



## Full wwPDB EM Validation Report ⓘ

Mar 6, 2026 – 09:34 PM UTC

PDB ID : 7PHC / pdb\_00007phc  
EMDB ID : EMD-13413  
Title : 70S ribosome with A\*- and P/E-site tRNAs in chloramphenicol-treated Mycoplasma pneumoniae cells  
Authors : Xue, L.; Lenz, S.; Rappsilber, J.; Mahamid, J.  
Deposited on : 2021-08-16  
Resolution : 9.90 Å (reported)  
Based on initial models : 4V7C, 7OOC, 7OOD

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

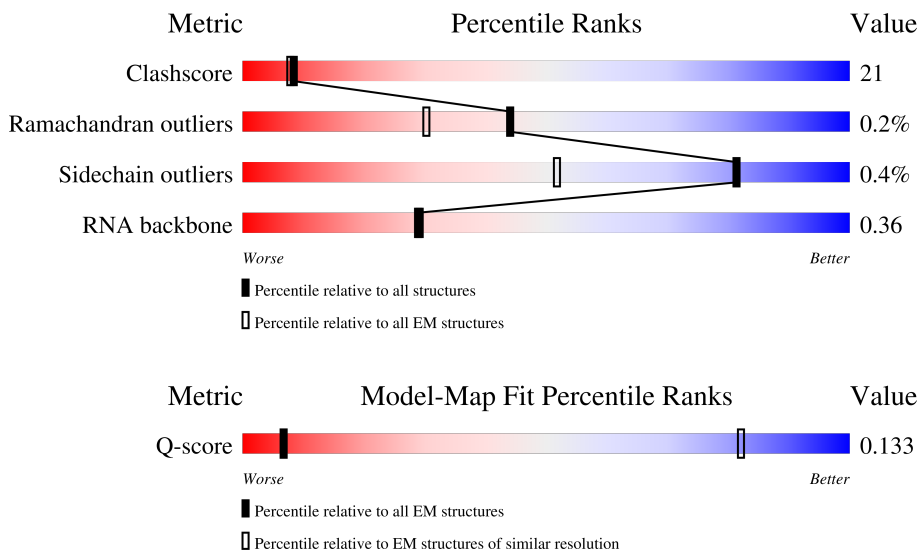
EMDB validation analysis : 0.0.1.dev132  
MolProbity : 4-5-2 with Phenix2.0  
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)  
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)  
MapQ : 1.9.13  
Ideal geometry (proteins) : 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 9.90 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.



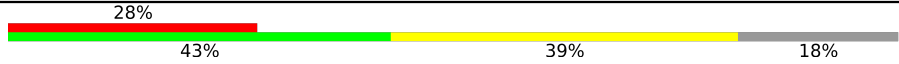

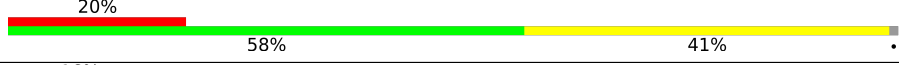


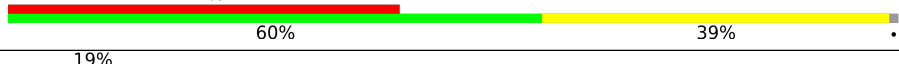
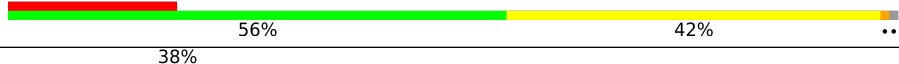
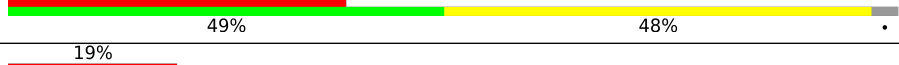



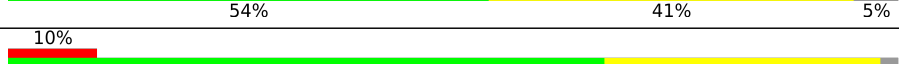
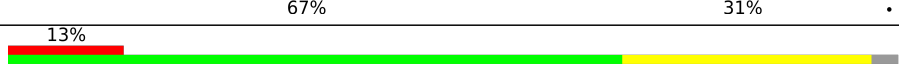
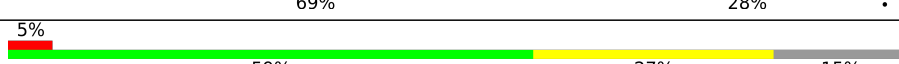

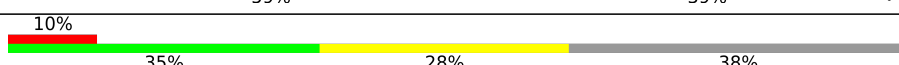
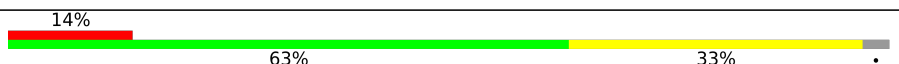

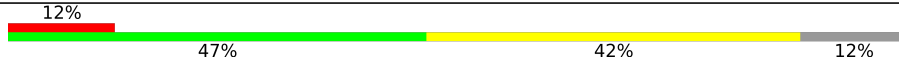


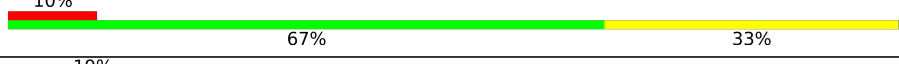
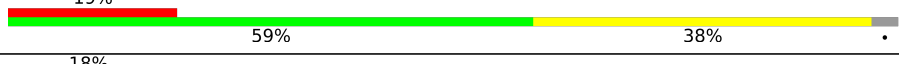


Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	149 ( 9.40 - 10.40 )

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

Mol	Chain	Length	Quality of chain
1	0	48	63% (green), 35% (yellow), 2% (grey)
2	1	59	58% (green), 42% (yellow), 0% (red), 0% (grey)
3	2	37	54% (green), 46% (yellow), 0% (red), 0% (grey)

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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	66% 58% 39% ..
30	g	161	13% 45% 27% . . 22%
31	h	137	37% 49% 45% 7%
32	i	146	10% 57% 42% .
33	j	122	15% 67% 33%
34	k	151	7% 59% 39% .
35	l	139	9% 50% 48% .
36	m	124	8% 60% 35% .
37	n	116	5% 58% 39% .
38	o	119	10% 62% 34% .
39	p	127	. 53% 37% 10%
40	q	100	. 60% 39% .
41	r	159	5% 61% 26% 13%
42	s	237	. 25% 14% 61%
43	t	111	16% 63% 37%
44	u	104	9% 62% 20% 17%
45	v	65	6% 54% 43% .
46	w	111	11% 57% 33% 10%
47	x	97	11% 31% 14% 55%
48	y	57	12% 53% 37% 7% ..
49	z	53	. 47% 47% 6%
50	3	2907	. 19% 57% 23% .
51	4	108	. 28% 44% 25% .
52	5	1520	. 19% 59% 21% .
53	6	76	20% 42% 38% 20%

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Mol	Chain	Length	Quality of chain
53	8	76	 <p>A horizontal bar chart representing the quality of chain. The bar is divided into four segments: a red segment (38%), a green segment (42%), a yellow segment (42%), and an orange segment (16%). The percentages are labeled above and below the segments.</p>

## 2 Entry composition

There are 53 unique types of molecules in this entry. The entry contains 146142 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
			Total	C	N	O	S		
1	0	47	380	236	81	61	2	0	0

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- 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	0
			1182	763	206	210	3		

- 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	0
			960	612	167	178	3		

- 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	0
			959	616	160	177	6		

- 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	0
			1164	737	213	209	5		

- 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	0
			944	595	178	167	4		

- 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
			Total	C	N	O	S		
35	l	136	1079	694	196	182	7	0	0

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

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

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

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

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

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

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

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

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

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

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

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

- 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		

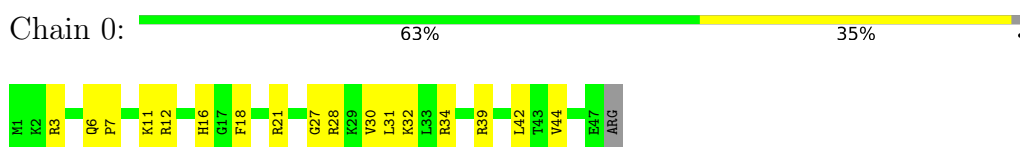
- Molecule 53 is a RNA chain called tRNA-Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	6	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		
53	8	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		

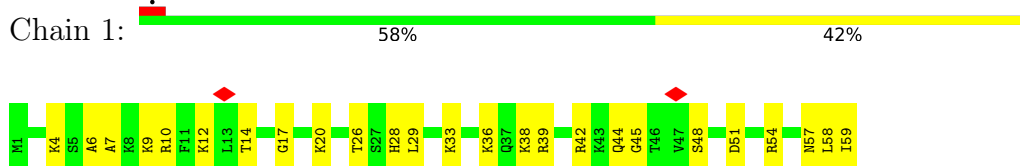
### 3 Residue-property plots [i](#)

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

- Molecule 1: 50S ribosomal protein L34



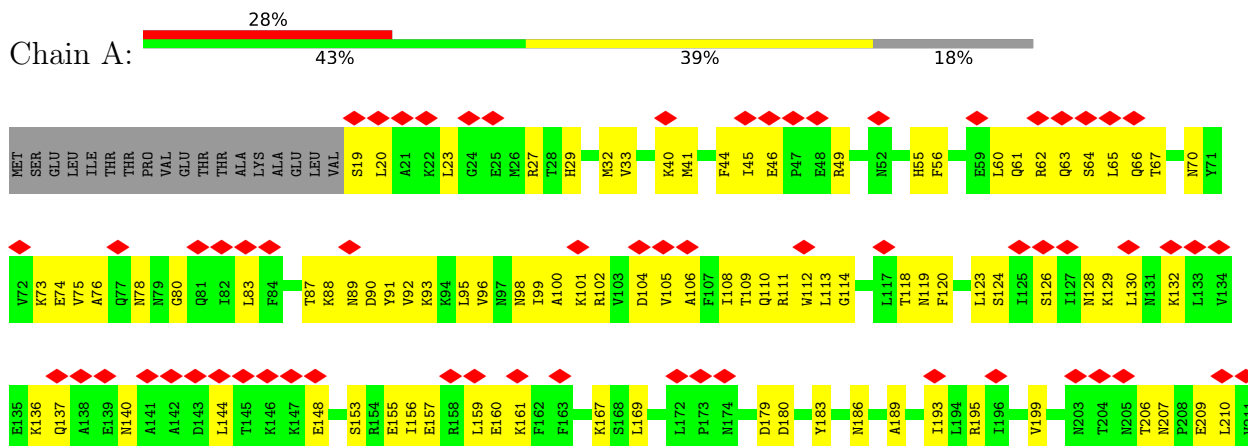
- Molecule 2: 50S ribosomal protein L35

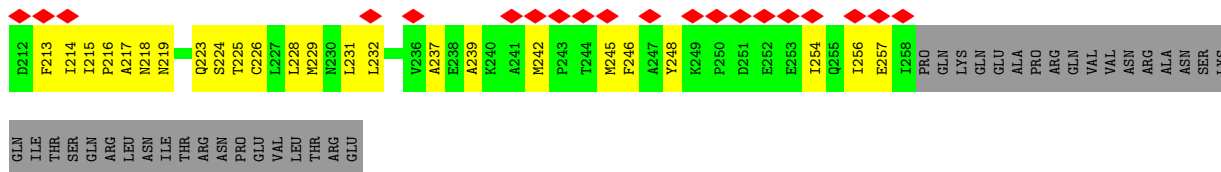


- Molecule 3: 50S ribosomal protein L36

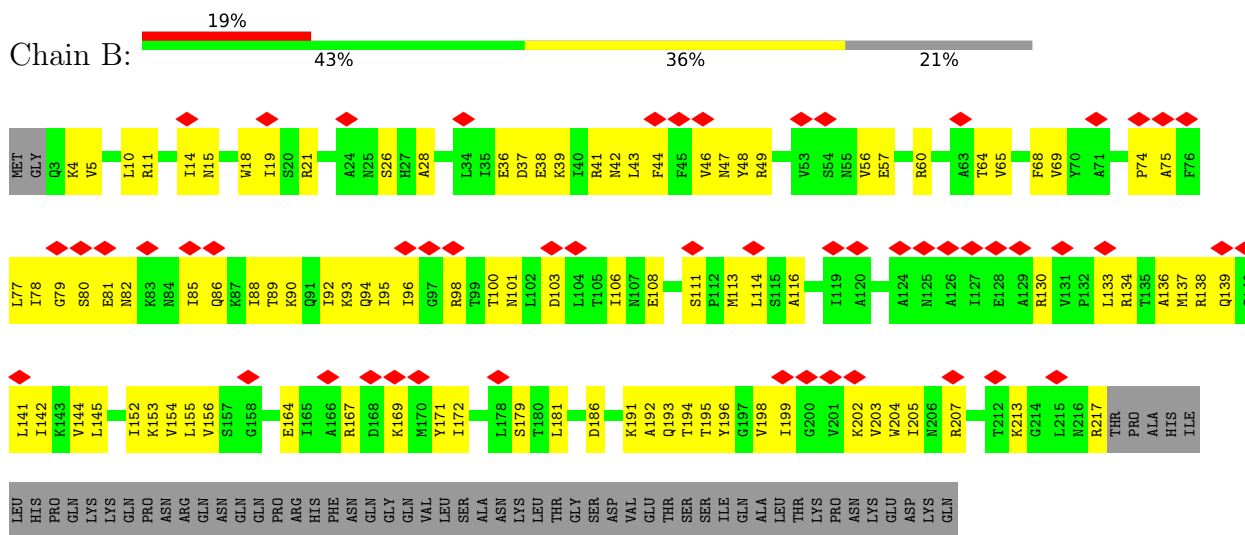


- Molecule 4: 30S ribosomal protein S2

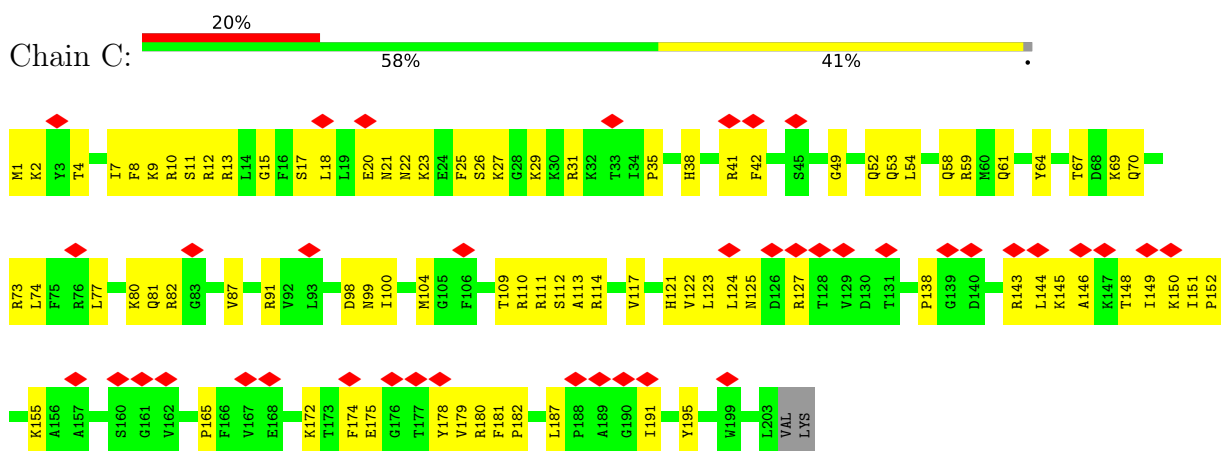




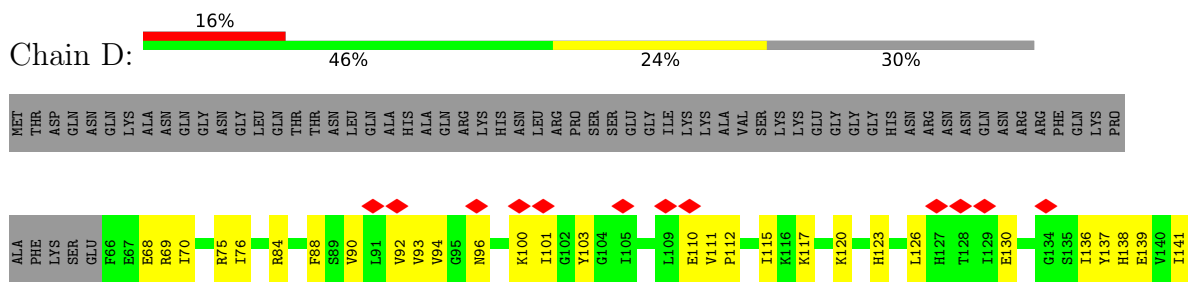
• Molecule 5: 30S ribosomal protein S3

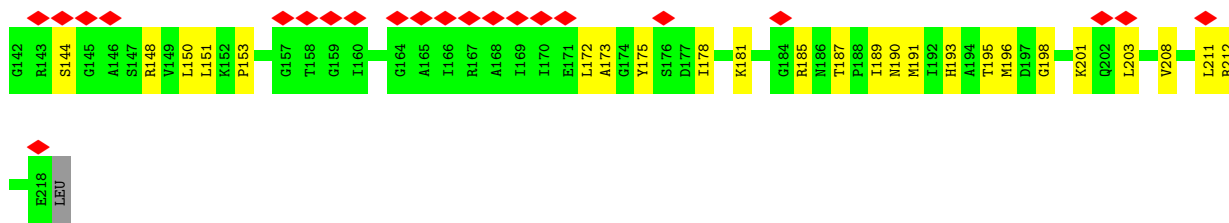


• Molecule 6: 30S ribosomal protein S4

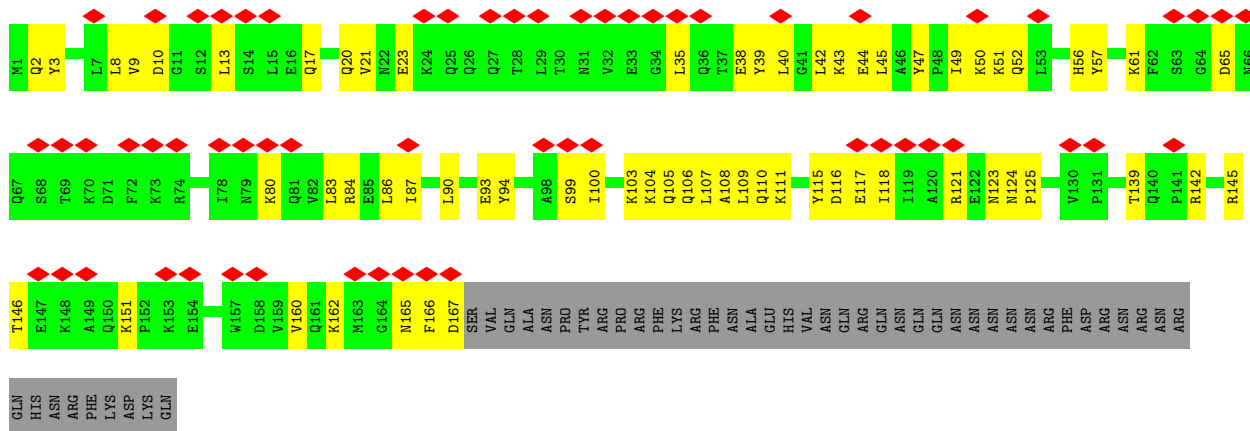


• Molecule 7: 30S ribosomal protein S5

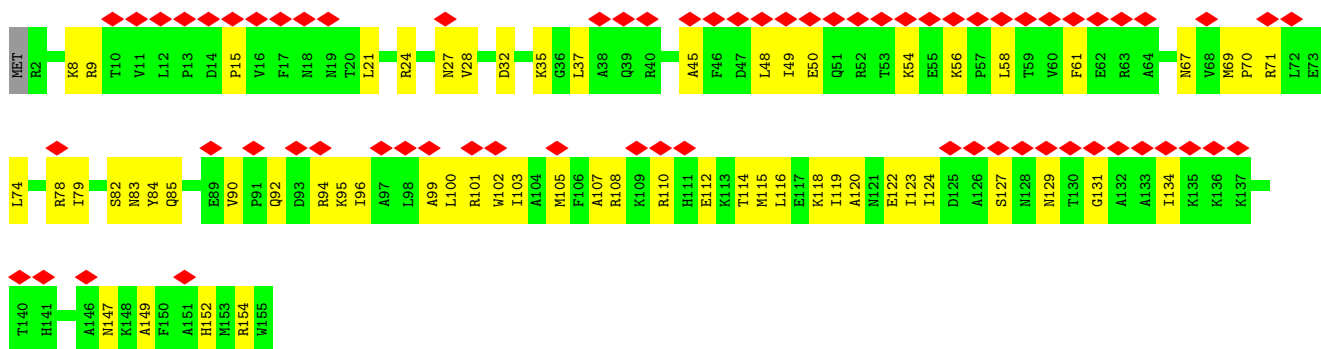




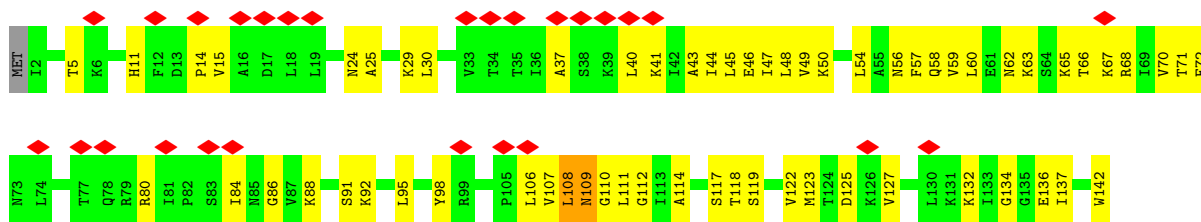
• Molecule 8: 30S ribosomal protein S6



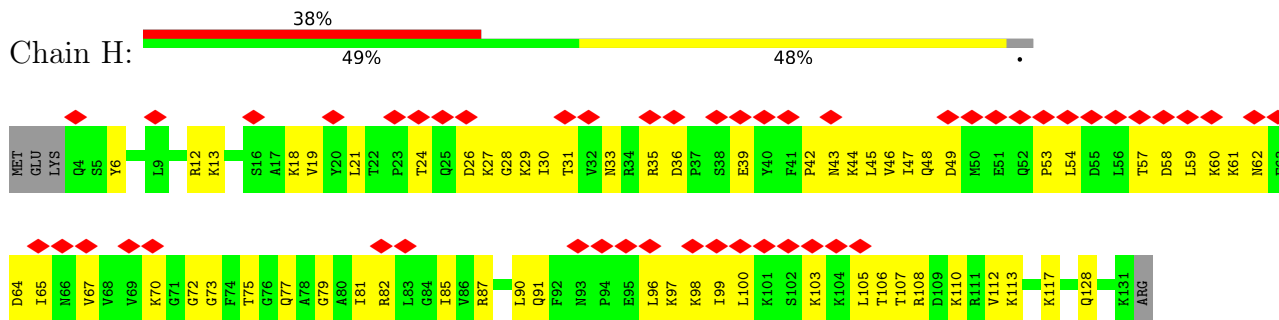
• Molecule 9: 30S ribosomal protein S7



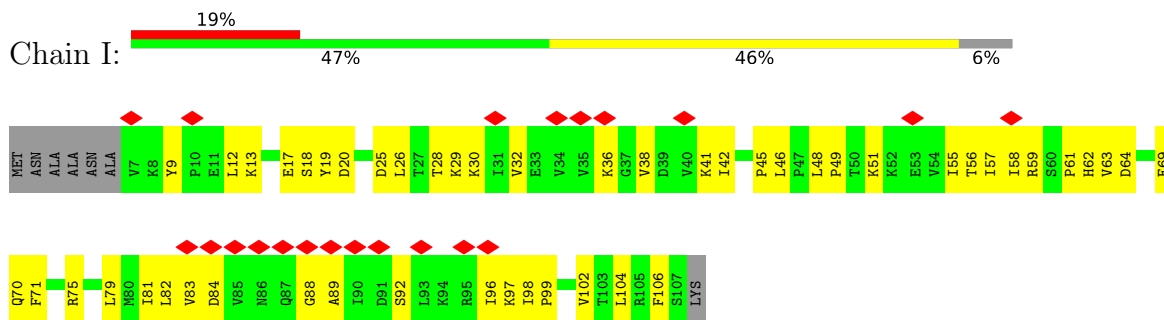
• Molecule 10: 30S ribosomal protein S8



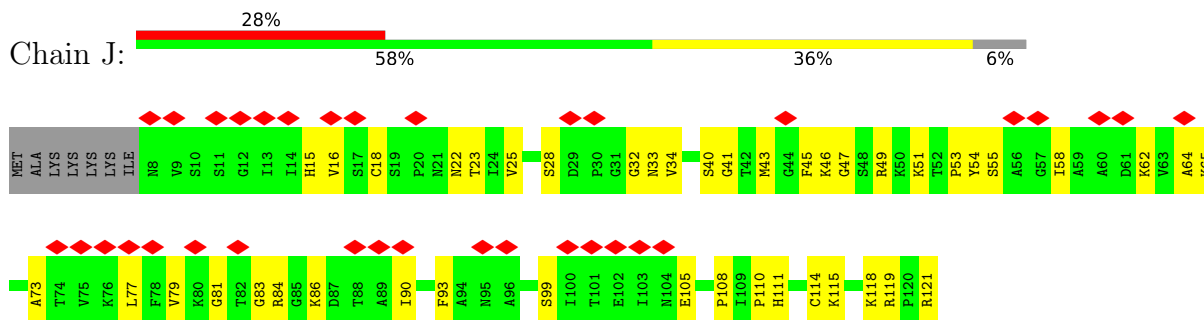
• Molecule 11: 30S ribosomal protein S9



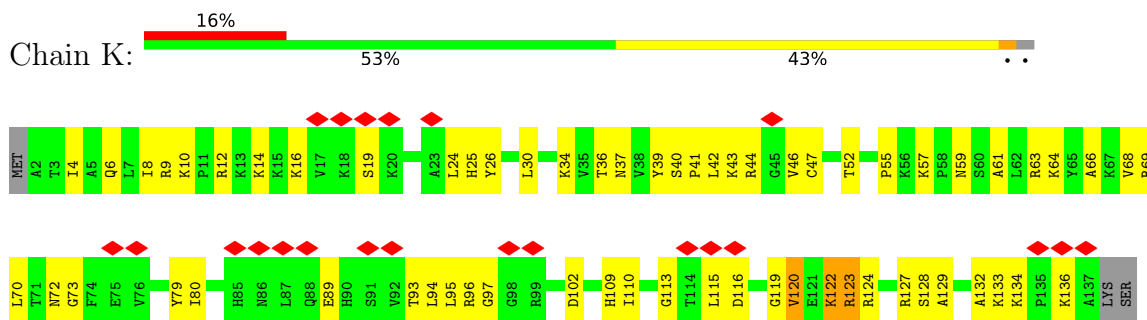
• Molecule 12: 30S ribosomal protein S10



• Molecule 13: 30S ribosomal protein S11

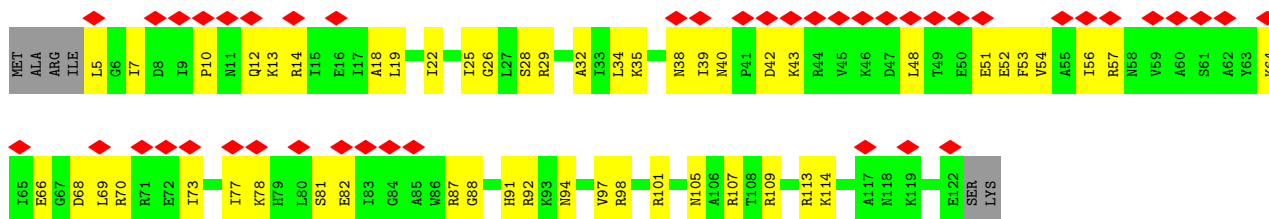


• Molecule 14: 30S ribosomal protein S12



• Molecule 15: 30S ribosomal protein S13





• Molecule 16: 30S ribosomal protein S14 type Z



• Molecule 17: 30S ribosomal protein S15



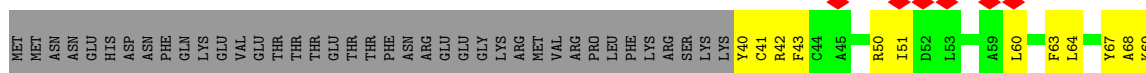
• Molecule 18: 30S ribosomal protein S16

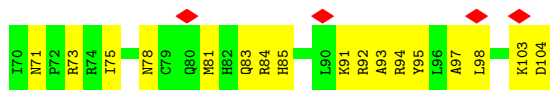


• Molecule 19: 30S ribosomal protein S17

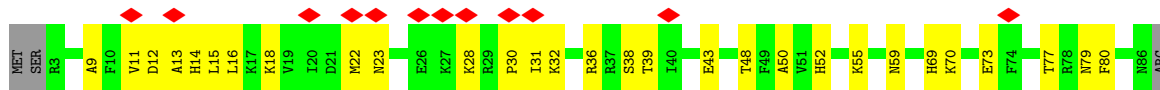


• Molecule 20: 30S ribosomal protein S18

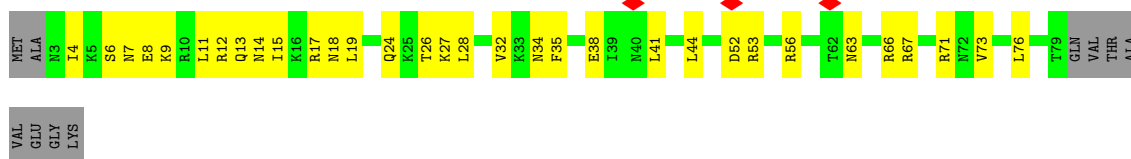




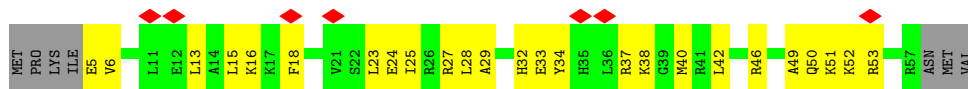
• Molecule 21: 30S ribosomal protein S19



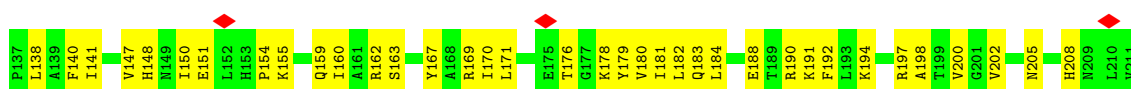
• Molecule 22: 30S ribosomal protein S20



• Molecule 23: 30S ribosomal protein S21

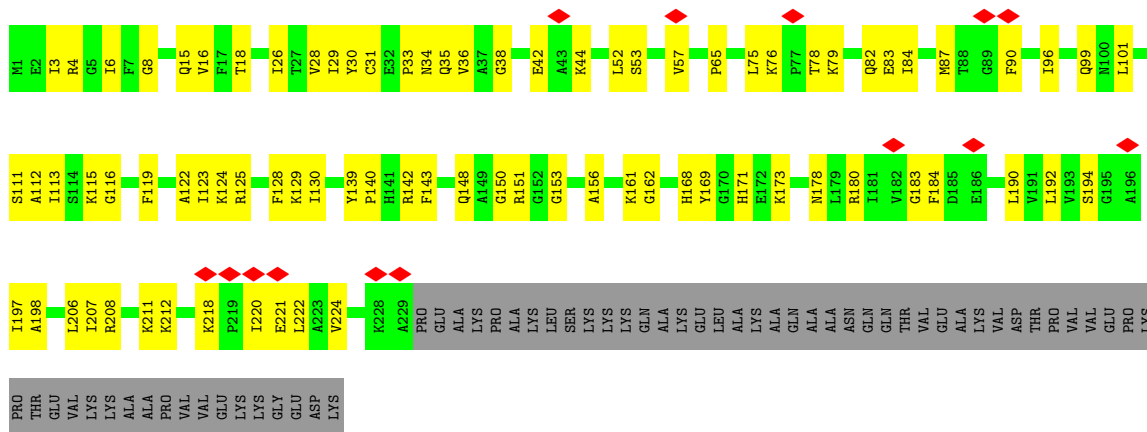


• Molecule 24: 50S ribosomal protein L2

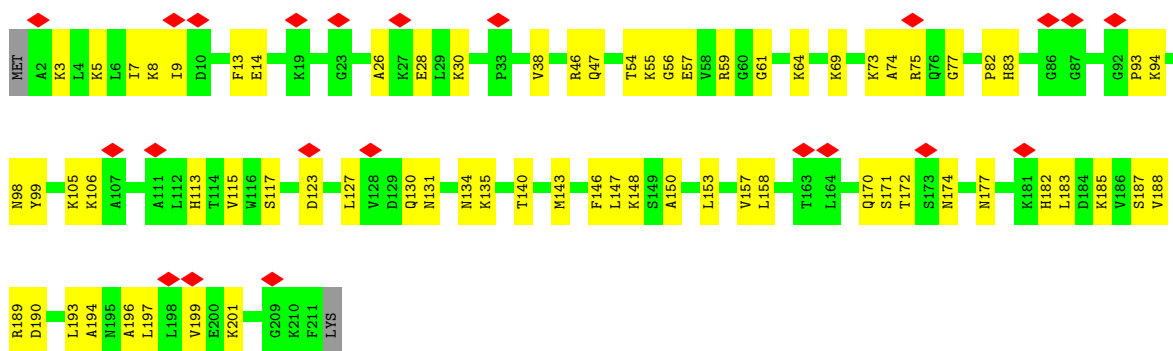


• Molecule 25: 50S ribosomal protein L3

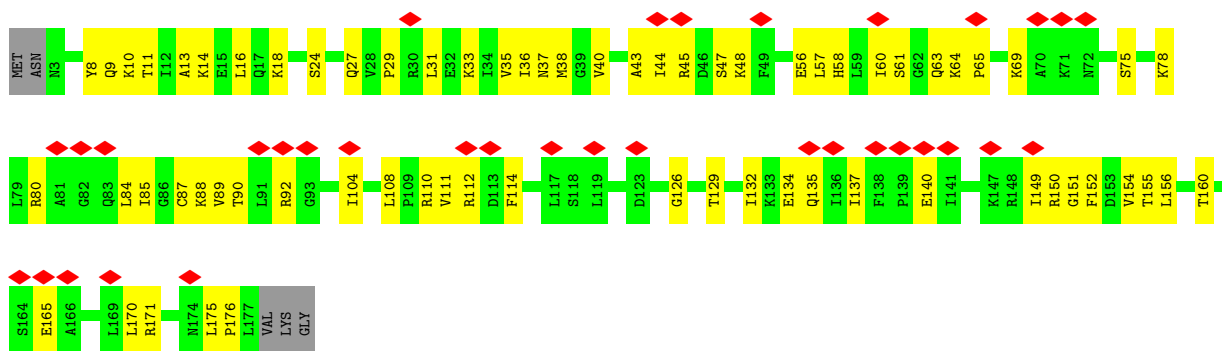




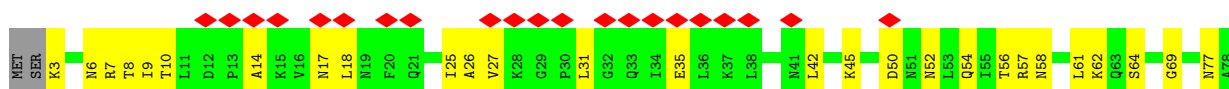
• Molecule 26: 50S ribosomal protein L4

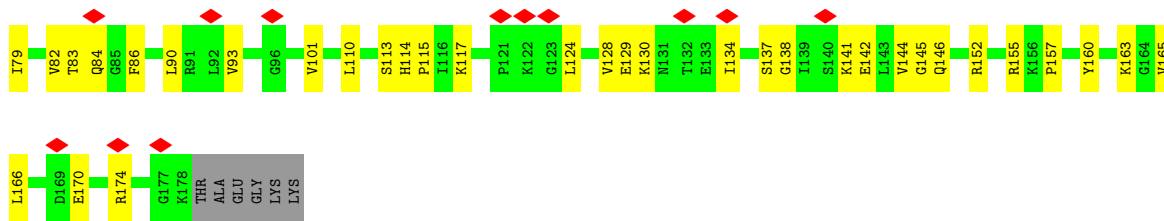


• Molecule 27: 50S ribosomal protein L5

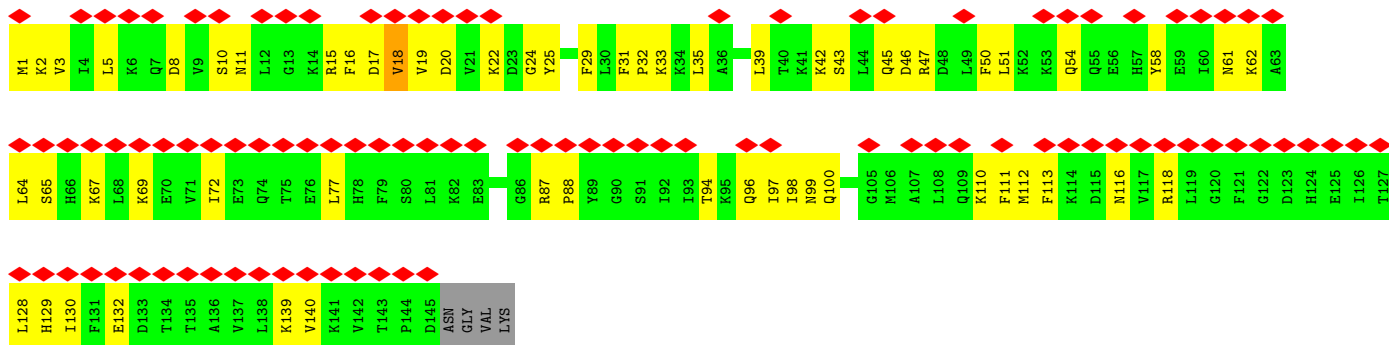


• Molecule 28: 50S ribosomal protein L6

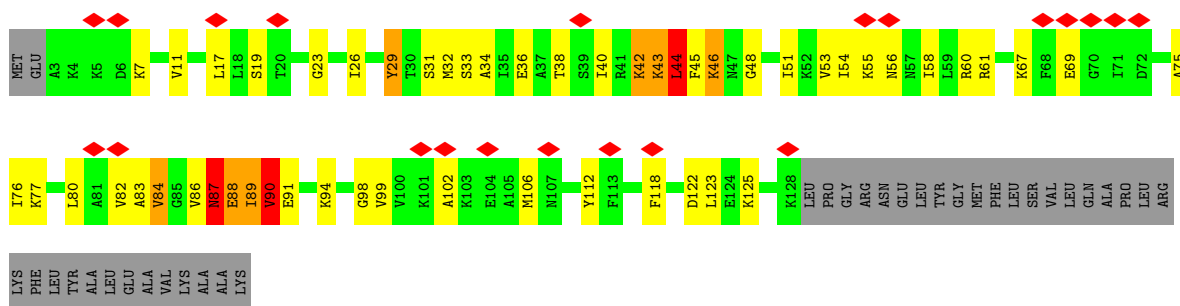
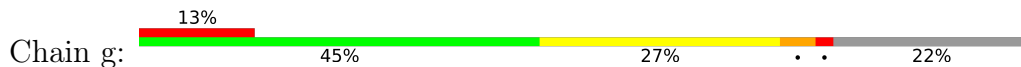




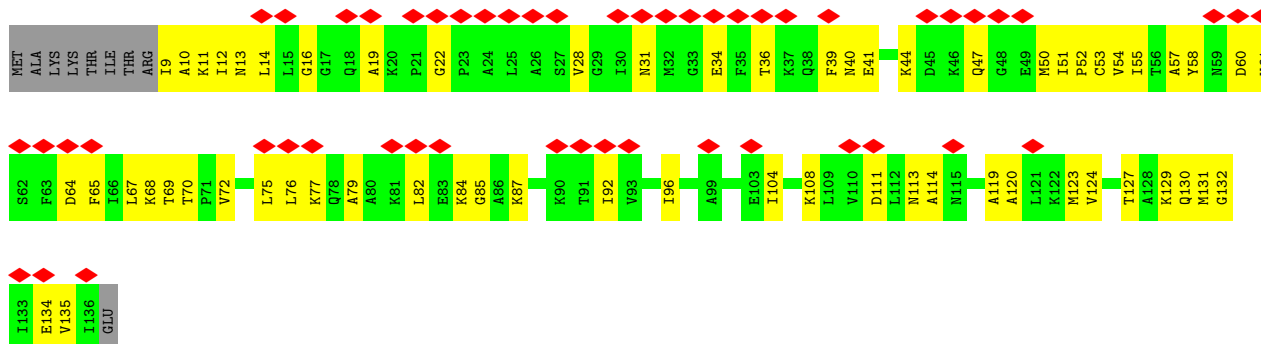
• Molecule 29: 50S ribosomal protein L9



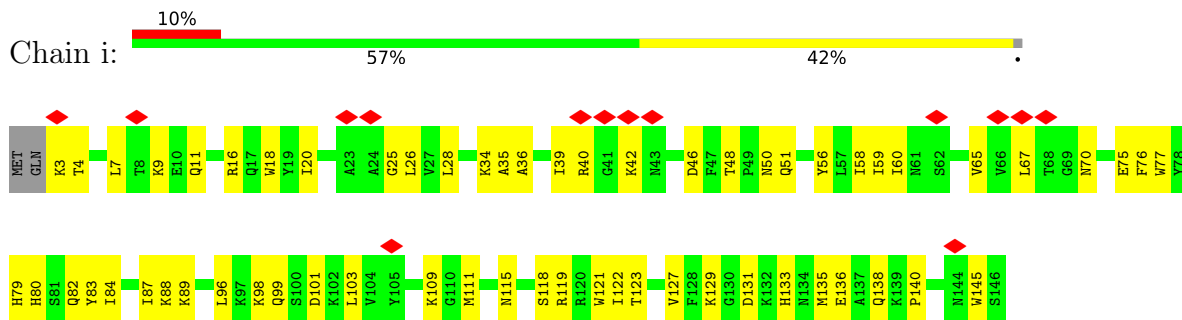
• Molecule 30: 50S ribosomal protein L10



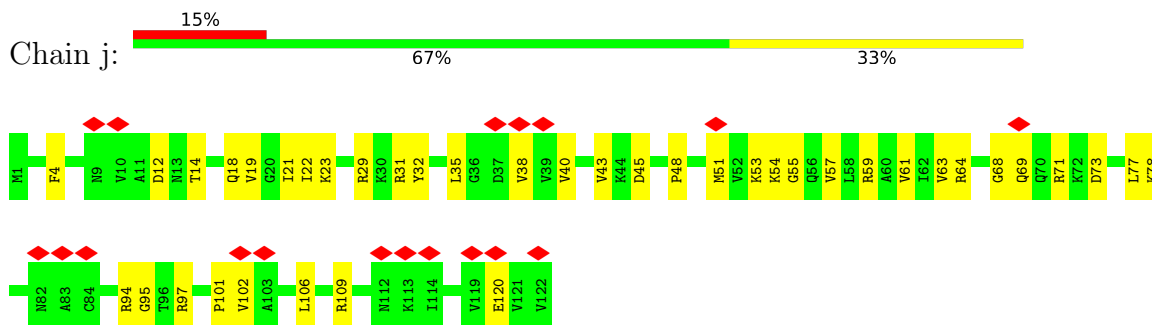
• Molecule 31: 50S ribosomal protein L11



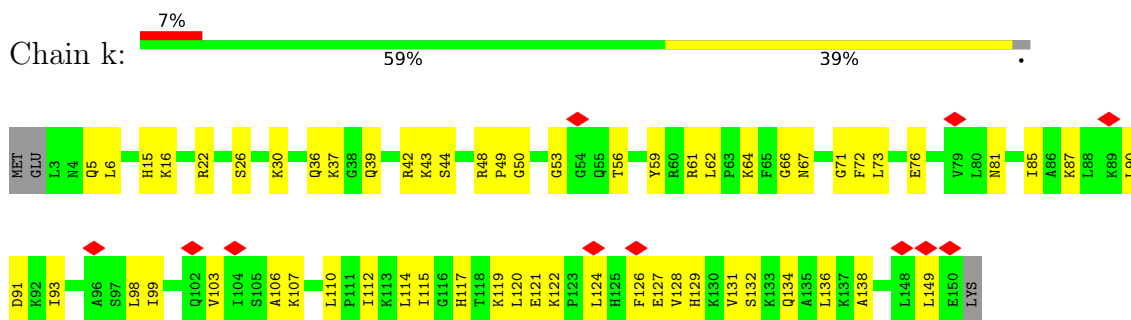
• Molecule 32: 50S ribosomal protein L13



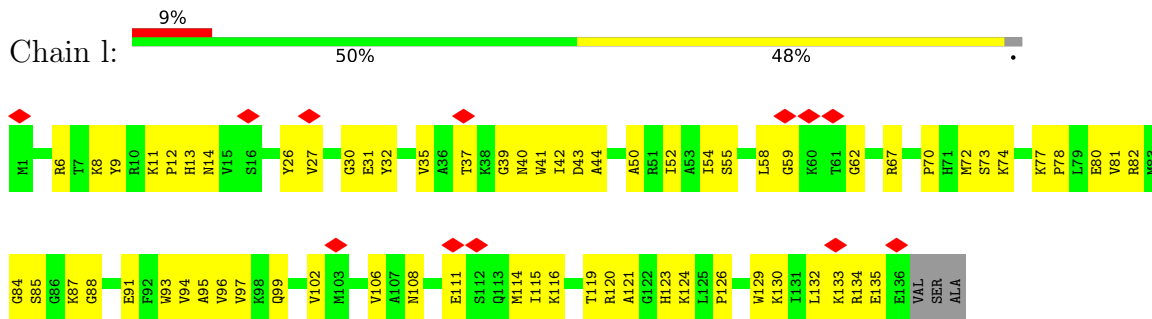
• Molecule 33: 50S ribosomal protein L14



• Molecule 34: 50S ribosomal protein L15

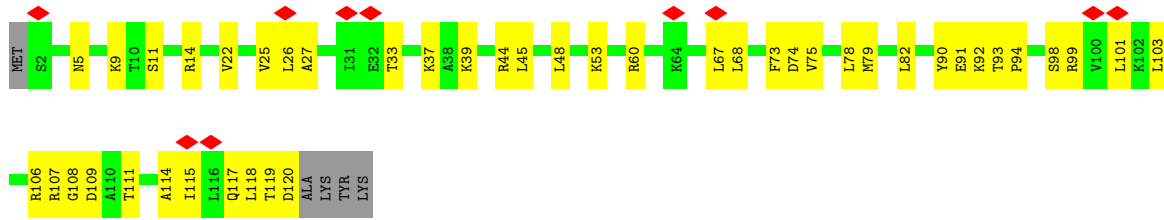


• Molecule 35: 50S ribosomal protein L16

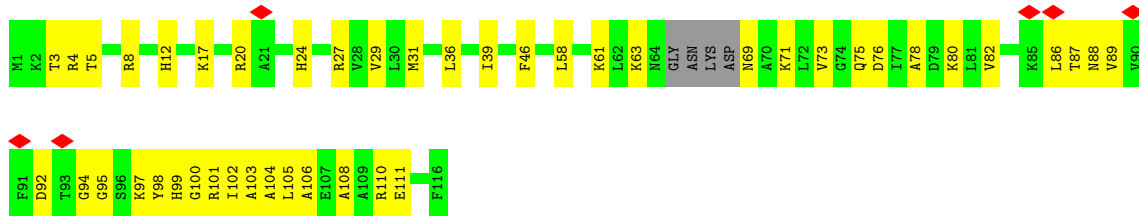


• Molecule 36: 50S ribosomal protein L17

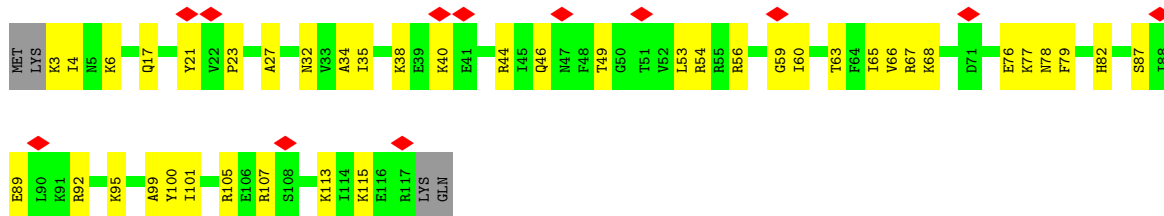




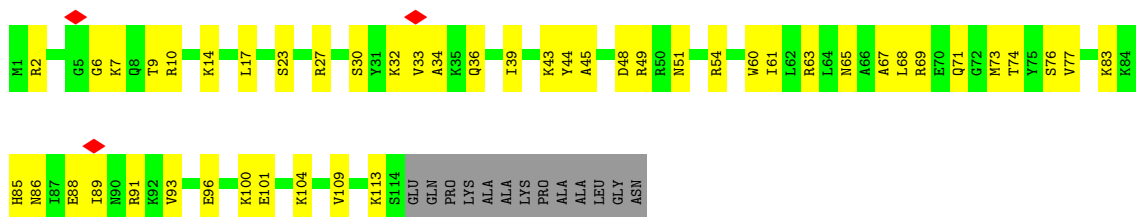
• Molecule 37: 50S ribosomal protein L18



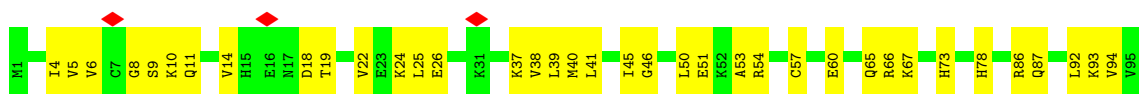
• Molecule 38: 50S ribosomal protein L19



• Molecule 39: 50S ribosomal protein L20



• Molecule 40: 50S ribosomal protein L21



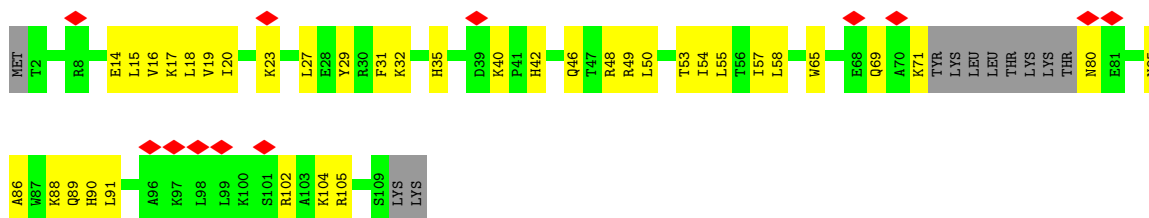




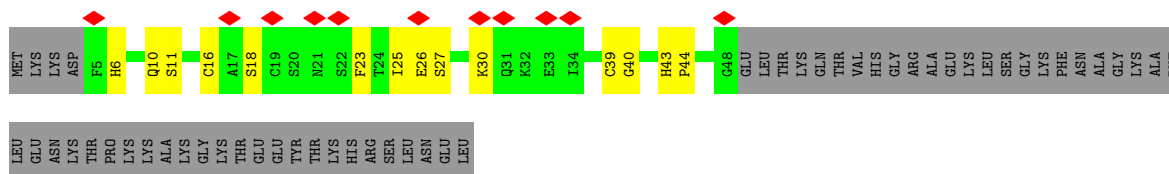
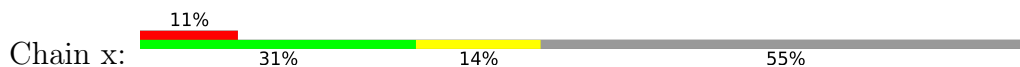
- Molecule 45: 50S ribosomal protein L28



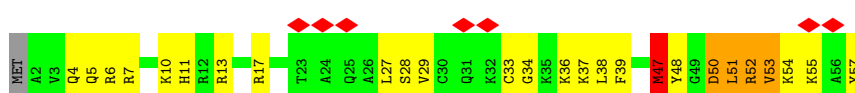
- Molecule 46: 50S ribosomal protein L29



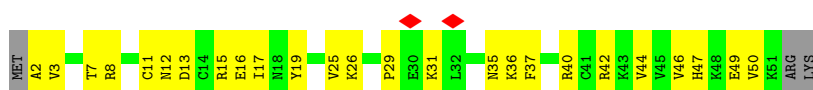
- Molecule 47: 50S ribosomal protein L31



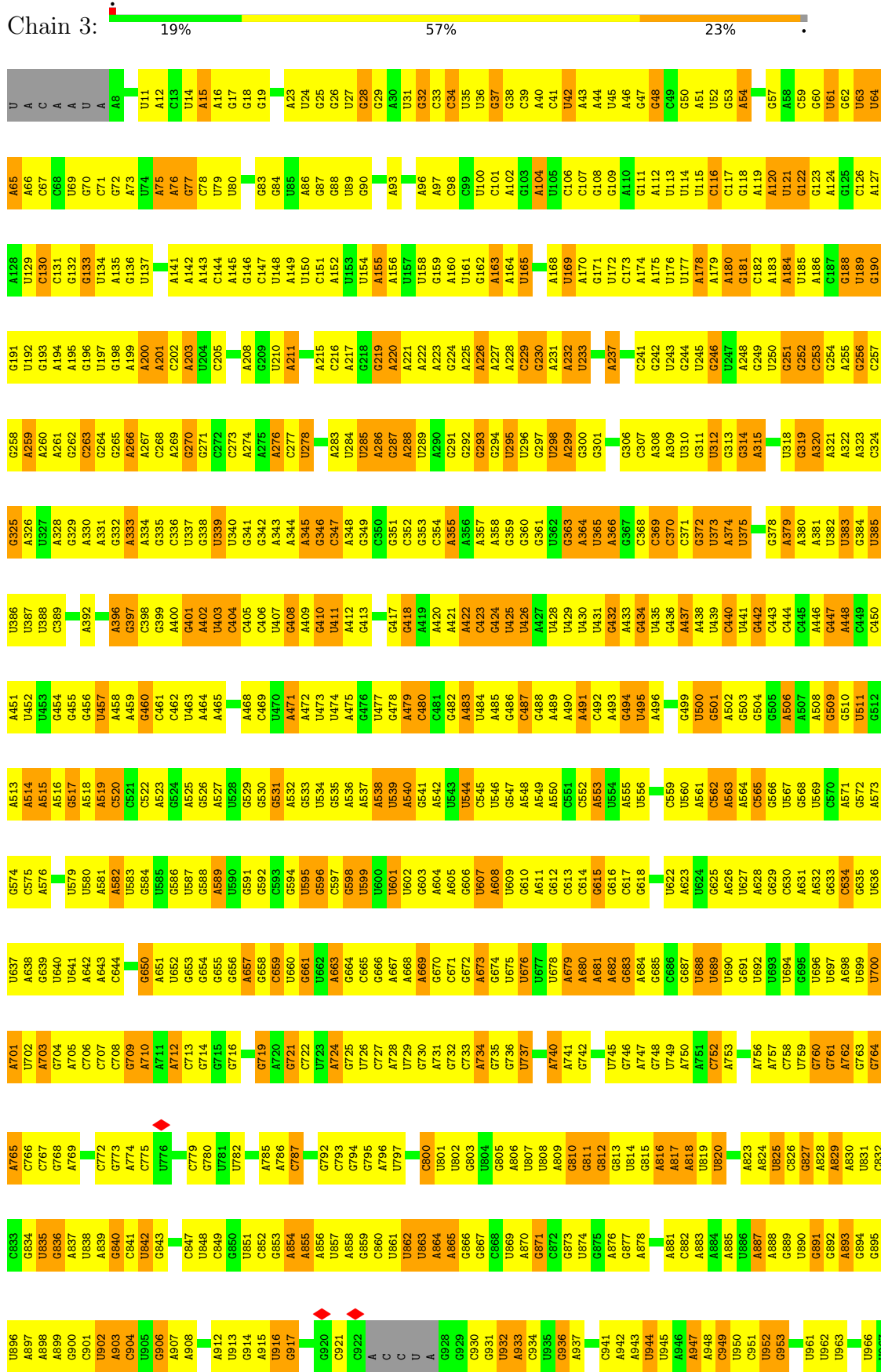
- Molecule 48: 50S ribosomal protein L32



- Molecule 49: 50S ribosomal protein L33 1

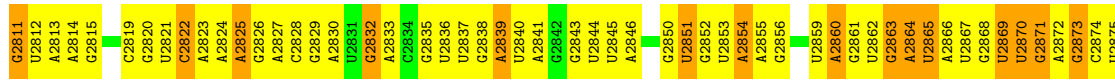


- Molecule 50: 23S ribosomal RNA

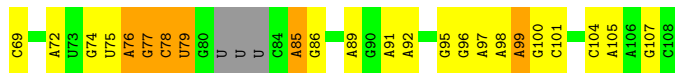
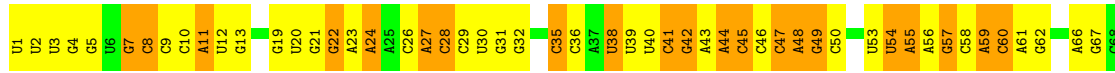


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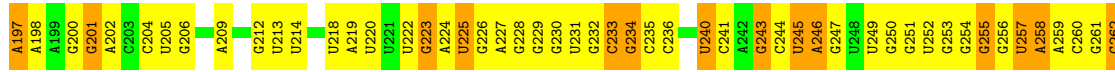
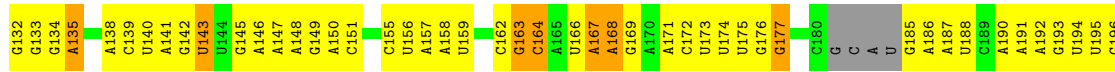
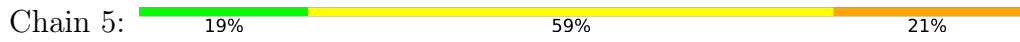
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G2306	C2307	U2308	A2309	C2310	C2311	C2312	U2313	U2314	C2315	C2316	A2317	C2318	A2319	U2320	C2321	C2322	C2323	U2324	U2325	C2326	U2327	C2328	A2329	C2330	C2331	U2332	C2333	U2334	A2335	C2336	U2337	C2338	C2339	U2340	C2341	U2342	A2343	C2344	C2345	C2346	C2347	U2348	C2349	C2350	U2351	C2352	C2353	A2354	C2355	U2356	C2357	U2358	C2359	C2360	C2361	C2362	C2363	A2364	U2365	A2366																																																												
U2118	A2119	C2120	A2123	A2124	U2125	A2126	U2128	U2129	A2130	C2131	A2132	C2133	C2134	C2135	A2136	U2137	U2138	C2139	C2140	A2141	U2142	C2143	C2144	A2145	A2146	C2147	U2148	U2149	C2150	C2151	C2152	C2153	A2154	C2155	C2156	A2157	C2158	U2159	C2160	C2161	U2162	U2163	A2164	A2165	U2166	C2167	C2168	C2169	A2170	A2171	A2172	C2173	C2174	U2175	C2176	A2177	A2178																																																															
A2179	U2180	A2181	C2182	U2183	A2184	C2185	C2186	U2189	C2190	C2191	U2192	U2193	C2194	U2195	C2196	U2197	C2199	U2200	U2201	U2202	U2203	C2204	U2205	A2206	A2207	A2208	C2210	U2211	C2212	A2213	A2214	C2215	U2216	A2220	C2221	C2222	C2223	A2224	C2225	U2226	U2227	C2228	C2229	A2230	A2231	C2232	A2233	C2234	C2235	C2236	U2237	C2238	U2239	U2240	A2241	C2242																																																																
G2293	U2294	C2295	C2296	C2297	C2298	C2299	C2300	C2301	C2302	C2303	C2304	C2305	C2306	C2307	C2308	C2309	C2310	C2311	C2312	C2313	C2314	C2315	C2316	C2317	C2318	C2319	C2320	C2321	C2322	C2323	C2324	C2325	C2326	C2327	C2328	C2329	C2330	C2331	U2332	C2333	C2334	A2335	C2336	U2337	C2338	C2339	U2340	C2341	U2342	A2343	C2344	C2345	C2346	C2347	C2348	C2349	C2350	C2351	C2352	C2353	A2354	C2355	U2356	C2357	U2358	C2359	C2360	C2361	C2362	C2363	A2364	U2365	A2366																																															
U1994	G1995	A1996	C1997	U1998	G1999	U2000	C2001	U2002	C2003	C2004	G2005	C2006	U2007	A2008	C2009	A2010	C2011	A2012	C2013	U2014	A2015	C2016	C2017	C2018	C2019	A2020	A2021	C2022	U2023	C2024	C2025	C2026	G2027	C2028	A2029	C2030	C2031	G2032	C2033	C2034	U2035	C2036	A2037	C2038	C2039	A2040	C2041	A2042	C2043	C2044	C2045	C2046	U2047	C2048	A2049	U2050	C2051	C2052	C2053	C2054																																																												
A2055	A2056	C2057	C2058	C2059	A2060	C2061	C2062	C2063	C2064	C2065	C2066	A2067	C2068	A2069	C2070	C2071	C2072	C2073	C2074	C2075	C2076	A2077	C2078	C2079	C2080	C2081	U2082	C2083	C2084	C2085	C2086	C2087	U2088	C2089	C2090	A2095	U2096	C2097	U2098	U2099	C2100	A2101	U2102	C2103	A2104	C2105	C2106	A2107	C2108	A2109	U2110	U2111	C2112	U2113	C2114	A2115	U2116	C2117	C2118																																																													
U1962	C1963	C1964	C1965	C1966	C1967	C1968	C1969	C1970	C1971	C1972	C1973	C1974	C1975	C1976	C1977	C1978	C1979	C1980	C1981	C1982	C1983	C1984	C1985	C1986	C1987	C1988	C1989	C1990	C1991	C1992	C1993	C1994	C1995	C1996	C1997	C1998	C1999	C2000	C2001	C2002	C2003	C2004	C2005	C2006	C2007	C2008	C2009	C2010	C2011	C2012	C2013	C2014	C2015	C2016	C2017	C2018	C2019	C2020	C2021	C2022	C2023	C2024	C2025	C2026	C2027	C2028	C2029	C2030	C2031	C2032	C2033	C2034	C2035	C2036	C2037	C2038	C2039	C2040	C2041	C2042	C2043	C2044	C2045	C2046	C2047	C2048	C2049	C2050	C2051	C2052	C2053	C2054																												
G1928	G1929	U1930	C1931	U1932	U1933	A1934	A1935	G1936	C1937	U1938	C1939	A1940	C1941	C1942	A1943	C1944	C1945	C1946	U1947	U1948	C1949	U1950	A1951	G1952	U1953	C1954	C1955	C1956	G1957	U1958	C1959	A1960	C1961	U1962	C1969	C1970	G1971	C1972	U1973	U1974	C1975	A1976	C1977	U1978	C1979	C1980	C1981	C1982	C1983	C1984	C1985	C1986	C1987	C1988	C1989	C1990	C1991	C1992	C1993	C1994	C1995	C1996	C1997	C1998	C1999	C2000	C2001	C2002	C2003	C2004	C2005	C2006	C2007	C2008	C2009	C2010	C2011	C2012	C2013	C2014	C2015	C2016	C2017	C2018	C2019	C2020	C2021	C2022	C2023	C2024	C2025	C2026	C2027	C2028	C2029	C2030	C2031	C2032	C2033	C2034	C2035	C2036	C2037	C2038	C2039	C2040	C2041	C2042	C2043	C2044	C2045	C2046	C2047	C2048	C2049	C2050	C2051	C2052	C2053	C2054



• Molecule 51: 5S ribosomal RNA

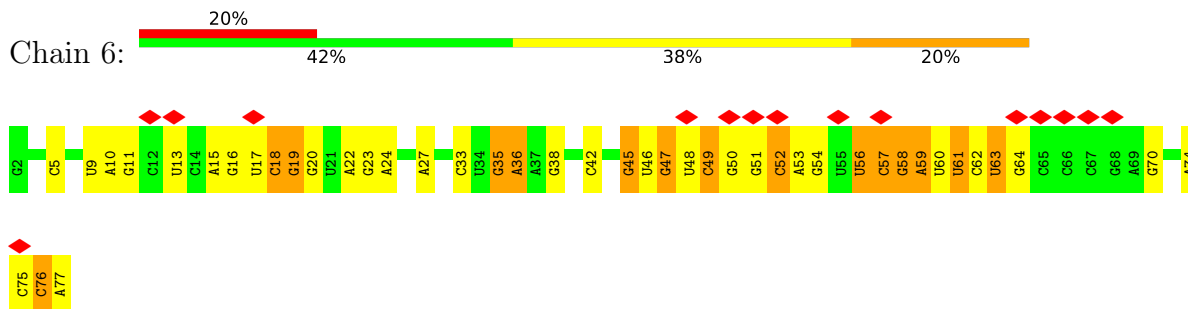


• Molecule 52: 16S ribosomal RNA

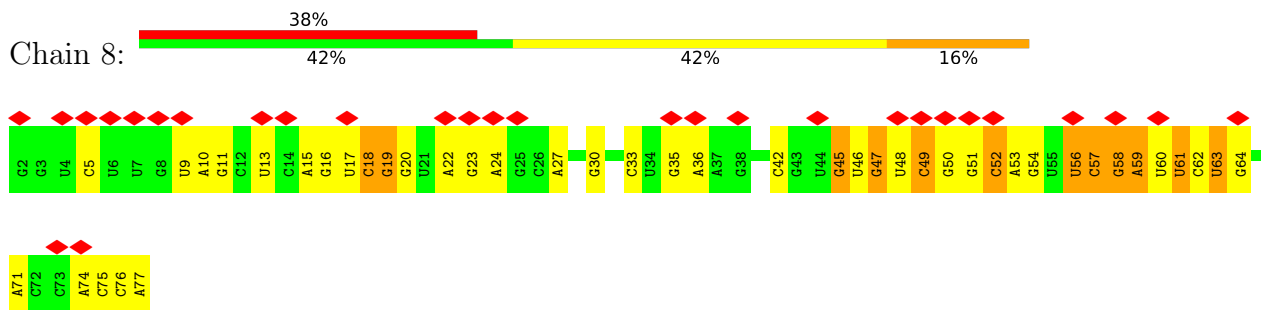


A1467	A1468	G1469	U1470	C1471	U1472	U1473	A1474	U1475	A1476	A1477	A1478	G1479	G1480	A1481	A1482	C1483	C1484	C1485	A1486	U1487	A1488	A1492	A1493	G1496	U1497	G1498	G1499	G1500	G1501	G1502	U1503	G1504	G1505	A1506	U1507	C1508	A1509	C	C	U	C	C	U	A																																															
A1401	U1402	A1403	U1404	U1405	U1406	A1407	A1408	A1409	A1410	G1411	G1412	G1413	U1414	U1415	U1416	U1417	U1418	U1419	U1420	U1421	U1422	U1423	U1424	U1425	U1426	U1427	U1428	U1429	U1430	U1431	U1432	U1433	U1434	U1435	U1436	U1437	U1438	U1439	U1440	U1441	U1442	U1443	U1444	U1445	U1446	U1447	U1448	U1449	U1450	U1451	U1452	U1453	U1454	U1455	U1456	U1457	U1458	U1459	U1460	U1461	U1462	U1463	U1464	U1465	U1466																										
C1336	U1337	A1338	U1339	U1340	U1341	C1342	U1343	U1344	U1345	U1346	U1347	U1348	U1349	A1350	U1351	A1352	C1353	U1354	U1355	U1356	C1357	U1358	U1359	U1360	U1361	U1362	U1363	U1364	U1365	U1366	U1367	U1368	U1369	C1370	A1371	C1372	U1373	U1374	U1375	U1376	U1377	U1378	U1379	U1380	U1381	U1382	U1383	U1384	U1385	C1386	U1387	U1388	U1389	U1390	U1391	U1392	U1393	U1394	U1395	U1396	U1397	U1398	U1399	A1400																											
U1275	U1276	C1277	G1278	G1279	A1280	U1281	U1282	G1283	A1284	U1285	U1286	U1287	C1288	U1289	G1290	U1291	U1292	A1293	U1294	U1295	C1296	G1297	U1298	C1299	C1300	U1301	C1302	U1303	G1304	G1305	A1306	U1307	C1308	U1309	C1310	G1311	G1312	A1313	A1314	U1315	C1316	A1317	U1318	U1319	A1320	G1321	U1322	A1323	A1324	U1325	C1326	U1327	U1328	U1329	U1330	U1331	U1332	U1333	A1334	U1335																															
U1209	U1210	G1211	C1212	U1213	U1214	U1215	G1216	C1217	U1218	U1219	U1220	U1221	U1222	A1223	U1224	U1225	U1226	C1227	C1228	U1229	G1230	G1231	G1232	C1233	C1234	C1235	U1236	G1237	U1238	U1239	U1240	U1241	U1242	U1243	U1244	U1245	U1246	U1247	U1248	U1249	U1250	U1251	U1252	U1253	U1254	U1255	U1256	C1257	U1258	U1259	U1260	U1261	U1262	U1263	U1264	U1265	U1266	U1267	U1268	U1269	U1270	U1271	C1272	U1273	U1274																										
G1085	U1086	C1087	C1088	C1089	U1090	C1091	A1092	A1093	C1094	U1095	A1096	U1097	C1098	U1099	C1100	A1101	A1102	C1103	U1104	U1105	U1106	U1107	A1108	U1109	C1110	U1111	U1112	U1113	U1114	U1115	U1116	U1117	U1118	U1119	U1120	U1121	U1122	U1123	U1124	C1125	U1126	A1127	U1128	C1129	U1130	A1131	U1132	A1133	C1134	U1135	U1136	C1137	U1138	A1139	U1140	U1141	U1142	C1143	A1144																																
A1145	U1146	G1147	U1148	U1149	U1150	U1151	U1152	U1153	U1154	U1155	U1156	U1157	U1158	U1159	U1160	U1161	U1162	U1163	U1164	U1165	U1166	U1167	U1168	U1169	U1170	U1171	U1172	U1173	U1174	U1175	U1176	U1177	U1178	U1179	U1180	U1181	U1182	U1183	U1184	U1185	U1186	U1187	U1188	U1189	U1190	U1191	U1192	U1193	U1194	U1195	U1196	U1197	U1198	U1199	U1200	U1201	U1202	U1203	U1204	U1205	U1206	U1207	U1208	U1209	U1210																										
U1065	U1066	U1067	U1068	U1069	U1070	U1071	U1072	U1073	U1074	U1075	U1076	U1077	U1078	U1079	U1080	U1081	U1082	U1083	U1084	U1085	U1086	U1087	U1088	U1089	U1090	U1091	U1092	U1093	U1094	U1095	U1096	U1097	U1098	U1099	U1100	U1101	U1102	U1103	U1104	U1105	U1106	U1107	U1108	U1109	U1110	U1111	U1112	U1113	U1114	U1115	U1116	U1117	U1118	U1119	U1120	U1121	U1122	U1123	U1124	U1125	U1126	U1127	U1128	U1129	U1130	U1131	U1132	U1133	U1134	U1135	U1136	U1137	U1138	U1139	U1140	U1141	U1142	U1143	U1144												
G958	A959	C960	G961	G962	U963	A964	C965	A966	C967	G968	U969	A970	A971	A972	A973	C974	C975	C976	C977	U978	U979	U980	U981	A982	G983	A984	C985	C986	C987	C988	C989	C990	A991	C992	C993	C994	C995	C996	C997	C998	C999	A1000	A1001	A1002	U1003	U1004	U1005	A1006	U1007	U1008	A1009	A1010	A1011	A1012	C1013	U1014	U1015	A985	U986	U987	U988	U989	U990																												
A765	G766	U767	G768	U769	G770	U771	G772	G773	A774	U775	C776	U777	A778	A779	A780	A781	G782	G783	A784	U785	U786	A787	U788	U789	U790	U791	U792	U793	U794	U795	U796	U797	U798	U799	U800	U801	U802	C803	C804	U805	U806	U807	U808	U809	U810	U811	U812	U813	U814	U815	U816	U817	U818	U819	U820	U821	U822	U823	U824	U825	U826																														
C827	U828	G829	U830	G831	C832	G833	G834	G835	A836	U837	U838	U839	C840	U841	U842	U843	U844	C845	U846	U847	U848	A849	G850	U851	U852	U853	U854	U855	U856	U857	U858	U859	U860	U861	U862	U863	U864	U865	U866	U867	U868	U869	U870	U871	U872	U873	U874	U875	U876	U877	U878	U879	U880	U881	U882	U883	U884	U885	U886	U887	U888	U889	U890																												
G891	G892	A893	G894	G895	G896	A901	A902	A903	C904	U905	C906	U907	U908	U909	C910	G911	G912	A913	A914	G915	G916	G917	G918	G919	G920	G921	G922	G923	A924	C925	U926	U927	U928	C929	A930	C931	A932	A933	G934	U935	G936	G937	U938	U939	G940	U941	U942	C943	U944	U945	U946	U947	U948	U949	U950	U951	U952	U953	U954	U955	U956	U957																													
G609	C610	A611	G612	C613	U614	G615	C616	U617	U618	A619	A620	C621	U622	U623	U624	U625	U626	U627	U628	U629	U630	A631	A632	U633	U634	U635	U636	U637	U638	U639	U640	U641	U642	U643	U644	U645	U646	U647	U648	U649	U650	U651	U652	U653	U654	U655	U656	U657	U658	U659	U660	U661	U662	U663	U664	U665	U666	U667	U668	U669	U670	U671	U672	U673	U674	U675	U676	U677	U678	U679	U680	U681	U682	U683	U684	U685	U686	U687	U688	U689	U690	U691	U692	U693	U694	U695	U696	U697	U698	U699	U700
A639	C640	U641	G642	U643	U644	A645	G646	U647	U648	U649	U650	U651	U652	U653	U654	U655	U656	U657	U658	U659	U660	U661	U662	U663	U664	U665	U666	U667	U668	U669	U670	U671	U672	U673	U674	U675	U676	U677	U678	U679	U680	U681	U682	U683	U684	U685	U686	U687	U688	U689	U690	U691	U692	U693	U694	U695	U696	U697	U698	U699	U700																														

• Molecule 53: tRNA-Phe



• Molecule 53: tRNA-Phe



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	1082	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 K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	1.435	Depositor
Minimum map value	-0.515	Depositor
Average map value	0.024	Depositor
Map value standard deviation	0.115	Depositor
Recommended contour level	0.39	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 [i](#)

### 5.1 Standard geometry [i](#)

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	0.38	0/504
2	1	0.17	0/484	0.47	0/637
3	2	0.12	0/306	0.36	0/401
4	A	0.16	0/1954	0.42	0/2642
5	B	0.15	0/1721	0.39	0/2323
6	C	0.14	0/1691	0.43	0/2267
7	D	0.15	0/1188	0.43	0/1593
8	E	0.21	0/1384	0.48	0/1867
9	F	0.21	0/1266	0.55	1/1700 (0.1%)
10	G	0.21	0/1126	0.48	0/1517
11	H	0.17	0/1044	0.48	0/1395
12	I	0.16	0/820	0.46	0/1103
13	J	0.14	0/844	0.43	0/1136
14	K	0.29	0/1094	0.54	0/1468
15	L	0.17	0/962	0.48	0/1289
16	M	0.17	0/483	0.45	0/643
17	N	0.13	0/679	0.37	0/907
18	O	0.17	0/659	0.41	0/885
19	P	0.16	0/684	0.44	0/913
20	Q	0.15	0/545	0.46	0/730
21	R	0.15	0/698	0.44	0/936
22	S	0.14	0/631	0.36	0/838
23	T	0.15	0/475	0.46	0/621
24	a	0.16	0/2267	0.44	0/3044
25	b	0.16	0/1795	0.45	0/2412
26	c	0.15	0/1671	0.42	0/2246
27	d	0.16	0/1409	0.43	1/1894 (0.1%)
28	e	0.16	0/1420	0.42	0/1912
29	f	0.18	0/1205	0.51	1/1616 (0.1%)
30	g	0.40	0/969	0.75	1/1295 (0.1%)
31	h	0.16	0/968	0.50	0/1298
32	i	0.14	0/1186	0.40	0/1592
33	j	0.14	0/953	0.37	0/1275
34	k	0.16	0/1170	0.44	0/1559

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
35	l	0.14	0/1104	0.42	0/1481
36	m	0.15	0/973	0.42	0/1309
37	n	0.16	0/897	0.46	0/1198
38	o	0.16	0/948	0.41	0/1262
39	p	0.15	0/961	0.40	0/1278
40	q	0.16	0/828	0.40	0/1111
41	r	0.15	0/1077	0.39	0/1441
42	s	0.14	0/732	0.41	0/988
43	t	0.15	0/879	0.42	0/1165
44	u	0.15	0/665	0.42	0/884
45	v	0.20	0/519	0.56	0/695
46	w	0.13	0/826	0.39	0/1104
47	x	0.13	0/353	0.35	0/474
48	y	0.31	0/457	0.59	0/601
49	z	0.14	0/412	0.35	0/547
50	3	0.11	0/69073	0.28	0/107710
51	4	0.12	0/2505	0.30	0/3902
52	5	0.11	0/35768	0.27	0/55764
53	6	0.14	0/1808	0.37	0/2817
53	8	0.15	0/1808	0.37	0/2817
All	All	0.13	0/158727	0.33	4/237006 (0.0%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	g	44	LEU	N-CA-C	-8.22	102.20	112.72
29	f	130	ILE	N-CA-C	-6.06	106.90	112.96
27	d	137	ILE	N-CA-C	-5.43	108.55	113.71
9	F	79	ILE	N-CA-C	-5.28	107.57	112.43

There are no chirality outliers.

