



Full wwPDB EM Validation Report ⓘ

Dec 21, 2025 – 12:30 AM JST

PDB ID : 9K10 / pdb_00009k10
EMDB ID : EMD-61960
Title : EF-G2 bound 50S ribosome subunit complex of *M. smegmatis*
Authors : Sengupta, J.; Baid, P.
Deposited on : 2024-10-16
Resolution : 3.60 Å (reported)
Based on initial model : 7XAM

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

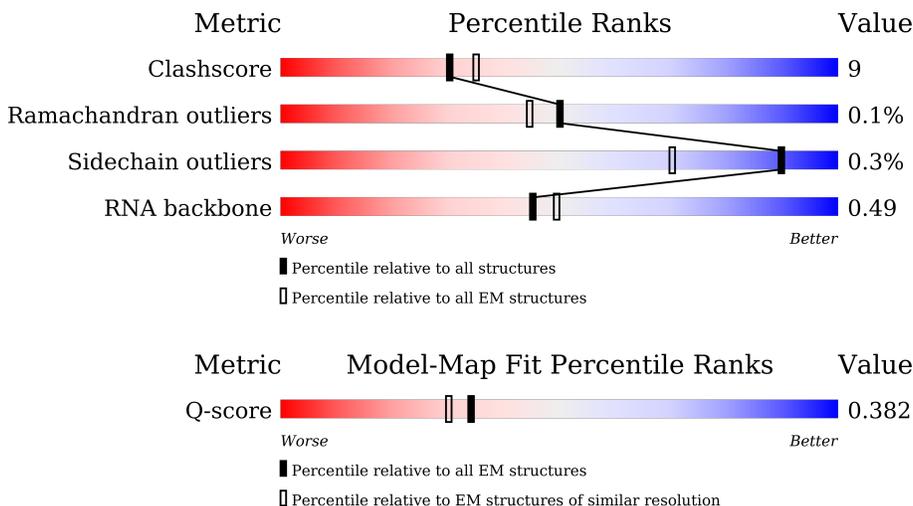
EMDB validation analysis : 0.0.1.dev129
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

1 Overall quality at a glance

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

The reported resolution of this entry is 3.60 Å.

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



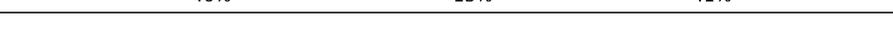
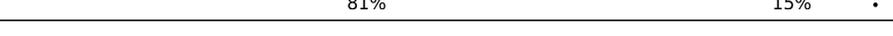
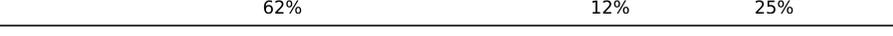
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	12797 (3.10 - 4.10)

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

Mol	Chain	Length	Quality of chain
1	3	24	
2	5	709	
2	6	709	

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Mol	Chain	Length	Quality of chain
3	B	118	 63% 33% .
4	C	278	 73% 26% .
5	D	217	 84% 14% .
6	E	215	 86% 11% .
7	F	187	 52% 45% .
8	G	179	 70% 28% .
9	H	151	 83% 17%
10	I	175	 48% 23% . 28%
11	J	142	 70% 24% 6%
12	K	147	 80% 20% .
13	L	122	 76% 24%
14	M	147	 82% 16% ..
15	N	138	 72% 26% .
16	O	199	 46% 13% 41%
17	P	127	 78% 21% .
18	Q	113	 81% 19%
19	R	129	 81% 15% .
20	S	103	 81% 17% .
21	T	153	 62% 12% 25%
22	U	100	 78% 19% .
23	V	105	 69% 24% 8%
24	W	215	 76% 13% 11%
25	X	88	 72% 18% 10%
26	Y	64	 72% 27% .
27	Z	77	 64% 19% 17%

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Mol	Chain	Length	Quality of chain
28	a	61	
29	b	57	
30	c	55	
31	d	47	
32	e	64	
33	f	37	
34	g	75	
35	A	3127	

2 Entry composition [i](#)

There are 38 unique types of molecules in this entry. The entry contains 107523 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 bL37.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
1	3	23	189	111	50	28	0	0

- Molecule 2 is a protein called Translation elongation factor EF-G.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	5	709	5299	3311	931	1039	18	0	0
2	6	709	5299	3311	931	1039	18	0	0

- Molecule 3 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	B	118	2522	1126	468	810	118	0	0

- Molecule 4 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	C	275	2110	1298	438	370	4	0	0

- Molecule 5 is a protein called 50S ribosomal protein L3.

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

- Molecule 6 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	E	209	1569	969	295	303	2	0	0

- Molecule 7 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	F	182	1445	907	271	261	6	0	0

- Molecule 8 is a protein called 50S ribosomal protein L6.

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

- Molecule 9 is a protein called 50S ribosomal protein L9.

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

- Molecule 10 is a protein called 50S ribosomal protein L10.

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

- Molecule 11 is a protein called 50S ribosomal protein L11.

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

- Molecule 12 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	K	146	1130	722	207	200	1	0	0

- Molecule 13 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	L	122	Total	C	N	O	S	0	0
			938	586	179	170	3		

- Molecule 14 is a protein called 50S ribosomal protein L15.

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

- Molecule 15 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	N	136	Total	C	N	O	S	0	0
			1092	690	213	187	2		

- Molecule 16 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	O	118	Total	C	N	O	S	0	0
			928	583	180	163	2		

- Molecule 17 is a protein called 50S ribosomal protein L18.

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

- Molecule 18 is a protein called 50S ribosomal protein L19.

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

- Molecule 19 is a protein called 50S ribosomal protein L20.

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

- Molecule 20 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
20	S	100	754	478	137	139	0	0

- Molecule 21 is a protein called 50S ribosomal protein L22.

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

- Molecule 22 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
22	U	97	756	479	138	139	0	0

- Molecule 23 is a protein called Large ribosomal subunit protein uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	V	97	732	456	137	137	2	0	0

- Molecule 24 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
24	W	192	1428	881	255	292	0	0

- Molecule 25 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
25	X	79	586	361	123	102	0	0

- Molecule 26 is a protein called 50S ribosomal protein L28.

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

- Molecule 27 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Z	64	Total	C	N	O	S	0	0
			531	324	103	103	1		

- Molecule 28 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	a	59	Total	C	N	O	0	0
			474	292	95	87		

- Molecule 29 is a protein called 50S ribosomal protein L32.

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

- Molecule 30 is a protein called 50S ribosomal protein L33 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	c	49	Total	C	N	O	S	0	0
			405	248	82	71	4		

- Molecule 31 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	d	46	Total	C	N	O	S	0	0
			377	225	97	54	1		

- Molecule 32 is a protein called 50S ribosomal protein L35.

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

- Molecule 33 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	f	37	Total	C	N	O	S	0	0
			299	181	66	47	5		

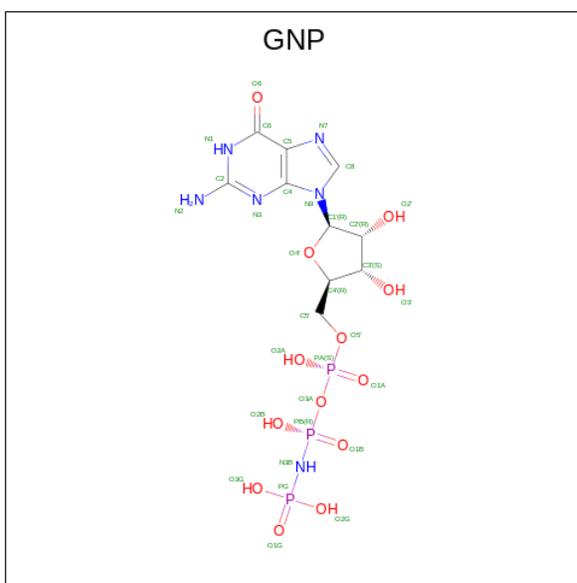
- Molecule 34 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	g	48	Total	C	N	O	S	0	0
			364	225	63	71	5		

- Molecule 35 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	A	3062	Total	C	N	O	P	0	0
			65763	29311	12094	21296	3062		

- Molecule 36 is PHOSPHOAMINOPHOSPHONIC ACID-GUANYLATE ESTER (CCD ID: GNP) (formula: C₁₀H₁₇N₆O₁₃P₃) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
36	5	1	Total	C	N	O	P	0
			32	10	6	13	3	
36	6	1	Total	C	N	O	P	0
			32	10	6	13	3	

- Molecule 37 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
37	B	9	Total	Mg	0
			9	9	
37	C	5	Total	Mg	0
			5	5	
37	D	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
37	F	1	Total 1	Mg 1	0
37	N	1	Total 1	Mg 1	0
37	T	1	Total 1	Mg 1	0
37	X	1	Total 1	Mg 1	0
37	A	388	Total 388	Mg 388	0

- Molecule 38 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
38	Y	1	Total 1	Zn 1	0
38	c	1	Total 1	Zn 1	0
38	f	1	Total 1	Zn 1	0
38	g	1	Total 1	Zn 1	0

3 Residue-property plots

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

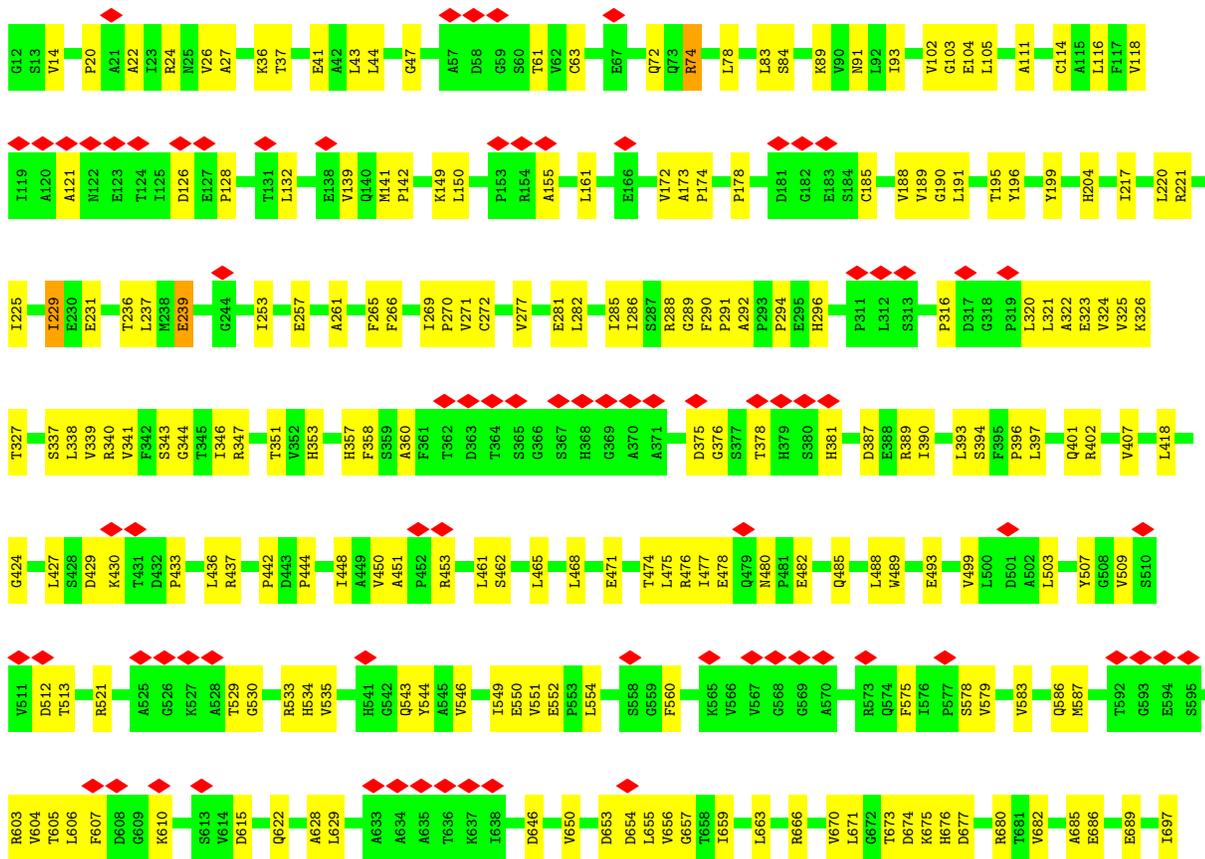
- Molecule 1: 50S ribosomal protein bL37

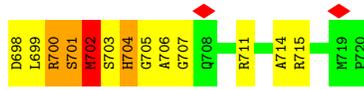
Chain 3:  79% 17%



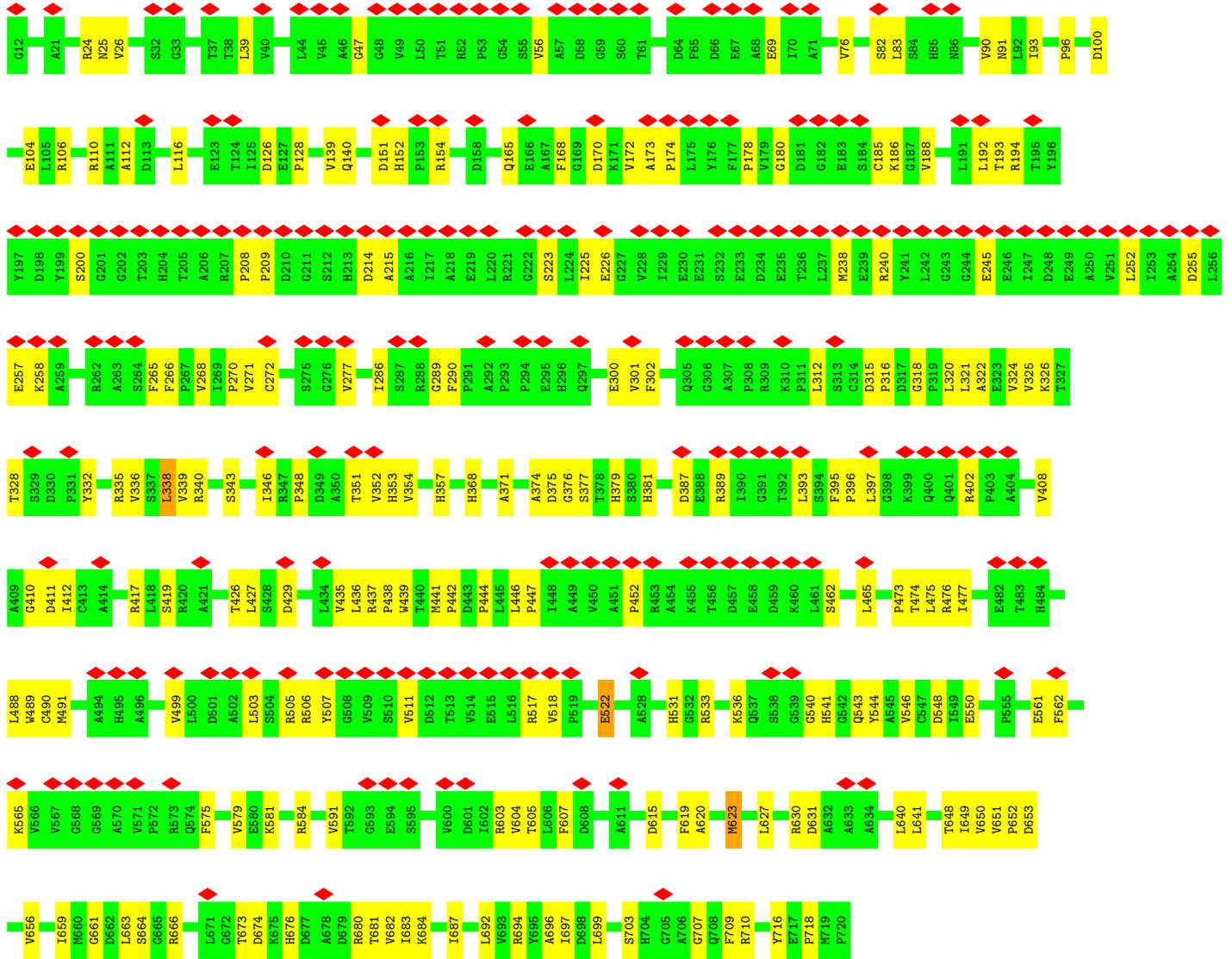
- Molecule 2: Translation elongation factor EF-G

Chain 5:  11% 68% 31%

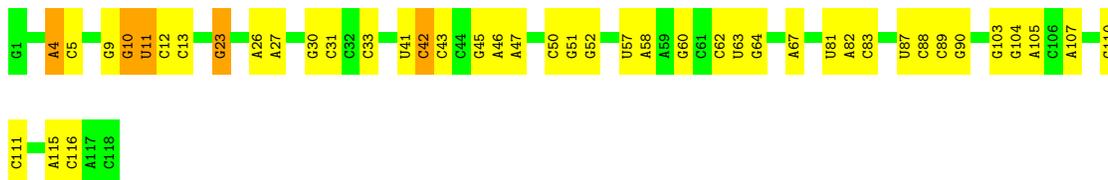




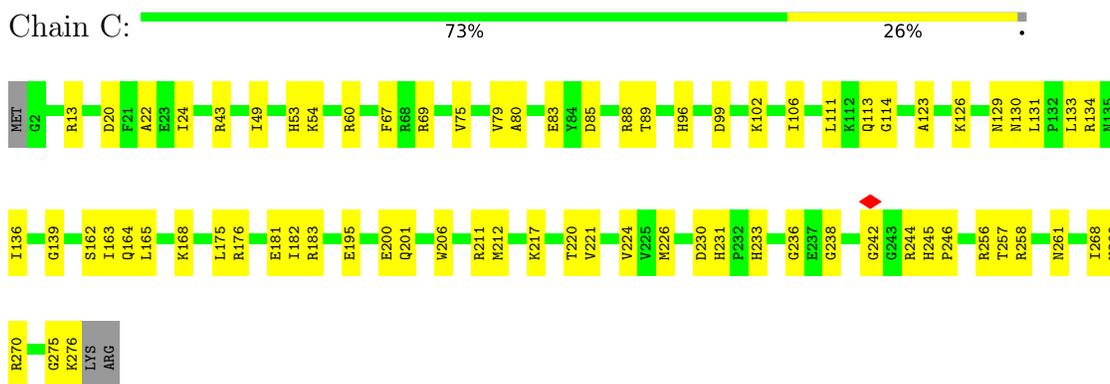
• Molecule 2: Translation elongation factor EF-G



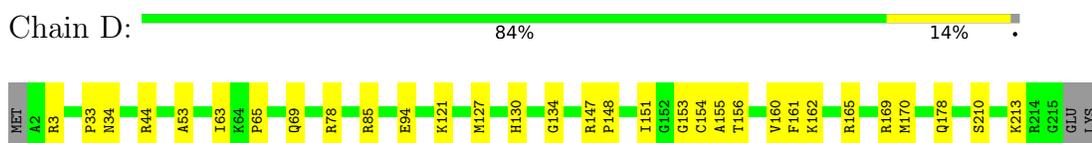
• Molecule 3: 5S ribosomal RNA



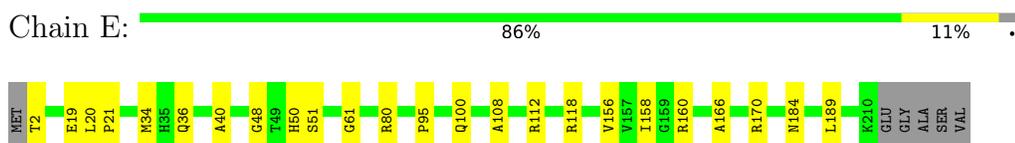
• Molecule 4: 50S ribosomal protein L2



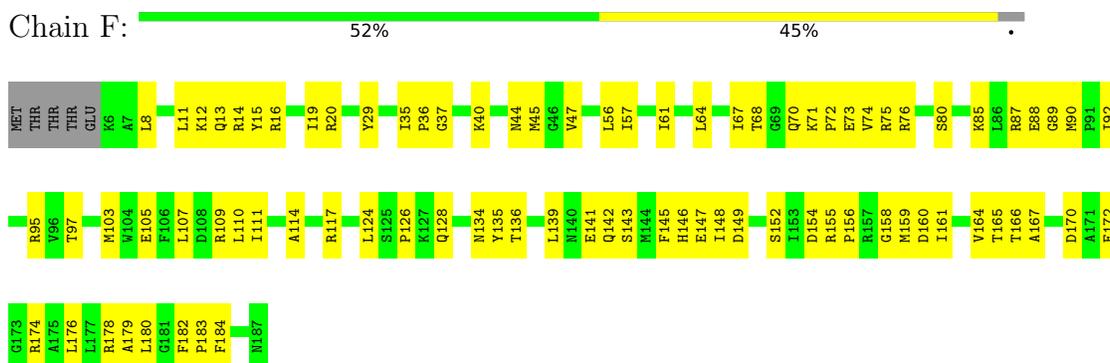
• Molecule 5: 50S ribosomal protein L3



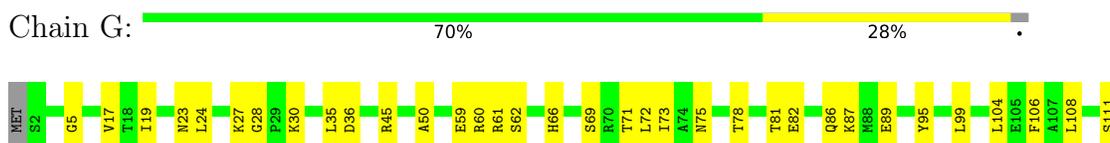
• Molecule 6: 50S ribosomal protein L4



• Molecule 7: 50S ribosomal protein L5



• Molecule 8: 50S ribosomal protein L6

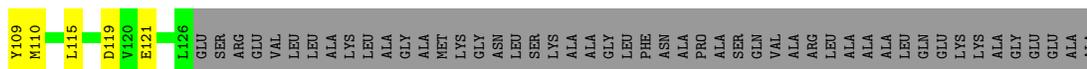




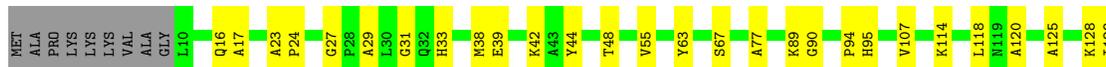
- Molecule 9: 50S ribosomal protein L9



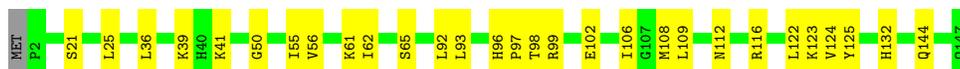
- Molecule 10: 50S ribosomal protein L10



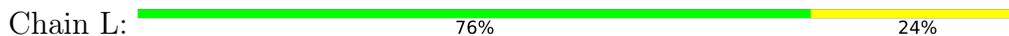
- Molecule 11: 50S ribosomal protein L11



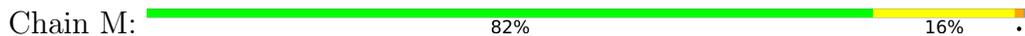
- Molecule 12: 50S ribosomal protein L13

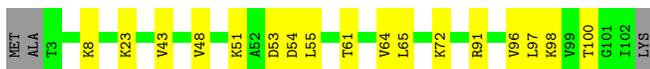


- Molecule 13: 50S ribosomal protein L14



- Molecule 14: 50S ribosomal protein L15





- Molecule 21: 50S ribosomal protein L22



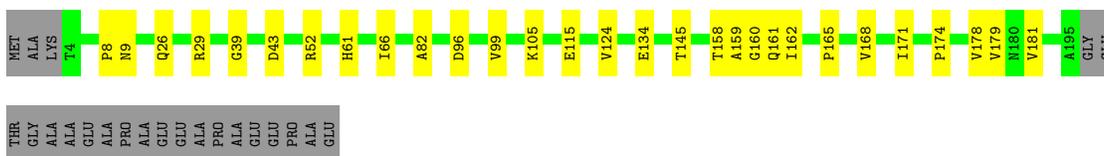
- Molecule 22: 50S ribosomal protein L23



- Molecule 23: Large ribosomal subunit protein uL24



- Molecule 24: 50S ribosomal protein L25



- Molecule 25: 50S ribosomal protein L27



- Molecule 26: 50S ribosomal protein L28



- Molecule 27: 50S ribosomal protein L29

Chain Z:  64% 19% 17%



- Molecule 28: 50S ribosomal protein L30

Chain a:  89% 8%



- Molecule 29: 50S ribosomal protein L32

Chain b:  75% 19% 5%



- Molecule 30: 50S ribosomal protein L33 1

Chain c:  67% 22% 11%



- Molecule 31: 50S ribosomal protein L34

Chain d:  85% 13%



- Molecule 32: 50S ribosomal protein L35

Chain e:  77% 22%



- Molecule 33: 50S ribosomal protein L36

Chain f:  78% 22%



- Molecule 34: 50S ribosomal protein L31

A2609	A2610	U2611	A2616	C2622	A2623	C2627	A2630	G2631	G2640	G2645	U2647	C2648	A2649	A2650	A2654	U2655	A2659	C2665	G2669	A2672	A2677	G2678	G2679	U2686	C2687	C2688	C2689	C2690	C2691	A2692	C2694	C2698	C2699	U2700	A2701	A2702	G2705	U2715	U2716	U2717														
G1353	G1479	A1480	C1485	G1486	A1493	U1494	A1499	A1500	C1501	G1507	A1508	U1509	A1510	C1513	C1514	G1522	U1523	G1524	G1528	U1529	A1530	C1531	G1532	U1533	C1534	U1428	C1429	C1430	U1431	G1434	C1435	A1437	G1443	U1444	C1448	G1549	G1550	U1551	A1552	C1553	U1554	A1556	C1561	A	A	A	A							
G1629	U1630	G1632	U1633	C1634	A1635	G1639	A1641	G1645	A1648	C1649	U1650	C1651	A1656	G1657	U1665	A1666	G1670	U1675	G1676	G1677	U1678	A1679	U1680	U1681	G1687	A1690	A1691	G1703	C1705	A1706	U1713	A1714	A1715	A1716	U1717	G1718	G1719	G1720	G1724	U1728	A1729	U1730	A1731											
U1732	C1733	U1734	G1735	U1736	A1737	A1750	C1753	U1754	A1755	U1756	U1757	G1758	A1759	U1760	G1761	C1762	U1763	A1764	U1765	U1766	U1767	C1768	U1769	C1781	U1782	U1786	G1787	U1789	A1790	U1791	A1792	U1798	G1802	A1803	G1804	G1805	C1825	A1826	A1830	G1840	A1844	A1850	U1854	A1855	U1864									
A1865	C1866	G1867	U1870	A1871	A1872	U1877	G1885	A1886	U1889	C1927	A1928	A1929	U1937	G1938	U1939	A1940	U1946	U1947	A1948	G1950	G1953	C1954	A1955	G1963	U1964	C1973	A1974	U1981	A1990	U1996	A1997	C1998	A2001	A2008	G2014	U2015	G2016	C2017	G2018	A2019	A2020													
C2025	A2026	U2033	G2034	G2040	C2043	A2046	G2048	C2049	C2050	C2053	C2054	C2055	C2059	U2061	U2062	G2063	A2064	A2065	G2066	G2067	U2068	U2069	A2070	A2071	G2072	A2073	G2074	G2075	C2077	C2078	C2079	U2081	A2082	A2083	A2084	C2085	U2086	C2087	C2088	C2089	U2090	U2091	U2092	G2093	G2094	G2095	G2097							
U2098	G2099	A2100	A2101	C2102	G2103	G2104	G2105	A2106	A2108	A2109	U2110	U2111	U2112	A2113	A2114	C2115	C2116	C2117	C2118	C2119	A2120	G2121	U2122	A2123	A2124	A2125	C2126	G2127	C2128	C2129	G2130	G2131	U2132	G2133	U2134	U2135	A	A	C	U	U	A	C2145	A2146	C2148	C2149	U2150	C2151	A2152	G2153	A2154	U2155	A2156	G2157
C2158	G2159	A2160	A2161	A2162	U2163	U2164	C2165	C2166	U2167	U2168	C2169	U2170	C2171	G2172	C2173	G2174	U2175	A2176	A2177	U2178	U2179	C2182	A2184	C2185	C2186	U2187	G2188	C2189	A2190	C2191	G2192	A2193	A2194	U2195	G2196	G2197	C2198	U2215	G2216	U2217	C2220	A2221	A2227	A2238	A2239	A2244	U2245	U2246	A2247	C2248	G2249	A2250		
G2251	A2254	A2255	A2256	U2261	C2262	G2263	U2264	U2265	U2266	C2267	G2276	G2277	G2278	A2279	G2280	A2284	G2285	C2286	C2287	C2288	C2289	A2294	C2295	C2296	U2297	U2298	U2315	G2316	C2320	U2321	C2322	G2323	A2324	U2325	A2326	C2327	G2328	G2329	U2331	U2332	U2333	U2334	U2335	U2336	U2337	G2338	G2339	U2341						
A2342	G2343	G2344	U2345	G2346	G2347	G2348	A2349	G2350	A2351	C2352	U2353	G2354	U2355	G2356	A2357	A2358	C2362	A2363	C2364	A2365	C2366	G2367	C2368	C2369	U2373	U2374	U2375	U2376	G2379	G2380	A2381	A2382	U2383	C2384	G2385	U2386	U2387	U2388	U2389	U2390	G2391	A2392	A2393	A2394	U2395	A2396	C2400	U2401	C2402	U2406	U2407	C2408	U2409	A2410
U2411	U2412	G2413	U2420	U2421	G2422	C2424	U2425	C2426	G2427	A2434	U2435	A2436	G2440	G2441	G2447	G2448	A2449	C2450	A2451	G2462	U2463	U2464	A2465	G2466	U2467	U2468	U2469	A2470	A2471	C2472	A2480	A2491	A2492	G2495	U2496	U2497	A2498	A2502	C2507	C2508	C2509	A2510	A2511	A2512	C2515	U2516	C2517	C2521						
A2522	A2523	C2524	C2525	U2526	G2527	G2528	A2529	C2530	G2531	C2532	C2533	A2534	U2535	U2536	C2537	A2538	G2545	A2546	U2547	A2548	C2549	U2550	A2551	A2552	U2553	U2554	A2557	C2558	A2559	U2567	U2568	G2569	A2570	C2571	C2574	A2578	U2581	A2582	C2583	A2584	U2585	G2586	U2587	A2600	A2601	A2602	G2603	U2604	C2605	C2606	G2607	G2608		

