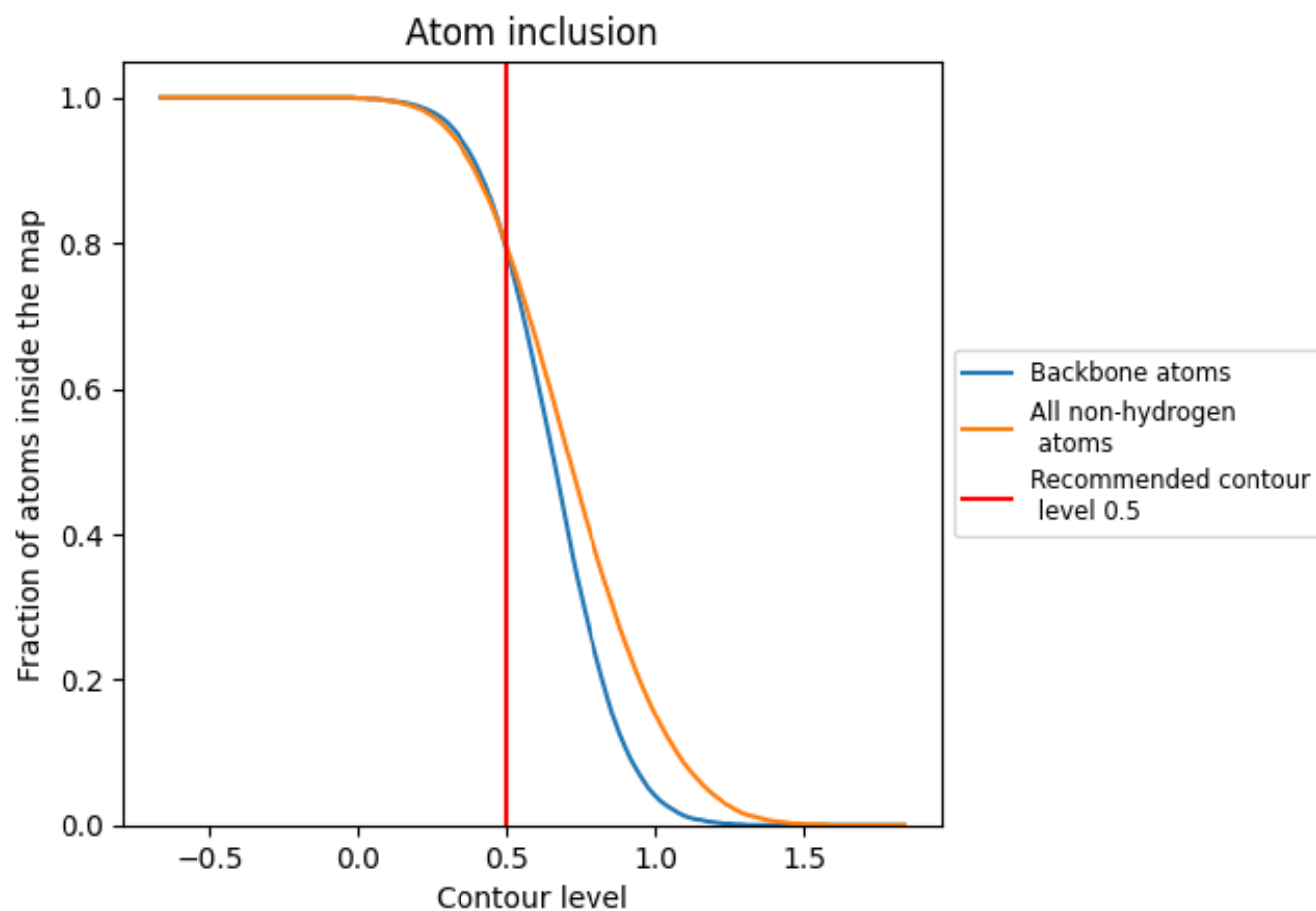
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.5).

9.4 Atom inclusion [i](#)



At the recommended contour level, 79% of all backbone atoms, 80% 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 (0.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7950	 0.1500
0	 0.6140	 0.1030
1	 0.5970	 0.1160
2	 0.7400	 0.1230
3	 0.9030	 0.1620
4	 0.8980	 0.1550
5	 0.8980	 0.1500
7	 0.8510	 0.1750
A	 0.4800	 0.1510
B	 0.5460	 0.1540
C	 0.5730	 0.1200
D	 0.4600	 0.1120
E	 0.4420	 0.1470
F	 0.5640	 0.1390
G	 0.4870	 0.1140
H	 0.5960	 0.1280
I	 0.5070	 0.1250
J	 0.6000	 0.1240
K	 0.5920	 0.1240
L	 0.5240	 0.1270
M	 0.5520	 0.0890
N	 0.6130	 0.1570
O	 0.6790	 0.1380
P	 0.6120	 0.1440
Q	 0.5950	 0.1240
R	 0.5820	 0.1150
S	 0.7150	 0.1530
T	 0.6850	 0.1820
a	 0.5900	 0.1220
b	 0.6560	 0.1310
c	 0.6240	 0.1460
d	 0.5430	 0.1410
e	 0.5280	 0.1410
f	 0.2950	 0.1220
g	 0.4300	 0.1190



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Chain	Atom inclusion	Q-score
h	 0.3930	 0.1040
i	 0.6990	 0.1540
j	 0.4620	 0.1420
k	 0.5500	 0.1210
l	 0.6080	 0.1300
m	 0.6910	 0.1310
n	 0.6150	 0.1440
o	 0.5930	 0.1490
p	 0.6900	 0.1330
q	 0.6080	 0.1500
r	 0.6850	 0.1510
s	 0.6640	 0.1540
t	 0.5730	 0.1410
u	 0.6440	 0.1160
v	 0.6280	 0.1310
w	 0.6010	 0.1720
x	 0.5420	 0.1530
y	 0.6430	 0.0860
z	 0.7410	 0.1430