There are no planarity outliers.

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	380	0	429	16	0
2	1	477	0	530	28	0
3	2	304	0	350	18	0
4	A	1921	0	1973	82	0
5	B	1698	0	1768	75	0
6	C	1660	0	1719	71	0
7	D	1173	0	1267	42	0
8	E	1362	0	1377	65	0
9	F	1246	0	1308	56	0
10	G	1110	0	1226	57	0
11	H	1028	0	1094	51	0
12	I	809	0	894	46	0
13	J	829	0	855	43	0
14	K	1076	0	1170	59	0
15	L	951	0	1014	44	0
16	M	474	0	509	23	0
17	N	673	0	730	20	0
18	O	646	0	677	26	0
19	P	675	0	728	34	0
20	Q	535	0	562	26	0
21	R	682	0	691	24	0
22	S	629	0	681	26	0
23	T	471	0	522	19	0
24	a	2225	0	2301	109	0
25	b	1762	0	1808	78	0
26	c	1644	0	1731	61	0
27	d	1388	0	1469	53	0
28	e	1396	0	1481	52	0
29	f	1182	0	1228	44	0
30	g	960	0	1014	49	0
31	h	959	0	1039	56	0
32	i	1164	0	1192	54	0
33	j	944	0	1019	31	0
34	k	1153	0	1256	51	0
35	l	1079	0	1134	70	0
36	m	958	0	1011	35	0
37	n	889	0	952	40	0
38	o	938	0	1008	32	0
39	p	947	0	1028	42	0
40	q	811	0	858	35	0
41	r	1068	0	1150	34	0
42	s	720	0	803	31	0
43	t	872	0	972	32	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	u	657	0	695	27	0
45	v	513	0	560	23	0
46	w	818	0	870	29	0
47	x	344	0	333	10	0
48	y	452	0	472	42	0
49	z	408	0	440	23	0
50	3	61664	0	30954	2314	0
51	4	2239	0	1137	88	0
52	5	31943	0	16058	1180	0
53	6	1618	0	821	28	0
53	8	1618	0	821	23	0
All	All	146142	0	99689	5027	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 (5027) 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)
50:3:341:G:H21	50:3:364:A:N6	1.47	1.11
50:3:1807:C:H42	50:3:1824:G:N2	1.51	1.07
50:3:1807:C:N4	50:3:1824:G:H22	1.53	1.06
48:y:33:CYS:HB3	48:y:47:MET:HE1	1.34	1.05
52:5:684:A:H62	52:5:700:G:N2	1.53	1.05
50:3:482:G:C2	50:3:490:A:N6	2.25	1.04
52:5:684:A:N6	52:5:700:G:H21	1.56	1.04
50:3:2851:U:C4	50:3:2873:G:O6	2.12	1.02
50:3:341:G:N2	50:3:364:A:H61	1.58	1.01
50:3:2291:U:C2	50:3:2333:G:O6	2.16	0.99
50:3:2291:U:O2	50:3:2333:G:C6	2.15	0.98
50:3:341:G:H21	50:3:364:A:H61	1.02	0.98
52:5:684:A:H62	52:5:700:G:H21	1.05	0.98
50:3:2534:G:H1	50:3:2545:U:H3	1.12	0.97
50:3:1775:G:H1	50:3:1991:U:H3	1.14	0.96
50:3:517:G:H1	50:3:544:U:H3	1.02	0.96
50:3:629:G:H1	50:3:696:U:H3	1.00	0.95
52:5:1413:G:H1	52:5:1438:U:H3	0.98	0.95
50:3:1914:G:H1	50:3:1930:U:H3	1.02	0.94
50:3:1071:G:H1	50:3:1154:U:H3	0.96	0.94
50:3:574:G:H1	50:3:587:U:H3	1.15	0.94
52:5:1106:U:H3	52:5:1160:G:H1	0.99	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2405:G:H1	50:3:2427:U:H3	1.05	0.93
52:5:253:G:H1	52:5:265:U:H3	0.95	0.93
50:3:633:G:H1	50:3:692:U:H3	0.94	0.93
50:3:61:U:H3	50:3:70:G:H1	1.08	0.93
48:y:33:CYS:CB	48:y:47:MET:HE1	1.99	0.93
50:3:2291:U:O2	50:3:2333:G:O6	1.86	0.93
50:3:482:G:N2	50:3:490:A:N6	2.18	0.92
50:3:1807:C:H42	50:3:1824:G:H22	0.92	0.92
50:3:1070:U:H3	50:3:1155:G:H1	1.16	0.91
52:5:885:U:C2	52:5:901:A:N7	2.39	0.91
52:5:434:U:O2	52:5:493:A:N7	2.04	0.91
50:3:17:G:H1	50:3:560:U:H3	1.04	0.90
50:3:2554:U:H5'	50:3:2555:U:H5'	1.53	0.90
50:3:243:U:H3	50:3:262:G:H1	1.18	0.90
50:3:47:G:N2	50:3:184:A:C2	2.39	0.90
5:B:43:LEU:O	5:B:47:ASN:HB2	1.72	0.90
50:3:339:U:H3	50:3:346:G:H1	1.19	0.89
50:3:716:G:H1	50:3:831:U:H3	1.19	0.89
18:O:64:ARG:O	18:O:67:PHE:HB2	1.72	0.89
50:3:742:G:H1	50:3:759:U:H3	1.13	0.89
52:5:581:A:N6	52:5:755:U:H3	1.71	0.88
50:3:990:G:H1	50:3:999:U:H3	0.93	0.88
50:3:1876:G:N2	50:3:1879:A:C5	2.42	0.88
6:C:12:ARG:HD3	6:C:31:ARG:HD2	1.53	0.88
11:H:103:LYS:HG3	11:H:105:LEU:HD23	1.56	0.88
52:5:1325:U:H3	52:5:1346:G:H1	1.16	0.88
50:3:383:U:H2'	50:3:384:G:H8	1.39	0.87
50:3:2851:U:C4	50:3:2873:G:C6	2.62	0.87
52:5:885:U:N3	52:5:901:A:C8	2.43	0.87
35:l:119:THR:O	35:l:123:HIS:ND1	2.08	0.86
52:5:581:A:H62	52:5:755:U:H3	0.86	0.86
50:3:418:G:H1	50:3:430:U:H3	1.21	0.86
50:3:1871:U:H3	50:3:1885:G:H1	1.22	0.86
50:3:108:G:N2	50:3:380:A:C6	2.43	0.85
50:3:1200:U:H3	50:3:1215:G:H1	1.24	0.85
50:3:80:U:H3	50:3:109:G:H1	0.85	0.85
50:3:2307:G:H1	50:3:2325:U:H3	1.25	0.85
50:3:2843:G:O6	50:3:2882:U:C2	2.29	0.85
50:3:1859:U:O2	50:3:1897:A:N7	2.10	0.85
52:5:1453:C:H2'	52:5:1454:G:H8	1.39	0.85
50:3:2299:U:H3	50:3:2349:G:H1	1.20	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1171:A:N6	53:6:35:G:N3	2.24	0.84
50:3:1777:G:H1	50:3:1989:U:H3	1.23	0.84
50:3:413:G:H1	50:3:435:U:H3	0.84	0.83
50:3:1509:U:O4	50:3:1510:A:N6	2.11	0.83
52:5:138:A:N6	52:5:156:U:C2	2.46	0.83
50:3:2655:U:H3	50:3:2681:G:H1	1.26	0.83
52:5:1322:U:C2	52:5:1349:A:N7	2.47	0.83
52:5:365:U:H3	52:5:388:G:H1	0.86	0.83
32:i:7:LEU:H	50:3:1031:U:H3	1.25	0.82
50:3:1245:G:H1	50:3:1264:U:H3	0.87	0.82
52:5:138:A:C6	52:5:156:U:C2	2.67	0.82
18:O:55:LYS:HD3	52:5:224:A:H4'	1.62	0.82
43:t:89:ILE:HD12	43:t:102:ARG:HB3	1.62	0.82
50:3:431:U:O2'	50:3:432:G:N7	2.10	0.81
50:3:729:U:H3	50:3:803:G:H1	1.24	0.81
24:a:181:ILE:HG12	24:a:191:LYS:HG2	1.60	0.81
52:5:596:U:O2	52:5:639:A:N6	2.14	0.81
50:3:1027:U:H3	50:3:1198:G:H1	0.86	0.81
1:O:16:HIS:NE2	50:3:500:U:O2	2.11	0.81
50:3:947:A:N3	50:3:2272:C:O2'	2.14	0.81
50:3:1807:C:N3	50:3:1824:G:N1	2.28	0.81
50:3:1012:G:H21	50:3:1190:A:H1'	1.45	0.81
11:H:6:TYR:HB2	11:H:21:LEU:HB2	1.62	0.80
50:3:1932:C:O2	50:3:1936:G:N2	2.14	0.80
31:h:87:LYS:HB2	50:3:1098:G:H21	1.47	0.80
50:3:108:G:H21	50:3:380:A:N6	1.79	0.80
50:3:539:U:H4'	50:3:540:A:H5'	1.63	0.80
50:3:562:C:N4	50:3:2787:U:OP2	2.14	0.80
50:3:2441:A:H2'	50:3:2442:A:H5'	1.62	0.80
50:3:2851:U:N3	50:3:2873:G:C6	2.49	0.80
48:y:33:CYS:HB2	48:y:47:MET:SD	2.22	0.79
50:3:2090:G:H1	50:3:2244:U:H3	1.31	0.79
52:5:1389:U:O2	52:5:1462:G:N2	2.15	0.79
50:3:730:G:H1	50:3:802:U:H3	1.31	0.79
43:t:72:SER:OG	50:3:361:G:N2	2.15	0.79
50:3:2058:G:N2	50:3:2625:U:O4	2.16	0.79
50:3:1311:G:H21	50:3:1357:U:H3	1.28	0.78
6:C:13:ARG:HD3	6:C:35:PRO:HD2	1.65	0.78
50:3:28:G:H4'	50:3:1290:G:H4'	1.64	0.78
50:3:2088:U:H3	50:3:2247:G:H1	0.82	0.78
32:i:109:LYS:NZ	50:3:2047:U:OP1	2.16	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:616:C:H5'	52:5:617:U:H5''	1.65	0.78
52:5:694:U:H1'	52:5:782:G:H21	1.49	0.78
50:3:1130:A:H62	50:3:1132:C:N4	1.82	0.78
52:5:1063:G:O6	52:5:1075:G:N2	2.16	0.78
4:A:180:ASP:HB3	4:A:183:TYR:HB2	1.63	0.78
5:B:39:LYS:HE2	16:M:25:GLN:HE22	1.49	0.78
15:L:19:LEU:HD23	15:L:22:ILE:HD11	1.64	0.78
50:3:2684:G:H2'	50:3:2685:A:H8	1.48	0.78
30:g:23:GLY:HA2	30:g:112:TYR:O	1.83	0.78
50:3:995:A:N3	50:3:2465:U:O2'	2.15	0.78
50:3:1841:U:H5''	50:3:1842:G:H5'	1.64	0.78
33:j:18:GLN:HB2	33:j:45:ASP:HB2	1.67	0.77
33:j:31:ARG:NH2	50:3:2684:G:OP1	2.16	0.77
5:B:154:VAL:HG12	5:B:203:VAL:HG13	1.66	0.77
50:3:2486:A:O2'	50:3:2536:U:O2'	2.02	0.77
50:3:672:G:H4'	50:3:674:G:H4'	1.67	0.77
50:3:984:C:H2'	50:3:985:A:H8	1.48	0.77
50:3:676:U:O4	50:3:685:G:O6	2.01	0.77
19:P:76:ARG:NH2	19:P:77:ILE:O	2.18	0.77
50:3:200:A:H61	50:3:866:G:N2	1.82	0.77
6:C:20:GLU:HG2	6:C:21:ASN:H	1.51	0.76
6:C:114:ARG:NH2	52:5:399:C:OP1	2.18	0.76
52:5:599:G:N1	52:5:634:U:N3	2.33	0.76
27:d:65:PRO:HB2	27:d:87:CYS:HB3	1.66	0.76
28:e:93:VAL:O	28:e:163:LYS:HA	1.85	0.76
37:n:100:GLY:O	37:n:103:ALA:HB3	1.85	0.76
52:5:1217:G:H1	52:5:1269:U:H3	1.32	0.76
36:m:118:LEU:HD12	36:m:119:THR:HG23	1.67	0.76
52:5:1383:A:N6	52:5:1469:G:O6	2.18	0.76
16:M:31:ARG:HH22	52:5:970:A:H3'	1.50	0.76
52:5:1322:U:O2	52:5:1349:A:N7	2.18	0.76
9:F:74:LEU:HB3	9:F:85:GLN:HB3	1.68	0.76
9:F:101:ARG:NH1	52:5:934:G:O2'	2.18	0.76
50:3:341:G:N2	50:3:364:A:N6	2.24	0.76
52:5:544:A:H4'	52:5:546:G:H4'	1.67	0.76
10:G:11:HIS:NE2	52:5:821:U:O2	2.19	0.76
50:3:2589:G:OP2	50:3:2589:G:N2	2.17	0.76
50:3:2421:U:H2'	50:3:2422:G:H8	1.52	0.75
52:5:599:G:N2	52:5:634:U:O2	2.18	0.75
37:n:39:ILE:HD13	37:n:101:ARG:HD2	1.68	0.75
50:3:2120:G:O6	50:3:2126:A:N6	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:154:ARG:HB2	13:J:84:ARG:HH22	1.51	0.75
50:3:900:G:N2	50:3:903:A:N6	2.33	0.75
50:3:2185:C:N4	50:3:2186:C:N4	2.34	0.75
5:B:18:TRP:HB2	5:B:21:ARG:HD3	1.68	0.75
7:D:211:LEU:HD11	7:D:212:ARG:HH11	1.52	0.75
50:3:1110:C:N4	50:3:1111:C:N4	2.35	0.75
50:3:2706:U:H3	50:3:2717:G:H1	0.81	0.75
52:5:763:A:OP2	52:5:809:G:N2	2.19	0.75
52:5:1237:G:H1	52:5:1248:U:H3	1.32	0.75
41:r:128:ARG:HE	50:3:1262:G:H1'	1.51	0.75
15:L:43:LYS:NZ	52:5:1269:U:OP1	2.20	0.75
50:3:1327:G:N2	50:3:1676:G:O6	2.19	0.75
34:k:107:LYS:HE3	50:3:263:C:H4'	1.67	0.75
45:v:6:GLN:HB3	45:v:48:ILE:HD12	1.67	0.75
52:5:38:U:O2	52:5:546:G:N2	2.20	0.75
52:5:951:U:O2	52:5:1200:G:N2	2.19	0.75
52:5:499:U:H2'	52:5:500:G:C8	2.22	0.74
34:k:42:ARG:NH2	50:3:843:G:N7	2.35	0.74
50:3:2527:U:O2	50:3:2529:C:N4	2.20	0.74
52:5:1230:G:N2	52:5:1234:C:O2	2.21	0.74
52:5:434:U:C2	52:5:493:A:N7	2.55	0.74
50:3:2851:U:C2	50:3:2873:G:N1	2.55	0.74
4:A:27:ARG:HH11	4:A:254:ILE:HG13	1.52	0.74
16:M:31:ARG:NH2	52:5:971:A:OP1	2.20	0.74
52:5:1290:G:N1	52:5:1293:A:OP2	2.19	0.74
28:e:62:LYS:NZ	50:3:1070:U:O2'	2.21	0.74
5:B:93:LYS:HD2	5:B:98:ARG:HD3	1.68	0.74
10:G:68:ARG:HH21	52:5:650:A:H61	1.34	0.74
50:3:70:G:H21	50:3:76:A:H5'	1.52	0.74
50:3:433:A:O2'	50:3:2238:G:N2	2.19	0.74
4:A:74:GLU:HB2	8:E:165:ASN:HD21	1.53	0.74
5:B:152:ILE:HD11	5:B:205:ILE:HD12	1.69	0.74
13:J:108:PRO:HA	52:5:673:A:H4'	1.69	0.74
33:j:57:VAL:HG11	50:3:2569:A:H4'	1.68	0.74
50:3:200:A:N6	50:3:866:G:N2	2.36	0.74
50:3:1587:U:O2'	50:3:1588:A:N7	2.20	0.74
50:3:1130:A:H62	50:3:1132:C:H42	1.36	0.73
52:5:499:U:O2'	52:5:547:C:O2'	2.06	0.73
9:F:110:ARG:HB2	9:F:118:LYS:HB2	1.70	0.73
50:3:31:U:H2'	50:3:32:G:H8	1.52	0.73
31:h:127:THR:HA	50:3:1123:A:H61	1.52	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:y:52:ARG:CZ	48:y:52:ARG:HB2	2.17	0.73
52:5:371:U:H3	52:5:385:A:H61	1.34	0.73
45:v:38:VAL:O	45:v:45:THR:OG1	2.05	0.73
50:3:1385:U:H3	50:3:1402:G:H1	1.36	0.73
50:3:231:A:N6	50:3:446:A:N3	2.36	0.73
50:3:1067:A:H2	50:3:1157:G:H1	1.34	0.73
26:c:83:HIS:O	50:3:1286:G:N2	2.21	0.73
50:3:606:G:O2'	50:3:608:A:OP1	2.07	0.73
50:3:1105:A:O2'	50:3:1131:A:O2'	2.07	0.73
19:P:49:ASN:HD22	19:P:53:VAL:HG23	1.53	0.73
50:3:1702:A:N6	50:3:1998:U:C2	2.56	0.73
52:5:369:A:O2'	52:5:448:A:N7	2.21	0.73
50:3:2185:C:N4	50:3:2186:C:H41	1.86	0.73
52:5:831:C:H2'	52:5:832:G:H8	1.53	0.73
12:I:59:ARG:HE	12:I:69:GLU:HB3	1.50	0.72
5:B:86:GLN:O	5:B:89:THR:HB	1.90	0.72
31:h:92:ILE:HG23	31:h:134:GLU:H	1.53	0.72
43:t:90:LYS:HG2	43:t:105:LYS:HG2	1.71	0.72
24:a:155:LYS:HE2	50:3:2213:A:H1'	1.71	0.72
52:5:442:G:H2'	52:5:443:G:C8	2.24	0.72
33:j:22:ILE:HG13	33:j:23:LYS:HG2	1.69	0.72
50:3:2059:G:O6	50:3:2625:U:O4	2.07	0.72
52:5:939:G:N2	52:5:1313:A:N7	2.38	0.72
50:3:675:U:H3	50:3:685:G:H1	1.34	0.72
50:3:680:A:H2'	50:3:682:A:H8	1.52	0.72
50:3:816:A:O2'	50:3:1795:C:O2	2.07	0.72
50:3:2058:G:N2	50:3:2059:G:O6	2.20	0.72
50:3:2143:G:H1	50:3:2162:U:H3	0.80	0.72
46:w:86:ALA:O	46:w:90:HIS:ND1	2.21	0.72
52:5:1046:A:N7	52:5:1175:C:N3	2.38	0.72
52:5:1289:U:O2'	52:5:1334:A:N3	2.22	0.72
31:h:44:LYS:HA	31:h:47:GLN:HE21	1.53	0.72
4:A:61:GLN:NE2	4:A:216:PRO:O	2.23	0.72
45:v:32:ASN:HB2	50:3:433:A:H5''	1.71	0.72
50:3:823:A:OP1	50:3:826:C:N4	2.23	0.72
50:3:1803:U:O2	50:3:1830:G:N2	2.21	0.72
52:5:1110:C:H2'	52:5:1111:G:H8	1.54	0.71
53:8:63:U:H2'	53:8:64:G:H8	1.54	0.71
4:A:231:LEU:HD12	4:A:246:PHE:HB3	1.72	0.71
40:q:60:GLU:H	40:q:92:LEU:HA	1.56	0.71
50:3:931:G:H2'	50:3:932:U:H4'	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:O:5:ARG:NH2	52:5:616:C:O2	2.23	0.71
50:3:838:U:H2'	50:3:839:A:H8	1.55	0.71
17:N:26:VAL:HG21	17:N:78:LEU:HD21	1.72	0.71
24:a:212:VAL:HG13	50:3:1799:A:H5'	1.71	0.71
50:3:18:G:H2'	50:3:19:G:C8	2.26	0.71
50:3:614:C:H2'	50:3:615:G:H8	1.53	0.71
6:C:123:LEU:HB2	6:C:145:LYS:HG2	1.73	0.71
44:u:57:THR:OG1	50:3:2344:A:N6	2.22	0.71
48:y:27:LEU:HB3	48:y:36:LYS:HZ2	1.55	0.71
52:5:1402:U:H2'	52:5:1403:A:C8	2.26	0.71
18:O:12:ARG:NH1	52:5:624:U:OP1	2.23	0.71
26:c:143:MET:HE3	26:c:172:THR:HG22	1.73	0.71
50:3:413:G:N2	50:3:435:U:O2	2.19	0.71
50:3:1065:G:O6	50:3:1160:G:N2	2.24	0.71
50:3:2096:U:H3	50:3:2238:G:H1	1.36	0.71
52:5:561:A:H1'	52:5:565:G:H5'	1.71	0.71
33:j:54:LYS:NZ	50:3:1958:U:OP1	2.23	0.71
50:3:1080:A:H5''	50:3:1081:A:H3'	1.71	0.71
50:3:1375:G:O6	50:3:1634:A:N6	2.24	0.71
50:3:1772:G:H1	50:3:1994:U:H3	1.37	0.71
53:6:63:U:H2'	53:6:64:G:H8	1.54	0.71
26:c:5:LYS:NZ	26:c:14:GLU:O	2.24	0.71
41:r:132:GLN:NE2	50:3:1260:U:O2	2.24	0.71
52:5:683:G:H21	52:5:701:A:H62	1.38	0.71
7:D:203:LEU:HD21	10:G:111:LEU:HD22	1.72	0.71
50:3:984:C:H2'	50:3:985:A:C8	2.26	0.71
52:5:106:C:H41	52:5:231:U:H2'	1.55	0.71
7:D:76:ILE:HA	52:5:17:A:H4'	1.73	0.70
21:R:32:LYS:HA	21:R:50:ALA:HB3	1.73	0.70
50:3:178:A:O2'	50:3:179:A:O4'	2.09	0.70
50:3:597:C:N4	50:3:606:G:OP1	2.23	0.70
50:3:762:A:H2'	50:3:763:G:C8	2.26	0.70
50:3:1067:A:N1	50:3:1157:G:O6	2.24	0.70
10:G:132:LYS:NZ	52:5:598:U:OP1	2.24	0.70
50:3:1676:G:H2'	50:3:1677:G:C8	2.26	0.70
52:5:892:G:N2	52:5:895:A:OP2	2.24	0.70
6:C:114:ARG:NH1	52:5:400:G:OP2	2.23	0.70
50:3:1708:G:H22	50:3:1998:U:H3	1.39	0.70
52:5:305:A:H2'	52:5:306:G:H8	1.56	0.70
52:5:1197:G:N7	52:5:1296:C:N4	2.37	0.70
24:a:57:HIS:NE2	50:3:1831:G:OP2	2.20	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1960:A:O2'	50:3:2567:C:O2	2.10	0.70
50:3:2653:G:H5''	50:3:2654:U:H5'	1.73	0.70
7:D:181:LYS:HB3	52:5:8:G:H21	1.55	0.70
14:K:26:TYR:O	14:K:43:LYS:NZ	2.23	0.70
30:g:46:LYS:H	30:g:46:LYS:HD2	1.57	0.70
35:l:37:THR:HG22	35:l:130:LYS:HE2	1.73	0.70
38:o:59:GLY:O	38:o:82:HIS:NE2	2.24	0.70
40:q:87:GLN:NE2	50:3:1029:A:N3	2.38	0.70
50:3:1336:A:N6	50:3:1640:G:O2'	2.25	0.70
52:5:369:A:H61	52:5:387:G:H1'	1.55	0.70
3:2:20:HIS:NE2	50:3:2763:C:O2	2.23	0.70
11:H:36:ASP:HB3	11:H:39:GLU:HG2	1.73	0.70
25:b:207:ILE:O	25:b:208:ARG:NH2	2.25	0.70
50:3:573:A:H61	50:3:588:G:H1'	1.55	0.70
50:3:865:A:H5'	50:3:981:A:H5'	1.71	0.70
50:3:1008:A:H5''	50:3:1009:A:H5''	1.74	0.70
50:3:1350:A:N6	50:3:1361:U:O2'	2.21	0.70
52:5:885:U:O2	52:5:901:A:C5	2.45	0.70
50:3:1316:U:O2'	50:3:1356:G:N3	2.23	0.70
50:3:1552:C:H42	50:3:1579:G:H1	1.39	0.70
50:3:2823:A:O2'	50:3:2825:A:N7	2.25	0.70
52:5:109:G:N2	52:5:233:C:O2	2.23	0.70
52:5:983:G:H21	52:5:1012:A:H1'	1.56	0.70
9:F:112:GLU:O	52:5:1272:C:N4	2.25	0.70
50:3:482:G:N2	50:3:490:A:C6	2.59	0.70
50:3:697:U:H2'	50:3:698:A:H8	1.56	0.70
50:3:1093:U:O2	50:3:1115:G:O6	2.09	0.70
50:3:1672:C:H1'	50:3:2706:U:H1'	1.73	0.70
52:5:765:A:O2'	52:5:1487:U:O2'	2.10	0.70
51:4:79:U:O2'	51:4:85:A:N6	2.25	0.69
15:L:35:LYS:O	15:L:38:ASN:ND2	2.25	0.69
35:l:120:ARG:HH11	50:3:2475:C:H5''	1.57	0.69
50:3:155:A:N6	50:3:178:A:N1	2.40	0.69
52:5:22:G:H2'	52:5:23:G:H8	1.55	0.69
12:I:62:HIS:ND1	52:5:1173:A:O2'	2.25	0.69
50:3:345:A:N6	50:3:363:G:OP1	2.25	0.69
50:3:1428:U:H2'	50:3:1429:G:C8	2.27	0.69
50:3:2533:A:H2'	50:3:2534:G:H8	1.56	0.69
52:5:69:G:N2	52:5:138:A:N3	2.41	0.69
52:5:675:U:H1'	52:5:774:A:H4'	1.72	0.69
6:C:27:LYS:NZ	52:5:406:G:OP2	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:200:A:N6	50:3:866:G:C2	2.60	0.69
6:C:17:SER:HA	6:C:23:LYS:HB2	1.74	0.69
13:J:32:GLY:O	52:5:680:G:N2	2.21	0.69
50:3:915:A:OP2	50:3:936:G:N2	2.25	0.69
50:3:1702:A:OP2	50:3:1997:C:N4	2.25	0.69
50:3:1994:U:H2'	50:3:1995:G:H8	1.56	0.69
52:5:1110:C:H2'	52:5:1111:G:C8	2.27	0.69
52:5:1380:G:H21	52:5:1493:A:H1'	1.58	0.69
14:K:25:HIS:HE1	52:5:551:A:H4'	1.58	0.69
17:N:45:LYS:NZ	52:5:666:U:OP1	2.23	0.69
52:5:460:A:H2	52:5:467:G:H1	1.41	0.69
50:3:1116:U:H2'	50:3:1117:U:C6	2.28	0.69
50:3:2684:G:H2'	50:3:2685:A:C8	2.27	0.69
52:5:824:U:H2'	52:5:864:U:H3	1.56	0.69
52:5:1115:G:N2	52:5:1118:A:N7	2.41	0.69
11:H:110:LYS:HD3	52:5:1108:A:H1'	1.74	0.69
50:3:334:A:H1'	50:3:353:G:H1'	1.74	0.69
50:3:482:G:N2	50:3:490:A:H62	1.84	0.69
50:3:2551:G:H2'	50:3:2552:G:C8	2.28	0.69
52:5:393:A:N7	52:5:545:A:O2'	2.23	0.69
50:3:2299:U:H2'	50:3:2300:A:C8	2.27	0.69
50:3:2869:U:H3'	50:3:2870:U:H2'	1.74	0.69
42:s:65:ILE:HG22	42:s:66:ARG:HG2	1.75	0.69
52:5:1150:G:H2'	52:5:1151:A:C8	2.29	0.69
24:a:234:ASN:OD1	50:3:815:G:N2	2.27	0.68
50:3:1803:U:H3	50:3:1830:G:H1	1.42	0.68
50:3:2556:C:H2'	50:3:2557:G:H8	1.58	0.68
50:3:2697:C:OP2	50:3:2699:C:N4	2.26	0.68
52:5:1361:G:H2'	52:5:1362:G:H8	1.57	0.68
24:a:35:LYS:HD2	50:3:1455:A:H2	1.58	0.68
50:3:2703:U:O2	50:3:2722:G:O6	2.10	0.68
2:1:10:ARG:HH12	34:k:64:LYS:HG3	1.59	0.68
27:d:10:LYS:HD2	27:d:11:THR:HG23	1.75	0.68
50:3:264:G:O2'	50:3:642:A:N1	2.24	0.68
50:3:900:G:N2	50:3:903:A:H61	1.89	0.68
25:b:151:ARG:NH1	50:3:2581:C:OP1	2.26	0.68
25:b:161:LYS:HA	50:3:2627:U:H5''	1.74	0.68
28:e:83:THR:HG23	28:e:84:GLN:HG2	1.76	0.68
36:m:94:PRO:O	50:3:2843:G:N2	2.26	0.68
50:3:1308:A:H2'	50:3:1309:G:C8	2.28	0.68
52:5:518:A:N6	52:5:527:G:C4	2.61	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:708:A:H2'	52:5:709:A:H8	1.59	0.68
52:5:993:C:O2	52:5:1034:G:N2	2.27	0.68
52:5:1241:G:N1	52:5:1244:A:OP2	2.22	0.68
3:2:19:ARG:HH21	50:3:2763:C:H3'	1.57	0.68
50:3:665:C:N4	50:3:666:G:O6	2.26	0.68
50:3:2172:A:H3'	50:3:2173:G:H8	1.59	0.68
52:5:167:A:O2'	52:5:196:G:O6	2.12	0.68
28:e:124:LEU:HD23	28:e:138:GLY:HA3	1.75	0.68
52:5:1325:U:O2	52:5:1346:G:N2	2.23	0.68
14:K:34:LYS:NZ	14:K:36:THR:OG1	2.27	0.68
30:g:76:ILE:HG23	30:g:77:LYS:HD3	1.76	0.68
33:j:71:ARG:HH21	33:j:77:LEU:HD11	1.57	0.68
35:l:54:ILE:HD11	35:l:121:ALA:HB2	1.75	0.68
50:3:1304:U:OP2	50:3:1679:U:O2'	2.11	0.68
50:3:1902:C:H2'	50:3:1903:A:H8	1.57	0.68
50:3:1914:G:O6	50:3:1930:U:O4	2.12	0.68
52:5:1046:A:N6	52:5:1175:C:O2	2.27	0.68
1:0:30:VAL:HG11	50:3:502:A:H5''	1.76	0.68
24:a:104:GLY:HA3	50:3:1525:G:H21	1.59	0.68
50:3:274:A:OP2	50:3:294:G:N1	2.26	0.68
50:3:852:C:H42	50:3:1221:G:H1	1.40	0.68
50:3:1002:A:H4'	50:3:2279:G:H21	1.59	0.68
52:5:434:U:O2	52:5:493:A:C5	2.47	0.68
52:5:710:G:H2'	52:5:711:G:H8	1.59	0.68
52:5:1406:U:O4	52:5:1407:A:N6	2.27	0.68
43:t:80:LYS:O	43:t:82:LYS:NZ	2.27	0.68
50:3:277:C:H42	50:3:293:G:H21	1.40	0.68
50:3:1682:C:N4	50:3:2017:G:O6	2.26	0.68
52:5:96:G:O2'	52:5:385:A:O2'	2.12	0.68
52:5:473:A:H2'	52:5:474:G:C8	2.29	0.68
3:2:19:ARG:HA	50:3:2764:U:H5''	1.74	0.67
15:L:107:ARG:NE	52:5:942:G:OP2	2.27	0.67
19:P:82:GLU:OE1	19:P:83:ARG:NH2	2.27	0.67
52:5:656:U:H2'	52:5:657:G:H8	1.58	0.67
52:5:1212:C:H4'	52:5:1274:G:H22	1.59	0.67
50:3:86:A:N1	50:3:100:U:O2'	2.27	0.67
50:3:343:A:N6	50:3:1240:U:O2'	2.27	0.67
50:3:1099:C:OP2	50:3:1105:A:N6	2.27	0.67
50:3:1110:C:N4	50:3:1111:C:H41	1.93	0.67
50:3:1133:A:H3'	50:3:1134:G:H8	1.60	0.67
50:3:2435:C:H5''	50:3:2437:G:H5''	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:387:G:H21	52:5:479:A:H1'	1.58	0.67
25:b:153:GLY:HA3	50:3:2039:G:H1'	1.76	0.67
13:J:115:LYS:O	52:5:775:G:O2'	2.12	0.67
21:R:11:VAL:HG12	21:R:13:ALA:H	1.59	0.67
28:e:110:LEU:HD12	28:e:155:ARG:HE	1.58	0.67
33:j:29:ARG:HB2	50:3:2683:G:H5''	1.77	0.67
50:3:1104:A:O2'	50:3:1108:A:N7	2.25	0.67
50:3:1385:U:O2	50:3:1402:G:N2	2.26	0.67
52:5:460:A:N1	52:5:467:G:O6	2.27	0.67
50:3:899:A:H2'	50:3:900:G:C8	2.30	0.67
50:3:2574:A:H4'	50:3:2575:G:H5''	1.76	0.67
51:4:4:G:OP1	51:4:22:G:N2	2.27	0.67
1:0:11:LYS:NZ	50:3:805:G:OP1	2.27	0.67
9:F:115:MET:HG2	52:5:1215:U:H5	1.60	0.67
29:f:77:LEU:HD22	29:f:140:VAL:HG12	1.76	0.67
50:3:2551:G:N2	50:3:2654:U:O3'	2.26	0.67
52:5:662:G:N7	52:5:721:G:N1	2.36	0.67
15:L:14:ARG:HH12	52:5:1218:C:H1'	1.60	0.67
31:h:77:LYS:HA	31:h:82:LEU:HB3	1.77	0.67
50:3:697:U:H2'	50:3:698:A:C8	2.29	0.67
52:5:1046:A:C8	52:5:1175:C:N4	2.63	0.67
31:h:28:VAL:HG13	31:h:57:ALA:HA	1.76	0.67
50:3:1206:U:O2	50:3:1210:A:N6	2.27	0.67
52:5:63:U:O2'	52:5:375:C:O2	2.13	0.67
45:v:45:THR:HG23	45:v:46:THR:H	1.59	0.67
50:3:1012:G:H2'	50:3:1013:G:C8	2.30	0.67
50:3:1451:A:H2'	50:3:1452:G:H8	1.59	0.67
50:3:2591:G:N3	53:6:77:A:N6	2.43	0.67
6:C:69:LYS:NZ	52:5:545:A:OP1	2.21	0.67
24:a:41:LEU:O	24:a:63:LYS:NZ	2.27	0.67
29:f:5:LEU:HD12	29:f:18:VAL:HA	1.76	0.67
50:3:80:U:O4	50:3:109:G:O6	2.12	0.67
50:3:259:A:H2'	50:3:260:A:H8	1.59	0.67
50:3:1275:C:H2'	50:3:1276:A:C8	2.30	0.67
50:3:1483:G:O6	50:3:2712:C:N4	2.17	0.67
50:3:2897:G:H4'	50:3:2898:A:H5'	1.76	0.67
52:5:1186:U:H5'	52:5:1187:U:H5''	1.77	0.67
26:c:46:ARG:NH1	50:3:480:C:OP1	2.28	0.66
31:h:119:ALA:HB1	50:3:1116:U:H4'	1.77	0.66
35:l:62:GLY:HA2	35:l:108:ASN:HB2	1.77	0.66
50:3:493:A:N7	50:3:508:A:N6	2.43	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2400:A:N6	50:3:2432:C:O2	2.28	0.66
51:4:47:C:C4	51:4:48:A:N6	2.63	0.66
51:4:99:A:H2'	51:4:100:G:C8	2.30	0.66
52:5:240:U:O4	52:5:887:C:N3	2.28	0.66
52:5:1098:C:O2'	52:5:1166:A:O2'	2.10	0.66
39:p:69:ARG:NH2	50:3:1048:A:OP1	2.28	0.66
40:q:46:GLY:HA3	40:q:50:LEU:HB2	1.78	0.66
50:3:768:G:OP2	50:3:796:A:N6	2.28	0.66
50:3:990:G:O6	50:3:999:U:O4	2.13	0.66
50:3:1297:U:H2'	50:3:1298:A:H8	1.60	0.66
34:k:5:GLN:NE2	50:3:1233:A:O2'	2.28	0.66
43:t:73:LYS:NZ	50:3:363:G:N7	2.44	0.66
52:5:849:A:H2'	52:5:850:G:C8	2.30	0.66
52:5:1448:A:H2'	52:5:1449:G:C8	2.30	0.66
9:F:37:LEU:HB2	52:5:1264:G:H5''	1.76	0.66
11:H:128:GLN:HG2	52:5:1316:C:H1'	1.77	0.66
40:q:51:GLU:OE1	40:q:54:ARG:NH2	2.28	0.66
50:3:242:G:HO2'	50:3:642:A:HO2'	1.42	0.66
50:3:2136:A:OP1	50:3:2139:C:N4	2.28	0.66
40:q:41:LEU:HD13	40:q:53:ALA:HB3	1.77	0.66
45:v:45:THR:O	45:v:46:THR:HG23	1.94	0.66
50:3:727:C:H2'	50:3:728:A:H8	1.59	0.66
50:3:1348:C:O2'	50:3:1358:C:N4	2.28	0.66
50:3:1870:G:H4'	50:3:2419:A:H4'	1.77	0.66
50:3:1876:G:N2	50:3:1879:A:C6	2.64	0.66
16:M:61:TRP:HH2	52:5:1343:G:H5'	1.60	0.66
50:3:2516:G:O6	50:3:2588:U:O4	2.13	0.66
52:5:297:A:H2'	52:5:298:G:C8	2.31	0.66
52:5:831:C:H2'	52:5:832:G:C8	2.31	0.66
52:5:1393:A:H8	52:5:1457:G:H21	1.40	0.66
8:E:142:ARG:HH12	10:G:60:LEU:HB3	1.61	0.66
50:3:1446:G:O2'	50:3:1613:A:N6	2.29	0.66
50:3:1665:G:N1	50:3:1668:G:OP2	2.27	0.66
52:5:169:G:N2	52:5:219:A:O2'	2.28	0.66
52:5:940:G:N2	52:5:1308:G:O2'	2.28	0.66
50:3:650:G:H2'	50:3:651:A:C8	2.31	0.66
50:3:906:G:H2'	50:3:907:A:H8	1.61	0.66
24:a:81:ALA:HA	24:a:101:TYR:HA	1.76	0.66
28:e:157:PRO:HG3	28:e:166:LEU:HD23	1.77	0.66
29:f:111:PHE:HA	50:3:2206:A:H5'	1.78	0.66
50:3:727:C:H2'	50:3:728:A:C8	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1016:A:O2'	50:3:2044:C:O2'	2.13	0.66
50:3:1959:A:H61	50:3:2557:G:H1'	1.61	0.66
50:3:2581:C:H5''	50:3:2582:G:H5''	1.78	0.66
50:3:2826:G:O2'	50:3:2828:C:OP2	2.11	0.66
11:H:35:ARG:NH2	11:H:39:GLU:OE2	2.29	0.66
20:Q:103:LYS:HD2	52:5:672:A:H5'	1.78	0.65
31:h:76:LEU:HD11	31:h:135:VAL:HG11	1.77	0.65
39:p:88:GLU:HG2	40:q:45:ILE:HG21	1.77	0.65
50:3:1777:G:N2	50:3:1793:A:C5	2.64	0.65
50:3:2206:A:O2'	50:3:2233:A:N6	2.29	0.65
50:3:2207:A:N1	50:3:2234:C:N4	2.43	0.65
50:3:2811:G:H4'	50:3:2895:A:H62	1.62	0.65
52:5:128:A:O2'	52:5:198:A:N1	2.27	0.65
26:c:189:ARG:O	26:c:193:LEU:HB2	1.96	0.65
31:h:96:ILE:HG22	31:h:135:VAL:HB	1.76	0.65
38:o:53:LEU:HD12	38:o:105:ARG:HG2	1.78	0.65
45:v:18:ARG:HD2	45:v:22:LYS:HG3	1.78	0.65
50:3:1507:G:O2'	50:3:1508:G:OP1	2.13	0.65
50:3:2100:G:H21	50:3:2206:A:H62	1.44	0.65
50:3:2649:G:H2'	50:3:2650:A:C8	2.31	0.65
52:5:92:G:C2	52:5:93:A:H1'	2.31	0.65
52:5:610:C:H2'	52:5:611:A:C8	2.31	0.65
50:3:567:U:OP1	50:3:594:G:N2	2.30	0.65
50:3:2195:U:H2'	50:3:2196:G:C8	2.31	0.65
51:4:22:G:H22	51:4:57:G:H1	1.42	0.65
6:C:31:ARG:NE	52:5:423:U:OP1	2.30	0.65
6:C:146:ALA:HA	6:C:149:ILE:HD12	1.77	0.65
24:a:56:ARG:NH2	50:3:1832:G:OP2	2.29	0.65
27:d:35:VAL:HG12	27:d:155:THR:HG22	1.76	0.65
29:f:5:LEU:HD13	29:f:16:PHE:HA	1.78	0.65
50:3:878:A:N6	50:3:969:A:OP2	2.29	0.65
50:3:1392:G:N2	50:3:1395:A:OP2	2.21	0.65
52:5:36:G:N2	52:5:500:G:OP1	2.30	0.65
5:B:21:ARG:NH2	12:I:19:TYR:OH	2.30	0.65
10:G:92:LYS:HB2	10:G:95:LEU:HB3	1.78	0.65
22:S:44:LEU:HD22	22:S:76:LEU:HD13	1.78	0.65
30:g:7:LYS:NZ	50:3:1080:A:OP1	2.30	0.65
50:3:703:A:H2'	50:3:705:A:H62	1.61	0.65
50:3:2004:G:H2'	50:3:2005:G:H8	1.60	0.65
13:J:22:ASN:OD1	13:J:23:THR:N	2.27	0.65
31:h:75:LEU:HD23	31:h:104:ILE:HD11	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:r:2:ILE:HG22	41:r:3:ALA:H	1.61	0.65
50:3:1702:A:C6	50:3:2000:U:C4	2.84	0.65
50:3:2413:G:O2'	50:3:2419:A:N6	2.29	0.65
50:3:2839:A:N6	50:3:2882:U:O3'	2.28	0.65
52:5:747:C:H2'	52:5:748:U:H5	1.61	0.65
6:C:9:LYS:NZ	52:5:540:U:OP1	2.30	0.65
19:P:67:ARG:HD2	52:5:260:C:H1'	1.77	0.65
20:Q:67:TYR:HB2	20:Q:69:LYS:HG2	1.77	0.65
35:l:35:VAL:HG22	35:l:102:VAL:HG22	1.79	0.65
50:3:1130:A:N6	50:3:1132:C:H42	1.95	0.65
50:3:2418:G:H3'	50:3:2419:A:H8	1.62	0.65
12:I:59:ARG:HB3	52:5:1051:U:H4'	1.79	0.65
24:a:64:ARG:HG2	24:a:90:PRO:HB2	1.78	0.65
25:b:116:GLY:HA3	50:3:2825:A:H5''	1.77	0.65
35:l:13:HIS:H	50:3:947:A:H62	1.45	0.65
35:l:42:ILE:HG13	35:l:95:ALA:HB3	1.79	0.65
50:3:47:G:C2	50:3:184:A:N1	2.65	0.65
50:3:699:U:H4'	50:3:976:C:H5''	1.79	0.65
52:5:581:A:H3'	52:5:582:G:H8	1.61	0.65
52:5:1087:C:O2	52:5:1145:A:O2'	2.12	0.65
22:S:9:LYS:HG2	22:S:12:ARG:HH11	1.62	0.65
26:c:77:GLY:N	50:3:709:G:OP1	2.28	0.65
43:t:1:MET:HE2	43:t:102:ARG:HG3	1.77	0.65
50:3:676:U:C4	50:3:685:G:C6	2.84	0.65
50:3:774:A:N3	50:3:775:C:N4	2.44	0.65
50:3:1659:C:N3	50:3:1660:A:N6	2.45	0.65
52:5:75:A:N1	52:5:81:A:N6	2.45	0.65
52:5:1193:U:H2'	52:5:1194:A:H8	1.61	0.65
35:l:13:HIS:H	50:3:947:A:N6	1.94	0.65
50:3:840:G:C6	50:3:2075:U:H5'	2.31	0.65
50:3:2457:U:H5''	50:3:2505:A:H8	1.62	0.65
34:k:22:ARG:NH1	50:3:1279:U:OP2	2.30	0.64
50:3:2781:C:H2'	50:3:2782:A:C8	2.32	0.64
20:Q:73:ARG:NH1	52:5:720:U:OP1	2.31	0.64
50:3:1442:G:H1	50:3:1622:C:H42	1.45	0.64
50:3:1619:A:H2'	50:3:1620:A:C8	2.32	0.64
50:3:2269:C:H2'	50:3:2270:U:H5''	1.77	0.64
50:3:2697:C:H4'	50:3:2698:U:H5''	1.79	0.64
52:5:105:A:O2'	52:5:107:A:N7	2.29	0.64
52:5:514:U:O2'	52:5:517:C:N3	2.31	0.64
52:5:1193:U:H2'	52:5:1194:A:C8	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1406:U:O2	52:5:1444:G:O6	2.14	0.64
4:A:49:ARG:HG3	4:A:55:HIS:HB2	1.77	0.64
6:C:1:MET:N	52:5:544:A:OP2	2.25	0.64
46:w:105:ARG:NH2	50:3:1432:C:OP1	2.29	0.64
49:z:35:ASN:HA	49:z:46:VAL:HA	1.80	0.64
50:3:293:G:H2'	50:3:294:G:C4	2.32	0.64
50:3:1844:C:O2'	50:3:1934:A:O2'	2.13	0.64
11:H:97:LYS:NZ	52:5:1153:G:OP1	2.19	0.64
52:5:1384:A:H2'	52:5:1385:A:C8	2.33	0.64
26:c:187:SER:OG	50:3:650:G:N2	2.30	0.64
46:w:48:ARG:NH2	50:3:75:A:N7	2.44	0.64
48:y:33:CYS:SG	48:y:34:GLY:N	2.71	0.64
50:3:869:U:H2'	50:3:870:A:C8	2.32	0.64
52:5:601:U:H2'	52:5:602:G:C8	2.32	0.64
52:5:1397:G:H2'	52:5:1398:G:C8	2.31	0.64
14:K:102:ASP:OD1	52:5:521:A:N6	2.30	0.64
27:d:90:THR:O	27:d:92:ARG:NH2	2.31	0.64
49:z:25:VAL:HG23	49:z:29:PRO:HB3	1.79	0.64
50:3:203:A:O2'	53:8:77:A:N6	2.30	0.64
50:3:638:A:N6	50:3:661:G:O6	2.30	0.64
50:3:989:G:H1	50:3:1000:U:H3	1.45	0.64
50:3:1431:A:HO2'	50:3:1497:A:HO2'	1.46	0.64
52:5:648:C:N4	52:5:750:A:OP2	2.31	0.64
52:5:818:A:H2'	52:5:819:G:H8	1.62	0.64
52:5:1447:U:H2'	52:5:1448:A:C8	2.31	0.64
15:L:97:VAL:HG23	52:5:1282:U:H5''	1.80	0.64
26:c:73:LYS:NZ	50:3:1287:C:OP1	2.31	0.64
26:c:127:LEU:HD13	26:c:199:VAL:HG23	1.80	0.64
50:3:195:A:OP2	50:3:208:A:N6	2.31	0.64
50:3:714:G:OP1	50:3:811:G:N1	2.30	0.64
52:5:168:A:H3'	52:5:169:G:H8	1.62	0.64
26:c:98:ASN:OD1	26:c:99:TYR:N	2.31	0.64
50:3:679:A:H2'	50:3:680:A:C8	2.33	0.64
50:3:1154:U:H2'	50:3:1155:G:C8	2.33	0.64
50:3:1702:A:N7	50:3:1998:U:C4	2.66	0.64
50:3:2126:A:H2	50:3:2176:G:H21	1.46	0.64
52:5:201:G:O6	52:5:214:U:O4	2.14	0.64
52:5:583:G:H21	52:5:873:U:H5'	1.61	0.64
4:A:111:ARG:NH2	4:A:112:TRP:O	2.30	0.64
37:n:31:MET:HA	37:n:92:ASP:HB3	1.78	0.64
48:y:33:CYS:CB	48:y:47:MET:CE	2.75	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:89:U:H5''	50:3:90:G:H5''	1.80	0.64
50:3:1245:G:O6	50:3:1264:U:O4	2.15	0.64
50:3:2859:U:O4	50:3:2860:A:N6	2.31	0.64
50:3:517:G:O6	50:3:544:U:O4	2.15	0.64
50:3:740:A:H2'	50:3:741:A:C8	2.32	0.64
50:3:2336:A:H2'	50:3:2337:U:C6	2.33	0.64
50:3:2687:A:H2'	50:3:2688:C:C6	2.33	0.64
6:C:121:HIS:HA	6:C:145:LYS:HE2	1.79	0.63
12:I:36:LYS:NZ	52:5:1115:G:OP1	2.31	0.63
19:P:68:PRO:HB3	19:P:74:ARG:HG2	1.80	0.63
22:S:35:PHE:HZ	22:S:76:LEU:HB2	1.63	0.63
37:n:99:HIS:NE2	51:4:35:C:O2	2.28	0.63
50:3:383:U:H2'	50:3:384:G:C8	2.28	0.63
51:4:3:U:O2'	51:4:24:A:N6	2.30	0.63
52:5:637:A:H2'	52:5:638:A:C8	2.32	0.63
52:5:1408:A:H62	52:5:1442:A:HO2'	1.43	0.63
13:J:121:ARG:HH12	52:5:1497:U:H5''	1.64	0.63
41:r:11:ARG:NH2	50:3:1355:C:OP1	2.32	0.63
50:3:710:A:N3	50:3:2451:C:O2'	2.31	0.63
50:3:862:U:H5	50:3:2438:A:H5''	1.62	0.63
50:3:1906:G:H22	50:3:1909:C:H41	1.43	0.63
50:3:2032:G:H2'	50:3:2033:G:C8	2.33	0.63
52:5:572:A:O2'	52:5:876:C:O2	2.10	0.63
52:5:710:G:H2'	52:5:711:G:C8	2.34	0.63
52:5:1088:C:O2'	52:5:1144:A:N3	2.23	0.63
3:2:1:MET:SD	50:3:2534:G:O2'	2.56	0.63
24:a:51:GLY:HA3	50:3:808:U:H4'	1.79	0.63
25:b:36:VAL:HG12	25:b:38:GLY:H	1.63	0.63
33:j:97:ARG:NH1	52:5:335:C:OP2	2.31	0.63
50:3:325:G:H2'	50:3:326:A:C8	2.32	0.63
50:3:1604:A:H2'	50:3:1605:A:C8	2.32	0.63
52:5:945:U:H2'	52:5:946:G:H8	1.63	0.63
10:G:114:ALA:HB3	10:G:125:ASP:HB3	1.79	0.63
31:h:55:ILE:HB	31:h:65:PHE:HD1	1.63	0.63
50:3:914:G:O2'	50:3:937:A:N6	2.31	0.63
50:3:1117:U:H2'	50:3:1118:U:O4'	1.98	0.63
50:3:2316:G:H3'	50:3:2318:A:H5''	1.80	0.63
52:5:33:A:H61	52:5:550:U:H3	1.46	0.63
52:5:343:G:H2'	52:5:344:G:C8	2.33	0.63
52:5:677:C:H2'	52:5:678:A:C8	2.34	0.63
10:G:24:ASN:OD1	52:5:868:G:N2	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:65:PRO:HB3	50:3:2795:C:H1'	1.80	0.63
50:3:1084:C:H41	50:3:1145:G:H21	1.46	0.63
50:3:1262:G:H2'	50:3:1263:G:C8	2.33	0.63
50:3:1999:G:H5'	50:3:2001:C:H41	1.64	0.63
50:3:2652:U:H3'	50:3:2653:G:H21	1.62	0.63
4:A:83:LEU:HA	4:A:106:ALA:HB3	1.78	0.63
15:L:91:HIS:NE2	52:5:1283:G:OP1	2.29	0.63
38:o:35:ILE:HB	38:o:46:GLN:HB2	1.79	0.63
50:3:603:G:O4'	50:3:1019:A:N6	2.32	0.63
50:3:704:G:N2	50:3:707:C:OP1	2.24	0.63
50:3:1521:A:H3'	50:3:1523:C:H41	1.63	0.63
50:3:1715:A:OP1	50:3:1770:A:N6	2.28	0.63
50:3:2071:C:O3'	50:3:2259:G:N2	2.29	0.63
50:3:2689:C:O2	50:3:2733:A:N6	2.32	0.63
52:5:166:U:N3	52:5:197:A:N7	2.47	0.63
52:5:859:A:H2'	52:5:860:C:C6	2.32	0.63
52:5:955:U:O2'	52:5:1197:G:O2'	2.15	0.63
7:D:93:VAL:HG12	7:D:103:TYR:HB3	1.80	0.63
19:P:7:LYS:NZ	52:5:633:U:OP1	2.30	0.63
19:P:74:ARG:HD3	52:5:230:G:H5''	1.80	0.63
50:3:162:G:N1	50:3:169:U:OP2	2.32	0.63
50:3:1128:G:N2	50:3:1133:A:OP2	2.32	0.63
50:3:1775:G:O6	50:3:1991:U:O4	2.17	0.63
50:3:2113:U:O2	50:3:2191:G:N2	2.31	0.63
50:3:2556:C:H2'	50:3:2557:G:C8	2.33	0.63
6:C:12:ARG:HH21	6:C:31:ARG:HB2	1.63	0.63
11:H:73:GLY:O	11:H:77:GLN:N	2.31	0.63
30:g:34:ALA:N	50:3:1090:G:O2'	2.31	0.63
34:k:39:GLN:O	34:k:44:SER:OG	2.17	0.63
35:l:50:ALA:O	35:l:54:ILE:HG12	1.99	0.63
50:3:1270:C:H2'	50:3:1271:A:H8	1.64	0.63
50:3:1869:G:H2'	50:3:1870:G:H8	1.62	0.63
52:5:770:G:O6	52:5:804:A:N6	2.32	0.63
52:5:1068:G:N2	52:5:1071:A:OP2	2.31	0.63
32:i:59:ILE:HD13	32:i:127:VAL:HB	1.79	0.63
36:m:107:ARG:NH2	50:3:1316:U:OP2	2.31	0.63
39:p:36:GLN:NE2	50:3:596:G:N3	2.46	0.63
50:3:1553:G:N3	50:3:1579:G:N2	2.47	0.63
52:5:15:U:N3	52:5:18:U:OP2	2.32	0.63
4:A:66:GLN:O	4:A:70:ASN:ND2	2.31	0.62
9:F:56:LYS:HZ2	9:F:58:LEU:H	1.46	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:11:ASN:HB3	50:3:2101:A:H4'	1.81	0.62
50:3:1641:A:N6	50:3:1657:G:OP2	2.31	0.62
52:5:40:G:H22	52:5:399:C:H2'	1.64	0.62
1:0:39:ARG:NH2	50:3:504:G:N7	2.47	0.62
8:E:49:ILE:HG23	8:E:83:LEU:HD12	1.81	0.62
50:3:259:A:H2'	50:3:260:A:C8	2.33	0.62
50:3:276:A:N6	50:3:293:G:O2'	2.32	0.62
50:3:277:C:N4	50:3:293:G:H21	1.97	0.62
50:3:1063:A:OP2	50:3:1161:A:N6	2.29	0.62
50:3:2383:G:O2'	50:3:2385:A:N6	2.28	0.62
50:3:2747:U:O2	50:3:2772:A:N7	2.32	0.62
52:5:177:G:N2	52:5:188:U:O2	2.32	0.62
13:J:16:VAL:HG22	13:J:25:VAL:HG12	1.80	0.62
50:3:326:A:OP2	50:3:378:G:N1	2.33	0.62
50:3:2088:U:O2	50:3:2247:G:N2	2.25	0.62
9:F:45:ALA:O	9:F:49:ILE:HG13	2.00	0.62
31:h:55:ILE:HG13	31:h:61:LYS:HE2	1.81	0.62
34:k:85:ILE:O	34:k:122:LYS:NZ	2.33	0.62
41:r:7:GLN:HB2	41:r:103:LEU:HB3	1.81	0.62
49:z:40:ARG:HE	50:3:678:U:H5''	1.64	0.62
50:3:254:G:H22	53:8:77:A:H2	1.45	0.62
50:3:740:A:OP2	50:3:761:G:N2	2.32	0.62
50:3:900:G:N3	50:3:951:C:N4	2.46	0.62
50:3:2850:G:O2'	50:3:2851:U:H5'	2.00	0.62
51:4:53:U:O2	51:4:55:A:N6	2.31	0.62
52:5:46:U:OP1	52:5:303:A:O2'	2.16	0.62
52:5:586:G:N2	52:5:650:A:N7	2.45	0.62
52:5:904:C:O2'	52:5:1387:U:O2	2.16	0.62
52:5:994:C:N4	52:5:1032:G:H22	1.98	0.62
8:E:107:LEU:O	8:E:110:GLN:HG3	1.99	0.62
16:M:29:ARG:HB3	16:M:41:ARG:HH22	1.64	0.62
24:a:280:ARG:HG3	24:a:282:ARG:H	1.65	0.62
35:l:14:ASN:ND2	35:l:73:SER:O	2.31	0.62
48:y:57:TYR:OH	50:3:1313:G:OP1	2.15	0.62
50:3:772:C:H2'	50:3:773:G:C8	2.35	0.62
52:5:777:A:H62	52:5:797:G:H3'	1.63	0.62
52:5:1051:U:H2'	52:5:1052:G:H8	1.63	0.62
49:z:11:CYS:O	49:z:15:ARG:NH2	2.32	0.62
50:3:251:G:N2	50:3:254:G:H3'	2.15	0.62
50:3:2353:G:O6	50:3:2379:G:O6	2.18	0.62
52:5:425:G:H5'	52:5:427:A:H8	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:109:ASN:O	10:G:109:ASN:ND2	2.32	0.62
31:h:39:PHE:HZ	31:h:67:LEU:HB3	1.63	0.62
50:3:273:C:N4	50:3:295:U:O2'	2.30	0.62
50:3:1104:A:H4'	50:3:1105:A:H2'	1.82	0.62
50:3:2529:C:O2'	50:3:2572:A:N3	2.31	0.62
52:5:674:U:H3	52:5:710:G:H1	1.47	0.62
52:5:852:G:H1	52:5:863:A:H3'	1.62	0.62
52:5:1321:G:N2	52:5:1349:A:O5'	2.32	0.62
9:F:28:VAL:HG21	9:F:101:ARG:HG2	1.82	0.62
36:m:53:LYS:HZ1	36:m:90:TYR:HB2	1.64	0.62
50:3:442:G:O6	50:3:457:U:C4	2.53	0.62
50:3:869:U:H2'	50:3:870:A:H8	1.64	0.62
50:3:1121:A:O2'	50:3:1122:G:N7	2.32	0.62
52:5:708:A:H2'	52:5:709:A:C8	2.34	0.62
27:d:110:ARG:HA	47:x:39:CYS:HA	1.82	0.62
50:3:255:A:H61	50:3:424:G:H1	1.45	0.62
50:3:495:U:H3	50:3:506:A:H62	1.48	0.62
50:3:1130:A:H1'	50:3:1131:A:C5	2.34	0.62
50:3:1748:U:H3	50:3:1750:A:H5''	1.64	0.62
51:4:4:G:H2'	51:4:5:G:C8	2.35	0.62
52:5:946:G:H4'	52:5:967:C:H5	1.64	0.62
52:5:1384:A:H2'	52:5:1385:A:H8	1.63	0.62
7:D:150:LEU:HD13	52:5:8:G:H22	1.64	0.62
10:G:117:SER:HB2	52:5:639:A:H1'	1.82	0.62
20:Q:64:LEU:HD21	20:Q:68:ALA:HA	1.81	0.62
24:a:188:GLU:OE2	24:a:282:ARG:NH2	2.33	0.62
49:z:8:ARG:N	49:z:50:VAL:O	2.32	0.62
50:3:793:C:H2'	50:3:794:G:C8	2.35	0.62
50:3:1027:U:O4	50:3:1198:G:O6	2.17	0.62
50:3:1055:A:N3	50:3:1056:A:N6	2.47	0.62
50:3:1807:C:O2	50:3:1824:G:O6	2.17	0.62
50:3:2654:U:OP1	50:3:2773:A:O2'	2.18	0.62
52:5:1322:U:N3	52:5:1349:A:C8	2.67	0.62
52:5:1432:A:H2'	52:5:1433:G:C8	2.34	0.62
6:C:152:PRO:HA	6:C:155:LYS:HD2	1.82	0.61
50:3:35:U:N3	50:3:509:G:N1	2.48	0.61
50:3:35:U:C2	50:3:509:G:C2	2.88	0.61
50:3:2063:G:H2'	50:3:2064:G:H8	1.65	0.61
50:3:2820:G:N3	50:3:2887:A:O2'	2.33	0.61
13:J:51:LYS:NZ	52:5:690:G:OP2	2.33	0.61
30:g:51:ILE:HD13	30:g:83:ALA:HB2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:330:A:H2'	50:3:331:A:H8	1.65	0.61
50:3:1340:U:O2	50:3:1367:G:N2	2.24	0.61
50:3:2409:U:O2	50:3:2423:G:N2	2.32	0.61
50:3:2533:A:H2'	50:3:2534:G:C8	2.35	0.61
50:3:2828:C:H3'	50:3:2829:G:H21	1.65	0.61
52:5:711:G:H2'	52:5:712:A:H8	1.65	0.61
52:5:764:A:N6	52:5:809:G:C2	2.68	0.61
52:5:988:G:H21	52:5:990:C:N4	1.97	0.61
52:5:1254:A:O2'	52:5:1257:C:N4	2.33	0.61
6:C:41:ARG:NH2	6:C:42:PHE:O	2.33	0.61
50:3:1107:C:OP1	50:3:1123:A:O2'	2.18	0.61
50:3:1265:G:H2'	50:3:1266:G:C4	2.36	0.61
50:3:1370:A:N6	50:3:1636:U:O2	2.32	0.61
50:3:1508:G:O6	50:3:1509:U:C4	2.53	0.61
50:3:1588:A:O2'	50:3:1589:A:OP1	2.18	0.61
50:3:2036:G:N1	50:3:2040:A:OP2	2.32	0.61
50:3:2336:A:H2'	50:3:2337:U:H6	1.66	0.61
15:L:39:ILE:HG23	15:L:40:ASN:H	1.64	0.61
15:L:64:LYS:NZ	15:L:68:ASP:OD2	2.29	0.61
24:a:47:ARG:NH2	50:3:725:G:N3	2.48	0.61
50:3:63:U:N3	50:3:97:A:N3	2.49	0.61
50:3:72:G:O2'	50:3:114:U:O2'	2.19	0.61
50:3:897:A:N3	51:4:77:G:O2'	2.33	0.61
50:3:1275:C:H2'	50:3:1276:A:H8	1.64	0.61
52:5:678:A:C6	52:5:707:G:N1	2.69	0.61
52:5:1236:A:H3'	52:5:1237:G:H8	1.65	0.61
12:I:12:LEU:HB3	12:I:82:LEU:HB2	1.82	0.61
12:I:106:PHE:O	52:5:1253:A:O2'	2.18	0.61
23:T:15:LEU:HA	23:T:18:PHE:HB3	1.83	0.61
30:g:32:MET:SD	50:3:1119:A:N6	2.73	0.61
44:u:57:THR:H	50:3:2338:G:H21	1.46	0.61
50:3:500:U:O2'	50:3:501:G:O5'	2.14	0.61
50:3:1543:U:H2'	50:3:1544:G:H8	1.66	0.61
50:3:2135:C:H2'	50:3:2136:A:C8	2.36	0.61
50:3:2378:G:H2'	50:3:2379:G:C8	2.35	0.61
52:5:576:A:H2'	52:5:577:G:C8	2.36	0.61
52:5:989:A:H61	52:5:1037:A:H2	1.47	0.61
52:5:1410:A:H61	52:5:1442:A:H2	1.49	0.61
1:0:6:GLN:O	50:3:721:G:N2	2.30	0.61
5:B:82:ASN:HB3	5:B:85:ILE:HG22	1.80	0.61
5:B:130:ARG:NH1	5:B:196:TYR:OH	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:64:TYR:HA	6:C:110:ARG:HD2	1.82	0.61
31:h:13:ASN:HA	31:h:52:PRO:HA	1.82	0.61
50:3:2257:U:H1'	50:3:2283:C:H41	1.66	0.61
50:3:2348:U:H2'	50:3:2349:G:H8	1.64	0.61
50:3:2409:U:N3	50:3:2423:G:N1	2.47	0.61
52:5:777:A:N6	52:5:798:U:OP2	2.33	0.61
52:5:1046:A:N7	52:5:1175:C:C4	2.69	0.61
52:5:1245:A:H2'	52:5:1246:A:C8	2.35	0.61
34:k:114:LEU:HB2	34:k:132:SER:H	1.65	0.61
42:s:89:ILE:HB	46:w:86:ALA:HB2	1.83	0.61
50:3:47:G:H21	50:3:184:A:H2	1.42	0.61
50:3:633:G:O6	50:3:692:U:O4	2.19	0.61
50:3:1010:G:H1'	50:3:1026:A:H61	1.65	0.61
50:3:1809:A:OP2	50:3:1822:A:N6	2.34	0.61
51:4:12:U:H1'	51:4:97:A:H1'	1.83	0.61
52:5:228:G:H2'	52:5:229:G:H8	1.65	0.61
50:3:581:A:H4'	50:3:582:A:O4'	2.01	0.61
50:3:2380:U:H2'	50:3:2381:G:C8	2.35	0.61
51:4:20:U:H2'	51:4:21:G:C8	2.36	0.61
52:5:305:A:H2'	52:5:306:G:C8	2.34	0.61
52:5:1217:G:O6	52:5:1269:U:O4	2.19	0.61
19:P:61:VAL:HG23	19:P:80:ILE:HG12	1.82	0.61
24:a:83:VAL:HG22	24:a:99:ILE:HG22	1.81	0.61
24:a:159:GLN:OE1	50:3:1807:C:O2'	2.18	0.61
25:b:111:SER:HB2	25:b:206:LEU:HB3	1.82	0.61
26:c:61:GLY:HA3	50:3:504:G:H5''	1.83	0.61
30:g:34:ALA:HB1	50:3:1121:A:H62	1.66	0.61
35:l:82:ARG:HD3	50:3:2503:G:H5''	1.81	0.61
50:3:1009:A:O2'	50:3:1217:G:N2	2.34	0.61
52:5:56:A:N6	52:5:364:U:O2	2.34	0.61
52:5:250:G:H2'	52:5:251:G:H8	1.65	0.61
52:5:656:U:H2'	52:5:657:G:C8	2.34	0.61
52:5:168:A:N6	52:5:219:A:N3	2.49	0.61
29:f:3:VAL:HG21	29:f:39:LEU:HA	1.83	0.60
35:l:54:ILE:O	35:l:58:LEU:N	2.29	0.60
50:3:450:C:H4'	50:3:1885:G:H21	1.66	0.60
50:3:2706:U:O4	50:3:2717:G:O6	2.19	0.60
52:5:331:C:H2'	52:5:332:A:C8	2.35	0.60
8:E:94:TYR:OH	20:Q:50:ARG:NH1	2.34	0.60
42:s:37:LYS:HD3	42:s:55:VAL:HB	1.83	0.60
50:3:267:A:O2'	50:3:465:A:N3	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1878:A:H3'	50:3:1879:A:C8	2.35	0.60
50:3:2364:A:H1'	50:3:2370:G:N2	2.16	0.60
52:5:1175:C:OP1	52:5:1176:A:O2'	2.16	0.60
2:1:10:ARG:NH1	34:k:64:LYS:HG3	2.16	0.60
24:a:237:ASP:N	50:3:2081:U:OP1	2.33	0.60
33:j:14:THR:HG22	33:j:94:ARG:HB2	1.82	0.60
33:j:77:LEU:HD23	38:o:77:LYS:HD3	1.83	0.60
50:3:569:U:O4	50:3:592:G:O6	2.18	0.60
50:3:625:G:H2'	50:3:626:A:H8	1.66	0.60
50:3:716:G:N2	50:3:831:U:O2	2.29	0.60
50:3:1766:A:H2'	50:3:1767:A:H8	1.64	0.60
52:5:885:U:O2	52:5:901:A:N7	2.34	0.60
52:5:988:G:H21	52:5:990:C:H42	1.49	0.60
12:I:92:SER:O	12:I:96:ILE:HG12	2.01	0.60
20:Q:93:ALA:HB1	20:Q:98:LEU:HB2	1.83	0.60
24:a:78:ASN:ND2	29:f:88:PRO:O	2.34	0.60
37:n:24:HIS:CE1	44:u:64:ASN:H	2.20	0.60
50:3:62:G:O2'	50:3:65:A:OP2	2.18	0.60
50:3:811:G:C6	50:3:2249:A:H5''	2.37	0.60
52:5:252:U:H2'	52:5:253:G:H8	1.67	0.60
4:A:61:GLN:HE21	4:A:217:ALA:HA	1.67	0.60
24:a:66:TYR:OH	50:3:1824:G:OP1	2.20	0.60
25:b:111:SER:HB3	25:b:173:LYS:HD3	1.82	0.60
50:3:228:A:H2'	50:3:229:C:C6	2.36	0.60
52:5:1046:A:N1	52:5:1180:U:O2'	2.32	0.60
4:A:120:PHE:O	4:A:124:SER:N	2.35	0.60
19:P:74:ARG:HB3	52:5:230:G:H4'	1.84	0.60
46:w:49:ARG:NH2	50:3:77:G:O2'	2.34	0.60
50:3:1508:G:OP2	50:3:1508:G:H4'	1.99	0.60
50:3:1743:U:H1'	50:3:2863:G:H21	1.66	0.60
50:3:2856:G:N2	50:3:2869:U:O2'	2.31	0.60
52:5:1402:U:H2'	52:5:1403:A:H8	1.65	0.60
9:F:24:ARG:HE	9:F:100:LEU:HD22	1.66	0.60
12:I:98:ILE:HG23	12:I:104:LEU:HG	1.83	0.60
31:h:19:ALA:H	31:h:36:THR:HG23	1.65	0.60
40:q:6:VAL:HB	40:q:37:LYS:HB3	1.83	0.60
50:3:1308:A:H2'	50:3:1309:G:H8	1.63	0.60
50:3:2299:U:O2'	50:3:2382:A:N3	2.34	0.60
52:5:394:U:N3	52:5:395:G:O6	2.35	0.60
17:N:65:LYS:HA	17:N:68:LYS:HE2	1.82	0.60
25:b:36:VAL:HG21	25:b:90:PHE:HB2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:h:84:LYS:HD2	50:3:1099:C:H5''	1.84	0.60
50:3:861:U:O2	50:3:866:G:O6	2.19	0.60
50:3:1627:U:H2'	50:3:1628:G:C8	2.37	0.60
52:5:711:G:H2'	52:5:712:A:C8	2.37	0.60
52:5:942:G:O6	52:5:1209:C:N4	2.18	0.60
11:H:27:LYS:O	11:H:60:LYS:NZ	2.30	0.60
13:J:40:SER:HA	13:J:43:MET:HE2	1.82	0.60
26:c:54:THR:OG1	26:c:57:GLU:OE1	2.20	0.60
28:e:113:SER:OG	50:3:2675:C:N3	2.32	0.60
50:3:622:U:H2'	50:3:623:A:C8	2.36	0.60
50:3:890:U:H2'	50:3:891:G:H8	1.65	0.60
50:3:2185:C:C4	50:3:2186:C:N4	2.70	0.60
50:3:2299:U:H2'	50:3:2300:A:H8	1.65	0.60
53:6:19:G:N2	53:6:59:A:OP2	2.34	0.60
19:P:9:LEU:HD21	19:P:63:ILE:H	1.65	0.60
25:b:6:ILE:HD11	25:b:33:PRO:HA	1.84	0.60
32:i:60:ILE:HG13	32:i:131:ASP:HA	1.84	0.60
36:m:39:LYS:NZ	50:3:2822:C:OP2	2.35	0.60
45:v:34:GLN:O	45:v:50:VAL:N	2.34	0.60
50:3:786:A:OP1	50:3:1648:A:N6	2.35	0.60
50:3:1702:A:C5	50:3:2000:U:C4	2.90	0.60
50:3:2749:A:H61	50:3:2771:G:H1'	1.66	0.60
52:5:98:G:N2	52:5:350:G:OP2	2.35	0.60
52:5:457:A:H2'	52:5:458:G:H8	1.66	0.60
15:L:14:ARG:HG2	15:L:42:ASP:HB2	1.84	0.59
19:P:14:LYS:HB2	19:P:23:THR:HG23	1.84	0.59
41:r:62:HIS:NE2	50:3:531:G:O5'	2.33	0.59
50:3:610:G:H2'	50:3:611:A:C8	2.37	0.59
50:3:1488:U:H2'	50:3:1489:G:C8	2.37	0.59
50:3:1878:A:H3'	50:3:1879:A:H8	1.65	0.59
51:4:61:A:H2'	51:4:62:G:H8	1.65	0.59
52:5:413:G:N2	52:5:423:U:O2	2.35	0.59
52:5:680:G:H2'	52:5:681:U:C6	2.37	0.59
5:B:36:GLU:OE1	5:B:60:ARG:NH2	2.26	0.59
9:F:152:HIS:HE1	13:J:54:TYR:HD1	1.50	0.59
10:G:65:LYS:HE3	52:5:588:U:H1'	1.83	0.59
24:a:17:SER:OG	24:a:212:VAL:O	2.19	0.59
30:g:61:ARG:HH12	50:3:1081:A:H1'	1.67	0.59
36:m:26:LEU:HB3	36:m:82:LEU:HD11	1.83	0.59
50:3:17:G:N2	50:3:560:U:O2	2.28	0.59
50:3:607:U:C4	50:3:2040:A:H5''	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:641:U:O2	50:3:657:A:N7	2.35	0.59
50:3:2323:U:H2'	50:3:2324:A:C8	2.37	0.59
50:3:2701:A:H5'	50:3:2873:G:H21	1.68	0.59
52:5:250:G:H2'	52:5:251:G:C8	2.37	0.59
52:5:941:A:H2'	52:5:942:G:C8	2.37	0.59
8:E:106:GLN:O	52:5:838:A:O2'	2.20	0.59
11:H:48:GLN:NE2	11:H:49:ASP:OD1	2.34	0.59
31:h:72:VAL:HG12	31:h:76:LEU:HD22	1.83	0.59
50:3:1869:G:H1	50:3:1887:U:H3	1.50	0.59
50:3:2210:G:O2'	50:3:2212:U:OP2	2.20	0.59
52:5:775:G:H2'	52:5:776:C:C2	2.36	0.59
1:0:18:PHE:N	50:3:127:A:OP2	2.35	0.59
5:B:114:LEU:HB3	5:B:207:ARG:HG2	1.83	0.59
14:K:93:THR:HA	14:K:115:LEU:HD22	1.83	0.59
26:c:14:GLU:OE2	26:c:131:ASN:ND2	2.35	0.59
50:3:292:G:H3'	50:3:293:G:C8	2.37	0.59
50:3:684:A:H2'	50:3:685:G:H8	1.67	0.59
50:3:2568:G:H2'	50:3:2569:A:H8	1.67	0.59
52:5:63:U:H3	52:5:90:G:H1	1.50	0.59
6:C:125:ASN:OD1	6:C:143:ARG:NH2	2.35	0.59
11:H:33:ASN:ND2	11:H:67:VAL:O	2.36	0.59
20:Q:73:ARG:HB2	20:Q:83:GLN:HG2	1.85	0.59
43:t:91:TYR:HB3	43:t:100:LYS:HD3	1.85	0.59
45:v:32:ASN:OD1	45:v:34:GLN:NE2	2.35	0.59
50:3:573:A:N6	50:3:588:G:H1'	2.17	0.59
50:3:1949:C:N4	50:3:1970:C:O2'	2.35	0.59
50:3:2781:C:H2'	50:3:2782:A:H8	1.67	0.59
52:5:672:A:H61	52:5:712:A:H61	1.50	0.59
53:8:19:G:N2	53:8:59:A:OP2	2.34	0.59
5:B:41:ARG:NH2	5:B:42:ASN:OD1	2.35	0.59
14:K:72:ASN:OD1	14:K:73:GLY:N	2.35	0.59
24:a:253:ALA:O	24:a:255:ARG:NH2	2.32	0.59
46:w:29:TYR:HA	46:w:32:LYS:HD2	1.83	0.59
50:3:320:A:H2'	50:3:321:A:C8	2.37	0.59
50:3:603:G:N1	50:3:2507:C:OP1	2.34	0.59
50:3:2068:G:O2'	50:3:2070:C:N4	2.35	0.59
50:3:2149:U:H3	50:3:2156:G:H1	1.51	0.59
50:3:2564:C:H3'	50:3:2565:G:H8	1.67	0.59
52:5:176:G:N7	52:5:190:A:N6	2.50	0.59
52:5:848:U:H3'	52:5:865:U:H3	1.67	0.59
5:B:74:PRO:HG3	5:B:108:GLU:HB2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:78:ARG:HH11	9:F:83:ASN:HD22	1.50	0.59
24:a:97:SER:HB3	24:a:109:ILE:HG13	1.84	0.59
26:c:105:LYS:N	50:3:640:U:OP1	2.35	0.59
31:h:31:ASN:HD22	31:h:34:GLU:HB3	1.68	0.59
50:3:47:G:H1'	50:3:471:A:H61	1.68	0.59
50:3:597:C:O2'	50:3:1282:G:N1	2.36	0.59
50:3:2339:G:H2'	50:3:2340:U:C6	2.38	0.59
9:F:131:GLY:HA2	9:F:134:ILE:HG22	1.84	0.59
26:c:174:ASN:ND2	50:3:354:C:O2	2.36	0.59
37:n:12:HIS:HA	37:n:94:GLY:HA2	1.84	0.59
41:r:116:GLU:HA	41:r:119:LYS:HD2	1.84	0.59
42:s:51:LYS:NZ	50:3:1630:A:OP1	2.31	0.59
47:x:16:CYS:SG	47:x:18:SER:OG	2.61	0.59
50:3:163:A:N7	50:3:169:U:O4	2.36	0.59
50:3:417:G:O6	50:3:431:U:O2	2.21	0.59
50:3:443:C:H2'	50:3:444:C:C6	2.38	0.59
50:3:1182:U:H2'	50:3:1183:A:C8	2.38	0.59
50:3:1306:G:H2'	50:3:1307:G:H8	1.67	0.59
50:3:1661:A:H2'	50:3:1662:G:H8	1.67	0.59
50:3:1944:A:N6	50:3:1946:U:O2'	2.35	0.59
50:3:2103:C:H2'	50:3:2104:A:C8	2.38	0.59
52:5:981:U:H2'	52:5:982:A:C8	2.37	0.59
52:5:1151:A:H2'	52:5:1152:G:C8	2.37	0.59
52:5:1213:A:N6	52:5:1275:U:O2'	2.36	0.59
52:5:1330:A:H2'	52:5:1331:A:H8	1.66	0.59
52:5:1333:C:H1'	52:5:1336:C:H41	1.68	0.59