G2718	U2833	C2950	A3081
G2719	U2837	U2953	U3082
C2720	A2838	A2957	C3088
G2726	U2839	G2961	A3089
A2727	C2853	A2962	A3093
U2728	A2854	G2968	U3096
G2729	A2857	C2969	C3101
U2730	G2858	U2970	A3104
G2732	U2861	G2971	C3105
U2735	G2862	A2972	C3106
G2738	G2865	A2982	G3107
C2739	A2866	G2985	A3112
A2742	A2867	A3002	A3113
U2743	A2868	U3009	A3114
C2744	C2869	C3013	A3115
C2745	G2870	A3014	C3116
G2749	U2871	C3015	U3117
G2750	G2872	G3019	U3118
G2750	U2873	U3020	A3119
G2760	C2874	A3024	C3120
U2761	G2879	A3030	A
C2762	A2884	A3031	A
G2774	G2885	G3032	C
C2775	A2886	G3033	A
U2778	G2887	C3034	
U2779	G2888	C3038	
G2780	C2891	C3039	
G2781	A2902	G3040	
C2782	A2903	C3041	
G2783	U2908	A3042	
C2784	A2912	C3046	
A2785	U2913	A3056	
U2786	A2914	C3067	
U2787	C2915	U3068	
A2788	U2922	G3069	
A2789	C2923	G3070	
A2790	C2924	A3071	
G2791	C2925	G3078	
A2796	A2926	U3079	
C2797	G2933	A3080	
G2800	G2936		
G2805	G2937		
G2806	G2938		
U2810	G2941		
A2826	G2942		
G2827			

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	39621	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	54	Depositor
Minimum defocus (nm)	1800	Depositor
Maximum defocus (nm)	3300	Depositor
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.118	Depositor
Minimum map value	-0.025	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.00715	Depositor
Map size (\AA)	483.0, 483.0, 483.0	wwPDB
Map dimensions	350, 350, 350	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.38, 1.38, 1.38	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG, GNP

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	3	0.27	0/191	0.41	0/247
2	5	0.17	0/5405	0.38	1/7360 (0.0%)
2	6	0.20	1/5405 (0.0%)	0.39	0/7360
3	B	0.27	0/2821	0.27	0/4396
4	C	0.36	0/2153	0.45	0/2895
5	D	0.35	0/1609	0.45	0/2165
6	E	0.32	0/1592	0.39	0/2153
7	F	0.21	0/1467	0.42	0/1973
8	G	0.24	0/1369	0.36	0/1848
9	H	0.18	0/1027	0.36	0/1398
10	I	0.16	0/925	0.39	2/1246 (0.2%)
11	J	0.16	0/1006	0.36	0/1364
12	K	0.36	0/1157	0.37	0/1567
13	L	0.33	0/946	0.39	0/1268
14	M	0.31	0/1091	0.49	2/1457 (0.1%)
15	N	0.32	0/1118	0.46	0/1506
16	O	0.36	0/945	0.43	0/1267
17	P	0.27	0/966	0.48	0/1298
18	Q	0.30	0/921	0.41	0/1236
19	R	0.35	0/1000	0.37	0/1341
20	S	0.34	0/764	0.42	0/1030
21	T	0.34	0/887	0.40	0/1204
22	U	0.30	0/766	0.34	0/1030
23	V	0.28	0/738	0.35	0/987
24	W	0.24	0/1443	0.35	0/1970
25	X	0.33	0/595	0.33	0/798
26	Y	0.35	0/478	0.44	0/641
27	Z	0.34	0/534	0.47	0/713
28	a	0.33	0/477	0.30	0/640
29	b	0.34	0/427	0.45	0/572
30	c	0.20	0/413	0.36	0/553
31	d	0.35	0/380	0.45	0/500

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	e	0.20	0/507	0.33	0/672
33	f	0.31	0/303	0.37	0/401
34	g	0.14	0/372	0.32	0/503
35	A	0.34	0/73637	0.33	5/114895 (0.0%)
All	All	0.32	1/115835 (0.0%)	0.35	10/172454 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	6	517	ARG	C-N	6.23	1.40	1.33

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	A	1761	G	P-O3'-C3'	20.49	150.93	120.20
35	A	1538	G	P-O3'-C3'	7.56	131.54	120.20
35	A	1007	G	C2'-C3'-O3'	-6.78	103.52	113.70
35	A	1761	G	OP1-P-O3'	6.57	127.71	108.00
14	M	43	ARG	CA-C-N	-6.24	114.04	121.90
14	M	43	ARG	C-N-CA	-6.24	114.04	121.90
35	A	1761	G	OP2-P-O3'	-5.86	90.43	108.00
2	5	700	ARG	N-CA-C	-5.69	105.44	112.38
10	I	87	VAL	N-CA-CB	-5.35	104.48	112.67
10	I	87	VAL	CB-CA-C	5.07	115.72	110.70

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	3	189	0	205	3	0
2	5	5299	0	5230	167	0
2	6	5299	0	5229	163	0
3	B	2522	0	1285	23	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	C	2110	0	2165	65	0
5	D	1587	0	1629	24	0
6	E	1569	0	1607	19	0
7	F	1445	0	1476	69	0
8	G	1348	0	1399	37	0
9	H	1018	0	988	19	0
10	I	918	0	959	32	0
11	J	990	0	1021	43	0
12	K	1130	0	1167	24	0
13	L	938	0	999	28	0
14	M	1078	0	1151	20	0
15	N	1092	0	1128	22	0
16	O	928	0	972	21	0
17	P	956	0	991	20	0
18	Q	907	0	938	13	0
19	R	988	0	1038	15	0
20	S	754	0	802	10	0
21	T	873	0	909	12	0
22	U	756	0	802	12	0
23	V	732	0	782	18	0
24	W	1428	0	1443	18	0
25	X	586	0	601	12	0
26	Y	470	0	480	12	0
27	Z	531	0	541	16	0
28	a	474	0	500	5	0
29	b	423	0	463	11	0
30	c	405	0	407	13	0
31	d	377	0	411	5	0
32	e	502	0	541	13	0
33	f	299	0	321	6	0
34	g	364	0	348	15	0
35	A	65763	0	33080	774	0
36	5	32	0	13	1	0
36	6	32	0	13	2	0
37	A	388	0	0	0	0
37	B	9	0	0	0	0
37	C	5	0	0	0	0
37	D	1	0	0	0	0
37	F	1	0	0	0	0
37	N	1	0	0	0	0
37	T	1	0	0	0	0
37	X	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	Y	1	0	0	0	0
38	c	1	0	0	0	0
38	f	1	0	0	0	0
38	g	1	0	0	0	0
All	All	107523	0	74034	1581	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 9.