2:1:36:LYS:HA	2:1:39:ARG:HG2	1.84	0.59
15:L:12:GLN:HG3	52:5:1271:U:H5''	1.84	0.59
22:S:18:ASN:ND2	52:5:318:C:H4'	2.17	0.59
24:a:69:ILE:HD11	24:a:96:VAL:HG12	1.84	0.59
50:3:186:A:N3	50:3:469:C:O2'	2.30	0.59
50:3:683:G:H21	50:3:2358:U:H4'	1.68	0.59
50:3:1881:C:H2'	50:3:1882:G:H8	1.68	0.59
52:5:70:A:H2'	52:5:71:A:C8	2.38	0.59
52:5:498:G:O2'	52:5:545:A:N1	2.27	0.59
52:5:512:U:H2'	52:5:513:G:C8	2.38	0.59
7:D:136:ILE:H	7:D:178:ILE:HD13	1.67	0.59
24:a:138:LEU:HB3	24:a:194:LYS:HD2	1.85	0.59
37:n:101:ARG:HH22	51:4:48:A:H8	1.49	0.59
50:3:406:C:H2'	50:3:407:U:C6	2.38	0.59
50:3:824:A:H1'	50:3:1788:A:H61	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1890:U:O2'	50:3:1891:A:N3	2.36	0.59
50:3:2158:C:H2'	50:3:2159:U:C6	2.38	0.59
50:3:2268:C:H2'	50:3:2269:C:C6	2.38	0.59
52:5:770:G:H2'	52:5:771:G:C8	2.37	0.59
52:5:1036:C:N4	52:5:1186:U:O2'	2.25	0.59
12:I:18:SER:HB3	12:I:102:VAL:HA	1.83	0.58
35:l:116:LYS:HE2	35:l:120:ARG:HD2	1.84	0.58
46:w:102:ARG:NH2	50:3:1626:C:OP1	2.35	0.58
50:3:401:G:O2'	50:3:402:A:OP1	2.19	0.58
50:3:595:U:H3	50:3:2040:A:H2	1.51	0.58
50:3:1820:U:O2'	50:3:1821:G:OP1	2.20	0.58
50:3:2021:A:H2'	50:3:2022:A:C4	2.38	0.58
50:3:2067:A:O2'	50:3:2453:G:OP2	2.19	0.58
50:3:2098:U:O2	50:3:2236:G:O6	2.21	0.58
4:A:136:LYS:O	4:A:140:ASN:N	2.36	0.58
26:c:46:ARG:NH1	50:3:479:A:OP1	2.36	0.58
27:d:45:ARG:HH22	27:d:78:LYS:H	1.51	0.58
29:f:8:ASP:HA	29:f:15:ARG:HA	1.84	0.58
31:h:77:LYS:HG2	31:h:82:LEU:HD23	1.85	0.58
48:y:27:LEU:HD22	48:y:36:LYS:HE3	1.85	0.58
50:3:300:G:H2'	50:3:301:G:C8	2.37	0.58
50:3:575:C:H2'	50:3:576:A:H8	1.67	0.58
50:3:1011:A:H2'	50:3:1012:G:H8	1.69	0.58
50:3:2364:A:H2	50:3:2369:G:H1	1.51	0.58
50:3:2420:A:H2'	50:3:2421:U:O4'	2.01	0.58
52:5:21:U:O2'	52:5:571:A:N6	2.34	0.58
52:5:44:C:H2'	52:5:45:A:C8	2.38	0.58
3:2:1:MET:HE3	3:2:33:LYS:HE3	1.84	0.58
30:g:87:ASN:O	30:g:87:ASN:ND2	2.36	0.58
50:3:144:C:H2'	50:3:145:A:C8	2.38	0.58
50:3:250:U:O2	50:3:256:G:O6	2.21	0.58
50:3:432:G:H2'	50:3:433:A:H8	1.68	0.58
50:3:432:G:H1'	50:3:2239:U:H4'	1.84	0.58
50:3:509:G:H2'	50:3:510:G:C8	2.38	0.58
50:3:640:U:O2	50:3:658:G:O6	2.21	0.58
50:3:921:C:N4	50:3:930:C:N3	2.49	0.58
50:3:1352:G:O2'	50:3:1681:G:N7	2.35	0.58
50:3:2851:U:O4	50:3:2873:G:O6	2.21	0.58
52:5:117:U:O2'	52:5:258:A:O2'	2.18	0.58
52:5:233:C:H2'	52:5:234:G:C5	2.38	0.58
52:5:350:G:N2	52:5:384:G:O2'	2.26	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:6:18:C:O3'	53:6:61:U:O2'	2.22	0.58
2:1:20:LYS:HE2	2:1:44:GLN:HG3	1.83	0.58
3:2:30:GLN:HB3	50:3:2535:C:H5''	1.84	0.58
21:R:79:ASN:O	52:5:1200:G:N2	2.36	0.58
24:a:138:LEU:HA	24:a:141:ILE:HB	1.86	0.58
31:h:51:ILE:HD13	31:h:67:LEU:HD12	1.86	0.58
48:y:47:MET:HE2	48:y:47:MET:O	2.03	0.58
50:3:904:C:H42	50:3:949:C:H1'	1.69	0.58
50:3:1299:A:H61	50:3:2019:G:H1'	1.68	0.58
50:3:2176:G:N2	50:3:2178:A:O2'	2.36	0.58
52:5:407:A:N7	52:5:409:G:N2	2.50	0.58
52:5:731:A:H2'	52:5:732:A:C8	2.38	0.58
52:5:733:A:H2'	52:5:734:A:C8	2.38	0.58
52:5:747:C:H2'	52:5:748:U:C5	2.36	0.58
52:5:1262:A:H2'	52:5:1263:A:C8	2.39	0.58
1:0:21:ARG:NH1	50:3:719:G:OP1	2.36	0.58
2:1:10:ARG:HG2	34:k:62:LEU:HB2	1.85	0.58
3:2:2:LYS:O	3:2:34:GLN:NE2	2.30	0.58
3:2:6:SER:HB2	50:3:2474:C:H5'	1.85	0.58
50:3:194:A:H3'	50:3:208:A:H61	1.69	0.58
50:3:370:C:H2'	50:3:371:C:C6	2.39	0.58
50:3:452:U:H3	50:3:2415:A:H61	1.49	0.58
50:3:569:U:H3	50:3:592:G:H1	1.50	0.58
50:3:639:G:H2'	50:3:640:U:C6	2.38	0.58
50:3:667:A:H2'	50:3:668:A:C8	2.38	0.58
50:3:1022:C:H2'	50:3:1023:C:C6	2.39	0.58
50:3:2134:G:H2'	50:3:2135:C:C6	2.39	0.58
52:5:141:A:H2'	52:5:142:G:H8	1.68	0.58
12:I:28:THR:HG23	12:I:45:PRO:HB2	1.86	0.58
24:a:147:VAL:HG22	24:a:200:VAL:HG12	1.84	0.58
24:a:229:ARG:NE	50:3:1834:U:OP2	2.37	0.58
29:f:17:ASP:O	29:f:19:VAL:N	2.37	0.58
32:i:70:ASN:ND2	50:3:1056:A:OP2	2.37	0.58
46:w:50:LEU:O	46:w:54:ILE:HG13	2.02	0.58
48:y:28:SER:HB2	48:y:39:PHE:HA	1.86	0.58
50:3:237:A:N6	50:3:268:C:O2'	2.36	0.58
50:3:2084:A:OP1	50:3:2246:G:N1	2.33	0.58
51:4:47:C:N4	51:4:48:A:N6	2.51	0.58
52:5:662:G:H8	52:5:721:G:H22	1.46	0.58
52:5:885:U:C2	52:5:901:A:C8	2.91	0.58
53:6:63:U:H2'	53:6:64:G:C8	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:15:ASN:O	5:B:217:ARG:NH2	2.36	0.58
9:F:69:MET:O	9:F:71:ARG:NH2	2.36	0.58
21:R:36:ARG:NH1	52:5:1294:U:O4	2.36	0.58
50:3:42:U:H2'	50:3:43:A:C8	2.39	0.58
50:3:410:G:N2	50:3:411:U:O4	2.37	0.58
4:A:40:LYS:NZ	52:5:825:A:N3	2.44	0.58
7:D:138:HIS:CE1	7:D:203:LEU:H	2.22	0.58
12:I:97:LYS:NZ	12:I:98:ILE:O	2.37	0.58
30:g:88:GLU:C	30:g:90:VAL:H	2.12	0.58
34:k:16:LYS:NZ	50:3:1225:A:N7	2.51	0.58
50:3:495:U:O4	50:3:506:A:N7	2.37	0.58
50:3:1056:A:H2'	50:3:1057:G:H4'	1.86	0.58
50:3:1094:G:H2'	50:3:1095:U:C5	2.38	0.58
50:3:1327:G:N2	50:3:1674:A:N7	2.51	0.58
52:5:1468:A:H62	53:6:38:G:H1'	1.69	0.58
4:A:119:ASN:HB3	52:5:1065:G:H4'	1.86	0.58
4:A:129:LYS:NZ	52:5:1095:G:O3'	2.36	0.58
5:B:21:ARG:NH1	12:I:20:ASP:OD2	2.37	0.58
24:a:29:ASN:ND2	50:3:1599:C:OP2	2.37	0.58
26:c:146:PHE:O	26:c:150:ALA:N	2.37	0.58
30:g:17:LEU:HG	30:g:84:VAL:HG11	1.84	0.58
32:i:11:GLN:HA	32:i:51:GLN:HG2	1.85	0.58
34:k:90:LEU:HG	34:k:93:ILE:HG12	1.85	0.58
34:k:127:GLU:HG2	34:k:149:LEU:HB3	1.86	0.58
50:3:47:G:N2	50:3:184:A:H2	1.98	0.58
50:3:477:U:H2'	50:3:478:G:C8	2.38	0.58
50:3:1099:C:N4	50:3:1105:A:OP1	2.37	0.58
50:3:2530:U:O2	50:3:2551:G:O6	2.22	0.58
50:3:2683:G:H2'	50:3:2684:G:C8	2.39	0.58
50:3:2843:G:O6	50:3:2882:U:O2	2.21	0.58
52:5:146:A:N6	52:5:340:A:N7	2.52	0.58
52:5:736:U:H2'	52:5:737:U:C6	2.39	0.58
52:5:849:A:H2'	52:5:850:G:H8	1.67	0.58
52:5:1040:U:H4'	52:5:1041:G:H5''	1.85	0.58
52:5:1072:G:H2'	52:5:1073:A:H8	1.69	0.58
6:C:179:VAL:HG13	6:C:180:ARG:HD3	1.85	0.58
11:H:87:ARG:HD3	11:H:90:LEU:HD21	1.85	0.58
16:M:45:ARG:NH2	52:5:1050:U:O2'	2.36	0.58
25:b:221:GLU:HG3	25:b:222:LEU:H	1.69	0.58
34:k:30:LYS:HE3	34:k:36:GLN:HE21	1.69	0.58
50:3:251:G:O2'	50:3:254:G:N7	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1841:U:H5''	50:3:1842:G:C5'	2.33	0.58
50:3:2547:C:H2'	50:3:2548:G:C8	2.38	0.58
52:5:1506:A:H2'	52:5:1507:U:C6	2.39	0.58
9:F:120:ALA:O	9:F:124:ILE:HG12	2.04	0.57
50:3:787:C:OP2	50:3:1788:A:N6	2.37	0.57
50:3:816:A:OP2	50:3:817:A:N6	2.32	0.57
50:3:1077:G:O6	50:3:1148:U:C2	2.57	0.57
50:3:1951:A:N1	50:3:2565:G:O2'	2.33	0.57
50:3:2143:G:N2	50:3:2162:U:O2	2.21	0.57
52:5:1045:C:H5''	52:5:1171:A:H2'	1.84	0.57
52:5:1217:G:N1	52:5:1269:U:N3	2.42	0.57
52:5:1266:U:H2'	52:5:1267:G:C8	2.39	0.57
53:8:18:C:O3'	53:8:61:U:O2'	2.22	0.57
6:C:54:LEU:O	6:C:58:GLN:HG2	2.04	0.57
25:b:115:LYS:NZ	50:3:2689:C:OP2	2.37	0.57
25:b:183:GLY:HA3	25:b:192:LEU:HD12	1.86	0.57
32:i:119:ARG:O	32:i:123:THR:HG23	2.03	0.57
33:j:106:LEU:HD12	33:j:109:ARG:HE	1.70	0.57
50:3:241:C:H2'	50:3:242:G:C8	2.39	0.57
50:3:1869:G:N2	50:3:1887:U:O2	2.31	0.57
50:3:2832:G:H2'	50:3:2833:A:H8	1.68	0.57
52:5:795:U:H2'	52:5:796:A:H8	1.68	0.57
52:5:1380:G:N1	52:5:1472:G:O6	2.38	0.57
4:A:45:ILE:HA	4:A:60:LEU:HD22	1.85	0.57
8:E:139:THR:OG1	10:G:5:THR:OG1	2.19	0.57
19:P:23:THR:OG1	52:5:273:C:OP1	2.19	0.57
26:c:47:GLN:NE2	50:3:41:C:O2	2.37	0.57
28:e:114:HIS:ND1	50:3:2676:G:O4'	2.37	0.57
47:x:25:ILE:HG22	47:x:26:GLU:H	1.69	0.57
52:5:1072:G:H2'	52:5:1073:A:C8	2.39	0.57
52:5:1109:U:H3	52:5:1132:G:H21	1.51	0.57
7:D:208:VAL:HG21	10:G:111:LEU:HD23	1.86	0.57
14:K:66:ALA:HB2	14:K:80:ILE:HD11	1.85	0.57
27:d:9:GLN:HA	27:d:13:ALA:HB3	1.85	0.57
31:h:79:ALA:HB1	31:h:96:ILE:HG13	1.85	0.57
46:w:31:PHE:O	46:w:35:HIS:ND1	2.36	0.57
50:3:2441:A:C2'	50:3:2442:A:H5'	2.32	0.57
51:4:3:U:N3	51:4:4:G:O6	2.36	0.57
52:5:50:U:H3	52:5:358:G:H1'	1.69	0.57
52:5:674:U:H2'	52:5:675:U:C6	2.39	0.57
52:5:799:A:H3'	52:5:800:G:H8	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:86:LEU:HD11	20:Q:95:TYR:HE2	1.69	0.57
9:F:84:TYR:OH	52:5:690:G:O3'	2.22	0.57
19:P:20:LYS:O	19:P:73:LYS:NZ	2.28	0.57
30:g:7:LYS:HG2	30:g:58:ILE:HG13	1.84	0.57
34:k:120:LEU:H	34:k:138:ALA:HB1	1.68	0.57
48:y:10:LYS:NZ	50:3:553:A:OP2	2.35	0.57
50:3:108:G:N2	50:3:380:A:N6	2.49	0.57
50:3:982:G:H2'	50:3:983:A:C8	2.38	0.57
50:3:1132:C:H2'	50:3:1133:A:O4'	2.04	0.57
50:3:1176:U:O2	50:3:1177:A:N6	2.37	0.57
50:3:2399:G:N2	50:3:2433:A:OP1	2.36	0.57
50:3:2640:A:H2'	50:3:2641:A:C8	2.39	0.57
52:5:1409:A:H61	52:5:1442:A:H1'	1.69	0.57
52:5:1432:A:H2'	52:5:1433:G:H8	1.69	0.57
9:F:115:MET:HA	9:F:118:LYS:HG2	1.87	0.57
12:I:55:ILE:HB	12:I:71:PHE:HB2	1.87	0.57
18:O:22:ARG:HB3	52:5:372:G:H4'	1.86	0.57
24:a:79:ILE:HD11	24:a:102:ALA:HB3	1.85	0.57
29:f:25:TYR:O	50:3:2100:G:H4'	2.05	0.57
37:n:101:ARG:NH2	51:4:48:A:OP2	2.37	0.57
50:3:1074:A:N6	50:3:1075:G:O6	2.37	0.57
50:3:1777:G:O2'	50:3:1945:A:N6	2.37	0.57
50:3:2351:U:O2'	50:3:2381:G:O2'	2.19	0.57
52:5:1109:U:H2'	52:5:1110:C:C6	2.40	0.57
5:B:111:SER:O	5:B:113:MET:N	2.36	0.57
14:K:63:ARG:NH1	14:K:102:ASP:OD2	2.29	0.57
15:L:54:VAL:O	15:L:57:ARG:HB2	2.05	0.57
27:d:63:GLN:NE2	51:4:41:C:H5'	2.20	0.57
50:3:35:U:O2'	50:3:490:A:N1	2.37	0.57
50:3:84:G:N2	50:3:104:A:OP2	2.37	0.57
50:3:286:A:OP1	50:3:287:G:N1	2.37	0.57
50:3:1071:G:O6	50:3:1154:U:O4	2.23	0.57
50:3:1940:G:O6	50:3:1974:U:O2	2.23	0.57
50:3:1945:A:HO2'	50:3:2612:G:H21	1.51	0.57
50:3:2063:G:H2'	50:3:2064:G:C8	2.39	0.57
50:3:2264:G:H2'	50:3:2265:U:C6	2.38	0.57
52:5:627:U:H2'	52:5:628:A:C4	2.40	0.57
52:5:1065:G:H2'	52:5:1066:U:C6	2.40	0.57
52:5:1244:A:H1'	52:5:1300:C:H1'	1.87	0.57
24:a:73:ARG:HH11	24:a:197:ARG:HH21	1.53	0.57
25:b:3:ILE:HB	25:b:87:MET:HA	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:d:44:ILE:O	27:d:78:LYS:NZ	2.30	0.57
27:d:134:GLU:HA	27:d:149:ILE:HD11	1.87	0.57
33:j:40:VAL:HA	33:j:59:ARG:HA	1.87	0.57
50:3:340:U:H2'	50:3:341:G:O4'	2.05	0.57
50:3:575:C:H2'	50:3:576:A:C8	2.40	0.57
50:3:625:G:H1	50:3:700:U:H3	1.51	0.57
50:3:2134:G:H2'	50:3:2135:C:H6	1.69	0.57
50:3:2268:C:H2'	50:3:2269:C:H6	1.68	0.57
50:3:2521:A:H2'	50:3:2522:U:C6	2.39	0.57
50:3:2603:G:N2	50:3:2606:A:OP2	2.32	0.57
52:5:97:G:H21	52:5:350:G:H5'	1.68	0.57
52:5:516:C:N4	52:5:527:G:OP2	2.37	0.57
52:5:932:A:H1'	52:5:1354:G:H1	1.70	0.57
53:8:63:U:H2'	53:8:64:G:C8	2.37	0.57
15:L:10:PRO:HD3	15:L:18:ALA:HB2	1.86	0.57
16:M:31:ARG:NH1	52:5:969:A:O3'	2.38	0.57
24:a:93:SER:O	24:a:205:ASN:ND2	2.37	0.57
31:h:85:GLY:O	50:3:1098:G:O2'	2.23	0.57
50:3:742:G:O6	50:3:759:U:O4	2.23	0.57
50:3:1122:G:O6	50:3:1124:G:N2	2.37	0.57
52:5:386:U:H2'	52:5:387:G:H8	1.70	0.57
52:5:662:G:O6	52:5:721:G:O6	2.22	0.57
8:E:108:ALA:O	8:E:111:LYS:HB2	2.03	0.57
15:L:5:LEU:HD23	15:L:53:PHE:HD1	1.70	0.57
25:b:28:VAL:HB	25:b:190:LEU:HD11	1.86	0.57
25:b:112:ALA:HB3	25:b:198:ALA:HB3	1.87	0.57
25:b:123:ILE:HD13	25:b:128:PHE:HB2	1.87	0.57
37:n:3:THR:HG21	51:4:57:G:H4'	1.86	0.57
42:s:48:TYR:O	46:w:80:ASN:ND2	2.37	0.57
50:3:1708:G:N2	50:3:1998:U:H3	2.02	0.57
51:4:21:G:H2'	51:4:22:G:C8	2.40	0.57
52:5:201:G:H1	52:5:214:U:H3	0.76	0.57
52:5:1129:C:H2'	52:5:1130:G:C8	2.39	0.57
49:z:2:ALA:N	50:3:2291:U:OP2	2.38	0.56
50:3:255:A:N6	50:3:424:G:H1	2.03	0.56
50:3:629:G:O6	50:3:696:U:O4	2.22	0.56
50:3:1849:G:O6	50:3:1905:U:O2	2.23	0.56
52:5:281:U:H2'	52:5:282:G:H8	1.69	0.56
15:L:25:ILE:HG23	15:L:29:ARG:HG2	1.87	0.56
25:b:82:GLN:HG2	50:3:2643:A:H5''	1.87	0.56
40:q:5:VAL:HA	40:q:38:VAL:HA	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:v:56:ARG:NH2	50:3:436:G:N7	2.51	0.56
50:3:601:U:N3	50:3:604:A:OP2	2.28	0.56
50:3:2591:G:N2	50:3:2592:U:O4	2.34	0.56
51:4:29:C:H42	51:4:50:C:H42	1.52	0.56
52:5:75:A:H2'	52:5:76:G:O4'	2.05	0.56
52:5:680:G:N2	52:5:704:U:O2	2.38	0.56
4:A:74:GLU:HB2	8:E:165:ASN:ND2	2.20	0.56
20:Q:94:ARG:NH1	52:5:716:C:N3	2.51	0.56
24:a:34:GLU:OE2	24:a:36:SER:OG	2.20	0.56
26:c:82:PRO:HD2	50:3:708:C:H5'	1.87	0.56
34:k:76:GLU:HG3	34:k:110:LEU:HD22	1.87	0.56
36:m:25:VAL:HG11	36:m:45:LEU:HD11	1.86	0.56
44:u:18:LYS:HB2	50:3:2260:G:N7	2.21	0.56
50:3:330:A:H2'	50:3:331:A:C8	2.40	0.56
50:3:474:U:H2'	50:3:475:A:C8	2.40	0.56
50:3:625:G:H2'	50:3:626:A:C8	2.40	0.56
50:3:632:A:H2'	50:3:633:G:H8	1.70	0.56
50:3:1019:A:H2'	50:3:1020:G:C4	2.40	0.56
50:3:1460:G:H2'	50:3:1461:A:C8	2.40	0.56
50:3:1837:C:H2'	50:3:1838:A:H8	1.70	0.56
50:3:2025:C:H2'	50:3:2026:A:H8	1.70	0.56
50:3:2249:A:H2'	50:3:2250:G:C8	2.40	0.56
50:3:2631:G:OP1	50:3:2830:A:O2'	2.23	0.56
52:5:141:A:H2'	52:5:142:G:C8	2.41	0.56
52:5:1136:G:O6	52:5:1157:G:O6	2.22	0.56
8:E:45:LEU:HD23	20:Q:97:ALA:HB3	1.88	0.56
11:H:31:THR:OG1	11:H:35:ARG:N	2.39	0.56
28:e:146:GLN:CD	50:3:2752:G:H21	2.13	0.56
37:n:102:ILE:HA	37:n:105:LEU:HD12	1.86	0.56
50:3:429:U:H2'	50:3:430:U:C5	2.40	0.56
50:3:574:G:N2	50:3:587:U:O2	2.35	0.56
50:3:1261:U:H2'	50:3:1262:G:H8	1.71	0.56
50:3:1293:U:H2'	50:3:1294:G:C4	2.40	0.56
50:3:2851:U:N3	50:3:2873:G:N1	2.54	0.56
52:5:356:G:H2'	52:5:357:G:C8	2.41	0.56
52:5:714:C:H2'	52:5:731:A:H8	1.70	0.56
52:5:1133:A:H5'	52:5:1134:C:C6	2.40	0.56
24:a:176:THR:OG1	24:a:178:LYS:O	2.24	0.56
35:l:124:LYS:NZ	50:3:2491:C:O2	2.36	0.56
50:3:998:C:H2'	50:3:999:U:H6	1.71	0.56
50:3:2175:U:O2'	50:3:2179:A:N6	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2305:C:H41	50:3:2326:G:H2'	1.71	0.56
50:3:2333:G:H2'	50:3:2334:U:O4'	2.06	0.56
52:5:457:A:H2'	52:5:458:G:C8	2.39	0.56
52:5:684:A:N6	52:5:700:G:N2	2.27	0.56
52:5:1360:G:H2'	52:5:1361:G:C8	2.40	0.56
4:A:155:GLU:O	4:A:159:LEU:HG	2.06	0.56
6:C:29:LYS:HE2	52:5:422:A:H5''	1.88	0.56
9:F:35:LYS:HD3	52:5:1348:G:H5''	1.87	0.56
12:I:42:ILE:HG13	52:5:1115:G:H5'	1.88	0.56
35:l:31:GLU:HA	35:l:134:ARG:HD3	1.88	0.56
43:t:86:ILE:HG21	50:3:369:C:H5''	1.86	0.56
48:y:13:ARG:O	48:y:17:ARG:N	2.37	0.56
50:3:54:A:OP2	50:3:118:G:N2	2.38	0.56
50:3:515:A:H1'	50:3:517:G:H5''	1.88	0.56
50:3:1288:C:H2'	50:3:1289:G:C8	2.40	0.56
52:5:149:G:H2'	52:5:150:A:C8	2.41	0.56
52:5:650:A:H2'	52:5:750:A:H61	1.70	0.56
52:5:1300:C:H2'	52:5:1301:U:C6	2.41	0.56
5:B:153:LYS:HE2	5:B:172:ILE:HD13	1.87	0.56
13:J:33:ASN:HA	52:5:681:U:H1'	1.87	0.56
15:L:66:GLU:HA	15:L:69:LEU:HD12	1.87	0.56
39:p:6:GLY:HA2	50:3:616:G:H5''	1.87	0.56
50:3:410:G:H4'	50:3:411:U:O5'	2.06	0.56
50:3:546:U:O2'	50:3:1245:G:N2	2.39	0.56
50:3:1040:U:H2'	50:3:1047:A:H2'	1.88	0.56
50:3:1436:C:H2'	50:3:1437:A:C8	2.41	0.56
50:3:2865:U:H2'	50:3:2866:A:C8	2.40	0.56
50:3:2887:A:H5'	50:3:2888:U:H5'	1.87	0.56
52:5:1170:C:H3'	52:5:1171:A:C5'	2.36	0.56
52:5:1242:U:O4	52:5:1301:U:O2'	2.23	0.56
8:E:50:LYS:NZ	8:E:83:LEU:O	2.38	0.56
18:O:68:SER:OG	18:O:73:TRP:NE1	2.39	0.56
25:b:180:ARG:NH1	50:3:2738:U:OP1	2.28	0.56
38:o:65:ILE:HG12	38:o:78:ASN:HB2	1.87	0.56
41:r:61:ASN:HB3	50:3:531:G:H1'	1.87	0.56
48:y:33:CYS:CB	48:y:47:MET:SD	2.94	0.56
50:3:1243:A:N6	50:3:1266:G:H1'	2.20	0.56
50:3:1527:U:H2'	50:3:1528:G:C8	2.41	0.56
50:3:1623:U:H2'	50:3:1624:A:H8	1.69	0.56
50:3:1901:C:H2'	50:3:1902:C:C6	2.40	0.56
50:3:1928:G:H2'	50:3:1929:G:H8	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:89:THR:O	5:B:93:LYS:N	2.34	0.56
5:B:114:LEU:HD22	5:B:207:ARG:HA	1.88	0.56
48:y:4:GLN:HG3	48:y:6:ARG:H	1.71	0.56
50:3:2053:G:H1	50:3:2630:U:H3	1.53	0.56
50:3:2436:G:H5''	50:3:2437:G:H5'	1.88	0.56
51:4:22:G:N7	51:4:54:U:O2'	2.36	0.56
52:5:659:U:H3	52:5:740:G:H1	1.54	0.56
52:5:1297:G:O2'	52:5:1336:C:H1'	2.06	0.56
2:1:4:LYS:NZ	50:3:255:A:OP1	2.25	0.56
5:B:194:THR:HG23	5:B:196:TYR:H	1.71	0.56
18:O:65:SER:O	18:O:69:GLN:N	2.36	0.56
26:c:153:LEU:HA	26:c:177:ASN:HD22	1.69	0.56
27:d:58:HIS:HD2	27:d:64:LYS:HD3	1.70	0.56
27:d:92:ARG:NH2	51:4:41:C:O2	2.30	0.56
27:d:129:THR:HA	27:d:155:THR:HA	1.86	0.56
32:i:46:ASP:HA	39:p:63:ARG:HH21	1.71	0.56
50:3:107:C:H2'	50:3:108:G:H8	1.71	0.56
50:3:270:G:H2'	50:3:271:G:O4'	2.05	0.56
50:3:1379:C:H2'	50:3:1380:U:C6	2.41	0.56
50:3:1451:A:H2'	50:3:1452:G:C8	2.41	0.56
50:3:2172:A:OP2	50:3:2174:G:N1	2.38	0.56
50:3:2321:C:N4	50:3:2322:G:O6	2.38	0.56
50:3:2539:A:H3'	50:3:2540:G:H8	1.70	0.56
52:5:10:G:H2'	52:5:11:A:C8	2.41	0.56
52:5:57:U:H1'	52:5:364:U:H3	1.71	0.56
52:5:655:G:H5''	52:5:656:U:H5	1.71	0.56
52:5:1417:U:H2'	52:5:1418:G:C8	2.41	0.56
6:C:10:ARG:NH2	52:5:541:C:OP1	2.39	0.55
18:O:37:LEU:HG	18:O:39:GLU:H	1.71	0.55
24:a:160:ILE:HG23	50:3:1806:G:C2	2.42	0.55
31:h:12:ILE:HG23	31:h:14:LEU:HD11	1.88	0.55
32:i:99:GLN:HA	32:i:129:LYS:HD3	1.87	0.55
37:n:104:ALA:O	37:n:108:ALA:N	2.39	0.55
43:t:49:ASP:HB2	43:t:60:THR:HB	1.88	0.55
48:y:13:ARG:HG2	48:y:17:ARG:HG3	1.88	0.55
52:5:307:C:H2'	52:5:308:C:O4'	2.06	0.55
52:5:826:G:H2'	52:5:827:C:C6	2.41	0.55
52:5:1113:U:H2'	52:5:1114:A:C8	2.40	0.55
22:S:63:ASN:ND2	52:5:117:U:O2'	2.39	0.55
27:d:170:LEU:HB2	27:d:175:LEU:HD23	1.87	0.55
43:t:2:GLN:O	43:t:102:ARG:NH1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:261:A:H3'	50:3:262:G:H8	1.72	0.55
50:3:842:U:H3'	50:3:843:G:H8	1.71	0.55
50:3:1007:C:H2'	50:3:1008:A:O4'	2.05	0.55
50:3:1087:C:H2'	50:3:1088:A:C8	2.41	0.55
50:3:1468:U:N3	50:3:1587:U:O2	2.38	0.55
50:3:2649:G:H2'	50:3:2650:A:H8	1.70	0.55
52:5:698:U:O2	52:5:700:G:N1	2.36	0.55
52:5:1227:A:H2'	52:5:1228:C:C6	2.40	0.55
52:5:1228:C:H2'	52:5:1229:A:H8	1.71	0.55
5:B:64:THR:HB	5:B:101:ASN:HD21	1.71	0.55
5:B:133:LEU:HG	5:B:137:MET:HE3	1.87	0.55
9:F:99:ALA:O	9:F:103:ILE:HG12	2.07	0.55
14:K:57:LYS:HD2	52:5:1467:A:H4'	1.89	0.55
15:L:113:ARG:HE	52:5:1204:A:P	2.29	0.55
24:a:78:ASN:O	29:f:87:ARG:NE	2.37	0.55
46:w:65:TRP:HA	46:w:71:LYS:HD3	1.88	0.55
50:3:420:A:H62	50:3:425:U:H3	1.54	0.55
50:3:2254:G:H2'	50:3:2255:A:C8	2.40	0.55
50:3:2754:U:O2	50:3:2766:A:N6	2.38	0.55
52:5:1142:G:N2	52:5:1145:A:OP2	2.27	0.55
3:2:27:CYS:HB3	3:2:32:HIS:HB2	1.88	0.55
5:B:192:ALA:HB3	5:B:199:ILE:HB	1.88	0.55
21:R:15:LEU:HD22	21:R:38:SER:HB2	1.88	0.55
42:s:26:LYS:NZ	50:3:1427:C:OP1	2.38	0.55
46:w:104:LYS:HZ3	50:3:1430:U:H4'	1.72	0.55
50:3:248:A:H61	50:3:422:A:H1'	1.71	0.55
50:3:1746:U:O2	50:3:1753:G:N2	2.39	0.55
50:3:2033:G:H2'	50:3:2034:G:H8	1.70	0.55
50:3:2696:G:H1'	50:3:2729:A:H61	1.70	0.55
52:5:139:C:N3	52:5:155:C:N4	2.55	0.55
52:5:861:A:H2'	52:5:862:C:C6	2.41	0.55
52:5:1299:C:H2'	52:5:1300:C:C6	2.41	0.55
6:C:58:GLN:NE2	6:C:61:GLN:OE1	2.39	0.55
8:E:40:LEU:HB2	8:E:57:TYR:HB2	1.88	0.55
10:G:108:LEU:HD22	10:G:142:TRP:HB2	1.87	0.55
11:H:12:ARG:HA	11:H:108:ARG:HH22	1.70	0.55
14:K:55:PRO:HD2	14:K:61:ALA:H	1.71	0.55
27:d:56:GLU:O	27:d:60:ILE:HG22	2.06	0.55
35:l:26:TYR:HE1	50:3:943:A:H5'	1.70	0.55
44:u:26:ASN:ND2	50:3:2287:G:N7	2.45	0.55
50:3:1298:A:H2'	50:3:1299:A:C8	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2639:G:H2'	50:3:2640:A:C8	2.42	0.55
51:4:46:C:H2'	51:4:47:C:C6	2.41	0.55
52:5:373:A:H2'	52:5:374:G:C8	2.41	0.55
52:5:754:U:HO2'	52:5:873:U:HO2'	1.54	0.55
52:5:1280:A:N7	52:5:1305:G:N2	2.55	0.55
4:A:144:LEU:HB3	4:A:148:GLU:HB2	1.89	0.55
24:a:138:LEU:HD13	24:a:180:VAL:HG21	1.87	0.55
25:b:178:ASN:HD21	25:b:212:LYS:HG3	1.71	0.55
28:e:26:ALA:HA	28:e:35:GLU:HA	1.89	0.55
30:g:43:LYS:HD3	30:g:94:LYS:HZ2	1.71	0.55
32:i:119:ARG:HH12	50:3:562:C:H1'	1.71	0.55
34:k:122:LYS:HB3	34:k:124:LEU:HD23	1.88	0.55
35:l:6:ARG:HH22	35:l:8:LYS:HE2	1.71	0.55
50:3:664:G:H2'	50:3:665:C:C6	2.42	0.55
50:3:2836:U:H4'	50:3:2837:U:H2'	1.89	0.55
52:5:1322:U:H2'	52:5:1349:A:H62	1.71	0.55
52:5:1325:U:O4	52:5:1346:G:O6	2.24	0.55
13:J:118:LYS:NZ	52:5:778:A:OP1	2.38	0.55
22:S:34:ASN:O	22:S:38:GLU:N	2.39	0.55
26:c:127:LEU:HD12	26:c:201:LYS:HA	1.88	0.55
32:i:11:GLN:NE2	32:i:50:ASN:OD1	2.39	0.55
41:r:88:ARG:O	50:3:1648:A:N6	2.38	0.55
50:3:252:G:N3	50:3:2439:U:O2'	2.39	0.55
50:3:2615:G:H2'	50:3:2616:G:H8	1.71	0.55
52:5:1011:A:H2'	52:5:1012:A:N3	2.22	0.55
52:5:1211:A:O2'	52:5:1308:G:N2	2.39	0.55
6:C:20:GLU:HG2	6:C:21:ASN:N	2.21	0.55
8:E:52:GLN:OE1	8:E:80:LYS:NZ	2.39	0.55
23:T:29:ALA:HA	23:T:32:HIS:HD2	1.72	0.55
27:d:31:LEU:HD13	27:d:156:LEU:HG	1.87	0.55
50:3:227:A:H2'	50:3:456:G:H21	1.72	0.55
50:3:1949:C:O2'	53:6:70:G:OP1	2.25	0.55
50:3:2222:C:H2'	50:3:2223:C:O4'	2.07	0.55
4:A:113:LEU:O	52:5:1093:A:O2'	2.25	0.55
9:F:8:LYS:HE3	52:5:1352:A:H3'	1.88	0.55
15:L:26:GLY:H	52:5:1303:A:H5''	1.70	0.55
22:S:71:ARG:NH1	52:5:255:G:OP2	2.39	0.55
25:b:34:ASN:HB3	25:b:52:LEU:HB3	1.87	0.55
28:e:57:ARG:NH1	28:e:61:LEU:O	2.40	0.55
29:f:77:LEU:HD11	29:f:100:GLN:HG3	1.89	0.55
35:l:119:THR:HG22	35:l:129:TRP:CH2	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:z:11:CYS:HB3	49:z:16:GLU:H	1.71	0.55
50:3:500:U:H1'	50:3:501:G:OP1	2.07	0.55
50:3:2421:U:H2'	50:3:2422:G:C8	2.38	0.55
50:3:2867:U:H2'	50:3:2868:G:H8	1.72	0.55
52:5:149:G:H2'	52:5:150:A:H8	1.71	0.55
52:5:206:G:O2'	52:5:209:A:N6	2.40	0.55
52:5:406:G:O6	52:5:426:U:O2'	2.17	0.55
52:5:1010:A:H3'	52:5:1011:A:H8	1.72	0.55
10:G:49:VAL:HG22	10:G:54:LEU:HB3	1.89	0.55
17:N:19:VAL:HG11	52:5:655:G:H1'	1.89	0.55
25:b:161:LYS:HB3	32:i:82:GLN:HB3	1.89	0.55
31:h:16:GLY:HA3	31:h:47:GLN:HA	1.89	0.55
35:l:72:MET:N	35:l:72:MET:SD	2.80	0.55
38:o:27:ALA:HB3	38:o:99:ALA:HA	1.89	0.55
40:q:78:HIS:CE1	50:3:1283:A:H62	2.24	0.55
50:3:535:G:N2	50:3:537:A:H3'	2.21	0.55
50:3:603:G:N2	50:3:2037:A:O4'	2.39	0.55
50:3:1239:G:H4'	50:3:1242:G:H4'	1.89	0.55
50:3:1543:U:H2'	50:3:1544:G:C8	2.41	0.55
50:3:1884:A:H2'	50:3:1885:G:H8	1.70	0.55
50:3:2100:G:N3	50:3:2206:A:N6	2.55	0.55
50:3:2416:U:H2'	50:3:2417:G:H8	1.72	0.55
50:3:2838:G:H21	50:3:2887:A:H62	1.55	0.55
50:3:2850:G:N2	50:3:2875:U:O2	2.39	0.55
50:3:2865:U:H2'	50:3:2866:A:H8	1.70	0.55
51:4:95:G:H2'	51:4:96:G:C8	2.42	0.55
52:5:768:G:O6	52:5:806:A:N6	2.39	0.55
52:5:1187:U:H5'	52:5:1188:A:N7	2.22	0.55
52:5:1215:U:H3'	52:5:1216:G:C8	2.42	0.55
12:I:25:ASP:OD2	52:5:1128:G:O2'	2.24	0.54
27:d:126:GLY:HA3	27:d:160:THR:HG23	1.89	0.54
38:o:67:ARG:HA	38:o:76:GLU:HA	1.88	0.54
50:3:399:G:H2'	50:3:400:A:H8	1.72	0.54
50:3:1095:U:H4'	50:3:1096:U:O5'	2.07	0.54
50:3:1619:A:O2'	50:3:1620:A:O4'	2.21	0.54
50:3:2384:A:H2'	50:3:2385:A:C4	2.42	0.54
50:3:2419:A:H2'	50:3:2420:A:C8	2.43	0.54
52:5:316:G:H2'	52:5:317:A:C8	2.42	0.54
52:5:1274:G:O2'	52:5:1306:A:OP2	2.16	0.54
28:e:14:ALA:O	28:e:17:ASN:ND2	2.40	0.54
39:p:61:ILE:HD13	50:3:1188:C:H5''	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:p:76:SER:N	50:3:1047:A:OP1	2.40	0.54
50:3:192:U:H1'	50:3:1393:A:N6	2.22	0.54
50:3:796:A:H5''	50:3:797:U:H5'	1.88	0.54
50:3:1006:U:H2'	50:3:1007:C:C6	2.43	0.54
50:3:1010:G:OP1	50:3:1218:G:O2'	2.18	0.54
50:3:1381:A:H2'	50:3:1382:A:C8	2.42	0.54
50:3:1809:A:H2'	50:3:1810:A:C8	2.42	0.54
50:3:2353:G:H4'	50:3:2354:A:H3'	1.89	0.54
50:3:2605:G:O2'	50:3:2606:A:O4'	2.22	0.54
52:5:15:U:H3	52:5:17:A:H3'	1.71	0.54
52:5:200:G:H2'	52:5:201:G:H8	1.73	0.54
52:5:1163:A:H2'	52:5:1164:U:C2	2.42	0.54
11:H:70:LYS:NZ	52:5:1119:C:OP1	2.33	0.54
26:c:59:ARG:NH1	50:3:494:G:O6	2.41	0.54
28:e:141:LYS:HA	28:e:144:VAL:HG12	1.89	0.54
34:k:56:THR:O	34:k:61:ARG:NH2	2.40	0.54
35:l:116:LYS:O	35:l:120:ARG:HG2	2.07	0.54
42:s:7:LEU:HD21	42:s:29:PHE:HB3	1.90	0.54
50:3:189:U:H2'	50:3:190:G:H8	1.72	0.54
50:3:713:C:H2'	50:3:714:G:H8	1.73	0.54
50:3:1416:G:H2'	50:3:1417:G:C8	2.43	0.54
50:3:1450:G:O2'	50:3:1517:G:N2	2.39	0.54
50:3:1476:C:H2'	50:3:1477:A:C8	2.42	0.54
50:3:1874:G:H2'	50:3:1875:C:C6	2.43	0.54
50:3:2287:G:H2'	50:3:2288:G:O4'	2.07	0.54
50:3:2812:U:O2'	50:3:2814:A:N7	2.30	0.54
52:5:971:A:O2'	52:5:1336:C:N4	2.40	0.54
52:5:993:C:H2'	52:5:994:C:C6	2.42	0.54
52:5:1349:A:H2'	52:5:1350:A:C8	2.43	0.54
52:5:1472:G:H22	52:5:1493:A:H2'	1.73	0.54
7:D:88:PHE:HZ	7:D:111:VAL:HA	1.73	0.54
14:K:96:ARG:HB2	14:K:109:HIS:HB2	1.88	0.54
20:Q:71:ASN:HB3	20:Q:75:ILE:HB	1.90	0.54
29:f:116:ASN:H	29:f:118:ARG:HH11	1.54	0.54
38:o:6:LYS:HD3	50:3:2880:A:H4'	1.90	0.54
50:3:1370:A:N7	50:3:1636:U:N3	2.55	0.54
50:3:1945:A:O2'	50:3:2612:G:N2	2.25	0.54
50:3:2033:G:H2'	50:3:2034:G:C8	2.41	0.54
50:3:2297:G:H2'	50:3:2298:G:C8	2.42	0.54
50:3:2374:A:H3'	50:3:2375:A:H8	1.71	0.54
51:4:11:A:H1'	51:4:13:G:H2'	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:4:85:A:H3'	51:4:86:G:H8	1.70	0.54
52:5:372:G:H2'	52:5:373:A:C8	2.41	0.54
52:5:857:U:O2	52:5:860:C:N4	2.40	0.54
52:5:1206:G:H2'	52:5:1207:U:C6	2.42	0.54
4:A:130:LEU:HD21	4:A:167:LYS:HE2	1.90	0.54
7:D:90:VAL:HG21	7:D:115:ILE:HD13	1.88	0.54
31:h:12:ILE:HA	50:3:1096:U:C5	2.43	0.54
34:k:98:LEU:HD22	34:k:103:VAL:HB	1.89	0.54
41:r:18:ARG:NH1	50:3:552:C:O2'	2.32	0.54
42:s:37:LYS:HD2	50:3:1632:C:H5''	1.90	0.54
50:3:442:G:N1	50:3:457:U:C2	2.76	0.54
50:3:713:C:H2'	50:3:714:G:C8	2.42	0.54
50:3:827:G:N3	50:3:2079:G:O2'	2.36	0.54
50:3:1503:A:OP2	50:3:1540:G:N2	2.38	0.54
50:3:2536:U:O2	50:3:2543:G:O6	2.25	0.54
52:5:112:U:H2'	52:5:113:C:C6	2.42	0.54
52:5:397:C:H2'	52:5:398:G:C8	2.42	0.54
52:5:948:U:H2'	52:5:949:G:H8	1.71	0.54
52:5:1245:A:H2'	52:5:1246:A:H8	1.73	0.54
8:E:51:LYS:NZ	52:5:707:G:OP1	2.41	0.54
8:E:87:ILE:O	52:5:734:A:H5'	2.08	0.54
24:a:113:ASP:N	24:a:202:VAL:O	2.34	0.54
34:k:48:ARG:HG2	34:k:50:GLY:H	1.71	0.54
50:3:48:G:OP1	50:3:219:G:H5''	2.07	0.54
50:3:355:A:C5	50:3:375:U:H4'	2.43	0.54
50:3:766:C:H2'	50:3:767:C:C6	2.43	0.54
50:3:1120:A:O2'	50:3:1139:C:O2	2.25	0.54
50:3:2664:U:H2'	50:3:2665:A:H8	1.73	0.54
50:3:2706:U:H2'	50:3:2707:A:C8	2.43	0.54
52:5:701:A:OP2	52:5:703:A:N6	2.40	0.54
52:5:1154:A:H2'	52:5:1155:A:C4	2.43	0.54
52:5:1402:U:O2	52:5:1449:G:N2	2.40	0.54
17:N:48:ILE:HG21	52:5:663:G:H21	1.73	0.54
32:i:9:LYS:HB3	32:i:48:THR:HG23	1.90	0.54
32:i:84:ILE:HG21	50:3:2522:U:H4'	1.89	0.54
40:q:4:ILE:HD12	40:q:40:MET:HG3	1.89	0.54
42:s:60:ARG:NH2	50:3:1367:G:N7	2.54	0.54
50:3:745:U:H2'	50:3:746:G:C8	2.42	0.54
50:3:1105:A:OP2	50:3:1110:C:N4	2.40	0.54
50:3:1182:U:H2'	50:3:1183:A:H8	1.72	0.54
50:3:1842:G:N7	50:3:1976:A:H5''	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2400:A:N7	50:3:2432:C:N3	2.54	0.54
52:5:59:C:H1'	52:5:384:G:C8	2.43	0.54
52:5:281:U:H2'	52:5:282:G:C8	2.42	0.54
52:5:1126:U:H2'	52:5:1127:A:C4	2.43	0.54
52:5:1263:A:H2	52:5:1346:G:H21	1.53	0.54
6:C:11:SER:O	6:C:15:GLY:N	2.30	0.54
6:C:82:ARG:HG3	6:C:82:ARG:HH21	1.73	0.54
30:g:26:ILE:HG12	30:g:82:VAL:HA	1.90	0.54
33:j:101:PRO:HB3	33:j:120:GLU:HB3	1.90	0.54
35:l:126:PRO:HD3	50:3:2493:G:H4'	1.89	0.54
50:3:122:G:H4'	50:3:152:A:H5'	1.90	0.54
50:3:682:A:N6	50:3:2357:G:O2'	2.37	0.54
50:3:1315:A:N6	50:3:1683:G:H1'	2.23	0.54
50:3:1695:G:O2'	50:3:2721:C:N4	2.36	0.54
50:3:2529:C:H2'	50:3:2530:U:O4'	2.08	0.54
51:4:1:U:H3	51:4:107:G:H22	1.54	0.54
51:4:55:A:H2'	51:4:56:A:C8	2.42	0.54
52:5:515:G:O2'	52:5:528:G:H4'	2.08	0.54
52:5:663:G:N2	52:5:738:A:H1'	2.23	0.54
52:5:1470:U:H2'	52:5:1471:C:C6	2.43	0.54
6:C:165:PRO:O	6:C:180:ARG:NH1	2.41	0.54
10:G:59:VAL:HA	10:G:70:VAL:HA	1.90	0.54
14:K:69:ARG:NH2	14:K:70:LEU:O	2.40	0.54
18:O:5:ARG:NH1	52:5:43:G:O2'	2.33	0.54
22:S:41:LEU:HD21	52:5:193:G:O2'	2.08	0.54
24:a:58:GLN:HB3	24:a:61:ARG:HH11	1.73	0.54
32:i:34:LYS:HG3	32:i:145:TRP:HD1	1.72	0.54
50:3:666:G:O2'	50:3:668:A:N6	2.37	0.54
50:3:1082:A:O2'	50:3:1083:A:O5'	2.25	0.54
50:3:1083:A:H2'	50:3:1084:C:H6	1.73	0.54
50:3:1789:C:O2	50:3:2616:G:O2'	2.25	0.54
50:3:2088:U:O4	50:3:2247:G:O6	2.26	0.54
50:3:2097:A:N6	50:3:2238:G:O6	2.41	0.54
50:3:2238:G:H2'	50:3:2239:U:C6	2.43	0.54
52:5:71:A:H2'	52:5:72:A:C8	2.43	0.54
5:B:57:GLU:HB2	5:B:68:PHE:HB2	1.90	0.54
14:K:42:LEU:HD13	14:K:94:LEU:HD13	1.89	0.54
46:w:55:LEU:HA	46:w:58:LEU:HG	1.90	0.54
50:3:35:U:C2	50:3:509:G:N1	2.75	0.54
50:3:1070:U:O4	50:3:1155:G:O6	2.24	0.54
50:3:1955:G:H21	52:5:1393:A:H2	1.54	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:4:43:A:H3'	51:4:44:A:H8	1.72	0.54
52:5:52:A:H61	52:5:309:A:H2	1.53	0.54
52:5:616:C:N4	52:5:620:A:N7	2.56	0.54
52:5:781:A:H2'	52:5:782:G:O4'	2.08	0.54
52:5:885:U:H2'	52:5:886:A:C8	2.43	0.54
52:5:955:U:H4'	52:5:956:U:H5''	1.90	0.54
52:5:1478:A:O4'	52:5:1505:G:N2	2.41	0.54
8:E:93:GLU:O	20:Q:85:HIS:NE2	2.23	0.53
9:F:48:LEU:HG	9:F:116:LEU:HB3	1.89	0.53
27:d:92:ARG:NH1	51:4:43:A:O4'	2.41	0.53
28:e:7:ARG:NH1	50:3:2759:G:O2'	2.41	0.53
50:3:210:U:H2'	50:3:211:A:H8	1.73	0.53
50:3:758:C:H2'	50:3:759:U:C6	2.44	0.53
50:3:1206:U:O2	50:3:1208:A:N6	2.40	0.53
50:3:1323:A:N6	50:3:1679:U:O4	2.33	0.53
50:3:2384:A:H2'	50:3:2385:A:C5	2.43	0.53
50:3:2488:C:H2'	50:3:2489:G:O4'	2.09	0.53
52:5:186:A:H2'	52:5:187:A:C8	2.43	0.53
2:1:9:LYS:HE2	2:1:10:ARG:NH1	2.23	0.53
4:A:137:GLN:HA	4:A:140:ASN:HB3	1.91	0.53
16:M:3:LYS:HD3	16:M:6:LEU:HD13	1.90	0.53
19:P:50:GLU:H	19:P:53:VAL:HG22	1.73	0.53
31:h:72:VAL:HG21	31:h:124:VAL:HG13	1.91	0.53
35:l:43:ASP:HA	35:l:94:VAL:HA	1.89	0.53
36:m:73:PHE:HB3	36:m:78:LEU:HD13	1.89	0.53
46:w:104:LYS:NZ	50:3:1430:U:H4'	2.23	0.53
50:3:1416:G:H2'	50:3:1417:G:H8	1.72	0.53
50:3:1459:A:H2'	50:3:1460:G:C8	2.43	0.53
50:3:1604:A:H2'	50:3:1605:A:H8	1.72	0.53
50:3:1852:G:H2'	50:3:1853:G:C8	2.43	0.53
50:3:2169:G:H1'	50:3:2173:G:C2	2.42	0.53
50:3:2330:A:H2'	50:3:2331:G:C8	2.44	0.53
50:3:2350:C:H2'	50:3:2351:U:C6	2.43	0.53
52:5:762:G:N1	52:5:809:G:O2'	2.40	0.53
4:A:67:THR:HA	4:A:70:ASN:HD21	1.73	0.53
5:B:153:LYS:HB3	5:B:204:TRP:HB2	1.91	0.53
6:C:87:VAL:O	6:C:91:ARG:HG2	2.07	0.53
15:L:13:LYS:NZ	52:5:1275:U:O3'	2.40	0.53
18:O:75:LYS:O	18:O:79:SER:OG	2.20	0.53
20:Q:42:ARG:HG2	20:Q:78:ASN:HB3	1.89	0.53
21:R:55:LYS:HB2	52:5:953:A:C4	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:s:56:ASN:HB2	42:s:82:VAL:HG23	1.89	0.53
50:3:15:A:H1'	50:3:17:G:C5	2.43	0.53
50:3:300:G:H2'	50:3:301:G:H8	1.73	0.53
50:3:408:G:H5''	50:3:459:A:N6	2.24	0.53
50:3:870:A:H2'	50:3:871:G:H5'	1.91	0.53
50:3:995:A:H2'	50:3:996:A:C8	2.44	0.53
50:3:1171:G:H2'	50:3:1172:G:C8	2.43	0.53
50:3:1986:C:H2'	50:3:1987:C:C6	2.43	0.53
50:3:2059:G:N1	50:3:2625:U:N3	2.43	0.53
50:3:2701:A:H2'	50:3:2702:G:C8	2.44	0.53
50:3:2825:A:H2'	50:3:2826:G:O4'	2.08	0.53
52:5:485:C:N4	52:5:486:C:N4	2.56	0.53
52:5:1289:U:H2'	52:5:1290:G:C8	2.43	0.53
52:5:1441:C:H2'	52:5:1442:A:C8	2.43	0.53
4:A:207:ASN:HB2	4:A:210:LEU:HG	1.90	0.53
9:F:56:LYS:NZ	9:F:58:LEU:H	2.06	0.53
16:M:14:PRO:HB3	16:M:19:ARG:HH22	1.74	0.53
29:f:43:SER:OG	29:f:45:GLN:NE2	2.40	0.53
41:r:100:SER:OG	41:r:101:SER:N	2.41	0.53
45:v:26:ARG:NH1	50:3:193:G:OP2	2.41	0.53
50:3:341:G:N1	50:3:344:A:OP2	2.27	0.53
50:3:652:U:H2'	50:3:653:G:C8	2.43	0.53
50:3:839:A:H3'	50:3:841:C:H41	1.73	0.53
50:3:1314:A:H1'	50:3:1316:U:OP1	2.08	0.53
50:3:1315:A:N1	50:3:1682:C:O2'	2.40	0.53
50:3:1665:G:N2	50:3:1670:U:O4	2.41	0.53
52:5:376:G:N2	52:5:379:A:OP2	2.40	0.53
52:5:629:U:H2'	52:5:630:G:C8	2.43	0.53
5:B:77:LEU:HB3	5:B:106:ILE:HD13	1.89	0.53
7:D:130:GLU:O	7:D:175:TYR:OH	2.25	0.53
7:D:190:ASN:ND2	52:5:20:C:OP1	2.40	0.53
9:F:15:PRO:HD2	11:H:45:LEU:HD11	1.90	0.53
12:I:26:LEU:O	12:I:30:LYS:HG2	2.08	0.53
14:K:79:TYR:OH	52:5:520:C:OP2	2.26	0.53
24:a:74:THR:HA	24:a:77:ASP:HB2	1.91	0.53
27:d:35:VAL:HG11	50:3:2322:G:H5'	1.90	0.53
36:m:103:LEU:HD11	36:m:115:ILE:HB	1.89	0.53
38:o:54:ARG:NH2	38:o:100:TYR:OH	2.42	0.53
46:w:15:LEU:O	46:w:19:VAL:HG23	2.08	0.53
48:y:10:LYS:HG2	48:y:13:ARG:HH12	1.73	0.53
52:5:570:A:H1'	52:5:911:G:H21	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:874:C:H2'	52:5:875:G:C8	2.43	0.53
53:6:49:C:OP2	53:6:60:U:N3	2.42	0.53
53:8:49:C:OP2	53:8:60:U:N3	2.42	0.53
6:C:2:LYS:HB3	6:C:114:ARG:NH1	2.24	0.53
6:C:31:ARG:HD3	6:C:35:PRO:HG3	1.90	0.53
35:l:72:MET:HE2	35:l:95:ALA:HA	1.90	0.53
39:p:48:ASP:OD2	50:3:569:U:O2'	2.15	0.53
49:z:19:TYR:OH	50:3:2355:C:O2'	2.25	0.53
50:3:24:U:H2'	50:3:25:G:C8	2.44	0.53
50:3:199:A:H2'	50:3:202:C:N4	2.24	0.53
50:3:244:G:N2	50:3:262:G:O6	2.42	0.53
50:3:1014:G:H2'	50:3:1015:G:C8	2.43	0.53
50:3:2664:U:H2'	50:3:2665:A:C8	2.44	0.53
50:3:2839:A:H62	50:3:2883:A:P	2.30	0.53
52:5:97:G:H2'	52:5:98:G:C8	2.43	0.53
52:5:490:U:N3	52:5:491:U:O4	2.41	0.53
52:5:778:A:O5'	52:5:1497:U:O2'	2.27	0.53
52:5:818:A:H2'	52:5:819:G:C8	2.43	0.53
52:5:933:A:N3	52:5:1351:U:O2'	2.30	0.53
2:l:7:ALA:HB3	2:l:59:ILE:HG13	1.89	0.53
24:a:41:LEU:HD22	24:a:64:ARG:HB2	1.91	0.53
24:a:80:GLU:HB3	24:a:120:LYS:HG2	1.91	0.53
29:f:43:SER:H	29:f:46:ASP:HB3	1.74	0.53
32:i:101:ASP:HB2	32:i:127:VAL:HG13	1.91	0.53
33:j:38:VAL:HG22	33:j:61:VAL:HG22	1.90	0.53
36:m:33:THR:O	36:m:114:ALA:N	2.33	0.53
48:y:28:SER:HA	50:3:2890:G:O2'	2.08	0.53
50:3:64:U:H1'	50:3:66:A:H62	1.73	0.53
50:3:154:U:H2'	50:3:155:A:C8	2.43	0.53
50:3:767:C:H3'	50:3:768:G:H8	1.74	0.53
50:3:1106:G:H21	50:3:1107:C:H41	1.56	0.53
50:3:1386:G:N1	50:3:1400:U:OP2	2.29	0.53
50:3:1431:A:O2'	50:3:1497:A:O2'	2.19	0.53
50:3:1645:C:H2'	50:3:1646:G:C8	2.44	0.53
52:5:412:G:N1	52:5:424:U:N3	2.56	0.53
52:5:733:A:H2'	52:5:734:A:H8	1.72	0.53
52:5:1222:U:O2	52:5:1265:U:N3	2.41	0.53
52:5:1228:C:H2'	52:5:1229:A:C8	2.42	0.53
1:0:31:LEU:HD22	1:0:42:LEU:HB3	1.91	0.53
18:O:67:PHE:O	18:O:72:LEU:N	2.35	0.53
19:P:24:VAL:O	19:P:45:TYR:N	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:39:VAL:O	24:a:66:TYR:N	2.42	0.53
24:a:87:GLU:HG2	24:a:88:TYR:H	1.74	0.53
26:c:28:GLU:N	26:c:28:GLU:OE1	2.42	0.53
32:i:20:ILE:HB	32:i:140:PRO:HB2	1.91	0.53
50:3:190:G:O6	50:3:215:A:N6	2.42	0.53
50:3:604:A:O2'	50:3:608:A:N6	2.42	0.53
50:3:952:U:H3'	50:3:953:G:C8	2.44	0.53
50:3:1077:G:H2'	50:3:1078:C:O4'	2.08	0.53
50:3:1507:G:H1'	50:3:1508:G:OP2	2.09	0.53
50:3:1672:C:OP1	50:3:2718:C:O2'	2.26	0.53
50:3:1887:U:H2'	50:3:1888:U:C6	2.44	0.53
50:3:2451:C:H2'	50:3:2452:G:C8	2.44	0.53
50:3:2705:G:H2'	50:3:2706:U:H6	1.73	0.53
50:3:2855:A:H2'	50:3:2856:G:O4'	2.08	0.53
52:5:452:A:H2'	52:5:453:C:C6	2.43	0.53
52:5:1395:C:H2'	52:5:1396:U:O4'	2.09	0.53
3:2:31:LYS:HE3	50:3:2536:U:H5''	1.91	0.53
4:A:195:ARG:NH1	4:A:209:GLU:O	2.42	0.53
5:B:74:PRO:O	5:B:78:ILE:N	2.39	0.53
5:B:186:ASP:HB3	5:B:205:ILE:HG22	1.90	0.53
17:N:66:TYR:OH	52:5:750:A:OP1	2.17	0.53
21:R:28:LYS:NZ	21:R:30:PRO:O	2.33	0.53
25:b:180:ARG:NH2	50:3:2738:U:H5''	2.24	0.53
27:d:92:ARG:HE	51:4:43:A:H5''	1.72	0.53
28:e:124:LEU:HA	28:e:137:SER:O	2.09	0.53
37:n:76:ASP:O	37:n:80:LYS:HG3	2.09	0.53
50:3:733:C:H4'	50:3:769:A:H61	1.73	0.53
50:3:841:C:O2	50:3:2452:G:O2'	2.26	0.53
50:3:952:U:H3'	50:3:953:G:H8	1.74	0.53
50:3:1667:G:N7	50:3:1669:A:N6	2.57	0.53
50:3:2566:C:H2'	50:3:2567:C:C6	2.44	0.53
52:5:931:C:O2'	52:5:1357:C:N3	2.39	0.53
52:5:1012:A:H5''	52:5:1013:C:C5	2.44	0.53
52:5:1038:G:H21	52:5:1190:G:H5'	1.74	0.53
52:5:1323:A:O4'	52:5:1349:A:N6	2.42	0.53
11:H:59:LEU:HG	11:H:61:LYS:H	1.74	0.53
12:I:49:PRO:HG3	52:5:1126:U:H4'	1.91	0.53
25:b:198:ALA:HB2	50:3:2687:A:H4'	1.91	0.53
30:g:61:ARG:HH22	50:3:1081:A:H1'	1.74	0.53
42:s:41:LYS:HB2	42:s:52:PRO:HD2	1.90	0.53
42:s:71:PHE:HB2	50:3:67:C:H4'	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:898:A:O2'	51:4:76:A:N3	2.39	0.53
50:3:1536:C:H2'	50:3:1537:A:C8	2.43	0.53
50:3:2072:C:H1'	50:3:2457:U:H3	1.73	0.53
52:5:8:G:O4'	52:5:294:A:N6	2.42	0.53
52:5:108:C:O2	52:5:234:G:N2	2.42	0.53
52:5:628:A:H5'	52:5:629:U:C5	2.44	0.53
52:5:951:U:H2'	52:5:952:U:C6	2.44	0.53
52:5:1115:G:H22	52:5:1125:C:H42	1.57	0.53
4:A:98:ASN:HA	4:A:101:LYS:HG2	1.90	0.52
19:P:20:LYS:HA	19:P:49:ASN:HB2	1.90	0.52
31:h:61:LYS:NZ	31:h:64:ASP:OD2	2.41	0.52
40:q:65:GLN:NE2	40:q:87:GLN:O	2.43	0.52
50:3:652:U:H2'	50:3:653:G:H8	1.74	0.52
50:3:1133:A:H3'	50:3:1134:G:C8	2.42	0.52
50:3:1865:A:H62	50:3:1891:A:H8	1.57	0.52
50:3:2522:U:H2'	50:3:2523:C:C6	2.44	0.52
50:3:2764:U:H1'	50:3:2765:A:H5''	1.90	0.52
50:3:2832:G:H2'	50:3:2833:A:C8	2.43	0.52
52:5:1002:A:H3'	52:5:1003:G:H8	1.73	0.52
52:5:1062:C:H2'	52:5:1063:G:H8	1.73	0.52
4:A:91:TYR:CE2	4:A:226:CYS:HB3	2.45	0.52
11:H:19:VAL:HB	11:H:67:VAL:HG22	1.92	0.52
26:c:182:HIS:CD2	26:c:183:LEU:H	2.27	0.52
30:g:56:ASN:N	50:3:1142:G:OP1	2.41	0.52
35:l:6:ARG:NH1	50:3:906:G:O2'	2.42	0.52
39:p:30:SER:HB2	39:p:33:VAL:HG12	1.92	0.52
48:y:33:CYS:HB3	48:y:47:MET:CE	2.23	0.52
50:3:144:C:H2'	50:3:145:A:H8	1.74	0.52
50:3:482:G:N2	50:3:490:A:C5	2.77	0.52
50:3:2597:A:H2'	50:3:2598:C:H6	1.72	0.52
52:5:614:U:H2'	52:5:615:G:C8	2.45	0.52
52:5:802:C:H2'	52:5:803:C:C6	2.44	0.52
52:5:876:C:H2'	52:5:877:C:C5	2.44	0.52
52:5:1010:A:H3'	52:5:1011:A:C8	2.44	0.52
5:B:154:VAL:HG22	5:B:171:TYR:HB2	1.91	0.52
7:D:120:LYS:NZ	52:5:1064:U:OP1	2.40	0.52
8:E:84:ARG:HG3	8:E:86:LEU:HD23	1.90	0.52
8:E:146:THR:HA	10:G:60:LEU:HG	1.91	0.52
11:H:79:GLY:O	11:H:82:ARG:HG2	2.08	0.52
14:K:127:ARG:HA	14:K:132:ALA:HB3	1.91	0.52
32:i:67:LEU:HB2	32:i:96:LEU:HD11	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:k:93:ILE:HD12	34:k:126:PHE:HE1	1.74	0.52
35:l:70:PRO:HB2	35:l:93:TRP:HB3	1.91	0.52
37:n:102:ILE:H	37:n:102:ILE:HD12	1.75	0.52
50:3:434:G:H5'	50:3:2097:A:H1'	1.91	0.52
50:3:616:G:N1	50:3:1288:C:O2	2.42	0.52
50:3:1700:G:C2	50:3:2002:U:O2	2.62	0.52
50:3:1798:A:H2'	50:3:1799:A:O4'	2.08	0.52
50:3:2599:C:H2'	50:3:2600:G:C8	2.43	0.52
50:3:2862:U:H3'	50:3:2863:G:H8	1.74	0.52
52:5:59:C:H2'	52:5:60:A:H8	1.73	0.52
52:5:455:U:H3	52:5:472:G:H1	1.57	0.52
9:F:15:PRO:HD2	11:H:45:LEU:HD21	1.92	0.52
25:b:151:ARG:NH1	50:3:2583:U:OP1	2.40	0.52
42:s:61:LYS:NZ	50:3:1636:U:OP1	2.42	0.52
50:3:35:U:N3	50:3:509:G:C6	2.76	0.52
50:3:226:A:C8	50:3:456:G:H4'	2.44	0.52
50:3:933:A:H3'	50:3:934:C:C6	2.45	0.52
50:3:1054:U:H2'	50:3:1055:A:C4	2.44	0.52
50:3:1777:G:H2'	50:3:1778:G:C8	2.44	0.52
50:3:1959:A:H3'	50:3:1960:A:H8	1.73	0.52
50:3:2406:U:H2'	50:3:2407:G:C8	2.44	0.52
50:3:2419:A:H2'	50:3:2420:A:H8	1.75	0.52
50:3:2575:G:H2'	50:3:2576:A:C8	2.44	0.52
51:4:61:A:H2'	51:4:62:G:C8	2.43	0.52
52:5:230:G:H2'	52:5:231:U:O4'	2.09	0.52
52:5:748:U:H3'	52:5:749:G:C8	2.45	0.52
4:A:108:ILE:HG21	4:A:112:TRP:HB2	1.91	0.52
5:B:85:ILE:HD12	5:B:88:ILE:HD11	1.90	0.52
11:H:42:PRO:HB2	11:H:44:LYS:HD2	1.92	0.52
12:I:51:LYS:HA	52:5:1228:C:OP1	2.09	0.52
23:T:13:LEU:HG	23:T:16:LYS:HB2	1.91	0.52
24:a:2:PRO:HG2	24:a:24:LYS:HD2	1.91	0.52
36:m:53:LYS:HE3	36:m:91:GLU:HA	1.92	0.52
50:3:602:U:O2'	50:3:982:G:N2	2.42	0.52
50:3:632:A:H2'	50:3:633:G:C8	2.44	0.52
50:3:667:A:C2	50:3:2424:C:H4'	2.44	0.52
50:3:1858:U:O2	50:3:1898:G:O6	2.28	0.52
50:3:2057:C:N4	50:3:2622:A:O2'	2.43	0.52
50:3:2376:C:H2'	50:3:2377:A:C8	2.43	0.52
52:5:393:A:O2'	52:5:395:G:OP2	2.17	0.52
52:5:643:U:H2'	52:5:644:U:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:887:C:H2'	52:5:888:A:H8	1.75	0.52
52:5:1300:C:H2'	52:5:1301:U:H6	1.74	0.52
52:5:1328:C:H2'	52:5:1329:G:H8	1.75	0.52
52:5:1370:C:H2'	52:5:1371:A:C8	2.45	0.52
52:5:1487:U:H2'	52:5:1488:A:C8	2.45	0.52
6:C:149:ILE:HG12	6:C:174:PHE:HD2	1.75	0.52
29:f:42:LYS:HE3	29:f:47:ARG:HA	1.92	0.52
33:j:19:VAL:HG23	33:j:43:VAL:HA	1.92	0.52
36:m:27:ALA:HA	36:m:78:LEU:HD11	1.91	0.52
44:u:94:ARG:NH2	51:4:9:C:OP1	2.40	0.52
50:3:386:U:H2'	50:3:387:U:C6	2.44	0.52
50:3:518:A:OP2	50:3:542:A:N6	2.40	0.52
50:3:731:A:H2'	50:3:732:G:C8	2.44	0.52
50:3:900:G:C2	50:3:903:A:N6	2.77	0.52
50:3:992:G:N2	50:3:996:A:OP2	2.31	0.52
51:4:60:C:H2'	51:4:61:A:C8	2.45	0.52
52:5:365:U:O2	52:5:388:G:N2	2.28	0.52
52:5:807:C:H2'	52:5:808:C:O4'	2.09	0.52
52:5:950:C:H2'	52:5:951:U:C6	2.44	0.52
10:G:45:LEU:O	10:G:49:VAL:HG23	2.10	0.52
15:L:28:SER:HB3	52:5:1302:C:H5''	1.91	0.52
36:m:98:SER:OG	36:m:117:GLN:O	2.24	0.52
38:o:65:ILE:HA	38:o:78:ASN:HA	1.92	0.52
38:o:107:ARG:NH1	50:3:1762:A:OP1	2.43	0.52
50:3:421:A:N6	50:3:423:C:H2'	2.24	0.52
50:3:680:A:H2'	50:3:682:A:C8	2.38	0.52
50:3:896:U:C2	50:3:897:A:C8	2.98	0.52
50:3:1528:G:H2'	50:3:1529:U:C6	2.45	0.52
50:3:1672:C:H2'	50:3:1673:U:C6	2.45	0.52
50:3:1999:G:N2	50:3:2003:C:O2	2.42	0.52
52:5:40:G:O2'	52:5:41:C:O4'	2.17	0.52
52:5:206:G:N2	52:5:209:A:OP2	2.23	0.52
52:5:275:A:H4'	52:5:276:U:H3'	1.91	0.52
52:5:345:A:H2'	52:5:346:G:C8	2.44	0.52
52:5:494:A:H2'	52:5:495:U:C5	2.45	0.52
52:5:687:G:H2'	52:5:688:G:C4	2.44	0.52
52:5:830:U:H2'	52:5:831:C:C6	2.44	0.52
52:5:1141:U:HO2'	52:5:1142:G:H8	1.56	0.52
52:5:1215:U:H3'	52:5:1216:G:H8	1.75	0.52
9:F:67:ASN:ND2	9:F:129:ASN:OD1	2.41	0.52
25:b:122:ALA:HA	25:b:125:ARG:HG2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:8:LYS:HG3	26:c:14:GLU:HG2	1.91	0.52
33:j:48:PRO:HB3	33:j:53:LYS:HE3	1.91	0.52
37:n:69:ASN:N	51:4:49:G:OP2	2.42	0.52
39:p:32:LYS:HD2	50:3:613:C:OP1	2.10	0.52
45:v:56:ARG:NH1	50:3:435:U:OP2	2.43	0.52
49:z:19:TYR:OH	49:z:37:PHE:O	2.23	0.52
49:z:31:LYS:HB2	49:z:49:GLU:HB3	1.90	0.52
50:3:2018:U:H2'	50:3:2019:G:O4'	2.10	0.52
50:3:2025:C:H2'	50:3:2026:A:C8	2.45	0.52
52:5:106:C:N4	52:5:110:U:O4	2.40	0.52
52:5:225:U:H2'	52:5:226:G:C8	2.44	0.52
52:5:992:U:H2'	52:5:993:C:C2	2.44	0.52
52:5:1106:U:O4	52:5:1160:G:O6	2.28	0.52
10:G:66:THR:HG22	52:5:649:U:H4'	1.92	0.52
10:G:118:THR:OG1	10:G:119:SER:N	2.42	0.52
14:K:96:ARG:NH2	52:5:549:U:O2'	2.38	0.52
19:P:68:PRO:HA	19:P:74:ARG:HA	1.90	0.52
24:a:72:LYS:HZ3	50:3:2213:A:H4'	1.75	0.52
24:a:89:ASP:HB2	24:a:95:PHE:HA	1.92	0.52
31:h:9:ILE:HB	50:3:1133:A:N3	2.25	0.52
41:r:128:ARG:NH2	50:3:1262:G:N3	2.58	0.52
49:z:35:ASN:HB3	49:z:46:VAL:HG22	1.92	0.52
50:3:815:G:N2	50:3:818:A:H61	2.06	0.52
50:3:864:A:N7	50:3:2255:A:O2'	2.38	0.52
50:3:1495:A:OP2	50:3:1548:A:N6	2.42	0.52
50:3:1553:G:N2	50:3:1577:A:OP2	2.36	0.52
50:3:1623:U:H2'	50:3:1624:A:C8	2.45	0.52
50:3:1702:A:C5	50:3:2000:U:O4	2.63	0.52
50:3:1813:C:H2'	50:3:1814:G:C8	2.45	0.52
50:3:2135:C:H2'	50:3:2136:A:H8	1.73	0.52
50:3:2346:G:H2'	50:3:2347:G:H8	1.75	0.52
50:3:2703:U:O2	50:3:2722:G:C6	2.63	0.52
50:3:2745:G:H2'	50:3:2746:A:C8	2.45	0.52
52:5:552:U:H2'	52:5:553:C:C6	2.45	0.52
52:5:581:A:N7	52:5:755:U:O4	2.43	0.52
52:5:803:C:H2'	52:5:804:A:C8	2.45	0.52
4:A:245:MET:HG3	4:A:246:PHE:HD1	1.75	0.52
7:D:96:ASN:HD21	7:D:100:LYS:HE3	1.75	0.52
8:E:93:GLU:HB2	20:Q:85:HIS:NE2	2.25	0.52
12:I:81:ILE:HG22	12:I:83:VAL:HG13	1.92	0.52
16:M:31:ARG:O	16:M:41:ARG:NH2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:261:ARG:NH2	50:3:1849:G:O3'	2.43	0.52
26:c:185:LYS:HD2	50:3:651:A:H61	1.75	0.52
27:d:57:LEU:O	27:d:61:SER:OG	2.24	0.52
29:f:31:PHE:HB2	29:f:33:LYS:HZ3	1.75	0.52
37:n:98:TYR:HE2	37:n:106:ALA:HB3	1.74	0.52
50:3:155:A:H2'	50:3:156:A:O4'	2.10	0.52
50:3:834:G:C8	50:3:835:U:H2'	2.44	0.52
50:3:1375:G:C6	50:3:1634:A:N6	2.78	0.52
50:3:1620:A:N7	50:3:1621:U:N3	2.57	0.52
51:4:20:U:H2'	51:4:21:G:H8	1.75	0.52
52:5:28:G:H2'	52:5:29:G:C8	2.45	0.52
52:5:174:U:H2'	52:5:175:U:C6	2.45	0.52
52:5:294:A:H2'	52:5:295:G:N3	2.24	0.52
52:5:1074:U:O2'	52:5:1093:A:OP2	2.25	0.52
5:B:134:ARG:HE	7:D:112:PRO:HG3	1.75	0.51
35:l:14:ASN:HB3	35:l:72:MET:HG3	1.92	0.51
43:t:75:ALA:HB1	43:t:87:GLY:H	1.76	0.51
50:3:500:U:HO2'	50:3:501:G:P	2.33	0.51
50:3:800:C:H2'	50:3:801:U:C6	2.44	0.51
50:3:997:G:C6	50:3:2038:A:H1'	2.45	0.51
50:3:1162:A:H2'	50:3:2526:A:C2	2.45	0.51
50:3:1446:G:N2	50:3:1613:A:OP2	2.43	0.51
50:3:2279:G:H2'	50:3:2280:U:C6	2.45	0.51
50:3:2551:G:H2'	50:3:2552:G:H8	1.73	0.51
50:3:2587:U:H2'	50:3:2588:U:C6	2.44	0.51
50:3:2819:C:H2'	50:3:2820:G:C8	2.45	0.51
52:5:11:A:H2'	52:5:12:G:C8	2.45	0.51
52:5:253:G:O6	52:5:265:U:O4	2.28	0.51
52:5:593:A:H2'	52:5:638:A:H62	1.74	0.51
52:5:811:A:OP2	52:5:813:A:N6	2.35	0.51
52:5:862:C:O2	52:5:867:A:O2'	2.27	0.51
52:5:971:A:HO2'	52:5:1336:C:N4	2.08	0.51
52:5:1390:G:O6	52:5:1460:U:O2	2.28	0.51
10:G:58:GLN:O	10:G:71:THR:N	2.34	0.51
12:I:38:VAL:HG11	12:I:88:GLY:HA3	1.92	0.51
15:L:98:ARG:NH2	52:5:1283:G:OP2	2.43	0.51
24:a:43:LYS:NZ	24:a:61:ARG:O	2.43	0.51
24:a:112:PRO:HD2	24:a:115:ILE:HD11	1.91	0.51
28:e:152:ARG:NH2	28:e:170:GLU:OE1	2.42	0.51
30:g:56:ASN:HB2	30:g:75:ALA:HB1	1.91	0.51
35:l:27:VAL:HG12	35:l:135:GLU:HB2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:67:LEU:HD23	36:m:75:VAL:HG23	1.90	0.51
39:p:65:ASN:ND2	50:3:1047:A:OP2	2.43	0.51
44:u:41:ASP:HB2	50:3:891:G:N3	2.25	0.51
50:3:423:C:O2'	50:3:424:G:O5'	2.27	0.51
50:3:515:A:H4'	50:3:516:A:H5'	1.92	0.51
50:3:947:A:H2'	50:3:948:A:C8	2.44	0.51
50:3:1152:U:H2'	50:3:1153:U:C6	2.45	0.51
50:3:2736:U:O2'	50:3:2737:G:H8	1.93	0.51
52:5:192:A:H2'	52:5:193:G:C8	2.45	0.51
52:5:272:G:H2'	52:5:273:C:O4'	2.10	0.51
52:5:290:G:H2'	52:5:291:C:C6	2.45	0.51
6:C:148:THR:HA	6:C:151:ILE:HG12	1.91	0.51
9:F:50:GLU:HB2	9:F:54:LYS:HE2	1.91	0.51
37:n:98:TYR:CE2	37:n:103:ALA:HA	2.45	0.51
46:w:42:HIS:ND1	50:3:97:A:O2'	2.43	0.51
50:3:297:G:N2	50:3:440:C:O2'	2.36	0.51
50:3:322:A:H2'	50:3:323:A:C8	2.45	0.51
50:3:643:A:H61	50:3:655:G:H1'	1.75	0.51
50:3:1317:C:H4'	50:3:1358:C:O4'	2.10	0.51
50:3:1838:A:H2'	50:3:1839:C:C6	2.46	0.51
50:3:2224:A:H2'	50:3:2225:G:C8	2.45	0.51
52:5:31:U:O2'	52:5:33:A:O4'	2.28	0.51
52:5:218:U:O4	52:5:219:A:N6	2.43	0.51
52:5:809:G:OP1	52:5:896:G:N2	2.32	0.51
52:5:877:C:H2'	52:5:878:U:C6	2.45	0.51
4:A:19:SER:OG	4:A:20:LEU:N	2.42	0.51
8:E:2:GLN:HB3	8:E:90:LEU:HB2	1.91	0.51
20:Q:60:LEU:HD13	20:Q:63:PHE:HD2	1.74	0.51
22:S:56:ARG:HH21	52:5:218:U:H4'	1.75	0.51
25:b:150:GLY:HA2	25:b:156:ALA:H	1.74	0.51
27:d:36:ILE:HB	27:d:89:VAL:HB	1.92	0.51
28:e:90:LEU:HB2	28:e:134:ILE:HB	1.92	0.51
39:p:39:ILE:HG13	39:p:43:LYS:HE2	1.91	0.51
41:r:131:GLY:O	41:r:134:LYS:HG3	2.10	0.51
48:y:50:ASP:OD2	48:y:50:ASP:N	2.43	0.51
50:3:1414:C:H2'	50:3:1415:A:C8	2.45	0.51
50:3:1941:C:H2'	50:3:1942:G:O4'	2.11	0.51
50:3:2587:U:H2'	50:3:2588:U:H6	1.74	0.51
50:3:2597:A:H2'	50:3:2598:C:C6	2.45	0.51
50:3:2657:C:H2'	50:3:2658:U:C6	2.45	0.51
50:3:2713:A:O2'	50:3:2856:G:OP1	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2764:U:H4'	50:3:2765:A:OP1	2.10	0.51
50:3:2829:G:N2	50:3:2829:G:OP2	2.43	0.51
52:5:670:G:H2'	52:5:671:G:C8	2.44	0.51
52:5:803:C:H2'	52:5:804:A:H8	1.75	0.51
52:5:941:A:O2'	52:5:1307:A:N3	2.43	0.51
52:5:1367:G:O2'	52:5:1477:A:OP2	2.23	0.51
8:E:104:LYS:O	8:E:107:LEU:HB2	2.10	0.51
15:L:87:ARG:O	15:L:91:HIS:ND1	2.44	0.51
20:Q:42:ARG:H	20:Q:78:ASN:HB3	1.75	0.51
24:a:213:ILE:HD11	24:a:222:ARG:HH21	1.75	0.51
27:d:8:TYR:OH	27:d:16:LEU:HD22	2.10	0.51
28:e:152:ARG:NH1	28:e:165:VAL:O	2.43	0.51
32:i:28:LEU:HD11	32:i:103:LEU:HD21	1.92	0.51
35:l:67:ARG:HH22	50:3:944:U:H1'	1.75	0.51
37:n:102:ILE:O	37:n:105:LEU:HB2	2.11	0.51
50:3:189:U:H2'	50:3:190:G:C8	2.46	0.51
50:3:225:A:O4'	50:3:237:A:O2'	2.27	0.51
50:3:325:G:O6	50:3:383:U:O4	2.27	0.51
50:3:659:C:H2'	50:3:660:U:C6	2.45	0.51
50:3:961:U:H2'	50:3:962:U:C5	2.45	0.51
50:3:2284:G:H2'	50:3:2285:G:H8	1.76	0.51
50:3:2839:A:H2	50:3:2841:A:N6	2.08	0.51
52:5:1317:A:H2'	52:5:1318:C:C6	2.45	0.51
8:E:8:LEU:HB2	8:E:83:LEU:HB2	1.93	0.51
12:I:29:LYS:HA	12:I:32:VAL:HG12	1.93	0.51
22:S:13:GLN:O	22:S:17:ARG:HG2	2.09	0.51
28:e:26:ALA:HB2	28:e:35:GLU:HG3	1.93	0.51
28:e:90:LEU:HD12	28:e:165:VAL:HG12	1.93	0.51
44:u:52:TYR:CE2	44:u:54:GLN:HB3	2.46	0.51
50:3:522:C:H2'	50:3:523:A:C8	2.45	0.51
50:3:1051:U:H2'	50:3:1052:A:C8	2.45	0.51
50:3:1075:G:H2'	50:3:1076:U:C6	2.46	0.51
50:3:2115:A:H2'	50:3:2116:U:O4'	2.11	0.51
52:5:297:A:H2'	52:5:298:G:H8	1.73	0.51
52:5:448:A:OP1	52:5:478:G:N1	2.42	0.51
52:5:677:C:H2'	52:5:678:A:H8	1.76	0.51
52:5:826:G:N2	52:5:851:U:O2	2.44	0.51
52:5:923:G:H2'	52:5:924:A:C8	2.44	0.51
52:5:1057:C:N4	52:5:1099:G:O2'	2.44	0.51
2:1:48:SER:OG	50:3:2367:C:O3'	2.28	0.51
10:G:46:GLU:O	10:G:50:LYS:HG2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I:17:GLU:OE1	12:I:75:ARG:NH2	2.43	0.51
13:J:105:GLU:H	23:T:6:VAL:HG22	1.75	0.51
14:K:24:LEU:HD22	14:K:97:GLY:HA3	1.93	0.51
24:a:265:VAL:HG22	50:3:1850:C:H5'	1.92	0.51
32:i:58:ILE:HD12	32:i:135:MET:HB2	1.92	0.51
40:q:9:SER:C	40:q:10:LYS:HD3	2.36	0.51
48:y:29:VAL:N	48:y:36:LYS:HZ3	2.09	0.51
50:3:712:A:O2'	50:3:2078:A:H5'	2.11	0.51
50:3:975:G:O2'	50:3:976:C:O4'	2.25	0.51
50:3:1304:U:H2'	50:3:1305:G:C8	2.46	0.51
50:3:1445:U:H2'	50:3:1446:G:O4'	2.10	0.51
50:3:1778:G:H2'	50:3:1779:G:C8	2.46	0.51
50:3:2348:U:H2'	50:3:2349:G:C8	2.45	0.51
52:5:192:A:H2'	52:5:193:G:H8	1.75	0.51
52:5:490:U:H2'	52:5:491:U:C5	2.46	0.51
52:5:610:C:H2'	52:5:611:A:H8	1.76	0.51
5:B:116:ALA:HB2	5:B:205:ILE:HB	1.93	0.51
5:B:191:LYS:NZ	52:5:1048:G:N3	2.59	0.51
15:L:51:GLU:O	15:L:54:VAL:HG22	2.11	0.51
18:O:72:LEU:HA	18:O:75:LYS:HG2	1.93	0.51
33:j:63:VAL:HG21	33:j:102:VAL:HG23	1.92	0.51
35:l:120:ARG:O	35:l:124:LYS:HG2	2.10	0.51
41:r:132:GLN:HG3	41:r:136:LYS:HE3	1.92	0.51
50:3:71:C:H2'	50:3:72:G:C8	2.46	0.51
50:3:333:A:O2'	50:3:334:A:O4'	2.29	0.51
50:3:2624:C:H2'	50:3:2625:U:C6	2.45	0.51
5:B:75:ALA:O	5:B:79:GLY:N	2.44	0.51
12:I:13:LYS:HG2	12:I:81:ILE:HG23	1.92	0.51
13:J:41:GLY:C	52:5:685:G:H5'	2.36	0.51
14:K:12:ARG:NH1	52:5:560:U:O3'	2.44	0.51
24:a:159:GLN:HA	24:a:162:ARG:HD3	1.92	0.51
41:r:12:ILE:H	41:r:100:SER:HA	1.75	0.51
50:3:111:G:H2'	50:3:112:A:C8	2.46	0.51
50:3:277:C:H2'	50:3:278:U:O4'	2.10	0.51
50:3:615:G:H2'	50:3:616:G:C8	2.46	0.51
50:3:666:G:H21	50:3:668:A:H8	1.57	0.51
50:3:2701:A:H5'	50:3:2873:G:N2	2.26	0.51
51:4:78:C:H5	51:4:86:G:H1	1.58	0.51
52:5:863:A:H5'	52:5:864:U:H5'	1.93	0.51
9:F:70:PRO:O	9:F:95:LYS:HG2	2.11	0.51
24:a:183:GLN:NE2	24:a:188:GLU:O	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:84:ILE:HG21	25:b:208:ARG:HE	1.76	0.51
32:i:34:LYS:HG3	32:i:145:TRP:CD1	2.46	0.51
35:l:6:ARG:HB3	50:3:907:A:H5'	1.93	0.51
50:3:448:A:N6	50:3:2420:A:O4'	2.43	0.51
50:3:1243:A:N3	50:3:1268:U:O2'	2.42	0.51
50:3:2565:G:H2'	50:3:2566:C:C6	2.46	0.51
50:3:2753:C:H42	50:3:2768:U:H3	1.58	0.51
50:3:2791:U:H2'	50:3:2792:C:C6	2.46	0.51
52:5:55:C:N4	52:5:353:G:O6	2.44	0.51
52:5:923:G:O2'	52:5:1508:C:OP1	2.26	0.51
52:5:953:A:H2'	52:5:954:A:C8	2.46	0.51
52:5:1101:A:H3'	52:5:1102:A:C8	2.45	0.51
52:5:1383:A:H2'	52:5:1384:A:C8	2.46	0.51
2:1:14:THR:OG1	2:1:17:GLY:O	2.25	0.50
7:D:185:ARG:HD3	52:5:21:U:OP2	2.11	0.50
14:K:19:SER:OG	52:5:552:U:OP1	2.18	0.50
25:b:143:PHE:HZ	50:3:2586:G:H1'	1.75	0.50
29:f:65:SER:O	29:f:69:LYS:HG2	2.11	0.50
32:i:115:ASN:O	32:i:118:SER:OG	2.26	0.50
34:k:6:LEU:HD13	50:3:1235:U:H6	1.76	0.50
35:l:72:MET:HE3	35:l:96:VAL:HG22	1.93	0.50
38:o:3:LYS:NZ	38:o:4:ILE:O	2.44	0.50
39:p:54:ARG:HH11	50:3:1190:A:H5''	1.76	0.50
46:w:85:ASN:O	46:w:89:GLN:HG2	2.11	0.50
48:y:52:ARG:HH11	48:y:55:LYS:HA	1.76	0.50
50:3:50:G:H22	50:3:179:A:H2'	1.76	0.50
50:3:71:C:O2	50:3:75:A:O2'	2.29	0.50
50:3:122:G:H2'	50:3:123:G:H8	1.76	0.50
50:3:495:U:H2'	50:3:496:A:C8	2.46	0.50
50:3:642:A:OP2	50:3:655:G:N2	2.43	0.50
50:3:651:A:H2'	50:3:652:U:O4'	2.10	0.50
50:3:1130:A:N7	50:3:1132:C:C4	2.79	0.50
50:3:1441:A:H2'	50:3:1442:G:C8	2.45	0.50
50:3:2586:G:H2'	50:3:2587:U:H6	1.77	0.50
52:5:252:U:H2'	52:5:253:G:C8	2.44	0.50
52:5:789:A:O2'	52:5:792:C:N4	2.43	0.50
52:5:1369:A:N6	52:5:1475:A:O2'	2.44	0.50
4:A:153:SER:O	4:A:157:GLU:HG2	2.10	0.50
5:B:42:ASN:O	5:B:46:VAL:HG22	2.11	0.50
25:b:113:ILE:HA	25:b:173:LYS:HA	1.93	0.50
25:b:224:VAL:HG21	38:o:17:GLN:HA	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:g:31:SER:HB3	50:3:1090:G:H5'	1.93	0.50
36:m:68:LEU:HD13	50:3:1323:A:H5''	1.93	0.50
41:r:61:ASN:CG	50:3:530:G:H21	2.19	0.50
50:3:133:G:H2'	50:3:134:U:C6	2.46	0.50
50:3:242:G:O2'	50:3:642:A:O2'	2.18	0.50
50:3:410:G:H22	50:3:437:A:H5'''	1.75	0.50
50:3:519:A:OP2	50:3:520:C:N4	2.36	0.50
50:3:526:G:H2'	50:3:527:A:C8	2.46	0.50
50:3:1019:A:O2'	50:3:1020:G:O4'	2.16	0.50
50:3:1154:U:H2'	50:3:1155:G:H8	1.76	0.50
50:3:1297:U:H2'	50:3:1298:A:C8	2.43	0.50
50:3:1538:U:H2'	50:3:1539:U:C6	2.47	0.50
50:3:2298:G:H2'	50:3:2299:U:C6	2.47	0.50
50:3:2439:U:C5	50:3:2441:A:OP1	2.64	0.50
50:3:2701:A:H2'	50:3:2702:G:H8	1.76	0.50
52:5:74:U:O4	52:5:75:A:N6	2.44	0.50
52:5:370:A:H2'	52:5:371:U:O4'	2.12	0.50
52:5:644:U:H2'	52:5:645:A:C8	2.46	0.50
52:5:845:C:H2'	52:5:846:G:C8	2.47	0.50
52:5:1392:A:H2	52:5:1458:A:H62	1.59	0.50
14:K:25:HIS:HB3	14:K:39:TYR:H	1.76	0.50
15:L:78:LYS:O	15:L:82:GLU:HB3	2.11	0.50
19:P:76:ARG:NH1	19:P:78:ALA:HA	2.27	0.50
21:R:9:ALA:HB1	21:R:39:THR:HG21	1.93	0.50
34:k:115:ILE:HD11	50:3:663:A:C4	2.46	0.50
38:o:34:ALA:HB3	38:o:87:SER:HB2	1.92	0.50
40:q:24:LYS:NZ	50:3:1198:G:OP1	2.45	0.50
50:3:421:A:H62	50:3:423:C:H2'	1.76	0.50
50:3:499:G:N2	50:3:502:A:OP2	2.38	0.50
50:3:500:U:O4	50:3:823:A:N6	2.45	0.50
50:3:1379:C:H2'	50:3:1380:U:H6	1.77	0.50
50:3:2769:G:H2'	50:3:2770:U:O4'	2.12	0.50
52:5:254:G:H2'	52:5:255:G:H8	1.75	0.50
52:5:433:C:H2'	52:5:434:U:O4'	2.10	0.50
2:1:9:LYS:NZ	50:3:254:G:OP2	2.39	0.50
6:C:143:ARG:HG3	6:C:175:GLU:HG2	1.93	0.50
10:G:29:LYS:O	10:G:80:ARG:NH2	2.45	0.50
10:G:117:SER:HA	10:G:122:VAL:HA	1.93	0.50
11:H:106:THR:HG23	11:H:107:THR:HG23	1.93	0.50
14:K:43:LYS:HA	52:5:359:A:OP1	2.12	0.50
37:n:78:ALA:O	37:n:82:VAL:HG13	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:q:66:ARG:HE	40:q:67:LYS:H	1.59	0.50
41:r:31:ASP:OD1	41:r:31:ASP:N	2.44	0.50
41:r:136:LYS:HE2	50:3:581:A:OP2	2.11	0.50
50:3:555:A:H2'	50:3:556:U:C6	2.46	0.50
50:3:854:A:H2'	50:3:855:A:O4'	2.12	0.50
50:3:1011:A:H2'	50:3:1012:G:C8	2.47	0.50
50:3:1130:A:N6	50:3:1132:C:N4	2.55	0.50
50:3:2513:G:C2	50:3:2584:G:H2'	2.47	0.50
50:3:2700:C:O2'	50:3:2851:U:H1'	2.11	0.50
52:5:41:C:H2'	52:5:42:G:H8	1.75	0.50
52:5:905:U:H2'	52:5:906:C:C6	2.46	0.50
52:5:1127:A:O2'	52:5:1128:G:H5''	2.11	0.50
52:5:1226:A:N6	52:5:1328:C:O2'	2.42	0.50
52:5:1481:U:O2'	52:5:1482:A:O5'	2.29	0.50
5:B:60:ARG:HG2	5:B:65:VAL:HG23	1.93	0.50
9:F:61:PHE:HZ	9:F:100:LEU:HG	1.77	0.50
11:H:96:LEU:O	11:H:100:LEU:HG	2.12	0.50
29:f:10:SER:OG	29:f:11:ASN:N	2.43	0.50
34:k:131:VAL:HG21	34:k:136:LEU:HD22	1.93	0.50
50:3:359:G:H2'	50:3:360:G:C8	2.46	0.50
50:3:684:A:H2'	50:3:685:G:C8	2.45	0.50
50:3:852:C:H2'	50:3:853:G:O4'	2.11	0.50
50:3:1046:A:O2'	50:3:1187:C:O2	2.27	0.50
50:3:1076:U:N3	50:3:1149:G:O6	2.44	0.50
50:3:2199:C:H2'	50:3:2200:U:C6	2.47	0.50
50:3:2329:G:N2	50:3:2330:A:O4'	2.44	0.50
51:4:22:G:O2'	51:4:24:A:N6	2.43	0.50
52:5:80:U:H2'	52:5:81:A:C8	2.46	0.50
52:5:173:U:N3	52:5:174:U:O4	2.45	0.50
52:5:874:C:H2'	52:5:875:G:H8	1.76	0.50
4:A:156:ILE:O	4:A:160:GLU:HG3	2.12	0.50
8:E:3:TYR:OH	8:E:65:ASP:O	2.30	0.50
11:H:24:THR:O	11:H:62:ASN:ND2	2.43	0.50
18:O:51:GLU:O	18:O:55:LYS:HG2	2.10	0.50
18:O:65:SER:OG	52:5:450:U:O3'	2.30	0.50
45:v:18:ARG:NH2	45:v:24:ILE:HD12	2.25	0.50
50:3:26:G:H2'	50:3:27:U:C6	2.47	0.50
50:3:117:C:H2'	50:3:118:G:O4'	2.11	0.50
50:3:251:G:OP1	50:3:424:G:O2'	2.29	0.50
50:3:1017:A:N6	50:3:2034:G:O2'	2.44	0.50
50:3:1910:G:H2'	50:3:1911:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2059:G:O6	50:3:2625:U:C4	2.64	0.50
50:3:2172:A:H3'	50:3:2173:G:C8	2.44	0.50
50:3:2645:U:H3'	50:3:2646:G:C8	2.46	0.50
50:3:2845:U:H2'	50:3:2846:A:C8	2.46	0.50
51:4:59:A:O2'	51:4:60:C:OP1	2.30	0.50
51:4:96:G:H2'	51:4:97:A:C8	2.46	0.50
52:5:786:U:N3	52:5:789:A:OP2	2.39	0.50
52:5:982:A:H2'	52:5:983:G:C8	2.46	0.50
52:5:1130:G:H2'	52:5:1131:A:O4'	2.11	0.50
6:C:4:THR:HG21	6:C:7:ILE:HB	1.94	0.50
15:L:81:SER:HA	15:L:88:GLY:HA2	1.93	0.50
16:M:6:LEU:HD23	16:M:23:ARG:NH2	2.26	0.50
42:s:27:TYR:H	42:s:85:LEU:HD12	1.76	0.50
48:y:33:CYS:HB2	48:y:47:MET:CE	2.39	0.50
50:3:366:A:H1'	50:3:368:C:OP1	2.12	0.50
50:3:535:G:H22	50:3:537:A:H3'	1.77	0.50
50:3:546:U:H3'	50:3:547:G:C8	2.47	0.50
50:3:666:G:N2	50:3:668:A:H3'	2.27	0.50
50:3:760:G:H4'	50:3:761:G:OP1	2.10	0.50
50:3:1730:C:H2'	50:3:1731:G:O4'	2.12	0.50
50:3:2133:A:OP1	50:3:2181:A:N6	2.40	0.50
50:3:2246:G:H2'	50:3:2246:G:N3	2.25	0.50
50:3:2290:G:O2'	50:3:2398:U:O4	2.26	0.50
50:3:2403:C:H2'	50:3:2404:G:C8	2.47	0.50
50:3:2874:C:O2'	50:3:2875:U:O4'	2.24	0.50
52:5:54:A:N1	52:5:355:A:N6	2.60	0.50
2:l:58:LEU:HD13	34:k:49:PRO:HG2	1.93	0.50
9:F:149:ALA:HA	13:J:54:TYR:HB3	1.93	0.50
10:G:125:ASP:OD1	10:G:125:ASP:N	2.45	0.50
21:R:11:VAL:HG11	21:R:16:LEU:HB3	1.94	0.50
24:a:231:SER:N	50:3:1833:G:OP1	2.43	0.50
26:c:130:GLN:HG3	26:c:134:ASN:HD21	1.77	0.50
28:e:79:ILE:O	28:e:83:THR:HG22	2.12	0.50
34:k:43:LYS:HD2	34:k:43:LYS:O	2.12	0.50
36:m:22:VAL:HA	36:m:25:VAL:HG12	1.94	0.50
40:q:87:GLN:HE21	50:3:1029:A:H1'	1.77	0.50
41:r:15:GLN:HG2	48:y:17:ARG:HH22	1.76	0.50
50:3:188:G:H2'	50:3:189:U:O4'	2.12	0.50
50:3:454:G:H2'	50:3:455:G:C8	2.47	0.50
50:3:659:C:O2'	50:3:660:U:O4'	2.26	0.50
50:3:1084:C:H41	50:3:1145:G:N2	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1517:G:H5''	50:3:1518:C:H5''	1.94	0.50
50:3:1761:C:H42	50:3:2701:A:H2	1.59	0.50
50:3:1792:A:H2'	50:3:1794:A:N7	2.27	0.50
50:3:2061:A:H5''	50:3:2062:C:H4'	1.94	0.50
50:3:2068:G:C8	50:3:2510:G:H5''	2.47	0.50
50:3:2572:A:H2'	50:3:2573:A:C8	2.47	0.50
50:3:2843:G:C6	50:3:2882:U:O2	2.65	0.50
51:4:30:U:O4	51:4:31:G:O6	2.29	0.50
52:5:37:C:O2'	52:5:499:U:OP1	2.30	0.50
52:5:38:U:O2'	52:5:545:A:N6	2.45	0.50
52:5:487:A:H2'	52:5:489:U:H5'	1.94	0.50
52:5:705:A:H2'	52:5:706:U:C6	2.47	0.50
52:5:981:U:H2'	52:5:982:A:H8	1.76	0.50
52:5:1214:A:H2	52:5:1270:C:C2	2.30	0.50
53:6:11:G:O6	53:6:45:G:N2	2.45	0.50
2:1:12:LYS:HE2	50:3:667:A:OP2	2.12	0.50
12:I:46:LEU:HD21	52:5:1116:U:N3	2.27	0.50
13:J:45:PHE:HB3	13:J:49:ARG:HD2	1.92	0.50
15:L:81:SER:OG	15:L:92:ARG:NE	2.31	0.50
20:Q:104:ASP:HB2	23:T:6:VAL:HB	1.92	0.50
50:3:562:C:H2'	50:3:2787:U:C2	2.47	0.50
50:3:1307:G:H2'	50:3:1308:A:C8	2.47	0.50
50:3:1886:C:H2'	50:3:1887:U:O4'	2.12	0.50
50:3:2100:G:HO2'	50:3:2101:A:P	2.34	0.50
50:3:2681:G:H2'	50:3:2682:A:C8	2.47	0.50
50:3:2695:U:O2	50:3:2730:G:O6	2.30	0.50
2:1:51:ASP:HA	2:1:54:ARG:HE	1.77	0.49
5:B:37:ASP:OD1	5:B:38:GLU:N	2.45	0.49
6:C:9:LYS:HE2	6:C:13:ARG:HE	1.76	0.49
18:O:19:ARG:O	52:5:95:C:O2'	2.25	0.49
28:e:8:THR:HG21	28:e:54:GLN:HG3	1.92	0.49
30:g:29:TYR:N	30:g:29:TYR:HD1	2.10	0.49
30:g:53:VAL:HG13	30:g:80:LEU:HB2	1.94	0.49
33:j:55:GLY:HA2	50:3:1959:A:H4'	1.94	0.49
33:j:71:ARG:NH1	33:j:73:ASP:OD2	2.45	0.49
41:r:87:PRO:HB3	50:3:1648:A:C5	2.47	0.49
48:y:37:LYS:HZ2	48:y:38:LEU:HD23	1.76	0.49
50:3:42:U:H2'	50:3:43:A:H8	1.77	0.49
50:3:200:A:N6	50:3:866:G:H21	2.07	0.49
50:3:396:A:O3'	50:3:397:G:H8	1.95	0.49
50:3:483:A:H5''	50:3:485:A:C5	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:898:A:H2'	50:3:899:A:C8	2.47	0.49
50:3:2127:G:H2'	50:3:2128:G:C8	2.46	0.49
50:3:2193:U:H2'	50:3:2194:G:O4'	2.12	0.49
50:3:2607:G:H2'	50:3:2608:A:C8	2.47	0.49
50:3:2898:A:N3	50:3:2898:A:H2'	2.27	0.49
52:5:293:G:N2	52:5:295:G:H3'	2.26	0.49
52:5:1139:A:H2'	52:5:1140:A:C8	2.47	0.49
52:5:1322:U:O2	52:5:1349:A:C5	2.65	0.49
4:A:46:GLU:OE2	4:A:49:ARG:NH2	2.45	0.49
5:B:14:ILE:HD11	52:5:1105:C:H5'	1.94	0.49
9:F:102:TRP:HA	9:F:105:MET:HG2	1.94	0.49
13:J:121:ARG:NH2	52:5:1497:U:OP1	2.45	0.49
16:M:21:TYR:HE2	16:M:23:ARG:HH12	1.60	0.49
37:n:5:THR:HG21	51:4:27:A:H5'	1.93	0.49
40:q:6:VAL:N	40:q:37:LYS:O	2.41	0.49
50:3:224:G:H21	50:3:464:A:H62	1.59	0.49
50:3:450:C:O2'	50:3:1871:U:O2	2.29	0.49
50:3:823:A:H5''	50:3:825:U:C5	2.47	0.49
50:3:1293:U:H2'	50:3:1294:G:N9	2.26	0.49
50:3:1842:G:O6	50:3:1937:G:N2	2.44	0.49
50:3:2659:U:H2'	50:3:2660:C:C6	2.47	0.49
51:4:99:A:O2'	51:4:100:G:O4'	2.24	0.49
52:5:27:A:N6	52:5:556:G:N3	2.59	0.49
52:5:320:G:N1	52:5:323:A:OP2	2.34	0.49
52:5:581:A:H3'	52:5:582:G:C8	2.46	0.49
52:5:1138:U:H3	52:5:1139:A:N6	2.09	0.49
52:5:1405:U:H3	52:5:1445:G:H1	1.60	0.49
4:A:104:ASP:OD1	4:A:104:ASP:N	2.45	0.49
5:B:85:ILE:O	5:B:89:THR:OG1	2.21	0.49
7:D:70:ILE:HA	7:D:92:VAL:HG23	1.94	0.49
12:I:9:TYR:HB3	12:I:12:LEU:HB2	1.94	0.49
12:I:46:LEU:HD21	52:5:1116:U:C2	2.47	0.49
13:J:114:CYS:SG	52:5:674:U:O2'	2.62	0.49
14:K:102:ASP:OD1	52:5:520:C:N4	2.45	0.49
23:T:37:ARG:HH12	23:T:40:MET:HE3	1.77	0.49
24:a:215:LYS:HD2	50:3:764:G:H5''	1.94	0.49
27:d:40:VAL:HB	27:d:85:ILE:HG13	1.93	0.49
50:3:180:A:H8	50:3:181:G:C8	2.30	0.49
50:3:252:G:C2	50:3:2439:U:O2'	2.65	0.49
50:3:433:A:H2'	50:3:434:G:C8	2.47	0.49
50:3:448:A:H2	50:3:1887:U:O2'	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:761:G:H1'	50:3:762:A:C8	2.48	0.49
50:3:941:C:H2'	50:3:942:A:C8	2.47	0.49
50:3:1059:G:H21	50:3:1179:G:H1'	1.77	0.49
50:3:1060:G:N2	50:3:1174:G:O6	2.45	0.49
50:3:1588:A:H2'	50:3:1589:A:C8	2.47	0.49
50:3:1884:A:H2'	50:3:1885:G:C8	2.47	0.49
50:3:2565:G:H2'	50:3:2566:C:H6	1.76	0.49
50:3:2851:U:C2	50:3:2873:G:C2	3.01	0.49
52:5:19:C:H2'	52:5:20:C:C6	2.46	0.49
52:5:61:A:OP1	52:5:327:G:N1	2.37	0.49
52:5:725:A:N6	52:5:761:U:O2'	2.28	0.49
52:5:1329:G:H2'	52:5:1330:A:H8	1.77	0.49
53:8:20:G:N1	53:8:57:C:O2	2.43	0.49
24:a:150:ILE:HG23	24:a:160:ILE:HB	1.93	0.49
26:c:131:ASN:O	26:c:135:LYS:HG2	2.12	0.49
27:d:108:LEU:O	27:d:111:VAL:HG22	2.12	0.49
31:h:82:LEU:HD21	31:h:85:GLY:HA2	1.95	0.49
35:l:77:LYS:HG2	35:l:78:PRO:HD2	1.94	0.49
35:l:82:ARG:HA	50:3:2503:G:H5''	1.93	0.49
45:v:8:THR:HG23	45:v:10:ARG:HG2	1.94	0.49
50:3:307:C:H2'	50:3:308:A:H8	1.77	0.49
50:3:562:C:H4'	50:3:563:A:H5'	1.95	0.49
50:3:849:C:O2'	50:3:1255:G:N2	2.40	0.49
50:3:1057:G:N2	50:3:1177:A:H62	2.10	0.49
50:3:1325:C:H2'	50:3:1326:C:C6	2.46	0.49
50:3:1455:A:H4'	50:3:1456:C:O4'	2.12	0.49
50:3:1962:U:P	50:3:2558:G:H21	2.35	0.49
50:3:2688:C:H2'	50:3:2689:C:C6	2.47	0.49
50:3:2895:A:H2'	50:3:2896:G:C8	2.47	0.49
52:5:599:G:N1	52:5:634:U:C2	2.81	0.49
52:5:721:G:H2'	52:5:722:G:C8	2.47	0.49
5:B:133:LEU:HD21	5:B:156:VAL:HG21	1.92	0.49
8:E:49:ILE:HG23	8:E:50:LYS:H	1.78	0.49
22:S:4:ILE:HG22	22:S:6:SER:H	1.76	0.49
29:f:22:LYS:HG2	29:f:24:GLY:H	1.76	0.49
31:h:11:LYS:HD3	31:h:54:VAL:HG22	1.95	0.49
31:h:70:THR:O	31:h:108:LYS:NZ	2.44	0.49
32:i:75:GLU:HG3	32:i:77:TRP:CH2	2.48	0.49
36:m:106:ARG:HD3	36:m:109:ASP:HB2	1.94	0.49
50:3:339:U:O4	50:3:346:G:O6	2.30	0.49
50:3:660:U:O2'	50:3:692:U:OP1	2.29	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:746:G:H2'	50:3:747:A:H8	1.76	0.49
50:3:1092:A:OP2	50:3:1124:G:N2	2.42	0.49
50:3:1348:C:N4	50:3:1358:C:OP2	2.45	0.49
50:3:1772:G:O6	50:3:1994:U:O4	2.30	0.49
50:3:2566:C:H2'	50:3:2567:C:H6	1.77	0.49
50:3:2705:G:H2'	50:3:2706:U:C6	2.46	0.49
51:4:77:G:C2	51:4:78:C:H1'	2.47	0.49
51:4:77:G:N3	51:4:78:C:H1'	2.28	0.49
52:5:1078:G:OP1	52:5:1363:U:O2'	2.21	0.49
4:A:245:MET:HG3	4:A:246:PHE:CD1	2.48	0.49
11:H:99:ILE:O	11:H:103:LYS:HG2	2.12	0.49
24:a:88:TYR:OH	50:3:1601:A:O2'	2.26	0.49
24:a:222:ARG:HH11	24:a:224:ILE:HD12	1.78	0.49
25:b:222:LEU:HD11	38:o:17:GLN:HG2	1.94	0.49
29:f:110:LYS:HD2	50:3:2227:U:OP1	2.13	0.49
30:g:29:TYR:N	30:g:29:TYR:CD1	2.80	0.49
35:l:30:GLY:O	35:l:134:ARG:NH1	2.46	0.49
47:x:43:HIS:CD2	47:x:44:PRO:HD2	2.48	0.49
50:3:245:U:H4'	50:3:246:G:H5'	1.93	0.49
50:3:269:A:H2	50:3:270:G:H21	1.60	0.49
50:3:293:G:H8	50:3:293:G:OP2	1.95	0.49
50:3:487:C:H2'	50:3:489:A:N7	2.28	0.49
50:3:856:A:H61	50:3:1008:A:H2'	1.77	0.49
52:5:140:U:H2'	52:5:141:A:C8	2.47	0.49
52:5:451:G:H2'	52:5:452:A:C8	2.48	0.49
52:5:838:A:H2'	52:5:839:U:O4'	2.13	0.49
52:5:1129:C:O2'	52:5:1130:G:H5'	2.12	0.49
52:5:1267:G:H2'	52:5:1268:G:H8	1.77	0.49
5:B:164:GLU:OE1	5:B:167:ARG:NE	2.38	0.49
7:D:144:SER:OG	7:D:190:ASN:O	2.31	0.49
8:E:99:SER:O	8:E:103:LYS:NZ	2.45	0.49
11:H:77:GLN:O	11:H:81:ILE:HG23	2.12	0.49
14:K:136:LYS:HG3	52:5:38:U:H5'	1.93	0.49
32:i:16:ARG:NH2	32:i:56:TYR:OH	2.29	0.49
35:l:124:LYS:HD3	50:3:2492:G:N3	2.27	0.49
50:3:442:G:C6	50:3:457:U:N3	2.81	0.49
50:3:482:G:N1	50:3:490:A:N6	2.59	0.49
50:3:666:G:N2	50:3:668:A:H8	2.11	0.49
50:3:1192:U:H2'	50:3:1193:U:C6	2.47	0.49
50:3:1466:U:H3'	50:3:1467:U:H5''	1.95	0.49
50:3:1507:G:HO2'	50:3:1508:G:P	2.34	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1557:G:OP2	50:3:1571:G:N2	2.45	0.49
50:3:1921:C:H41	52:5:1384:A:H4'	1.78	0.49
50:3:2106:G:N2	50:3:2199:C:O2	2.46	0.49
50:3:2117:G:O2'	50:3:2127:G:OP2	2.30	0.49
50:3:2416:U:H2'	50:3:2417:G:C8	2.48	0.49
50:3:2466:G:H21	50:3:2467:A:H61	1.60	0.49
51:4:11:A:N6	51:4:67:G:O2'	2.45	0.49
52:5:256:G:N2	52:5:257:U:O4	2.30	0.49
52:5:940:G:H1'	52:5:1311:G:H1'	1.95	0.49
52:5:946:G:H21	52:5:965:C:H2'	1.77	0.49
52:5:973:A:O2'	52:5:1196:G:OP2	2.30	0.49
52:5:976:U:OP2	52:5:977:U:H3'	2.13	0.49
52:5:1502:G:H2'	52:5:1503:U:C6	2.47	0.49
19:P:48:HIS:CE1	19:P:50:GLU:HG3	2.48	0.49
25:b:168:HIS:HE1	25:b:171:HIS:HB3	1.77	0.49
28:e:57:ARG:NH1	28:e:64:SER:OG	2.45	0.49
50:3:297:G:C8	50:3:457:U:H5''	2.47	0.49
50:3:325:G:O6	50:3:383:U:C4	2.65	0.49
50:3:365:U:OP1	50:3:1239:G:N2	2.46	0.49
50:3:641:U:H3'	50:3:655:G:H22	1.78	0.49
50:3:853:G:O2'	50:3:873:G:O2'	2.22	0.49
50:3:930:C:H2'	50:3:931:G:C8	2.47	0.49
50:3:977:A:H2	50:3:1220:A:C2	2.31	0.49
50:3:1051:U:H2'	50:3:1052:A:H8	1.77	0.49
50:3:1329:U:C5	50:3:1331:G:H1'	2.48	0.49
50:3:1891:A:H2'	50:3:1892:A:H8	1.77	0.49
50:3:2379:G:H2'	50:3:2380:U:O4'	2.13	0.49
52:5:365:U:O4	52:5:388:G:O6	2.31	0.49
52:5:795:U:H2'	52:5:796:A:C8	2.47	0.49
8:E:151:LYS:O	10:G:56:ASN:ND2	2.45	0.49
22:S:24:GLN:HA	22:S:27:LYS:HE2	1.95	0.49
24:a:147:VAL:HA	24:a:200:VAL:HA	1.95	0.49
36:m:11:SER:HA	36:m:14:ARG:HB3	1.95	0.49
45:v:5:ASP:HB3	45:v:33:LEU:HD22	1.94	0.49
50:3:260:A:C2	50:3:261:A:H1'	2.48	0.49
50:3:417:G:O6	50:3:431:U:C2	2.65	0.49
50:3:454:G:H2'	50:3:455:G:H8	1.78	0.49
50:3:534:U:H3'	50:3:535:G:C8	2.48	0.49
50:3:1453:U:H3	50:3:1607:G:H1	1.59	0.49
50:3:1858:U:H4'	53:8:71:A:C2	2.48	0.49
50:3:2084:A:H2'	50:3:2085:C:H6	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2132:G:N2	50:3:2171:A:H5''	2.28	0.49
50:3:2755:G:H21	50:3:2765:A:H62	1.60	0.49
50:3:2882:U:O2'	50:3:2883:A:OP1	2.28	0.49
52:5:626:G:O2'	52:5:627:U:H5'	2.13	0.49
52:5:999:C:H4'	52:5:1000:A:H5'	1.94	0.49
2:1:6:ALA:O	2:1:9:LYS:NZ	2.37	0.49
6:C:13:ARG:HH22	6:C:38:HIS:HB2	1.78	0.49
44:u:34:ARG:HG3	50:3:2279:G:H5'	1.95	0.49
49:z:15:ARG:O	50:3:2407:G:O2'	2.31	0.49
50:3:69:U:H2'	50:3:70:G:H8	1.78	0.49
50:3:159:G:H2'	50:3:160:A:H8	1.78	0.49
50:3:434:G:O2'	50:3:2096:U:O2'	2.22	0.49
50:3:477:U:H2'	50:3:478:G:H8	1.76	0.49
50:3:1242:G:N2	50:3:1266:G:O2'	2.34	0.49
50:3:1306:G:H2'	50:3:1307:G:C8	2.47	0.49
50:3:1402:G:H2'	50:3:1403:G:C8	2.48	0.49
50:3:1797:C:OP2	50:3:1835:G:N1	2.46	0.49
50:3:2676:G:H2'	50:3:2677:A:C8	2.48	0.49
50:3:2806:A:H3'	50:3:2807:G:H21	1.77	0.49
52:5:46:U:H5''	52:5:303:A:H1'	1.94	0.49
52:5:356:G:H2'	52:5:357:G:H8	1.75	0.49
52:5:370:A:H5''	52:5:450:U:O4	2.12	0.49
52:5:424:U:OP2	52:5:425:G:O2'	2.24	0.49
52:5:599:G:O6	52:5:634:U:O4	2.31	0.49
52:5:768:G:H2'	52:5:769:U:O4'	2.12	0.49
17:N:29:LEU:HD13	17:N:60:ARG:HB2	1.94	0.48
29:f:112:MET:HB2	29:f:128:LEU:HD11	1.94	0.48
50:3:123:G:H2'	50:3:124:A:H8	1.78	0.48
50:3:328:A:N6	50:3:379:A:O4'	2.46	0.48
50:3:450:C:H4'	50:3:1885:G:N2	2.28	0.48
50:3:736:G:H2'	50:3:737:U:O4'	2.13	0.48
50:3:779:C:H4'	50:3:1692:A:H4'	1.95	0.48
50:3:1490:G:H2'	50:3:1491:G:H8	1.78	0.48
50:3:1780:A:H2'	50:3:1781:C:O4'	2.12	0.48
50:3:2635:G:H5''	50:3:2637:A:C6	2.48	0.48
52:5:843:C:H2'	52:5:844:U:C6	2.48	0.48
52:5:870:A:H2'	52:5:871:U:C6	2.48	0.48
52:5:939:G:O2'	52:5:1206:G:OP2	2.27	0.48
52:5:1271:U:O2'	52:5:1272:C:O2	2.26	0.48
52:5:1278:G:O6	52:5:1305:G:O2'	2.31	0.48
52:5:1316:C:N3	52:5:1317:A:N6	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:118:THR:HG1	52:5:1065:G:HO2'	1.62	0.48
10:G:14:PRO:HB2	10:G:41:LYS:HE3	1.94	0.48
10:G:25:ALA:HA	10:G:30:LEU:HD12	1.95	0.48
13:J:73:ALA:O	13:J:99:SER:N	2.46	0.48
26:c:73:LYS:HG3	26:c:74:ALA:H	1.78	0.48
35:l:8:LYS:HD2	35:l:9:TYR:CZ	2.48	0.48
35:l:74:LYS:O	35:l:91:GLU:N	2.36	0.48
45:v:26:ARG:NE	50:3:193:G:OP1	2.46	0.48
48:y:7:ARG:NH2	50:3:1292:A:N3	2.60	0.48
50:3:334:A:O2'	50:3:352:C:O2	2.30	0.48
50:3:443:C:H2'	50:3:444:C:H6	1.76	0.48
50:3:587:U:H2'	50:3:588:G:O4'	2.13	0.48
50:3:779:C:H5''	50:3:1692:A:H4'	1.93	0.48
50:3:1232:U:H2'	50:3:1233:A:C8	2.48	0.48
50:3:1273:U:H2'	50:3:1274:A:H8	1.77	0.48
50:3:1456:C:H41	50:3:1603:A:H3'	1.78	0.48
50:3:1781:C:H41	50:3:1797:C:H1'	1.78	0.48
50:3:1845:C:O2'	50:3:1905:U:O4	2.29	0.48
50:3:2054:C:O2'	50:3:2827:A:N1	2.46	0.48
52:5:450:U:H5	52:5:451:G:C5	2.31	0.48
52:5:557:A:H4'	52:5:559:U:H2'	1.95	0.48
52:5:673:A:N1	52:5:711:G:O6	2.45	0.48
52:5:711:G:H1'	52:5:774:A:N7	2.28	0.48
52:5:1439:G:C2	52:5:1440:U:C4	3.01	0.48
9:F:61:PHE:CZ	9:F:100:LEU:HG	2.49	0.48
25:b:16:VAL:HB	25:b:26:ILE:HG13	1.95	0.48
28:e:142:GLU:OE2	50:3:2768:U:O2'	2.23	0.48
29:f:18:VAL:O	29:f:20:ASP:N	2.45	0.48
32:i:11:GLN:HE22	32:i:50:ASN:CG	2.22	0.48
32:i:101:ASP:OD1	32:i:101:ASP:N	2.45	0.48
34:k:15:HIS:ND1	50:3:696:U:O2	2.46	0.48
43:t:88:LYS:C	43:t:105:LYS:HG3	2.37	0.48
50:3:23:A:H2'	50:3:24:U:C6	2.49	0.48
50:3:107:C:O2	50:3:328:A:O2'	2.27	0.48
50:3:411:U:H1'	50:3:459:A:N3	2.28	0.48
50:3:581:A:OP1	50:3:581:A:H3'	2.13	0.48
50:3:626:A:H2'	50:3:627:U:C6	2.48	0.48
50:3:858:A:H2'	50:3:859:G:C8	2.48	0.48
50:3:1012:G:N2	50:3:1190:A:H1'	2.22	0.48
50:3:1678:U:H2'	50:3:1679:U:C2	2.48	0.48
50:3:2363:C:H2'	50:3:2364:A:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2567:C:H2'	50:3:2568:G:C8	2.48	0.48
50:3:2753:C:N4	50:3:2768:U:H3	2.11	0.48
50:3:2892:U:H2'	50:3:2893:C:C6	2.48	0.48
50:3:2893:C:H2'	50:3:2894:G:O4'	2.12	0.48
52:5:412:G:O6	52:5:424:U:O4	2.31	0.48
52:5:1036:C:C2	52:5:1037:A:C8	3.01	0.48
52:5:1386:C:H2'	52:5:1387:U:C6	2.48	0.48
3:2:36:GLN:OE1	50:3:1159:C:O2'	2.19	0.48
4:A:95:LEU:O	4:A:99:ILE:HG12	2.13	0.48
5:B:141:LEU:HA	5:B:144:VAL:HG12	1.95	0.48
14:K:59:ASN:ND2	52:5:527:G:O6	2.46	0.48
24:a:70:ASP:OD2	24:a:107:SER:OG	2.23	0.48
28:e:50:ASP:N	28:e:50:ASP:OD1	2.46	0.48
30:g:53:VAL:HG22	30:g:80:LEU:C	2.38	0.48
49:z:37:PHE:CE1	50:3:2379:G:H1'	2.48	0.48
50:3:381:A:H2'	50:3:382:U:C6	2.48	0.48
50:3:423:C:H4'	50:3:424:G:C8	2.48	0.48
50:3:779:C:H3'	50:3:780:G:H8	1.77	0.48
50:3:1019:A:H2'	50:3:1020:G:N3	2.29	0.48
50:3:1048:A:H2'	50:3:1049:U:H6	1.78	0.48
50:3:1778:G:H2'	50:3:1779:G:H8	1.78	0.48
50:3:1872:U:O2'	50:3:1882:G:N2	2.45	0.48
50:3:2213:A:H2'	50:3:2214:A:H8	1.77	0.48
50:3:2376:C:H2'	50:3:2377:A:H8	1.77	0.48
50:3:2704:U:H2'	50:3:2705:G:H8	1.77	0.48
51:4:21:G:H2'	51:4:22:G:H8	1.77	0.48
51:4:104:C:H2'	51:4:105:A:C8	2.48	0.48
52:5:546:G:H2'	52:5:547:C:C6	2.48	0.48
52:5:1116:U:O2'	52:5:1117:U:O5'	2.28	0.48
52:5:1204:A:H2'	52:5:1205:C:C6	2.48	0.48
52:5:1329:G:H2'	52:5:1330:A:C8	2.48	0.48
52:5:1496:G:H2'	52:5:1497:U:C6	2.48	0.48
3:2:31:LYS:HG2	50:3:2536:U:H5''	1.95	0.48
8:E:124:ASN:OD1	8:E:125:PRO:HD2	2.12	0.48
13:J:15:HIS:CE1	52:5:704:U:H4'	2.48	0.48
14:K:95:LEU:HA	14:K:110:ILE:HA	1.94	0.48
24:a:44:HIS:CD2	50:3:1820:U:H5''	2.48	0.48
33:j:31:ARG:NH1	50:3:2003:C:OP2	2.41	0.48
35:l:39:GLY:H	35:l:99:GLN:HE21	1.62	0.48
50:3:598:G:H2'	50:3:599:U:C6	2.49	0.48
50:3:973:U:H2'	50:3:974:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1787:A:H3'	50:3:1788:A:H2'	1.95	0.48
50:3:1885:G:H2'	50:3:1886:C:C6	2.49	0.48
50:3:2585:A:O4'	50:3:2620:C:N4	2.47	0.48
50:3:2760:C:H2'	50:3:2761:A:O4'	2.14	0.48
52:5:600:G:H2'	52:5:601:U:C6	2.48	0.48
52:5:786:U:O2'	52:5:789:A:N6	2.46	0.48
52:5:945:U:H2'	52:5:946:G:C8	2.46	0.48
9:F:71:ARG:HG3	9:F:95:LYS:HE3	1.95	0.48
14:K:6:GLN:O	14:K:10:LYS:HG2	2.14	0.48
15:L:114:LYS:O	52:5:1203:A:H5'	2.13	0.48
25:b:83:GLU:HG2	50:3:2643:A:O3'	2.12	0.48
25:b:123:ILE:HB	25:b:142:ARG:CZ	2.43	0.48
25:b:211:LYS:HE3	50:3:2779:C:H5''	1.96	0.48
29:f:32:PRO:HD2	29:f:112:MET:SD	2.54	0.48
30:g:87:ASN:C	30:g:87:ASN:HD22	2.22	0.48
32:i:7:LEU:HD22	39:p:60:TRP:HE1	1.78	0.48
32:i:35:ALA:O	32:i:39:ILE:HG12	2.13	0.48
34:k:42:ARG:HH12	50:3:842:U:H5''	1.77	0.48
42:s:63:THR:N	42:s:75:SER:OG	2.42	0.48
42:s:70:ARG:HG3	42:s:71:PHE:N	2.28	0.48
50:3:107:C:H2'	50:3:108:G:C8	2.47	0.48
50:3:278:U:O2	50:3:292:G:C6	2.67	0.48
50:3:297:G:H1	50:3:440:C:H6	1.61	0.48
50:3:343:A:H1'	50:3:363:G:N3	2.29	0.48
50:3:1232:U:H2'	50:3:1233:A:H8	1.79	0.48
50:3:1331:G:H2'	50:3:1332:A:H8	1.78	0.48
50:3:1440:U:O4	50:3:1441:A:N6	2.46	0.48
50:3:1513:A:H2'	50:3:1514:U:O4'	2.14	0.48
50:3:1557:G:O2'	50:3:1573:A:N6	2.46	0.48
50:3:2081:U:H1'	50:3:2606:A:N3	2.29	0.48
50:3:2158:C:H2'	50:3:2159:U:H6	1.79	0.48
52:5:64:C:H5''	52:5:379:A:H61	1.79	0.48
52:5:649:U:O2'	52:5:651:G:OP2	2.30	0.48
7:D:150:LEU:HD22	52:5:8:G:H1	1.79	0.48
13:J:15:HIS:HE1	13:J:28:SER:HB2	1.77	0.48
14:K:127:ARG:C	14:K:129:ALA:H	2.22	0.48
26:c:171:SER:OG	26:c:172:THR:N	2.45	0.48
30:g:87:ASN:ND2	30:g:87:ASN:C	2.71	0.48
35:l:111:GLU:O	35:l:115:ILE:HG12	2.13	0.48
50:3:194:A:O2'	50:3:714:G:O2'	2.32	0.48
50:3:283:A:N6	50:3:285:U:OP2	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:312:U:H2'	50:3:313:G:C8	2.49	0.48
50:3:534:U:H3'	50:3:535:G:H8	1.79	0.48
50:3:1297:U:O2'	50:3:1298:A:OP1	2.23	0.48
50:3:2274:A:N6	50:3:2281:A:OP2	2.45	0.48
50:3:2337:U:H2'	50:3:2338:G:C8	2.49	0.48
50:3:2483:C:N3	50:3:2537:G:N1	2.62	0.48
50:3:2601:U:H2'	50:3:2602:C:C6	2.48	0.48
50:3:2658:U:H2'	50:3:2659:U:C6	2.48	0.48
50:3:2807:G:O4'	50:3:2811:G:N1	2.47	0.48
52:5:232:G:N3	52:5:232:G:H2'	2.27	0.48
2:1:33:LYS:HB2	2:1:38:LYS:HE3	1.93	0.48
15:L:109:ARG:NH2	52:5:1281:U:O2'	2.39	0.48
27:d:37:ASN:OD1	27:d:38:MET:N	2.47	0.48
28:e:101:VAL:H	28:e:128:VAL:HG11	1.78	0.48
30:g:43:LYS:CA	30:g:43:LYS:HE3	2.44	0.48
32:i:98:LYS:HD3	32:i:98:LYS:HA	1.67	0.48
50:3:613:C:H2'	50:3:614:C:C2	2.48	0.48
50:3:633:G:N2	50:3:692:U:O2	2.37	0.48
50:3:1082:A:O2'	50:3:1083:A:H8	1.97	0.48
50:3:1242:G:H22	50:3:1266:G:HO2'	1.58	0.48
50:3:1487:U:H2'	50:3:1488:U:C6	2.48	0.48
50:3:2482:U:OP2	50:3:2483:C:N4	2.43	0.48
50:3:2530:U:O2'	50:3:2655:U:H5''	2.14	0.48
50:3:2572:A:N7	50:3:2656:G:H4'	2.29	0.48
50:3:2812:U:H5'	50:3:2895:A:N7	2.29	0.48
52:5:14:U:O4	52:5:22:G:N2	2.46	0.48
52:5:169:G:H21	52:5:220:U:H5'	1.78	0.48
52:5:579:G:N1	52:5:756:A:OP2	2.33	0.48
52:5:614:U:H2'	52:5:615:G:H8	1.77	0.48
52:5:655:G:H3'	52:5:656:U:H6	1.78	0.48
52:5:1315:U:H2'	52:5:1316:C:C6	2.49	0.48
53:8:11:G:O6	53:8:45:G:N2	2.45	0.48
4:A:76:ALA:HA	4:A:80:GLY:H	1.78	0.48
21:R:79:ASN:HB3	52:5:952:U:H1'	1.96	0.48
24:a:72:LYS:O	24:a:73:ARG:HG2	2.14	0.48
25:b:15:GLN:NE2	38:o:60:ILE:O	2.47	0.48
25:b:96:ILE:HG23	25:b:101:LEU:HD11	1.96	0.48
25:b:151:ARG:NH1	50:3:2514:U:H5''	2.29	0.48
26:c:55:LYS:HB3	50:3:836:G:C2	2.49	0.48
28:e:142:GLU:HG2	50:3:2753:C:O2	2.13	0.48
32:i:26:LEU:HD13	32:i:145:TRP:HZ2	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:u:35:LEU:HD23	44:u:35:LEU:H	1.78	0.48
50:3:51:A:H2'	50:3:180:A:H61	1.77	0.48
50:3:405:C:H2'	50:3:406:C:C6	2.49	0.48
50:3:947:A:H2'	50:3:948:A:H8	1.79	0.48
50:3:1221:G:H2'	50:3:1222:A:C8	2.49	0.48
50:3:1311:G:N1	50:3:1314:A:OP2	2.47	0.48
50:3:1347:A:OP2	50:3:1348:C:N4	2.47	0.48
50:3:2284:G:H2'	50:3:2285:G:C8	2.49	0.48
50:3:2701:A:O4'	50:3:2851:U:O2'	2.25	0.48
51:4:3:U:H2'	51:4:4:G:N7	2.29	0.48
52:5:448:A:H4'	52:5:449:A:OP2	2.12	0.48
52:5:647:U:H2'	52:5:648:C:C6	2.48	0.48
52:5:964:A:H2'	52:5:965:C:O4'	2.14	0.48
52:5:1156:G:H1'	52:5:1157:G:C5	2.49	0.48
53:8:23:G:N2	53:8:24:A:N7	2.62	0.48
9:F:154:ARG:H	13:J:84:ARG:HH12	1.60	0.48
14:K:14:LYS:HA	52:5:560:U:H2'	1.95	0.48
18:O:5:ARG:HB2	18:O:8:TYR:HB3	1.95	0.48
29:f:94:THR:O	29:f:98:ILE:HG12	2.14	0.48
30:g:56:ASN:O	30:g:60:ARG:HB3	2.13	0.48
35:l:115:ILE:O	35:l:119:THR:HG23	2.13	0.48
36:m:11:SER:HB2	36:m:14:ARG:HH21	1.77	0.48
50:3:486:G:N1	50:3:490:A:OP2	2.46	0.48
50:3:663:A:H8	50:3:663:A:OP2	1.97	0.48
50:3:863:U:H4'	50:3:866:G:C6	2.49	0.48
50:3:1137:C:H2'	50:3:1138:A:C8	2.49	0.48
50:3:1829:U:H2'	50:3:1830:G:H8	1.78	0.48
50:3:1853:G:H2'	50:3:1854:A:C8	2.49	0.48
50:3:2466:G:O2'	50:3:2468:U:O4	2.30	0.48
52:5:376:G:N2	52:5:378:A:H5''	2.29	0.48
52:5:518:A:C6	52:5:527:G:N3	2.82	0.48
52:5:601:U:H2'	52:5:602:G:H8	1.77	0.48
52:5:1374:C:H4'	52:5:1375:C:H2'	1.95	0.48
4:A:65:LEU:HD21	4:A:215:ILE:HG23	1.96	0.47
10:G:106:LEU:HD11	10:G:110:GLY:HA2	1.95	0.47
11:H:58:ASP:OD1	11:H:58:ASP:N	2.46	0.47
14:K:68:VAL:HG11	14:K:95:LEU:HD11	1.96	0.47
23:T:25:ILE:HA	23:T:28:LEU:HG	1.96	0.47
32:i:18:TRP:CD1	32:i:138:GLN:HB3	2.49	0.47
50:3:525:A:C2	50:3:1312:A:C6	3.01	0.47
50:3:820:U:H4'	50:3:1786:U:H1'	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1955:G:H2'	50:3:1956:G:C8	2.49	0.47
50:3:2127:G:H2'	50:3:2128:G:H8	1.79	0.47
51:4:91:A:H3'	51:4:92:A:H8	1.78	0.47
52:5:935:U:H2'	52:5:936:G:C8	2.49	0.47
52:5:1053:U:OP2	52:5:1165:G:N1	2.47	0.47
52:5:1066:U:H2'	52:5:1067:C:C6	2.48	0.47
52:5:1407:A:C2	52:5:1442:A:H3'	2.49	0.47
7:D:198:GLY:HA2	7:D:201:LYS:HG2	1.95	0.47
9:F:114:THR:HG22	9:F:116:LEU:H	1.78	0.47
21:R:69:HIS:HD2	21:R:73:GLU:HG3	1.80	0.47
36:m:99:ARG:NH2	36:m:120:ASP:OD1	2.48	0.47
43:t:88:LYS:O	43:t:105:LYS:N	2.39	0.47
50:3:332:G:N2	50:3:373:U:H3'	2.29	0.47
50:3:525:A:H2'	50:3:526:G:C4	2.49	0.47
50:3:765:A:OP2	50:3:1782:U:O2'	2.18	0.47
50:3:768:G:H1	50:3:797:U:P	2.37	0.47
50:3:902:U:OP1	50:3:902:U:H3'	2.14	0.47
50:3:1044:C:H4'	50:3:1045:A:C8	2.49	0.47
50:3:1095:U:O4	50:3:1123:A:N6	2.47	0.47
50:3:1116:U:H2'	50:3:1117:U:C5	2.49	0.47
50:3:1490:G:H2'	50:3:1491:G:C8	2.49	0.47
50:3:1722:U:O2'	50:3:1734:A:N7	2.41	0.47
50:3:2006:C:H4'	50:3:2730:G:N2	2.29	0.47
50:3:2141:A:N6	50:3:2164:G:O2'	2.45	0.47
50:3:2547:C:O2	50:3:2749:A:O2'	2.32	0.47
50:3:2700:C:H2'	50:3:2701:A:C8	2.49	0.47
52:5:138:A:C6	52:5:156:U:O2	2.66	0.47
52:5:1062:C:H2'	52:5:1063:G:C8	2.49	0.47
52:5:1079:G:H2'	52:5:1080:G:O4'	2.13	0.47
53:6:23:G:N2	53:6:24:A:N7	2.62	0.47
4:A:199:VAL:HG12	4:A:213:PHE:HB2	1.95	0.47
5:B:142:ILE:HD13	5:B:145:LEU:HD21	1.95	0.47
6:C:53:GLN:HA	6:C:195:TYR:HB3	1.95	0.47
7:D:69:ARG:H	7:D:172:LEU:HD11	1.80	0.47
8:E:38:GLU:OE1	8:E:61:LYS:NZ	2.48	0.47
8:E:106:GLN:HA	8:E:109:LEU:HD12	1.96	0.47
11:H:29:LYS:HD3	11:H:64:ASP:HB2	1.96	0.47
29:f:64:LEU:O	29:f:67:LYS:HG3	2.13	0.47
35:l:85:SER:OG	44:u:19:LYS:NZ	2.40	0.47
42:s:37:LYS:HE3	50:3:1633:C:OP2	2.15	0.47
48:y:7:ARG:HB3	50:3:2024:C:HI'	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:299:A:H2'	50:3:300:G:C8	2.49	0.47
50:3:1613:A:H3'	50:3:1614:G:H8	1.79	0.47
50:3:1861:A:H4'	50:3:2241:A:H4'	1.97	0.47
50:3:2342:U:H1'	50:3:2343:A:OP2	2.13	0.47
50:3:2427:U:H2'	50:3:2428:C:C6	2.49	0.47
50:3:2677:A:H2'	50:3:2678:A:C8	2.50	0.47
51:4:47:C:N4	51:4:48:A:H62	2.12	0.47
52:5:227:A:H2'	52:5:228:G:C8	2.49	0.47
52:5:228:G:H2'	52:5:229:G:C8	2.48	0.47
52:5:337:C:H2'	52:5:338:C:C6	2.49	0.47
52:5:368:C:N4	52:5:384:G:OP2	2.47	0.47
52:5:879:G:O2'	52:5:908:A:N1	2.40	0.47
52:5:1122:U:O2'	52:5:1123:G:O4'	2.28	0.47
52:5:1380:G:N3	52:5:1493:A:O2'	2.39	0.47
6:C:124:LEU:O	6:C:127:ARG:HG2	2.14	0.47
19:P:45:TYR:OH	52:5:232:G:H4'	2.13	0.47
24:a:22:TYR:HE2	50:3:1599:C:H2'	1.80	0.47
31:h:52:PRO:HG2	50:3:1095:U:OP1	2.14	0.47
35:l:84:GLY:HA3	50:3:2258:G:C2	2.49	0.47
37:n:8:ARG:NH1	51:4:27:A:OP1	2.46	0.47
38:o:21:TYR:CE2	38:o:23:PRO:HG3	2.49	0.47
48:y:54:LYS:HG2	48:y:55:LYS:H	1.80	0.47
50:3:161:U:H2'	50:3:162:G:O4'	2.14	0.47
50:3:418:G:O6	50:3:430:U:O4	2.32	0.47
50:3:597:C:H2'	50:3:598:G:C8	2.50	0.47
50:3:899:A:H2'	50:3:900:G:H8	1.76	0.47
50:3:1166:G:N2	50:3:1167:U:O4	2.37	0.47
50:3:1554:A:N6	50:3:1555:G:C2	2.82	0.47
50:3:1555:G:H2'	50:3:1556:U:O4'	2.15	0.47
50:3:1627:U:H2'	50:3:1628:G:H8	1.78	0.47
50:3:1890:U:O2'	50:3:1891:A:H5''	2.15	0.47
50:3:1938:U:H2'	50:3:1939:A:C8	2.50	0.47
50:3:2850:G:C6	50:3:2851:U:O4	2.68	0.47
52:5:943:C:H5'	52:5:1280:A:O2'	2.14	0.47
52:5:985:C:O2'	52:5:1191:U:O2	2.29	0.47
53:6:15:A:H61	53:6:49:C:N4	2.13	0.47
4:A:56:PHE:HB3	4:A:61:GLN:HE22	1.78	0.47
8:E:118:ILE:HD11	8:E:121:ARG:HH21	1.80	0.47
12:I:19:TYR:OH	16:M:54:PRO:HB2	2.15	0.47
26:c:190:ASP:HA	26:c:193:LEU:HB3	1.96	0.47
34:k:90:LEU:HD12	34:k:91:ASP:H	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:74:ASP:OD1	36:m:75:VAL:N	2.47	0.47
37:n:105:LEU:O	37:n:108:ALA:HB3	2.14	0.47
41:r:20:VAL:O	41:r:24:ILE:HG12	2.14	0.47
43:t:46:LYS:HG2	43:t:48:LYS:HG2	1.96	0.47
50:3:130:C:H2'	50:3:131:C:C6	2.50	0.47
50:3:420:A:N7	50:3:425:U:O4	2.47	0.47
50:3:534:U:H2'	50:3:535:G:O4'	2.14	0.47
50:3:1053:C:H2'	50:3:1054:U:C6	2.49	0.47
50:3:1087:C:H2'	50:3:1088:A:N7	2.30	0.47
50:3:1364:A:H2'	50:3:1365:G:C8	2.49	0.47
50:3:1493:A:N7	50:3:1579:G:H2'	2.29	0.47
50:3:1606:A:H2'	50:3:1607:G:O4'	2.14	0.47
50:3:1799:A:H2'	50:3:1800:C:C6	2.50	0.47
50:3:2861:G:H21	50:3:2864:A:H8	1.62	0.47
52:5:1387:U:H3'	52:5:1388:A:C8	2.49	0.47
2:1:58:LEU:HG	2:1:59:ILE:HG12	1.96	0.47
25:b:218:LYS:HE2	25:b:220:ILE:HD11	1.96	0.47
27:d:14:LYS:O	27:d:18:LYS:HG2	2.14	0.47
30:g:54:ILE:HG13	30:g:55:LYS:H	1.79	0.47
32:i:136:GLU:OE2	32:i:136:GLU:N	2.41	0.47
35:l:14:ASN:ND2	35:l:73:SER:H	2.12	0.47
37:n:36:LEU:HD13	51:4:28:C:H6	1.79	0.47
38:o:95:LYS:O	38:o:113:LYS:NZ	2.40	0.47
39:p:89:ILE:HG22	40:q:11:GLN:HE22	1.80	0.47
40:q:5:VAL:HG23	40:q:38:VAL:HB	1.95	0.47
50:3:59:C:H2'	50:3:60:G:C8	2.50	0.47
50:3:559:C:H4'	50:3:589:A:H5'	1.97	0.47
50:3:565:C:H1'	50:3:567:U:H6	1.80	0.47
50:3:569:U:C4	50:3:592:G:O6	2.67	0.47
50:3:795:G:H4'	50:3:1783:G:OP1	2.14	0.47
50:3:815:G:H21	50:3:818:A:N6	2.12	0.47
50:3:848:U:H2'	50:3:849:C:H6	1.79	0.47
50:3:856:A:O4'	50:3:979:U:O2'	2.31	0.47
50:3:1119:A:H1'	50:3:1140:U:O2'	2.13	0.47
50:3:1166:G:O2'	50:3:2032:G:O2'	2.18	0.47
50:3:1714:U:O2'	50:3:1770:A:N7	2.48	0.47
50:3:1766:A:H2'	50:3:1767:A:C8	2.48	0.47
50:3:1997:C:H2'	50:3:1998:U:C2	2.50	0.47
50:3:2364:A:H1'	50:3:2370:G:H22	1.80	0.47
50:3:2431:U:H1'	50:3:2433:A:H2'	1.96	0.47
50:3:2473:C:H2'	50:3:2474:C:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2539:A:H3'	50:3:2540:G:C8	2.50	0.47
50:3:2540:G:O2'	50:3:2665:A:N1	2.45	0.47
50:3:2681:G:H2'	50:3:2682:A:H8	1.79	0.47
52:5:200:G:H2'	52:5:201:G:C8	2.49	0.47
52:5:331:C:H2'	52:5:332:A:H8	1.77	0.47
52:5:600:G:H2'	52:5:601:U:H6	1.79	0.47
52:5:760:U:H2'	52:5:761:U:H6	1.78	0.47
53:8:10:A:H62	53:8:24:A:H62	1.63	0.47
3:2:27:CYS:SG	3:2:28:LYS:N	2.88	0.47
5:B:103:ASP:N	5:B:103:ASP:OD1	2.47	0.47
5:B:191:LYS:O	5:B:193:GLN:NE2	2.47	0.47
5:B:195:THR:O	52:5:1181:G:O2'	2.25	0.47
6:C:152:PRO:HD2	52:5:433:C:H4'	1.97	0.47
7:D:110:GLU:HG3	7:D:112:PRO:HD2	1.96	0.47
7:D:137:TYR:HA	7:D:153:PRO:HG3	1.96	0.47
9:F:119:ILE:O	9:F:123:ILE:HG12	2.14	0.47
11:H:26:ASP:C	11:H:28:GLY:H	2.22	0.47
11:H:53:PRO:O	11:H:57:THR:OG1	2.19	0.47
14:K:4:ILE:O	14:K:8:ILE:HG13	2.15	0.47
25:b:29:ILE:HD11	25:b:197:ILE:HD12	1.97	0.47
27:d:135:GLN:HG2	27:d:149:ILE:HG13	1.97	0.47
30:g:99:VAL:HG22	30:g:106:MET:HE3	1.96	0.47
31:h:31:ASN:ND2	31:h:34:GLU:HB3	2.29	0.47
37:n:36:LEU:HD13	51:4:28:C:C6	2.50	0.47
44:u:28:ARG:HH12	50:3:2266:C:H5'	1.80	0.47
50:3:216:C:H2'	50:3:217:A:C8	2.50	0.47
50:3:292:G:C2'	50:3:293:G:H5'	2.45	0.47
50:3:404:C:H2'	50:3:405:C:C6	2.49	0.47
50:3:561:A:H2	50:3:2633:C:O2	1.97	0.47
50:3:618:G:H3'	50:3:1281:A:H61	1.79	0.47
50:3:835:U:H4'	50:3:836:G:H2'	1.96	0.47
50:3:862:U:C5	50:3:2438:A:H5''	2.47	0.47
50:3:1337:G:N1	50:3:1338:G:O6	2.48	0.47
50:3:1386:G:H1'	50:3:1401:A:H61	1.78	0.47
50:3:1491:G:H2'	50:3:1492:G:C8	2.50	0.47
50:3:1531:C:H2'	50:3:1532:A:O4'	2.15	0.47
50:3:1633:C:H2'	50:3:1634:A:C8	2.50	0.47
50:3:1638:C:H2'	50:3:1639:C:C6	2.50	0.47
50:3:1692:A:N6	50:3:2010:A:C6	2.83	0.47
50:3:2056:A:H3'	50:3:2057:C:C6	2.50	0.47
50:3:2332:U:O2	50:3:2344:A:O2'	2.31	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2466:G:N3	50:3:2467:A:N6	2.63	0.47
50:3:2535:C:H2'	50:3:2536:U:O4'	2.15	0.47
50:3:2785:G:OP2	50:3:2789:A:O2'	2.29	0.47
52:5:28:G:H2'	52:5:29:G:H8	1.79	0.47
52:5:43:G:H21	52:5:621:C:H5'	1.80	0.47
52:5:163:G:H5''	52:5:1423:C:H5''	1.97	0.47
52:5:191:A:H2'	52:5:192:A:C8	2.50	0.47
52:5:245:U:O2	52:5:272:G:N2	2.48	0.47
52:5:296:A:O2'	52:5:562:U:O4	2.30	0.47
52:5:711:G:H1'	52:5:774:A:C8	2.49	0.47
52:5:1384:A:O2'	52:5:1385:A:H5'	2.15	0.47
53:6:10:A:H62	53:6:24:A:H62	1.63	0.47
11:H:12:ARG:HG2	11:H:79:GLY:HA3	1.96	0.47
11:H:87:ARG:O	11:H:91:GLN:HG2	2.14	0.47
13:J:83:GLY:O	13:J:86:LYS:HG2	2.15	0.47
15:L:66:GLU:O	15:L:70:ARG:NH2	2.48	0.47
17:N:39:HIS:CE1	52:5:736:U:H1'	2.50	0.47
19:P:20:LYS:HE2	19:P:48:HIS:HB2	1.97	0.47
19:P:63:ILE:HD12	19:P:77:ILE:HG12	1.97	0.47
24:a:162:ARG:HG2	50:3:1825:U:H2'	1.97	0.47
24:a:208:HIS:NE2	50:3:1828:A:OP1	2.48	0.47
24:a:225:ARG:NH2	50:3:725:G:O3'	2.48	0.47
25:b:148:GLN:H	50:3:2582:G:H21	1.62	0.47
25:b:171:HIS:CD2	50:3:2825:A:H4'	2.50	0.47
34:k:112:ILE:H	34:k:129:HIS:HB2	1.80	0.47
37:n:8:ARG:HA	37:n:95:GLY:HA3	1.97	0.47
44:u:37:ALA:HA	44:u:52:TYR:HD1	1.79	0.47
49:z:12:ASN:OD1	49:z:13:ASP:N	2.46	0.47
50:3:179:A:H1'	50:3:180:A:H5'	1.95	0.47
50:3:215:A:H2'	50:3:216:C:C6	2.49	0.47
50:3:372:G:C5	50:3:373:U:H1'	2.49	0.47
50:3:800:C:H2'	50:3:801:U:H6	1.79	0.47
50:3:842:U:O2	50:3:2067:A:N6	2.48	0.47
50:3:1243:A:H2'	50:3:1244:A:O4'	2.15	0.47
50:3:1715:A:H1'	50:3:1769:A:H2'	1.97	0.47
50:3:2259:G:H2'	50:3:2260:G:O4'	2.15	0.47
50:3:2706:U:H2'	50:3:2707:A:H8	1.80	0.47
52:5:935:U:O2	52:5:1323:A:O2'	2.24	0.47
52:5:1139:A:O2'	52:5:1140:A:O4'	2.17	0.47
52:5:1280:A:H2'	52:5:1281:U:C6	2.50	0.47
9:F:21:LEU:HD12	9:F:100:LEU:HD11	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:54:LEU:HD12	11:H:60:LYS:HA	1.96	0.47
12:I:61:PRO:O	52:5:968:G:O2'	2.32	0.47
14:K:47:CYS:HA	14:K:68:VAL:HA	1.96	0.47
14:K:69:ARG:HH12	14:K:73:GLY:HA2	1.80	0.47
14:K:133:LYS:NZ	52:5:36:G:O3'	2.45	0.47
17:N:47:PHE:HA	17:N:50:LYS:HE3	1.96	0.47
19:P:49:ASN:ND2	19:P:53:VAL:HG23	2.27	0.47
25:b:151:ARG:NE	50:3:2580:A:OP2	2.41	0.47
44:u:57:THR:O	50:3:2338:G:O2'	2.25	0.47
50:3:142:A:H2'	50:3:143:A:C8	2.49	0.47
50:3:219:G:H21	50:3:220:A:H1'	1.80	0.47
50:3:345:A:C6	50:3:364:A:H5''	2.50	0.47
50:3:537:A:O2'	50:3:540:A:OP2	2.33	0.47
50:3:1442:G:N2	50:3:1622:C:N3	2.59	0.47
50:3:1581:U:H2'	50:3:1582:G:C8	2.50	0.47
50:3:2050:G:C2	50:3:2785:G:N2	2.83	0.47
50:3:2267:G:H2'	50:3:2268:C:C6	2.50	0.47
50:3:2303:U:H3	50:3:2345:G:H1	1.63	0.47
50:3:2516:G:H1	50:3:2588:U:H3	1.63	0.47
50:3:2635:G:N2	50:3:2785:G:O5'	2.47	0.47
50:3:2698:U:OP1	50:3:2876:G:N2	2.48	0.47
50:3:2812:U:H5'	50:3:2895:A:C5	2.50	0.47
52:5:40:G:C6	52:5:400:G:C5	3.03	0.47
52:5:333:U:O4	52:5:334:A:N6	2.48	0.47
52:5:549:U:H2'	52:5:550:U:C6	2.50	0.47
52:5:1499:G:H2'	52:5:1500:G:C8	2.50	0.47
4:A:246:PHE:C	4:A:248:TYR:H	2.23	0.47
5:B:92:ILE:HA	5:B:95:ILE:HG22	1.97	0.47
5:B:195:THR:HA	52:5:1181:G:H4'	1.97	0.47
8:E:35:LEU:HB3	8:E:61:LYS:O	2.14	0.47
11:H:90:LEU:HD13	11:H:97:LYS:HE3	1.97	0.47
24:a:136:MET:HE2	24:a:140:PHE:HB2	1.96	0.47
25:b:35:GLN:HE22	25:b:76:LYS:HB2	1.79	0.47
29:f:110:LYS:HE3	29:f:113:PHE:CE2	2.49	0.47
33:j:4:PHE:HB2	33:j:21:ILE:HB	1.96	0.47
47:x:39:CYS:SG	47:x:40:GLY:N	2.87	0.47
50:3:192:U:H2'	50:3:193:G:O4'	2.15	0.47
50:3:333:A:N3	50:3:353:G:O2'	2.36	0.47
50:3:1432:C:H2'	50:3:1433:U:C6	2.50	0.47
50:3:1777:G:N2	50:3:1793:A:N7	2.63	0.47
50:3:1801:U:H2'	50:3:1802:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1950:U:H4'	50:3:1951:A:H2'	1.96	0.47
50:3:1996:A:H2'	50:3:1997:C:O4'	2.15	0.47
50:3:2035:U:H2'	50:3:2036:G:C8	2.50	0.47
50:3:2548:G:H2'	50:3:2549:A:O4'	2.14	0.47
52:5:254:G:H2'	52:5:255:G:C8	2.50	0.47
52:5:314:G:N2	52:5:1443:A:O2'	2.48	0.47
52:5:398:G:H2'	52:5:399:C:C6	2.50	0.47
52:5:412:G:O6	52:5:424:U:C4	2.67	0.47
52:5:625:U:H2'	52:5:626:G:C8	2.50	0.47
52:5:1059:G:N2	52:5:1166:A:C6	2.81	0.47
52:5:1390:G:O6	52:5:1460:U:C2	2.68	0.47
5:B:43:LEU:HD21	5:B:88:ILE:HB	1.96	0.46
7:D:123:HIS:HA	7:D:126:LEU:HG	1.97	0.46
8:E:44:GLU:O	8:E:57:TYR:OH	2.32	0.46
9:F:82:SER:OG	52:5:690:G:O2'	2.17	0.46
10:G:132:LYS:HG3	52:5:598:U:H5''	1.96	0.46
15:L:40:ASN:ND2	15:L:48:LEU:HD22	2.30	0.46
28:e:114:HIS:HB2	50:3:2676:G:C8	2.50	0.46
31:h:69:THR:OG1	31:h:108:LYS:HD3	2.15	0.46
34:k:36:GLN:O	34:k:37:LYS:HG2	2.15	0.46
35:l:77:LYS:HD2	35:l:81:VAL:HG21	1.96	0.46
39:p:101:GLU:HB3	39:p:104:LYS:HD3	1.97	0.46
50:3:603:G:H1	50:3:2507:C:P	2.36	0.46
50:3:1038:G:H2'	50:3:1039:G:C8	2.50	0.46
50:3:1385:U:H2'	50:3:1386:G:O4'	2.14	0.46
50:3:1582:G:H2'	50:3:1583:G:C8	2.49	0.46
50:3:1588:A:H2'	50:3:1589:A:H8	1.79	0.46
50:3:2096:U:H2'	50:3:2097:A:C8	2.50	0.46
50:3:2254:G:H2'	50:3:2255:A:H8	1.80	0.46
50:3:2356:U:H2'	50:3:2357:G:C8	2.50	0.46
50:3:2498:G:H1'	50:3:2499:U:C5	2.50	0.46
51:4:38:U:H2'	51:4:41:C:OP2	2.15	0.46
52:5:22:G:H2'	52:5:23:G:C8	2.44	0.46
52:5:515:G:N2	52:5:527:G:O2'	2.43	0.46
1:0:12:ARG:HD3	1:0:44:VAL:HG21	1.97	0.46
4:A:128:ASN:O	4:A:132:LYS:HG3	2.15	0.46
8:E:106:GLN:O	8:E:109:LEU:HB2	2.15	0.46
10:G:24:ASN:ND2	52:5:823:C:O2	2.48	0.46
11:H:18:LYS:HD3	52:5:1124:U:O4'	2.15	0.46
19:P:20:LYS:NZ	52:5:251:G:OP1	2.48	0.46
21:R:70:LYS:HE2	52:5:1293:A:H5''	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:9:ILE:HG22	28:e:10:THR:H	1.81	0.46
28:e:145:GLY:HA3	50:3:2753:C:H4'	1.96	0.46
31:h:130:GLN:HG3	31:h:131:MET:SD	2.55	0.46
32:i:80:HIS:HA	32:i:87:ILE:HA	1.97	0.46
35:l:123:HIS:O	50:3:2492:G:N2	2.48	0.46
48:y:6:ARG:NH1	50:3:2026:A:OP2	2.48	0.46
50:3:297:G:O2'	50:3:298:U:OP2	2.33	0.46
50:3:359:G:H2'	50:3:360:G:H8	1.79	0.46
50:3:408:G:O2'	50:3:460:G:OP1	2.30	0.46
50:3:479:A:H1'	50:3:1232:U:H1'	1.96	0.46
50:3:628:A:H2'	50:3:629:G:H8	1.80	0.46
50:3:907:A:H3'	50:3:908:A:H8	1.80	0.46
50:3:1227:C:C2	50:3:1228:G:C8	3.03	0.46
50:3:1288:C:H2'	50:3:1289:G:H8	1.78	0.46
50:3:1422:U:O2'	50:3:1637:A:OP1	2.32	0.46
50:3:1661:A:H2'	50:3:1662:G:C8	2.48	0.46
50:3:1939:A:H2'	50:3:1940:G:O4'	2.16	0.46
50:3:2408:G:C2'	50:3:2409:U:H5'	2.46	0.46
50:3:2552:G:H2'	50:3:2553:G:C8	2.50	0.46
52:5:150:A:H2'	52:5:151:C:C6	2.50	0.46
52:5:400:G:N2	52:5:496:A:H2'	2.30	0.46