All (1581) 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)
2:6:332:TYR:OH	13:L:47:ILE:HD12	1.68	0.92
35:A:2086:U:H3	35:A:2096:G:H1	1.25	0.84
11:J:89:LYS:HB3	35:A:1182:C:H5''	1.60	0.82
35:A:860:G:HO2'	35:A:863:G:HO2'	1.26	0.81
4:C:261:ASN:HD21	35:A:2451:A:H5''	1.45	0.81
35:A:1002:C:H2'	35:A:1003:A:H5''	1.61	0.81
35:A:1174:G:H4'	35:A:1204:A:H8	1.46	0.81
35:A:337:U:N3	35:A:344:G:N1	2.29	0.81
35:A:1201:G:N2	35:A:1204:A:OP2	2.12	0.81
35:A:1194:C:H2'	35:A:1195:A:C8	2.17	0.79
35:A:1540:U:H3	35:A:1632:G:H1	1.25	0.79
2:6:332:TYR:OH	13:L:47:ILE:CD1	2.30	0.79
11:J:94:PRO:HD2	35:A:1194:C:H1'	1.63	0.79
31:d:17:ARG:NH1	35:A:886:G:OP1	2.15	0.79
35:A:747:A:N6	35:A:768:G:O2'	2.16	0.79
27:Z:36:MET:HE3	27:Z:41:LEU:HD23	1.65	0.79
12:K:116:ARG:HH12	35:A:615:A:H2	1.32	0.78
14:M:43:ARG:NH2	35:A:923:G:N7	2.33	0.77
16:O:38:GLU:OE1	29:b:42:ARG:NH2	2.17	0.77
5:D:3:ARG:NH1	5:D:210:SER:O	2.15	0.77
2:5:393:LEU:HD13	2:5:407:VAL:HG23	1.67	0.77
19:R:25:ARG:NH1	35:A:2245:C:OP1	2.18	0.77
35:A:1198:C:H2'	35:A:1199:U:C6	2.20	0.76
15:N:32:TYR:OH	15:N:111:GLU:OE1	2.03	0.76
27:Z:22:LEU:HD11	27:Z:58:TYR:CE1	2.21	0.76
2:6:110:ARG:HG2	2:6:439:TRP:HE3	1.50	0.76
16:O:33:ARG:HG2	16:O:114:GLU:HG3	1.68	0.75
11:J:114:LYS:O	11:J:118:LEU:N	2.17	0.75
35:A:451:U:H2'	35:A:452:G:C8	2.22	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:279:U:H3	35:A:307:G:H1	1.35	0.75
7:F:143:SER:HA	7:F:148:ILE:HD11	1.69	0.75
10:I:28:TYR:HD2	10:I:78:ALA:HB2	1.52	0.74
19:R:58:ARG:O	19:R:62:ILE:HG13	1.87	0.74
35:A:1198:C:H2'	35:A:1199:U:H6	1.51	0.74
11:J:128:LYS:HE2	35:A:1198:C:H5''	1.69	0.74
35:A:1194:C:H2'	35:A:1195:A:H8	1.52	0.74
35:A:1541:G:N1	35:A:1631:A:N6	2.35	0.74
8:G:106:PHE:HB3	8:G:108:LEU:HD23	1.68	0.74
35:A:2174:G:H1	35:A:2178:G:HO2'	1.25	0.74
7:F:20:ARG:HE	7:F:35:ILE:HG21	1.51	0.73
35:A:994:A:N6	35:A:1014:G:O2'	2.20	0.73
35:A:3013:C:H5'	35:A:3014:A:H5'	1.69	0.73
2:5:236:THR:HA	2:5:239:GLU:HG3	1.70	0.73
35:A:2048:G:H1	35:A:2198:C:H42	1.35	0.73
2:5:675:LYS:HE3	11:J:27:GLY:O	1.88	0.73
34:g:11:ASP:HA	34:g:25:ARG:HG3	1.70	0.73
35:A:2157:G:H2'	35:A:2158:C:H2'	1.70	0.73
17:P:98:GLU:OE2	17:P:126:LYS:NZ	2.18	0.72
35:A:337:U:O2	35:A:344:G:N2	2.22	0.72
26:Y:41:ARG:HG2	26:Y:43:GLY:H	1.52	0.72
35:A:1188:A:N7	35:A:1214:A:O2'	2.23	0.72
2:5:257:GLU:HG2	2:5:289:GLY:HA2	1.69	0.72
35:A:1758:G:H2'	35:A:1759:A:H8	1.53	0.72
35:A:2726:G:H5''	35:A:2727:A:H5''	1.70	0.72
11:J:118:LEU:HD21	35:A:1177:G:O4'	1.89	0.72
14:M:84:ASN:ND2	14:M:117:LYS:O	2.21	0.72
35:A:1754:G:H22	35:A:1759:A:H61	1.37	0.72
35:A:1541:G:C6	35:A:1631:A:N6	2.58	0.71
35:A:1005:A:H3'	35:A:1006:G:H8	1.55	0.71
4:C:43:ARG:HE	4:C:49:ILE:HG12	1.55	0.71
35:A:2155:U:O2'	35:A:2157:G:N2	2.23	0.71
19:R:73:ASP:O	19:R:114:ARG:NH2	2.23	0.71
34:g:24:THR:HG22	34:g:25:ARG:H	1.56	0.71
2:5:673:THR:O	11:J:23:ALA:HB1	1.91	0.71
9:H:124:ILE:HG22	9:H:125:LYS:H	1.55	0.71
35:A:2102:G:H2'	35:A:2103:C:C2	2.26	0.71
13:L:7:ARG:NH1	13:L:18:GLU:OE2	2.22	0.70
35:A:160:A:H3'	35:A:161:U:H5''	1.71	0.70
27:Z:22:LEU:HD11	27:Z:58:TYR:HE1	1.55	0.70
7:F:29:TYR:OH	7:F:172:GLU:OE1	2.09	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1627:U:H2'	35:A:1628:A:H8	1.57	0.70
35:A:1229:A:H8	35:A:1230:G:H1'	1.55	0.69
7:F:178:ARG:NH2	7:F:182:PHE:O	2.25	0.69
8:G:150:ARG:NH1	8:G:163:VAL:O	2.24	0.69
6:E:2:THR:HG22	6:E:21:PRO:HA	1.75	0.69
8:G:78:THR:HA	8:G:81:THR:HG22	1.73	0.69
2:6:100:ASP:HA	2:6:491:MET:HG2	1.73	0.69
34:g:2:LYS:HD2	34:g:5:ILE:HD11	1.72	0.69
2:5:461:LEU:HD13	2:5:509:VAL:HG11	1.74	0.69
35:A:2902:A:H2'	35:A:2903:A:C8	2.28	0.69
35:A:256:A:H2'	35:A:257:A:H8	1.58	0.69
35:A:1195:A:H3'	35:A:1196:C:C6	2.28	0.69
35:A:2323:G:H1	35:A:2412:U:H3	1.40	0.69
35:A:1187:A:H4'	35:A:1188:A:H5''	1.75	0.68
2:5:178:PRO:HD3	2:5:270:PRO:HG3	1.75	0.68
35:A:996:G:H2'	35:A:997:G:H8	1.56	0.68
35:A:2122:U:O2'	35:A:2125:A:N6	2.25	0.68
22:U:19:LYS:NZ	35:A:1455:U:OP1	2.25	0.68
25:X:64:PRO:HB3	35:A:759:G:H1	1.59	0.68
2:5:444:PRO:O	2:5:476:ARG:NH2	2.26	0.68
4:C:69:ARG:HB2	4:C:130:ASN:HD22	1.57	0.68
10:I:87:VAL:HG13	10:I:91:LYS:HZ3	1.58	0.68
35:A:981:U:O2'	35:A:982:A:OP2	2.10	0.68
2:6:649:ILE:HB	2:6:683:ILE:HB	1.76	0.67
12:K:98:THR:HG23	12:K:124:VAL:HG13	1.76	0.67
2:6:47:GLY:HA3	2:6:83:LEU:HD11	1.77	0.67
2:6:565:LYS:HE3	2:6:607:PHE:HB3	1.75	0.67
35:A:2255:A:N3	35:A:2679:G:O2'	2.27	0.67
35:A:2356:G:H2'	35:A:2380:G:H1	1.60	0.67
4:C:245:HIS:HB2	4:C:246:PRO:HD3	1.77	0.67
33:f:2:LYS:HB2	33:f:34:GLN:HB3	1.75	0.67
22:U:34:HIS:ND1	22:U:36:ASP:OD1	2.27	0.67
15:N:17:GLN:OE1	15:N:39:HIS:HB3	1.95	0.67
35:A:1550:G:O6	35:A:1620:U:O4	2.13	0.67
35:A:289:A:H62	35:A:299:G:H22	1.42	0.67
35:A:2101:A:H2'	35:A:2102:G:C8	2.29	0.67
35:A:2329:G:H1	35:A:2406:U:H3	1.43	0.66
35:A:2552:A:H2'	35:A:2553:G:C8	2.30	0.66
31:d:38:ARG:HG3	31:d:45:LEU:HD21	1.78	0.66
10:I:40:ARG:NH2	35:A:1201:G:O3'	2.28	0.66
15:N:118:LEU:O	15:N:122:ILE:HD12	1.94	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Z:14:THR:N	27:Z:17:GLU:OE2	2.25	0.66
35:A:137:G:H21	35:A:1524:G:H1'	1.59	0.66
2:5:320:LEU:HA	2:5:344:GLY:HA3	1.75	0.66
2:5:324:VAL:HG22	2:5:339:VAL:HG22	1.76	0.66
4:C:236:GLY:O	4:C:244:ARG:NE	2.28	0.66
9:H:27:ARG:NH2	35:A:2315:U:OP2	2.23	0.66
23:V:46:ALA:HB2	35:A:571:A:H4'	1.76	0.66
2:6:676:HIS:HB2	2:6:682:VAL:HG23	1.78	0.66
11:J:94:PRO:HB2	35:A:1195:A:H1'	1.77	0.66
35:A:2351:A:N3	35:A:2396:A:O2'	2.29	0.66
2:5:674:ASP:O	2:5:682:VAL:N	2.29	0.66
2:5:327:THR:HB	2:5:471:GLU:HA	1.76	0.66
35:A:1001:C:C2	35:A:1002:C:H1'	2.31	0.66
17:P:70:VAL:HG12	17:P:83:ARG:HG3	1.78	0.66
35:A:543:U:H3'	35:A:544:U:H5''	1.78	0.65
33:f:31:ARG:NH1	35:A:2702:A:OP1	2.30	0.65
35:A:298:G:H2'	35:A:299:G:C8	2.32	0.65
4:C:43:ARG:HH12	35:A:806:C:H1'	1.61	0.65
35:A:1556:A:N1	35:A:1615:G:O6	2.29	0.65
2:6:352:VAL:HG21	2:6:427:LEU:HD13	1.78	0.65
16:O:57:LYS:O	16:O:62:ASN:ND2	2.30	0.65
35:A:301:U:H5'	35:A:302:U:O5'	1.96	0.65
35:A:273:A:H61	35:A:314:G:H1'	1.62	0.65
35:A:1754:G:H22	35:A:1759:A:N6	1.94	0.65
35:A:2096:G:H2'	35:A:2097:G:C8	2.31	0.65
2:6:39:LEU:HD13	2:6:271:VAL:HG11	1.78	0.65
35:A:1177:G:H2'	35:A:1178:U:C5	2.31	0.65
35:A:3014:A:O2'	35:A:3015:C:H5''	1.97	0.65
4:C:67:PHE:HE1	4:C:106:ILE:HD11	1.60	0.64
11:J:114:LYS:HG3	11:J:130:ILE:HD11	1.77	0.64
35:A:1541:G:N1	35:A:1631:A:C6	2.65	0.64
2:5:229:ILE:CG2	2:5:237:LEU:HB3	2.28	0.64
2:6:687:ILE:HB	2:6:692:LEU:HD21	1.80	0.64
2:5:671:LEU:HG	2:5:685:ALA:HA	1.80	0.64
11:J:129:ILE:HG12	35:A:1198:C:H1'	1.80	0.64
2:6:674:ASP:O	2:6:682:VAL:N	2.30	0.64
2:6:395:PHE:HB2	2:6:402:ARG:HB2	1.79	0.64
2:5:465:LEU:HD13	2:5:477:ILE:HG12	1.79	0.64
7:F:8:LEU:HD21	7:F:13:GLN:HB2	1.80	0.64
35:A:1000:C:H2'	35:A:1001:C:H5''	1.80	0.64
6:E:2:THR:HA	6:E:20:LEU:O	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:29:TYR:HD2	7:F:35:ILE:HD13	1.61	0.64
35:A:451:U:H2'	35:A:452:G:H8	1.62	0.64
35:A:2160:A:H62	35:A:2194:A:H2'	1.63	0.64
2:5:142:PRO:HG2	2:5:291:PRO:HG3	1.80	0.63
14:M:55:MET:O	14:M:60:ARG:NH1	2.31	0.63
16:O:7:GLY:O	16:O:9:ARG:NH1	2.31	0.63
35:A:2134:G:H2'	35:A:2135:U:H2'	1.80	0.63
2:5:560:PHE:HB2	2:5:587:MET:HE1	1.80	0.63
2:6:257:GLU:HG2	2:6:289:GLY:HA2	1.80	0.63
9:H:126:SER:O	9:H:130:HIS:NE2	2.32	0.63
35:A:1758:G:H2'	35:A:1759:A:C8	2.33	0.63
3:B:81:U:O2'	35:A:1033:A:N3	2.32	0.63
2:5:353:HIS:ND1	2:5:387:ASP:OD1	2.22	0.63
35:A:2425:U:O2'	35:A:2427:G:OP1	2.17	0.63
3:B:4:A:N1	3:B:23:G:O2'	2.26	0.63
24:W:158:THR:HG22	24:W:161:GLN:HG3	1.81	0.63
35:A:1003:A:H1'	35:A:1004:C:H2'	1.79	0.63
35:A:1756:G:H1'	35:A:1758:G:C6	2.34	0.63
13:L:4:GLN:HG3	13:L:5:GLU:HG2	1.81	0.63
35:A:1530:G:H21	35:A:1805:G:H22	1.47	0.63
2:5:325:VAL:HG23	2:5:326:LYS:HG3	1.81	0.63
35:A:1544:U:H3	35:A:1626:G:H1	1.44	0.63
2:5:699:LEU:HA	2:5:702:MET:HE2	1.80	0.63
2:6:301:VAL:HG21	2:6:312:LEU:HG	1.81	0.63
13:L:7:ARG:HE	13:L:20:LEU:HD12	1.64	0.63
35:A:2019:A:H2'	35:A:2020:A:C8	2.34	0.63
2:5:37:THR:HG23	2:5:63:CYS:HB2	1.81	0.62
11:J:136:SER:HB2	35:A:1180:G:N3	2.14	0.62
2:5:172:VAL:HG22	2:5:266:PHE:HB2	1.79	0.62
8:G:99:LEU:HD23	8:G:126:VAL:HG12	1.80	0.62
27:Z:36:MET:HG3	27:Z:47:LEU:HD11	1.80	0.62
35:A:1005:A:H3'	35:A:1006:G:C8	2.34	0.62
2:6:444:PRO:O	2:6:476:ARG:NH2	2.32	0.62
35:A:1202:A:N3	35:A:1223:U:O2'	2.33	0.62
35:A:1754:G:N2	35:A:1759:A:H61	1.97	0.62
2:6:322:ALA:N	2:6:427:LEU:O	2.33	0.62
4:C:238:GLY:HA3	4:C:245:HIS:HA	1.82	0.62
2:5:338:LEU:HD11	2:5:396:PRO:HG3	1.82	0.62
7:F:71:LYS:HZ3	34:g:5:ILE:HB	1.64	0.62
35:A:3079:U:H2'	35:A:3080:A:C8	2.35	0.62
2:6:178:PRO:HA	2:6:188:VAL:HA	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:6:531:HIS:ND1	2:6:548:ASP:OD1	2.31	0.62
11:J:132:GLY:HA2	11:J:135:ARG:HD2	1.81	0.62
16:O:106:ASP:OD2	35:A:1867:G:O2'	2.16	0.62
34:g:14:VAL:HG22	34:g:33:ILE:HB	1.81	0.62
2:5:44:LEU:HD23	2:5:83:LEU:HD22	1.81	0.62
10:I:40:ARG:CZ	35:A:1201:G:H4'	2.29	0.62
2:6:544:TYR:HB3	2:6:615:ASP:HB3	1.82	0.62
35:A:337:U:O4	35:A:344:G:O6	2.18	0.61
2:5:27:ALA:HA	2:5:93:ILE:HB	1.82	0.61
2:6:82:SER:H	2:6:402:ARG:HH12	1.49	0.61
35:A:2178:G:H21	35:A:2775:C:H5'	1.65	0.61
2:5:670:VAL:HB	35:A:1185:A:C8	2.36	0.61
11:J:114:LYS:HB3	11:J:118:LEU:HD12	1.82	0.61
35:A:1174:G:H4'	35:A:1204:A:C8	2.31	0.61
18:Q:3:THR:HG23	35:A:3096:U:H4'	1.82	0.61
35:A:858:A:O2'	35:A:1877:U:OP1	2.17	0.61
4:C:75:VAL:HG11	4:C:99:ASP:HB2	1.83	0.61
35:A:1002:C:C2'	35:A:1003:A:H5''	2.31	0.61
35:A:1185:A:H2'	35:A:1186:G:C8	2.35	0.61
35:A:993:G:N2	35:A:1015:A:OP2	2.28	0.61
2:6:353:HIS:ND1	2:6:387:ASP:OD1	2.34	0.61
27:Z:36:MET:CE	27:Z:41:LEU:HB3	2.30	0.61
2:5:544:TYR:N	2:5:615:ASP:O	2.34	0.61
2:5:578:SER:HB2	2:5:622:GLN:HG3	1.83	0.61
4:C:164:GLN:HB3	4:C:176:ARG:HG2	1.82	0.61
11:J:90:GLY:HA3	35:A:1181:G:O2'	2.00	0.61
5:D:44:ARG:NH1	35:A:3009:U:OP1	2.30	0.60
35:A:1532:G:O2'	35:A:1803:A:N1	2.30	0.60
35:A:1621:C:H2'	35:A:1622:G:H8	1.65	0.60
35:A:1656:A:H2'	35:A:1657:G:H8	1.65	0.60
35:A:2064:A:H1'	35:A:2065:A:C2	2.36	0.60
2:6:371:ALA:HB1	2:6:441:MET:HG2	1.82	0.60
4:C:231:HIS:CE1	4:C:233:HIS:HD2	2.19	0.60
19:R:83:LEU:HD22	19:R:113:ALA:HB2	1.82	0.60
35:A:2079:C:N4	35:A:2080:G:O6	2.35	0.60
2:5:587:MET:HG3	2:5:629:LEU:HD21	1.83	0.60
35:A:2190:A:OP2	35:A:2191:C:N4	2.33	0.60
21:T:71:LEU:HD23	21:T:116:SER:HB2	1.83	0.60
35:A:1543:A:N1	35:A:1628:A:O2'	2.33	0.60
35:A:1996:U:OP2	35:A:2001:A:N6	2.32	0.60
3:B:83:C:OP1	28:a:16:ARG:NH1	2.21	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1193:C:H2'	35:A:1194:C:C6	2.37	0.60
2:5:586:GLN:HB3	2:5:629:LEU:HD23	1.84	0.60
35:A:2294:A:H2'	35:A:2295:C:C6	2.36	0.60
17:P:46:HIS:ND1	17:P:66:ILE:HD13	2.16	0.60
2:6:641:LEU:HB3	2:6:716:TYR:HB3	1.84	0.60
9:H:62:ILE:O	9:H:66:ASN:N	2.32	0.60
35:A:1550:G:N1	35:A:1620:U:N3	2.50	0.60
16:O:99:LYS:HD2	29:b:42:ARG:HE	1.67	0.59
2:6:475:LEU:HD13	2:6:499:VAL:HG11	1.83	0.59
10:I:3:LYS:HE2	35:A:1163:A:OP1	2.02	0.59
4:C:54:LYS:NZ	35:A:2040:G:OP1	2.35	0.59
35:A:594:U:H5'	35:A:595:A:H5''	1.83	0.59
2:5:217:ILE:O	2:5:221:ARG:HG3	2.02	0.59
2:6:652:PRO:HA	2:6:680:ARG:HA	1.83	0.59
4:C:88:ARG:NH2	35:A:2034:G:OP1	2.35	0.59
10:I:22:ALA:HB2	10:I:110:MET:SD	2.42	0.59
12:K:116:ARG:NH1	35:A:615:A:H2	1.97	0.59
2:5:178:PRO:HA	2:5:188:VAL:HA	1.85	0.59
23:V:75:ASP:OD1	23:V:76:SER:N	2.36	0.59
14:M:32:THR:HG22	14:M:35:ARG:H	1.66	0.59
35:A:346:C:H2'	35:A:347:U:C6	2.37	0.59
16:O:20:LEU:HD21	16:O:40:LYS:HE2	1.85	0.59
2:6:91:ASN:ND2	2:6:411:ASP:OD1	2.35	0.59
4:C:183:ARG:NH2	35:A:2017:C:OP2	2.35	0.59
8:G:111:SER:OG	35:A:2891:C:N3	2.29	0.59
10:I:23:THR:HG22	10:I:109:TYR:HB3	1.85	0.59
12:K:92:LEU:HD11	12:K:99:ARG:HD2	1.84	0.59
8:G:35:LEU:HD11	8:G:72:LEU:HB3	1.83	0.59
20:S:53:ASP:OD1	20:S:54:ASP:N	2.36	0.59
35:A:1885:G:O2'	35:A:2215:U:O4	2.18	0.59
2:6:550:GLU:HB3	2:6:605:THR:HB	1.84	0.59
35:A:621:U:H2'	35:A:622:C:C6	2.38	0.59
35:A:1825:C:N4	35:A:1840:G:OP2	2.27	0.59
2:5:103:GLY:HA3	2:5:474:THR:HG21	1.84	0.58
11:J:29:ALA:O	11:J:33:HIS:ND1	2.34	0.58
11:J:95:HIS:ND1	35:A:1195:A:O3'	2.36	0.58
35:A:429:A:H2'	35:A:430:A:C8	2.38	0.58
7:F:44:ASN:ND2	35:A:2537:C:O4'	2.37	0.58
35:A:2074:G:O2'	35:A:2110:U:O4	2.17	0.58
10:I:40:ARG:NH2	35:A:1201:G:H4'	2.19	0.58
11:J:128:LYS:HD3	35:A:1198:C:H4'	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:339:U:H2'	35:A:340:A:C8	2.37	0.58
35:A:357:U:H4'	35:A:358:G:O5'	2.03	0.58
35:A:3020:U:O2'	35:A:3021:A:O5'	2.20	0.58
2:5:666:ARG:NH2	2:5:698:ASP:OD2	2.35	0.58
35:A:2340:A:N1	35:A:2393:A:N6	2.51	0.58
17:P:42:ARG:HD3	17:P:113:ILE:HD11	1.85	0.58
2:6:83:LEU:HB3	2:6:90:VAL:HB	1.86	0.58
27:Z:36:MET:HE2	27:Z:41:LEU:HB3	1.84	0.58
35:A:2174:G:N1	35:A:2178:G:O2'	2.19	0.58
2:5:229:ILE:HG23	2:5:237:LEU:HB3	1.84	0.58
2:6:505:ARG:HE	2:6:506:ARG:HG3	1.69	0.58
15:N:74:LEU:HD12	15:N:92:TRP:HE1	1.67	0.58
2:5:292:ALA:O	2:5:296:HIS:N	2.34	0.58
2:5:676:HIS:HB2	2:5:682:VAL:HG23	1.86	0.58
7:F:128:GLN:HB3	7:F:135:TYR:CE1	2.39	0.58
8:G:5:GLY:HA3	8:G:66:HIS:CD2	2.39	0.58
26:Y:48:ARG:NH2	35:A:2424:C:OP1	2.33	0.58
35:A:2386:U:OP1	35:A:2393:A:O2'	2.22	0.58
12:K:99:ARG:HA	12:K:102:GLU:HB2	1.84	0.58
35:A:1530:G:H22	35:A:1805:G:H1	1.52	0.58
2:6:540:GLY:N	35:A:3080:A:H5''	2.19	0.58
35:A:998:G:H2'	35:A:999:C:H6	1.69	0.58
2:5:22:ALA:O	2:5:89:LYS:N	2.32	0.57
3:B:10:G:O2'	3:B:11:U:OP1	2.19	0.57
15:N:110:ASP:OD1	15:N:113:THR:OG1	2.21	0.57
20:S:23:LYS:HD3	20:S:96:VAL:HG22	1.86	0.57
32:e:9:GLY:O	32:e:13:ARG:HG2	2.03	0.57
35:A:292:G:N1	35:A:343:U:N3	2.52	0.57
35:A:2095:G:HO2'	35:A:2096:G:H8	1.51	0.57
2:6:676:HIS:H	2:6:681:THR:HA	1.68	0.57
4:C:231:HIS:CE1	4:C:233:HIS:CD2	2.92	0.57
7:F:75:ARG:HH21	7:F:95:ARG:NH2	2.03	0.57
35:A:1001:C:H1'	35:A:1007:G:H22	1.69	0.57
35:A:1185:A:H2'	35:A:1186:G:H8	1.69	0.57
35:A:1186:G:H2'	35:A:1187:A:C5	2.39	0.57
2:5:551:VAL:HG22	2:5:604:VAL:HG22	1.87	0.57
2:6:225:ILE:HG12	2:6:252:LEU:HD22	1.86	0.57
2:6:324:VAL:HA	2:6:339:VAL:HA	1.86	0.57
14:M:51:GLU:OE2	32:e:57:ARG:NH1	2.38	0.57
23:V:4:HIS:NE2	35:A:81:A:OP1	2.36	0.57
35:A:1195:A:H3'	35:A:1196:C:H6	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1610:C:H2'	35:A:1611:A:H8	1.70	0.57
35:A:2381:A:H4'	35:A:2382:G:O5'	2.04	0.57
4:C:212:MET:HE2	4:C:217:LYS:HE3	1.86	0.57
35:A:284:G:O2'	35:A:286:G:O4'	2.21	0.57
35:A:1542:A:H61	35:A:1628:A:H1'	1.68	0.57
35:A:2761:U:H2'	35:A:2762:C:H6	1.69	0.57
2:6:376:GLY:O	2:6:379:HIS:N	2.33	0.57
10:I:28:TYR:CD2	10:I:78:ALA:HB2	2.35	0.57
22:U:11:ILE:O	27:Z:33:ARG:NH2	2.38	0.57
24:W:158:THR:OG1	24:W:174:PRO:O	2.15	0.57
35:A:303:G:H2'	35:A:304:U:O4'	2.04	0.57
35:A:2169:G:O2'	35:A:2170:U:OP1	2.19	0.57
2:5:448:ILE:N	2:5:488:LEU:O	2.36	0.57
11:J:128:LYS:CD	35:A:1198:C:H4'	2.34	0.57
35:A:1178:U:C2	35:A:1180:G:H5'	2.39	0.57
35:A:2867:A:H2'	35:A:2868:A:H8	1.69	0.57
2:5:78:LEU:HD23	2:5:104:GLU:HB3	1.87	0.57
2:6:302:PHE:N	2:6:435:VAL:O	2.34	0.57
35:A:2761:U:H2'	35:A:2762:C:C6	2.40	0.57
2:6:322:ALA:HB3	2:6:427:LEU:HB2	1.87	0.57
2:6:324:VAL:HG22	2:6:339:VAL:HG22	1.85	0.57
22:U:40:THR:O	22:U:44:ILE:HG13	2.04	0.57
25:X:26:PHE:N	25:X:29:GLN:OE1	2.34	0.57
35:A:2902:A:H2'	35:A:2903:A:H8	1.70	0.57
2:5:357:HIS:CE1	2:5:424:GLY:HA3	2.40	0.57
22:U:12:LEU:HB2	22:U:32:VAL:HG23	1.87	0.57
35:A:1225:G:O2'	35:A:1226:U:H5'	2.05	0.57
35:A:3020:U:H1'	35:A:3022:G:O6	2.04	0.57
30:c:44:ASN:OD1	30:c:45:CYS:N	2.36	0.56
35:A:844:G:H4'	35:A:878:G:H5'	1.87	0.56
2:5:353:HIS:HB2	2:5:430:LYS:HA	1.87	0.56
2:5:468:LEU:HG	2:5:507:TYR:HE2	1.70	0.56
2:5:552:GLU:OE2	2:5:603:ARG:NH1	2.32	0.56
4:C:69:ARG:HB2	4:C:130:ASN:ND2	2.20	0.56
35:A:1530:G:N2	35:A:1805:G:H1	2.03	0.56
2:5:47:GLY:HA3	2:5:83:LEU:HD21	1.87	0.56
2:5:701:SER:C	2:5:703:SER:H	2.13	0.56
2:6:174:PRO:HA	2:6:268:VAL:HB	1.87	0.56
4:C:226:MET:HE2	4:C:230:ASP:HB3	1.87	0.56
8:G:69:SER:O	8:G:73:ILE:HG12	2.06	0.56
18:Q:30:LYS:NZ	18:Q:78:PRO:O	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:45:TYR:HD1	19:R:48:ARG:HE	1.53	0.56
35:A:292:G:H22	35:A:343:U:H2'	1.70	0.56
35:A:1220:C:H2'	35:A:1221:A:H8	1.70	0.56
35:A:1656:A:H2'	35:A:1657:G:C8	2.40	0.56
24:W:134:GLU:HB2	24:W:171:ILE:HD11	1.87	0.56
10:I:26:THR:HG22	10:I:105:ILE:HA	1.87	0.56
30:c:8:ARG:NH2	35:A:2509:C:OP2	2.38	0.56
4:C:60:ARG:HA	35:A:1788:G:H5'	1.87	0.56
7:F:11:LEU:HD12	7:F:14:ARG:HB3	1.87	0.56
9:H:8:GLU:HG2	9:H:14:ALA:HA	1.88	0.56
35:A:334:G:H2'	35:A:335:G:C8	2.40	0.56
35:A:337:U:C2	35:A:344:G:N1	2.73	0.56
35:A:1174:G:C4'	35:A:1204:A:H8	2.18	0.56
2:5:323:GLU:N	2:5:340:ARG:O	2.39	0.56
7:F:19:ILE:HD12	7:F:179:ALA:HB1	1.87	0.56
15:N:43:THR:HG22	15:N:94:VAL:HG12	1.86	0.56
35:A:1963:G:H2'	35:A:1964:U:C6	2.41	0.56
35:A:2178:G:N2	35:A:2774:G:O3'	2.39	0.56
2:6:106:ARG:HD2	2:6:442:PRO:HD3	1.88	0.56
2:6:332:TYR:HH	13:L:47:ILE:HD12	1.71	0.56
2:6:452:PRO:HA	2:6:511:VAL:HG12	1.87	0.56
23:V:86:ARG:NH2	23:V:104:ASP:OD2	2.39	0.56
35:A:445:U:H4'	35:A:446:G:O5'	2.06	0.56
2:6:321:LEU:HD11	2:6:436:LEU:HG	1.88	0.56
7:F:11:LEU:HD21	7:F:180:LEU:HD12	1.87	0.56
24:W:9:ASN:HD21	24:W:61:HIS:CE1	2.23	0.56
35:A:329:U:O2	35:A:447:A:N6	2.39	0.56
35:A:1164:A:H2'	35:A:1164:A:OP1	2.05	0.56
35:A:1791:A:H2'	35:A:1792:A:C8	2.41	0.56
35:A:2329:G:O6	35:A:2406:U:O4	2.22	0.56
35:A:2862:G:O2'	35:A:3002:A:N6	2.39	0.56
2:5:550:GLU:O	2:5:605:THR:N	2.35	0.55
7:F:107:LEU:HA	7:F:110:LEU:HG	1.89	0.55
24:W:52:ARG:NH2	35:A:1157:G:H4'	2.21	0.55
31:d:14:ARG:NH2	35:A:885:G:OP2	2.39	0.55
13:L:2:ILE:HG13	13:L:8:LEU:HD21	1.88	0.55
24:W:39:GLY:HA3	24:W:99:VAL:HB	1.87	0.55
34:g:16:CYS:SG	34:g:17:GLY:N	2.79	0.55
35:A:2168:U:O4	35:A:2187:U:O2'	2.24	0.55
2:5:43:LEU:HD21	2:5:282:LEU:HD23	1.86	0.55
2:5:84:SER:HA	2:5:89:LYS:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:5:477:ILE:HD13	2:5:488:LEU:HD23	1.88	0.55
2:6:25:ASN:ND2	2:6:112:ALA:HA	2.21	0.55
35:A:218:A:N3	35:A:234:U:O2'	2.33	0.55
35:A:1118:A:H2'	35:A:1119:A:C8	2.41	0.55
35:A:1554:U:O4	35:A:1617:C:N3	2.39	0.55
35:A:1705:C:H2'	35:A:1706:A:H8	1.72	0.55
13:L:66:VAL:O	13:L:78:LYS:HE2	2.07	0.55
35:A:2120:A:H2'	35:A:2121:G:H8	1.72	0.55
35:A:2358:A:HO2'	35:A:2382:G:HO2'	1.53	0.55
2:5:575:PHE:O	2:5:578:SER:OG	2.17	0.55
35:A:2127:G:H3'	35:A:2128:G:H8	1.70	0.55
10:I:57:VAL:O	10:I:61:ALA:N	2.39	0.55
13:L:76:TYR:O	18:Q:71:ARG:HD2	2.06	0.55
21:T:32:ARG:NH1	21:T:81:VAL:O	2.39	0.55
35:A:190:A:H2'	35:A:191:G:N3	2.22	0.55
2:6:351:THR:HA	2:6:389:ARG:HA	1.89	0.55
16:O:71:ARG:HH22	35:A:2933:G:H5'	1.71	0.55
2:6:338:LEU:HD11	2:6:396:PRO:HG3	1.89	0.55
10:I:82:VAL:HG21	10:I:86:ALA:HA	1.89	0.55
35:A:1165:G:H8	35:A:1165:G:OP2	1.89	0.55
2:5:20:PRO:HD3	2:5:316:PRO:HD3	1.89	0.55
2:5:675:LYS:NZ	11:J:31:GLY:HA3	2.21	0.55
3:B:50:C:O3'	17:P:78:LYS:NZ	2.40	0.55
35:A:453:U:H2'	35:A:454:U:C6	2.41	0.55
35:A:1628:A:N3	35:A:1630:U:N3	2.54	0.55
35:A:2261:U:H2'	35:A:2262:C:C6	2.42	0.55
2:6:536:LYS:HD2	35:A:1929:A:OP1	2.06	0.54
12:K:56:VAL:HB	12:K:124:VAL:HG23	1.88	0.54
16:O:33:ARG:NH1	16:O:114:GLU:OE2	2.40	0.54
21:T:13:LYS:HB2	35:A:581:G:H4'	1.89	0.54
2:6:374:ALA:HA	2:6:473:PRO:HA	1.89	0.54
2:6:377:SER:H	2:6:476:ARG:HG3	1.72	0.54
8:G:86:GLN:NE2	8:G:87:LYS:O	2.40	0.54
9:H:62:ILE:H	9:H:65:ALA:HB3	1.72	0.54
18:Q:24:THR:HG23	18:Q:86:LEU:HB2	1.88	0.54
22:U:69:THR:HG23	22:U:72:GLY:H	1.72	0.54
4:C:257:THR:OG1	35:A:2014:G:O2'	2.25	0.54
8:G:158:TYR:O	8:G:172:ARG:NH2	2.29	0.54
33:f:25:VAL:HB	33:f:34:GLN:HG3	1.89	0.54
35:A:1886:A:O2'	35:A:1892:G:N7	2.31	0.54
35:A:2190:A:H2'	35:A:2191:C:C2	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:5:378:THR:OG1	2:5:462:SER:OG	2.25	0.54
3:B:5:C:OP1	3:B:62:C:O2'	2.25	0.54
7:F:117:ARG:NH1	7:F:145:PHE:O	2.40	0.54
15:N:108:TYR:CD1	15:N:109:PRO:HD2	2.43	0.54
35:A:1690:A:H2'	35:A:1691:A:C8	2.42	0.54
35:A:2730:U:OP2	35:A:2800:G:N1	2.37	0.54
2:5:657:GLY:HA3	35:A:1213:A:OP2	2.07	0.54
2:6:338:LEU:HD12	2:6:412:ILE:HG22	1.90	0.54
15:N:42:ILE:HD12	15:N:97:VAL:HG21	1.89	0.54
30:c:6:ASP:O	30:c:8:ARG:N	2.36	0.54
35:A:1012:C:H2'	35:A:1012:C:O2	2.06	0.54
35:A:2105:G:N2	35:A:2106:A:N7	2.53	0.54
35:A:2160:A:N6	35:A:2194:A:H2'	2.22	0.54
35:A:2510:A:H4'	35:A:2511:A:O4'	2.07	0.54
35:A:2745:C:O2'	35:A:2788:A:N3	2.40	0.54
2:6:674:ASP:N	2:6:682:VAL:O	2.41	0.54
4:C:43:ARG:NH1	35:A:806:C:H1'	2.22	0.54
5:D:169:ARG:HH22	35:A:3046:C:H41	1.54	0.54
7:F:61:ILE:HG23	7:F:72:PRO:HD2	1.90	0.54
11:J:16:GLN:O	11:J:44:TYR:OH	2.26	0.54
11:J:128:LYS:CE	35:A:1198:C:H5''	2.35	0.54
12:K:65:SER:OG	35:A:1259:U:OP2	2.25	0.54
24:W:165:PRO:HD2	24:W:168:VAL:HG21	1.90	0.54
35:A:1928:C:H4'	35:A:3079:U:O2	2.07	0.54
35:A:2351:A:H2'	35:A:2352:C:C6	2.42	0.54
35:A:337:U:N3	35:A:344:G:C6	2.75	0.54
2:5:24:ARG:O	2:5:91:ASN:N	2.35	0.54
10:I:54:ASN:ND2	10:I:73:PHE:O	2.41	0.54
2:5:139:VAL:HG13	2:5:141:MET:HB2	1.91	0.53
2:6:126:ASP:HB2	2:6:128:PRO:HD2	1.90	0.53
35:A:998:G:H2'	35:A:999:C:C6	2.42	0.53
2:5:546:VAL:HB	2:5:610:LYS:HB2	1.89	0.53
4:C:176:ARG:HH22	35:A:2062:G:H5''	1.73	0.53
14:M:124:VAL:HG21	14:M:137:ILE:HD13	1.90	0.53
20:S:43:VAL:HG22	20:S:48:VAL:HG12	1.91	0.53
35:A:2569:G:N3	35:A:2605:C:H2'	2.24	0.53
17:P:73:ILE:HG22	17:P:75:GLY:H	1.72	0.53
24:W:26:GLN:OE1	24:W:29:ARG:NH2	2.33	0.53
35:A:256:A:H2'	35:A:257:A:C8	2.41	0.53
7:F:64:LEU:HA	7:F:67:ILE:HG22	1.91	0.53
17:P:127:PHE:O	35:A:2601:A:O2'	2.19	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:c:40:LYS:NZ	35:A:2571:C:OP1	2.42	0.53
35:A:1099:A:OP2	35:A:1100:C:N4	2.33	0.53
35:A:1553:C:H5''	35:A:1554:U:H5	1.73	0.53
35:A:2256:G:OP1	35:A:2678:G:O2'	2.19	0.53
2:6:328:THR:HG22	2:6:336:VAL:HB	1.90	0.53
24:W:8:PRO:HA	24:W:66:ILE:HG23	1.89	0.53
35:A:3023:G:H2'	35:A:3024:A:O4'	2.08	0.53
2:5:271:VAL:HG21	2:5:282:LEU:HD22	1.91	0.53
2:5:701:SER:HA	35:A:2884:A:N7	2.23	0.53
2:6:69:GLU:HG3	2:6:76:VAL:HG22	1.89	0.53
2:6:151:ASP:OD2	36:6:801:GNP:N2	2.33	0.53
4:C:79:VAL:HG23	4:C:114:GLY:H	1.73	0.53
17:P:66:ILE:O	17:P:71:ARG:NH2	2.40	0.53
2:5:191:LEU:HD13	2:5:220:LEU:HB3	1.91	0.53
2:5:550:GLU:HB3	2:5:605:THR:HB	1.89	0.53
6:E:34:MET:HE2	6:E:189:LEU:HD11	1.89	0.53
1:3:8:LYS:HG2	1:3:11:ARG:HH12	1.72	0.53
2:5:14:VAL:HG13	2:5:402:ARG:HD2	1.90	0.53
7:F:73:GLU:OE2	7:F:75:ARG:NE	2.42	0.53
11:J:95:HIS:HB2	35:A:1195:A:H4'	1.91	0.53
2:6:543:GLN:HB3	2:6:620:ALA:HB2	1.91	0.53
4:C:67:PHE:CE1	4:C:106:ILE:HD11	2.41	0.53
35:A:1196:C:H1'	35:A:1206:A:H2'	1.91	0.53
35:A:2805:G:OP2	35:A:2805:G:N2	2.41	0.53
4:C:206:TRP:O	4:C:211:ARG:HD3	2.09	0.52
16:O:42:ARG:NH2	35:A:3038:C:OP1	2.35	0.52
24:W:178:VAL:HG12	24:W:179:VAL:HG23	1.91	0.52
35:A:81:A:N1	35:A:96:G:O2'	2.35	0.52
35:A:2872:G:H2'	35:A:2873:U:C6	2.44	0.52
2:6:24:ARG:O	2:6:91:ASN:N	2.35	0.52
35:A:2128:G:O2'	35:A:2150:U:O2	2.27	0.52
2:5:189:VAL:HG22	2:5:196:TYR:HB2	1.92	0.52
2:5:269:ILE:HG12	2:5:285:ILE:HD13	1.92	0.52
2:5:397:LEU:HD22	2:5:402:ARG:HD3	1.91	0.52
4:C:226:MET:HE3	35:A:897:A:C2	2.44	0.52
11:J:94:PRO:HD2	35:A:1194:C:C1'	2.37	0.52
32:e:29:ARG:CZ	32:e:45:ASP:HB3	2.39	0.52
35:A:473:C:O2'	35:A:476:G:N2	2.42	0.52
12:K:125:TYR:HH	12:K:132:HIS:HE2	1.58	0.52
15:N:75:THR:HA	15:N:90:PRO:HA	1.89	0.52
32:e:43:ARG:NH2	35:A:2587:U:OP2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2322:C:H2'	35:A:2323:G:H8	1.73	0.52
2:6:663:LEU:HA	2:6:666:ARG:HB2	1.91	0.52
10:I:14:ALA:O	10:I:18:LYS:HG2	2.10	0.52
12:K:93:LEU:HD12	12:K:97:PRO:HB3	1.90	0.52
30:c:6:ASP:C	30:c:8:ARG:H	2.15	0.52
35:A:353:G:H1	35:A:442:U:H3	1.58	0.52
35:A:1001:C:N3	35:A:1002:C:H1'	2.25	0.52
2:6:69:GLU:HG2	2:6:76:VAL:H	1.73	0.52
7:F:117:ARG:HD2	7:F:146:HIS:CE1	2.45	0.52
15:N:1:MET:HE1	15:N:45:ARG:HA	1.91	0.52
22:U:91:LYS:HD3	22:U:92:PRO:HD2	1.92	0.52
25:X:11:ARG:O	25:X:14:ARG:NH2	2.35	0.52
35:A:857:U:H2'	35:A:858:A:C8	2.45	0.52
35:A:2347:G:O6	35:A:2348:G:N2	2.43	0.52
2:6:436:LEU:O	2:6:438:PRO:HD3	2.10	0.52
6:E:160:ARG:HH12	35:A:706:G:HO2'	1.54	0.52