52:5:712:A:O4'	52:5:774:A:N6	2.48	0.46
52:5:739:G:H2'	52:5:740:G:O4'	2.15	0.46
52:5:882:U:H3'	52:5:883:A:H8	1.80	0.46
52:5:955:U:H6	52:5:955:U:HO2'	1.62	0.46
52:5:1046:A:N6	52:5:1175:C:C2	2.82	0.46
7:D:68:GLU:HG2	7:D:94:VAL:HG13	1.96	0.46
10:G:84:ILE:HG22	10:G:86:GLY:H	1.80	0.46
11:H:13:LYS:HD2	11:H:112:VAL:HG22	1.97	0.46
15:L:26:GLY:N	52:5:1303:A:H5''	2.31	0.46
25:b:57:VAL:HG11	25:b:79:LYS:HD2	1.96	0.46
29:f:16:PHE:O	29:f:17:ASP:HB2	2.16	0.46
30:g:76:ILE:HG12	30:g:77:LYS:H	1.80	0.46
35:l:42:ILE:O	35:l:95:ALA:N	2.43	0.46
40:q:57:CYS:HA	40:q:94:VAL:HA	1.97	0.46
42:s:3:VAL:HG21	46:w:23:LYS:HD2	1.96	0.46
50:3:43:A:H2'	50:3:44:A:C8	2.50	0.46
50:3:69:U:H2'	50:3:70:G:C8	2.50	0.46
50:3:548:A:H2'	50:3:549:A:H8	1.80	0.46
50:3:676:U:C4	50:3:685:G:N1	2.83	0.46
50:3:856:A:H5''	50:3:857:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1195:A:H2'	50:3:1196:U:C6	2.50	0.46
50:3:1248:A:H2'	50:3:1249:A:C8	2.51	0.46
50:3:1488:U:H2'	50:3:1489:G:H8	1.80	0.46
50:3:1534:A:O2'	50:3:1535:A:H5''	2.15	0.46
50:3:1603:A:H2'	50:3:1604:A:C8	2.50	0.46
50:3:1649:C:O2'	50:3:1651:C:H5''	2.15	0.46
50:3:1790:U:O3'	50:3:2615:G:O2'	2.33	0.46
50:3:1837:C:H2'	50:3:1838:A:C8	2.50	0.46
50:3:1869:G:H2'	50:3:1870:G:C8	2.46	0.46
50:3:2100:G:N2	50:3:2206:A:H62	2.11	0.46
50:3:2584:G:OP2	50:3:2584:G:N2	2.33	0.46
50:3:2644:U:H2'	50:3:2645:U:H6	1.80	0.46
50:3:2696:G:H1'	50:3:2729:A:N6	2.30	0.46
50:3:2737:G:N1	50:3:2738:U:O4	2.49	0.46
50:3:2782:A:H2'	50:3:2783:A:O4'	2.16	0.46
52:5:535:A:H2'	52:5:536:U:O4'	2.16	0.46
52:5:680:G:O6	52:5:705:A:N6	2.48	0.46
52:5:715:A:OP1	52:5:717:C:N4	2.30	0.46
52:5:923:G:H2'	52:5:924:A:H8	1.81	0.46
52:5:1128:G:H2'	52:5:1129:C:C6	2.51	0.46
53:6:62:C:H2'	53:6:63:U:O4'	2.15	0.46
4:A:137:GLN:HG3	4:A:156:ILE:HG13	1.98	0.46
14:K:113:GLY:CA	14:K:119:GLY:HA2	2.46	0.46
14:K:123:ARG:HH22	52:5:520:C:H5'	1.81	0.46
24:a:236:ASN:ND2	50:3:2080:C:OP1	2.48	0.46
24:a:285:GLU:HG3	24:a:286:GLN:HG2	1.96	0.46
25:b:119:PHE:CD1	50:3:1689:A:H1'	2.50	0.46
26:c:194:ALA:C	26:c:196:ALA:H	2.23	0.46
29:f:72:ILE:O	29:f:139:LYS:NZ	2.48	0.46
36:m:60:ARG:NH1	36:m:79:MET:HB3	2.31	0.46
39:p:39:ILE:HD11	40:q:73:HIS:CD2	2.51	0.46
43:t:2:GLN:HE21	50:3:86:A:H4'	1.81	0.46
48:y:4:GLN:HB3	50:3:2623:U:O2	2.15	0.46
50:3:299:A:N6	50:3:440:C:O2'	2.49	0.46
50:3:724:A:N3	50:3:814:U:H4'	2.31	0.46
50:3:2271:C:H2'	50:3:2272:C:C6	2.50	0.46
50:3:2394:A:H2'	50:3:2395:U:C6	2.51	0.46
52:5:194:U:H2'	52:5:195:U:C2	2.51	0.46
52:5:245:U:H2'	52:5:246:A:C4	2.51	0.46
52:5:599:G:C2	52:5:634:U:O2	2.68	0.46
52:5:612:G:H2'	52:5:613:C:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1451:A:H2'	52:5:1452:C:C6	2.50	0.46
53:8:15:A:H61	53:8:49:C:N4	2.13	0.46
6:C:4:THR:HB	6:C:111:ARG:HD3	1.96	0.46
25:b:115:LYS:HE3	50:3:2688:C:P	2.56	0.46
25:b:162:GLY:HA3	32:i:83:TYR:HE1	1.81	0.46
38:o:32:ASN:ND2	38:o:89:GLU:OE2	2.42	0.46
41:r:9:ARG:HH11	41:r:11:ARG:HB2	1.81	0.46
43:t:102:ARG:O	43:t:110:THR:HA	2.16	0.46
44:u:40:ALA:HB1	50:3:891:G:H22	1.81	0.46
50:3:862:U:H3'	50:3:2438:A:C8	2.51	0.46
50:3:1433:U:H2'	50:3:1434:U:C6	2.50	0.46
50:3:1493:A:H2'	50:3:1494:U:O4'	2.15	0.46
50:3:1645:C:H2'	50:3:1646:G:H8	1.80	0.46
52:5:249:U:N3	52:5:250:G:N7	2.64	0.46
52:5:290:G:N2	52:5:299:U:O2	2.48	0.46
52:5:669:U:H2'	52:5:670:G:C8	2.51	0.46
52:5:856:U:H2'	52:5:857:U:C6	2.50	0.46
52:5:1313:A:H2	53:8:30:G:H21	1.61	0.46
6:C:182:PRO:HB2	6:C:187:LEU:HD11	1.98	0.46
7:D:117:LYS:HE2	7:D:117:LYS:HB3	1.74	0.46
21:R:52:HIS:CE1	52:5:1195:G:H21	2.34	0.46
22:S:12:ARG:NH1	52:5:88:A:OP2	2.48	0.46
26:c:106:LYS:NZ	50:3:639:G:OP1	2.35	0.46
27:d:69:LYS:HA	27:d:84:LEU:HA	1.97	0.46
27:d:110:ARG:O	27:d:112:ARG:NH2	2.49	0.46
30:g:42:LYS:O	30:g:42:LYS:NZ	2.21	0.46
33:j:64:ARG:HD3	33:j:101:PRO:HG2	1.96	0.46
38:o:44:ARG:HG3	38:o:46:GLN:HG2	1.97	0.46
40:q:96:ARG:HG2	40:q:98:VAL:HG13	1.96	0.46
48:y:11:HIS:HB2	50:3:2028:G:OP1	2.16	0.46
50:3:397:G:H2'	50:3:398:C:C6	2.51	0.46
50:3:518:A:O2'	50:3:532:A:N1	2.47	0.46
50:3:1102:A:N6	50:3:1131:A:OP1	2.45	0.46
50:3:1491:G:H2'	50:3:1492:G:H8	1.80	0.46
50:3:1779:G:N2	50:3:1781:C:H5'	2.31	0.46
50:3:2072:C:H2'	50:3:2073:C:H6	1.80	0.46
50:3:2078:A:H2'	50:3:2079:G:H8	1.79	0.46
50:3:2383:G:N2	50:3:2385:A:H3'	2.31	0.46
50:3:2603:G:N2	50:3:2605:G:H8	2.14	0.46
52:5:512:U:H2'	52:5:513:G:H8	1.76	0.46
52:5:525:G:HO2'	52:5:533:A:N6	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:574:C:H2'	52:5:576:A:OP2	2.14	0.46
52:5:1353:C:O2'	52:5:1354:G:O4'	2.30	0.46
52:5:1471:C:H2'	52:5:1472:G:N7	2.31	0.46
1:0:3:ARG:HH21	50:3:1654:G:H1'	1.81	0.46
3:2:7:VAL:H	3:2:37:GLY:HA2	1.81	0.46
8:E:47:TYR:CE2	8:E:49:ILE:HA	2.51	0.46
13:J:111:HIS:H	52:5:672:A:H2	1.64	0.46
24:a:39:VAL:HG13	24:a:66:TYR:HB3	1.98	0.46
24:a:148:HIS:HB3	24:a:167:TYR:HA	1.97	0.46
35:l:12:PRO:HG2	35:l:14:ASN:OD1	2.15	0.46
35:l:35:VAL:O	35:l:130:LYS:N	2.49	0.46
35:l:82:ARG:HB2	44:u:19:LYS:HZ1	1.81	0.46
47:x:23:PHE:HB3	47:x:25:ILE:HG12	1.97	0.46
50:3:122:G:H2'	50:3:123:G:C8	2.50	0.46
50:3:175:A:H2'	50:3:176:U:C6	2.50	0.46
50:3:450:C:H2'	50:3:451:A:C8	2.51	0.46
50:3:901:C:N4	50:3:945:U:H3'	2.30	0.46
50:3:1141:U:H2'	50:3:1142:G:C8	2.51	0.46
50:3:1261:U:H2'	50:3:1262:G:C8	2.50	0.46
50:3:1675:A:H3'	50:3:1676:G:C8	2.51	0.46
50:3:1840:C:H2'	50:3:1841:U:O4'	2.16	0.46
50:3:2058:G:H3'	50:3:2586:G:O5'	2.16	0.46
50:3:2085:C:H2'	50:3:2086:U:H6	1.80	0.46
50:3:2812:U:O2'	50:3:2894:G:N2	2.49	0.46
52:5:647:U:H2'	52:5:648:C:H6	1.81	0.46
52:5:671:G:H2'	52:5:672:A:C8	2.50	0.46
52:5:883:A:N1	52:5:901:A:H5''	2.30	0.46
52:5:1059:G:N2	52:5:1166:A:C2	2.82	0.46
52:5:1106:U:H2'	52:5:1107:U:C6	2.49	0.46
52:5:1483:C:H2'	52:5:1484:C:H6	1.81	0.46
7:D:101:ILE:HD11	7:D:173:ALA:HA	1.97	0.46
7:D:189:ILE:HG12	7:D:193:HIS:CE1	2.51	0.46
10:G:107:VAL:HB	10:G:112:GLY:C	2.40	0.46
24:a:281:ASN:O	24:a:282:ARG:HG2	2.16	0.46
25:b:139:TYR:CD1	25:b:140:PRO:HD2	2.51	0.46
26:c:38:VAL:HG12	26:c:189:ARG:HB2	1.98	0.46
26:c:157:VAL:HG23	26:c:197:LEU:HA	1.97	0.46
28:e:77:ASN:OD1	50:3:2755:G:H5'	2.16	0.46
29:f:47:ARG:HH22	29:f:51:LEU:HD22	1.80	0.46
31:h:10:ALA:O	50:3:1133:A:O2'	2.32	0.46
32:i:4:THR:HA	50:3:1031:U:O2'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:k:71:GLY:O	34:k:72:PHE:HD1	1.99	0.46
42:s:30:VAL:HG22	42:s:80:LEU:HG	1.98	0.46
50:3:37:G:N2	50:3:485:A:N1	2.63	0.46
50:3:682:A:H2'	50:3:683:G:O4'	2.15	0.46
50:3:1663:G:H2'	50:3:1664:A:C8	2.51	0.46
50:3:1677:G:H2'	50:3:1678:U:C6	2.51	0.46
50:3:1692:A:H2'	50:3:1693:U:C6	2.51	0.46
50:3:2136:A:N3	50:3:2167:G:N2	2.64	0.46
50:3:2212:U:H2'	50:3:2213:A:C8	2.50	0.46
50:3:2439:U:O2	50:3:2441:A:N7	2.48	0.46
50:3:2439:U:C2	50:3:2441:A:N7	2.84	0.46
50:3:2861:G:H22	50:3:2864:A:P	2.38	0.46
51:4:3:U:OP1	51:4:59:A:O2'	2.22	0.46
52:5:302:A:OP2	52:5:305:A:N6	2.48	0.46
52:5:940:G:H2'	52:5:940:G:N3	2.31	0.46
52:5:1169:U:H2'	52:5:1170:C:C6	2.50	0.46
4:A:228:LEU:O	4:A:232:LEU:HG	2.16	0.46
8:E:118:ILE:HD11	8:E:121:ARG:HD2	1.97	0.46
14:K:134:LYS:HG2	52:5:499:U:OP1	2.16	0.46
18:O:60:THR:O	18:O:63:VAL:HG12	2.16	0.46
20:Q:92:ARG:NH1	52:5:733:A:OP1	2.36	0.46
26:c:64:LYS:HG2	26:c:77:GLY:HA2	1.98	0.46
27:d:63:GLN:HE22	51:4:41:C:H5'	1.79	0.46
31:h:87:LYS:HB2	50:3:1098:G:N2	2.24	0.46
39:p:2:ARG:NH1	50:3:1278:G:H22	2.13	0.46
44:u:30:SER:HB2	50:3:2269:C:H3'	1.96	0.46
50:3:149:A:H2'	50:3:150:U:O4'	2.16	0.46
50:3:2000:U:H2'	50:3:2001:C:H6	1.81	0.46
50:3:2667:G:H2'	50:3:2668:A:H2'	1.98	0.46
52:5:445:A:H3'	52:5:446:A:H8	1.81	0.46
52:5:543:C:O2'	52:5:547:C:H5''	2.16	0.46
52:5:842:C:H2'	52:5:843:C:C6	2.51	0.46
52:5:1085:G:O2'	52:5:1099:G:O6	2.32	0.46
52:5:1191:U:H2'	52:5:1192:C:H6	1.80	0.46
52:5:1245:A:OP1	52:5:1299:C:H1'	2.16	0.46
52:5:1424:C:H2'	52:5:1425:A:O4'	2.16	0.46
5:B:116:ALA:HB1	5:B:203:VAL:HB	1.98	0.46
6:C:138:PRO:HA	6:C:178:TYR:HB3	1.98	0.46
8:E:145:ARG:HE	10:G:63:LYS:HA	1.81	0.46
10:G:58:GLN:N	10:G:71:THR:O	2.42	0.46
11:H:12:ARG:HA	11:H:108:ARG:NH2	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:33:ASN:OD1	52:5:680:G:O2'	2.34	0.46
25:b:148:GLN:OE1	50:3:2059:G:H4'	2.16	0.46
25:b:153:GLY:HA2	50:3:607:U:H3	1.81	0.46
27:d:43:ALA:HB2	27:d:150:ARG:HH22	1.81	0.46
32:i:84:ILE:HD13	50:3:2522:U:H5''	1.97	0.46
34:k:73:LEU:HG	50:3:248:A:H4'	1.97	0.46
35:l:70:PRO:HA	35:l:95:ALA:HB2	1.98	0.46
50:3:180:A:H3'	50:3:181:G:H8	1.81	0.46
50:3:442:G:H2'	50:3:443:C:C6	2.51	0.46
50:3:664:G:C6	50:3:672:G:C2	3.03	0.46
50:3:900:G:H21	50:3:903:A:N6	2.12	0.46
50:3:1360:U:H5'	50:3:1361:U:H5	1.80	0.46
50:3:1485:A:H2'	50:3:1486:U:H5'	1.98	0.46
50:3:1801:U:H3	50:3:1832:G:H1	1.62	0.46
50:3:2229:C:H2'	50:3:2230:A:H8	1.81	0.46
50:3:2854:A:N7	50:3:2872:A:O2'	2.44	0.46
52:5:373:A:H2'	52:5:374:G:H8	1.79	0.46
52:5:511:A:H2'	52:5:512:U:C6	2.50	0.46
52:5:641:U:C2	52:5:642:A:C8	3.04	0.46
6:C:98:ASP:OD1	6:C:99:ASN:N	2.49	0.45
13:J:64:ALA:HB2	13:J:93:PHE:HD1	1.82	0.45
14:K:16:LYS:HA	14:K:16:LYS:HD2	1.79	0.45
22:S:53:ARG:NE	52:5:164:C:OP2	2.49	0.45
23:T:24:GLU:HG2	23:T:28:LEU:HD23	1.98	0.45
24:a:55:VAL:HG13	50:3:1830:G:H5''	1.98	0.45
37:n:63:LYS:HZ1	51:4:49:G:H5'	1.81	0.45
39:p:10:ARG:NH2	50:3:1247:C:OP1	2.49	0.45
45:v:20:HIS:ND1	50:3:2087:G:OP1	2.45	0.45
50:3:220:A:H2'	50:3:221:A:H8	1.82	0.45
50:3:323:A:H2'	50:3:324:C:C6	2.51	0.45
50:3:525:A:H2'	50:3:526:G:N9	2.31	0.45
50:3:627:U:H2'	50:3:628:A:C8	2.50	0.45
50:3:741:A:H2'	50:3:742:G:O4'	2.16	0.45
50:3:785:A:OP1	50:3:1648:A:N6	2.40	0.45
50:3:1037:A:H3'	50:3:1038:G:H8	1.81	0.45
50:3:1213:U:H2'	50:3:1214:U:C6	2.51	0.45
50:3:1265:G:H2'	50:3:1266:G:C5	2.51	0.45
50:3:1311:G:H2'	50:3:1313:G:N7	2.31	0.45
50:3:1520:A:H2'	50:3:1521:A:C8	2.51	0.45
50:3:1795:C:C2	50:3:1796:A:C8	3.04	0.45
50:3:2043:C:H2'	50:3:2044:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2310:C:H2'	50:3:2311:G:C8	2.50	0.45
50:3:2671:G:H2'	50:3:2672:G:O4'	2.16	0.45
50:3:2744:A:H2'	50:3:2745:G:C8	2.51	0.45
50:3:2861:G:N2	50:3:2864:A:OP2	2.43	0.45
52:5:556:G:O5'	52:5:557:A:H5''	2.16	0.45
52:5:563:U:H2'	52:5:564:G:C8	2.51	0.45
52:5:1277:C:H2'	52:5:1278:G:O4'	2.15	0.45
52:5:1298:U:H5'	52:5:1336:C:O2'	2.16	0.45
52:5:1387:U:H2'	52:5:1388:A:O4'	2.15	0.45
4:A:23:LEU:HD12	4:A:62:ARG:HD2	1.97	0.45
4:A:91:TYR:CD1	4:A:257:GLU:HA	2.51	0.45
10:G:136:GLU:OE1	52:5:640:C:O2'	2.32	0.45
15:L:52:GLU:O	15:L:56:ILE:N	2.39	0.45
22:S:52:ASP:HB2	52:5:196:G:H1'	1.97	0.45
24:a:150:ILE:O	24:a:160:ILE:N	2.49	0.45
28:e:160:TYR:OH	50:3:2540:G:OP1	2.27	0.45
30:g:40:ILE:HG23	30:g:51:ILE:HG21	1.98	0.45
31:h:9:ILE:HB	50:3:1133:A:C2	2.51	0.45
34:k:128:VAL:HG21	34:k:131:VAL:HG12	1.98	0.45
41:r:81:SER:HB2	41:r:99:ARG:HA	1.97	0.45
50:3:96:A:H8	50:3:97:A:C8	2.34	0.45
50:3:519:A:H3'	50:3:520:C:C5	2.51	0.45
50:3:641:U:H3'	50:3:655:G:H1	1.81	0.45
50:3:752:C:H3'	50:3:753:A:H8	1.81	0.45
50:3:916:U:C2	50:3:917:G:C8	3.05	0.45
50:3:1914:G:N2	50:3:1930:U:O2	2.40	0.45
50:3:1934:A:H2'	50:3:1935:A:C4	2.51	0.45
50:3:2295:A:N6	50:3:2354:A:N7	2.63	0.45
50:3:2299:U:O4	50:3:2349:G:O6	2.33	0.45
50:3:2385:A:H2'	50:3:2386:A:C4	2.51	0.45
50:3:2515:C:H1'	53:6:76:C:N3	2.32	0.45
50:3:2583:U:H2'	50:3:2586:G:O6	2.16	0.45
50:3:2647:A:H2'	50:3:2648:A:O4'	2.17	0.45
50:3:2867:U:H2'	50:3:2868:G:C8	2.50	0.45
52:5:534:C:H2'	52:5:535:A:C8	2.51	0.45
52:5:970:A:H4'	52:5:1338:A:N1	2.32	0.45
52:5:1102:A:N6	52:5:1164:U:H3	2.15	0.45
52:5:1468:A:N6	53:6:38:G:H1'	2.30	0.45
5:B:179:SER:N	52:5:1099:G:OP1	2.48	0.45
7:D:139:GLU:HA	7:D:151:LEU:O	2.17	0.45
8:E:103:LYS:O	8:E:106:GLN:HB2	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:98:TYR:HA	10:G:136:GLU:HA	1.99	0.45
14:K:25:HIS:HB3	14:K:39:TYR:N	2.31	0.45
14:K:25:HIS:CE1	52:5:551:A:H4'	2.44	0.45
19:P:32:HIS:CE1	19:P:34:LEU:HB2	2.51	0.45
19:P:42:HIS:HE1	52:5:276:U:O2'	2.00	0.45
24:a:50:GLN:HE22	50:3:1814:G:H1'	1.81	0.45
24:a:163:SER:HB2	50:3:1825:U:H3'	1.99	0.45
25:b:123:ILE:HG13	25:b:130:ILE:HD11	1.98	0.45
26:c:158:LEU:HD13	26:c:194:ALA:HB2	1.97	0.45
29:f:1:MET:HG2	29:f:39:LEU:HD22	1.98	0.45
30:g:19:SER:HA	30:g:67:LYS:HE3	1.97	0.45
30:g:33:SER:HB3	30:g:36:GLU:HB2	1.97	0.45
35:l:40:ASN:H	35:l:97:VAL:HB	1.80	0.45
37:n:86:LEU:HD23	37:n:89:VAL:HG12	1.98	0.45
50:3:514:A:O2'	50:3:516:A:N7	2.46	0.45
50:3:660:U:H2'	50:3:661:G:C8	2.51	0.45
50:3:825:U:O4	50:3:829:A:O2'	2.34	0.45
50:3:1080:A:H3'	50:3:1081:A:C8	2.51	0.45
50:3:1437:A:N6	50:3:1628:G:O6	2.49	0.45
50:3:1483:G:H1'	50:3:2856:G:H4'	1.99	0.45
50:3:1760:G:N2	50:3:1762:A:H8	2.14	0.45
50:3:1814:G:N2	50:3:1817:A:OP2	2.41	0.45
50:3:1955:G:O2'	50:3:1956:G:H5'	2.17	0.45
50:3:2050:G:H2'	50:3:2051:G:C8	2.51	0.45
50:3:2311:G:H2'	50:3:2312:G:O4'	2.16	0.45
50:3:2383:G:N2	50:3:2386:A:OP2	2.29	0.45
50:3:2522:U:H2'	50:3:2523:C:H6	1.80	0.45
51:4:54:U:H3	51:4:56:A:H62	1.64	0.45
51:4:59:A:H2'	51:4:60:C:C6	2.50	0.45
52:5:28:G:H1	52:5:554:C:H42	1.65	0.45
52:5:682:G:H8	52:5:682:G:OP2	1.99	0.45
52:5:973:A:C4	52:5:1293:A:C2	3.05	0.45
52:5:1103:C:H41	52:5:1163:A:H2	1.62	0.45
52:5:1173:A:H2'	52:5:1174:U:C6	2.51	0.45
4:A:109:THR:OG1	4:A:110:GLN:N	2.49	0.45
5:B:44:PHE:HB2	5:B:56:VAL:HG21	1.97	0.45
8:E:115:TYR:CG	8:E:116:ASP:N	2.84	0.45
14:K:41:PRO:HG2	52:5:33:A:H2	1.81	0.45
14:K:123:ARG:NH2	52:5:519:G:O2'	2.50	0.45
23:T:46:ARG:O	23:T:50:GLN:HG2	2.16	0.45
27:d:69:LYS:HB3	27:d:84:LEU:HD23	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:g:69:GLU:OE1	30:g:69:GLU:N	2.46	0.45
36:m:101:LEU:HD11	48:y:48:TYR:HD2	1.80	0.45
41:r:57:ASN:ND2	50:3:529:G:H21	2.14	0.45
50:3:630:C:H2'	50:3:631:A:C8	2.50	0.45
50:3:734:A:C5	50:3:769:A:C8	3.05	0.45
50:3:1243:A:H61	50:3:1266:G:H1'	1.81	0.45
50:3:1246:U:H2'	50:3:1247:C:C6	2.51	0.45
50:3:1868:A:H2'	50:3:1869:G:C8	2.51	0.45
50:3:2262:C:C2	50:3:2263:G:C8	3.05	0.45
50:3:2272:C:H2'	50:3:2273:U:O4'	2.16	0.45
50:3:2315:G:H5'	50:3:2316:G:C8	2.51	0.45
50:3:2700:C:H2'	50:3:2701:A:H8	1.81	0.45
50:3:2880:A:N1	50:3:2881:A:N6	2.65	0.45
51:4:41:C:O2'	51:4:42:G:O5'	2.34	0.45
52:5:103:U:H3'	52:5:284:A:H61	1.82	0.45
52:5:405:C:H2'	52:5:406:G:O4'	2.17	0.45
52:5:415:C:H4'	52:5:510:U:O2'	2.17	0.45
52:5:513:G:C6	52:5:535:A:N1	2.85	0.45
52:5:1048:G:C6	52:5:1179:A:C6	3.04	0.45
53:6:16:G:H1	53:6:61:U:H3	1.64	0.45
53:8:62:C:H2'	53:8:63:U:O4'	2.15	0.45
5:B:134:ARG:NE	7:D:112:PRO:HG3	2.31	0.45
6:C:99:ASN:OD1	6:C:110:ARG:NE	2.49	0.45
15:L:107:ARG:N	52:5:943:C:OP2	2.48	0.45
24:a:16:HIS:ND1	50:3:1837:C:H5'	2.32	0.45
24:a:57:HIS:HB2	24:a:224:ILE:HG23	1.99	0.45
31:h:11:LYS:HZ3	31:h:52:PRO:HB3	1.80	0.45
34:k:53:GLY:HA2	50:3:867:G:H1'	1.98	0.45
37:n:71:LYS:HD2	37:n:104:ALA:HB1	1.99	0.45
48:y:39:PHE:HD2	50:3:2819:C:H1'	1.82	0.45
50:3:256:G:H2'	50:3:257:C:H6	1.82	0.45
50:3:348:A:H2'	50:3:349:G:C8	2.50	0.45
50:3:425:U:H4'	50:3:426:U:OP2	2.12	0.45
50:3:627:U:H2'	50:3:628:A:H8	1.82	0.45
50:3:1260:U:H2'	50:3:1261:U:C6	2.51	0.45
50:3:1307:G:H2'	50:3:1308:A:H8	1.81	0.45
50:3:1457:A:H61	50:3:1598:U:H3	1.63	0.45
50:3:2048:U:H2'	50:3:2049:A:H8	1.81	0.45
50:3:2451:C:H2'	50:3:2452:G:H8	1.82	0.45
50:3:2563:U:H2'	50:3:2564:C:H5'	1.99	0.45
50:3:2852:G:H1'	50:3:2871:G:C2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:400:G:O2'	52:5:496:A:N6	2.48	0.45
52:5:513:G:H2'	52:5:514:U:O4'	2.17	0.45
52:5:660:A:H4'	52:5:832:G:H4'	1.97	0.45
52:5:884:G:N2	52:5:885:U:O4	2.47	0.45
52:5:1267:G:H2'	52:5:1268:G:C8	2.52	0.45
52:5:1298:U:H4'	52:5:1336:C:H4'	1.99	0.45
52:5:1344:C:H2'	52:5:1345:G:O4'	2.17	0.45
53:8:16:G:H1	53:8:61:U:H3	1.64	0.45
4:A:223:GLN:HG2	4:A:224:SER:N	2.32	0.45
5:B:96:ILE:HG12	5:B:100:THR:HG21	1.97	0.45
7:D:136:ILE:HG23	7:D:138:HIS:CE1	2.51	0.45
9:F:115:MET:HB3	52:5:1214:A:H3'	1.99	0.45
21:R:73:GLU:HG2	52:5:1294:U:H1'	1.97	0.45
24:a:14:ILE:C	50:3:1780:A:H61	2.25	0.45
26:c:140:THR:HG21	26:c:174:ASN:HB2	1.99	0.45
30:g:43:LYS:HE3	30:g:43:LYS:HA	1.99	0.45
34:k:119:LYS:NZ	34:k:138:ALA:O	2.45	0.45
35:l:32:TYR:HE1	35:l:133:LYS:HE3	1.82	0.45
36:m:9:LYS:NZ	50:3:2010:A:OP1	2.34	0.45
39:p:85:HIS:CG	39:p:86:ASN:H	2.35	0.45
39:p:100:LYS:H	39:p:100:LYS:HD2	1.82	0.45
46:w:16:VAL:O	46:w:20:ILE:HG23	2.17	0.45
50:3:83:G:H1'	50:3:328:A:C4	2.51	0.45
50:3:450:C:H2'	50:3:451:A:H8	1.81	0.45
50:3:550:A:H4'	50:3:613:C:O2'	2.16	0.45
50:3:664:G:H2'	50:3:665:C:H6	1.81	0.45
50:3:873:G:H1	50:3:976:C:N4	2.13	0.45
50:3:899:A:H61	50:3:950:U:H3	1.64	0.45
50:3:1059:G:N3	50:3:1179:G:O2'	2.48	0.45
50:3:1063:A:N6	50:3:1160:G:H2'	2.31	0.45
50:3:1110:C:C4	50:3:1111:C:N4	2.85	0.45
50:3:1287:C:H2'	50:3:1288:C:O4'	2.16	0.45
50:3:1447:A:O2'	50:3:1449:G:N7	2.35	0.45
50:3:1794:A:H5''	50:3:2598:C:H5'	1.98	0.45
50:3:1846:A:H3'	50:3:1847:G:H8	1.81	0.45
50:3:2646:G:H1'	50:3:2786:A:N6	2.32	0.45
50:3:2676:G:H2'	50:3:2677:A:H8	1.81	0.45
52:5:265:U:H2'	52:5:266:A:C8	2.52	0.45
52:5:566:G:N2	52:5:877:C:N3	2.65	0.45
52:5:769:U:H2'	52:5:770:G:C8	2.51	0.45
52:5:773:G:O2'	52:5:775:G:O6	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:787:A:H5''	52:5:788:G:OP2	2.17	0.45
52:5:829:G:O6	52:5:848:U:O2	2.34	0.45
52:5:1261:A:H2'	52:5:1262:A:C8	2.51	0.45
52:5:1337:U:O5'	52:5:1338:A:H5'	2.17	0.45
52:5:1406:U:H1'	52:5:1445:G:N2	2.32	0.45
2:1:26:THR:HG22	2:1:29:LEU:H	1.82	0.45
4:A:88:LYS:HD2	4:A:179:ASP:HB2	1.99	0.45
4:A:225:THR:O	4:A:229:MET:HG3	2.16	0.45
5:B:155:LEU:N	5:B:202:LYS:O	2.50	0.45
13:J:62:LYS:HA	13:J:65:LYS:HE2	1.99	0.45
15:L:94:ASN:C	15:L:109:ARG:HE	2.25	0.45
17:N:15:HIS:ND1	17:N:18:ASP:OD2	2.50	0.45
25:b:84:ILE:HG13	25:b:208:ARG:HH11	1.81	0.45
29:f:51:LEU:O	29:f:54:GLN:HG3	2.16	0.45
29:f:51:LEU:HD12	29:f:54:GLN:HE21	1.81	0.45
30:g:40:ILE:HD12	30:g:43:LYS:HG2	1.99	0.45
33:j:51:MET:HE2	33:j:94:ARG:HG2	1.99	0.45
33:j:97:ARG:HH12	52:5:334:A:H3'	1.82	0.45
35:l:11:LYS:HB2	50:3:2285:G:O3'	2.16	0.45
36:m:93:THR:HG23	50:3:2884:C:H4'	1.99	0.45
37:n:4:ARG:HD2	51:4:44:A:OP1	2.17	0.45
43:t:13:ILE:HD11	43:t:75:ALA:HB3	1.99	0.45
50:3:525:A:H2'	50:3:526:G:C8	2.52	0.45
50:3:676:U:N3	50:3:685:G:C6	2.84	0.45
50:3:890:U:H2'	50:3:891:G:C8	2.49	0.45
50:3:1035:U:H5''	50:3:1189:G:O6	2.17	0.45
50:3:1152:U:H2'	50:3:1153:U:H6	1.80	0.45
50:3:1470:C:O2	50:3:1582:G:N2	2.39	0.45
50:3:1928:G:H2'	50:3:1929:G:C8	2.51	0.45
50:3:2146:A:H2'	50:3:2147:G:H8	1.81	0.45
50:3:2399:G:H22	50:3:2435:C:H4'	1.80	0.45
50:3:2456:A:OP2	50:3:2505:A:O2'	2.26	0.45
50:3:2572:A:H2'	50:3:2573:A:H8	1.82	0.45
51:4:47:C:H6	51:4:47:C:OP2	1.99	0.45
52:5:29:G:C6	52:5:30:A:C6	3.04	0.45
52:5:33:A:H5'	52:5:394:U:H4'	1.98	0.45
52:5:298:G:H1'	52:5:554:C:H5'	1.99	0.45
52:5:845:C:H2'	52:5:846:G:H8	1.81	0.45
52:5:1137:C:N4	52:5:1149:G:O6	2.50	0.45
52:5:1413:G:C6	52:5:1439:G:O6	2.70	0.45
52:5:1451:A:O2'	52:5:1452:C:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:98:ASN:O	4:A:102:ARG:HG2	2.17	0.45
6:C:100:ILE:O	6:C:104:MET:HG3	2.17	0.45
11:H:117:LYS:NZ	52:5:1161:G:O3'	2.50	0.45
12:I:57:ILE:O	12:I:69:GLU:HG3	2.16	0.45
14:K:69:ARG:NH2	14:K:72:ASN:O	2.27	0.45
24:a:278:ILE:HG21	24:a:281:ASN:ND2	2.31	0.45
26:c:189:ARG:O	26:c:193:LEU:CB	2.64	0.45
27:d:24:SER:HB3	27:d:27:GLN:HG3	1.98	0.45
47:x:11:SER:HA	47:x:26:GLU:HA	1.99	0.45
50:3:61:U:H1'	50:3:75:A:H2'	1.99	0.45
50:3:417:G:N1	50:3:432:G:N7	2.65	0.45
50:3:472:A:H2'	50:3:473:U:C6	2.52	0.45
50:3:650:G:H2'	50:3:651:A:H8	1.80	0.45
50:3:734:A:H2'	50:3:735:G:O4'	2.17	0.45
50:3:1008:A:C8	50:3:1009:A:H2'	2.51	0.45
50:3:1263:G:C2	50:3:1264:U:C5	3.05	0.45
50:3:2143:G:O6	50:3:2162:U:O4	2.34	0.45
50:3:2204:C:H2'	50:3:2205:U:O4'	2.16	0.45
50:3:2382:A:N6	50:3:2388:C:N3	2.65	0.45
52:5:359:A:H2'	52:5:360:A:C8	2.51	0.45
52:5:719:G:O2'	52:5:721:G:O5'	2.32	0.45
52:5:763:A:N3	52:5:1500:G:O2'	2.48	0.45
52:5:938:U:H2'	52:5:939:G:C8	2.52	0.45
52:5:1115:G:H1	52:5:1125:C:H42	1.64	0.45
6:C:81:GLN:HG3	52:5:612:G:OP2	2.17	0.45
8:E:13:LEU:HB3	8:E:17:GLN:NE2	2.32	0.45
9:F:69:MET:HB3	9:F:95:LYS:HD3	1.98	0.45
13:J:28:SER:HA	13:J:34:VAL:HA	1.97	0.45
15:L:107:ARG:HG3	52:5:942:G:P	2.57	0.45
18:O:14:VAL:HG23	18:O:29:LEU:HA	1.99	0.45
25:b:26:ILE:HD13	25:b:194:SER:HA	1.99	0.45
28:e:69:GLY:HA3	50:3:2756:A:H4'	1.99	0.45
40:q:24:LYS:HZ2	50:3:1198:G:P	2.40	0.45
48:y:55:LYS:HE2	48:y:55:LYS:HB2	1.86	0.45
50:3:244:G:H2'	50:3:245:U:C5	2.52	0.45
50:3:440:C:H1'	50:3:442:G:C8	2.52	0.45
50:3:668:A:H2'	50:3:669:A:C4	2.52	0.45
50:3:812:G:H2'	50:3:813:G:H8	1.81	0.45
50:3:887:A:H2'	50:3:888:A:C8	2.51	0.45
50:3:887:A:H2'	50:3:888:A:H8	1.82	0.45
50:3:892:G:C2'	50:3:893:A:H5'	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1335:A:OP2	50:3:1640:G:N2	2.45	0.45
50:3:1507:G:O2'	50:3:1508:G:P	2.75	0.45
50:3:1577:A:O2'	50:3:1578:A:H5'	2.17	0.45
50:3:1664:A:H2'	50:3:1665:G:O4'	2.17	0.45
50:3:1687:G:H21	50:3:2012:A:H62	1.64	0.45
50:3:2154:A:H2'	50:3:2155:G:O4'	2.17	0.45
52:5:24:C:H2'	52:5:25:U:C6	2.52	0.45
52:5:204:C:H2'	52:5:205:U:C6	2.52	0.45
52:5:364:U:H5'	52:5:365:U:H5'	1.99	0.45
52:5:421:G:H2'	52:5:422:A:H8	1.82	0.45
52:5:446:A:H3'	52:5:447:G:H8	1.82	0.45
52:5:538:G:H2'	52:5:539:G:C8	2.51	0.45
52:5:660:A:H2'	52:5:661:G:C8	2.52	0.45
52:5:777:A:N6	52:5:797:G:H3'	2.29	0.45
52:5:784:A:H2'	52:5:785:U:C6	2.52	0.45
52:5:1155:A:O2'	52:5:1159:A:O4'	2.34	0.45
52:5:1212:C:O2'	52:5:1274:G:N1	2.35	0.45
2:1:10:ARG:NE	34:k:62:LEU:O	2.49	0.45
4:A:60:LEU:HA	4:A:63:GLN:HG2	1.98	0.45
11:H:87:ARG:O	11:H:90:LEU:HG	2.16	0.45
23:T:29:ALA:HA	23:T:32:HIS:CD2	2.51	0.45
23:T:33:GLU:HG3	23:T:34:TYR:CD2	2.52	0.45
24:a:154:PRO:O	24:a:155:LYS:HG2	2.17	0.45
24:a:179:TYR:H	24:a:194:LYS:HG3	1.82	0.45
27:d:104:ILE:HA	27:d:108:LEU:HD12	1.98	0.45
31:h:68:LYS:HE3	31:h:111:ASP:OD1	2.17	0.45
32:i:3:LYS:HA	40:q:10:LYS:HE3	1.99	0.45
44:u:17:SER:OG	50:3:2259:G:O6	2.33	0.45
50:3:675:U:O2	50:3:685:G:N2	2.37	0.45
50:3:1038:G:H2'	50:3:1039:G:H8	1.82	0.45
50:3:1345:G:O6	50:3:1364:A:N6	2.49	0.45
50:3:1705:U:C2	50:3:1707:U:H5'	2.52	0.45
50:3:1954:C:H2'	50:3:1955:G:H8	1.81	0.45
50:3:2005:G:N2	50:3:2695:U:H4'	2.32	0.45
50:3:2032:G:H2'	50:3:2033:G:H8	1.80	0.45
50:3:2378:G:H2'	50:3:2379:G:H8	1.78	0.45
50:3:2455:G:H22	50:3:2458:A:N6	2.15	0.45
50:3:2483:C:H42	50:3:2537:G:H22	1.65	0.45
50:3:2850:G:H2'	50:3:2851:U:C6	2.52	0.45
50:3:2880:A:H2'	50:3:2881:A:C8	2.52	0.45
52:5:98:G:H2'	52:5:99:U:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1067:C:N4	52:5:1068:G:O6	2.50	0.45
52:5:1191:U:H2'	52:5:1192:C:C6	2.51	0.45
52:5:1442:A:O3'	52:5:1443:A:H8	1.99	0.45
2:1:39:ARG:NH2	50:3:2356:U:OP2	2.51	0.44
6:C:122:VAL:HA	6:C:144:LEU:HD12	1.99	0.44
12:I:12:LEU:N	12:I:82:LEU:O	2.39	0.44
22:S:11:LEU:HA	22:S:14:ASN:HD21	1.81	0.44
30:g:33:SER:HA	50:3:1090:G:H4'	1.99	0.44
30:g:44:LEU:O	30:g:44:LEU:HD22	2.17	0.44
39:p:109:VAL:O	39:p:113:LYS:NZ	2.31	0.44
43:t:5:LYS:HE3	43:t:5:LYS:HB3	1.81	0.44
50:3:86:A:N6	50:3:101:C:O4'	2.50	0.44
50:3:335:G:H5'	50:3:368:C:H2'	1.99	0.44
50:3:337:U:H2'	50:3:338:G:C8	2.51	0.44
50:3:654:G:H3'	50:3:655:G:H8	1.81	0.44
50:3:984:C:O2	50:3:1020:G:O2'	2.35	0.44
50:3:1461:A:H2'	50:3:1462:A:C8	2.52	0.44
50:3:1790:U:H1'	50:3:2595:A:H61	1.81	0.44
50:3:1830:G:H2'	50:3:1831:G:C8	2.52	0.44
50:3:2075:U:N3	50:3:2438:A:N7	2.65	0.44
50:3:2103:C:H2'	50:3:2104:A:H8	1.79	0.44
50:3:2665:A:H2'	50:3:2666:C:O4'	2.17	0.44
50:3:2713:A:H2'	50:3:2714:G:O4'	2.16	0.44
51:4:69:C:O2	51:4:96:G:N2	2.50	0.44
52:5:1306:A:H3'	52:5:1307:A:H8	1.81	0.44
5:B:90:LYS:O	5:B:94:GLN:N	2.47	0.44
6:C:54:LEU:HD21	52:5:542:G:H5''	1.99	0.44
7:D:75:ARG:HA	7:D:88:PHE:HB2	1.99	0.44
8:E:117:GLU:H	8:E:117:GLU:CD	2.24	0.44
10:G:67:LYS:HD3	52:5:650:A:H5'	1.99	0.44
16:M:31:ARG:NH2	16:M:32:ALA:HB2	2.32	0.44
20:Q:43:PHE:HE2	20:Q:51:ILE:HD12	1.82	0.44
24:a:251:ARG:CZ	24:a:255:ARG:HB2	2.47	0.44
28:e:10:THR:HA	28:e:52:ASN:HA	2.00	0.44
35:l:13:HIS:NE2	35:l:87:LYS:HE3	2.32	0.44
50:3:194:A:N1	50:3:834:G:H1'	2.33	0.44
50:3:503:G:H4'	50:3:832:C:H5'	1.99	0.44
50:3:779:C:C5'	50:3:1692:A:H4'	2.47	0.44
50:3:1354:U:C2	50:3:2017:G:H1'	2.53	0.44
50:3:1993:U:H2'	50:3:1994:U:C6	2.52	0.44
50:3:2448:C:H2'	50:3:2449:U:H4'	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2461:A:H2'	50:3:2462:G:H8	1.83	0.44
51:4:43:A:C4	51:4:44:A:C8	3.04	0.44
52:5:504:A:H2'	52:5:505:C:C6	2.52	0.44
52:5:570:A:N3	52:5:911:G:N2	2.65	0.44
52:5:635:G:H2'	52:5:636:G:C8	2.51	0.44
52:5:769:U:H2'	52:5:770:G:N7	2.32	0.44
52:5:791:A:H4'	52:5:1496:G:O2'	2.17	0.44
52:5:1044:G:N7	52:5:1175:C:H5''	2.31	0.44
52:5:1091:C:N4	52:5:1094:C:OP1	2.51	0.44
52:5:1388:A:H2'	52:5:1389:U:C6	2.52	0.44
6:C:70:GLN:O	6:C:74:LEU:HG	2.18	0.44
7:D:185:ARG:NH2	52:5:20:C:OP2	2.39	0.44
10:G:48:LEU:HD23	10:G:54:LEU:HD22	1.99	0.44
10:G:109:ASN:HB3	10:G:111:LEU:CD1	2.47	0.44
13:J:121:ARG:N	52:5:793:C:OP1	2.35	0.44
33:j:68:GLY:HA3	33:j:78:LYS:HA	1.99	0.44
37:n:100:GLY:HA3	51:4:46:C:O3'	2.18	0.44
40:q:67:LYS:HG2	40:q:86:ARG:HE	1.83	0.44
50:3:70:G:H2'	50:3:71:C:C6	2.52	0.44
50:3:228:A:N7	50:3:455:G:O2'	2.48	0.44
50:3:461:C:H2'	50:3:462:C:C6	2.52	0.44
50:3:614:C:H2'	50:3:615:G:C8	2.43	0.44
50:3:678:U:O2	50:3:682:A:N6	2.29	0.44
50:3:860:C:H4'	50:3:2436:G:C5	2.51	0.44
50:3:998:C:H2'	50:3:999:U:C6	2.50	0.44
50:3:1005:G:H2'	50:3:1006:U:C6	2.51	0.44
50:3:1118:U:O3'	50:3:1119:A:H8	2.01	0.44
50:3:1147:G:H2'	50:3:1148:U:O4'	2.17	0.44
50:3:1200:U:O4	50:3:1215:G:O6	2.35	0.44
50:3:1355:C:H3'	50:3:1356:G:C8	2.52	0.44
50:3:1386:G:H1'	50:3:1401:A:N6	2.33	0.44
50:3:1799:A:H2'	50:3:1800:C:H6	1.82	0.44
50:3:2230:A:H2'	50:3:2231:A:C8	2.52	0.44
50:3:2646:G:H1'	50:3:2786:A:H61	1.81	0.44
50:3:2747:U:O2	50:3:2774:A:N6	2.50	0.44
50:3:2791:U:H2'	50:3:2792:C:H6	1.81	0.44
52:5:191:A:H2'	52:5:192:A:H8	1.83	0.44
52:5:400:G:C8	52:5:401:U:C4	3.05	0.44
52:5:497:A:O3'	52:5:498:G:H8	2.00	0.44
52:5:1098:C:C2	52:5:1099:G:C8	3.05	0.44
6:C:18:LEU:H	6:C:23:LYS:HD3	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:76:ILE:HG12	7:D:88:PHE:HA	1.99	0.44
7:D:84:ARG:NH1	52:5:1371:A:O3'	2.35	0.44
8:E:9:VAL:HG22	8:E:10:ASP:H	1.82	0.44
8:E:151:LYS:HG3	10:G:56:ASN:HD22	1.82	0.44
9:F:101:ARG:HH22	52:5:1351:U:H4'	1.82	0.44
9:F:107:ALA:HA	9:F:122:GLU:HG2	1.98	0.44
11:H:18:LYS:HD3	52:5:1124:U:C4'	2.48	0.44
13:J:49:ARG:NH1	13:J:54:TYR:HD2	2.16	0.44
16:M:60:SER:O	52:5:1161:G:N2	2.51	0.44
17:N:13:GLN:HG2	17:N:18:ASP:OD1	2.18	0.44
17:N:57:VAL:HB	17:N:84:LEU:HD11	1.98	0.44
22:S:73:VAL:HG11	52:5:172:C:O2'	2.18	0.44
24:a:244:GLU:CD	50:3:2599:C:H41	2.25	0.44
26:c:69:LYS:NZ	50:3:2068:G:OP2	2.48	0.44
27:d:171:ARG:HH22	27:d:176:PRO:HA	1.83	0.44
29:f:35:LEU:HB3	45:v:39:LYS:HD3	1.99	0.44
30:g:122:ASP:HA	30:g:125:LYS:HE3	1.98	0.44
31:h:41:GLU:HA	31:h:44:LYS:HE2	1.99	0.44
40:q:66:ARG:HH11	40:q:67:LYS:HG3	1.82	0.44
43:t:41:LYS:NZ	43:t:64:GLN:O	2.37	0.44
49:z:37:PHE:HA	49:z:44:VAL:HA	1.99	0.44
50:3:169:U:H2'	50:3:170:A:H8	1.82	0.44
50:3:451:A:C6	50:3:2417:G:C6	3.05	0.44
50:3:598:G:O2'	50:3:599:U:H5'	2.17	0.44
50:3:643:A:H2'	50:3:644:C:O4'	2.18	0.44
50:3:848:U:H2'	50:3:849:C:C6	2.52	0.44
50:3:1341:U:H2'	50:3:1644:A:C2	2.52	0.44
50:3:1665:G:H2'	50:3:1669:A:H61	1.83	0.44
50:3:1707:U:H2'	50:3:1708:G:H5'	1.99	0.44
50:3:2126:A:N6	50:3:2176:G:O2'	2.49	0.44
50:3:2213:A:H2'	50:3:2214:A:C8	2.52	0.44
52:5:142:G:H2'	52:5:143:U:C6	2.53	0.44
52:5:452:A:O2'	52:5:453:C:H5'	2.17	0.44
52:5:834:G:H2'	52:5:835:G:H8	1.82	0.44
52:5:1101:A:H3'	52:5:1102:A:H8	1.82	0.44
52:5:1452:C:H2'	52:5:1453:C:C6	2.52	0.44
4:A:32:MET:HE3	4:A:33:VAL:HG22	1.98	0.44
6:C:109:THR:O	6:C:112:SER:OG	2.24	0.44
11:H:18:LYS:O	11:H:67:VAL:HA	2.18	0.44
14:K:39:TYR:CZ	52:5:552:U:H4'	2.51	0.44
14:K:63:ARG:HE	14:K:102:ASP:HB3	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:T:50:GLN:HA	23:T:53:ARG:HG2	1.99	0.44
25:b:178:ASN:HB2	50:3:2738:U:O2'	2.18	0.44
28:e:86:PHE:CE1	28:e:141:LYS:HD2	2.52	0.44
39:p:14:LYS:HB2	39:p:14:LYS:HE2	1.79	0.44
39:p:86:ASN:ND2	39:p:113:LYS:O	2.42	0.44
42:s:70:ARG:HG3	42:s:71:PHE:H	1.82	0.44
46:w:40:LYS:HD2	46:w:42:HIS:CE1	2.53	0.44
48:y:51:LEU:O	48:y:53:VAL:N	2.45	0.44
50:3:617:C:H2'	50:3:618:G:C8	2.52	0.44
50:3:626:A:H2'	50:3:627:U:H6	1.83	0.44
50:3:700:U:H2'	50:3:701:A:C8	2.53	0.44
50:3:853:G:N1	50:3:1219:U:OP2	2.42	0.44
50:3:893:A:H8	50:3:893:A:OP2	2.00	0.44
50:3:1539:U:H2'	50:3:1540:G:C8	2.53	0.44
50:3:1780:A:H5'	50:3:1796:A:H61	1.82	0.44
50:3:1808:C:N4	50:3:2210:G:O2'	2.51	0.44
50:3:1870:G:O2'	50:3:2418:G:N2	2.50	0.44
50:3:2117:G:H1'	50:3:2127:G:H5'	1.99	0.44
50:3:2160:U:H2'	50:3:2161:G:C8	2.53	0.44
50:3:2587:U:C2	50:3:2588:U:C5	3.05	0.44
50:3:2594:C:H2'	50:3:2595:A:O4'	2.18	0.44
50:3:2685:A:N6	50:3:2739:C:H42	2.16	0.44
50:3:2819:C:H2'	50:3:2820:G:H8	1.80	0.44
52:5:204:C:O2'	52:5:465:A:O2'	2.31	0.44
52:5:321:A:H2'	52:5:322:G:O4'	2.17	0.44
52:5:413:G:C2	52:5:423:U:O2	2.70	0.44
52:5:774:A:H3'	52:5:775:G:C8	2.53	0.44
52:5:1376:G:O6	52:5:1479:G:N2	2.51	0.44
3:2:6:SER:HB3	3:2:8:LYS:NZ	2.32	0.44
4:A:75:VAL:HG22	8:E:166:PHE:H	1.83	0.44
8:E:125:PRO:HA	52:5:839:U:O2	2.18	0.44
9:F:24:ARG:HH12	9:F:96:ILE:HD12	1.82	0.44
13:J:121:ARG:NH1	52:5:1497:U:H5''	2.32	0.44
25:b:125:ARG:NH1	25:b:168:HIS:O	2.50	0.44
26:c:93:PRO:C	26:c:94:LYS:HD3	2.43	0.44
28:e:45:LYS:HG2	28:e:58:ASN:HD22	1.81	0.44
29:f:61:ASN:O	29:f:64:LEU:HG	2.17	0.44
41:r:110:ASN:ND2	41:r:112:ASN:HB2	2.31	0.44
50:3:164:A:H62	50:3:168:A:N6	2.15	0.44
50:3:220:A:H2'	50:3:221:A:C8	2.52	0.44
50:3:250:U:H2'	50:3:251:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:534:U:H3	50:3:538:A:H62	1.65	0.44
50:3:1048:A:H2'	50:3:1049:U:C6	2.52	0.44
50:3:1104:A:O5'	50:3:1131:A:H4'	2.17	0.44
50:3:2061:A:OP1	50:3:2062:C:O2'	2.35	0.44
50:3:2413:G:N2	50:3:2419:A:N7	2.66	0.44
52:5:115:A:C8	52:5:185:G:H1'	2.53	0.44
52:5:882:U:O2'	52:5:1463:A:O2'	2.27	0.44
52:5:1217:G:N2	52:5:1269:U:O2	2.46	0.44
1:0:7:PRO:HG3	50:3:1646:G:H4'	1.99	0.44
7:D:191:MET:O	7:D:195:THR:HG23	2.17	0.44
7:D:208:VAL:HA	7:D:211:LEU:HG	2.00	0.44
13:J:18:CYS:HB3	13:J:81:GLY:HA3	1.98	0.44
14:K:9:ARG:NH1	52:5:874:C:OP1	2.51	0.44
14:K:40:SER:HA	52:5:359:A:N6	2.32	0.44
36:m:101:LEU:HD11	48:y:48:TYR:CD2	2.53	0.44
41:r:42:LYS:HA	41:r:42:LYS:HD3	1.82	0.44
43:t:8:ASP:H	43:t:24:VAL:HG12	1.82	0.44
50:3:111:G:H2'	50:3:112:A:H8	1.80	0.44
50:3:769:A:HO2'	50:3:1668:G:HO2'	1.63	0.44
50:3:840:G:N2	50:3:864:A:OP1	2.51	0.44
50:3:1662:G:N2	50:3:2706:U:H4'	2.33	0.44
50:3:1686:U:H3'	50:3:1687:G:H8	1.82	0.44
50:3:1820:U:HO2'	50:3:1821:G:P	2.38	0.44
50:3:1920:A:H5'	52:5:1469:G:H1'	2.00	0.44
50:3:1987:C:O2'	50:3:1989:U:H5'	2.18	0.44
50:3:2115:A:O5'	50:3:2157:A:O2'	2.30	0.44
50:3:2266:C:O2'	50:3:2434:A:O3'	2.23	0.44
50:3:2571:U:N3	50:3:2574:A:N7	2.65	0.44
52:5:90:G:H2'	52:5:91:C:C6	2.53	0.44
52:5:253:G:H2'	52:5:254:G:H8	1.82	0.44
52:5:653:G:N1	52:5:748:U:O4	2.50	0.44
52:5:760:U:H2'	52:5:761:U:C6	2.53	0.44
52:5:1014:A:H2'	52:5:1015:U:C6	2.52	0.44
52:5:1041:G:O2'	52:5:1042:G:H5'	2.17	0.44
5:B:4:LYS:O	5:B:4:LYS:HD2	2.18	0.44
5:B:80:SER:O	5:B:81:GLU:HG3	2.17	0.44
9:F:85:GLN:HB2	9:F:147:ASN:ND2	2.32	0.44
12:I:70:GLN:HE22	16:M:61:TRP:HZ2	1.66	0.44
14:K:47:CYS:HB2	14:K:89:GLU:HA	1.99	0.44
17:N:22:ILE:H	17:N:22:ILE:HD12	1.83	0.44
24:a:78:ASN:HA	24:a:122:LEU:HD11	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:p:45:ALA:O	39:p:49:ARG:HG3	2.17	0.44
44:u:27:GLY:HA2	50:3:2285:G:N7	2.32	0.44
48:y:51:LEU:C	48:y:53:VAL:H	2.26	0.44
50:3:200:A:O2'	50:3:201:A:O5'	2.25	0.44
50:3:294:G:H4'	50:3:301:G:O2'	2.18	0.44
50:3:1083:A:H2'	50:3:1084:C:C6	2.53	0.44
50:3:1201:A:H2'	50:3:1202:A:C8	2.53	0.44
50:3:1552:C:H2'	50:3:1553:G:O4'	2.17	0.44
50:3:2382:A:N6	50:3:2383:G:O6	2.51	0.44
50:3:2685:A:H61	50:3:2739:C:H42	1.65	0.44
50:3:2693:U:H2'	50:3:2694:A:H8	1.83	0.44
52:5:585:G:N2	52:5:751:C:OP2	2.50	0.44
52:5:775:G:H2'	52:5:776:C:N1	2.33	0.44
52:5:947:U:H2'	52:5:948:U:C6	2.52	0.44
1:0:3:ARG:CZ	50:3:1646:G:H21	2.31	0.44
2:1:10:ARG:HD3	34:k:59:TYR:HA	1.99	0.44
5:B:10:LEU:HG	16:M:58:LYS:H	1.82	0.44
8:E:42:LEU:HD13	8:E:56:HIS:CE1	2.52	0.44
15:L:105:ASN:ND2	52:5:944:A:N7	2.66	0.44
25:b:180:ARG:HH22	50:3:2738:U:H5''	1.83	0.44
26:c:170:GLN:HG2	50:3:355:A:C4	2.53	0.44
38:o:6:LYS:HE2	38:o:6:LYS:HB2	1.79	0.44
38:o:49:THR:H	38:o:68:LYS:HD3	1.83	0.44
43:t:65:GLN:NE2	50:3:516:A:O5'	2.50	0.44
44:u:34:ARG:HD3	50:3:2365:U:OP1	2.17	0.44
50:3:134:U:H2'	50:3:135:A:C8	2.53	0.44
50:3:614:C:O2'	50:3:615:G:H5'	2.18	0.44
50:3:1240:U:H5'	50:3:1242:G:O4'	2.17	0.44
50:3:1725:G:O6	50:3:1731:G:N2	2.51	0.44
50:3:1737:G:H2'	50:3:1738:G:C8	2.52	0.44
50:3:2205:U:O2'	50:3:2206:A:H2'	2.18	0.44
50:3:2353:G:H4'	50:3:2354:A:H5''	2.00	0.44
50:3:2644:U:H2'	50:3:2645:U:C6	2.53	0.44
50:3:2645:U:H3'	50:3:2646:G:H8	1.83	0.44
50:3:2659:U:H2'	50:3:2660:C:H6	1.81	0.44
52:5:150:A:H2'	52:5:151:C:H6	1.83	0.44
52:5:421:G:C2	52:5:422:A:C5	3.06	0.44
52:5:1171:A:OP1	52:5:1171:A:H3'	2.18	0.44
52:5:1287:G:H2'	52:5:1288:C:H6	1.83	0.44
3:2:20:HIS:H	50:3:2764:U:H3'	1.83	0.43
4:A:100:ALA:HA	4:A:105:VAL:HG12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:73:ILE:O	15:L:77:ILE:HG12	2.18	0.43
22:S:8:GLU:O	22:S:12:ARG:HG3	2.18	0.43
24:a:278:ILE:HD13	24:a:281:ASN:HD21	1.83	0.43
27:d:132:ILE:HG23	27:d:151:GLY:HA3	1.99	0.43
33:j:35:LEU:H	33:j:69:GLN:HE22	1.66	0.43
35:l:44:ALA:HB2	35:l:70:PRO:HG3	1.99	0.43
36:m:111:THR:HG21	50:3:1684:A:H1'	2.00	0.43
39:p:32:LYS:HG2	50:3:1282:G:C2	2.53	0.43
50:3:191:G:H2'	50:3:192:U:O4'	2.18	0.43
50:3:320:A:H2'	50:3:321:A:H8	1.79	0.43
50:3:388:U:H2'	50:3:389:C:C6	2.53	0.43
50:3:758:C:H2'	50:3:759:U:H6	1.82	0.43
50:3:1323:A:H2'	50:3:1324:A:H8	1.82	0.43
50:3:1439:U:H2'	50:3:1440:U:C6	2.53	0.43
50:3:2071:C:H2'	50:3:2072:C:H6	1.83	0.43
50:3:2350:C:O2'	50:3:2382:A:H5''	2.18	0.43
50:3:2515:C:H2'	50:3:2516:G:H8	1.83	0.43
50:3:2602:C:H2'	50:3:2603:G:C8	2.54	0.43
52:5:163:G:H5''	52:5:1423:C:H4'	2.00	0.43
52:5:243:G:H2'	52:5:244:C:C6	2.53	0.43
52:5:262:G:OP2	52:5:264:C:N4	2.50	0.43
52:5:410:A:H8	52:5:425:G:N1	2.15	0.43
52:5:503:G:H2'	52:5:504:A:C8	2.53	0.43
52:5:826:G:H2'	52:5:827:C:H6	1.80	0.43
52:5:1111:G:C6	52:5:1130:G:N1	2.86	0.43
52:5:1301:U:H2'	52:5:1302:C:C6	2.53	0.43
2:1:42:ARG:NH2	50:3:2357:G:OP1	2.52	0.43
7:D:187:THR:O	7:D:191:MET:HG3	2.18	0.43
10:G:91:SER:OG	10:G:137:ILE:O	2.29	0.43
12:I:13:LYS:HB3	12:I:79:LEU:HD11	1.99	0.43
23:T:37:ARG:NH1	23:T:40:MET:HE3	2.32	0.43
29:f:3:VAL:HG12	29:f:50:PHE:CE1	2.53	0.43
30:g:42:LYS:O	30:g:43:LYS:C	2.61	0.43
32:i:79:HIS:HB3	32:i:88:LYS:HE3	1.99	0.43
32:i:111:MET:HE3	50:3:1173:G:H2'	1.99	0.43
42:s:44:PHE:CZ	42:s:85:LEU:HD21	2.53	0.43
50:3:171:G:H2'	50:3:172:U:C6	2.54	0.43
50:3:347:C:H2'	50:3:348:A:C8	2.53	0.43
50:3:634:C:O2'	50:3:638:A:O2'	2.18	0.43
50:3:748:G:H2'	50:3:749:U:C6	2.52	0.43
50:3:817:A:H4'	50:3:818:A:H5'	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1023:C:H3'	50:3:1024:A:H5''	2.00	0.43
50:3:1122:G:H2'	50:3:1124:G:O4'	2.17	0.43
50:3:1232:U:C2	50:3:1233:A:N7	2.86	0.43
50:3:1316:U:OP1	50:3:1317:C:H5	2.01	0.43
50:3:1321:C:H2'	50:3:1322:A:C8	2.52	0.43
50:3:1510:A:H2'	50:3:1511:C:H6	1.83	0.43
50:3:1638:C:H2'	50:3:1639:C:H6	1.83	0.43
50:3:1777:G:H2'	50:3:1778:G:H8	1.82	0.43
50:3:1907:A:N3	50:3:1977:A:H2'	2.33	0.43
50:3:2000:U:H2'	50:3:2001:C:C6	2.53	0.43
50:3:2275:A:N1	50:3:2279:G:N1	2.66	0.43
50:3:2716:U:H2'	50:3:2717:G:C8	2.54	0.43
51:4:4:G:H2'	51:4:5:G:H8	1.82	0.43
51:4:74:G:H2'	51:4:75:U:O4'	2.18	0.43
52:5:501:A:H2'	52:5:502:C:C6	2.54	0.43
52:5:590:G:C6	52:5:645:A:N6	2.86	0.43
52:5:1119:C:H3'	52:5:1120:A:C8	2.53	0.43
52:5:1492:G:H3'	52:5:1493:A:C8	2.52	0.43
4:A:89:ASN:O	4:A:92:VAL:HG12	2.17	0.43
4:A:256:ILE:HG22	4:A:257:GLU:H	1.82	0.43
8:E:123:ASN:HA	52:5:838:A:N6	2.33	0.43
10:G:134:GLY:H	52:5:597:C:H4'	1.83	0.43
13:J:15:HIS:CE1	13:J:28:SER:HB2	2.53	0.43
19:P:21:THR:OG1	52:5:250:G:H4'	2.19	0.43
32:i:133:HIS:HB2	32:i:136:GLU:OE2	2.18	0.43
38:o:53:LEU:HD13	38:o:101:ILE:HG13	2.00	0.43
40:q:8:GLY:H	40:q:25:LEU:HD11	1.83	0.43
50:3:547:G:H5'	50:3:1245:G:H21	1.82	0.43
50:3:571:A:H3'	50:3:572:G:H8	1.83	0.43
50:3:876:A:H2'	50:3:877:G:H8	1.84	0.43
50:3:1029:A:O2'	50:3:1030:U:H5'	2.18	0.43
50:3:1089:A:H2'	50:3:1090:G:C8	2.53	0.43
50:3:1617:U:H4'	50:3:1619:A:N3	2.33	0.43
50:3:2071:C:H2'	50:3:2072:C:C6	2.53	0.43
50:3:2374:A:C2	50:3:2375:A:H1'	2.53	0.43
50:3:2470:C:H2'	50:3:2471:U:H6	1.84	0.43
52:5:486:C:H2'	52:5:487:A:C8	2.53	0.43
52:5:491:U:H2'	52:5:492:G:O4'	2.17	0.43
52:5:1002:A:H3'	52:5:1003:G:C8	2.53	0.43
52:5:1100:C:H2'	52:5:1101:A:O4'	2.19	0.43
52:5:1446:A:H2'	52:5:1447:U:C6	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:6:20:G:N1	53:6:57:C:O2	2.43	0.43
2:1:57:ASN:OD1	2:1:58:LEU:N	2.51	0.43
15:L:7:ILE:HB	15:L:22:ILE:HG21	2.01	0.43
18:O:55:LYS:C	52:5:223:G:H21	2.25	0.43
22:S:13:GLN:NE2	52:5:90:G:OP2	2.51	0.43
24:a:4:LYS:HE3	24:a:4:LYS:HB3	1.76	0.43
25:b:139:TYR:HB3	50:3:2587:U:H4'	2.00	0.43
33:j:12:ASP:HB2	33:j:95:GLY:HA3	2.00	0.43
42:s:76:LYS:HD2	50:3:60:G:P	2.58	0.43
43:t:26:LYS:O	43:t:35:ILE:N	2.47	0.43
45:v:5:ASP:HB2	45:v:49:LEU:O	2.19	0.43
50:3:47:G:H5'	50:3:48:G:H5'	2.00	0.43
50:3:630:C:H2'	50:3:631:A:H8	1.83	0.43
50:3:900:G:N2	50:3:903:A:C6	2.86	0.43
50:3:1137:C:H2'	50:3:1138:A:H8	1.83	0.43
50:3:1874:G:H2'	50:3:1875:C:H6	1.81	0.43
50:3:2013:C:H2'	50:3:2014:U:C6	2.54	0.43
50:3:2042:A:H5''	50:3:2043:C:H5	1.84	0.43
50:3:2044:C:H2'	50:3:2045:C:C6	2.53	0.43
50:3:2691:C:N4	50:3:2735:G:H21	2.17	0.43
51:4:56:A:OP2	51:4:58:C:N4	2.52	0.43
52:5:316:G:H2'	52:5:317:A:H8	1.80	0.43
52:5:403:A:H2'	52:5:404:A:C8	2.53	0.43
52:5:429:A:H2'	52:5:430:G:O4'	2.18	0.43
52:5:655:G:H2'	52:5:655:G:N3	2.33	0.43
52:5:672:A:N6	52:5:712:A:H61	2.16	0.43
52:5:889:U:H2'	52:5:890:U:H6	1.83	0.43
52:5:932:A:H2'	52:5:933:A:C8	2.52	0.43
52:5:1038:G:H2'	52:5:1039:G:C8	2.53	0.43
52:5:1059:G:O5'	52:5:1362:G:H4'	2.18	0.43
52:5:1111:G:H2'	52:5:1112:U:O4'	2.18	0.43
52:5:1283:G:H2'	52:5:1284:A:C8	2.54	0.43
6:C:18:LEU:HB2	6:C:23:LYS:HD3	2.00	0.43
9:F:90:VAL:HG11	9:F:94:ARG:NH2	2.34	0.43
10:G:43:ALA:O	10:G:47:ILE:HG12	2.17	0.43
14:K:46:VAL:HG13	14:K:69:ARG:HB3	2.01	0.43
20:Q:84:ARG:HH12	52:5:721:G:H21	1.66	0.43
26:c:9:ILE:HD13	26:c:135:LYS:HB2	2.01	0.43
28:e:18:LEU:HD21	28:e:25:ILE:HG23	2.00	0.43
31:h:9:ILE:HG12	31:h:57:ALA:HB3	2.00	0.43
39:p:7:LYS:HE2	39:p:7:LYS:HB3	1.89	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:q:19:THR:HG22	40:q:93:LYS:HB3	2.01	0.43
50:3:78:C:H2'	50:3:79:U:H6	1.82	0.43
50:3:491:A:O2'	50:3:509:G:OP1	2.25	0.43
50:3:892:G:H3'	50:3:893:A:C8	2.52	0.43
50:3:1524:C:H2'	50:3:1525:G:H8	1.83	0.43
50:3:1542:G:H2'	50:3:1543:U:C6	2.53	0.43
50:3:1544:G:H2'	50:3:1545:A:H8	1.83	0.43
50:3:1904:G:H2'	50:3:1905:U:O4'	2.18	0.43
50:3:1910:G:H2'	50:3:1911:G:H8	1.84	0.43
50:3:1932:C:O2	50:3:1936:G:C2	2.71	0.43
50:3:2240:U:H2'	50:3:2241:A:O4'	2.17	0.43
50:3:2514:U:O2'	53:6:77:A:O2'	2.32	0.43
50:3:2747:U:C2	50:3:2774:A:N6	2.86	0.43
52:5:613:C:H2'	52:5:614:U:H6	1.84	0.43
52:5:637:A:O2'	52:5:638:A:O4'	2.28	0.43
52:5:655:G:H3'	52:5:656:U:C6	2.53	0.43
52:5:1048:G:H2'	52:5:1049:G:C8	2.54	0.43
52:5:1178:C:H2'	52:5:1179:A:H8	1.82	0.43
4:A:73:LYS:HD3	4:A:239:ALA:HB2	2.01	0.43
5:B:213:LYS:HD3	5:B:213:LYS:HA	1.86	0.43
8:E:20:GLN:NE2	8:E:21:VAL:HG23	2.33	0.43
14:K:63:ARG:HD3	52:5:519:G:N7	2.34	0.43
14:K:124:ARG:NH1	52:5:536:U:O3'	2.51	0.43
18:O:75:LYS:HE3	18:O:75:LYS:HB3	1.83	0.43
19:P:73:LYS:HE3	52:5:250:G:H5''	2.00	0.43
27:d:58:HIS:NE2	47:x:6:HIS:HA	2.34	0.43
28:e:113:SER:HB2	50:3:2661:U:O2	2.18	0.43
31:h:60:ASP:OD1	31:h:61:LYS:N	2.49	0.43
34:k:87:LYS:HE3	34:k:87:LYS:HB2	1.71	0.43
35:l:120:ARG:HE	50:3:2475:C:H4'	1.84	0.43
50:3:120:A:H4'	50:3:121:U:O5'	2.18	0.43
50:3:263:C:H2'	50:3:264:G:C8	2.54	0.43
50:3:422:A:H2'	50:3:422:A:N3	2.34	0.43
50:3:531:G:C4	50:3:532:A:C8	3.07	0.43
50:3:656:G:H4'	50:3:657:A:H5'	2.00	0.43
50:3:761:G:H5''	50:3:1460:G:H1'	2.01	0.43
50:3:1002:A:H2'	50:3:1003:U:O4'	2.18	0.43
50:3:1010:G:O2'	50:3:1011:A:OP2	2.32	0.43
50:3:1673:U:O2'	50:3:2707:A:H4'	2.18	0.43
50:3:1714:U:O2'	50:3:1715:A:OP1	2.29	0.43
50:3:2059:G:H2'	50:3:2060:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2075:U:C4	50:3:2438:A:C8	3.07	0.43
50:3:2097:A:H2'	50:3:2098:U:O4'	2.18	0.43
50:3:2263:G:H2'	50:3:2264:G:C8	2.54	0.43
50:3:2638:G:H2'	50:3:2639:G:H8	1.82	0.43
50:3:2730:G:H2'	50:3:2731:U:H5'	2.00	0.43
52:5:292:U:O2	52:5:554:C:O2'	2.25	0.43
52:5:421:G:H2'	52:5:422:A:C8	2.53	0.43
52:5:465:A:H2'	52:5:466:U:C6	2.54	0.43
52:5:1012:A:H3'	52:5:1013:C:C6	2.53	0.43
52:5:1078:G:C2	52:5:1079:G:N7	2.86	0.43
52:5:1483:C:H2'	52:5:1484:C:C6	2.53	0.43
1:0:30:VAL:O	1:0:34:ARG:HG3	2.18	0.43
6:C:8:PHE:HB3	6:C:12:ARG:HE	1.83	0.43
7:D:141:ILE:HD11	7:D:148:ARG:HB3	2.00	0.43
8:E:49:ILE:HD11	8:E:84:ARG:HD2	2.00	0.43
11:H:113:LYS:NZ	52:5:1347:U:O4	2.44	0.43
14:K:63:ARG:HH22	52:5:519:G:H3'	1.83	0.43
30:g:44:LEU:HD22	30:g:44:LEU:C	2.43	0.43
34:k:43:LYS:HG3	50:3:707:C:OP2	2.19	0.43
35:l:80:GLU:HG3	50:3:2502:G:H4'	2.01	0.43
37:n:63:LYS:NZ	51:4:49:G:H5'	2.33	0.43
50:3:27:U:H3'	50:3:28:G:C8	2.54	0.43
50:3:195:A:H2'	50:3:196:G:H8	1.84	0.43
50:3:628:A:H2'	50:3:629:G:C8	2.53	0.43
50:3:984:C:O2'	50:3:985:A:H5'	2.19	0.43
50:3:1348:C:HO2'	50:3:1358:C:H41	1.60	0.43
50:3:1699:A:H2'	50:3:1700:G:C8	2.53	0.43
50:3:1776:G:H2'	50:3:1777:G:H8	1.84	0.43
50:3:2020:A:N6	50:3:2021:A:N1	2.66	0.43
50:3:2106:G:H8	50:3:2106:G:OP2	2.02	0.43
50:3:2118:U:O2'	50:3:2119:A:H5''	2.19	0.43
50:3:2131:G:N2	50:3:2183:U:H1'	2.33	0.43
50:3:2182:C:H2'	50:3:2183:U:O4'	2.19	0.43
50:3:2382:A:H2'	50:3:2383:G:C8	2.54	0.43
50:3:2528:C:H2'	50:3:2529:C:C6	2.53	0.43
50:3:2654:U:O4	50:3:2740:U:O2'	2.36	0.43
50:3:2666:C:N4	50:3:2667:G:O6	2.51	0.43
52:5:260:C:H2'	52:5:261:G:O4'	2.19	0.43
52:5:317:A:H2'	52:5:318:C:H6	1.84	0.43
52:5:721:G:H2'	52:5:722:G:H8	1.81	0.43
52:5:726:A:N6	52:5:761:U:O2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:871:U:H2'	52:5:872:C:C6	2.53	0.43
52:5:1078:G:H2'	52:5:1078:G:N3	2.33	0.43
2:1:9:LYS:HE3	50:3:253:C:O2'	2.19	0.43
5:B:18:TRP:CH2	12:I:19:TYR:HE2	2.36	0.43
14:K:25:HIS:HB2	14:K:37:ASN:OD1	2.19	0.43
16:M:24:CYS:SG	16:M:25:GLN:N	2.92	0.43
19:P:44:LYS:HD2	19:P:44:LYS:HA	1.69	0.43
22:S:67:ARG:NH1	52:5:260:C:OP2	2.52	0.43
24:a:64:ARG:HG3	50:3:1601:A:H3'	2.01	0.43
24:a:135:SER:OG	24:a:198:ALA:O	2.31	0.43
26:c:143:MET:O	26:c:147:LEU:HG	2.18	0.43
27:d:38:MET:HG3	27:d:57:LEU:HD22	2.01	0.43
28:e:3:LYS:HE3	28:e:3:LYS:HB3	1.80	0.43
31:h:129:LYS:C	31:h:132:GLY:H	2.26	0.43
36:m:78:LEU:HD12	36:m:78:LEU:HA	1.84	0.43
40:q:24:LYS:CD	40:q:26:GLU:H	2.31	0.43
46:w:49:ARG:O	46:w:53:THR:HG23	2.19	0.43
50:3:230:G:H1'	50:3:232:A:H61	1.84	0.43
50:3:348:A:H2'	50:3:349:G:H8	1.83	0.43
50:3:672:G:O2'	50:3:673:A:O4'	2.36	0.43
50:3:860:C:H4'	50:3:2436:G:C6	2.54	0.43
50:3:1109:G:H2'	50:3:1110:C:O4'	2.19	0.43
50:3:1131:A:C8	50:3:1132:C:H1'	2.53	0.43
50:3:1340:U:H1'	50:3:1342:C:C5	2.53	0.43
50:3:2353:G:H1'	50:3:2390:G:H5'	2.00	0.43
50:3:2500:U:H2'	50:3:2501:U:C6	2.54	0.43
50:3:2526:A:H2'	50:3:2526:A:N3	2.34	0.43
50:3:2660:C:H2'	50:3:2661:U:O4'	2.19	0.43
52:5:110:U:H5''	52:5:603:U:O2'	2.19	0.43
52:5:490:U:H2'	52:5:491:U:H5	1.81	0.43
52:5:632:A:H2'	52:5:633:U:O4'	2.18	0.43
52:5:676:U:H2'	52:5:677:C:O4'	2.19	0.43
52:5:678:A:C6	52:5:707:G:C2	3.07	0.43
52:5:846:G:H2'	52:5:847:G:C8	2.53	0.43
52:5:1118:A:C8	52:5:1124:U:O4	2.72	0.43
52:5:1279:G:H1'	52:5:1305:G:H1	1.83	0.43
52:5:1385:A:H2'	52:5:1386:C:C6	2.53	0.43
4:A:41:MET:HB2	4:A:206:THR:O	2.19	0.43
6:C:127:ARG:NH1	52:5:617:U:H4'	2.34	0.43
10:G:41:LYS:HA	10:G:44:ILE:HG12	2.01	0.43
11:H:43:ASN:HB2	52:5:1265:U:O3'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:M:29:ARG:HB3	16:M:41:ARG:NH2	2.32	0.43
24:a:182:LEU:HD12	24:a:192:PHE:HB2	2.01	0.43
27:d:92:ARG:NH1	51:4:43:A:H8	2.16	0.43
31:h:14:LEU:O	31:h:50:MET:HA	2.19	0.43
31:h:40:ASN:O	31:h:44:LYS:HG3	2.18	0.43
33:j:32:TYR:CZ	50:3:2734:C:H5''	2.54	0.43
35:l:41:TRP:HE1	35:l:96:VAL:HG12	1.83	0.43
50:3:223:A:H2'	50:3:224:G:C8	2.54	0.43
50:3:726:U:H2'	50:3:727:C:C6	2.54	0.43
50:3:802:U:H2'	50:3:803:G:C8	2.54	0.43
50:3:812:G:H2'	50:3:813:G:C8	2.54	0.43
50:3:827:G:H1'	50:3:2079:G:O2'	2.19	0.43
50:3:1047:A:H1'	50:3:1048:A:C8	2.54	0.43
50:3:1363:C:H2'	50:3:1364:A:C8	2.54	0.43
50:3:1474:C:O2	50:3:1578:A:O2'	2.27	0.43
50:3:1705:U:H3	50:3:1708:G:P	2.42	0.43
50:3:1844:C:H2'	50:3:1906:G:O6	2.19	0.43
50:3:1972:C:H3'	50:3:1973:U:H2'	2.00	0.43
50:3:2017:G:H2'	50:3:2018:U:H6	1.84	0.43
52:5:134:G:H2'	52:5:135:A:O4'	2.18	0.43
52:5:171:A:H2'	52:5:172:C:C6	2.53	0.43
52:5:213:U:H2'	52:5:214:U:H6	1.84	0.43
52:5:888:A:H2'	52:5:889:U:O4'	2.18	0.43
52:5:1455:G:H2'	52:5:1456:U:O4'	2.19	0.43
53:6:58:G:O2'	53:6:59:A:H5'	2.19	0.43
4:A:75:VAL:HG22	8:E:166:PHE:HB3	2.01	0.43
4:A:88:LYS:NZ	4:A:219:ASN:HD22	2.17	0.43
6:C:113:ALA:O	6:C:117:VAL:HG23	2.19	0.43
8:E:17:GLN:HA	8:E:20:GLN:HG3	2.01	0.43
11:H:75:THR:HB	52:5:1347:U:H5''	2.00	0.43
14:K:52:THR:HA	14:K:64:LYS:HA	1.99	0.43
14:K:122:LYS:O	14:K:124:ARG:NH2	2.52	0.43
15:L:101:ARG:NH1	52:5:947:U:O4	2.52	0.43
19:P:26:VAL:HB	19:P:45:TYR:HE2	1.84	0.43
25:b:8:GLY:HA2	25:b:31:CYS:HA	2.00	0.43
27:d:47:SER:OG	27:d:48:LYS:N	2.52	0.43
28:e:142:GLU:O	28:e:146:GLN:HG2	2.19	0.43
31:h:11:LYS:HD2	31:h:53:CYS:O	2.19	0.43
39:p:74:THR:HG23	39:p:77:VAL:H	1.84	0.43
46:w:88:LYS:HA	46:w:91:LEU:HG	2.01	0.43
48:y:27:LEU:HB3	48:y:36:LYS:NZ	2.28	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:z:42:ARG:HH22	50:3:2356:U:H1'	1.83	0.43
50:3:78:C:H2'	50:3:79:U:C6	2.54	0.43
50:3:116:C:H2'	50:3:117:C:H6	1.84	0.43
50:3:123:G:H2'	50:3:124:A:C8	2.54	0.43
50:3:547:G:H5'	50:3:1245:G:N2	2.34	0.43
50:3:610:G:H5''	50:3:1285:U:H1'	2.01	0.43
50:3:671:C:H2'	50:3:672:G:O4'	2.19	0.43
50:3:756:A:H2'	50:3:757:A:C8	2.54	0.43
50:3:763:G:O2'	50:3:765:A:O4'	2.33	0.43
50:3:779:C:H2'	50:3:780:G:O4'	2.18	0.43
50:3:786:A:O2'	50:3:1788:A:N6	2.52	0.43
50:3:906:G:H2'	50:3:907:A:C8	2.46	0.43
50:3:1088:A:H8	50:3:1088:A:O5'	2.02	0.43
50:3:1114:C:H5	50:3:1123:A:P	2.42	0.43
50:3:1431:A:H2'	50:3:1432:C:C6	2.54	0.43
50:3:2145:A:H2'	50:3:2146:A:H8	1.83	0.43
50:3:2534:G:N2	50:3:2545:U:O2	2.40	0.43
50:3:2647:A:H3'	50:3:2647:A:OP2	2.19	0.43
50:3:2651:G:H2'	50:3:2652:U:O4'	2.19	0.43
50:3:2718:C:H2'	50:3:2719:A:H8	1.84	0.43
50:3:2729:A:C4	50:3:2730:G:C8	3.06	0.43
52:5:28:G:C2	52:5:29:G:C5	3.06	0.43
52:5:102:G:H2'	52:5:103:U:O4'	2.18	0.43
52:5:348:C:O2	52:5:351:C:N4	2.47	0.43
52:5:459:C:H2'	52:5:460:A:C8	2.53	0.43
52:5:722:G:OP1	52:5:847:G:N2	2.41	0.43
52:5:1390:G:C5	52:5:1461:G:C2	3.07	0.43
53:6:59:A:H1'	53:6:61:U:OP1	2.19	0.43
2:1:44:GLN:OE1	2:1:45:GLY:N	2.52	0.42
8:E:100:ILE:HA	8:E:103:LYS:HG2	2.00	0.42
17:N:68:LYS:HG2	17:N:75:TYR:CZ	2.53	0.42
22:S:26:THR:HG23	52:5:1432:A:H4'	2.00	0.42
25:b:53:SER:HB3	25:b:75:LEU:HD21	2.00	0.42
27:d:104:ILE:HG22	27:d:108:LEU:HD12	2.00	0.42
31:h:12:ILE:HD11	31:h:22:GLY:HA3	1.99	0.42
31:h:58:TYR:HB2	31:h:61:LYS:HB2	2.00	0.42
32:i:26:LEU:HD13	32:i:145:TRP:CZ2	2.52	0.42
36:m:53:LYS:HZ1	36:m:90:TYR:CB	2.29	0.42
40:q:39:LEU:HD11	40:q:46:GLY:H	1.83	0.42
46:w:42:HIS:O	46:w:46:GLN:HG2	2.19	0.42
49:z:36:LYS:HB2	49:z:47:HIS:ND1	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:z:37:PHE:HE1	50:3:2379:G:H1'	1.83	0.42
50:3:17:G:H2'	50:3:18:G:C8	2.54	0.42
50:3:34:C:H2'	50:3:35:U:H6	1.83	0.42
50:3:47:G:N3	50:3:184:A:N1	2.66	0.42
50:3:597:C:O2'	50:3:1283:A:N1	2.43	0.42
50:3:806:A:H2'	50:3:807:U:C6	2.54	0.42
50:3:829:A:H2'	50:3:830:A:C8	2.54	0.42
50:3:858:A:H2'	50:3:859:G:H8	1.84	0.42
50:3:897:A:H3'	50:3:898:A:H8	1.84	0.42
50:3:1158:C:H2'	50:3:1159:C:C6	2.54	0.42
50:3:1292:A:C5	50:3:1293:U:C4	3.07	0.42
50:3:1429:G:H2'	50:3:1430:U:O4'	2.18	0.42
50:3:2085:C:H2'	50:3:2086:U:C6	2.54	0.42
50:3:2104:A:H2'	50:3:2105:G:C8	2.54	0.42
50:3:2335:A:H2'	50:3:2336:A:C8	2.54	0.42
50:3:2380:U:H2'	50:3:2381:G:H8	1.79	0.42
50:3:2470:C:H2'	50:3:2471:U:C6	2.54	0.42
50:3:2634:C:H2'	50:3:2635:G:C8	2.54	0.42
50:3:2718:C:H2'	50:3:2719:A:C8	2.54	0.42
50:3:2722:G:H2'	50:3:2723:C:O4'	2.18	0.42
52:5:172:C:H2'	52:5:173:U:C6	2.53	0.42
52:5:195:U:H2'	52:5:196:G:C5	2.54	0.42
52:5:394:U:H2'	52:5:395:G:C8	2.54	0.42
52:5:547:C:H2'	52:5:548:G:H8	1.83	0.42
52:5:810:U:H2'	52:5:811:A:H8	1.84	0.42
53:8:59:A:H1'	53:8:61:U:OP1	2.19	0.42
5:B:56:VAL:HG22	5:B:69:VAL:HG23	1.99	0.42
16:M:19:ARG:NE	52:5:974:C:O2	2.51	0.42
23:T:23:LEU:HG	23:T:27:ARG:HH11	1.84	0.42
23:T:38:LYS:O	23:T:42:LEU:HG	2.20	0.42
23:T:51:LYS:HE3	23:T:51:LYS:HB3	1.91	0.42
24:a:131:LYS:HB3	24:a:134:PHE:CE1	2.54	0.42
25:b:125:ARG:HB2	25:b:169:TYR:CG	2.54	0.42
32:i:42:LYS:HB3	32:i:42:LYS:HE3	1.88	0.42
37:n:75:GLN:HE22	37:n:111:GLU:CD	2.27	0.42
39:p:44:TYR:HB3	50:3:569:U:O2'	2.20	0.42
39:p:68:LEU:HB3	39:p:73:MET:HG2	2.01	0.42
41:r:34:ASN:OD1	41:r:35:ILE:N	2.51	0.42
50:3:197:U:H2'	50:3:198:G:C8	2.54	0.42
50:3:259:A:O2'	50:3:422:A:OP1	2.36	0.42
50:3:266:A:H2'	50:3:267:A:O4'	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:519:A:H3'	50:3:520:C:H5	1.84	0.42
50:3:678:U:N3	50:3:681:A:OP2	2.51	0.42
50:3:863:U:O2'	50:3:864:A:O4'	2.27	0.42
50:3:1159:C:H2'	50:3:1160:G:O4'	2.18	0.42
50:3:1748:U:N3	50:3:1750:A:H5''	2.33	0.42
50:3:2202:U:H3'	50:3:2203:U:H6	1.85	0.42
51:4:7:G:OP2	51:4:8:C:N4	2.30	0.42
52:5:138:A:C6	52:5:156:U:N3	2.87	0.42
52:5:518:A:C5	52:5:527:G:C2	3.07	0.42
52:5:833:G:O6	52:5:845:C:N4	2.52	0.42
53:8:58:G:O2'	53:8:59:A:H5'	2.19	0.42
9:F:92:GLN:HA	9:F:95:LYS:HD2	1.99	0.42
9:F:112:GLU:O	9:F:118:LYS:NZ	2.47	0.42
11:H:19:VAL:HG11	11:H:85:ILE:HA	2.00	0.42
15:L:34:LEU:O	15:L:38:ASN:N	2.44	0.42
18:O:81:LYS:NZ	52:5:124:U:O3'	2.42	0.42
25:b:65:PRO:O	50:3:2794:U:O2'	2.36	0.42
26:c:26:ALA:HA	26:c:113:HIS:CE1	2.54	0.42
31:h:114:ALA:HA	50:3:1116:U:O2'	2.20	0.42
37:n:110:ARG:NH2	50:3:2385:A:N3	2.67	0.42
41:r:38:ASN:HB3	48:y:38:LEU:HD21	2.01	0.42
42:s:15:LYS:HG3	50:3:1367:G:H5''	2.01	0.42
44:u:33:LYS:NZ	50:3:2269:C:H5''	2.33	0.42
50:3:332:G:H22	50:3:373:U:H3'	1.83	0.42
50:3:385:U:H2'	50:3:386:U:C6	2.54	0.42
50:3:761:G:O3'	50:3:762:A:H8	2.02	0.42
50:3:962:U:H2'	50:3:963:U:C6	2.55	0.42
50:3:1457:A:N6	50:3:1598:U:H3	2.17	0.42
50:3:1480:A:H61	50:3:1487:U:H1'	1.84	0.42
50:3:1554:A:C5	50:3:1577:A:N1	2.88	0.42
50:3:1836:A:H3'	50:3:1837:C:C6	2.55	0.42
50:3:2068:G:N3	50:3:2070:C:N4	2.67	0.42
50:3:2229:C:H2'	50:3:2230:A:C8	2.54	0.42
50:3:2248:C:H2'	50:3:2249:A:C8	2.54	0.42
50:3:2382:A:C6	50:3:2383:G:C6	3.07	0.42
50:3:2551:G:H1'	50:3:2654:U:H5''	2.01	0.42
51:4:48:A:O2'	51:4:49:G:H5''	2.19	0.42
52:5:138:A:N6	52:5:156:U:N1	2.66	0.42
52:5:190:A:H2'	52:5:191:A:H8	1.84	0.42
52:5:201:G:H2'	52:5:202:A:C8	2.54	0.42
52:5:317:A:H2'	52:5:318:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:331:C:H1'	52:5:1408:A:C2	2.54	0.42
52:5:935:U:H2'	52:5:936:G:O4'	2.19	0.42
52:5:936:G:H2'	52:5:937:G:O4'	2.18	0.42
52:5:1433:G:H2'	52:5:1434:C:C6	2.53	0.42
4:A:161:LYS:HE3	4:A:161:LYS:HB2	1.87	0.42
4:A:209:GLU:HG2	8:E:162:LYS:HZ3	1.84	0.42
5:B:48:TYR:H	5:B:49:ARG:HH11	1.67	0.42
6:C:73:ARG:HE	6:C:77:LEU:HG	1.83	0.42
6:C:172:LYS:HD2	6:C:172:LYS:HA	1.73	0.42
13:J:108:PRO:O	13:J:110:PRO:HD3	2.19	0.42
15:L:14:ARG:HB3	15:L:42:ASP:OD2	2.19	0.42
17:N:17:LYS:HE2	17:N:17:LYS:HB3	1.82	0.42
17:N:19:VAL:HG21	52:5:655:G:H1'	2.00	0.42
19:P:15:SER:OG	19:P:16:THR:N	2.53	0.42
24:a:76:TYR:HE1	50:3:1516:G:H4'	1.85	0.42
26:c:30:LYS:HE2	26:c:30:LYS:HB2	1.89	0.42
27:d:60:ILE:HD13	27:d:152:PHE:CE2	2.54	0.42
29:f:96:GLN:NE2	29:f:97:ILE:HG23	2.34	0.42
30:g:53:VAL:HG12	50:3:1141:U:H4'	2.01	0.42
34:k:117:HIS:HB3	50:3:673:A:H5'	2.01	0.42
35:l:41:TRP:NE1	35:l:96:VAL:HG12	2.34	0.42
38:o:92:ARG:HB3	38:o:115:LYS:HB3	2.01	0.42
39:p:51:ASN:HB3	39:p:54:ARG:HE	1.85	0.42
39:p:91:ARG:HH21	50:3:1033:A:H5''	1.84	0.42
41:r:136:LYS:HA	41:r:139:ARG:HG2	2.02	0.42
49:z:3:VAL:HG22	50:3:2291:U:H5'	2.01	0.42
50:3:133:G:N2	50:3:151:C:C2	2.87	0.42
50:3:612:G:C5	50:3:613:C:C4	3.07	0.42
50:3:665:C:C4	50:3:666:G:O6	2.72	0.42
50:3:670:G:N2	50:3:675:U:H4'	2.34	0.42
50:3:1140:U:H2'	50:3:1141:U:C6	2.54	0.42
50:3:1320:C:H2'	50:3:1321:C:C6	2.54	0.42
50:3:1438:G:H2'	50:3:1439:U:O4'	2.19	0.42
50:3:1484:G:H2'	50:3:1485:A:C8	2.55	0.42
50:3:1589:A:H2'	50:3:1590:U:C6	2.54	0.42
50:3:1848:U:C2	50:3:1849:G:C8	3.07	0.42
50:3:2007:U:H2'	50:3:2008:A:C8	2.54	0.42
50:3:2323:U:H2'	50:3:2324:A:H8	1.80	0.42
50:3:2884:C:H2'	50:3:2885:U:H6	1.83	0.42
52:5:46:U:H5''	52:5:303:A:O2'	2.20	0.42
52:5:145:G:N1	52:5:148:A:OP2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:164:C:N4	52:5:198:A:OP1	2.52	0.42
52:5:232:G:H3'	52:5:233:C:C6	2.55	0.42
52:5:253:G:H2'	52:5:254:G:C8	2.53	0.42
52:5:419:A:H1'	52:5:420:A:N3	2.34	0.42
52:5:485:C:C4	52:5:486:C:N4	2.88	0.42
52:5:577:G:H2'	52:5:578:C:C6	2.54	0.42
52:5:613:C:H2'	52:5:614:U:C6	2.53	0.42
1:0:27:GLY:O	1:0:31:LEU:HG	2.18	0.42
3:2:5:ALA:HB1	50:3:1160:G:O2'	2.19	0.42
4:A:179:ASP:OD1	4:A:179:ASP:N	2.53	0.42
9:F:69:MET:HG2	9:F:95:LYS:HB3	2.01	0.42
10:G:57:PHE:HA	10:G:72:PHE:HA	2.02	0.42
11:H:24:THR:HB	11:H:64:ASP:HB3	2.01	0.42
11:H:30:ILE:HD12	11:H:65:ILE:HG21	2.01	0.42
13:J:41:GLY:CA	13:J:46:LYS:HB3	2.49	0.42
16:M:3:LYS:HA	16:M:6:LEU:HD13	2.01	0.42
16:M:33:VAL:O	52:5:1332:U:H4'	2.19	0.42
34:k:120:LEU:HD12	34:k:121:GLU:H	1.83	0.42
37:n:97:LYS:HB3	51:4:45:C:H4'	2.00	0.42
41:r:98:LYS:NZ	50:3:2018:U:O2'	2.41	0.42
44:u:82:LYS:HB3	44:u:82:LYS:HE3	1.80	0.42
50:3:164:A:N6	50:3:169:U:O2	2.52	0.42
50:3:177:U:O4	50:3:178:A:N6	2.53	0.42
50:3:182:C:H2'	50:3:183:A:O4'	2.19	0.42
50:3:221:A:H2'	50:3:222:A:H8	1.85	0.42
50:3:274:A:N6	50:3:295:U:O2	2.53	0.42
50:3:286:A:H1'	50:3:288:A:C8	2.53	0.42
50:3:360:G:H2'	50:3:361:G:C8	2.54	0.42
50:3:987:U:H2'	50:3:988:G:C8	2.55	0.42
50:3:1090:G:H2'	50:3:1091:G:O4'	2.19	0.42
50:3:1502:A:O2'	50:3:1541:A:N6	2.52	0.42
50:3:1829:U:H2'	50:3:1830:G:C8	2.53	0.42
50:3:2048:U:H2'	50:3:2049:A:C8	2.55	0.42
50:3:2068:G:H8	50:3:2510:G:H5''	1.83	0.42
50:3:2382:A:H2'	50:3:2383:G:H8	1.85	0.42
50:3:2495:A:H2'	50:3:2496:G:C8	2.54	0.42
52:5:130:G:H2'	52:5:131:G:C8	2.54	0.42
52:5:145:G:H22	52:5:147:A:H3'	1.84	0.42
52:5:290:G:N1	52:5:299:U:C2	2.88	0.42
52:5:290:G:O6	52:5:300:A:C6	2.73	0.42
52:5:344:G:H8	52:5:344:G:OP2	2.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:462:G:H2'	52:5:463:U:H5'	2.00	0.42
52:5:817:U:H4'	52:5:818:A:OP2	2.19	0.42
52:5:902:A:H2'	52:5:903:A:H8	1.83	0.42
52:5:1184:C:H2'	52:5:1185:C:C6	2.55	0.42
52:5:1442:A:H5''	52:5:1443:A:OP1	2.20	0.42
4:A:29:HIS:HD1	4:A:218:ASN:HB3	1.85	0.42
4:A:130:LEU:HA	4:A:159:LEU:HD13	2.02	0.42
10:G:123:MET:HB3	10:G:127:VAL:HG13	2.02	0.42
11:H:98:LYS:NZ	52:5:1151:A:H4'	2.35	0.42
12:I:41:LYS:NZ	52:5:1116:U:OP1	2.36	0.42
14:K:127:ARG:O	14:K:128:SER:HB2	2.20	0.42
20:Q:81:MET:HB2	52:5:832:G:H5''	2.00	0.42
20:Q:91:LYS:HD2	52:5:731:A:H4'	2.01	0.42
25:b:124:LYS:HA	25:b:124:LYS:HD2	1.84	0.42
26:c:106:LYS:HG3	50:3:639:G:H5''	2.01	0.42
27:d:58:HIS:CD2	27:d:64:LYS:HD3	2.54	0.42
33:j:29:ARG:NH2	50:3:2684:G:H5'	2.35	0.42
34:k:66:GLY:HA3	50:3:667:A:C2	2.54	0.42
37:n:17:LYS:HG3	37:n:20:ARG:NH2	2.35	0.42
38:o:63:THR:OG1	38:o:79:PHE:O	2.31	0.42
41:r:134:LYS:HA	41:r:137:MET:HE2	2.01	0.42
43:t:89:ILE:HD13	43:t:104:PHE:HA	2.00	0.42
50:3:38:G:H2'	50:3:39:C:C6	2.55	0.42
50:3:208:A:OP1	50:3:210:U:H1'	2.20	0.42
50:3:227:A:O2'	50:3:456:G:N3	2.50	0.42
50:3:511:U:H1'	50:3:544:U:C2	2.55	0.42
50:3:596:G:OP1	50:3:605:A:H5'	2.19	0.42
50:3:680:A:H4'	50:3:681:A:C6	2.54	0.42
50:3:1626:C:H2'	50:3:1627:U:C6	2.55	0.42
50:3:1871:U:H4'	50:3:2417:G:N2	2.34	0.42
50:3:2347:G:C2	50:3:2348:U:C5	3.08	0.42
50:3:2381:G:C2	50:3:2382:A:N7	2.87	0.42
50:3:2761:A:H2'	50:3:2762:U:C6	2.54	0.42
50:3:2869:U:H2'	50:3:2870:U:C4	2.54	0.42
51:4:46:C:O2'	51:4:47:C:O5'	2.29	0.42
52:5:598:U:H2'	52:5:599:G:H8	1.85	0.42
52:5:997:G:H2'	52:5:998:G:C8	2.55	0.42
52:5:1197:G:OP1	52:5:1295:U:O2'	2.28	0.42
53:8:56:U:H6	53:8:59:A:C8	2.38	0.42
5:B:138:ARG:O	5:B:141:LEU:HG	2.19	0.42
10:G:65:LYS:HG2	10:G:68:ARG:NH2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:32:ALA:HA	15:L:35:LYS:HE3	2.02	0.42
21:R:32:LYS:HD2	21:R:32:LYS:O	2.20	0.42
24:a:233:MET:HG2	50:3:817:A:H2	1.85	0.42
25:b:115:LYS:HE2	25:b:115:LYS:HB3	1.93	0.42
25:b:178:ASN:O	50:3:2738:U:H4'	2.19	0.42
27:d:64:LYS:HD2	27:d:64:LYS:HA	1.86	0.42
29:f:129:HIS:ND1	29:f:129:HIS:O	2.53	0.42
30:g:98:GLY:O	30:g:102:ALA:N	2.49	0.42
32:i:40:ARG:HG3	32:i:121:TRP:CZ3	2.55	0.42
39:p:17:LEU:HD22	39:p:34:ALA:HB3	2.02	0.42
50:3:77:G:H1	50:3:113:U:H3	1.67	0.42
50:3:121:U:H1'	50:3:152:A:C4	2.55	0.42
50:3:188:G:C2	50:3:217:A:C2	3.07	0.42
50:3:253:C:OP2	50:3:2402:C:H1'	2.19	0.42
50:3:380:A:N3	50:3:380:A:H2'	2.34	0.42
50:3:403:U:H5'	50:3:404:C:H5	1.83	0.42
50:3:442:G:N1	50:3:457:U:N3	2.67	0.42
50:3:559:C:H2'	50:3:560:U:C6	2.55	0.42
50:3:682:A:H3'	50:3:683:G:H8	1.84	0.42
50:3:854:A:H5'	50:3:1009:A:C2	2.55	0.42
50:3:901:C:H42	50:3:945:U:H3'	1.84	0.42
50:3:1264:U:H3'	50:3:1265:G:H8	1.84	0.42
50:3:1340:U:O2'	50:3:1342:C:N4	2.53	0.42
50:3:1789:C:N4	50:3:2594:C:H42	2.18	0.42
50:3:1948:C:H2'	50:3:1949:C:C2	2.55	0.42
50:3:2072:C:H2'	50:3:2073:C:C6	2.55	0.42
50:3:2082:U:O2'	50:3:2083:U:OP1	2.35	0.42
50:3:2372:C:H2'	50:3:2373:G:O4'	2.19	0.42
50:3:2377:A:N6	50:3:2378:G:O6	2.52	0.42
50:3:2638:G:H2'	50:3:2639:G:C8	2.54	0.42
50:3:2681:G:C2	50:3:2682:A:C5	3.07	0.42
52:5:53:U:H3	52:5:355:A:N6	2.18	0.42
52:5:245:U:H2'	52:5:246:A:C5	2.54	0.42
52:5:288:A:C5	52:5:289:U:H1'	2.54	0.42
52:5:678:A:H2'	52:5:679:U:C6	2.55	0.42
52:5:688:G:O2'	52:5:693:A:N6	2.52	0.42
52:5:798:U:H2'	52:5:799:A:C8	2.55	0.42
52:5:1263:A:H2'	52:5:1264:G:H5'	2.02	0.42
53:6:60:U:H5''	53:6:61:U:OP1	2.19	0.42
4:A:87:THR:HG22	4:A:87:THR:O	2.20	0.42
5:B:26:SER:O	5:B:28:ALA:N	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:25:PHE:CG	6:C:26:SER:N	2.87	0.42
8:E:9:VAL:HG12	8:E:56:HIS:HB2	2.02	0.42
13:J:77:LEU:HD13	13:J:90:ILE:HD13	2.02	0.42
13:J:79:VAL:HG21	13:J:86:LYS:HB2	2.02	0.42
20:Q:104:ASP:OD2	23:T:5:GLU:N	2.52	0.42
21:R:12:ASP:OD2	21:R:14:HIS:NE2	2.52	0.42
21:R:80:PHE:HA	52:5:1200:G:H21	1.84	0.42
22:S:28:LEU:O	22:S:32:VAL:HG23	2.19	0.42
23:T:49:ALA:HA	23:T:52:LYS:HE2	2.01	0.42
26:c:3:LYS:HD2	26:c:3:LYS:HA	1.79	0.42
27:d:36:ILE:HA	27:d:154:VAL:HG12	2.02	0.42
28:e:25:ILE:HD12	28:e:25:ILE:H	1.83	0.42
28:e:129:GLU:C	28:e:130:LYS:HD3	2.44	0.42
29:f:62:LYS:HA	29:f:62:LYS:HD3	1.72	0.42
32:i:88:LYS:HE3	32:i:88:LYS:HB3	1.93	0.42
33:j:63:VAL:HG13	33:j:64:ARG:HG3	2.00	0.42
34:k:67:ASN:HA	50:3:667:A:H1'	2.02	0.42
37:n:58:LEU:HD13	51:4:105:A:H2	1.85	0.42
43:t:26:LYS:H	43:t:35:ILE:HB	1.85	0.42
44:u:30:SER:OG	50:3:2270:U:H5'	2.20	0.42
50:3:45:U:H3'	50:3:46:A:C8	2.55	0.42
50:3:160:A:H2'	50:3:161:U:C6	2.55	0.42
50:3:195:A:H2'	50:3:196:G:C8	2.55	0.42
50:3:278:U:O2	50:3:291:G:O6	2.38	0.42
50:3:1075:G:N1	50:3:1151:U:C4	2.85	0.42
50:3:1217:G:H2'	50:3:1218:G:O4'	2.20	0.42
50:3:1310:U:H2'	50:3:1311:G:C8	2.55	0.42
50:3:1414:C:O2'	50:3:1495:A:N3	2.46	0.42
50:3:1765:G:C6	50:3:2704:U:H5'	2.54	0.42
50:3:1789:C:H42	50:3:2594:C:H42	1.68	0.42
50:3:2502:G:H2'	50:3:2502:G:N3	2.34	0.42
50:3:2703:U:C2	50:3:2722:G:O6	2.72	0.42
52:5:296:A:N6	52:5:555:G:OP1	2.52	0.42
52:5:528:G:C4	53:6:36:A:H4'	2.55	0.42
52:5:581:A:N6	52:5:755:U:C2	2.87	0.42
52:5:583:G:H2'	52:5:584:C:C6	2.55	0.42
52:5:686:C:N4	52:5:687:G:C2	2.87	0.42
52:5:812:A:N6	52:5:1502:G:H21	2.18	0.42
4:A:189:ALA:O	4:A:193:ILE:HG12	2.20	0.42
5:B:19:ILE:HD11	5:B:56:VAL:H	1.85	0.42
6:C:29:LYS:HB3	52:5:409:G:N7	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:150:LYS:C	6:C:155:LYS:HZ1	2.27	0.42
7:D:193:HIS:NE2	52:5:1069:U:H1'	2.34	0.42
8:E:20:GLN:HA	8:E:23:GLU:HG3	2.02	0.42
11:H:44:LYS:O	11:H:47:ILE:HG22	2.20	0.42
12:I:46:LEU:N	12:I:79:LEU:O	2.52	0.42
18:O:67:PHE:CD1	18:O:72:LEU:HD13	2.55	0.42
21:R:22:MET:SD	21:R:31:ILE:HD11	2.59	0.42
24:a:9:ARG:NH1	50:3:763:G:H22	2.17	0.42
25:b:162:GLY:HA3	32:i:83:TYR:CE1	2.54	0.42
31:h:87:LYS:CB	50:3:1098:G:H21	2.26	0.42
31:h:130:GLN:HB3	50:3:1112:A:C6	2.55	0.42
34:k:93:ILE:HB	34:k:126:PHE:CE1	2.55	0.42
39:p:60:TRP:CE2	39:p:93:VAL:HB	2.55	0.42
39:p:85:HIS:CG	39:p:86:ASN:N	2.88	0.42
40:q:4:ILE:O	40:q:39:LEU:N	2.42	0.42
40:q:8:GLY:HA2	40:q:25:LEU:HD21	2.02	0.42
41:r:21:CYS:HB3	41:r:74:CYS:HB3	1.66	0.42
43:t:33:GLN:HB3	43:t:68:PRO:HB3	2.01	0.42
43:t:80:LYS:HD3	43:t:109:ASN:HA	2.01	0.42
50:3:673:A:N6	50:3:687:G:O2'	2.53	0.42
50:3:701:A:H2'	50:3:702:U:C6	2.55	0.42
50:3:810:G:C6	50:3:829:A:C8	3.07	0.42
50:3:1011:A:H62	50:3:1025:G:N2	2.17	0.42
50:3:1043:C:H2'	50:3:1044:C:C5	2.55	0.42
50:3:1295:A:H4'	50:3:1296:G:OP1	2.19	0.42
50:3:1337:G:N2	50:3:1642:G:H22	2.17	0.42
50:3:1523:C:H2'	50:3:1524:C:C6	2.55	0.42
50:3:1748:U:O2	50:3:1750:A:H8	2.02	0.42
50:3:1943:A:H4'	50:3:1944:A:C8	2.55	0.42
50:3:2018:U:H3'	50:3:2019:G:H8	1.85	0.42
50:3:2798:A:O3'	50:3:2806:A:N6	2.47	0.42
51:4:11:A:O2'	51:4:13:G:N3	2.53	0.42
52:5:157:A:H2'	52:5:158:A:H8	1.83	0.42
52:5:445:A:N3	52:5:445:A:H2'	2.34	0.42
52:5:541:C:H2'	52:5:542:G:C8	2.54	0.42
52:5:646:A:H2'	52:5:647:U:C6	2.54	0.42
52:5:806:A:H2'	52:5:807:C:C6	2.55	0.42
52:5:825:A:C6	52:5:853:A:C8	3.08	0.42
52:5:884:G:N2	52:5:901:A:O5'	2.53	0.42
52:5:983:G:N2	52:5:1012:A:H1'	2.30	0.42
52:5:1044:G:O6	52:5:1174:U:H2'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:28:ARG:C	1:0:32:LYS:HZ2	2.28	0.42
4:A:88:LYS:HE3	4:A:180:ASP:HB2	2.02	0.42
10:G:40:LEU:HD21	52:5:639:A:O3'	2.20	0.42
12:I:56:THR:OG1	52:5:1342:C:O3'	2.28	0.42
13:J:43:MET:SD	13:J:58:ILE:HG22	2.60	0.42
14:K:44:ARG:HG2	52:5:359:A:OP2	2.19	0.42
17:N:66:TYR:CZ	52:5:750:A:H5''	2.55	0.42
20:Q:84:ARG:HH12	52:5:721:G:N2	2.18	0.42
24:a:9:ARG:HB3	50:3:763:G:N2	2.35	0.42
27:d:88:LYS:HD2	50:3:2321:C:H4'	2.01	0.42
27:d:90:THR:C	27:d:92:ARG:HH21	2.28	0.42
29:f:132:GLU:N	29:f:132:GLU:OE2	2.52	0.42
40:q:14:VAL:HG23	40:q:18:ASP:HB3	2.02	0.42
50:3:173:C:H2'	50:3:174:A:C8	2.55	0.42
50:3:513:A:OP1	50:3:536:A:N6	2.37	0.42
50:3:986:G:H2'	50:3:987:U:C6	2.54	0.42
50:3:1057:G:O2'	50:3:1059:G:O6	2.31	0.42
50:3:1572:U:H2'	50:3:1573:A:C8	2.55	0.42
50:3:1621:U:C2	50:3:1622:C:H5	2.38	0.42
50:3:1625:G:H2'	50:3:1626:C:O4'	2.20	0.42
50:3:1702:A:N7	50:3:2000:U:O4	2.53	0.42
50:3:1832:G:H2'	50:3:1833:G:C8	2.55	0.42
50:3:2099:U:H4'	50:3:2100:G:H5''	2.02	0.42
50:3:2487:U:H2'	50:3:2488:C:O4'	2.20	0.42
52:5:30:A:OP2	52:5:30:A:H8	2.03	0.42
52:5:54:A:N1	52:5:355:A:C6	2.88	0.42
52:5:108:C:H2'	52:5:109:G:C8	2.55	0.42
52:5:162:C:H2'	52:5:163:G:H21	1.84	0.42
52:5:244:C:H2'	52:5:245:U:C6	2.54	0.42
52:5:266:A:H2'	52:5:267:C:C6	2.55	0.42
52:5:576:A:H2'	52:5:577:G:H8	1.82	0.42
52:5:1225:A:H2'	52:5:1226:A:H8	1.84	0.42
53:6:46:U:H2'	53:6:47:G:C5	2.55	0.42
5:B:5:VAL:HG22	52:5:1051:U:H5'	2.01	0.41
5:B:77:LEU:HD23	5:B:106:ILE:HG12	2.02	0.41
6:C:67:THR:HG23	6:C:70:GLN:H	1.85	0.41
8:E:42:LEU:N	8:E:43:LYS:HZ3	2.17	0.41
11:H:44:LYS:HB2	11:H:46:VAL:HG22	2.02	0.41
12:I:82:LEU:HD23	12:I:89:ALA:HB1	2.01	0.41
12:I:99:PRO:HB2	12:I:102:VAL:HB	2.02	0.41
17:N:45:LYS:HB3	52:5:665:G:H4'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:151:GLU:OE1	24:a:151:GLU:N	2.53	0.41
26:c:115:VAL:HG21	26:c:188:VAL:HB	2.02	0.41
36:m:44:ARG:HE	36:m:48:LEU:HG	1.85	0.41
39:p:7:LYS:HB2	50:3:31:U:O2'	2.19	0.41
42:s:51:LYS:HZ2	50:3:1630:A:P	2.41	0.41
43:t:16:LYS:NZ	50:3:342:G:O2'	2.51	0.41
44:u:23:SER:N	50:3:2264:G:H4'	2.34	0.41
50:3:88:G:H8	50:3:88:G:O5'	2.03	0.41
50:3:442:G:C6	50:3:457:U:C4	3.08	0.41
50:3:603:G:H2'	50:3:2037:A:N7	2.35	0.41
50:3:912:A:H2'	50:3:913:U:C6	2.54	0.41
50:3:1184:U:H2'	50:3:1185:U:C6	2.55	0.41
50:3:1751:A:C2	50:3:1752:A:H1'	2.55	0.41
50:3:2461:A:H2'	50:3:2462:G:C8	2.54	0.41
51:4:2:U:H2'	51:4:3:U:C6	2.55	0.41
52:5:283:U:H2'	52:5:284:A:C8	2.55	0.41
52:5:345:A:H2'	52:5:346:G:H8	1.84	0.41
52:5:385:A:H3'	52:5:386:U:C6	2.55	0.41
52:5:399:C:O2'	52:5:436:U:O2	2.38	0.41
52:5:707:G:H2'	52:5:708:A:C8	2.55	0.41
52:5:811:A:H4'	52:5:1485:C:O2'	2.20	0.41
52:5:913:A:H2'	52:5:914:A:C8	2.55	0.41
52:5:946:G:H4'	52:5:967:C:C5	2.51	0.41
52:5:982:A:H2'	52:5:983:G:H8	1.84	0.41
52:5:1469:G:C2	52:5:1470:U:C4	3.08	0.41
53:8:60:U:H5''	53:8:61:U:OP1	2.19	0.41
3:2:6:SER:HB2	50:3:2474:C:C5'	2.50	0.41
4:A:237:ALA:HB1	4:A:242:MET:HB2	2.01	0.41
5:B:136:ALA:O	5:B:139:GLN:HG2	2.19	0.41
6:C:22:ASN:HA	6:C:25:PHE:HB3	2.02	0.41
8:E:142:ARG:HG2	10:G:62:ASN:CG	2.45	0.41
9:F:152:HIS:HB2	13:J:53:PRO:HB2	2.01	0.41
10:G:37:ALA:N	10:G:68:ARG:O	2.52	0.41
14:K:24:LEU:HG	14:K:40:SER:O	2.20	0.41
18:O:72:LEU:HD23	18:O:72:LEU:O	2.20	0.41
22:S:4:ILE:HD12	22:S:7:ASN:HD21	1.85	0.41
25:b:99:GLN:HG3	25:b:184:PHE:CG	2.55	0.41
26:c:7:ILE:HA	26:c:13:PHE:HA	2.01	0.41
27:d:29:PRO:HG2	27:d:165:GLU:CD	2.45	0.41
27:d:75:SER:OG	27:d:80:ARG:NH2	2.53	0.41
30:g:7:LYS:O	30:g:11:VAL:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:i:3:LYS:N	40:q:22:VAL:HA	2.36	0.41
32:i:76:PHE:HB3	32:i:89:LYS:HG3	2.00	0.41
35:l:84:GLY:HA3	50:3:2258:G:N2	2.35	0.41
44:u:41:ASP:H	50:3:891:G:N2	2.17	0.41
50:3:61:U:O2	50:3:70:G:N2	2.34	0.41
50:3:292:G:H2'	50:3:293:G:H5'	2.02	0.41
50:3:335:G:C6	50:3:351:G:C6	3.08	0.41
50:3:640:U:N3	50:3:656:G:N7	2.69	0.41
50:3:665:C:H2'	50:3:666:G:C8	2.54	0.41
50:3:667:A:N1	50:3:2424:C:H4'	2.34	0.41
50:3:1297:U:O2'	50:3:1298:A:H5'	2.20	0.41
50:3:1524:C:H2'	50:3:1525:G:C8	2.55	0.41
50:3:2050:G:H2'	50:3:2051:G:H8	1.84	0.41
50:3:2558:G:H2'	50:3:2559:C:C6	2.54	0.41
50:3:2691:C:H41	50:3:2735:G:H21	1.68	0.41
50:3:2754:U:H2'	50:3:2755:G:O4'	2.20	0.41
50:3:2792:C:H2'	50:3:2793:U:C6	2.56	0.41
52:5:34:A:H2'	52:5:35:C:O4'	2.20	0.41
52:5:493:A:C4	52:5:494:A:C8	3.08	0.41
52:5:587:A:H1'	52:5:650:A:C6	2.55	0.41
52:5:675:U:C2'	52:5:676:U:H5'	2.50	0.41
52:5:833:G:H2'	52:5:834:G:H8	1.85	0.41
52:5:973:A:C6	52:5:1292:A:C5	3.08	0.41
52:5:1341:U:H2'	52:5:1342:C:C6	2.56	0.41
5:B:198:VAL:HG21	52:5:1179:A:N3	2.35	0.41
25:b:53:SER:HB2	25:b:78:THR:OG1	2.20	0.41
32:i:3:LYS:O	40:q:10:LYS:HG2	2.20	0.41
35:l:77:LYS:HD2	35:l:81:VAL:HG11	2.03	0.41
37:n:61:LYS:NZ	37:n:73:VAL:HA	2.36	0.41
38:o:56:ARG:HB3	38:o:63:THR:HG22	2.01	0.41
39:p:93:VAL:O	39:p:96:GLU:HG2	2.19	0.41
42:s:15:LYS:HZ2	50:3:1367:G:H5''	1.84	0.41
49:z:16:GLU:HG2	50:3:2408:G:H4'	2.02	0.41
50:3:116:C:H2'	50:3:117:C:C6	2.55	0.41
50:3:252:G:C4	50:3:254:G:N2	2.88	0.41
50:3:688:U:H4'	50:3:689:U:OP2	2.20	0.41
50:3:1088:A:C5	50:3:1089:A:C8	3.08	0.41
50:3:1221:G:H2'	50:3:1222:A:H8	1.86	0.41
50:3:1381:A:N6	50:3:1405:G:H2'	2.36	0.41
50:3:2005:G:H21	50:3:2695:U:H4'	1.85	0.41
50:3:2054:C:N4	50:3:2055:A:H62	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2402:C:H2'	50:3:2403:C:O4'	2.19	0.41
50:3:2607:G:H2'	50:3:2608:A:H8	1.82	0.41
50:3:2704:U:H2'	50:3:2705:G:C8	2.55	0.41
51:4:7:G:N3	51:4:7:G:H2'	2.35	0.41
52:5:251:G:H2'	52:5:252:U:H6	1.86	0.41
52:5:798:U:H2'	52:5:799:A:H8	1.85	0.41
52:5:829:G:O6	52:5:848:U:C2	2.74	0.41
52:5:1328:C:H2'	52:5:1329:G:C8	2.54	0.41
4:A:106:ALA:HB2	4:A:169:LEU:HD23	2.01	0.41
9:F:124:ILE:O	9:F:127:SER:OG	2.31	0.41
10:G:108:LEU:HD12	10:G:108:LEU:HA	1.78	0.41
24:a:69:ILE:HG23	24:a:109:ILE:HA	2.02	0.41
28:e:3:LYS:HD2	50:3:2757:A:OP1	2.20	0.41
28:e:115:PRO:HB2	28:e:117:LYS:NZ	2.35	0.41
43:t:78:ASP:HB2	43:t:104:PHE:CE2	2.56	0.41
46:w:17:LYS:HE2	46:w:69:GLN:OE1	2.20	0.41
48:y:37:LYS:NZ	48:y:38:LEU:HD23	2.36	0.41
50:3:639:G:H2'	50:3:640:U:H6	1.82	0.41
50:3:1227:C:O2	50:3:1256:A:H2'	2.21	0.41
50:3:1313:G:C6	50:3:1357:U:C2	3.08	0.41
50:3:1337:G:H2'	50:3:1338:G:C8	2.55	0.41
50:3:1756:A:H2'	50:3:1757:G:C8	2.55	0.41
50:3:1896:A:H2'	50:3:1897:A:C8	2.55	0.41
50:3:2349:G:H2'	50:3:2350:C:C6	2.55	0.41
50:3:2586:G:H2'	50:3:2587:U:C6	2.54	0.41
50:3:2728:U:C2	50:3:2729:A:C8	3.08	0.41
50:3:2838:G:H2'	50:3:2883:A:H61	1.85	0.41
50:3:2891:C:H2'	50:3:2892:U:C6	2.56	0.41
51:4:12:U:O4'	51:4:96:G:N2	2.54	0.41
51:4:100:G:H2'	51:4:101:C:C6	2.55	0.41
52:5:253:G:O6	52:5:266:A:N6	2.53	0.41
52:5:407:A:N6	52:5:425:G:O4'	2.53	0.41
52:5:517:C:H2'	52:5:518:A:O4'	2.21	0.41
52:5:525:G:O2'	52:5:533:A:N6	2.51	0.41
52:5:758:G:H2'	52:5:759:C:O4'	2.20	0.41
52:5:858:A:P	52:5:858:A:H8	2.42	0.41
52:5:924:A:H2'	52:5:925:C:O4'	2.20	0.41
2:1:26:THR:C	2:1:28:HIS:H	2.28	0.41
6:C:29:LYS:HB3	52:5:409:G:C8	2.55	0.41
8:E:51:LYS:HD2	8:E:51:LYS:HA	1.90	0.41
9:F:90:VAL:O	9:F:95:LYS:NZ	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:N:51:ARG:NH2	17:N:55:ALA:HB2	2.35	0.41
21:R:36:ARG:NH2	52:5:1196:G:H5'	2.35	0.41
24:a:44:HIS:NE2	50:3:1820:U:H5''	2.35	0.41
25:b:30:TYR:CZ	38:o:3:LYS:HG2	2.56	0.41
25:b:42:GLU:C	25:b:44:LYS:H	2.27	0.41
28:e:31:LEU:HD23	28:e:31:LEU:HA	1.89	0.41
32:i:118:SER:O	32:i:122:ILE:HG12	2.21	0.41
35:l:124:LYS:HA	50:3:2492:G:H21	1.85	0.41
37:n:27:ARG:CZ	37:n:88:ASN:HB2	2.50	0.41
46:w:27:LEU:HG	46:w:31:PHE:CZ	2.55	0.41
50:3:447:G:O2'	50:3:2414:U:N3	2.45	0.41
50:3:493:A:P	50:3:493:A:H8	2.44	0.41
50:3:612:G:O6	50:3:1292:A:C6	2.74	0.41
50:3:1168:A:H4'	50:3:1169:A:H5''	2.03	0.41
50:3:1343:C:H2'	50:3:1344:U:C6	2.56	0.41
50:3:1400:U:H2'	50:3:1401:A:O4'	2.20	0.41
50:3:1801:U:H2'	50:3:1802:C:H6	1.84	0.41
50:3:2318:A:O2'	50:3:2319:A:H5'	2.21	0.41
50:3:2331:G:H22	50:3:2340:U:H2'	1.85	0.41
52:5:905:U:H2'	52:5:906:C:H6	1.85	0.41
4:A:123:LEU:HA	4:A:126:SER:HB2	2.02	0.41
9:F:9:ARG:HD2	52:5:1320:A:C5	2.55	0.41
19:P:48:HIS:HE1	19:P:50:GLU:HG3	1.84	0.41
24:a:19:VAL:HG21	24:a:218:ARG:HH12	1.86	0.41
24:a:63:LYS:HE3	24:a:63:LYS:HB3	1.88	0.41
26:c:75:ARG:HH22	50:3:2067:A:H5'	1.86	0.41
28:e:45:LYS:N	28:e:56:THR:O	2.42	0.41
34:k:99:ILE:HB	34:k:106:ALA:HA	2.02	0.41
38:o:38:LYS:HD2	38:o:38:LYS:HA	1.68	0.41
38:o:113:LYS:HE3	38:o:113:LYS:HB2	1.91	0.41
50:3:824:A:H1'	50:3:1788:A:N6	2.34	0.41
50:3:996:A:H2'	50:3:998:C:H6	1.85	0.41
50:3:1005:G:H2'	50:3:1006:U:H6	1.86	0.41
50:3:1008:A:N7	50:3:1009:A:H2'	2.35	0.41
50:3:1264:U:H2'	50:3:1265:G:O4'	2.21	0.41
50:3:1375:G:C6	50:3:1376:G:N7	2.89	0.41
50:3:1847:G:H2'	50:3:1848:U:H6	1.85	0.41
50:3:1898:G:H2'	50:3:1899:C:H6	1.86	0.41
50:3:2017:G:H2'	50:3:2018:U:C6	2.54	0.41
50:3:2077:A:H2'	50:3:2078:A:O4'	2.20	0.41
50:3:2353:G:C4	50:3:2389:A:C2	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2523:C:N4	50:3:2524:U:O4	2.53	0.41
50:3:2564:C:O2	50:3:2564:C:H2'	2.20	0.41
50:3:2650:A:H2'	50:3:2651:G:H8	1.86	0.41
50:3:2702:G:H2'	50:3:2703:U:O4'	2.20	0.41
50:3:2715:C:H2'	50:3:2716:U:C6	2.56	0.41
50:3:2720:C:H3'	50:3:2722:G:OP2	2.21	0.41
50:3:2730:G:C2'	50:3:2731:U:H5'	2.51	0.41
50:3:2862:U:H3'	50:3:2863:G:C8	2.56	0.41
50:3:2884:C:H2'	50:3:2885:U:C6	2.56	0.41
51:4:49:G:H2'	51:4:50:C:C6	2.55	0.41
52:5:133:G:H2'	52:5:134:G:C8	2.56	0.41
52:5:592:A:H2'	52:5:593:A:O4'	2.21	0.41
52:5:731:A:H2'	52:5:732:A:H8	1.83	0.41
52:5:1048:G:H2'	52:5:1049:G:H8	1.85	0.41
52:5:1150:G:C6	52:5:1151:A:N6	2.89	0.41
52:5:1235:C:O2'	52:5:1250:A:N6	2.41	0.41
52:5:1269:U:H2'	52:5:1270:C:C6	2.56	0.41
53:8:46:U:H2'	53:8:47:G:C5	2.55	0.41
5:B:11:ARG:NH2	5:B:181:LEU:O	2.54	0.41
5:B:169:LYS:HE2	5:B:171:TYR:CE1	2.55	0.41
6:C:80:LYS:NZ	52:5:609:G:H5''	2.36	0.41
9:F:107:ALA:HB1	9:F:119:ILE:HG13	2.02	0.41
19:P:6:ARG:HD2	19:P:79:LYS:HG3	2.03	0.41
20:Q:50:ARG:HA	20:Q:50:ARG:HD2	1.68	0.41
26:c:26:ALA:HB2	26:c:117:SER:HB3	2.03	0.41
26:c:123:ASP:OD1	26:c:123:ASP:N	2.53	0.41
28:e:174:ARG:CZ	28:e:174:ARG:HA	2.51	0.41
29:f:29:PHE:HB3	45:v:64:LEU:HD23	2.02	0.41
30:g:38:THR:OG1	50:3:1117:U:O2	2.38	0.41
36:m:5:ASN:ND2	50:3:2010:A:H4'	2.36	0.41
37:n:29:VAL:HG21	37:n:46:PHE:HD2	1.84	0.41
38:o:60:ILE:HD12	38:o:60:ILE:HA	1.95	0.41
42:s:2:ASP:CG	46:w:65:TRP:HE1	2.29	0.41
43:t:89:ILE:O	43:t:105:LYS:NZ	2.34	0.41
45:v:57:THR:O	45:v:60:LYS:HG2	2.20	0.41
49:z:7:THR:HB	49:z:49:GLU:OE2	2.20	0.41
50:3:314:G:O2'	50:3:315:A:H2'	2.21	0.41
50:3:612:G:O5'	50:3:612:G:H8	2.03	0.41
50:3:733:C:O2'	50:3:769:A:N6	2.54	0.41
50:3:1037:A:H2'	50:3:1038:G:O4'	2.20	0.41
50:3:1063:A:H2'	50:3:1064:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1232:U:O2'	50:3:1233:A:H5'	2.20	0.41
50:3:1519:A:H61	50:3:1613:A:H1'	1.85	0.41
50:3:1927:C:H2'	50:3:1928:G:C8	2.56	0.41
50:3:1959:A:H3'	50:3:1960:A:C8	2.55	0.41
50:3:2431:U:H4'	50:3:2433:A:H5''	2.03	0.41
50:3:2634:C:H2'	50:3:2635:G:H8	1.86	0.41
52:5:168:A:H3'	52:5:169:G:C8	2.48	0.41
52:5:1197:G:H2'	52:5:1198:C:C6	2.56	0.41
4:A:114:GLY:HA3	4:A:186:ASN:ND2	2.35	0.41
6:C:8:PHE:HD2	6:C:12:ARG:HH11	1.68	0.41
8:E:42:LEU:HD13	8:E:56:HIS:NE2	2.35	0.41
8:E:142:ARG:HH22	10:G:60:LEU:HD23	1.86	0.41
9:F:27:ASN:HB3	52:5:1349:A:O2'	2.21	0.41
9:F:108:ARG:HA	9:F:115:MET:HE1	2.02	0.41
13:J:119:ARG:HG3	23:T:34:TYR:CD2	2.56	0.41
14:K:30:LEU:HB2	52:5:51:A:N6	2.36	0.41
17:N:40:LEU:HD13	50:3:750:A:N6	2.36	0.41
31:h:76:LEU:HD12	31:h:76:LEU:HA	1.91	0.41
35:l:106:VAL:HG21	35:l:114:MET:HB3	2.02	0.41
39:p:83:LYS:HB2	39:p:83:LYS:HE2	1.85	0.41
41:r:21:CYS:O	41:r:25:VAL:HG23	2.20	0.41
42:s:42:LEU:HD22	50:3:145:A:O2'	2.21	0.41
46:w:65:TRP:CE2	50:3:147:C:H4'	2.55	0.41
49:z:25:VAL:HG13	49:z:26:LYS:HD3	2.03	0.41
50:3:83:G:H2'	50:3:84:G:O4'	2.21	0.41
50:3:276:A:H5'	50:3:277:C:OP2	2.21	0.41
50:3:451:A:N6	50:3:2417:G:O6	2.54	0.41
50:3:538:A:C6	50:3:540:A:C6	3.09	0.41
50:3:982:G:H2'	50:3:983:A:H8	1.85	0.41
50:3:1997:C:H2'	50:3:1998:U:N1	2.36	0.41
50:3:2085:C:H5	50:3:2246:G:O6	2.03	0.41
50:3:2422:G:C2	50:3:2423:G:C8	3.09	0.41
50:3:2541:C:H4'	50:3:2672:G:H4'	2.02	0.41
51:4:42:G:H4'	51:4:43:A:H5'	2.03	0.41
52:5:1054:C:OP2	52:5:1165:G:N2	2.54	0.41
52:5:1159:A:H2'	52:5:1160:G:H8	1.86	0.41
53:6:56:U:H6	53:6:59:A:C8	2.38	0.41
2:1:29:LEU:O	2:1:29:LEU:HD12	2.21	0.41
4:A:63:GLN:HG3	4:A:64:SER:N	2.36	0.41
8:E:39:TYR:CE1	8:E:56:HIS:HB3	2.56	0.41
8:E:105:GLN:O	8:E:109:LEU:N	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:15:VAL:HG22	10:G:41:LYS:HZ1	1.86	0.41
10:G:59:VAL:HG23	10:G:70:VAL:HG22	2.03	0.41
12:I:83:VAL:HG23	12:I:84:ASP:H	1.86	0.41
13:J:47:GLY:HA2	52:5:688:G:O6	2.21	0.41
13:J:64:ALA:HB2	13:J:93:PHE:CD1	2.56	0.41
15:L:39:ILE:HD11	15:L:48:LEU:HB3	2.01	0.41
15:L:113:ARG:NH2	52:5:940:G:OP1	2.54	0.41
18:O:6:VAL:N	52:5:44:C:OP1	2.46	0.41
19:P:24:VAL:HB	19:P:45:TYR:HB2	2.02	0.41
20:Q:40:TYR:HB2	20:Q:41:CYS:H	1.69	0.41
21:R:18:LYS:HE3	52:5:1009:G:H5''	2.01	0.41
21:R:23:ASN:ND2	21:R:43:GLU:HB3	2.35	0.41
21:R:77:THR:HB	52:5:1196:G:O3'	2.20	0.41
22:S:11:LEU:HA	22:S:14:ASN:ND2	2.35	0.41
22:S:15:ILE:O	22:S:19:LEU:HG	2.21	0.41
24:a:64:ARG:HD2	50:3:1601:A:OP1	2.21	0.41
25:b:173:LYS:NZ	50:3:2781:C:H5''	2.36	0.41
26:c:130:GLN:HG3	26:c:134:ASN:ND2	2.35	0.41
28:e:6:ASN:HD21	50:3:1146:A:H5'	1.86	0.41
28:e:42:LEU:HD23	28:e:42:LEU:HA	1.87	0.41
28:e:113:SER:HB2	50:3:2661:U:C2	2.56	0.41
32:i:25:GLY:HA2	32:i:65:VAL:HA	2.03	0.41
34:k:76:GLU:CD	34:k:110:LEU:HD13	2.46	0.41
34:k:81:ASN:HA	34:k:115:ILE:CG2	2.50	0.41
34:k:134:GLN:HE22	50:3:672:G:H5''	1.86	0.41
36:m:92:LYS:HE2	36:m:92:LYS:HB2	1.92	0.41
39:p:67:ALA:O	39:p:71:GLN:HG2	2.21	0.41
42:s:66:ARG:NE	42:s:69:SER:OG	2.53	0.41
42:s:77:LEU:H	42:s:77:LEU:HD12	1.86	0.41
43:t:28:MET:HE2	43:t:33:GLN:HB2	2.02	0.41
44:u:49:GLN:HG3	50:3:2362:A:H4'	2.03	0.41
45:v:12:PRO:HB3	45:v:30:ASN:OD1	2.20	0.41
45:v:42:ASP:O	45:v:44:LYS:NZ	2.46	0.41
46:w:14:GLU:O	46:w:18:LEU:HG	2.21	0.41
50:3:108:G:N2	50:3:380:A:N1	2.67	0.41
50:3:180:A:OP1	50:3:216:C:H5''	2.21	0.41
50:3:338:G:H2'	50:3:339:U:C6	2.56	0.41
50:3:355:A:O2'	50:3:374:A:N3	2.34	0.41
50:3:379:A:H1'	50:3:381:A:N6	2.35	0.41
50:3:401:G:H3'	50:3:402:A:H5''	2.01	0.41
50:3:580:U:OP1	50:3:1249:A:O2'	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:802:U:H2'	50:3:803:G:H8	1.86	0.41
50:3:876:A:H2'	50:3:877:G:C8	2.56	0.41
50:3:1258:C:C2	50:3:1259:A:H1'	2.55	0.41
50:3:1297:U:H3	50:3:2021:A:H61	1.69	0.41
50:3:1380:U:C2	50:3:1381:A:N7	2.89	0.41
50:3:1585:A:H2'	50:3:1585:A:N3	2.36	0.41
50:3:2177:G:H1	50:3:2178:A:N6	2.19	0.41
50:3:2263:G:H2'	50:3:2264:G:H8	1.86	0.41
50:3:2468:U:C2	50:3:2469:A:C8	3.09	0.41
50:3:2814:A:N1	50:3:2894:G:O2'	2.45	0.41
52:5:71:A:H2'	52:5:72:A:H8	1.84	0.41
52:5:267:C:H2'	52:5:268:C:C6	2.56	0.41
52:5:294:A:C4	52:5:295:G:N2	2.89	0.41
52:5:304:U:H2'	52:5:305:A:C8	2.55	0.41
52:5:565:G:O2'	52:5:566:G:O4'	2.36	0.41
52:5:663:G:H22	52:5:738:A:H1'	1.85	0.41
52:5:691:A:N1	52:5:784:A:O2'	2.54	0.41
52:5:725:A:H2'	52:5:726:A:H8	1.86	0.41
52:5:997:G:H2'	52:5:998:G:H8	1.86	0.41
52:5:1051:U:H2'	52:5:1052:G:C8	2.47	0.41
52:5:1141:U:O2'	52:5:1142:G:H5''	2.21	0.41
52:5:1261:A:H2'	52:5:1262:A:N7	2.36	0.41
52:5:1288:C:H2'	52:5:1289:U:C6	2.56	0.41
52:5:1417:U:H2'	52:5:1418:G:N7	2.35	0.41
53:6:50:G:C2	53:6:51:G:C8	3.09	0.41
53:8:50:G:C2	53:8:51:G:C8	3.09	0.41
10:G:88:LYS:HD2	10:G:88:LYS:HA	1.93	0.41
12:I:46:LEU:HD22	12:I:81:ILE:HD11	2.02	0.41
12:I:58:ILE:HD11	12:I:64:ASP:O	2.20	0.41
12:I:62:HIS:CG	12:I:63:VAL:H	2.39	0.41
26:c:57:GLU:OE1	26:c:57:GLU:N	2.54	0.41
26:c:59:ARG:HD2	50:3:488:G:C8	2.55	0.41
26:c:201:LYS:HE2	26:c:201:LYS:HB3	1.75	0.41
29:f:1:MET:HB3	29:f:2:LYS:H	1.68	0.41
29:f:99:ASN:ND2	50:3:165:U:OP2	2.54	0.41
32:i:9:LYS:NZ	50:3:571:A:O2'	2.38	0.41
32:i:36:ALA:O	32:i:40:ARG:HB2	2.21	0.41
35:l:35:VAL:HG21	35:l:132:LEU:HD23	2.03	0.41
35:l:52:ILE:HA	35:l:55:SER:OG	2.21	0.41
35:l:67:ARG:NH1	50:3:944:U:O2'	2.46	0.41
36:m:107:ARG:HB3	50:3:1314:A:H4'	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:r:130:GLU:O	41:r:133:GLN:HG3	2.21	0.41
48:y:5:GLN:OE1	50:3:2064:G:H5'	2.20	0.41
50:3:35:U:O2	50:3:509:G:C2	2.74	0.41
50:3:242:G:H2'	50:3:243:U:H6	1.86	0.41
50:3:243:U:O2'	50:3:658:G:O2'	2.08	0.41
50:3:462:C:H2'	50:3:463:U:C6	2.56	0.41
50:3:533:G:N2	50:3:541:G:O6	2.52	0.41
50:3:609:U:H4'	50:3:2510:G:C5	2.56	0.41
50:3:668:A:H2'	50:3:669:A:N3	2.35	0.41
50:3:1700:G:N2	50:3:2002:U:O2	2.54	0.41
50:3:1892:A:H3'	50:3:1893:C:C6	2.56	0.41
50:3:2589:G:N2	50:3:2618:C:H3'	2.35	0.41
50:3:2635:G:H3'	50:3:2636:U:C6	2.56	0.41
50:3:2784:A:C6	50:3:2786:A:C6	3.09	0.41
52:5:29:G:H2'	52:5:30:A:C8	2.55	0.41
52:5:61:A:O2'	52:5:92:G:N2	2.54	0.41
52:5:334:A:H2'	52:5:335:C:C6	2.56	0.41
52:5:353:G:H5''	52:5:363:U:H5''	2.03	0.41
52:5:403:A:H2'	52:5:404:A:H8	1.85	0.41
52:5:413:G:N1	52:5:423:U:C2	2.88	0.41
52:5:573:G:C6	52:5:875:G:C6	3.08	0.41
52:5:944:A:O2'	52:5:966:A:N6	2.54	0.41
52:5:1165:G:P	52:5:1166:A:H5'	2.61	0.41
4:A:44:PHE:HE2	8:E:160:VAL:HG12	1.85	0.40
4:A:78:ASN:HB2	8:E:167:ASP:HA	2.02	0.40
7:D:193:HIS:O	7:D:196:MET:HG2	2.21	0.40
12:I:9:TYR:CD2	12:I:12:LEU:HD22	2.56	0.40
24:a:171:LEU:HG	24:a:183:GLN:HB2	2.03	0.40
25:b:87:MET:HE2	25:b:90:PHE:HE2	1.85	0.40
25:b:129:LYS:HE2	25:b:129:LYS:HB3	1.87	0.40
27:d:33:LYS:HB2	27:d:92:ARG:HG3	2.03	0.40
28:e:27:VAL:HG22	28:e:82:VAL:HG11	2.02	0.40
28:e:62:LYS:NZ	50:3:1071:G:H5'	2.36	0.40
29:f:58:TYR:HE1	29:f:62:LYS:HE2	1.87	0.40
30:g:87:ASN:O	30:g:88:GLU:C	2.64	0.40
31:h:120:ALA:HA	31:h:123:MET:HG3	2.02	0.40
32:i:25:GLY:H	32:i:65:VAL:HG22	1.86	0.40
36:m:37:LYS:HB3	36:m:37:LYS:HE3	1.80	0.40
36:m:108:GLY:N	50:3:1315:A:OP1	2.54	0.40
42:s:58:LEU:O	42:s:80:LEU:N	2.53	0.40
50:3:39:C:H2'	50:3:40:A:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:318:U:H2'	50:3:319:G:C8	2.55	0.40
50:3:809:A:H1'	50:3:810:G:H8	1.86	0.40
50:3:1086:G:H2'	50:3:1087:C:O4'	2.20	0.40
50:3:1352:G:H3'	50:3:1353:G:H4'	2.03	0.40
50:3:1700:G:O6	50:3:1701:G:N2	2.54	0.40
50:3:2130:A:H2'	50:3:2130:A:N3	2.36	0.40
50:3:2564:C:H2'	50:3:2565:G:H5'	2.03	0.40
50:3:2581:C:C5'	50:3:2582:G:H5''	2.50	0.40
51:4:78:C:H6	51:4:78:C:H2'	1.70	0.40
52:5:298:G:O2'	52:5:554:C:OP1	2.35	0.40
52:5:308:C:H2'	52:5:309:A:C8	2.56	0.40
52:5:337:C:H2'	52:5:338:C:O4'	2.20	0.40
52:5:618:U:H2'	52:5:619:A:C8	2.55	0.40
52:5:673:A:H2	52:5:711:G:H1	1.69	0.40
52:5:1109:U:H3	52:5:1132:G:N2	2.18	0.40
2:1:26:THR:HG23	50:3:2400:A:OP1	2.21	0.40
4:A:92:VAL:O	4:A:96:VAL:HG13	2.21	0.40
4:A:118:THR:OG1	52:5:1065:G:O2'	2.34	0.40
5:B:78:ILE:HG23	5:B:82:ASN:CG	2.47	0.40
8:E:3:TYR:OH	52:5:735:C:OP1	2.40	0.40
9:F:32:ASP:HB3	52:5:1325:U:C4'	2.51	0.40
10:G:132:LYS:HE2	10:G:132:LYS:HB2	1.86	0.40
12:I:96:ILE:HG13	12:I:96:ILE:O	2.21	0.40
13:J:49:ARG:HD3	13:J:55:SER:HB3	2.04	0.40
14:K:12:ARG:HE	52:5:560:U:H1'	1.86	0.40
24:a:169:ARG:HB2	24:a:183:GLN:HB3	2.02	0.40
24:a:222:ARG:HE	24:a:224:ILE:HD12	1.86	0.40
25:b:4:ARG:HB3	25:b:101:LEU:HD22	2.04	0.40
31:h:11:LYS:HG2	50:3:1096:U:OP1	2.20	0.40
34:k:66:GLY:HA2	50:3:2424:C:OP1	2.21	0.40
35:l:77:LYS:HG3	35:l:88:GLY:HA2	2.03	0.40
37:n:46:PHE:HE1	51:4:7:G:H1'	1.86	0.40
37:n:87:THR:HG22	37:n:87:THR:O	2.21	0.40
50:3:159:G:H2'	50:3:160:A:C8	2.55	0.40
50:3:228:A:H2'	50:3:229:C:H6	1.82	0.40
50:3:374:A:H2'	50:3:375:U:O4'	2.22	0.40
50:3:1021:C:H2'	50:3:1022:C:C5	2.56	0.40
50:3:1134:G:H2'	50:3:1135:C:C6	2.55	0.40
50:3:1206:U:H1'	50:3:1208:A:N6	2.36	0.40
50:3:1273:U:H2'	50:3:1274:A:C8	2.57	0.40
50:3:1455:A:H8	50:3:1455:A:OP1	2.05	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1715:A:H5'	50:3:1770:A:H62	1.85	0.40
50:3:1760:G:H21	50:3:1762:A:H8	1.69	0.40
50:3:1919:A:OP2	50:3:1925:A:N6	2.50	0.40
50:3:2002:U:H2'	50:3:2003:C:C5	2.56	0.40
50:3:2090:G:N2	50:3:2244:U:O2	2.47	0.40
50:3:2104:A:H2'	50:3:2105:G:O4'	2.22	0.40
50:3:2409:U:O4	50:3:2423:G:O6	2.39	0.40
50:3:2850:G:C6	50:3:2851:U:C4	3.09	0.40
52:5:485:C:C4	52:5:486:C:C4	3.08	0.40
52:5:611:A:N1	52:5:626:G:C6	2.89	0.40
52:5:799:A:H3'	52:5:800:G:C8	2.54	0.40
52:5:826:G:H1	52:5:851:U:H3	1.69	0.40
53:6:51:G:C2	53:6:52:C:C4	3.09	0.40
4:A:90:ASP:HA	4:A:93:LYS:HE3	2.02	0.40
4:A:118:THR:OG1	52:5:1066:U:H5'	2.21	0.40
5:B:217:ARG:H	5:B:217:ARG:HD3	1.87	0.40
6:C:59:ARG:HH11	6:C:191:ILE:HD13	1.86	0.40
6:C:80:LYS:HA	6:C:80:LYS:HD3	1.82	0.40
6:C:91:ARG:HB2	6:C:181:PHE:HD2	1.86	0.40
18:O:66:LEU:HA	18:O:69:GLN:HB3	2.03	0.40
22:S:63:ASN:HA	22:S:66:ARG:HE	1.87	0.40
24:a:126:HIS:HB3	24:a:127:PRO:HD2	2.04	0.40
24:a:169:ARG:O	24:a:183:GLN:N	2.54	0.40
26:c:148:LYS:HB3	26:c:148:LYS:HE3	1.86	0.40
27:d:140:GLU:HA	47:x:30:LYS:HE2	2.03	0.40
34:k:26:SER:HB3	50:3:848:U:C5	2.56	0.40
35:l:58:LEU:HD12	35:l:59:GLY:H	1.86	0.40
40:q:22:VAL:HG22	40:q:92:LEU:HD22	2.02	0.40
42:s:60:ARG:NH1	50:3:1367:G:OP2	2.54	0.40
46:w:54:ILE:HA	46:w:57:ILE:HD12	2.02	0.40
50:3:454:G:C2	50:3:455:G:C5	3.09	0.40
50:3:567:U:C5'	50:3:594:G:H22	2.33	0.40
50:3:641:U:H5''	50:3:655:G:O6	2.22	0.40
50:3:1098:G:O6	50:3:1105:A:H5'	2.21	0.40
50:3:1322:A:H2'	50:3:1323:A:H5'	2.02	0.40
50:3:1353:G:H4'	50:3:1354:U:OP1	2.21	0.40
50:3:1471:A:H2'	50:3:1472:C:O4'	2.21	0.40
50:3:1899:C:N3	50:3:1900:C:C5	2.89	0.40
50:3:2566:C:C2	50:3:2567:C:C5	3.10	0.40
50:3:2601:U:H2'	50:3:2602:C:H6	1.86	0.40
50:3:2735:G:H2'	50:3:2736:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2819:C:C2	50:3:2820:G:C8	3.09	0.40
50:3:2828:C:H3'	50:3:2829:G:N2	2.35	0.40
52:5:518:A:H2	52:5:531:A:H61	1.68	0.40
52:5:861:A:HO2'	52:5:867:A:N6	2.19	0.40
52:5:1096:A:H2'	52:5:1097:G:H8	1.86	0.40
1:0:3:ARG:NH2	50:3:1654:G:H1'	2.37	0.40
4:A:214:ILE:HG12	4:A:216:PRO:HD3	2.04	0.40
11:H:72:GLY:N	52:5:1225:A:O2'	2.54	0.40
12:I:48:LEU:HD13	52:5:1255:A:H5''	2.02	0.40
16:M:15:LYS:HA	16:M:15:LYS:HD2	1.87	0.40
18:O:67:PHE:HA	18:O:72:LEU:HB3	2.03	0.40
24:a:138:LEU:HD12	24:a:170:ILE:HD13	2.02	0.40
26:c:54:THR:OG1	50:3:836:G:O6	2.35	0.40
26:c:56:GLY:HA3	50:3:836:G:N7	2.37	0.40
30:g:118:PHE:HB2	30:g:123:LEU:HB2	2.03	0.40
33:j:51:MET:SD	33:j:51:MET:N	2.95	0.40
35:l:13:HIS:N	50:3:947:A:H62	2.14	0.40
38:o:40:LYS:HB2	38:o:40:LYS:HE2	1.91	0.40
38:o:66:VAL:HB	38:o:79:PHE:HE1	1.86	0.40
39:p:76:SER:OG	50:3:1187:C:H1'	2.21	0.40
45:v:56:ARG:HA	45:v:59:LYS:HD2	2.04	0.40
49:z:17:ILE:HD13	49:z:17:ILE:HA	1.96	0.40
50:3:106:C:H2'	50:3:107:C:C6	2.57	0.40
50:3:278:U:O2	50:3:292:G:O6	2.39	0.40
50:3:532:A:H2'	50:3:533:G:C8	2.57	0.40
50:3:696:U:H2'	50:3:697:U:C6	2.56	0.40
50:3:892:G:H2'	50:3:893:A:O4'	2.22	0.40
50:3:1467:U:H2'	50:3:1468:U:C6	2.55	0.40
50:3:1897:A:H2	50:3:2242:G:H21	1.65	0.40
50:3:1918:U:H3'	50:3:1925:A:H61	1.86	0.40
50:3:1987:C:H3'	50:3:1988:A:H5''	2.03	0.40
50:3:2013:C:OP1	50:3:2055:A:H5''	2.22	0.40
50:3:2100:G:N7	50:3:2233:A:C5	2.90	0.40
50:3:2168:C:H5''	50:3:2169:G:OP2	2.22	0.40
50:3:2663:G:H22	50:3:2673:A:P	2.44	0.40
50:3:2793:U:H2'	50:3:2794:U:C6	2.57	0.40
52:5:111:A:H4'	52:5:632:A:O2'	2.21	0.40
52:5:422:A:C5	52:5:423:U:C4	3.09	0.40
52:5:763:A:H2'	52:5:764:A:O4'	2.22	0.40
52:5:876:C:H2'	52:5:877:C:C6	2.57	0.40
52:5:937:G:H2'	52:5:938:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:957:C:H2'	52:5:958:G:C8	2.56	0.40
52:5:958:G:C2	52:5:968:G:C2	3.10	0.40
52:5:1037:A:H3'	52:5:1038:G:H8	1.86	0.40
6:C:12:ARG:HD3	6:C:31:ARG:HH21	1.86	0.40
6:C:49:GLY:HA2	6:C:52:GLN:OE1	2.22	0.40
21:R:31:ILE:HD13	21:R:31:ILE:HA	1.95	0.40
21:R:48:THR:HB	21:R:59:ASN:HB3	2.04	0.40
24:a:184:LEU:HD23	24:a:190:ARG:HB2	2.03	0.40
25:b:18:THR:HA	25:b:222:LEU:HA	2.04	0.40
27:d:108:LEU:HD13	27:d:114:PHE:CZ	2.56	0.40
30:g:38:THR:HG21	31:h:113:ASN:OD1	2.22	0.40
32:i:40:ARG:NH1	50:3:1043:C:OP1	2.54	0.40
39:p:9:THR:HG22	50:3:1281:A:OP2	2.22	0.40
39:p:23:SER:OG	39:p:27:ARG:HB2	2.22	0.40
43:t:12:VAL:N	43:t:20:GLY:O	2.43	0.40
43:t:70:PHE:O	43:t:74:LEU:HD23	2.21	0.40
44:u:54:GLN:NE2	44:u:57:THR:HA	2.36	0.40
47:x:10:GLN:N	47:x:27:SER:O	2.49	0.40
48:y:51:LEU:C	48:y:53:VAL:N	2.80	0.40
50:3:78:C:C2	50:3:112:A:N6	2.90	0.40
50:3:232:A:O2'	50:3:233:U:H4'	2.22	0.40
50:3:250:U:O2'	50:3:424:G:N7	2.53	0.40
50:3:452:U:H3	50:3:2415:A:N6	2.18	0.40
50:3:535:G:N1	50:3:538:A:OP2	2.40	0.40
50:3:896:U:H2'	50:3:897:A:H8	1.87	0.40
50:3:978:G:H2'	50:3:979:U:O4'	2.21	0.40
50:3:1020:G:N2	50:3:1020:G:OP2	2.53	0.40
50:3:1512:A:H2'	50:3:1513:A:C8	2.56	0.40
50:3:1839:C:C4	50:3:1840:C:C4	3.09	0.40
50:3:2068:G:N1	50:3:2455:G:O6	2.54	0.40
50:3:2210:G:O6	50:3:2230:A:N6	2.54	0.40
50:3:2252:U:H2'	50:3:2253:U:C6	2.56	0.40
50:3:2639:G:O2'	50:3:2640:A:H5'	2.20	0.40
51:4:26:C:H2'	51:4:27:A:C8	2.57	0.40
52:5:97:G:O2'	52:5:98:G:O5'	2.38	0.40
52:5:107:A:O2'	52:5:286:C:H1'	2.22	0.40
52:5:212:G:H2'	52:5:213:U:C6	2.56	0.40
52:5:234:G:H2'	52:5:235:C:C6	2.57	0.40
52:5:355:A:C6	52:5:356:G:C5	3.09	0.40
52:5:386:U:H2'	52:5:387:G:C8	2.52	0.40
52:5:528:G:C5	53:6:36:A:H4'	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:740:G:H2'	52:5:741:C:H6	1.86	0.40
52:5:782:G:H2'	52:5:783:G:H8	1.87	0.40
53:8:51:G:C2	53:8:52:C:C4	3.09	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%)	44 (98%)	1 (2%)	0	100	100
2	1	57/59 (97%)	50 (88%)	7 (12%)	0	100	100
3	2	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
4	A	238/294 (81%)	221 (93%)	17 (7%)	0	100	100
5	B	213/273 (78%)	197 (92%)	16 (8%)	0	100	100
6	C	201/205 (98%)	185 (92%)	16 (8%)	0	100	100
7	D	151/219 (69%)	140 (93%)	11 (7%)	0	100	100
8	E	165/215 (77%)	149 (90%)	16 (10%)	0	100	100
9	F	152/155 (98%)	139 (91%)	13 (9%)	0	100	100
10	G	139/142 (98%)	122 (88%)	16 (12%)	1 (1%)	18	56
11	H	126/132 (96%)	111 (88%)	15 (12%)	0	100	100
12	I	99/108 (92%)	92 (93%)	7 (7%)	0	100	100
13	J	112/121 (93%)	106 (95%)	6 (5%)	0	100	100
14	K	134/139 (96%)	121 (90%)	11 (8%)	2 (2%)	8	40
15	L	116/124 (94%)	104 (90%)	12 (10%)	0	100	100
16	M	58/61 (95%)	54 (93%)	4 (7%)	0	100	100
17	N	81/86 (94%)	80 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
18	O	78/94 (83%)	75 (96%)	3 (4%)	0	100	100
19	P	81/85 (95%)	76 (94%)	5 (6%)	0	100	100
20	Q	63/104 (61%)	59 (94%)	4 (6%)	0	100	100
21	R	82/87 (94%)	69 (84%)	13 (16%)	0	100	100
22	S	75/87 (86%)	75 (100%)	0	0	100	100
23	T	51/60 (85%)	48 (94%)	3 (6%)	0	100	100
24	a	283/287 (99%)	258 (91%)	25 (9%)	0	100	100
25	b	227/287 (79%)	204 (90%)	23 (10%)	0	100	100
26	c	208/212 (98%)	193 (93%)	15 (7%)	0	100	100
27	d	173/180 (96%)	164 (95%)	9 (5%)	0	100	100
28	e	174/184 (95%)	160 (92%)	14 (8%)	0	100	100
29	f	143/149 (96%)	133 (93%)	9 (6%)	1 (1%)	18	56
30	g	124/161 (77%)	101 (82%)	17 (14%)	6 (5%)	2	16
31	h	126/137 (92%)	116 (92%)	10 (8%)	0	100	100
32	i	142/146 (97%)	129 (91%)	13 (9%)	0	100	100
33	j	120/122 (98%)	113 (94%)	7 (6%)	0	100	100
34	k	146/151 (97%)	137 (94%)	9 (6%)	0	100	100
35	l	134/139 (96%)	127 (95%)	7 (5%)	0	100	100
36	m	117/124 (94%)	104 (89%)	13 (11%)	0	100	100
37	n	108/116 (93%)	101 (94%)	7 (6%)	0	100	100
38	o	113/119 (95%)	106 (94%)	7 (6%)	0	100	100
39	p	112/127 (88%)	109 (97%)	3 (3%)	0	100	100
40	q	97/100 (97%)	87 (90%)	10 (10%)	0	100	100
41	r	137/159 (86%)	128 (93%)	9 (7%)	0	100	100
42	s	90/237 (38%)	84 (93%)	6 (7%)	0	100	100
43	t	109/111 (98%)	101 (93%)	8 (7%)	0	100	100
44	u	84/104 (81%)	78 (93%)	6 (7%)	0	100	100
45	v	61/65 (94%)	56 (92%)	5 (8%)	0	100	100
46	w	96/111 (86%)	95 (99%)	1 (1%)	0	100	100
47	x	42/97 (43%)	36 (86%)	6 (14%)	0	100	100
48	y	54/57 (95%)	46 (85%)	6 (11%)	2 (4%)	2	20