30:c:8:ARG:HH21	35:A:2508:C:H3'	1.74	0.52
35:A:137:G:H2'	35:A:138:A:C8	2.45	0.52
35:A:429:A:H2'	35:A:430:A:H8	1.74	0.52
35:A:3071:A:N7	35:A:3089:A:O2'	2.31	0.52
4:C:182:ILE:HB	4:C:269:VAL:HB	1.91	0.52
19:R:31:LEU:HD21	35:A:672:C:H4'	1.92	0.52
21:T:69:GLU:OE2	21:T:69:GLU:N	2.43	0.52
35:A:2:A:H2'	35:A:3:A:C8	2.45	0.52
35:A:2922:U:H2'	35:A:2923:C:C6	2.45	0.52
2:5:554:LEU:HD11	2:5:603:ARG:HB2	1.90	0.52
2:6:353:HIS:O	2:6:427:LEU:HA	2.10	0.52
10:I:87:VAL:HG13	10:I:91:LYS:NZ	2.23	0.52
35:A:672:C:H2'	35:A:673:C:C6	2.45	0.52
35:A:1627:U:H2'	35:A:1628:A:C8	2.40	0.52
35:A:1963:G:H2'	35:A:1964:U:H6	1.75	0.52
35:A:2061:U:H2'	35:A:2062:G:C8	2.44	0.52
2:5:702:MET:HG3	8:G:176:LYS:HD3	1.91	0.52
7:F:95:ARG:NH1	35:A:2538:A:OP1	2.43	0.52
7:F:170:ASP:OD1	7:F:174:ARG:NH2	2.41	0.52
35:A:1005:A:H2'	35:A:1006:G:O4'	2.10	0.52
2:5:534:HIS:NE2	2:5:543:GLN:OE1	2.43	0.51
2:5:704:HIS:HB3	35:A:2884:A:H5'	1.92	0.51
2:6:83:LEU:N	2:6:90:VAL:O	2.36	0.51
3:B:42:C:N4	7:F:74:VAL:O	2.37	0.51
9:H:41:ARG:O	9:H:45:ARG:N	2.31	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1715:A:H2'	35:A:1716:A:C8	2.46	0.51
7:F:134:ASN:OD1	7:F:164:VAL:HG23	2.10	0.51
18:Q:28:HIS:CD2	18:Q:82:HIS:HB2	2.46	0.51
35:A:292:G:N2	35:A:343:U:O2	2.43	0.51
2:5:173:ALA:HB3	2:5:265:PHE:HZ	1.76	0.51
9:H:98:ALA:HB2	9:H:114:LYS:HD3	1.91	0.51
26:Y:53:THR:HA	26:Y:56:ILE:HD12	1.90	0.51
35:A:729:C:O2'	35:A:733:U:OP1	2.27	0.51
35:A:1548:C:N4	35:A:1549:G:O6	2.43	0.51
2:6:180:GLY:HA3	2:6:185:CYS:HA	1.92	0.51
2:6:591:VAL:HA	2:6:630:ARG:HH22	1.76	0.51
4:C:181:GLU:HB2	4:C:270:ARG:O	2.10	0.51
29:b:27:LEU:HD23	29:b:38:LYS:HB3	1.92	0.51
35:A:502:C:H2'	35:A:503:A:C8	2.45	0.51
35:A:1179:U:C4	35:A:1188:A:C2	2.99	0.51
2:5:321:LEU:HD11	2:5:436:LEU:HG	1.91	0.51
35:A:279:U:H2'	35:A:280:G:H8	1.75	0.51
35:A:1001:C:H4'	35:A:1001:C:OP1	2.09	0.51
35:A:1211:G:H21	35:A:1216:A:H62	1.58	0.51
2:5:72:GLN:HB3	2:5:74:ARG:NE	2.25	0.51
2:6:650:VAL:HG22	2:6:682:VAL:HG22	1.93	0.51
7:F:15:TYR:OH	7:F:36:PRO:O	2.29	0.51
11:J:94:PRO:HB2	35:A:1195:A:C1'	2.41	0.51
11:J:136:SER:O	35:A:1180:G:N2	2.32	0.51
2:5:654:ASP:OD1	2:5:655:LEU:HG	2.11	0.51
19:R:11:GLN:OE1	19:R:14:ARG:NH1	2.43	0.51
35:A:1314:C:H2'	35:A:1315:C:H6	1.76	0.51
35:A:1541:G:C2	35:A:1631:A:N1	2.78	0.51
35:A:217:G:H22	35:A:235:U:H4'	1.75	0.51
35:A:3019:C:H2'	35:A:3020:U:O4'	2.11	0.51
35:A:337:U:C4	35:A:344:G:O6	2.64	0.51
35:A:1012:C:H3'	35:A:1013:U:C6	2.45	0.51
35:A:1162:G:O3'	35:A:1165:G:H5'	2.11	0.51
35:A:2471:A:H2'	35:A:2472:C:H6	1.76	0.51
6:E:156:VAL:HG12	6:E:158:ILE:HG12	1.92	0.51
7:F:178:ARG:NH1	7:F:184:PHE:HB2	2.26	0.51
35:A:277:U:H2'	35:A:278:A:C8	2.46	0.51
35:A:911:U:H2'	35:A:912:C:C6	2.46	0.51
35:A:928:U:H2'	35:A:929:C:C6	2.46	0.51
35:A:1927:C:O2'	35:A:3080:A:H1'	2.11	0.51
35:A:3030:A:H2'	35:A:3031:A:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:6:565:LYS:HE2	2:6:605:THR:HG22	1.93	0.50
4:C:162:SER:HB3	4:C:195:GLU:HG2	1.92	0.50
7:F:80:SER:OG	7:F:88:GLU:N	2.44	0.50
11:J:137:MET:HE1	35:A:1181:G:O5'	2.11	0.50
17:P:83:ARG:HH11	17:P:86:GLN:HE21	1.58	0.50
18:Q:91:VAL:HG11	18:Q:96:LEU:HD21	1.92	0.50
35:A:1634:C:H2'	35:A:1635:A:C8	2.45	0.50
35:A:2350:G:H2'	35:A:2351:A:C8	2.46	0.50
2:5:674:ASP:HA	11:J:23:ALA:HB1	1.94	0.50
13:L:17:LYS:HZ1	13:L:47:ILE:HD13	1.76	0.50
16:O:10:LEU:HD21	16:O:40:LYS:HA	1.93	0.50
32:e:47:ARG:HH22	35:A:725:A:P	2.34	0.50
4:C:224:VAL:HG13	35:A:2043:C:OP1	2.11	0.50
5:D:53:ALA:HB1	5:D:78:ARG:HB2	1.92	0.50
12:K:112:ASN:ND2	35:A:650:G:H5''	2.26	0.50
14:M:84:ASN:HD21	14:M:118:LEU:HA	1.75	0.50
16:O:70:ILE:HD11	16:O:76:VAL:HG22	1.92	0.50
19:R:48:ARG:NH1	35:A:652:C:O2'	2.45	0.50
34:g:16:CYS:SG	34:g:38:CYS:HB3	2.51	0.50
35:A:929:C:H1'	35:A:1339:G:H21	1.75	0.50
35:A:1195:A:H3'	35:A:1196:C:C5	2.47	0.50
35:A:1425:G:N2	35:A:1428:U:C4	2.79	0.50
35:A:2182:C:H2'	35:A:2183:G:C8	2.46	0.50
35:A:1180:G:C6	35:A:1195:A:N1	2.80	0.50
2:6:116:LEU:HD21	2:6:290:PHE:HZ	1.77	0.50
2:6:325:VAL:HG23	2:6:326:LYS:HG3	1.94	0.50
8:G:95:TYR:HD1	8:G:108:LEU:HA	1.76	0.50
19:R:28:ARG:NH1	19:R:38:GLN:OE1	2.45	0.50
35:A:589:A:O2'	35:A:592:A:OP1	2.24	0.50
35:A:750:C:H2'	35:A:751:A:H8	1.75	0.50
35:A:829:U:O2'	35:A:831:A:N7	2.34	0.50
35:A:1679:A:H4'	35:A:1679:A:OP1	2.12	0.50
10:I:51:VAL:HB	35:A:1202:A:N7	2.26	0.50
12:K:125:TYR:OH	12:K:132:HIS:NE2	2.38	0.50
23:V:88:ASP:O	23:V:92:GLY:N	2.45	0.50
32:e:7:HIS:NE2	35:A:251:A:OP1	2.38	0.50
35:A:1610:C:H2'	35:A:1611:A:C8	2.46	0.50
35:A:1732:U:H2'	35:A:1733:C:C6	2.47	0.50
35:A:2076:A:H2'	35:A:2077:C:O4'	2.11	0.50
2:5:322:ALA:HB3	2:5:427:LEU:HB2	1.94	0.50
6:E:160:ARG:NH1	35:A:706:G:O2'	2.35	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:141:GLU:CD	7:F:143:SER:H	2.19	0.50
16:O:45:ARG:O	16:O:49:GLU:HG3	2.12	0.50
5:D:130:HIS:CD2	5:D:165:ARG:HB3	2.46	0.50
35:A:2190:A:H5'	35:A:2191:C:C4	2.47	0.50
2:5:161:LEU:HD21	2:5:174:PRO:HG3	1.94	0.50
7:F:149:ASP:O	7:F:152:SER:OG	2.28	0.50
35:A:356:G:H4'	35:A:358:G:C6	2.47	0.50
35:A:2238:A:H2'	35:A:2239:A:C8	2.47	0.50
35:A:2515:U:H2'	35:A:2516:U:C6	2.47	0.50
2:6:417:ARG:CD	13:L:97:ARG:HD3	2.40	0.49
9:H:78:VAL:HB	9:H:146:LEU:HD23	1.93	0.49
11:J:137:MET:HE1	35:A:1181:G:C4'	2.42	0.49
12:K:112:ASN:OD1	12:K:112:ASN:N	2.43	0.49
27:Z:5:THR:OG1	27:Z:9:GLU:OE2	2.24	0.49
35:A:56:U:O2'	35:A:71:A:OP2	2.29	0.49
2:6:332:TYR:HA	13:L:13:ASN:HD22	1.77	0.49
13:L:47:ILE:HG22	13:L:49:GLY:H	1.77	0.49
18:Q:95:LYS:NZ	35:A:3068:U:OP1	2.40	0.49
35:A:1550:G:O6	35:A:1620:U:C4	2.65	0.49
35:A:1621:C:H2'	35:A:1622:G:C8	2.47	0.49
35:A:2465:A:H2'	35:A:2466:G:C8	2.47	0.49
2:5:292:ALA:HB1	2:5:294:PRO:HD2	1.93	0.49
2:5:346:ILE:HB	2:5:407:VAL:HB	1.93	0.49
3:B:63:U:H2'	3:B:64:G:H8	1.77	0.49
4:C:24:ILE:HG23	4:C:83:GLU:HA	1.94	0.49
7:F:147:GLU:HA	34:g:28:LYS:HE3	1.94	0.49
7:F:154:ASP:OD1	7:F:155:ARG:N	2.45	0.49
11:J:128:LYS:HE2	35:A:1198:C:C5'	2.41	0.49
35:A:368:U:O2'	35:A:369:G:H5'	2.12	0.49
2:5:272:CYS:HB2	2:5:277:VAL:HB	1.94	0.49
2:5:353:HIS:CD2	2:5:433:PRO:HB3	2.47	0.49
2:6:550:GLU:O	2:6:605:THR:N	2.44	0.49
3:B:60:G:H4'	17:P:12:GLU:HB2	1.94	0.49
4:C:257:THR:HG1	35:A:2014:G:HO2'	1.56	0.49
5:D:147:ARG:CG	5:D:148:PRO:HD2	2.42	0.49
29:b:3:VAL:HG12	35:A:2239:A:C2	2.47	0.49
35:A:966:U:H2'	35:A:967:G:H8	1.78	0.49
35:A:999:C:H2'	35:A:1000:C:H6	1.78	0.49
2:5:24:ARG:N	2:5:89:LYS:O	2.43	0.49
2:6:357:HIS:HB3	2:6:438:PRO:HG2	1.95	0.49
3:B:10:G:O2'	3:B:11:U:H5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:118:ARG:NH2	14:M:4:ILE:O	2.45	0.49
9:H:88:THR:HG22	9:H:90:LYS:HG3	1.94	0.49
14:M:63:LYS:HA	32:e:13:ARG:HD3	1.94	0.49
23:V:84:GLY:C	23:V:97:ILE:HG22	2.38	0.49
35:A:2085:C:O2'	35:A:2086:U:OP1	2.29	0.49
35:A:2165:C:H3'	35:A:2166:C:H5'	1.95	0.49
35:A:2530:C:H5''	35:A:2531:G:H2'	1.94	0.49
35:A:2879:G:O2'	35:A:2888:G:O6	2.28	0.49
35:A:3117:U:H2'	35:A:3118:U:C6	2.48	0.49
2:6:376:GLY:H	2:6:476:ARG:HA	1.77	0.49
2:6:533:ARG:H	2:6:627:LEU:HD23	1.78	0.49
15:N:48:GLU:OE1	15:N:51:ARG:NH1	2.46	0.49
16:O:72:ASP:O	16:O:76:VAL:HG23	2.13	0.49
35:A:2248:C:H2'	35:A:2249:G:H8	1.76	0.49
2:6:186:LYS:HB2	2:6:200:SER:HB3	1.95	0.49
10:I:66:ILE:HG22	10:I:109:TYR:CZ	2.47	0.49
13:L:86:ILE:HG22	13:L:94:ARG:HG3	1.93	0.49
19:R:89:GLU:OE1	20:S:8:LYS:NZ	2.38	0.49
35:A:2622:C:H2'	35:A:2623:A:H8	1.77	0.49
5:D:63:ILE:HD11	35:A:3032:G:H5''	1.94	0.49
25:X:35:GLU:HG2	35:A:2578:A:H4'	1.94	0.49
35:A:1756:G:H1'	35:A:1758:G:N1	2.26	0.49
2:6:661:GLY:O	2:6:664:SER:OG	2.26	0.49
28:a:16:ARG:O	28:a:20:ARG:HG3	2.13	0.49
35:A:2:A:H2'	35:A:3:A:H8	1.78	0.49
35:A:2288:C:H2'	35:A:2289:C:C6	2.47	0.49
2:6:376:GLY:HA2	2:6:477:ILE:H	1.77	0.49
3:B:115:A:H2'	3:B:116:C:C6	2.48	0.49
4:C:89:THR:CG2	4:C:201:GLN:HG2	2.43	0.49
6:E:36:GLN:OE1	35:A:774:G:N2	2.34	0.49
8:G:59:GLU:OE2	8:G:62:SER:N	2.39	0.49
11:J:94:PRO:HD2	35:A:1194:C:O2'	2.13	0.49
14:M:80:VAL:CG1	14:M:118:LEU:HB2	2.43	0.49
35:A:297:G:H2'	35:A:298:G:C8	2.47	0.49
13:L:89:ASN:OD1	13:L:90:ASP:N	2.46	0.48
25:X:75:ARG:NH2	35:A:2557:A:OP1	2.46	0.48
35:A:673:C:H2'	35:A:674:U:C6	2.48	0.48
35:A:1400:G:N2	35:A:1443:G:H5''	2.28	0.48
35:A:2867:A:H2'	35:A:2868:A:C8	2.47	0.48
2:5:322:ALA:HA	2:5:341:VAL:HA	1.95	0.48
2:6:561:GLU:HB3	2:6:603:ARG:HH21	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:46:A:C4	3:B:47:A:C8	3.02	0.48
23:V:96:ARG:HE	23:V:105:ILE:HG23	1.78	0.48
25:X:48:GLY:HA3	25:X:79:ASN:OD1	2.13	0.48
35:A:138:A:H2'	35:A:139:U:O2	2.13	0.48
35:A:289:A:N6	35:A:299:G:H1	2.11	0.48
35:A:752:C:H2'	35:A:753:A:H8	1.77	0.48
35:A:1705:C:H2'	35:A:1706:A:C8	2.48	0.48
2:6:368:HIS:HB2	2:6:710:ARG:HB3	1.95	0.48
12:K:102:GLU:O	12:K:106:ILE:HG12	2.13	0.48
13:L:35:ILE:O	13:L:69:ARG:NH1	2.39	0.48
18:Q:51:GLY:HA2	18:Q:56:GLU:HG3	1.96	0.48
25:X:41:ARG:NH1	35:A:2610:C:O2'	2.46	0.48
35:A:339:U:H2'	35:A:340:A:H8	1.76	0.48
35:A:929:C:H1'	35:A:1339:G:N2	2.28	0.48
35:A:2342:A:N6	35:A:2390:U:O2'	2.47	0.48
2:6:165:GLN:HA	2:6:172:VAL:HB	1.94	0.48
5:D:148:PRO:O	35:A:2735:U:O2'	2.29	0.48
23:V:46:ALA:HA	23:V:57:GLY:HA3	1.95	0.48
35:A:32:G:H1'	35:A:542:A:C4	2.49	0.48
35:A:389:G:N1	35:A:392:A:OP2	2.41	0.48
35:A:2019:A:H2'	35:A:2020:A:H8	1.78	0.48
35:A:2551:A:H2'	35:A:2552:A:C8	2.48	0.48
2:5:697:ILE:HD11	35:A:2885:G:H21	1.78	0.48
2:6:172:VAL:HG22	2:6:266:PHE:HB2	1.96	0.48
18:Q:26:ASN:OD1	18:Q:84:ASP:HB2	2.13	0.48
35:A:489:A:H2'	35:A:490:A:C8	2.49	0.48
35:A:2095:G:O2'	35:A:2096:G:H8	1.96	0.48
35:A:2297:U:H2'	35:A:2298:U:C6	2.48	0.48
35:A:2339:G:O6	35:A:2394:A:N6	2.46	0.48
35:A:2420:U:H1'	35:A:2421:A:C8	2.48	0.48
2:5:225:ILE:O	2:5:229:ILE:HG13	2.13	0.48
35:A:980:C:O2'	35:A:981:U:O5'	2.27	0.48
35:A:999:C:H2'	35:A:1000:C:C6	2.48	0.48
4:C:276:LYS:HD3	35:A:2125:A:H62	1.78	0.48
24:W:52:ARG:HH22	35:A:1157:G:H4'	1.77	0.48
32:e:23:VAL:CG1	32:e:47:ARG:HB3	2.43	0.48
35:A:979:G:H2'	35:A:980:C:C6	2.49	0.48
35:A:1529:U:H3'	35:A:1530:G:C8	2.49	0.48
35:A:2096:G:H2'	35:A:2097:G:H8	1.76	0.48
35:A:3022:G:H2'	35:A:3023:G:C8	2.49	0.48
35:A:3030:A:H2'	35:A:3031:A:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:5:261:ALA:HA	2:5:291:PRO:HB3	1.96	0.48
2:6:25:ASN:HB2	2:6:93:ILE:HD11	1.95	0.48
8:G:60:ARG:HH11	35:A:1153:U:H5'	1.78	0.48
16:O:101:GLU:HG3	16:O:102:ASN:N	2.28	0.48
35:A:2070:A:H2'	35:A:2071:A:C4	2.49	0.48
2:5:451:ALA:N	2:5:512:ASP:O	2.41	0.48
5:D:160:VAL:HG12	5:D:160:VAL:O	2.14	0.48
12:K:55:ILE:HA	12:K:123:LYS:O	2.14	0.48
14:M:93:VAL:HB	14:M:124:VAL:HG12	1.95	0.48
35:A:1468:A:H2'	35:A:1469:A:C8	2.49	0.48
35:A:1940:A:N6	35:A:1954:C:O2'	2.46	0.48
2:5:26:VAL:HG13	2:5:114:CYS:HB3	1.95	0.48
2:5:450:VAL:HG12	2:5:513:THR:HA	1.95	0.48
2:5:583:VAL:HG13	2:5:629:LEU:HD22	1.96	0.48
2:6:475:LEU:HD21	2:6:488:LEU:HD11	1.96	0.48
5:D:154:CYS:C	5:D:156:THR:H	2.21	0.48
7:F:105:GLU:HG3	7:F:109:ARG:HH12	1.79	0.48
10:I:40:ARG:HG2	35:A:1200:U:O3'	2.13	0.48
27:Z:14:THR:OG1	27:Z:17:GLU:OE1	2.31	0.48
27:Z:36:MET:CE	27:Z:41:LEU:HD23	2.41	0.48
35:A:502:C:H2'	35:A:503:A:H8	1.78	0.48
35:A:277:U:H2'	35:A:278:A:H8	1.79	0.47
35:A:2195:U:H1'	35:A:2196:G:C5	2.49	0.47
35:A:2686:U:H2'	35:A:2687:U:C6	2.48	0.47
2:5:41:GLU:HG3	2:5:61:THR:HG22	1.95	0.47
2:5:699:LEU:HG	2:5:707:GLY:HA3	1.95	0.47
2:5:714:ALA:HB1	2:5:715:ARG:NH1	2.29	0.47
4:C:165:LEU:HA	4:C:175:LEU:HD23	1.96	0.47
5:D:121:LYS:HB2	5:D:170:MET:HG3	1.97	0.47
15:N:80:GLU:OE2	35:A:2717:U:O2'	2.21	0.47
35:A:292:G:H2'	35:A:293:G:C8	2.49	0.47
35:A:441:G:H2'	35:A:442:U:C6	2.49	0.47
35:A:543:U:H3'	35:A:544:U:C5'	2.43	0.47
35:A:1087:G:H2'	35:A:1088:U:C6	2.49	0.47
35:A:1732:U:H2'	35:A:1733:C:H6	1.79	0.47
35:A:1939:U:H3	35:A:1955:A:H62	1.61	0.47
4:C:126:LYS:HB2	4:C:129:ASN:HD21	1.79	0.47
4:C:245:HIS:HB2	4:C:246:PRO:CD	2.44	0.47
8:G:71:THR:HG21	35:A:2971:G:H5'	1.96	0.47
15:N:65:TRP:HB2	15:N:105:GLU:HB2	1.96	0.47
26:Y:39:VAL:HG11	26:Y:64:ALA:HB3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:c:38:ILE:HG22	30:c:39:LYS:N	2.29	0.47
35:A:1314:C:H2'	35:A:1315:C:C6	2.49	0.47
2:5:189:VAL:HA	2:5:196:TYR:HA	1.95	0.47
8:G:108:LEU:O	8:G:153:ARG:NH2	2.33	0.47
14:M:72:ARG:HH12	35:A:724:G:H1	1.62	0.47
35:A:4:G:H2'	35:A:5:U:H6	1.79	0.47
35:A:284:G:C8	35:A:303:G:C5	3.02	0.47
35:A:635:G:O2'	35:A:636:U:O4'	2.32	0.47
35:A:877:U:H4'	35:A:878:G:O5'	2.13	0.47
2:5:322:ALA:N	2:5:427:LEU:O	2.39	0.47
3:B:26:A:H2'	3:B:27:A:C8	2.50	0.47
4:C:270:ARG:NH2	35:A:2062:G:OP1	2.48	0.47
17:P:86:GLN:O	17:P:90:GLU:OE1	2.31	0.47
27:Z:16:ASP:N	27:Z:16:ASP:OD1	2.46	0.47
30:c:38:ILE:HG22	30:c:39:LYS:H	1.79	0.47
35:A:1614:G:H2'	35:A:1615:G:H8	1.79	0.47
35:A:2073:A:N6	35:A:2074:G:N3	2.62	0.47
35:A:2411:U:H2'	35:A:2412:U:C6	2.50	0.47
2:5:190:GLY:N	2:5:195:THR:O	2.34	0.47
2:6:396:PRO:O	2:6:402:ARG:NH2	2.45	0.47
2:6:651:VAL:O	2:6:681:THR:N	2.47	0.47
7:F:29:TYR:CD2	7:F:35:ILE:HD13	2.46	0.47
8:G:95:TYR:CD1	8:G:108:LEU:HD13	2.49	0.47
11:J:23:ALA:HB3	11:J:24:PRO:HD3	1.96	0.47
11:J:90:GLY:N	35:A:1182:C:H5'	2.29	0.47
35:A:138:A:N3	35:A:1523:U:O2'	2.41	0.47
35:A:287:A:N6	35:A:299:G:O2'	2.48	0.47
35:A:1953:C:H2'	35:A:1954:C:O4'	2.15	0.47
35:A:2169:G:H2'	35:A:2170:U:C6	2.49	0.47
2:5:321:LEU:N	2:5:343:SER:O	2.42	0.47
2:5:703:SER:O	2:5:704:HIS:C	2.57	0.47
2:6:320:LEU:HB3	2:6:429:ASP:HB2	1.97	0.47
2:6:446:LEU:HB3	2:6:490:CYS:O	2.14	0.47
4:C:275:GLY:O	4:C:276:LYS:C	2.58	0.47
10:I:66:ILE:HB	10:I:69:LEU:HD12	1.97	0.47
13:L:68:GLU:OE1	35:A:2908:U:O2'	2.28	0.47
17:P:21:ARG:HA	17:P:24:ARG:HG2	1.96	0.47
19:R:48:ARG:NH2	35:A:652:C:O2	2.40	0.47
23:V:44:HIS:CD2	23:V:59:ILE:HD12	2.50	0.47
35:A:247:G:OP2	35:A:249:C:N4	2.48	0.47
35:A:947:U:H2'	35:A:948:G:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:994:A:H8	35:A:1014:G:H21	1.63	0.47
35:A:1434:G:O2'	35:A:1435:C:H5'	2.15	0.47
35:A:2358:A:N6	35:A:2379:G:O2'	2.47	0.47
35:A:2365:A:H2'	35:A:2366:C:C6	2.49	0.47
35:A:2380:G:N2	35:A:2381:A:N1	2.62	0.47
7:F:107:LEU:O	7:F:111:ILE:HG12	2.15	0.47
14:M:68:LYS:HE3	14:M:68:LYS:HA	1.97	0.47
15:N:74:LEU:HD12	15:N:92:TRP:NE1	2.30	0.47
16:O:71:ARG:NH2	35:A:2933:G:H5'	2.29	0.47
34:g:24:THR:HG22	34:g:25:ARG:N	2.26	0.47
35:A:829:U:H1'	35:A:832:G:N7	2.30	0.47
35:A:1001:C:H1'	35:A:1007:G:N2	2.29	0.47
35:A:2961:G:H2'	35:A:2962:A:C8	2.49	0.47
2:6:332:TYR:CE1	13:L:47:ILE:HG13	2.50	0.47
7:F:67:ILE:HG23	7:F:68:THR:HG23	1.95	0.47
8:G:86:GLN:NE2	8:G:165:TYR:HD1	2.12	0.47
9:H:124:ILE:HG22	9:H:125:LYS:N	2.27	0.47
10:I:26:THR:HG21	10:I:93:ILE:HG21	1.96	0.47
15:N:62:GLY:HA2	15:N:107:SER:O	2.15	0.47
15:N:124:LYS:NZ	35:A:2691:C:O2	2.48	0.47
25:X:38:VAL:HG12	25:X:59:LEU:HB2	1.97	0.47
35:A:580:G:H2'	35:A:581:G:O4'	2.14	0.47
3:B:81:U:H2'	3:B:82:A:C8	2.50	0.47
4:C:139:GLY:O	4:C:164:GLN:NE2	2.42	0.47
8:G:23:ASN:OD1	8:G:24:LEU:N	2.48	0.47
12:K:96:HIS:CD2	12:K:99:ARG:NE	2.83	0.47
17:P:69:ASP:N	17:P:69:ASP:OD1	2.46	0.47
32:e:50:VAL:HG11	32:e:58:ILE:HD12	1.97	0.47
35:A:1478:C:O2'	35:A:2026:A:N3	2.46	0.47
35:A:1633:U:H2'	35:A:1634:C:H6	1.80	0.47
2:6:170:ASP:N	2:6:170:ASP:OD1	2.48	0.46
6:E:160:ARG:NH2	35:A:706:G:O3'	2.43	0.46
11:J:129:ILE:HG12	35:A:1198:C:O2	2.13	0.46
16:O:24:LEU:HB3	16:O:44:LEU:HD22	1.97	0.46
29:b:8:MET:HE3	29:b:12:ASN:HB3	1.98	0.46
35:A:672:C:H2'	35:A:673:C:H6	1.80	0.46
35:A:996:G:H2'	35:A:997:G:C8	2.45	0.46
35:A:1010:U:H4'	35:A:1011:A:OP1	2.14	0.46
7:F:45:MET:SD	7:F:159:MET:HB3	2.55	0.46
7:F:76:ARG:HB3	7:F:89:GLY:HA2	1.97	0.46
16:O:27:SER:OG	35:A:1393:C:O2'	2.32	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:X:41:ARG:NH1	35:A:2611:U:O4'	2.48	0.46
35:A:978:A:H2'	35:A:979:G:C8	2.49	0.46
35:A:2076:A:HO2'	35:A:2133:G:HO2'	1.62	0.46
35:A:3078:G:N2	35:A:3081:A:OP2	2.36	0.46
2:5:659:ILE:CD1	2:5:702:MET:HB3	2.45	0.46
2:6:178:PRO:HD3	2:6:270:PRO:HG3	1.98	0.46
2:6:623:MET:HE3	2:6:623:MET:HB3	1.65	0.46
35:A:2108:A:N6	35:A:2109:A:H62	2.13	0.46
35:A:2329:G:O6	35:A:2407:C:N4	2.48	0.46
35:A:2470:A:H2'	35:A:2471:A:C8	2.50	0.46
2:6:152:HIS:HE1	2:6:154:ARG:HE	1.63	0.46
2:6:651:VAL:HG11	2:6:659:ILE:HG13	1.96	0.46
4:C:258:ARG:NH1	35:A:2016:G:OP1	2.43	0.46
6:E:40:ALA:HB2	6:E:100:GLN:HE21	1.79	0.46
35:A:1532:G:N2	35:A:1804:G:C4	2.84	0.46
35:A:1854:U:H2'	35:A:1855:A:H8	1.81	0.46
35:A:1937:U:H2'	35:A:1938:G:O4'	2.16	0.46
35:A:2515:U:OP1	35:A:2604:U:O2'	2.32	0.46
2:5:461:LEU:HD11	2:5:503:LEU:HD21	1.96	0.46
14:M:84:ASN:ND2	14:M:118:LEU:HA	2.31	0.46
35:A:663:A:N3	35:A:663:A:H2'	2.30	0.46
35:A:1001:C:H3'	35:A:1002:C:O4'	2.14	0.46
35:A:1183:U:H6	35:A:1183:U:O5'	1.98	0.46
35:A:1633:U:H2'	35:A:1634:C:C6	2.51	0.46
35:A:2101:A:H2'	35:A:2102:G:H8	1.78	0.46
2:6:240:ARG:NE	2:6:245:GLU:OE2	2.49	0.46
4:C:123:ALA:HB3	4:C:131:LEU:HD21	1.97	0.46
15:N:17:GLN:NE2	15:N:41:TYR:CE1	2.84	0.46
21:T:54:VAL:O	21:T:57:VAL:HG12	2.16	0.46
22:U:62:ARG:HG2	22:U:62:ARG:HH11	1.80	0.46
35:A:384:G:H2'	35:A:385:G:H8	1.81	0.46
35:A:1750:A:N6	35:A:1763:G:O2'	2.48	0.46
35:A:2884:A:H2'	35:A:2885:G:O4'	2.16	0.46
2:5:482:GLU:OE1	2:5:521:ARG:NH1	2.49	0.46
2:6:417:ARG:CD	13:L:97:ARG:CD	2.86	0.46
7:F:8:LEU:CD2	7:F:13:GLN:HB2	2.44	0.46
12:K:36:LEU:HD11	12:K:122:LEU:HB2	1.96	0.46
13:L:58:VAL:HG22	13:L:59:LYS:H	1.79	0.46
20:S:23:LYS:HE3	35:A:641:U:H1'	1.97	0.46
25:X:18:ALA:HB1	35:A:2495:G:OP1	2.16	0.46
35:A:287:A:C6	35:A:300:G:C6	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:681:C:H2'	35:A:682:A:H8	1.80	0.46
35:A:740:A:O2'	35:A:741:G:OP2	2.28	0.46
35:A:1457:A:O2'	35:A:1459:U:OP2	2.32	0.46
35:A:1513:C:H2'	35:A:1514:C:H6	1.79	0.46
35:A:2162:A:N3	35:A:2162:A:H2'	2.31	0.46
35:A:2321:U:H2'	35:A:2322:C:C6	2.51	0.46
7:F:136:THR:HG21	35:A:2527:G:H21	1.80	0.46
8:G:150:ARG:NH2	8:G:168:GLU:OE1	2.48	0.46
10:I:62:SER:HA	10:I:67:GLU:HG2	1.98	0.46
12:K:21:SER:HA	12:K:61:LYS:HB2	1.98	0.46
35:A:4:G:H2'	35:A:5:U:C6	2.50	0.46
35:A:222:A:O2'	35:A:508:G:N3	2.45	0.46
35:A:442:U:H2'	35:A:443:C:C6	2.51	0.46
35:A:2552:A:H2'	35:A:2553:G:H8	1.77	0.46
2:6:321:LEU:N	2:6:343:SER:O	2.48	0.46
2:6:673:THR:HG22	2:6:683:ILE:HG12	1.98	0.46
7:F:142:GLN:HE22	7:F:156:PRO:HA	1.81	0.46
14:M:31:LYS:HE3	35:A:658:U:H5'	1.98	0.46
31:d:10:PRO:HG3	35:A:1830:C:H5'	1.98	0.46
35:A:611:U:H2'	35:A:612:U:C6	2.51	0.46
35:A:974:G:O2'	35:A:975:U:P	2.73	0.46
35:A:1001:C:C4	35:A:1002:C:H1'	2.51	0.46
35:A:2395:U:H4'	35:A:2396:A:H5'	1.98	0.46
35:A:3033:G:H2'	35:A:3034:C:H6	1.81	0.46
1:3:4:ARG:NH1	35:A:2679:G:O3'	2.49	0.46
2:5:697:ILE:HD11	35:A:2885:G:N2	2.31	0.46
2:6:286:ILE:HA	2:6:290:PHE:CG	2.51	0.46
8:G:30:LYS:HE3	8:G:82:GLU:O	2.16	0.46
13:L:76:TYR:HB2	18:Q:72:THR:HB	1.98	0.46
23:V:72:MET:SD	23:V:80:PRO:HB2	2.56	0.46
27:Z:58:TYR:HD2	35:A:69:U:C6	2.34	0.46
35:A:681:C:H2'	35:A:682:A:C8	2.51	0.46
2:5:36:LYS:HG2	2:5:118:VAL:HB	1.98	0.45
2:5:493:GLU:OE2	35:A:2885:G:O2'	2.18	0.45
9:H:9:VAL:HG23	9:H:12:LEU:HB2	1.98	0.45
9:H:124:ILE:O	9:H:125:LYS:HB2	2.16	0.45
24:W:158:THR:HG23	24:W:160:GLY:H	1.81	0.45
35:A:980:C:HO2'	35:A:981:U:P	2.39	0.45
35:A:1008:G:H2'	35:A:1009:U:O4'	2.17	0.45
35:A:2069:U:H2'	35:A:2113:A:H61	1.80	0.45
35:A:2189:C:H6	35:A:2190:A:H5''	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2194:A:H1'	35:A:2195:U:O2	2.16	0.45
35:A:2497:A:H2'	35:A:2498:A:C8	2.51	0.45
2:5:347:ARG:O	2:5:390:ILE:HD11	2.16	0.45
9:H:109:GLY:N	9:H:110:PRO:HD2	2.31	0.45
15:N:34:ILE:HD12	15:N:104:PHE:HD2	1.81	0.45
35:A:292:G:N1	35:A:343:U:C2	2.84	0.45
35:A:2247:A:H2'	35:A:2248:C:C6	2.52	0.45
35:A:2345:U:OP2	35:A:2392:A:O2'	2.35	0.45
2:6:649:ILE:O	2:6:683:ILE:N	2.43	0.45
26:Y:22:HIS:HE1	26:Y:24:ARG:HD3	1.81	0.45
26:Y:41:ARG:HH12	35:A:164:A:H4'	1.81	0.45
31:d:42:ARG:NH2	35:A:556:G:N7	2.52	0.45
35:A:751:A:H2'	35:A:752:C:C6	2.51	0.45
35:A:1528:G:H2'	35:A:1529:U:C6	2.52	0.45
35:A:1690:A:H2'	35:A:1691:A:H8	1.81	0.45
2:6:286:ILE:O	2:6:290:PHE:HB2	2.16	0.45
2:6:533:ARG:HH21	2:6:546:VAL:HG21	1.82	0.45
2:6:541:HIS:HB3	35:A:3079:U:H5''	1.99	0.45
2:6:648:THR:HG23	2:6:682:VAL:HG13	1.99	0.45
3:B:43:C:C5	7:F:73:GLU:HG2	2.52	0.45
12:K:144:GLN:HB3	35:A:1130:C:C5	2.51	0.45
17:P:73:ILE:HB	17:P:80:HIS:CE1	2.51	0.45
35:A:263:G:H2'	35:A:264:G:O4'	2.16	0.45
35:A:1755:A:H2'	35:A:1758:G:H1	1.81	0.45
35:A:2553:G:H2'	35:A:2554:U:C6	2.51	0.45
2:5:530:GLY:HA3	2:5:628:ALA:O	2.16	0.45
4:C:163:ILE:HB	4:C:176:ARG:O	2.17	0.45
7:F:12:LYS:HE3	7:F:16:ARG:HH21	1.81	0.45
14:M:81:GLY:HA2	14:M:84:ASN:HD22	1.82	0.45
25:X:69:PHE:CD2	35:A:972:A:H5''	2.51	0.45
35:A:97:U:H5''	35:A:99:G:O4'	2.17	0.45
35:A:380:A:N3	35:A:401:C:O2'	2.45	0.45
2:6:447:PRO:HB3	2:6:489:TRP:CE2	2.52	0.45
4:C:96:HIS:CD2	4:C:102:LYS:HD3	2.51	0.45
5:D:85:ARG:NH1	35:A:2861:U:H5''	2.32	0.45
5:D:94:GLU:CD	5:D:94:GLU:H	2.24	0.45
7:F:44:ASN:OD1	7:F:160:ASP:HB3	2.17	0.45
7:F:47:VAL:HG13	7:F:56:LEU:HD22	1.98	0.45
7:F:126:PRO:HB2	7:F:174:ARG:NH1	2.32	0.45
12:K:41:LYS:NZ	12:K:50:GLY:O	2.42	0.45
21:T:30:LEU:HD22	29:b:24:ALA:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:U:13:ALA:O	22:U:32:VAL:HG22	2.17	0.45
35:A:214:G:H4'	35:A:215:A:H4'	1.97	0.45
35:A:619:C:H4'	35:A:620:G:C8	2.51	0.45
35:A:2153:G:H1'	35:A:2155:U:C6	2.52	0.45
35:A:2857:A:H2'	35:A:2858:G:H8	1.81	0.45
35:A:3033:G:H2'	35:A:3034:C:C6	2.52	0.45
26:Y:19:SER:OG	26:Y:20:HIS:N	2.50	0.45
30:c:10:LYS:NZ	35:A:2645:G:OP2	2.50	0.45
35:A:181:A:H2'	35:A:182:C:H6	1.82	0.45
35:A:1081:C:O2'	35:A:2497:A:N3	2.41	0.45
35:A:1719:C:C2	35:A:1720:G:C8	3.05	0.45
35:A:2872:G:H2'	35:A:2873:U:H6	1.81	0.45
2:6:214:ASP:OD1	2:6:215:ALA:N	2.50	0.45
2:6:340:ARG:HA	2:6:412:ILE:HA	1.98	0.45
4:C:221:VAL:HG21	35:A:897:A:N7	2.31	0.45
11:J:120:ALA:HB1	11:J:125:ALA:HB3	1.98	0.45
15:N:116:ASP:O	15:N:120:ARG:HG2	2.17	0.45
30:c:6:ASP:OD1	30:c:6:ASP:N	2.50	0.45
35:A:81:A:C2	35:A:100:A:C5	3.04	0.45
35:A:402:G:H4'	35:A:404:A:N7	2.32	0.45
35:A:747:A:H2'	35:A:748:U:O4'	2.16	0.45
35:A:1012:C:H3'	35:A:1013:U:C5	2.52	0.45
35:A:1729:A:H2'	35:A:1731:A:C8	2.51	0.45
35:A:2343:G:H2'	35:A:2344:G:C8	2.52	0.45
2:6:168:PHE:HB2	2:6:172:VAL:HG21	1.99	0.45
4:C:133:LEU:HD23	4:C:136:ILE:HD12	1.99	0.45
10:I:31:LEU:HD11	10:I:103:LEU:HG	1.97	0.45
17:P:121:ARG:NH2	35:A:2600:A:N3	2.58	0.45
35:A:733:U:H2'	35:A:734:C:C6	2.52	0.45
35:A:1232:G:O6	35:A:1233:A:N6	2.50	0.45
35:A:2108:A:H61	35:A:2109:A:H62	1.63	0.45
35:A:3070:G:H4'	35:A:3071:A:H5'	1.98	0.45
2:5:321:LEU:HB3	2:5:343:SER:HB3	1.98	0.45
2:5:478:GLU:HB3	2:5:489:TRP:HE1	1.82	0.45
2:5:700:ARG:HB2	35:A:2884:A:C2	2.51	0.45
11:J:38:MET:SD	11:J:39:GLU:N	2.90	0.45
11:J:94:PRO:CD	35:A:1194:C:H1'	2.40	0.45
12:K:25:LEU:HA	12:K:62:ILE:HD11	1.98	0.45
12:K:123:LYS:HG2	12:K:132:HIS:HE2	1.81	0.45
23:V:81:THR:HG23	23:V:100:THR:HG23	1.99	0.45
24:W:159:ALA:O	24:W:162:ILE:HG22	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:159:A:H2'	35:A:160:A:C8	2.52	0.45
35:A:289:A:H62	35:A:299:G:H1	1.63	0.45
35:A:735:U:H2'	35:A:736:G:O4'	2.17	0.45
35:A:1213:A:H2'	35:A:1213:A:N3	2.32	0.45
35:A:1545:C:N4	35:A:1626:G:O6	2.49	0.45
5:D:151:ILE:HG22	35:A:2276:G:OP1	2.17	0.44
12:K:108:MET:HE2	35:A:1256:G:N2	2.32	0.44
18:Q:17:PRO:HG3	18:Q:83:ILE:O	2.17	0.44
33:f:32:HIS:O	33:f:34:GLN:HG2	2.18	0.44
34:g:42:HIS:HD2	34:g:44:PHE:HB3	1.81	0.44
35:A:31:U:O2'	35:A:32:G:H5'	2.18	0.44
35:A:289:A:H5''	35:A:289:A:N3	2.32	0.44
35:A:844:G:O2'	35:A:878:G:H4'	2.16	0.44
35:A:2256:G:N2	35:A:2796:A:OP2	2.51	0.44
2:5:450:VAL:HA	2:5:513:THR:HA	1.97	0.44
2:5:476:ARG:HG2	2:5:489:TRP:CD1	2.52	0.44
2:6:339:VAL:HG11	2:6:427:LEU:HD12	1.99	0.44
8:G:152:LEU:HD23	8:G:152:LEU:HA	1.81	0.44
35:A:193:G:H2'	35:A:194:A:O4'	2.17	0.44
35:A:498:G:H8	35:A:498:G:H5''	1.82	0.44
35:A:728:G:H2'	35:A:729:C:C6	2.53	0.44
35:A:1223:U:H2'	35:A:1224:G:C8	2.51	0.44
1:3:23:ASN:ND2	35:A:1065:C:H4'	2.32	0.44
2:5:351:THR:HA	2:5:389:ARG:HA	2.00	0.44
2:6:26:VAL:HG11	2:6:116:LEU:HG	1.99	0.44