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
49	z	48/53 (91%)	46 (96%)	2 (4%)	0	100	100
All	All	5820/6670 (87%)	5363 (92%)	445 (8%)	12 (0%)	44	78

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
10	G	109	ASN
29	f	18	VAL
30	g	45	PHE
30	g	48	GLY
30	g	87	ASN
30	g	89	ILE
48	y	53	VAL
30	g	90	VAL
48	y	47	MET
14	K	116	ASP
14	K	120	VAL
30	g	84	VAL

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

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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
9	F	131/132 (99%)	131 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	G	123/124 (99%)	122 (99%)	1 (1%)	73	80
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%)	114 (97%)	3 (3%)	40	62
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%)	90 (89%)	11 (11%)	6	21
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
40	q	90/91 (99%)	90 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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%)	44 (92%)	4 (8%)	10	30
49	z	47/50 (94%)	47 (100%)	0	100	100
All	All	5101/5751 (89%)	5082 (100%)	19 (0%)	81	84

All (19) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
10	G	108	LEU
14	K	120	VAL
14	K	122	LYS
14	K	123	ARG
30	g	29	TYR
30	g	42	LYS
30	g	43	LYS
30	g	44	LEU
30	g	46	LYS
30	g	86	VAL
30	g	87	ASN
30	g	88	GLU
30	g	89	ILE
30	g	90	VAL
30	g	91	GLU
48	y	47	MET
48	y	50	ASP
48	y	51	LEU
48	y	52	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	38	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	1	32	HIS
2	1	37	GLN
4	A	61	GLN
4	A	70	ASN
4	A	140	ASN
4	A	207	ASN
5	B	91	GLN
6	C	21	ASN
6	C	22	ASN
6	C	170	ASN
7	D	138	HIS
7	D	202	GLN
8	E	20	GLN
8	E	31	ASN
8	E	81	GLN
9	F	152	HIS
10	G	23	ASN
10	G	56	ASN
11	H	33	ASN
12	I	86	ASN
13	J	15	HIS
16	M	10	GLN
17	N	2	GLN
17	N	23	GLN
17	N	43	ASN
18	O	40	ASN
19	P	62	GLN
20	Q	48	GLN
22	S	18	ASN
22	S	34	ASN
22	S	63	ASN
24	a	281	ASN
24	a	286	GLN
25	b	21	ASN
25	b	35	GLN
26	c	134	ASN
27	d	17	GLN
27	d	63	GLN
28	e	17	ASN
28	e	52	ASN
28	e	72	ASN
28	e	146	GLN

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Mol	Chain	Res	Type
29	f	28	HIS
29	f	54	GLN
29	f	84	HIS
29	f	99	ASN
29	f	102	HIS
30	g	87	ASN
31	h	31	ASN
31	h	47	GLN
32	i	11	GLN
33	j	13	ASN
33	j	112	ASN
34	k	83	ASN
34	k	134	GLN
35	l	113	GLN
36	m	58	ASN
36	m	59	ASN
36	m	81	HIS
37	n	24	HIS
39	p	19	GLN
40	q	17	ASN
40	q	76	GLN
40	q	87	GLN
41	r	7	GLN
43	t	32	GLN
43	t	33	GLN
43	t	40	ASN
43	t	50	GLN
44	u	31	HIS
45	v	62	ASN
46	w	46	GLN
46	w	69	GLN
46	w	89	GLN
47	x	6	HIS
47	x	43	HIS
48	y	25	GLN

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
50	3	2875/2907 (98%)	961 (33%)	37 (1%)
51	4	103/108 (95%)	36 (34%)	3 (2%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
52	5	1490/1520 (98%)	463 (31%)	9 (0%)
53	6	75/76 (98%)	28 (37%)	3 (4%)
53	8	75/76 (98%)	28 (37%)	3 (4%)
All	All	4618/4687 (98%)	1516 (32%)	55 (1%)