4:C:20:ASP:O	4:C:22:ALA:N	2.48	0.44
8:G:24:LEU:HD23	8:G:73:ILE:HD12	1.99	0.44
10:I:115:LEU:HD12	10:I:119:ASP:HB3	2.00	0.44
22:U:42:ILE:O	22:U:46:ILE:HG12	2.17	0.44
23:V:75:ASP:OD2	23:V:101:ASN:HB2	2.17	0.44
26:Y:8:CYS:SG	26:Y:10:LYS:HB2	2.58	0.44
35:A:90:C:H2'	35:A:91:C:C6	2.52	0.44
35:A:1479:G:H4'	35:A:2025:C:H5	1.82	0.44
2:5:703:SER:OG	2:5:707:GLY:N	2.50	0.44
8:G:19:ILE:HG13	8:G:24:LEU:HD13	1.99	0.44
9:H:32:PRO:HB3	26:Y:64:ALA:HA	1.98	0.44
20:S:72:LYS:HD2	20:S:91:ARG:HG3	2.00	0.44
35:A:621:U:H2'	35:A:622:C:H6	1.83	0.44
35:A:722:G:H2'	35:A:723:C:C6	2.52	0.44
35:A:1011:A:C6	35:A:1012:C:H1'	2.52	0.44
35:A:1544:U:H2'	35:A:1545:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2622:C:H2'	35:A:2623:A:C8	2.52	0.44
2:6:536:LYS:HZ3	35:A:1929:A:P	2.41	0.44
2:6:653:ASP:HA	2:6:656:VAL:HG23	1.98	0.44
4:C:134:ARG:O	4:C:168:LYS:NZ	2.51	0.44
6:E:51:SER:HB2	6:E:95:PRO:HD3	1.99	0.44
7:F:71:LYS:HZ3	34:g:5:ILE:CB	2.27	0.44
9:H:41:ARG:HG2	35:A:306:U:H5''	2.00	0.44
10:I:94:LYS:HE2	10:I:121:GLU:HA	2.00	0.44
21:T:8:PRO:HB2	21:T:71:LEU:HD21	2.00	0.44
23:V:81:THR:HG22	23:V:82:ARG:O	2.18	0.44
35:A:2738:U:H2'	35:A:2739:C:C6	2.53	0.44
2:6:540:GLY:HA3	35:A:3080:A:OP1	2.17	0.44
7:F:57:ILE:HD12	7:F:57:ILE:H	1.83	0.44
7:F:139:LEU:O	7:F:158:GLY:HA3	2.18	0.44
8:G:95:TYR:CD1	8:G:108:LEU:HA	2.51	0.44
11:J:77:ALA:HB2	11:J:114:LYS:HE3	2.00	0.44
35:A:2440:G:H2'	35:A:2441:G:H8	1.83	0.44
35:A:2557:A:H5''	35:A:2559:A:N3	2.33	0.44
35:A:2781:G:H2'	35:A:2782:C:C6	2.53	0.44
2:5:453:ARG:NH2	2:5:512:ASP:OD2	2.51	0.44
7:F:105:GLU:O	7:F:109:ARG:HG3	2.18	0.44
20:S:61:THR:HG23	20:S:100:THR:OG1	2.18	0.44
20:S:65:LEU:HD11	20:S:98:LYS:HB2	1.99	0.44
35:A:586:U:H2'	35:A:587:G:O4'	2.18	0.44
35:A:1248:U:N3	35:A:2249:G:OP1	2.46	0.44
35:A:2289:C:H2'	35:A:2290:C:H6	1.83	0.44
3:B:43:C:O2	7:F:97:THR:HG22	2.18	0.44
19:R:15:ARG:NH2	35:A:1330:C:OP1	2.46	0.44
20:S:64:VAL:HA	20:S:97:LEU:HD23	1.99	0.44
35:A:964:C:H2'	35:A:965:U:C6	2.52	0.44
35:A:1296:G:H2'	35:A:1297:G:C8	2.53	0.44
35:A:1754:G:N3	35:A:1754:G:H2'	2.33	0.44
35:A:3079:U:O5'	35:A:3079:U:H6	2.00	0.44
2:5:116:LEU:HD23	2:5:116:LEU:HA	1.87	0.43
2:5:286:ILE:O	2:5:290:PHE:HB2	2.18	0.43
2:5:444:PRO:HG2	2:5:476:ARG:HB3	1.99	0.43
2:6:116:LEU:HD23	2:6:116:LEU:HA	1.84	0.43
7:F:40:LYS:HA	7:F:103:MET:SD	2.58	0.43
10:I:27:GLU:HG3	10:I:76:PRO:HG2	1.99	0.43
35:A:815:G:O2'	35:A:1850:A:N3	2.46	0.43
35:A:1013:U:H2'	35:A:1014:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1665:U:C4	35:A:1687:G:C2	3.06	0.43
35:A:1854:U:H2'	35:A:1855:A:C8	2.53	0.43
35:A:2545:G:H5'	35:A:2546:A:OP2	2.18	0.43
2:5:475:LEU:HD13	2:5:499:VAL:HG21	2.00	0.43
2:5:689:GLU:OE2	2:5:711:ARG:NH2	2.47	0.43
2:5:699:LEU:C	2:5:701:SER:N	2.73	0.43
2:6:696:ALA:HB2	2:6:709:PHE:HE1	1.83	0.43
13:L:13:ASN:OD1	13:L:97:ARG:N	2.49	0.43
35:A:181:A:H2'	35:A:182:C:C6	2.53	0.43
35:A:750:C:H2'	35:A:751:A:C8	2.53	0.43
35:A:1485:C:H2'	35:A:1486:G:O4'	2.18	0.43
35:A:1650:G:H2'	35:A:1651:C:C6	2.53	0.43
2:6:110:ARG:O	2:6:110:ARG:NH1	2.49	0.43
2:6:699:LEU:HG	2:6:707:GLY:HA3	2.00	0.43
7:F:70:GLN:NE2	34:g:1:MET:SD	2.91	0.43
17:P:113:ILE:HD12	17:P:113:ILE:H	1.82	0.43
27:Z:38:THR:OG1	27:Z:40:GLN:HG3	2.18	0.43
30:c:12:THR:HG21	30:c:21:ARG:HD3	2.00	0.43
35:A:736:G:H1'	35:A:740:A:N6	2.34	0.43
35:A:964:C:H2'	35:A:965:U:H6	1.83	0.43
35:A:1334:C:H2'	35:A:1335:G:O4'	2.17	0.43
35:A:1529:U:H3'	35:A:1530:G:H8	1.84	0.43
35:A:1675:U:O2'	35:A:1676:G:N7	2.51	0.43
35:A:2289:C:H2'	35:A:2290:C:C6	2.53	0.43
2:5:199:TYR:CE2	2:5:204:HIS:HB2	2.53	0.43
2:6:223:SER:O	2:6:226:GLU:HG2	2.19	0.43
2:6:543:GLN:OE1	2:6:619:PHE:HB3	2.19	0.43
4:C:53:HIS:ND1	4:C:220:THR:HG22	2.33	0.43
23:V:4:HIS:CD2	35:A:81:A:H5''	2.54	0.43
32:e:29:ARG:HH12	32:e:41:THR:HG22	1.83	0.43
34:g:38:CYS:H	34:g:41:CYS:HB2	1.83	0.43
35:A:137:G:H8	35:A:137:G:OP1	2.01	0.43
35:A:444:U:H5'	35:A:446:G:O5'	2.18	0.43
35:A:1530:G:H21	35:A:1805:G:N2	2.15	0.43
2:6:536:LYS:NZ	35:A:1929:A:P	2.92	0.43
2:6:550:GLU:HB2	2:6:607:PHE:HE2	1.84	0.43
2:6:684:LYS:HD3	2:6:684:LYS:HA	1.74	0.43
4:C:256:ARG:HH11	4:C:256:ARG:HG3	1.82	0.43
6:E:166:ALA:O	6:E:170:ARG:HG3	2.18	0.43
7:F:87:ARG:HB2	7:F:90:MET:SD	2.59	0.43
7:F:105:GLU:OE1	34:g:25:ARG:NE	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:147:ALA:O	8:G:151:ARG:HG2	2.19	0.43
22:U:20:SER:O	22:U:24:ILE:HG13	2.18	0.43
25:X:53:ARG:NH2	25:X:57:ASP:OD1	2.51	0.43
35:A:337:U:O2	35:A:344:G:C2	2.71	0.43
35:A:756:A:H3'	35:A:757:G:N2	2.33	0.43
35:A:1614:G:H2'	35:A:1615:G:C8	2.53	0.43
35:A:2077:C:H4'	35:A:2133:G:H4'	2.01	0.43
2:5:37:THR:O	2:5:41:GLU:HG2	2.19	0.43
2:5:551:VAL:HA	2:5:603:ARG:O	2.19	0.43
3:B:50:C:H2'	3:B:51:G:C8	2.53	0.43
5:D:147:ARG:HG2	5:D:148:PRO:HD2	2.00	0.43
7:F:15:TYR:HE1	7:F:176:LEU:HD11	1.83	0.43
12:K:39:LYS:NZ	35:A:1125:C:OP1	2.50	0.43
16:O:101:GLU:HG3	16:O:102:ASN:H	1.83	0.43
27:Z:6:THR:OG1	27:Z:9:GLU:OE1	2.31	0.43
28:a:46:LEU:HD23	28:a:46:LEU:HA	1.82	0.43
35:A:307:G:H2'	35:A:308:U:C6	2.54	0.43
35:A:377:C:H2'	35:A:378:G:H8	1.83	0.43
35:A:443:C:H2'	35:A:444:U:O4'	2.18	0.43
35:A:733:U:H2'	35:A:734:C:H6	1.84	0.43
35:A:929:C:H2'	35:A:930:C:H6	1.84	0.43
35:A:1613:G:H2'	35:A:1614:G:C8	2.54	0.43
35:A:1640:A:O2'	35:A:1641:U:OP1	2.34	0.43
2:5:126:ASP:HB2	2:5:128:PRO:HD2	2.01	0.43
2:6:316:PRO:HB3	2:6:408:VAL:HB	2.00	0.43
3:B:41:U:N3	3:B:45:G:OP2	2.36	0.43
35:A:113:C:H2'	35:A:114:G:O4'	2.18	0.43
35:A:292:G:C2	35:A:343:U:O2	2.72	0.43
35:A:851:C:H2'	35:A:852:C:C6	2.53	0.43
35:A:2873:U:H2'	35:A:2874:C:C6	2.53	0.43
2:5:677:ASP:OD1	2:5:680:ARG:N	2.51	0.43
11:J:63:TYR:HD2	11:J:67:SER:HB3	1.84	0.43
35:A:334:G:H2'	35:A:335:G:H8	1.84	0.43
35:A:483:G:H2'	35:A:484:C:C6	2.54	0.43
35:A:664:A:H5''	35:A:665:G:OP2	2.19	0.43
35:A:1211:G:N2	35:A:1216:A:H62	2.17	0.43
35:A:1730:U:O2'	35:A:1731:A:OP2	2.29	0.43
35:A:2326:A:N6	35:A:2410:A:N6	2.67	0.43
35:A:2467:U:H2'	35:A:2468:U:C6	2.54	0.43
2:5:149:LYS:HG2	36:5:801:GNP:C6	2.48	0.43
2:5:663:LEU:HA	2:5:666:ARG:HB2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:6:321:LEU:HB3	2:6:343:SER:HB3	2.01	0.43
2:6:531:HIS:H	2:6:631:ASP:HB3	1.83	0.43
2:6:640:LEU:O	2:6:718:PRO:HA	2.18	0.43
8:G:45:ARG:HH12	8:G:50:ALA:N	2.16	0.43
10:I:55:THR:HA	10:I:58:LYS:HB2	2.01	0.43
17:P:98:GLU:OE1	17:P:99:THR:HG23	2.18	0.43
23:V:97:ILE:HD11	23:V:102:GLY:O	2.17	0.43
24:W:115:GLU:OE1	24:W:145:THR:OG1	2.36	0.43
2:5:437:ARG:CZ	2:5:437:ARG:HB3	2.49	0.43
6:E:61:GLY:HA3	6:E:80:ARG:HG2	2.00	0.43
11:J:39:GLU:O	11:J:42:LYS:HG3	2.17	0.43
35:A:61:G:H2'	35:A:62:G:H8	1.84	0.43
35:A:993:G:O2'	35:A:994:A:O4'	2.31	0.43
35:A:1186:G:H2'	35:A:1187:A:N7	2.34	0.43
35:A:1212:U:H3'	35:A:1213:A:C5'	2.49	0.43
35:A:1243:G:OP2	35:A:1244:A:O2'	2.29	0.43
35:A:1552:A:H2'	35:A:1617:C:N4	2.34	0.43
35:A:1735:U:H2'	35:A:1736:G:O4'	2.19	0.43
35:A:2065:A:N3	35:A:2065:A:H3'	2.34	0.43
35:A:2170:U:H2'	35:A:2171:C:O4'	2.19	0.43
2:5:26:VAL:HG21	2:5:290:PHE:HD2	1.84	0.42
2:6:193:THR:O	2:6:194:ARG:HG2	2.18	0.42
2:6:397:LEU:HB2	2:6:402:ARG:NE	2.33	0.42
3:B:110:G:H2'	3:B:111:C:C6	2.53	0.42
4:C:200:GLU:OE2	4:C:200:GLU:N	2.47	0.42
8:G:75:ASN:HA	8:G:78:THR:HG22	2.01	0.42
10:I:29:ARG:NH2	35:A:1171:C:O2	2.52	0.42
35:A:239:U:O2'	35:A:716:G:O2'	2.34	0.42
35:A:1203:A:C8	35:A:1204:A:C6	3.07	0.42
35:A:2885:G:H2'	35:A:2886:A:C8	2.54	0.42
2:5:653:ASP:HA	2:5:656:VAL:HG23	2.00	0.42
2:6:575:PHE:O	2:6:579:VAL:HG23	2.19	0.42
2:6:653:ASP:OD1	2:6:681:THR:OG1	2.26	0.42
4:C:226:MET:HE3	35:A:897:A:N1	2.34	0.42
5:D:94:GLU:OE2	5:D:94:GLU:N	2.48	0.42
6:E:48:GLY:O	6:E:95:PRO:HA	2.19	0.42
13:L:93:PRO:HG3	13:L:114:ILE:HG13	2.00	0.42
17:P:18:ARG:HD2	17:P:107:TYR:CZ	2.54	0.42
18:Q:5:ASP:OD1	18:Q:6:PHE:N	2.52	0.42
29:b:8:MET:HE3	29:b:12:ASN:CB	2.49	0.42
35:A:1648:A:H4'	35:A:1649:C:O5'	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:1665:U:H2'	35:A:1666:A:H8	1.84	0.42
4:C:89:THR:HG23	4:C:201:GLN:HG2	2.01	0.42
4:C:256:ARG:HG3	4:C:256:ARG:NH1	2.34	0.42
5:D:151:ILE:HG22	35:A:2276:G:P	2.59	0.42
7:F:165:THR:HG23	7:F:167:ALA:H	1.84	0.42
14:M:30:GLY:O	14:M:32:THR:N	2.52	0.42
15:N:135:GLU:OE2	15:N:135:GLU:N	2.47	0.42
35:A:289:A:H62	35:A:299:G:N2	2.14	0.42
35:A:298:G:O2'	35:A:299:G:H5'	2.19	0.42
35:A:499:G:OP2	35:A:2630:A:O2'	2.30	0.42
35:A:1270:G:H2'	35:A:1271:C:O4'	2.20	0.42
35:A:1755:A:C2'	35:A:1758:G:H22	2.32	0.42
35:A:1781:C:H2'	35:A:1782:U:C6	2.54	0.42
35:A:2120:A:H2'	35:A:2121:G:C8	2.53	0.42
35:A:2327:C:H2'	35:A:2328:G:H8	1.84	0.42
35:A:2491:A:H5''	35:A:2492:A:H5'	2.01	0.42
35:A:2717:U:C4	35:A:2718:G:C8	3.07	0.42
2:5:26:VAL:HG21	2:5:290:PHE:CD2	2.54	0.42
2:5:231:GLU:H	2:5:231:GLU:HG3	1.59	0.42
2:5:650:VAL:HG22	2:5:682:VAL:HG22	2.01	0.42
7:F:128:GLN:HB3	7:F:135:TYR:HE1	1.84	0.42
21:T:37:GLU:HG2	21:T:38:GLU:N	2.34	0.42
23:V:75:ASP:HB2	23:V:81:THR:OG1	2.19	0.42
35:A:993:G:H1'	35:A:1015:A:H62	1.84	0.42
35:A:1169:A:H2'	35:A:1170:C:C6	2.54	0.42
35:A:1530:G:N2	35:A:1805:G:H22	2.13	0.42
35:A:2366:C:H2'	35:A:2367:G:O4'	2.19	0.42
35:A:2529:A:H2'	35:A:2530:C:C6	2.54	0.42
35:A:2941:G:H2'	35:A:2942:G:O4'	2.18	0.42
2:5:111:ALA:HB2	2:5:325:VAL:HG11	2.01	0.42
2:5:699:LEU:O	2:5:700:ARG:C	2.61	0.42
2:6:226:GLU:HA	2:6:238:MET:HE1	2.01	0.42
2:6:315:ASP:OD2	2:6:318:GLY:N	2.53	0.42
3:B:115:A:H2'	3:B:116:C:H6	1.84	0.42
6:E:50:HIS:O	6:E:50:HIS:ND1	2.53	0.42
6:E:108:ALA:O	6:E:112:ARG:HD3	2.20	0.42
8:G:17:VAL:HG13	8:G:24:LEU:HD11	2.01	0.42
9:H:33:ARG:NH2	35:A:2421:A:O5'	2.53	0.42
21:T:81:VAL:HG23	21:T:112:VAL:HG22	2.02	0.42
23:V:2:LYS:HE2	35:A:419:G:OP1	2.19	0.42
30:c:10:LYS:HZ1	35:A:2645:G:P	2.41	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:724:G:N2	35:A:727:A:OP2	2.35	0.42
35:A:789:G:H2'	35:A:919:A:H61	1.85	0.42
35:A:996:G:C2	35:A:1013:U:C2	3.08	0.42
35:A:1278:C:C2	35:A:1279:G:C8	3.07	0.42
35:A:1294:U:H2'	35:A:1295:U:C6	2.55	0.42
35:A:1396:G:H2'	35:A:1397:U:C6	2.54	0.42
2:6:703:SER:OG	2:6:707:GLY:N	2.53	0.42
4:C:183:ARG:HG3	4:C:268:ILE:HD13	2.01	0.42
8:G:89:GLU:HG3	8:G:131:LYS:HG2	2.00	0.42
10:I:28:TYR:HE2	10:I:77:THR:O	2.02	0.42
10:I:55:THR:HA	10:I:58:LYS:HD2	2.02	0.42
16:O:45:ARG:HB3	16:O:46:PRO:HD3	2.00	0.42
19:R:79:LEU:O	19:R:83:LEU:HD23	2.20	0.42
28:a:16:ARG:HD3	35:A:1086:C:OP2	2.19	0.42
29:b:9:SER:OG	29:b:12:ASN:OD1	2.36	0.42
32:e:40:ARG:NH2	35:A:2586:G:OP1	2.50	0.42
35:A:1764:A:H2'	35:A:1765:A:C8	2.55	0.42
35:A:2080:G:N7	35:A:2081:U:N3	2.67	0.42
35:A:2265:U:C2	35:A:2266:A:C8	3.08	0.42
35:A:2531:G:H5'	35:A:2532:G:C8	2.54	0.42
2:5:102:VAL:HG13	2:5:442:PRO:HG3	2.01	0.42
2:5:324:VAL:HA	2:5:339:VAL:HA	2.01	0.42
2:5:480:ASN:HB3	2:5:485:GLN:H	1.84	0.42
5:D:33:PRO:C	5:D:34:ASN:HD22	2.27	0.42
7:F:105:GLU:OE2	34:g:9:TYR:OH	2.28	0.42
9:H:91:LEU:HD13	9:H:125:LYS:HA	2.01	0.42
24:W:124:VAL:HG22	24:W:181:VAL:HG22	2.00	0.42
35:A:487:U:H2'	35:A:488:G:O4'	2.20	0.42
35:A:935:A:H4'	35:A:951:G:N2	2.34	0.42
35:A:947:U:H2'	35:A:948:G:H8	1.84	0.42
35:A:1003:A:H2'	35:A:1003:A:OP1	2.19	0.42
35:A:1296:G:H2'	35:A:1297:G:H8	1.85	0.42
35:A:1317:G:C5	35:A:1359:G:C2	3.08	0.42
35:A:1753:C:H3'	35:A:1754:G:H8	1.84	0.42
35:A:2375:G:H2'	35:A:2376:G:H8	1.83	0.42
35:A:2490:A:H4'	35:A:2491:A:N3	2.34	0.42
2:6:116:LEU:HD21	2:6:290:PHE:CZ	2.55	0.42
4:C:43:ARG:HE	4:C:49:ILE:CG1	2.26	0.42
8:G:119:PRO:O	8:G:122:ILE:HG22	2.19	0.42
14:M:4:ILE:HG23	14:M:8:ASP:HB2	2.02	0.42
15:N:82:ARG:HD2	35:A:2720:C:OP2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:82:VAL:O	17:P:86:GLN:OE1	2.37	0.42
35:A:1179:U:C5	35:A:1188:A:C2	3.08	0.42
35:A:1213:A:H3'	35:A:1214:A:H8	1.85	0.42
35:A:2186:C:O2'	35:A:2187:U:O4'	2.37	0.42
2:6:503:LEU:HD12	2:6:507:TYR:CD2	2.55	0.42
4:C:176:ARG:O	4:C:176:ARG:HG3	2.19	0.42
6:E:184:ASN:HD21	35:A:708:G:N2	2.17	0.42
35:A:824:G:H2'	35:A:825:C:C6	2.55	0.42
35:A:1393:C:H2'	35:A:1394:A:H8	1.85	0.42
35:A:2516:U:H2'	35:A:2517:C:C6	2.55	0.42
2:5:199:TYR:CD1	2:5:277:VAL:HG13	2.55	0.42
2:5:575:PHE:O	2:5:579:VAL:HG23	2.19	0.42
2:6:375:ASP:HB3	2:6:376:GLY:H	1.65	0.42
2:6:376:GLY:HA2	2:6:476:ARG:HA	2.01	0.42
2:6:581:LYS:O	2:6:584:ARG:HG2	2.19	0.42
2:6:663:LEU:HA	2:6:663:LEU:HD23	1.92	0.42
4:C:13:ARG:HD2	35:A:843:G:H4'	2.02	0.42
4:C:80:ALA:O	4:C:113:GLN:NE2	2.52	0.42
7:F:92:ILE:HD11	35:A:2535:A:H1'	2.01	0.42
10:I:58:LYS:HG2	10:I:70:ASP:OD1	2.20	0.42
21:T:52:GLU:O	21:T:56:LYS:HG3	2.20	0.42
35:A:1430:C:H2'	35:A:1431:U:C6	2.55	0.42
35:A:2603:G:H2'	35:A:2604:U:C6	2.55	0.42
35:A:2760:G:H2'	35:A:2761:U:C6	2.55	0.42
2:5:121:ALA:HB3	2:5:155:ALA:HB1	2.02	0.41
11:J:17:ALA:HB1	11:J:48:THR:HB	2.01	0.41
11:J:118:LEU:HD23	35:A:1176:G:O2'	2.20	0.41
24:W:82:ALA:HB3	24:W:96:ASP:HB2	2.02	0.41
32:e:40:ARG:HH21	35:A:2586:G:H5''	1.85	0.41
35:A:691:U:H2'	35:A:692:C:C6	2.54	0.41
35:A:751:A:H2'	35:A:752:C:H6	1.85	0.41
35:A:2524:C:H2'	35:A:2525:C:H6	1.84	0.41
35:A:2530:C:OP2	35:A:2531:G:O2'	2.35	0.41
35:A:2936:C:OP1	35:A:2938:G:H4'	2.20	0.41
35:A:3106:C:H6	35:A:3106:C:H2'	1.72	0.41
2:5:105:LEU:HD13	2:5:132:LEU:HD11	2.01	0.41
2:5:533:ARG:HE	2:5:535:VAL:HG21	1.84	0.41
2:5:701:SER:C	2:5:703:SER:N	2.71	0.41
2:6:180:GLY:HA2	2:6:186:LYS:HG2	2.02	0.41
2:6:192:LEU:HD23	2:6:192:LEU:HA	1.92	0.41
2:6:446:LEU:HD22	2:6:697:ILE:HG21	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:6:522:GLU:HG3	2:6:640:LEU:HD23	2.02	0.41
3:B:33:C:C2	3:B:52:G:N2	2.88	0.41
5:D:65:PRO:O	5:D:69:GLN:HG2	2.20	0.41
7:F:11:LEU:HD23	7:F:107:LEU:HD11	2.02	0.41
7:F:20:ARG:HH21	7:F:35:ILE:HG22	1.85	0.41
7:F:110:LEU:HA	7:F:114:ALA:HB3	2.03	0.41
8:G:104:LEU:HD12	8:G:104:LEU:HA	1.86	0.41
28:a:39:ASP:OD1	28:a:44:ARG:HD3	2.20	0.41
35:A:851:C:H2'	35:A:852:C:H6	1.85	0.41
35:A:875:G:H2'	35:A:876:A:O4'	2.20	0.41
35:A:1343:G:H2'	35:A:1345:G:C8	2.56	0.41
35:A:2581:G:H2'	35:A:2583:C:OP2	2.20	0.41
2:5:150:LEU:HD12	2:5:272:CYS:SG	2.60	0.41
4:C:85:ASP:OD2	4:C:88:ARG:NH1	2.38	0.41
7:F:15:TYR:OH	7:F:37:GLY:HA2	2.20	0.41
7:F:85:LYS:O	7:F:87:ARG:NH1	2.53	0.41
22:U:14:PRO:HD3	27:Z:34:PHE:CE1	2.55	0.41
29:b:28:VAL:HG21	29:b:41:ARG:HG3	2.02	0.41
35:A:2216:G:N2	35:A:2220:C:O2'	2.53	0.41
35:A:2400:C:C4	35:A:2401:U:H1'	2.55	0.41
2:5:320:LEU:HD11	2:5:346:ILE:HG12	2.01	0.41
2:6:340:ARG:NH2	2:6:410:GLY:HA2	2.35	0.41
5:D:153:GLY:O	35:A:2276:G:H4'	2.19	0.41
8:G:154:ARG:NH2	35:A:2750:G:OP2	2.54	0.41
18:Q:21:PRO:HA	18:Q:46:VAL:HG12	2.02	0.41
29:b:7:ARG:NH1	35:A:1377:A:N3	2.68	0.41
35:A:89:A:O2'	35:A:90:C:OP1	2.33	0.41
35:A:160:A:C3'	35:A:161:U:H5''	2.46	0.41
35:A:255:A:O2'	35:A:472:C:OP2	2.35	0.41
35:A:2066:G:O2'	35:A:2119:C:H1'	2.20	0.41
35:A:2288:C:H2'	35:A:2289:C:H6	1.85	0.41
35:A:2322:C:H2'	35:A:2323:G:C8	2.53	0.41
2:5:178:PRO:HA	2:5:188:VAL:HG12	2.02	0.41
2:5:320:LEU:HB3	2:5:429:ASP:H	1.86	0.41
2:6:627:LEU:HA	2:6:630:ARG:HG2	2.02	0.41
4:C:242:GLY:HA3	4:C:244:ARG:HH11	1.85	0.41
7:F:147:GLU:N	7:F:147:GLU:OE1	2.53	0.41
8:G:59:GLU:OE1	8:G:61:ARG:N	2.45	0.41
35:A:161:U:H1'	35:A:162:A:C8	2.54	0.41
35:A:279:U:O2	35:A:307:G:N2	2.45	0.41
35:A:662:G:H2'	35:A:2254:A:N7	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A:2176:A:N3	35:A:2784:C:O2'	2.46	0.41
35:A:2521:C:C2	35:A:2557:A:N1	2.89	0.41
2:5:583:VAL:HG11	2:5:604:VAL:HG21	2.02	0.41
2:5:702:MET:HE2	2:5:702:MET:HB2	1.80	0.41
2:6:322:ALA:O	2:6:427:LEU:N	2.40	0.41
2:6:335:ARG:HE	2:6:335:ARG:HB2	1.67	0.41
2:6:444:PRO:HD3	2:6:474:THR:O	2.19	0.41
6:E:118:ARG:HA	6:E:118:ARG:HD3	1.91	0.41
7:F:165:THR:OG1	7:F:166:THR:N	2.54	0.41
21:T:50:ALA:O	21:T:53:PRO:HD2	2.21	0.41
26:Y:19:SER:HB3	26:Y:23:ARG:H	1.84	0.41
35:A:2077:C:N4	35:A:2105:G:H22	2.19	0.41
35:A:2101:A:H2'	35:A:2102:G:O4'	2.20	0.41
35:A:2130:G:O2'	35:A:2131:G:O4'	2.37	0.41
35:A:2169:G:HO2'	35:A:2170:U:P	2.43	0.41
35:A:3020:U:OP2	35:A:3020:U:H6	2.04	0.41
35:A:3040:G:H2'	35:A:3042:A:N7	2.35	0.41
35:A:3067:C:H2'	35:A:3068:U:C6	2.55	0.41
2:5:161:LEU:HD11	2:5:174:PRO:HD3	2.02	0.41
2:5:704:HIS:C	2:5:706:ALA:H	2.28	0.41
2:6:272:CYS:SG	2:6:277:VAL:HB	2.60	0.41
2:6:426:THR:HG21	2:6:436:LEU:H	1.85	0.41
7:F:124:LEU:HB3	7:F:135:TYR:OH	2.21	0.41
8:G:35:LEU:HD23	8:G:36:ASP:N	2.35	0.41
13:L:66:VAL:HG23	13:L:82:ASN:OD1	2.20	0.41
14:M:7:HIS:HB3	35:A:1318:C:O2	2.20	0.41
29:b:28:VAL:HG13	35:A:3107:G:O3'	2.21	0.41
35:A:89:A:HO2'	35:A:90:C:P	2.43	0.41
35:A:226:A:C2	35:A:2631:G:H1'	2.55	0.41
35:A:1169:A:C5	35:A:1170:C:C4	3.09	0.41
35:A:2326:A:H2'	35:A:2327:C:H6	1.86	0.41
35:A:2873:U:H2'	35:A:2874:C:H6	1.84	0.41
35:A:2969:C:H2'	35:A:2970:U:C6	2.55	0.41
2:5:358:PHE:O	2:5:360:ALA:N	2.54	0.41
2:6:543:GLN:OE1	35:A:3079:U:H5'	2.20	0.41
2:6:694:ARG:HB2	2:6:697:ILE:HD11	2.03	0.41
5:D:161:PHE:O	5:D:162:LYS:C	2.64	0.41
5:D:178:GLN:OE1	5:D:213:LYS:NZ	2.33	0.41
8:G:27:LYS:HD2	8:G:28:GLY:N	2.36	0.41
10:I:27:GLU:HB3	10:I:104:VAL:HB	2.01	0.41
11:J:16:GLN:HA	11:J:55:VAL:HG12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:68:ALA:O	17:P:72:ALA:N	2.52	0.41
35:A:308:U:H2'	35:A:309:G:H8	1.86	0.41
35:A:920:G:N2	35:A:944:A:OP1	2.54	0.41
35:A:954:U:H2'	35:A:955:C:C6	2.56	0.41
35:A:1201:G:H21	35:A:1203:A:H8	1.67	0.41
35:A:1639:G:H5'	35:A:1640:A:OP1	2.21	0.41
35:A:2194:A:C8	35:A:2196:G:N2	2.88	0.41
35:A:2410:A:C6	35:A:2411:U:C4	3.09	0.41
2:5:394:SER:HB2	2:5:401:GLN:HB3	2.01	0.41
2:6:56:VAL:HG21	36:6:801:GNP:O3A	2.21	0.41
2:6:96:PRO:HG2	2:6:104:GLU:HB2	2.03	0.41
2:6:173:ALA:HB3	2:6:265:PHE:HZ	1.85	0.41
2:6:255:ASP:HA	2:6:258:LYS:HD2	2.03	0.41
5:D:127:MET:HE3	5:D:134:GLY:HA3	2.03	0.41
7:F:182:PHE:HA	7:F:183:PRO:HD3	1.92	0.41
10:I:39:LEU:HD13	10:I:96:PHE:CG	2.56	0.41
13:L:35:ILE:HG22	13:L:105:GLU:HB2	2.03	0.41
14:M:75:TYR:CE1	14:M:109:LEU:HG	2.56	0.41
21:T:17:VAL:HG12	21:T:19:VAL:HG22	2.03	0.41
30:c:42:CYS:HB3	30:c:45:CYS:HB2	2.03	0.41
32:e:28:ASN:HA	35:A:2616:A:H5''	2.02	0.41
33:f:1:MET:HB2	35:A:2750:G:O2'	2.21	0.41
35:A:166:A:H2'	35:A:167:G:O4'	2.20	0.41
35:A:346:C:H2'	35:A:347:U:H6	1.83	0.41
35:A:752:C:H2'	35:A:753:A:C8	2.54	0.41
35:A:808:A:O2'	35:A:1468:A:N3	2.45	0.41
35:A:1174:G:O2'	35:A:1204:A:H1'	2.21	0.41
35:A:1553:C:H5''	35:A:1554:U:C5	2.54	0.41
35:A:1728:U:H4'	35:A:1729:A:O4'	2.20	0.41
35:A:2125:A:H5'	35:A:2127:G:OP2	2.20	0.41
35:A:2148:C:H2'	35:A:2149:C:C6	2.56	0.41
35:A:2327:C:H2'	35:A:2328:G:C8	2.56	0.41
35:A:2861:U:H2'	35:A:2862:G:O4'	2.20	0.41
35:A:3013:C:O2'	35:A:3113:A:N6	2.52	0.41
2:5:185:CYS:HB3	2:5:272:CYS:SG	2.61	0.41
2:5:253:ILE:HG21	2:5:288:ARG:NH2	2.36	0.41
2:5:376:GLY:O	2:5:378:THR:N	2.54	0.41
2:5:705:GLY:C	2:5:707:GLY:H	2.29	0.41
2:6:465:LEU:HD13	2:6:477:ILE:HG21	2.03	0.41
4:C:79:VAL:HG11	4:C:111:LEU:HD21	2.03	0.41
8:G:106:PHE:HB2	8:G:114:VAL:HG13	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:107:VAL:HG21	11:J:141:VAL:HG13	2.03	0.41
35:A:760:U:H2'	35:A:761:G:H8	1.86	0.41
35:A:781:C:H2'	35:A:782:U:C6	2.56	0.41
35:A:1194:C:C2	35:A:1195:A:C8	3.09	0.41
35:A:1305:G:H2'	35:A:1306:G:H8	1.86	0.41
35:A:1938:G:N2	35:A:1955:A:OP2	2.46	0.41
35:A:2130:G:O2'	35:A:2131:G:O5'	2.37	0.41
2:5:549:ILE:HG22	2:5:606:LEU:HD13	2.03	0.40
2:5:646:ASP:HA	2:5:686:GLU:HA	2.03	0.40
2:6:208:PRO:HA	2:6:209:PRO:HD3	1.98	0.40
3:B:26:A:H2	3:B:115:A:H1'	1.86	0.40
12:K:109:LEU:HD23	12:K:109:LEU:HA	1.93	0.40
13:L:68:GLU:HG2	13:L:78:LYS:HD2	2.03	0.40
16:O:37:THR:OG1	16:O:40:LYS:HD2	2.20	0.40
24:W:43:ASP:OD1	24:W:43:ASP:N	2.54	0.40
24:W:105:LYS:HA	24:W:105:LYS:HD3	1.86	0.40
26:Y:17:SER:HB3	26:Y:27:ARG:HD2	2.03	0.40
35:A:347:U:H2'	35:A:348:G:C8	2.56	0.40
35:A:701:A:H2'	35:A:702:A:C8	2.56	0.40
35:A:857:U:H2'	35:A:858:A:H8	1.84	0.40
35:A:1003:A:H8	35:A:1003:A:P	2.43	0.40
35:A:1804:G:H2'	35:A:1805:G:C8	2.56	0.40
35:A:2857:A:H2'	35:A:2858:G:C8	2.55	0.40
35:A:2925:C:H3'	35:A:2926:A:C5'	2.51	0.40
35:A:3068:U:H2'	35:A:3069:G:O4'	2.22	0.40
2:5:220:LEU:HD23	2:5:220:LEU:HA	1.95	0.40
2:5:550:GLU:HB2	2:5:607:PHE:CE2	2.57	0.40
2:6:139:VAL:O	2:6:140:GLN:HG3	2.21	0.40
2:6:300:GLU:CD	2:6:437:ARG:HD3	2.46	0.40
2:6:335:ARG:NH1	2:6:419:SER:O	2.54	0.40
2:6:348:PRO:HD3	2:6:393:LEU:HD12	2.03	0.40
3:B:104:G:H2'	3:B:105:A:O4'	2.20	0.40
13:L:114:ILE:HD12	13:L:114:ILE:H	1.86	0.40
35:A:123:A:H2'	35:A:124:A:C8	2.56	0.40
35:A:997:G:C4	35:A:998:G:C8	3.10	0.40
35:A:1001:C:H1'	35:A:1007:G:H1	1.87	0.40
35:A:1160:G:H2'	35:A:1161:C:H6	1.86	0.40
35:A:2471:A:H2'	35:A:2472:C:C6	2.54	0.40
2:6:462:SER:O	2:6:465:LEU:HG	2.22	0.40
4:C:106:ILE:HD12	4:C:106:ILE:H	1.87	0.40
7:F:75:ARG:HD3	7:F:75:ARG:HA	1.90	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:111:PHE:HB3	13:L:114:ILE:HD13	2.03	0.40
19:R:58:ARG:HA	19:R:61:TRP:CE3	2.56	0.40
20:S:51:LYS:O	20:S:55:LEU:HG	2.21	0.40
23:V:8:THR:HG23	23:V:74:VAL:HG12	2.03	0.40
33:f:4:ASN:O	33:f:36:GLN:HA	2.21	0.40
35:A:220:A:H2	35:A:266:U:H5'	1.87	0.40
35:A:1160:G:H2'	35:A:1161:C:C6	2.55	0.40
35:A:1168:A:C4	35:A:1169:A:C8	3.10	0.40
35:A:1294:U:H2'	35:A:1295:U:H6	1.86	0.40
35:A:2326:A:H2'	35:A:2327:C:C6	2.56	0.40
35:A:2523:A:H2'	35:A:2524:C:C6	2.56	0.40
2:6:562:PHE:CD1	2:6:604:VAL:HG13	2.56	0.40
4:C:244:ARG:H	4:C:244:ARG:HD3	1.87	0.40
7:F:45:MET:CE	7:F:159:MET:HB3	2.51	0.40
9:H:115:ARG:HD3	9:H:115:ARG:HA	1.63	0.40
19:R:62:ILE:HG23	19:R:76:TYR:CZ	2.57	0.40
35:A:271:A:OP2	35:A:314:G:N1	2.29	0.40
35:A:782:U:H2'	35:A:783:G:O4'	2.21	0.40
35:A:1632:G:H8	35:A:1632:G:O5'	2.04	0.40
35:A:2373:G:H2'	35:A:2374:U:C6	2.57	0.40
2:5:337:SER:HB2	2:5:418:LEU:HD12	2.04	0.40
2:5:529:THR:HG22	2:5:550:GLU:HG3	2.04	0.40
2:5:549:ILE:HA	2:5:606:LEU:HA	2.03	0.40
4:C:244:ARG:O	4:C:244:ARG:HG2	2.21	0.40
5:D:155:ALA:H	35:A:2277:G:H5'	1.86	0.40
6:E:2:THR:HB	6:E:19:GLU:HB3	2.03	0.40
15:N:56:ARG:NH1	35:A:2693:A:O2'	2.55	0.40
26:Y:39:VAL:HG12	26:Y:46:LYS:HG2	2.03	0.40
35:A:302:U:O2'	35:A:303:G:N7	2.39	0.40
35:A:1177:G:H2'	35:A:1178:U:C6	2.56	0.40
35:A:1758:G:OP2	35:A:1758:G:H8	2.04	0.40
35:A:2026:A:H8	35:A:2026:A:OP2	2.04	0.40
35:A:2247:A:H2'	35:A:2248:C:H6	1.87	0.40
35:A:2297:U:H2'	35:A:2298:U:H6	1.87	0.40
35:A:2581:G:OP2	35:A:2581:G:H8	2.04	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	3	21/24 (88%)	19 (90%)	2 (10%)	0	100	100
2	5	707/709 (100%)	673 (95%)	31 (4%)	3 (0%)	30	63
2	6	707/709 (100%)	679 (96%)	27 (4%)	1 (0%)	48	79
4	C	273/278 (98%)	258 (94%)	15 (6%)	0	100	100
5	D	212/217 (98%)	200 (94%)	12 (6%)	0	100	100
6	E	207/215 (96%)	203 (98%)	4 (2%)	0	100	100
7	F	180/187 (96%)	175 (97%)	5 (3%)	0	100	100
8	G	174/179 (97%)	169 (97%)	5 (3%)	0	100	100
9	H	149/151 (99%)	142 (95%)	7 (5%)	0	100	100
10	I	124/175 (71%)	120 (97%)	4 (3%)	0	100	100
11	J	131/142 (92%)	126 (96%)	5 (4%)	0	100	100
12	K	144/147 (98%)	139 (96%)	5 (4%)	0	100	100
13	L	120/122 (98%)	115 (96%)	5 (4%)	0	100	100
14	M	143/147 (97%)	129 (90%)	14 (10%)	0	100	100
15	N	134/138 (97%)	127 (95%)	7 (5%)	0	100	100
16	O	116/199 (58%)	111 (96%)	5 (4%)	0	100	100
17	P	124/127 (98%)	122 (98%)	2 (2%)	0	100	100
18	Q	111/113 (98%)	103 (93%)	8 (7%)	0	100	100
19	R	122/129 (95%)	120 (98%)	2 (2%)	0	100	100
20	S	98/103 (95%)	96 (98%)	2 (2%)	0	100	100
21	T	112/153 (73%)	106 (95%)	6 (5%)	0	100	100
22	U	95/100 (95%)	93 (98%)	2 (2%)	0	100	100
23	V	93/105 (89%)	90 (97%)	3 (3%)	0	100	100
24	W	190/215 (88%)	182 (96%)	8 (4%)	0	100	100
25	X	77/88 (88%)	73 (95%)	4 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	Y	61/64 (95%)	58 (95%)	3 (5%)	0	100	100
27	Z	62/77 (80%)	60 (97%)	2 (3%)	0	100	100
28	a	57/61 (93%)	56 (98%)	1 (2%)	0	100	100
29	b	52/57 (91%)	52 (100%)	0	0	100	100
30	c	47/55 (86%)	43 (92%)	3 (6%)	1 (2%)	5	33
31	d	44/47 (94%)	43 (98%)	1 (2%)	0	100	100
32	e	61/64 (95%)	59 (97%)	2 (3%)	0	100	100
33	f	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
34	g	46/75 (61%)	45 (98%)	1 (2%)	0	100	100
All	All	5029/5409 (93%)	4820 (96%)	204 (4%)	5 (0%)	50	79

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	5	375	ASP
2	6	381	HIS
30	c	7	VAL
2	5	702	MET
2	5	381	HIS

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	3	18/19 (95%)	18 (100%)	0	100	100
2	5	564/564 (100%)	557 (99%)	7 (1%)	67	82
2	6	564/564 (100%)	558 (99%)	6 (1%)	70	83
4	C	215/218 (99%)	215 (100%)	0	100	100
5	D	160/163 (98%)	160 (100%)	0	100	100
6	E	169/173 (98%)	169 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	F	151/156 (97%)	150 (99%)	1 (1%)	81	90
8	G	148/150 (99%)	148 (100%)	0	100	100
9	H	90/116 (78%)	90 (100%)	0	100	100
10	I	89/120 (74%)	89 (100%)	0	100	100
11	J	102/108 (94%)	102 (100%)	0	100	100
12	K	119/120 (99%)	119 (100%)	0	100	100
13	L	100/100 (100%)	100 (100%)	0	100	100
14	M	112/114 (98%)	112 (100%)	0	100	100
15	N	114/116 (98%)	114 (100%)	0	100	100
16	O	97/158 (61%)	97 (100%)	0	100	100
17	P	93/94 (99%)	93 (100%)	0	100	100
18	Q	100/100 (100%)	100 (100%)	0	100	100
19	R	97/99 (98%)	97 (100%)	0	100	100
20	S	81/83 (98%)	81 (100%)	0	100	100
21	T	90/117 (77%)	90 (100%)	0	100	100
22	U	83/85 (98%)	83 (100%)	0	100	100
23	V	81/86 (94%)	81 (100%)	0	100	100
24	W	155/168 (92%)	155 (100%)	0	100	100
25	X	58/63 (92%)	58 (100%)	0	100	100
26	Y	50/51 (98%)	50 (100%)	0	100	100
27	Z	58/66 (88%)	58 (100%)	0	100	100
28	a	52/54 (96%)	52 (100%)	0	100	100
29	b	43/46 (94%)	43 (100%)	0	100	100
30	c	47/52 (90%)	47 (100%)	0	100	100
31	d	35/36 (97%)	35 (100%)	0	100	100
32	e	53/54 (98%)	53 (100%)	0	100	100
33	f	35/35 (100%)	35 (100%)	0	100	100
34	g	43/63 (68%)	43 (100%)	0	100	100
All	All	4066/4311 (94%)	4052 (100%)	14 (0%)	90	96