All (1516) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
50	3	11	U
50	3	12	A
50	3	14	U
50	3	15	A
50	3	16	A
50	3	28	G
50	3	29	G
50	3	32	G
50	3	33	C
50	3	34	C
50	3	36	U
50	3	37	G
50	3	42	U
50	3	48	G
50	3	52	U
50	3	53	G
50	3	54	A
50	3	57	G
50	3	61	U
50	3	63	U
50	3	64	U
50	3	65	A
50	3	73	A
50	3	75	A
50	3	76	A
50	3	77	G
50	3	87	G
50	3	93	A
50	3	98	C
50	3	102	A
50	3	104	A
50	3	115	U
50	3	116	C
50	3	119	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	120	A
50	3	121	U
50	3	122	G
50	3	126	C
50	3	129	U
50	3	130	C
50	3	132	G
50	3	133	G
50	3	136	G
50	3	137	U
50	3	141	A
50	3	146	G
50	3	148	U
50	3	155	A
50	3	158	U
50	3	163	A
50	3	165	U
50	3	169	U
50	3	178	A
50	3	180	A
50	3	181	G
50	3	184	A
50	3	185	U
50	3	188	G
50	3	189	U
50	3	190	G
50	3	200	A
50	3	201	A
50	3	203	A
50	3	205	C
50	3	211	A
50	3	219	G
50	3	220	A
50	3	226	A
50	3	229	C
50	3	230	G
50	3	232	A
50	3	233	U
50	3	237	A
50	3	246	G
50	3	249	G
50	3	251	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	252	G
50	3	253	C
50	3	256	G
50	3	258	G
50	3	259	A
50	3	263	C
50	3	265	G
50	3	266	A
50	3	270	G
50	3	276	A
50	3	278	U
50	3	284	U
50	3	285	U
50	3	286	A
50	3	287	G
50	3	288	A
50	3	289	U
50	3	293	G
50	3	295	U
50	3	296	U
50	3	298	U
50	3	299	A
50	3	306	G
50	3	309	A
50	3	310	U
50	3	311	G
50	3	312	U
50	3	314	G
50	3	315	A
50	3	319	G
50	3	320	A
50	3	325	G
50	3	329	G
50	3	333	A
50	3	336	C
50	3	339	U
50	3	345	A
50	3	346	G
50	3	347	C
50	3	355	A
50	3	357	A
50	3	358	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	363	G
50	3	364	A
50	3	365	U
50	3	366	A
50	3	369	C
50	3	370	C
50	3	372	G
50	3	373	U
50	3	374	A
50	3	375	U
50	3	379	A
50	3	383	U
50	3	385	U
50	3	392	A
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
50	3	411	U
50	3	412	A
50	3	418	G
50	3	422	A
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	438	A
50	3	439	U
50	3	440	C
50	3	441	U
50	3	442	G
50	3	447	G
50	3	448	A
50	3	457	U
50	3	458	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	460	G
50	3	468	A
50	3	471	A
50	3	479	A
50	3	480	C
50	3	483	A
50	3	484	U
50	3	487	C
50	3	491	A
50	3	492	C
50	3	494	G
50	3	495	U
50	3	500	U
50	3	501	G
50	3	506	A
50	3	509	G
50	3	511	U
50	3	514	A
50	3	515	A
50	3	517	G
50	3	519	A
50	3	520	C
50	3	531	G
50	3	538	A
50	3	539	U
50	3	540	A
50	3	544	U
50	3	545	C
50	3	553	A
50	3	562	C
50	3	563	A
50	3	564	A
50	3	565	C
50	3	566	G
50	3	568	G
50	3	579	U
50	3	582	A
50	3	583	U
50	3	584	G
50	3	586	G
50	3	589	A
50	3	591	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	595	U
50	3	596	G
50	3	598	G
50	3	599	U
50	3	601	U
50	3	607	U
50	3	608	A
50	3	615	G
50	3	634	C
50	3	635	G
50	3	636	U
50	3	637	U
50	3	650	G
50	3	657	A
50	3	659	C
50	3	661	G
50	3	663	A
50	3	669	A
50	3	673	A
50	3	676	U
50	3	679	A
50	3	680	A
50	3	681	A
50	3	682	A
50	3	683	G
50	3	689	U
50	3	690	U
50	3	691	G
50	3	694	U
50	3	700	U
50	3	701	A
50	3	703	A
50	3	706	C
50	3	709	G
50	3	710	A
50	3	712	A
50	3	719	G
50	3	721	G
50	3	722	C
50	3	724	A
50	3	734	A
50	3	737	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	740	A
50	3	752	C
50	3	761	G
50	3	762	A
50	3	764	G
50	3	765	A
50	3	782	U
50	3	787	C
50	3	792	G
50	3	800	C
50	3	810	G
50	3	811	G
50	3	812	G
50	3	816	A
50	3	817	A
50	3	818	A
50	3	819	U
50	3	820	U
50	3	825	U
50	3	827	G
50	3	828	A
50	3	829	A
50	3	835	U
50	3	836	G
50	3	837	A
50	3	840	G
50	3	842	U
50	3	847	C
50	3	851	U
50	3	854	A
50	3	855	A
50	3	862	U
50	3	863	U
50	3	864	A
50	3	865	A
50	3	871	G
50	3	874	U
50	3	881	A
50	3	882	C
50	3	883	A
50	3	885	A
50	3	887	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	889	G
50	3	891	G
50	3	893	A
50	3	894	G
50	3	895	G
50	3	902	U
50	3	903	A
50	3	904	C
50	3	906	G
50	3	917	G
50	3	932	U
50	3	933	A
50	3	936	G
50	3	944	U
50	3	947	A
50	3	949	C
50	3	952	U
50	3	953	G
50	3	966	U
50	3	968	U
50	3	970	U
50	3	971	U
50	3	975	G
50	3	977	A
50	3	978	G
50	3	981	A
50	3	982	G
50	3	985	A
50	3	989	G
50	3	993	A
50	3	994	U
50	3	995	A
50	3	997	G
50	3	998	C
50	3	1008	A
50	3	1009	A
50	3	1011	A
50	3	1016	A
50	3	1017	A
50	3	1019	A
50	3	1021	C
50	3	1022	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	1024	A
50	3	1025	G
50	3	1026	A
50	3	1027	U
50	3	1029	A
50	3	1032	A
50	3	1044	C
50	3	1046	A
50	3	1049	U
50	3	1050	A
50	3	1052	A
50	3	1055	A
50	3	1057	G
50	3	1061	A
50	3	1068	U
50	3	1069	G
50	3	1074	A
50	3	1075	G
50	3	1077	G
50	3	1081	A
50	3	1082	A
50	3	1083	A
50	3	1087	C
50	3	1088	A
50	3	1089	A
50	3	1095	U
50	3	1096	U
50	3	1097	G
50	3	1103	G
50	3	1104	A
50	3	1105	A
50	3	1106	G
50	3	1107	C
50	3	1108	A
50	3	1111	C
50	3	1113	U
50	3	1115	G
50	3	1119	A
50	3	1121	A
50	3	1123	A
50	3	1124	G
50	3	1125	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	1126	G
50	3	1129	U
50	3	1130	A
50	3	1132	C
50	3	1138	A
50	3	1145	G
50	3	1147	G
50	3	1148	U
50	3	1150	U
50	3	1151	U
50	3	1154	U
50	3	1162	A
50	3	1166	G
50	3	1168	A
50	3	1169	A
50	3	1170	C
50	3	1171	G
50	3	1175	C
50	3	1177	A
50	3	1179	G
50	3	1186	A
50	3	1187	C
50	3	1191	A
50	3	1201	A
50	3	1206	U
50	3	1207	U
50	3	1209	U
50	3	1210	A
50	3	1215	G
50	3	1221	G
50	3	1230	U
50	3	1233	A
50	3	1234	U
50	3	1243	A
50	3	1250	A
50	3	1251	G
50	3	1253	G
50	3	1256	A
50	3	1257	G
50	3	1259	A
50	3	1260	U
50	3	1266	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	1267	A
50	3	1268	U
50	3	1269	C
50	3	1274	A
50	3	1277	A
50	3	1279	U
50	3	1280	G
50	3	1281	A
50	3	1282	G
50	3	1283	A
50	3	1285	U
50	3	1286	G
50	3	1292	A
50	3	1293	U
50	3	1296	G
50	3	1298	A
50	3	1300	C
50	3	1301	G
50	3	1302	C
50	3	1303	U
50	3	1304	U
50	3	1308	A
50	3	1314	A
50	3	1315	A
50	3	1317	C
50	3	1319	C
50	3	1322	A
50	3	1323	A
50	3	1329	U
50	3	1330	U
50	3	1338	G
50	3	1340	U
50	3	1342	C
50	3	1345	G
50	3	1349	C
50	3	1357	U
50	3	1360	U
50	3	1366	G
50	3	1367	G
50	3	1370	A
50	3	1371	G
50	3	1373	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	1381	A
50	3	1388	G
50	3	1393	A
50	3	1406	A
50	3	1407	U
50	3	1420	A
50	3	1422	U
50	3	1423	A
50	3	1424	U
50	3	1426	C
50	3	1431	A
50	3	1434	U
50	3	1437	A
50	3	1438	G
50	3	1444	C
50	3	1445	U
50	3	1448	U
50	3	1455	A
50	3	1456	C
50	3	1457	A
50	3	1463	G
50	3	1466	U
50	3	1467	U
50	3	1480	A
50	3	1481	U
50	3	1483	G
50	3	1487	U
50	3	1493	A
50	3	1495	A
50	3	1505	G
50	3	1506	U
50	3	1507	G
50	3	1508	G
50	3	1509	U
50	3	1510	A
50	3	1518	C
50	3	1519	A
50	3	1523	C
50	3	1525	G
50	3	1530	G
50	3	1533	U
50	3	1534	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	1541	A
50	3	1544	G
50	3	1546	U
50	3	1549	U
50	3	1550	G
50	3	1557	G
50	3	1559	A
50	3	1571	G
50	3	1578	A
50	3	1579	G
50	3	1580	G
50	3	1581	U
50	3	1583	G
50	3	1584	U
50	3	1585	A
50	3	1586	U
50	3	1588	A
50	3	1589	A
50	3	1592	A
50	3	1593	U
50	3	1594	G
50	3	1599	C
50	3	1600	A
50	3	1601	A
50	3	1612	U
50	3	1615	G
50	3	1618	U
50	3	1619	A
50	3	1622	C
50	3	1635	G
50	3	1637	A
50	3	1642	G
50	3	1643	A
50	3	1645	C
50	3	1648	A
50	3	1650	A
50	3	1651	C
50	3	1652	A
50	3	1656	A
50	3	1660	A
50	3	1663	G
50	3	1666	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	1676	G
50	3	1679	U
50	3	1681	G
50	3	1682	C
50	3	1683	G
50	3	1688	A
50	3	1691	U
50	3	1692	A
50	3	1697	C
50	3	1703	A
50	3	1704	C
50	3	1705	U
50	3	1707	U
50	3	1708	G
50	3	1711	A
50	3	1712	A
50	3	1713	U
50	3	1715	A
50	3	1716	A
50	3	1720	C
50	3	1727	U
50	3	1728	A
50	3	1729	G
50	3	1730	C
50	3	1733	G
50	3	1735	A
50	3	1736	G
50	3	1741	G
50	3	1742	C
50	3	1745	A
50	3	1747	G
50	3	1748	U
50	3	1753	G
50	3	1760	G
50	3	1762	A
50	3	1763	G
50	3	1764	U
50	3	1765	G
50	3	1766	A
50	3	1767	A
50	3	1768	G
50	3	1769	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	1771	C
50	3	1774	G
50	3	1780	A
50	3	1786	U
50	3	1787	A
50	3	1788	A
50	3	1789	C
50	3	1790	U
50	3	1791	A
50	3	1793	A
50	3	1794	A
50	3	1798	A
50	3	1807	C
50	3	1809	A
50	3	1821	G
50	3	1823	U
50	3	1824	G
50	3	1836	A
50	3	1837	C
50	3	1842	G
50	3	1843	C
50	3	1846	A
50	3	1847	G
50	3	1855	A
50	3	1865	A
50	3	1873	A
50	3	1874	G
50	3	1876	G
50	3	1877	C
50	3	1879	A
50	3	1890	U
50	3	1891	A
50	3	1895	G
50	3	1906	G
50	3	1907	A
50	3	1908	A
50	3	1909	C
50	3	1913	G
50	3	1914	G
50	3	1920	A
50	3	1921	C
50	3	1922	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	1926	A
50	3	1936	G
50	3	1937	G
50	3	1942	G
50	3	1943	A
50	3	1944	A
50	3	1948	C
50	3	1950	U
50	3	1951	A
50	3	1952	G
50	3	1956	G
50	3	1958	U
50	3	1961	A
50	3	1962	U
50	3	1970	C
50	3	1972	C
50	3	1973	U
50	3	1977	A
50	3	1978	U
50	3	1979	G
50	3	1980	G
50	3	1982	G
50	3	1983	U
50	3	1988	A
50	3	1989	U
50	3	1996	A
50	3	1998	U
50	3	1999	G
50	3	2000	U
50	3	2003	C
50	3	2004	G
50	3	2009	U
50	3	2010	A
50	3	2012	A
50	3	2020	A
50	3	2022	A
50	3	2023	U
50	3	2027	G
50	3	2028	G
50	3	2030	A
50	3	2037	A
50	3	2039	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	2040	A
50	3	2041	C
50	3	2042	A
50	3	2043	C
50	3	2049	A
50	3	2050	G
50	3	2056	A
50	3	2058	G
50	3	2059	G
50	3	2062	C
50	3	2063	G
50	3	2066	A
50	3	2067	A
50	3	2068	G
50	3	2075	U
50	3	2076	G
50	3	2083	U
50	3	2084	A
50	3	2087	G
50	3	2095	A
50	3	2100	G
50	3	2101	A
50	3	2102	U
50	3	2106	G
50	3	2107	A
50	3	2109	A
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	2120	G
50	3	2123	A
50	3	2124	A
50	3	2125	U
50	3	2131	G
50	3	2132	G
50	3	2133	A
50	3	2134	G
50	3	2138	U
50	3	2140	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	2145	A
50	3	2151	G
50	3	2153	U
50	3	2154	A
50	3	2163	U
50	3	2164	G
50	3	2166	U
50	3	2170	A
50	3	2172	A
50	3	2175	U
50	3	2176	G
50	3	2180	U
50	3	2181	A
50	3	2185	C
50	3	2189	U
50	3	2193	U
50	3	2195	U
50	3	2198	G
50	3	2200	U
50	3	2202	U
50	3	2203	U
50	3	2206	A
50	3	2207	A
50	3	2212	U
50	3	2216	U
50	3	2220	A
50	3	2221	U
50	3	2225	G
50	3	2227	U
50	3	2230	A
50	3	2231	A
50	3	2233	A
50	3	2244	U
50	3	2246	G
50	3	2247	G
50	3	2252	U
50	3	2254	G
50	3	2257	U
50	3	2259	G
50	3	2260	G
50	3	2270	U
50	3	2276	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	2283	C
50	3	2286	A
50	3	2287	G
50	3	2290	G
50	3	2291	U
50	3	2294	A
50	3	2295	A
50	3	2296	A
50	3	2297	G
50	3	2304	U
50	3	2305	C
50	3	2308	U
50	3	2311	G
50	3	2313	U
50	3	2316	G
50	3	2317	A
50	3	2319	A
50	3	2320	U
50	3	2321	C
50	3	2327	U
50	3	2328	A
50	3	2330	A
50	3	2332	U
50	3	2333	G
50	3	2334	U
50	3	2341	G
50	3	2342	U
50	3	2343	A
50	3	2350	C
50	3	2351	U
50	3	2352	U
50	3	2353	G
50	3	2354	A
50	3	2355	C
50	3	2358	U
50	3	2359	G
50	3	2362	A
50	3	2367	C
50	3	2380	U
50	3	2391	G
50	3	2393	C
50	3	2397	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	2400	A
50	3	2409	U
50	3	2410	C
50	3	2411	C
50	3	2415	A
50	3	2418	G
50	3	2424	C
50	3	2425	C
50	3	2429	G
50	3	2435	C
50	3	2436	G
50	3	2437	G
50	3	2438	A
50	3	2440	A
50	3	2441	A
50	3	2442	A
50	3	2443	A
50	3	2448	C
50	3	2449	U
50	3	2455	G
50	3	2456	A
50	3	2457	U
50	3	2458	A
50	3	2467	A
50	3	2472	G
50	3	2474	C
50	3	2481	U
50	3	2482	U
50	3	2483	C
50	3	2484	A
50	3	2486	A
50	3	2487	U
50	3	2488	C
50	3	2492	G
50	3	2495	A
50	3	2497	U
50	3	2502	G
50	3	2504	C
50	3	2505	A
50	3	2506	C
50	3	2507	C
50	3	2509	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	2510	G
50	3	2511	A
50	3	2513	G
50	3	2514	U
50	3	2521	A
50	3	2526	A
50	3	2527	U
50	3	2528	C
50	3	2537	G
50	3	2538	A
50	3	2539	A
50	3	2540	G
50	3	2543	G
50	3	2551	G
50	3	2561	G
50	3	2562	U
50	3	2563	U
50	3	2564	C
50	3	2565	G
50	3	2571	U
50	3	2572	A
50	3	2574	A
50	3	2580	A
50	3	2581	C
50	3	2582	G
50	3	2585	A
50	3	2586	G
50	3	2590	G
50	3	2591	G
50	3	2593	U
50	3	2594	C
50	3	2596	A
50	3	2604	U
50	3	2605	G
50	3	2610	A
50	3	2611	G
50	3	2619	C
50	3	2621	U
50	3	2622	A
50	3	2636	U
50	3	2638	G
50	3	2640	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	2642	G
50	3	2644	U
50	3	2646	G
50	3	2647	A
50	3	2649	G
50	3	2653	G
50	3	2662	A
50	3	2664	U
50	3	2668	A
50	3	2669	G
50	3	2676	G
50	3	2681	G
50	3	2683	G
50	3	2687	A
50	3	2697	C
50	3	2698	U
50	3	2699	C
50	3	2708	G
50	3	2710	G
50	3	2722	G
50	3	2724	U
50	3	2726	G
50	3	2731	U
50	3	2734	C
50	3	2735	G
50	3	2737	G
50	3	2741	A
50	3	2745	G
50	3	2747	U
50	3	2749	A
50	3	2751	C
50	3	2752	G
50	3	2756	A
50	3	2763	C
50	3	2765	A
50	3	2769	G
50	3	2773	A
50	3	2774	A
50	3	2775	C
50	3	2778	U
50	3	2780	U
50	3	2784	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	2785	G
50	3	2786	A
50	3	2788	U
50	3	2790	A
50	3	2803	G
50	3	2804	C
50	3	2805	A
50	3	2806	A
50	3	2808	A
50	3	2809	A
50	3	2810	A
50	3	2811	G
50	3	2813	A
50	3	2815	G
50	3	2821	U
50	3	2822	C
50	3	2824	A
50	3	2825	A
50	3	2832	G
50	3	2835	G
50	3	2839	A
50	3	2840	U
50	3	2844	U
50	3	2851	U
50	3	2853	U
50	3	2854	A
50	3	2860	A
50	3	2863	G
50	3	2864	A
50	3	2865	U
50	3	2870	U
50	3	2871	G
50	3	2873	G
50	3	2876	G
50	3	2877	A
50	3	2881	A
50	3	2883	A
50	3	2884	C
50	3	2887	A
50	3	2888	U
50	3	2890	G
50	3	2897	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	2898	A
50	3	2899	C
50	3	2900	U
51	4	7	G
51	4	8	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	27	A
51	4	28	C
51	4	32	G
51	4	35	C
51	4	36	C
51	4	38	U
51	4	39	U
51	4	40	U
51	4	41	C
51	4	42	G
51	4	44	A
51	4	45	C
51	4	47	C
51	4	48	A
51	4	49	G
51	4	55	A
51	4	57	G
51	4	60	C
51	4	66	A
51	4	72	A
51	4	76	A
51	4	77	G
51	4	78	C
51	4	79	U
51	4	85	A
51	4	89	A
51	4	98	A
51	4	99	A
52	5	6	C
52	5	7	U
52	5	8	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	10	G
52	5	11	A
52	5	14	U
52	5	21	U
52	5	30	A
52	5	33	A
52	5	38	U
52	5	40	G
52	5	48	C
52	5	49	C
52	5	50	U
52	5	52	A
52	5	54	A
52	5	58	G
52	5	65	G
52	5	66	A
52	5	72	A
52	5	75	A
52	5	84	U
52	5	86	A
52	5	87	G
52	5	89	G
52	5	93	A
52	5	94	A
52	5	96	G
52	5	98	G
52	5	100	G
52	5	101	A
52	5	105	A
52	5	106	C
52	5	109	G
52	5	112	U
52	5	114	C
52	5	115	A
52	5	116	A
52	5	117	U
52	5	128	A
52	5	130	G
52	5	132	G
52	5	135	A
52	5	143	U
52	5	159	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	163	G
52	5	164	C
52	5	167	A
52	5	168	A
52	5	177	G
52	5	197	A
52	5	201	G
52	5	222	U
52	5	223	G
52	5	225	U
52	5	233	C
52	5	234	G
52	5	236	C
52	5	240	U
52	5	241	C
52	5	243	G
52	5	245	U
52	5	246	A
52	5	247	G
52	5	255	G
52	5	258	A
52	5	259	A
52	5	262	G
52	5	285	G
52	5	290	G
52	5	295	G
52	5	296	A
52	5	302	A
52	5	303	A
52	5	311	A
52	5	312	A
52	5	314	G
52	5	324	C
52	5	325	A
52	5	326	C
52	5	328	G
52	5	341	C
52	5	343	G
52	5	345	A
52	5	347	G
52	5	348	C
52	5	349	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	350	G
52	5	359	A
52	5	361	U
52	5	363	U
52	5	364	U
52	5	367	A
52	5	368	C
52	5	369	A
52	5	373	A
52	5	377	A
52	5	378	A
52	5	380	G
52	5	382	U
52	5	394	U
52	5	395	G
52	5	397	C
52	5	398	G
52	5	402	G
52	5	403	A
52	5	408	U
52	5	409	G
52	5	410	A
52	5	411	A
52	5	417	U
52	5	419	A
52	5	421	G
52	5	425	G
52	5	426	U
52	5	427	A
52	5	432	U
52	5	435	U
52	5	437	U
52	5	439	U
52	5	440	U
52	5	442	G
52	5	448	A
52	5	449	A
52	5	450	U
52	5	453	C
52	5	456	U
52	5	461	G
52	5	463	U

*Continued on next page...*

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	464	A
52	5	468	G
52	5	471	A
52	5	476	U
52	5	478	G
52	5	481	U
52	5	482	G
52	5	483	U
52	5	485	C
52	5	488	U
52	5	490	U
52	5	493	A
52	5	494	A
52	5	497	A
52	5	500	G
52	5	507	A
52	5	508	A
52	5	509	C
52	5	510	U
52	5	515	G
52	5	516	C
52	5	519	G
52	5	525	G
52	5	531	A
52	5	532	U
52	5	534	C
52	5	537	A
52	5	544	A
52	5	545	A
52	5	549	U
52	5	553	C
52	5	557	A
52	5	558	U
52	5	560	U
52	5	561	A
52	5	562	U
52	5	563	U
52	5	565	G
52	5	568	G
52	5	569	U
52	5	570	A
52	5	571	A

*Continued on next page...*

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	573	G
52	5	574	C
52	5	575	A
52	5	582	G
52	5	593	A
52	5	594	A
52	5	595	G
52	5	597	C
52	5	605	A
52	5	610	C
52	5	614	U
52	5	616	C
52	5	618	U
52	5	627	U
52	5	628	A
52	5	629	U
52	5	630	G
52	5	637	A
52	5	638	A
52	5	639	A
52	5	641	U
52	5	647	U
52	5	649	U
52	5	650	A
52	5	651	G
52	5	653	G
52	5	656	U
52	5	659	U
52	5	662	G
52	5	663	G
52	5	672	A
52	5	676	U
52	5	677	C
52	5	682	G
52	5	687	G
52	5	690	G
52	5	691	A
52	5	695	G
52	5	697	G
52	5	698	U
52	5	699	A
52	5	700	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	702	U
52	5	707	G
52	5	718	A
52	5	719	G
52	5	720	U
52	5	721	G
52	5	725	A
52	5	731	A
52	5	736	U
52	5	739	G
52	5	744	U
52	5	745	U
52	5	746	A
52	5	749	G
52	5	752	G
52	5	753	C
52	5	755	U
52	5	756	A
52	5	757	G
52	5	763	A
52	5	770	G
52	5	774	A
52	5	775	G
52	5	778	A
52	5	784	A
52	5	787	A
52	5	791	A
52	5	802	C
52	5	804	A
52	5	809	G
52	5	812	A
52	5	813	A
52	5	814	C
52	5	815	G
52	5	816	A
52	5	818	A
52	5	822	A
52	5	823	C
52	5	825	A
52	5	829	G
52	5	830	U
52	5	838	A

*Continued on next page...*

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	849	A
52	5	861	A
52	5	862	C
52	5	866	A
52	5	867	A
52	5	868	G
52	5	870	A
52	5	877	C
52	5	879	G
52	5	883	A
52	5	884	G
52	5	885	U
52	5	896	G
52	5	908	A
52	5	910	C
52	5	911	G
52	5	912	G
52	5	917	G
52	5	921	G
52	5	922	G
52	5	927	C
52	5	929	C
52	5	930	A
52	5	933	A
52	5	934	G
52	5	935	U
52	5	937	G
52	5	942	G
52	5	944	A
52	5	951	U
52	5	953	A
52	5	955	U
52	5	956	U
52	5	959	A
52	5	960	C
52	5	961	G
52	5	962	G
52	5	964	A
52	5	966	A
52	5	967	C
52	5	970	A
52	5	972	A

*Continued on next page...*

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	973	A
52	5	974	C
52	5	976	U
52	5	977	U
52	5	979	C
52	5	981	U
52	5	984	A
52	5	985	C
52	5	986	U
52	5	987	U
52	5	988	G
52	5	989	A
52	5	994	C
52	5	997	G
52	5	999	C
52	5	1001	A
52	5	1003	G
52	5	1006	A
52	5	1009	G
52	5	1013	C
52	5	1014	A
52	5	1015	U
52	5	1016	A
52	5	1018	U
52	5	1034	G
52	5	1041	G
52	5	1042	G
52	5	1044	G
52	5	1045	C
52	5	1047	U
52	5	1050	U
52	5	1052	G
52	5	1056	U
52	5	1057	C
52	5	1059	G
52	5	1071	A
52	5	1072	G
52	5	1075	G
52	5	1077	U
52	5	1078	G
52	5	1079	G
52	5	1081	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	1085	G
52	5	1089	C
52	5	1092	A
52	5	1095	G
52	5	1109	U
52	5	1115	G
52	5	1119	C
52	5	1121	U
52	5	1122	U
52	5	1123	G
52	5	1124	U
52	5	1125	C
52	5	1126	U
52	5	1127	A
52	5	1130	G
52	5	1132	G
52	5	1133	A
52	5	1134	C
52	5	1135	U
52	5	1136	G
52	5	1141	U
52	5	1150	G
52	5	1154	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	1177	U
52	5	1187	U
52	5	1188	A
52	5	1190	G
52	5	1200	G
52	5	1202	A
52	5	1203	A
52	5	1207	U
52	5	1208	G
52	5	1211	A
52	5	1213	A
52	5	1215	U
52	5	1220	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	1233	G
52	5	1241	G
52	5	1245	A
52	5	1254	A
52	5	1255	A
52	5	1257	C
52	5	1260	U
52	5	1261	A
52	5	1264	G
52	5	1270	C
52	5	1272	C
52	5	1273	A
52	5	1274	G
52	5	1279	G
52	5	1280	A
52	5	1286	G
52	5	1294	U
52	5	1297	G
52	5	1306	A
52	5	1309	U
52	5	1310	C
52	5	1312	G
52	5	1314	A
52	5	1315	U
52	5	1319	U
52	5	1320	A
52	5	1321	G
52	5	1322	U
52	5	1335	G
52	5	1337	U
52	5	1338	A
52	5	1339	U
52	5	1343	G
52	5	1353	C
52	5	1354	G
52	5	1355	U
52	5	1356	U
52	5	1360	G
52	5	1370	C
52	5	1372	C
52	5	1373	A
52	5	1375	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
52	5	1376	G
52	5	1379	C
52	5	1383	A
52	5	1385	A
52	5	1392	A
52	5	1397	G
52	5	1398	G
52	5	1400	A
52	5	1404	U
52	5	1417	U
52	5	1418	G
52	5	1421	A
52	5	1423	C
52	5	1426	U
52	5	1427	U
52	5	1429	G
52	5	1430	G
52	5	1443	A
52	5	1450	C
52	5	1451	A
52	5	1452	C
52	5	1453	C
52	5	1460	U
52	5	1461	G
52	5	1465	U
52	5	1466	U
52	5	1467	A
52	5	1468	A
52	5	1469	G
52	5	1470	U
52	5	1472	G
52	5	1474	A
52	5	1478	A
52	5	1480	G
52	5	1482	A
52	5	1492	G
52	5	1493	A
52	5	1504	G
52	5	1505	G
52	5	1506	A
53	6	5	C
53	6	9	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
53	6	13	U
53	6	17	U
53	6	18	C
53	6	19	G
53	6	22	A
53	6	27	A
53	6	33	C
53	6	35	G
53	6	36	A
53	6	42	C
53	6	45	G
53	6	47	G
53	6	48	U
53	6	49	C
53	6	52	C
53	6	53	A
53	6	54	G
53	6	56	U
53	6	57	C
53	6	58	G
53	6	59	A
53	6	61	U
53	6	63	U
53	6	74	A
53	6	75	C
53	6	76	C
53	8	5	C
53	8	9	U
53	8	13	U
53	8	17	U
53	8	18	C
53	8	19	G
53	8	22	A
53	8	27	A
53	8	33	C
53	8	35	G
53	8	36	A
53	8	42	C
53	8	45	G
53	8	47	G
53	8	48	U
53	8	49	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
53	8	52	C
53	8	53	A
53	8	54	G
53	8	56	U
53	8	57	C
53	8	58	G
53	8	59	A
53	8	61	U
53	8	63	U
53	8	74	A
53	8	75	C
53	8	76	C

All (55) RNA pucker outliers are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
50	3	258	G
50	3	403	U
50	3	410	G
50	3	423	C
50	3	425	U
50	3	500	U
50	3	688	U
50	3	760	G
50	3	881	A
50	3	916	U
50	3	996	A
50	3	1048	A
50	3	1082	A
50	3	1295	A
50	3	1297	U
50	3	1507	G
50	3	1583	G
50	3	1587	U
50	3	1588	A
50	3	1714	U
50	3	1820	U
50	3	1969	C
50	3	2082	U
50	3	2100	G
50	3	2180	U
50	3	2282	A

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Mol	Chain	Res	Type
50	3	2342	U
50	3	2481	U
50	3	2486	A
50	3	2504	C
50	3	2506	C
50	3	2604	U
50	3	2668	A
50	3	2764	U
50	3	2869	U
50	3	2882	U
50	3	2897	G
51	4	10	C
51	4	54	U
51	4	59	A
52	5	240	U
52	5	257	U
52	5	448	A
52	5	638	A
52	5	748	U
52	5	975	C
52	5	1058	A
52	5	1158	A
52	5	1279	G
53	6	18	C
53	6	58	G
53	6	74	A
53	8	18	C
53	8	58	G
53	8	74	A

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

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

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

There are no oligosaccharides in this entry.

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

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

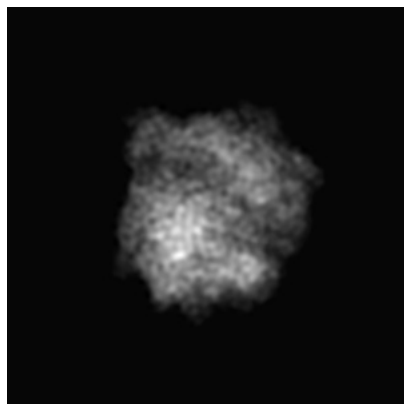
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13413. These allow visual inspection of the internal detail of the map and identification of artifacts.

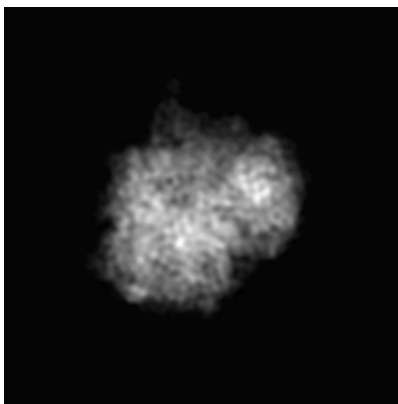
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

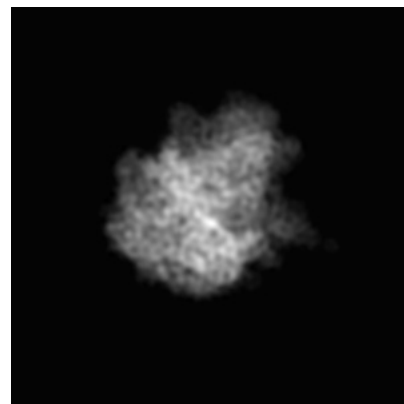
#### 6.1.1 Primary map



X

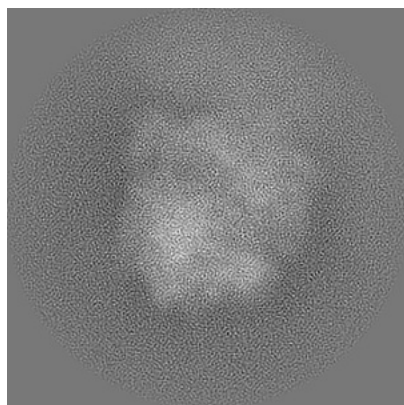


Y

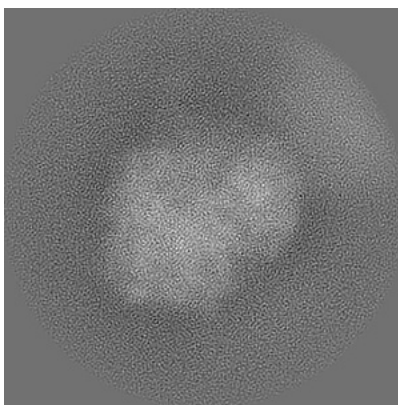


Z

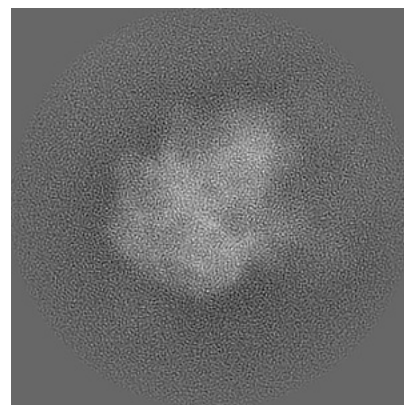
#### 6.1.2 Raw map



X



Y

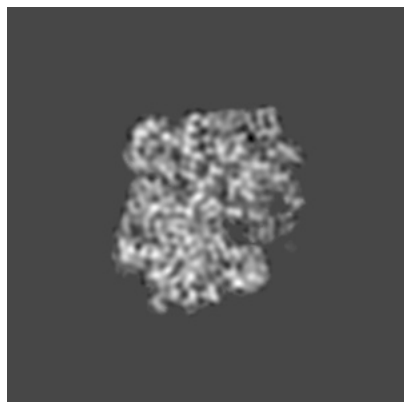


Z

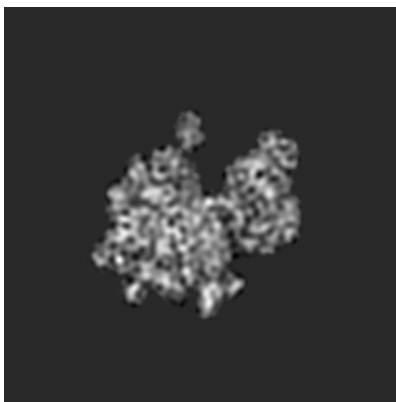
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

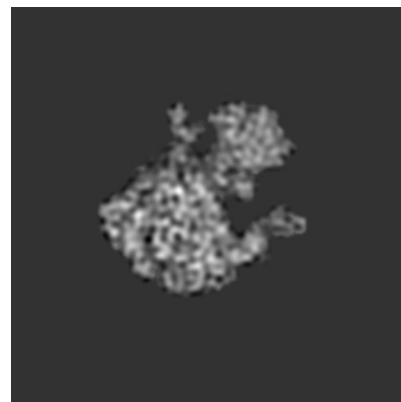
### 6.2.1 Primary map



X Index: 128

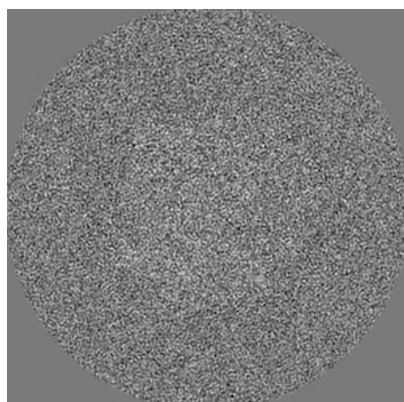


Y Index: 128

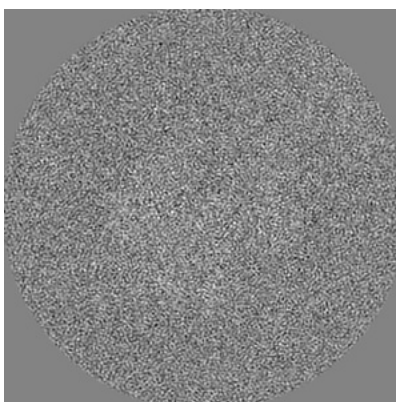


Z Index: 128

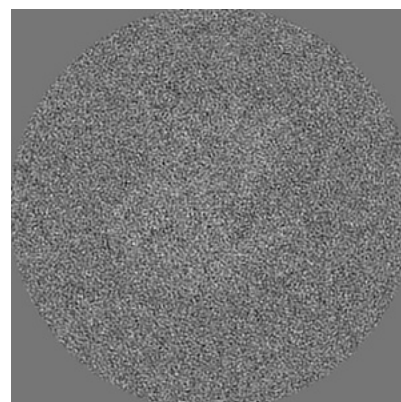
### 6.2.2 Raw map



X Index: 128



Y Index: 128

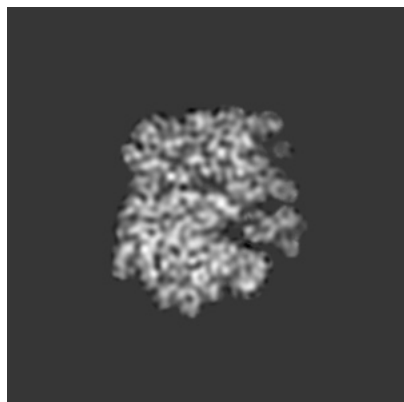


Z Index: 128

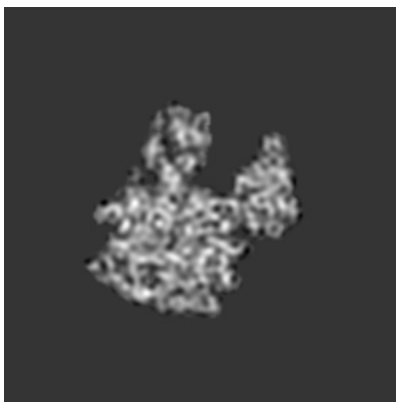
The images above show central slices of the map in three orthogonal directions.

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

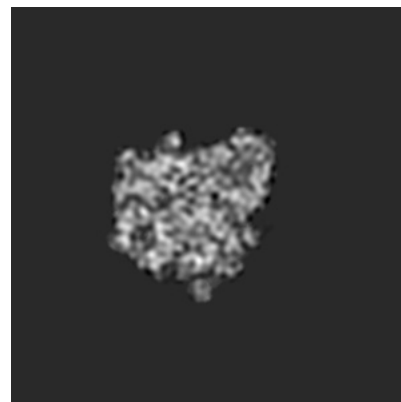
### 6.3.1 Primary map



X Index: 122

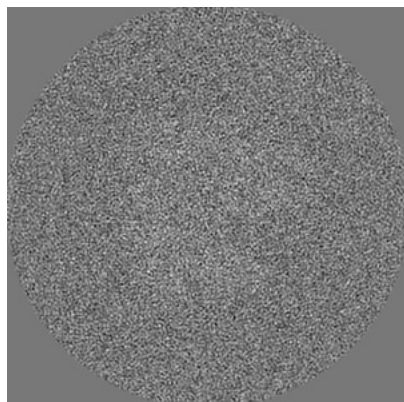


Y Index: 117

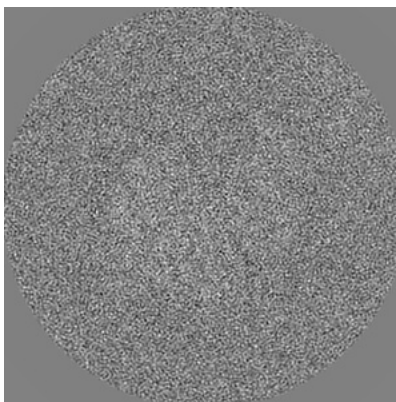


Z Index: 86

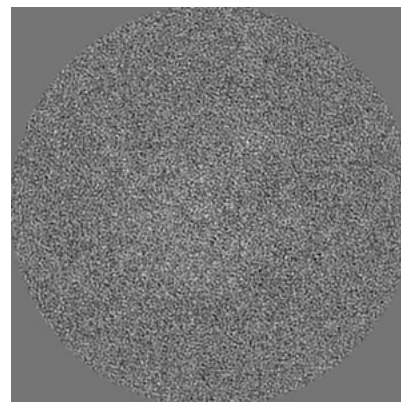
### 6.3.2 Raw map



X Index: 135



Y Index: 130

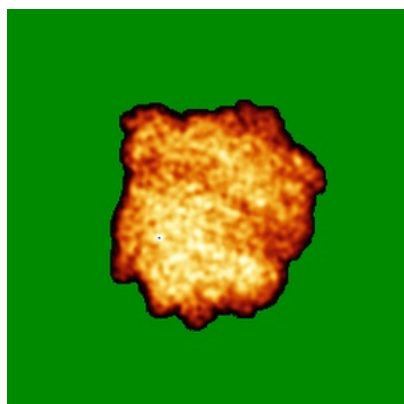


Z Index: 123

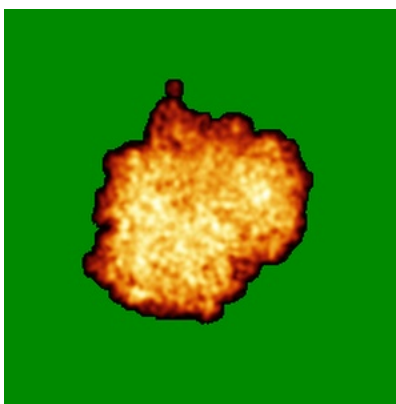
The images above show the largest variance slices of the map in three orthogonal directions.

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

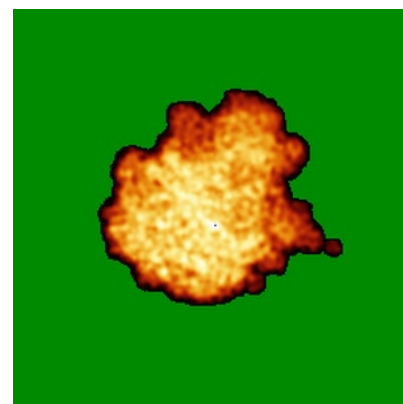
### 6.4.1 Primary map



X

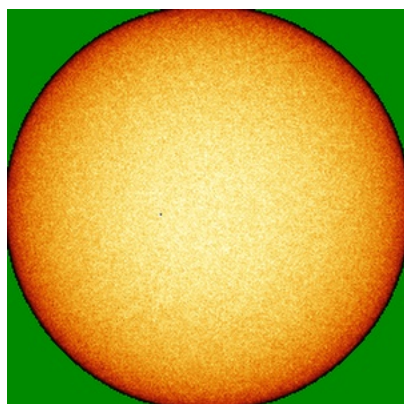


Y

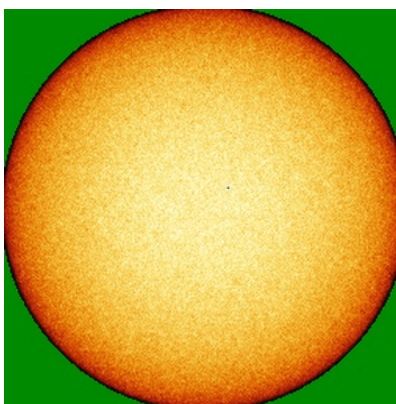


Z

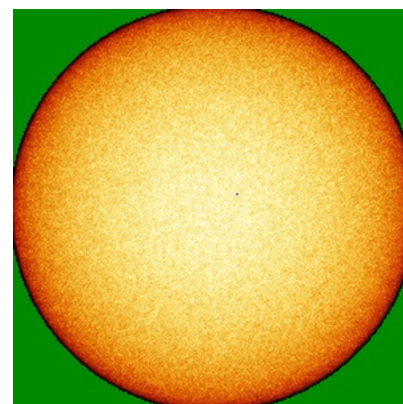
### 6.4.2 Raw map



X



Y

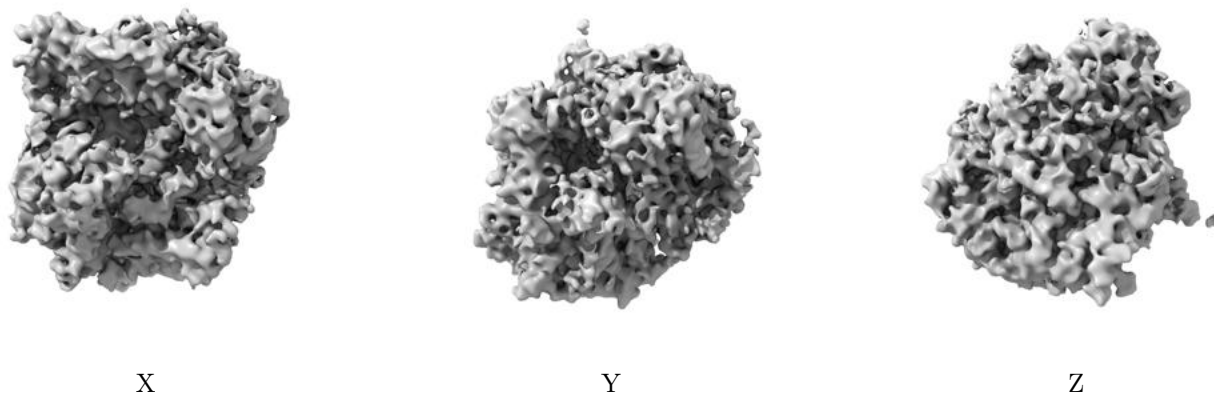


Z

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

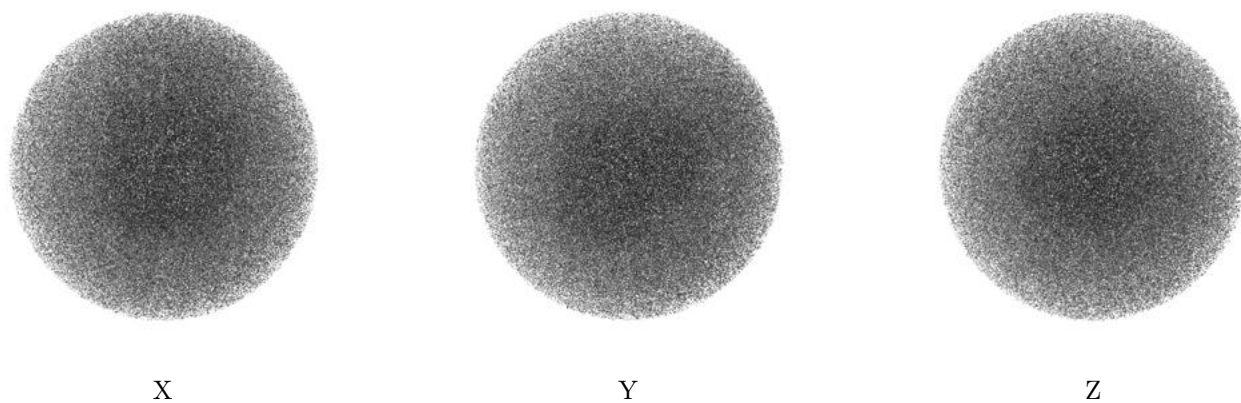
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.39. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



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

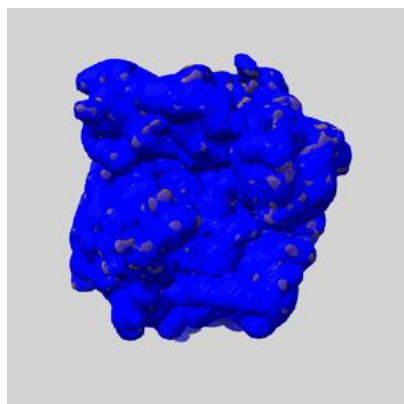
## 6.6 Mask visualisation [i](#)

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

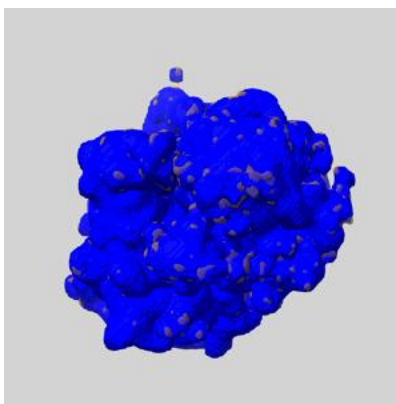
A mask typically either:

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

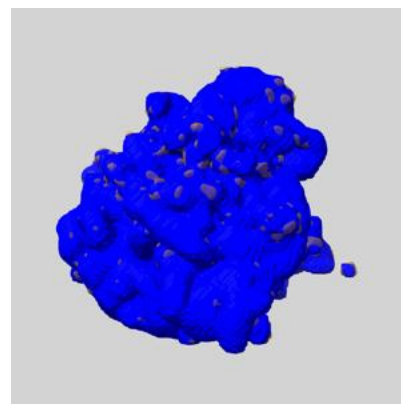
### 6.6.1 emd\_13413\_msk\_1.map [i](#)



X



Y

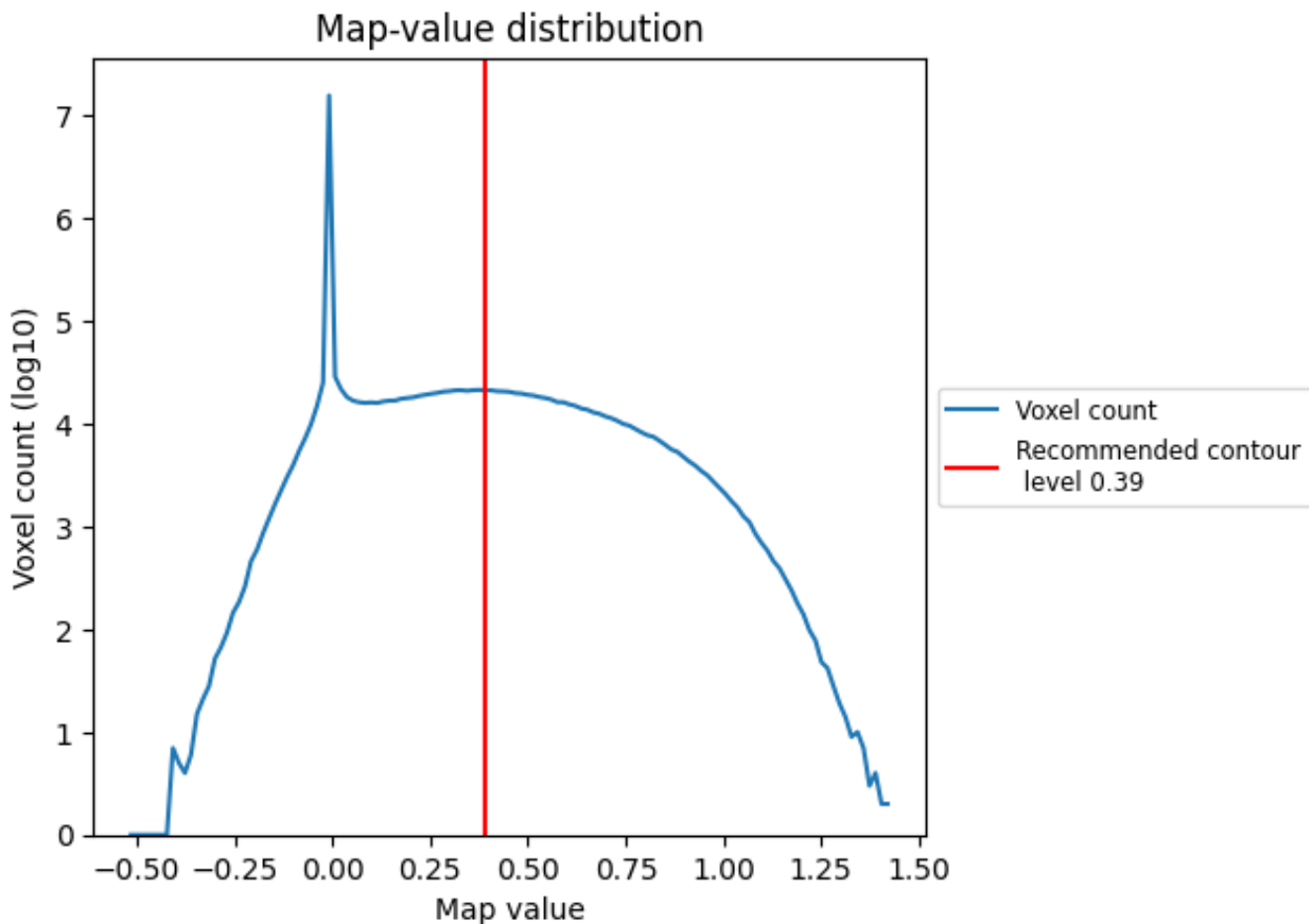


Z

## 7 Map analysis [i](#)

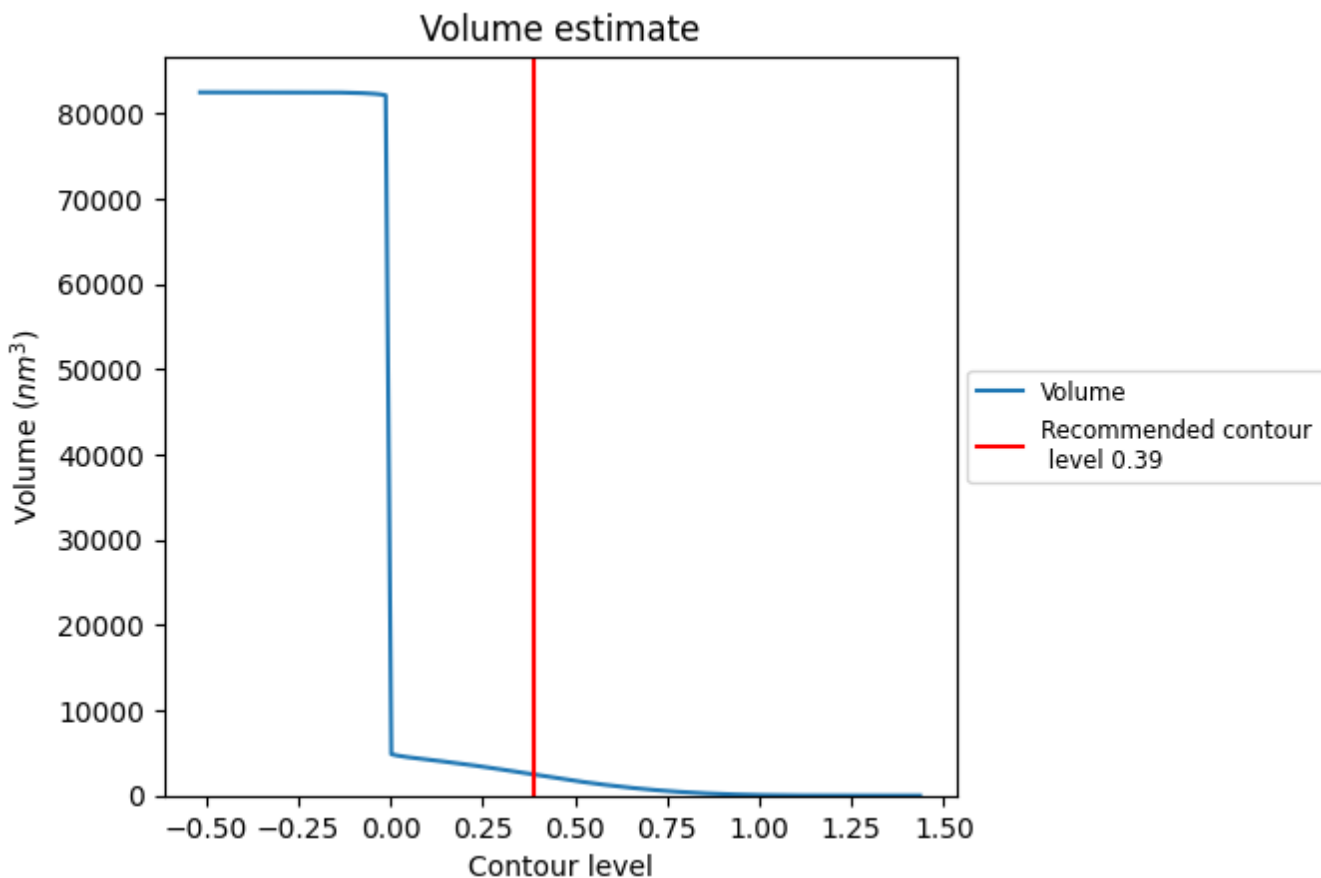
This section contains the results of statistical analysis of the map.

### 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.

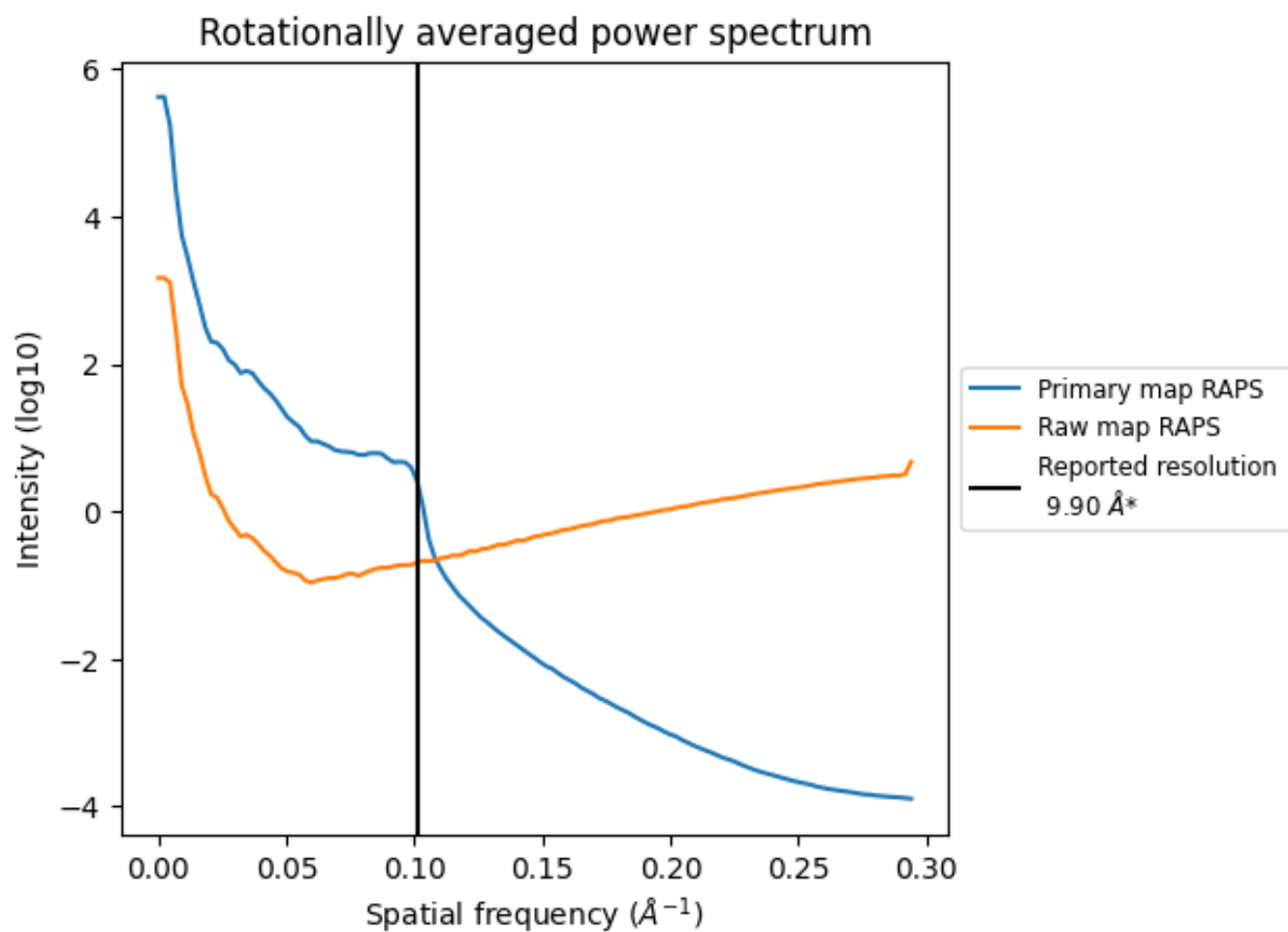
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2460  $\text{nm}^3$ ; this corresponds to an approximate mass of 2222 kDa.

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

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

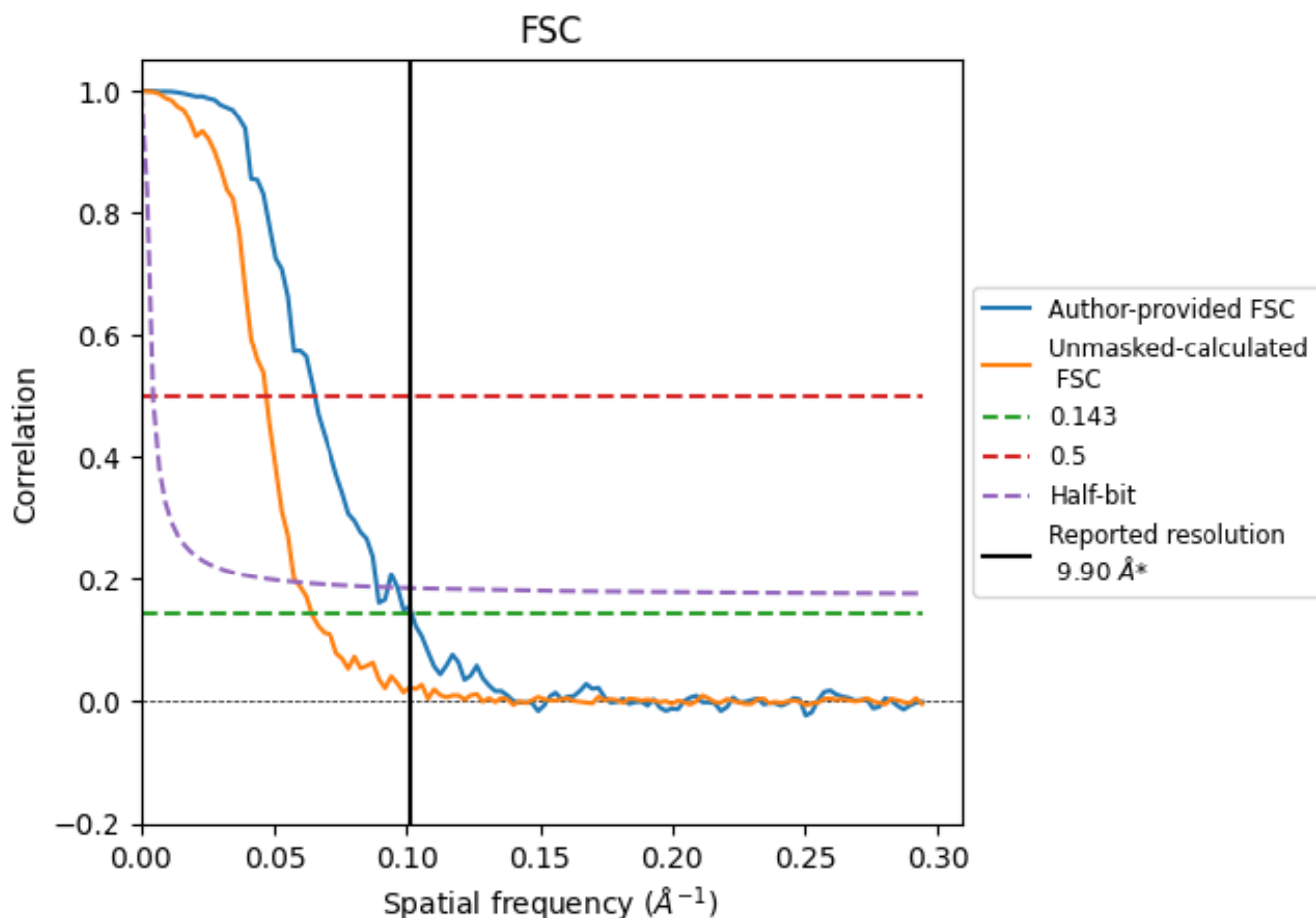


\*Reported resolution corresponds to spatial frequency of 0.101 Å<sup>-1</sup>

## 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 0.101 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

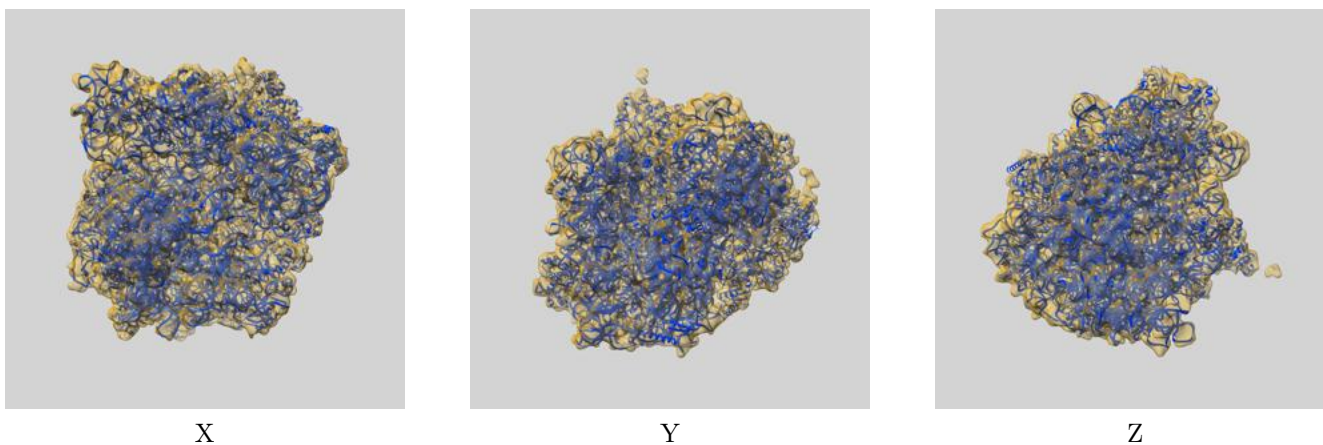
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	9.90	-	-
Author-provided FSC curve	9.81	15.34	11.26
Unmasked-calculated*	15.60	21.28	17.12

\*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 15.60 differs from the reported value 9.9 by more than 10 %

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

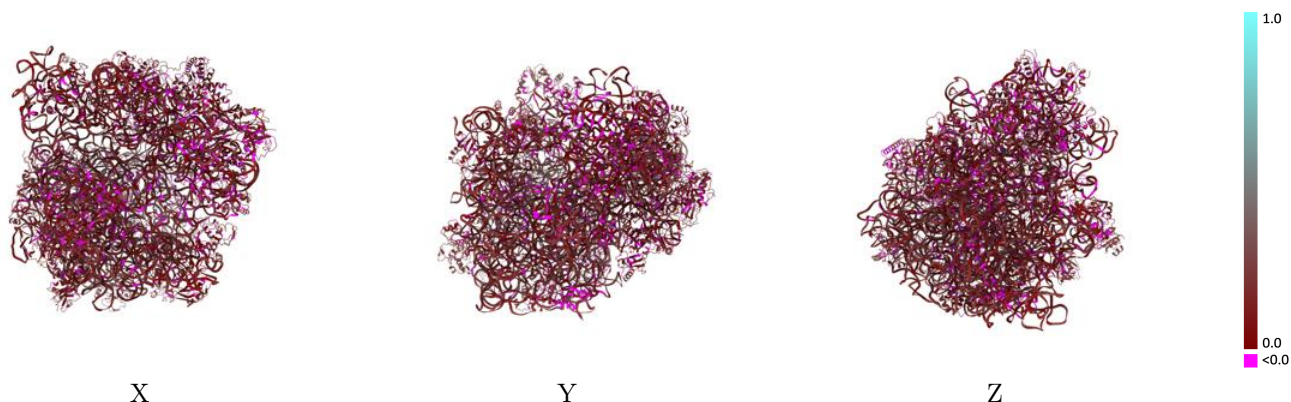
This section contains information regarding the fit between EMDB map EMD-13413 and PDB model 7PHC. Per-residue inclusion information can be found in section 3 on page 14.

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



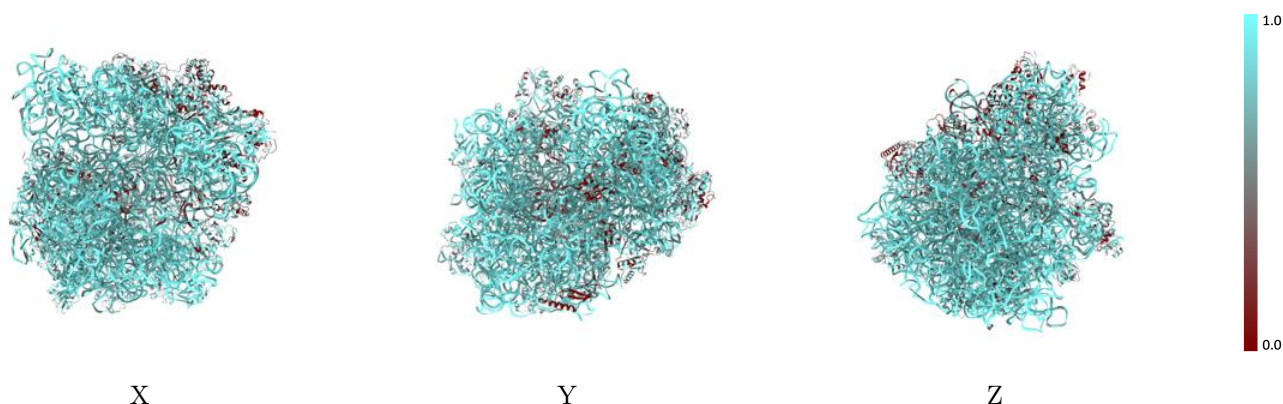
The images above show the 3D surface view of the map at the recommended contour level 0.39 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



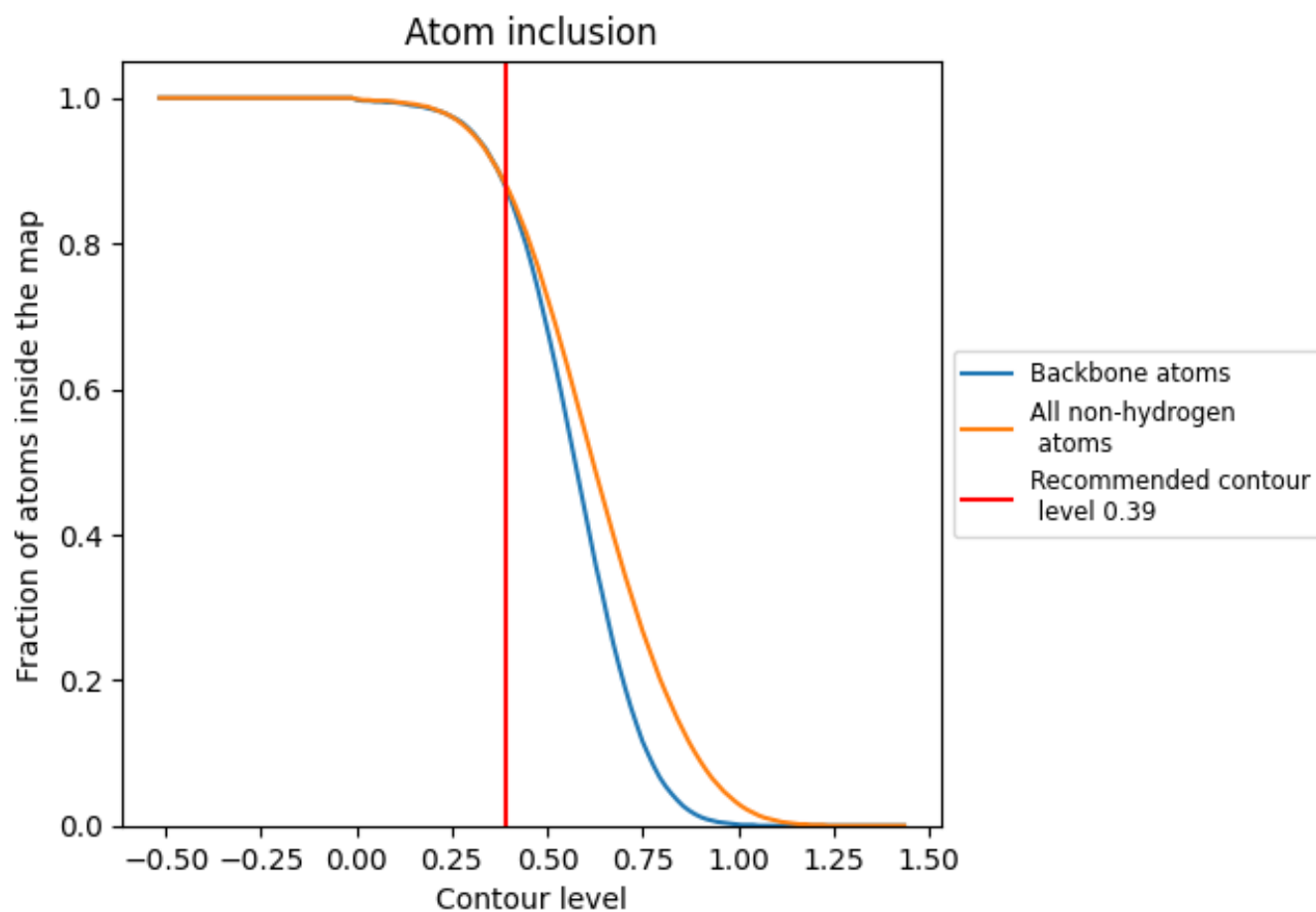
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.39).







































































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 88% of all backbone atoms, 88% 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 (0.39) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8820	 0.1330
0	 0.9010	 0.1350
1	 0.9230	 0.1310
2	 0.8850	 0.0940
3	 0.9680	 0.1480
4	 0.9660	 0.1500
5	 0.9560	 0.1370
6	 0.7310	 0.1220
8	 0.5880	 0.0750
A	 0.5740	 0.1190
B	 0.6670	 0.1130
C	 0.6900	 0.1140
D	 0.6640	 0.1050
E	 0.5580	 0.1040
F	 0.4930	 0.0910
G	 0.6890	 0.0990
H	 0.5550	 0.0850
I	 0.7180	 0.1080
J	 0.6190	 0.0780
K	 0.7530	 0.1120
L	 0.6080	 0.1050
M	 0.8510	 0.0770
N	 0.7310	 0.1330
O	 0.8630	 0.1360
P	 0.7470	 0.1080
Q	 0.7520	 0.0870
R	 0.7690	 0.0640
S	 0.8690	 0.1130
T	 0.7520	 0.1530
a	 0.8220	 0.0980
b	 0.8210	 0.1120
c	 0.7850	 0.1290
d	 0.6920	 0.1130
e	 0.7150	 0.1330
f	 0.3090	 0.0510



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Chain	Atom inclusion	Q-score
g	 0.6840	 0.1230
h	 0.5090	 0.0900
i	 0.8140	 0.1210
j	 0.7260	 0.1210
k	 0.8260	 0.1080
l	 0.8290	 0.1180
m	 0.8410	 0.1040
n	 0.8300	 0.1230
o	 0.8150	 0.1380
p	 0.9020	 0.1160
q	 0.8140	 0.1250
r	 0.8640	 0.1280
s	 0.8350	 0.1210
t	 0.7360	 0.1320
u	 0.7890	 0.0840
v	 0.8630	 0.1170
w	 0.7740	 0.1510
x	 0.6820	 0.1470
y	 0.8500	 0.1270
z	 0.8970	 0.1210