All (14) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	5	74	ARG
2	5	229	ILE
2	5	239	GLU
2	5	281	GLU
2	5	701	SER
2	5	702	MET
2	5	704	HIS
2	6	338	LEU
2	6	346	ILE
2	6	354	VAL
2	6	518	VAL
2	6	522	GLU
2	6	623	MET
7	F	161	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (40) such sidechains are listed below:

Mol	Chain	Res	Type
1	3	23	ASN
2	5	73	GLN
2	5	381	HIS
2	6	73	GLN
2	6	297	GLN
2	6	534	HIS
4	C	135	ASN
4	C	233	HIS
5	D	21	ASN
5	D	130	HIS
6	E	121	ASN
6	E	151	ASN
6	E	208	ASN
7	F	13	GLN
7	F	24	GLN
7	F	62	ASN
7	F	83	GLN
11	J	21	ASN
11	J	32	GLN
11	J	106	GLN
12	K	136	GLN
13	L	4	GLN
14	M	84	ASN
16	O	31	HIS
17	P	53	ASN

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Mol	Chain	Res	Type
19	R	94	ASN
20	S	67	HIS
23	V	31	ASN
24	W	6	ASN
24	W	9	ASN
24	W	64	ASN
24	W	76	GLN
24	W	91	ASN
24	W	143	GLN
25	X	12	ASN
26	Y	47	GLN
27	Z	44	ASN
31	d	9	GLN
32	e	31	HIS
32	e	63	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
3	B	117/118 (99%)	18 (15%)	1 (0%)
35	A	3059/3127 (97%)	640 (20%)	34 (1%)
All	All	3176/3245 (97%)	658 (20%)	35 (1%)

All (658) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
3	B	4	A
3	B	9	G
3	B	11	U
3	B	12	C
3	B	13	C
3	B	23	G
3	B	30	G
3	B	31	C
3	B	42	C
3	B	57	U
3	B	58	A
3	B	67	A
3	B	87	U
3	B	88	C
3	B	89	C

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Mol	Chain	Res	Type
3	B	90	G
3	B	103	G
3	B	107	A
35	A	7	U
35	A	9	U
35	A	12	G
35	A	16	G
35	A	19	U
35	A	20	G
35	A	31	U
35	A	48	G
35	A	55	G
35	A	60	A
35	A	68	A
35	A	71	A
35	A	72	G
35	A	80	G
35	A	82	G
35	A	89	A
35	A	90	C
35	A	94	G
35	A	95	C
35	A	98	U
35	A	99	G
35	A	115	A
35	A	116	A
35	A	117	U
35	A	122	A
35	A	125	C
35	A	136	U
35	A	148	A
35	A	161	U
35	A	164	A
35	A	169	C
35	A	180	A
35	A	195	A
35	A	212	A
35	A	214	G
35	A	215	A
35	A	221	A
35	A	227	A
35	A	228	A

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Mol	Chain	Res	Type
35	A	229	U
35	A	230	G
35	A	231	U
35	A	238	G
35	A	248	G
35	A	270	U
35	A	272	A
35	A	273	A
35	A	275	C
35	A	283	U
35	A	285	U
35	A	286	G
35	A	289	A
35	A	290	C
35	A	292	G
35	A	296	A
35	A	299	G
35	A	300	G
35	A	301	U
35	A	302	U
35	A	303	G
35	A	305	G
35	A	314	G
35	A	315	U
35	A	317	G
35	A	318	U
35	A	319	G
35	A	322	A
35	A	323	C
35	A	326	A
35	A	329	U
35	A	330	U
35	A	331	U
35	A	336	C
35	A	337	U
35	A	338	C
35	A	342	C
35	A	344	G
35	A	345	G
35	A	348	G
35	A	350	A
35	A	351	G

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Mol	Chain	Res	Type
35	A	352	G
35	A	357	U
35	A	358	G
35	A	361	A
35	A	364	A
35	A	369	G
35	A	370	U
35	A	384	G
35	A	393	U
35	A	412	A
35	A	413	G
35	A	424	G
35	A	434	G
35	A	437	G
35	A	445	U
35	A	446	G
35	A	447	A
35	A	449	G
35	A	450	G
35	A	452	G
35	A	453	U
35	A	454	U
35	A	460	G
35	A	474	G
35	A	489	A
35	A	490	A
35	A	491	U
35	A	493	U
35	A	494	G
35	A	498	G
35	A	499	G
35	A	500	A
35	A	505	C
35	A	512	G
35	A	523	U
35	A	543	U
35	A	544	U
35	A	566	A
35	A	567	A
35	A	569	G
35	A	578	G
35	A	589	A

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Mol	Chain	Res	Type
35	A	591	G
35	A	592	A
35	A	594	U
35	A	595	A
35	A	596	C
35	A	605	G
35	A	617	U
35	A	618	C
35	A	619	C
35	A	620	G
35	A	623	A
35	A	634	C
35	A	635	G
35	A	636	U
35	A	637	G
35	A	638	U
35	A	639	C
35	A	640	G
35	A	642	G
35	A	644	G
35	A	646	U
35	A	647	G
35	A	655	G
35	A	665	G
35	A	667	A
35	A	669	G
35	A	675	G
35	A	678	A
35	A	679	G
35	A	684	G
35	A	685	G
35	A	696	A
35	A	706	G
35	A	707	G
35	A	708	G
35	A	709	U
35	A	721	A
35	A	731	A
35	A	738	A
35	A	740	A
35	A	756	A
35	A	757	G

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Mol	Chain	Res	Type
35	A	758	A
35	A	760	U
35	A	764	U
35	A	765	G
35	A	766	G
35	A	768	G
35	A	773	G
35	A	774	G
35	A	784	G
35	A	785	A
35	A	801	U
35	A	836	G
35	A	845	C
35	A	862	U
35	A	863	G
35	A	868	C
35	A	871	A
35	A	872	G
35	A	878	G
35	A	879	A
35	A	880	G
35	A	890	G
35	A	891	G
35	A	897	A
35	A	899	G
35	A	900	G
35	A	907	A
35	A	917	A
35	A	918	U
35	A	920	G
35	A	921	C
35	A	927	C
35	A	942	U
35	A	960	G
35	A	961	U
35	A	972	A
35	A	974	G
35	A	975	U
35	A	981	U
35	A	982	A
35	A	994	A
35	A	1001	C

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Mol	Chain	Res	Type
35	A	1002	C
35	A	1003	A
35	A	1004	C
35	A	1005	A
35	A	1006	G
35	A	1007	G
35	A	1008	G
35	A	1010	U
35	A	1011	A
35	A	1012	C
35	A	1013	U
35	A	1014	G
35	A	1025	A
35	A	1030	C
35	A	1046	C
35	A	1047	A
35	A	1048	A
35	A	1049	G
35	A	1063	G
35	A	1068	C
35	A	1075	U
35	A	1076	A
35	A	1078	G
35	A	1085	G
35	A	1092	G
35	A	1101	A
35	A	1103	C
35	A	1108	A
35	A	1114	G
35	A	1130	C
35	A	1131	G
35	A	1144	A
35	A	1151	U
35	A	1164	A
35	A	1165	G
35	A	1173	G
35	A	1174	G
35	A	1175	A
35	A	1178	U
35	A	1181	G
35	A	1184	U
35	A	1185	A

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Mol	Chain	Res	Type
35	A	1186	G
35	A	1187	A
35	A	1188	A
35	A	1189	G
35	A	1190	C
35	A	1191	A
35	A	1194	C
35	A	1195	A
35	A	1201	G
35	A	1202	A
35	A	1203	A
35	A	1205	G
35	A	1206	A
35	A	1207	G
35	A	1209	G
35	A	1212	U
35	A	1213	A
35	A	1214	A
35	A	1219	U
35	A	1226	U
35	A	1230	G
35	A	1232	G
35	A	1240	G
35	A	1248	U
35	A	1250	U
35	A	1251	A
35	A	1253	C
35	A	1254	G
35	A	1260	C
35	A	1261	A
35	A	1292	U
35	A	1293	G
35	A	1325	U
35	A	1335	G
35	A	1344	A
35	A	1353	G
35	A	1362	A
35	A	1365	G
35	A	1371	G
35	A	1384	G
35	A	1386	G
35	A	1387	A

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Mol	Chain	Res	Type
35	A	1389	U
35	A	1415	A
35	A	1416	A
35	A	1428	U
35	A	1435	C
35	A	1436	C
35	A	1437	A
35	A	1444	U
35	A	1448	C
35	A	1456	G
35	A	1465	C
35	A	1467	U
35	A	1480	A
35	A	1493	A
35	A	1494	U
35	A	1499	A
35	A	1501	C
35	A	1507	G
35	A	1508	A
35	A	1510	A
35	A	1522	G
35	A	1529	U
35	A	1531	C
35	A	1532	G
35	A	1533	U
35	A	1534	C
35	A	1536	A
35	A	1540	U
35	A	1549	G
35	A	1550	G
35	A	1551	U
35	A	1552	A
35	A	1553	C
35	A	1625	G
35	A	1629	G
35	A	1630	U
35	A	1632	G
35	A	1633	U
35	A	1639	G
35	A	1640	A
35	A	1641	U
35	A	1645	G

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Mol	Chain	Res	Type
35	A	1648	A
35	A	1649	C
35	A	1670	G
35	A	1676	G
35	A	1678	U
35	A	1679	A
35	A	1680	A
35	A	1681	U
35	A	1703	G
35	A	1713	U
35	A	1714	A
35	A	1715	A
35	A	1716	A
35	A	1717	U
35	A	1720	G
35	A	1724	G
35	A	1728	U
35	A	1731	A
35	A	1737	A
35	A	1754	G
35	A	1756	G
35	A	1757	U
35	A	1767	U
35	A	1769	G
35	A	1786	G
35	A	1789	A
35	A	1798	U
35	A	1802	G
35	A	1826	A
35	A	1844	A
35	A	1864	U
35	A	1866	C
35	A	1867	G
35	A	1870	U
35	A	1871	G
35	A	1872	A
35	A	1892	G
35	A	1946	U
35	A	1947	U
35	A	1949	C
35	A	1950	G
35	A	1973	C

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Mol	Chain	Res	Type
35	A	1975	A
35	A	1981	U
35	A	1990	A
35	A	1998	C
35	A	2008	A
35	A	2017	C
35	A	2018	G
35	A	2026	A
35	A	2033	U
35	A	2046	A
35	A	2050	C
35	A	2053	C
35	A	2055	C
35	A	2059	G
35	A	2065	A
35	A	2066	G
35	A	2067	G
35	A	2068	U
35	A	2069	U
35	A	2071	A
35	A	2075	G
35	A	2076	A
35	A	2078	C
35	A	2081	U
35	A	2082	U
35	A	2083	A
35	A	2085	C
35	A	2086	U
35	A	2089	C
35	A	2091	U
35	A	2092	U
35	A	2093	G
35	A	2094	G
35	A	2095	G
35	A	2096	G
35	A	2099	G
35	A	2100	A
35	A	2103	C
35	A	2104	G
35	A	2107	G
35	A	2108	A
35	A	2110	U

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Mol	Chain	Res	Type
35	A	2111	U
35	A	2112	U
35	A	2113	A
35	A	2114	A
35	A	2116	C
35	A	2117	C
35	A	2120	A
35	A	2123	A
35	A	2124	A
35	A	2125	A
35	A	2126	C
35	A	2127	G
35	A	2128	G
35	A	2129	C
35	A	2130	G
35	A	2131	G
35	A	2133	G
35	A	2147	U
35	A	2149	C
35	A	2150	U
35	A	2151	A
35	A	2153	G
35	A	2154	G
35	A	2155	U
35	A	2156	A
35	A	2157	G
35	A	2159	G
35	A	2160	A
35	A	2161	A
35	A	2162	A
35	A	2163	U
35	A	2164	U
35	A	2166	C
35	A	2167	U
35	A	2168	U
35	A	2169	G
35	A	2170	U
35	A	2171	C
35	A	2172	G
35	A	2179	U
35	A	2183	G
35	A	2184	A

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Mol	Chain	Res	Type
35	A	2185	C
35	A	2187	U
35	A	2188	G
35	A	2189	C
35	A	2190	A
35	A	2192	G
35	A	2193	A
35	A	2194	A
35	A	2195	U
35	A	2197	G
35	A	2215	U
35	A	2217	U
35	A	2221	A
35	A	2227	A
35	A	2244	A
35	A	2245	C
35	A	2247	A
35	A	2251	G
35	A	2254	A
35	A	2255	A
35	A	2256	G
35	A	2257	A
35	A	2263	G
35	A	2267	C
35	A	2279	C
35	A	2280	G
35	A	2284	A
35	A	2285	G
35	A	2286	A
35	A	2316	G
35	A	2320	C
35	A	2324	A
35	A	2325	U
35	A	2329	G
35	A	2330	U
35	A	2331	U
35	A	2333	G
35	A	2334	U
35	A	2335	G
35	A	2336	U
35	A	2337	A
35	A	2338	G

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Mol	Chain	Res	Type
35	A	2339	G
35	A	2340	A
35	A	2341	U
35	A	2342	A
35	A	2343	G
35	A	2349	A
35	A	2351	A
35	A	2353	U
35	A	2354	G
35	A	2355	U
35	A	2356	G
35	A	2357	A
35	A	2368	C
35	A	2382	G
35	A	2384	C
35	A	2385	G
35	A	2386	U
35	A	2387	U
35	A	2388	G
35	A	2390	U
35	A	2393	A
35	A	2394	A
35	A	2395	U
35	A	2396	A
35	A	2401	U
35	A	2402	C
35	A	2407	C
35	A	2408	G
35	A	2409	U
35	A	2413	G
35	A	2421	A
35	A	2427	G
35	A	2434	A
35	A	2436	A
35	A	2447	G
35	A	2449	A
35	A	2462	G
35	A	2463	G
35	A	2467	U
35	A	2502	A
35	A	2507	C
35	A	2511	A

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Mol	Chain	Res	Type
35	A	2512	A
35	A	2529	A
35	A	2532	G
35	A	2533	C
35	A	2545	G
35	A	2548	U
35	A	2549	G
35	A	2559	A
35	A	2567	U
35	A	2569	G
35	A	2571	C
35	A	2574	C
35	A	2585	U
35	A	2607	G
35	A	2609	A
35	A	2627	C
35	A	2630	A
35	A	2640	G
35	A	2647	U
35	A	2649	A
35	A	2650	A
35	A	2653	G
35	A	2654	A
35	A	2655	U
35	A	2659	A
35	A	2665	C
35	A	2669	G
35	A	2672	A
35	A	2677	A
35	A	2688	C
35	A	2689	C
35	A	2693	A
35	A	2694	G
35	A	2699	C
35	A	2700	A
35	A	2702	A
35	A	2705	G
35	A	2715	U
35	A	2726	G
35	A	2728	U
35	A	2729	G
35	A	2732	G

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Mol	Chain	Res	Type
35	A	2742	A
35	A	2744	C
35	A	2749	G
35	A	2778	U
35	A	2779	U
35	A	2786	U
35	A	2790	A
35	A	2791	G
35	A	2796	A
35	A	2797	C
35	A	2806	G
35	A	2810	U
35	A	2826	A
35	A	2827	G
35	A	2833	U
35	A	2837	U
35	A	2839	U
35	A	2853	C
35	A	2854	A
35	A	2865	G
35	A	2870	C
35	A	2887	G
35	A	2912	A
35	A	2913	U
35	A	2915	C
35	A	2926	A
35	A	2936	C
35	A	2938	G
35	A	2942	G
35	A	2950	C
35	A	2953	U
35	A	2957	A
35	A	2968	G
35	A	2972	A
35	A	2982	A
35	A	2985	G
35	A	3002	A
35	A	3009	U
35	A	3014	A
35	A	3015	C
35	A	3021	A
35	A	3022	G

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Mol	Chain	Res	Type
35	A	3023	G
35	A	3042	A
35	A	3056	A
35	A	3080	A
35	A	3082	U
35	A	3088	C
35	A	3093	A
35	A	3101	C
35	A	3104	A
35	A	3105	C
35	A	3106	C
35	A	3112	A
35	A	3115	A

All (35) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
3	B	10	G
35	A	89	A
35	A	97	U
35	A	284	G
35	A	299	G
35	A	302	U
35	A	316	U
35	A	357	U
35	A	445	U
35	A	641	U
35	A	643	G
35	A	974	G
35	A	980	C
35	A	981	U
35	A	1007	G
35	A	1010	U
35	A	1012	C
35	A	1084	U
35	A	1164	A
35	A	1185	A
35	A	1186	G
35	A	1253	C
35	A	1436	C
35	A	1730	U
35	A	2085	C

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Mol	Chain	Res	Type
35	A	2088	C
35	A	2094	G
35	A	2130	G
35	A	2163	U
35	A	2168	U
35	A	2169	G
35	A	2342	A
35	A	2350	G
35	A	2381	A
35	A	2698	C

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 413 ligands modelled in this entry, 411 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
36	GNP	6	801	-	29,34,34	1.60	7 (24%)	33,54,54	2.12	6 (18%)
36	GNP	5	801	-	29,34,34	1.59	7 (24%)	33,54,54	2.14	6 (18%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
36	GNP	6	801	-	-	3/14/38/38	0/3/3/3
36	GNP	5	801	-	-	4/14/38/38	0/3/3/3

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	6	801	GNP	PB-O3A	4.40	1.64	1.59
36	5	801	GNP	PB-O3A	4.26	1.64	1.59
36	6	801	GNP	C6-N1	3.14	1.38	1.33
36	6	801	GNP	PB-O1B	3.10	1.51	1.46
36	5	801	GNP	C6-N1	3.09	1.38	1.33
36	5	801	GNP	PB-O1B	3.04	1.51	1.46
36	5	801	GNP	PG-N3B	3.01	1.71	1.63
36	6	801	GNP	PG-N3B	2.90	1.70	1.63
36	5	801	GNP	PG-O1G	2.73	1.50	1.46
36	6	801	GNP	PG-O1G	2.67	1.50	1.46
36	5	801	GNP	PB-O2B	-2.22	1.50	1.56
36	6	801	GNP	PB-O2B	-2.16	1.50	1.56
36	6	801	GNP	C5-C6	2.08	1.44	1.41
36	5	801	GNP	C5-C6	2.07	1.44	1.41

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	5	801	GNP	C5-C6-N1	-8.43	111.91	123.43
36	6	801	GNP	C5-C6-N1	-8.42	111.92	123.43
36	5	801	GNP	C2-N1-C6	5.85	125.23	115.93
36	6	801	GNP	C2-N1-C6	5.82	125.17	115.93
36	6	801	GNP	PB-O3A-PA	-2.80	122.76	132.62
36	5	801	GNP	PB-O3A-PA	-2.77	122.86	132.62
36	5	801	GNP	N3-C2-N1	-2.77	123.53	127.22
36	6	801	GNP	N3-C2-N1	-2.76	123.55	127.22
36	5	801	GNP	C4-C5-C6	-2.57	118.35	120.80
36	6	801	GNP	C4-C5-C6	-2.54	118.37	120.80
36	5	801	GNP	C2-N3-C4	-2.17	112.87	115.36
36	6	801	GNP	C2-N3-C4	-2.12	112.93	115.36

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
36	5	801	GNP	C5'-O5'-PA-O3A

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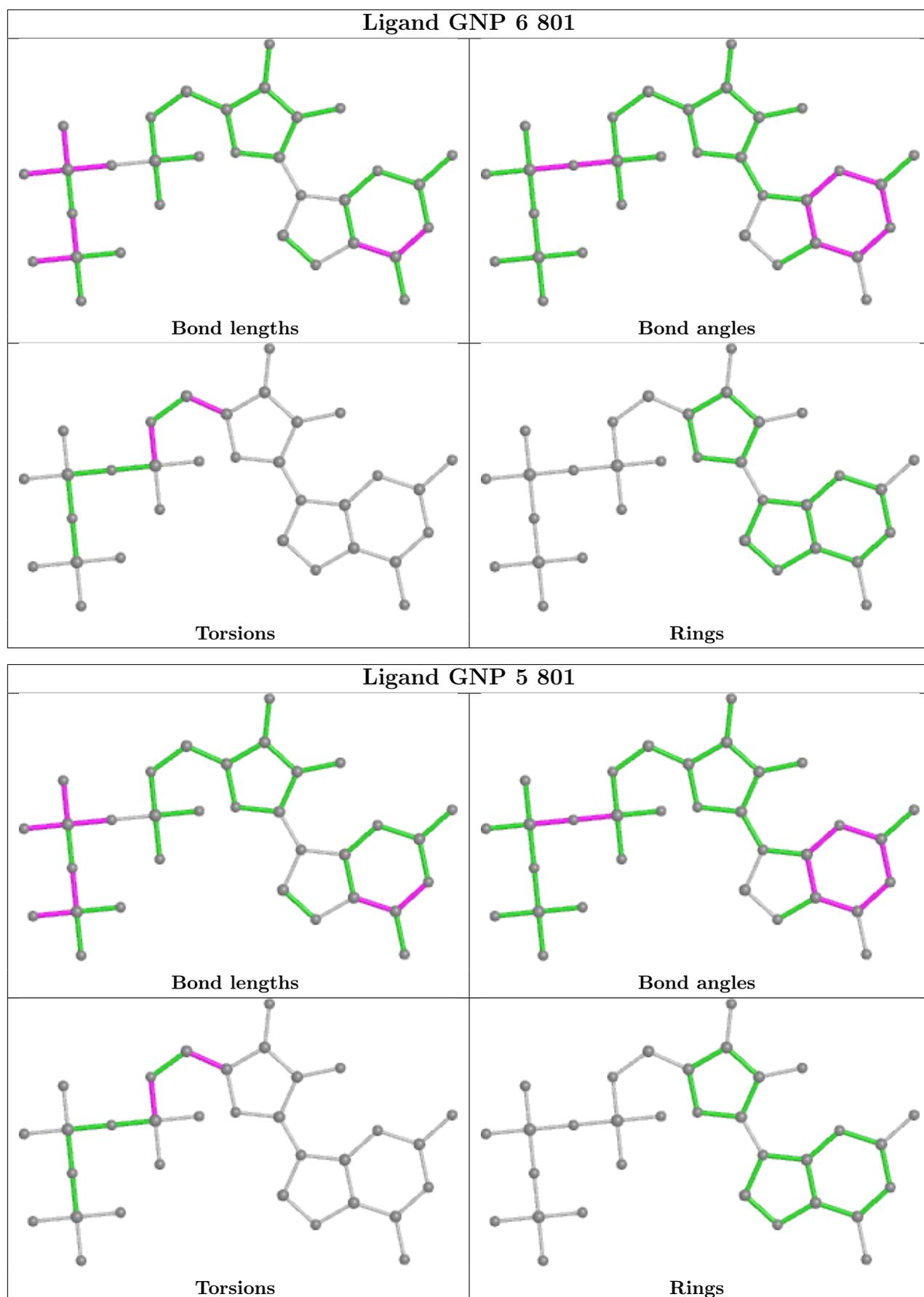
Mol	Chain	Res	Type	Atoms
36	5	801	GNP	C5'-O5'-PA-O1A
36	5	801	GNP	O4'-C4'-C5'-O5'
36	5	801	GNP	C3'-C4'-C5'-O5'
36	6	801	GNP	O4'-C4'-C5'-O5'
36	6	801	GNP	C3'-C4'-C5'-O5'
36	6	801	GNP	C5'-O5'-PA-O1A

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
36	6	801	GNP	2	0
36	5	801	GNP	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

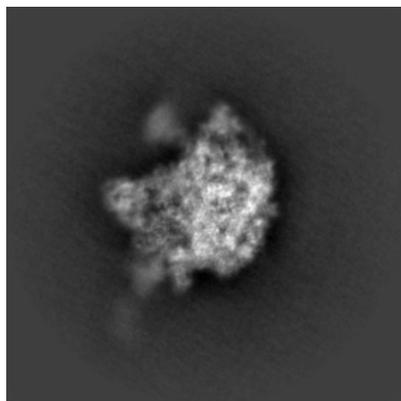
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-61960. These allow visual inspection of the internal detail of the map and identification of artifacts.

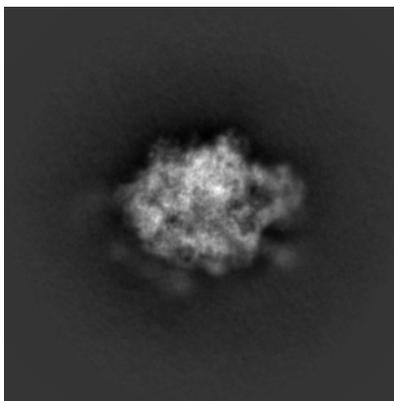
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

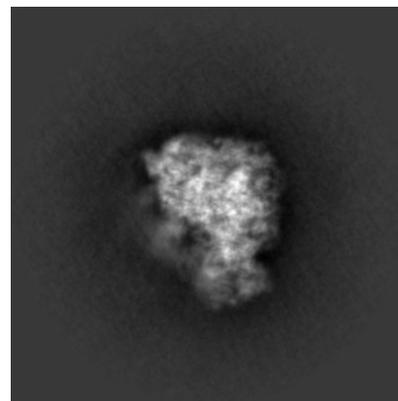
6.1.1 Primary map



X

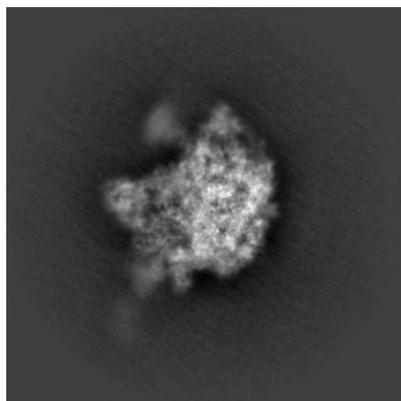


Y

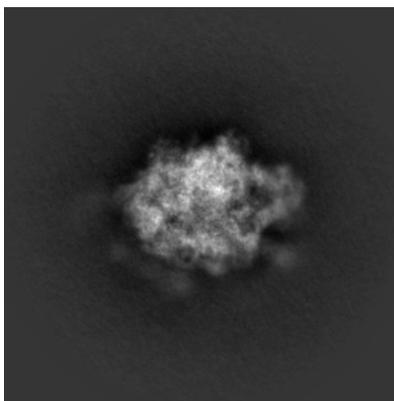


Z

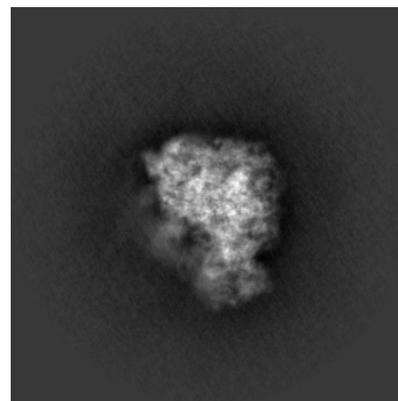
6.1.2 Raw map



X



Y

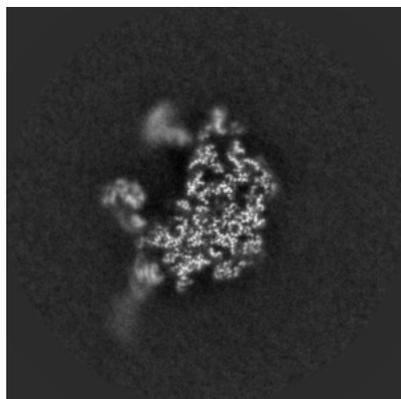


Z

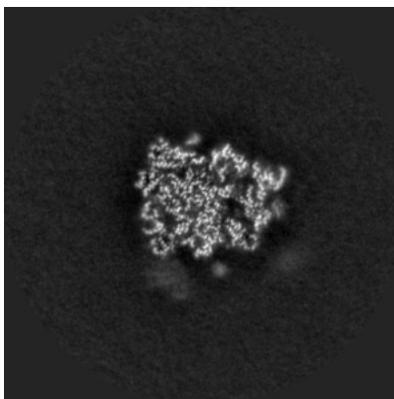
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

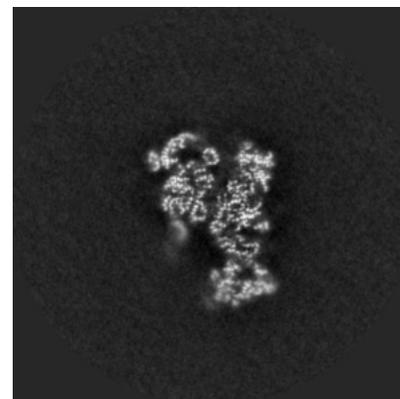
6.2.1 Primary map



X Index: 175

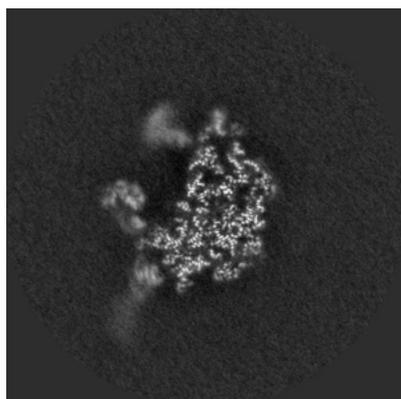


Y Index: 175

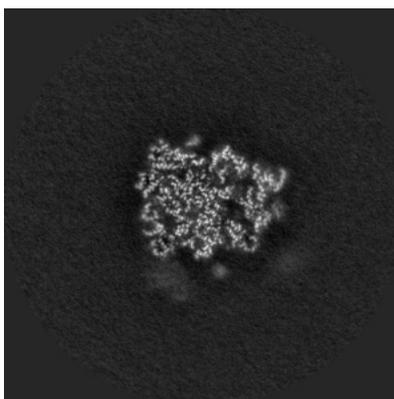


Z Index: 175

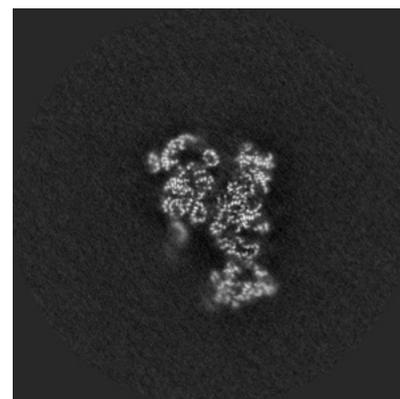
6.2.2 Raw map



X Index: 175



Y Index: 175

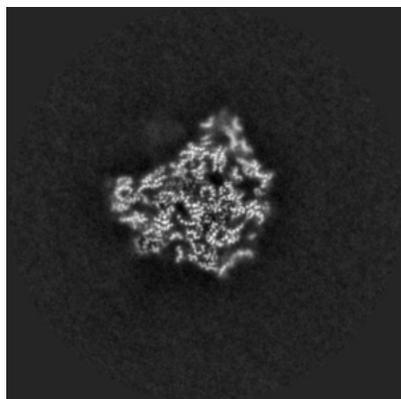


Z Index: 175

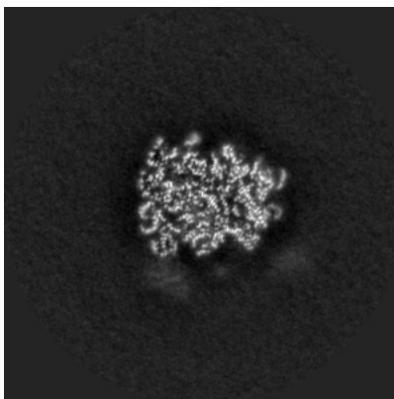
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

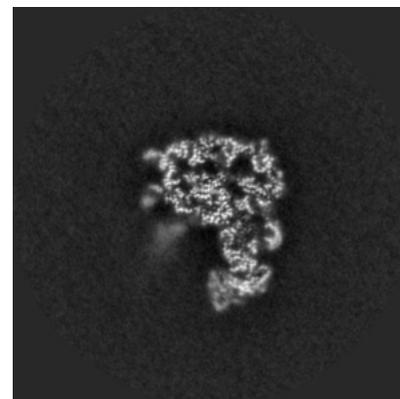
6.3.1 Primary map



X Index: 203

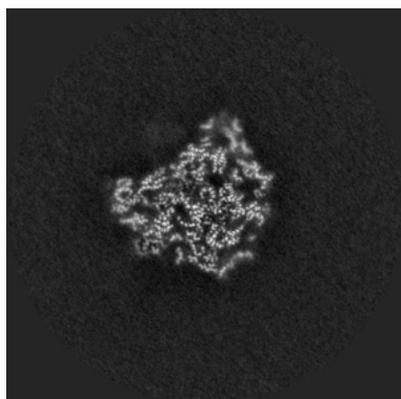


Y Index: 172

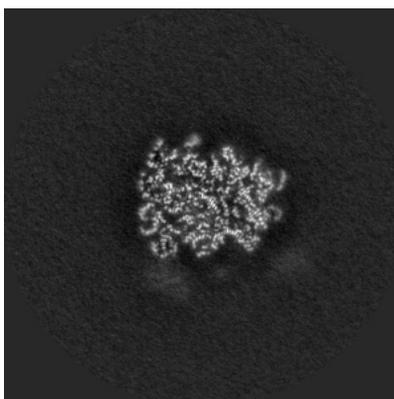


Z Index: 191

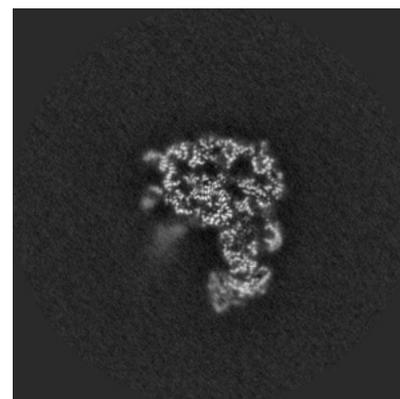
6.3.2 Raw map



X Index: 203



Y Index: 172

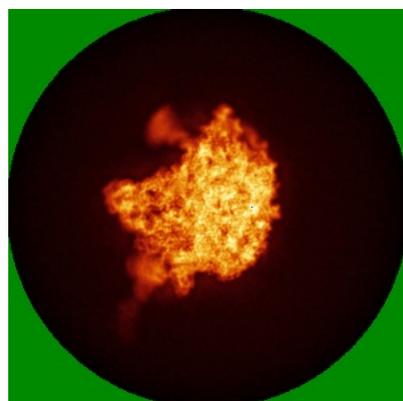


Z Index: 191

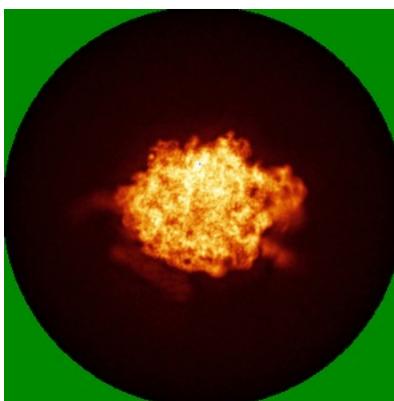
The images above show the largest variance slices of the map in three orthogonal directions.

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

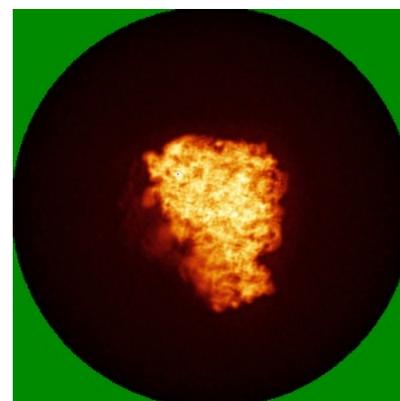
6.4.1 Primary map



X

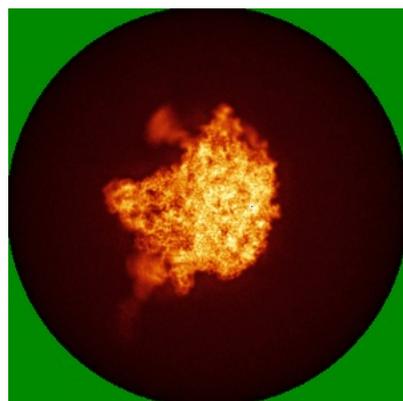


Y

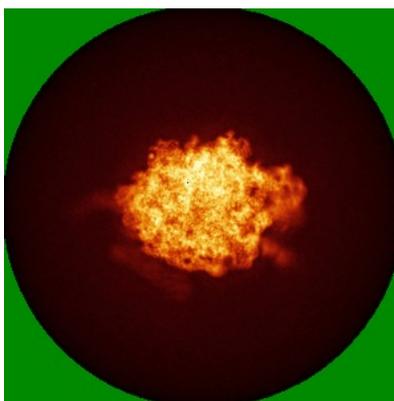


Z

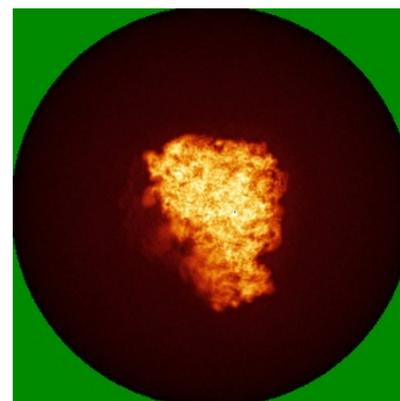
6.4.2 Raw map



X



Y

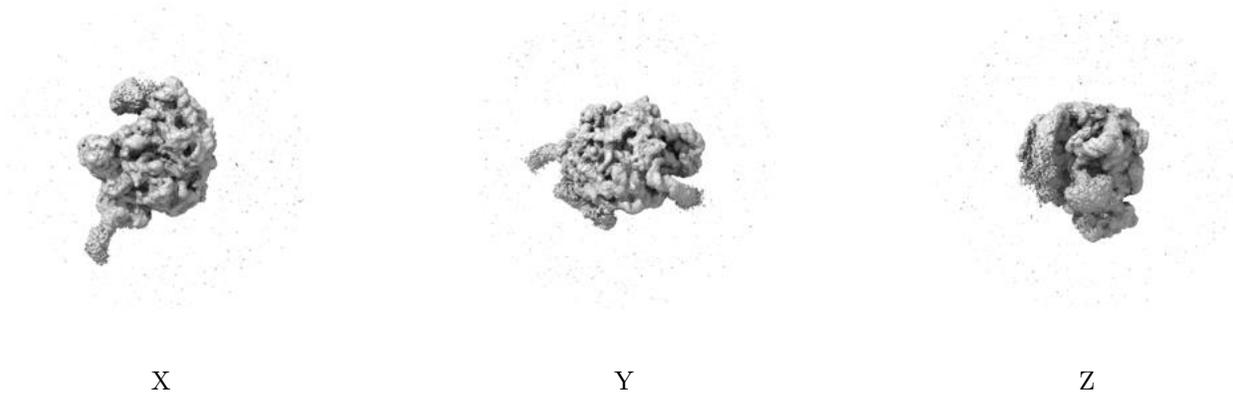


Z

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.

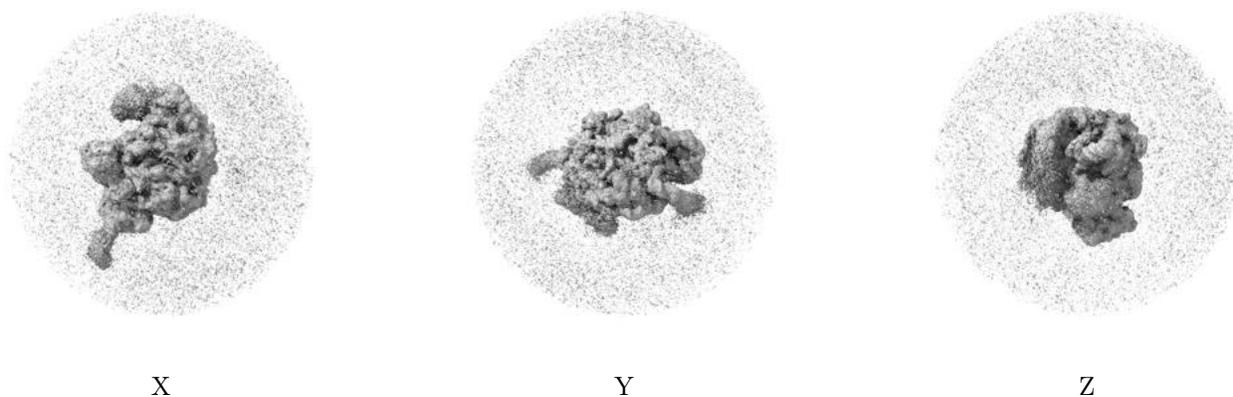
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.00715. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

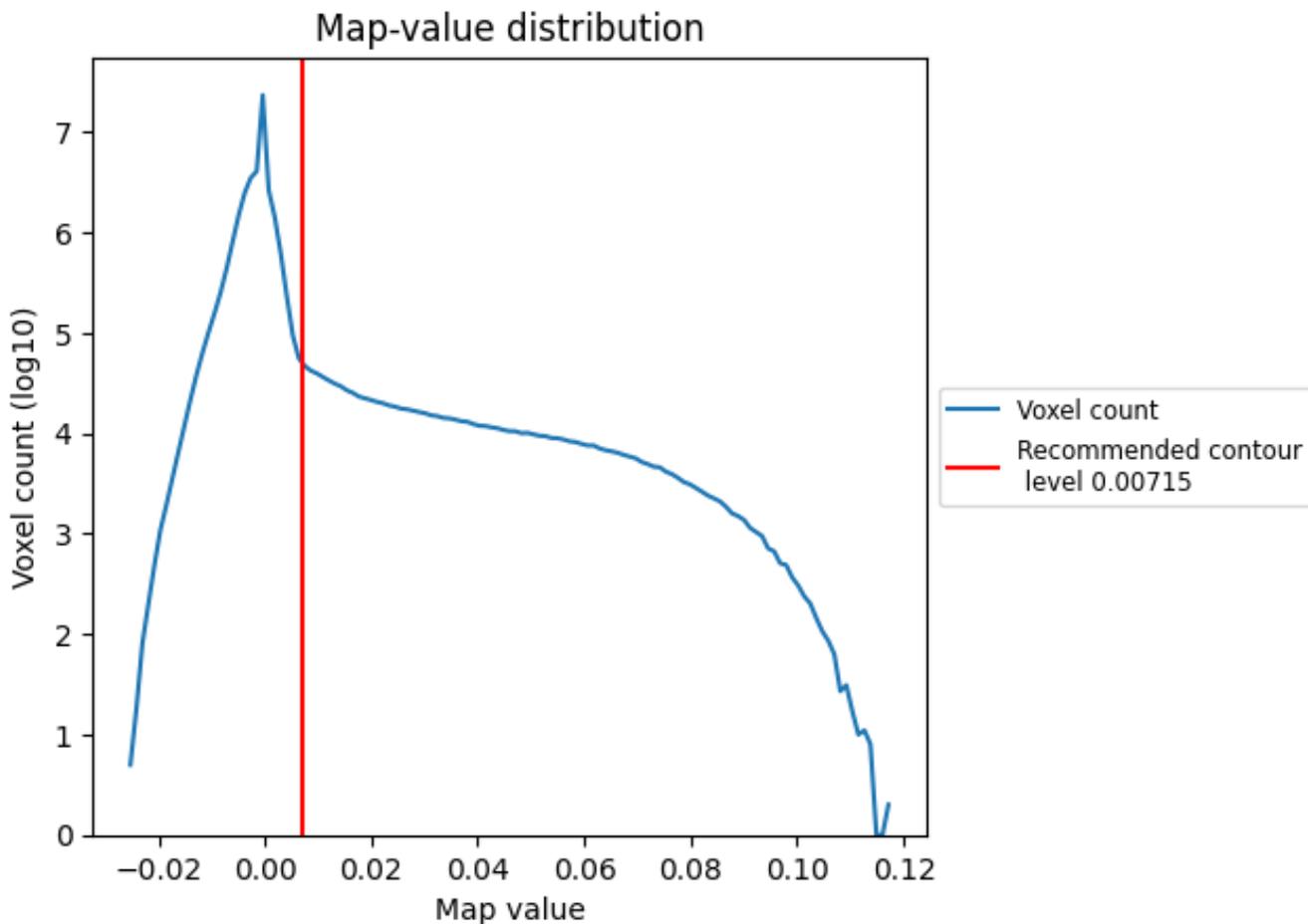
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

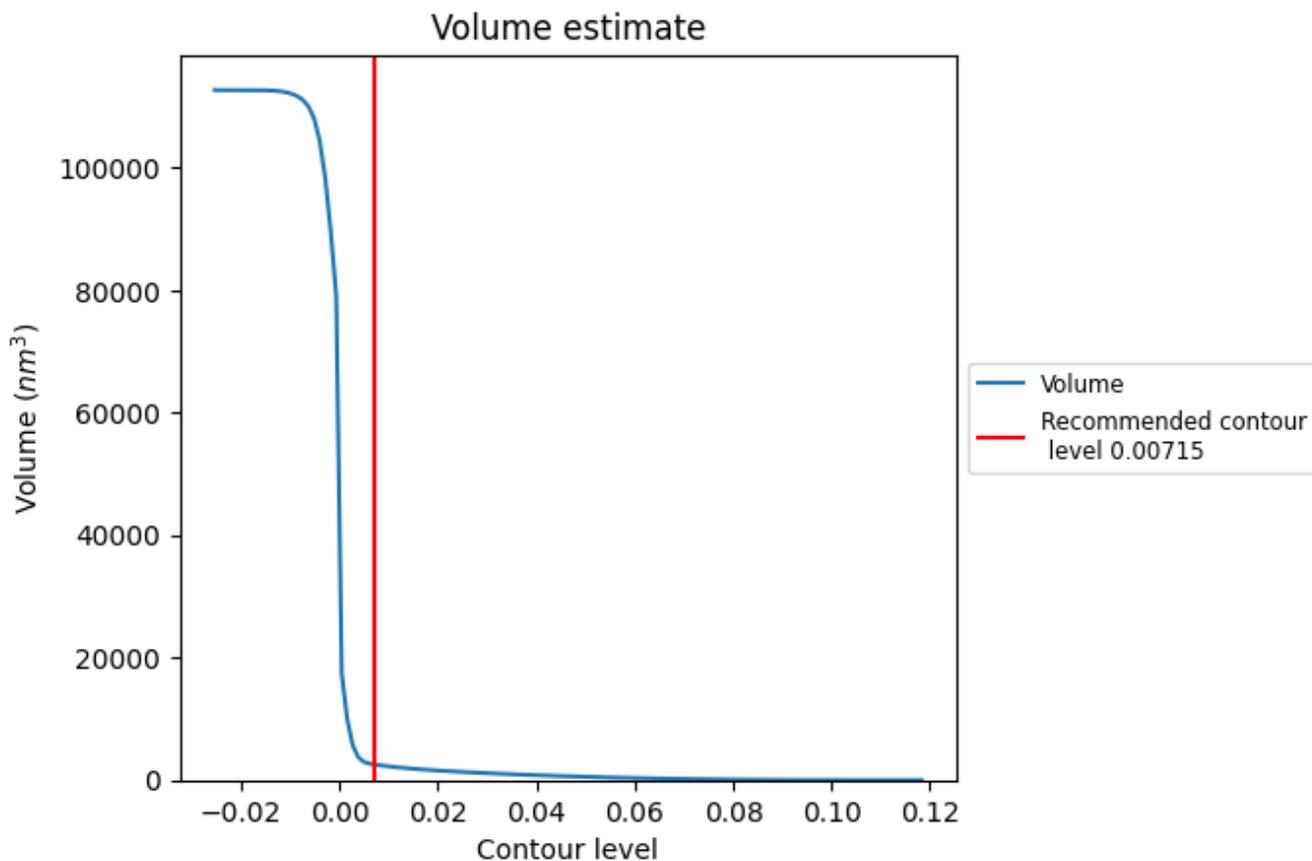
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

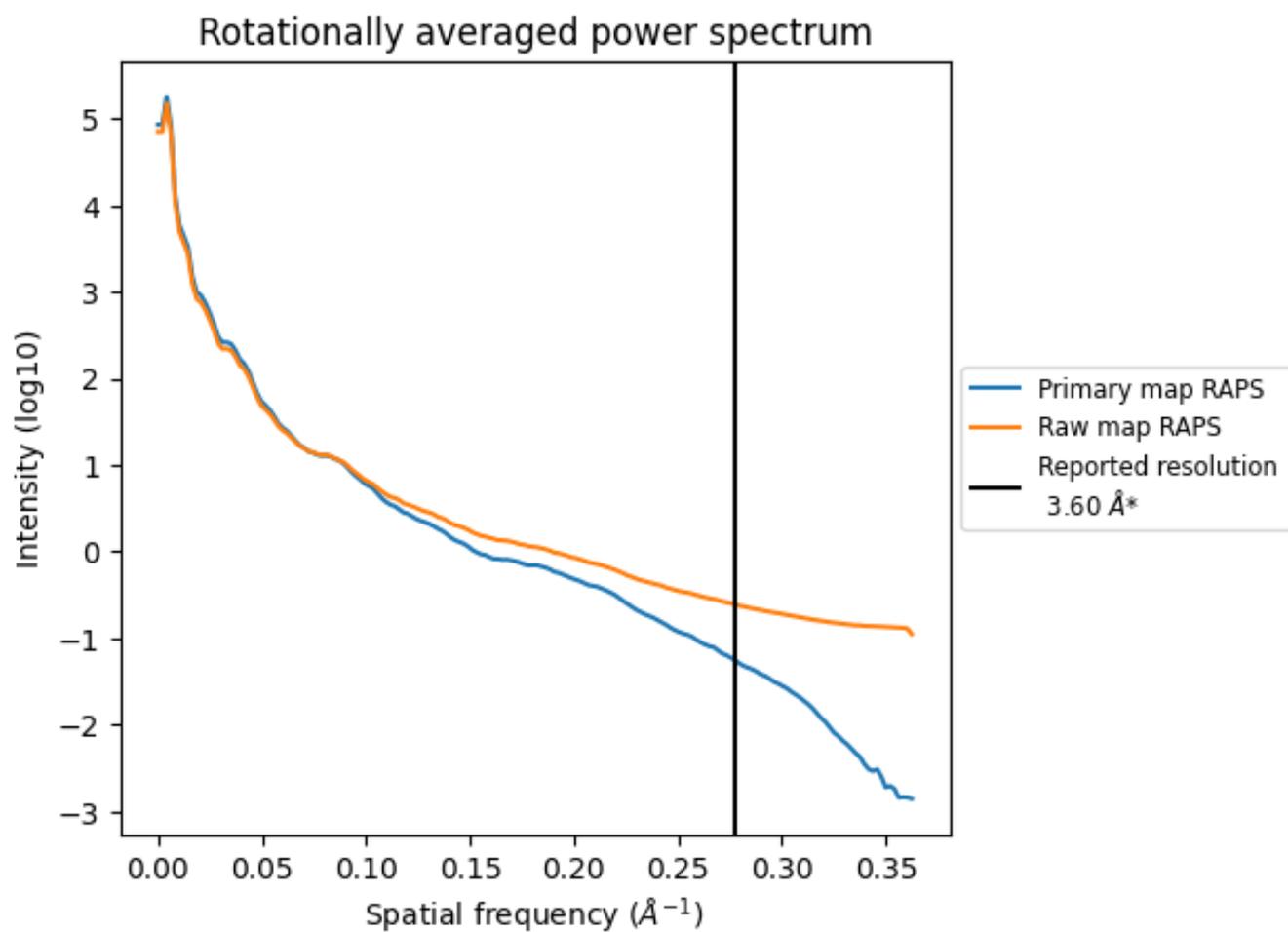
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2544 nm^3 ; this corresponds to an approximate mass of 2298 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](#)

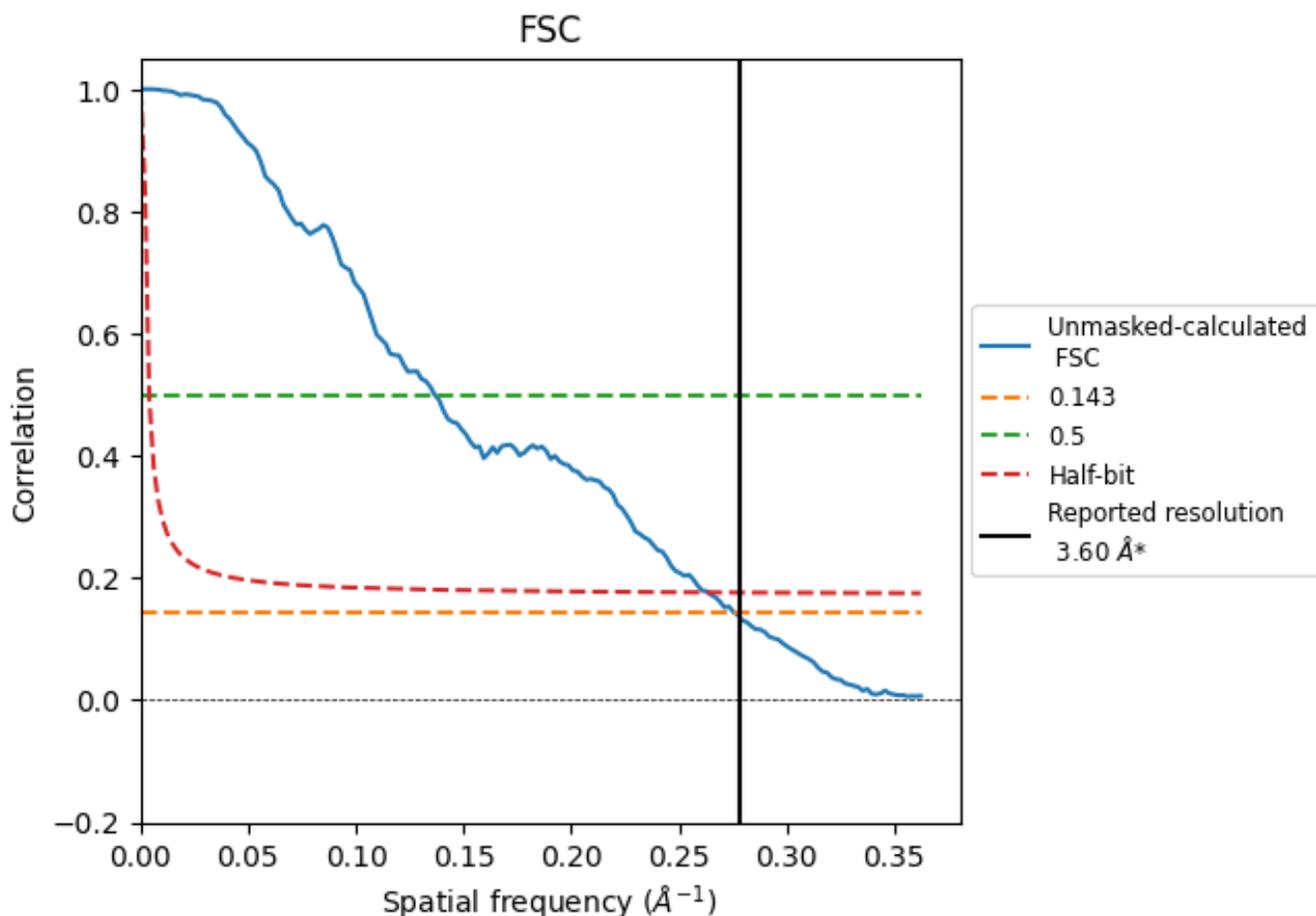


*Reported resolution corresponds to spatial frequency of 0.278 Å⁻¹

8 Fourier-Shell correlation [\(i\)](#)

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

8.1 FSC [\(i\)](#)



*Reported resolution corresponds to spatial frequency of 0.278 Å⁻¹

8.2 Resolution estimates [i](#)

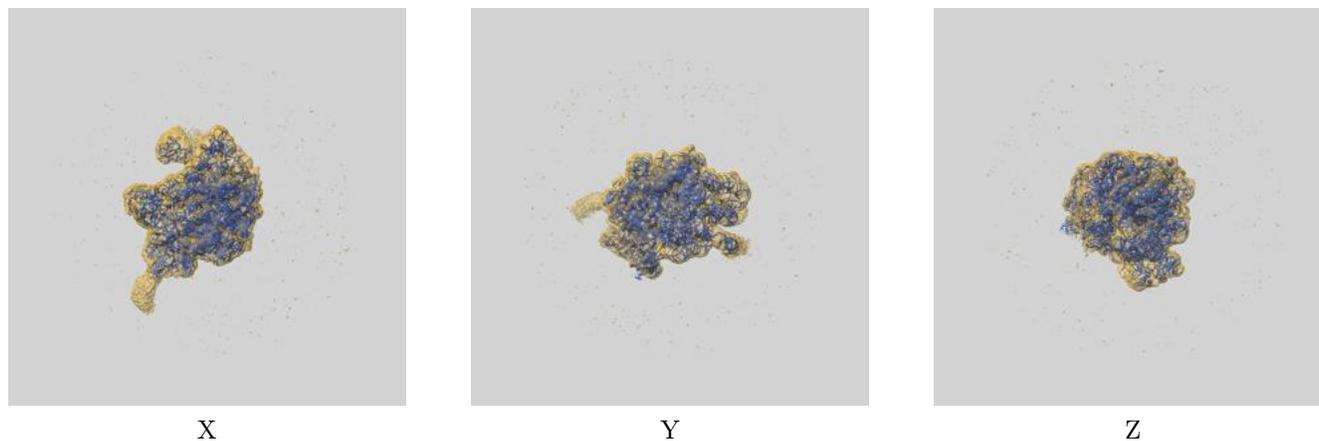
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.60	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.63	7.32	3.79

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

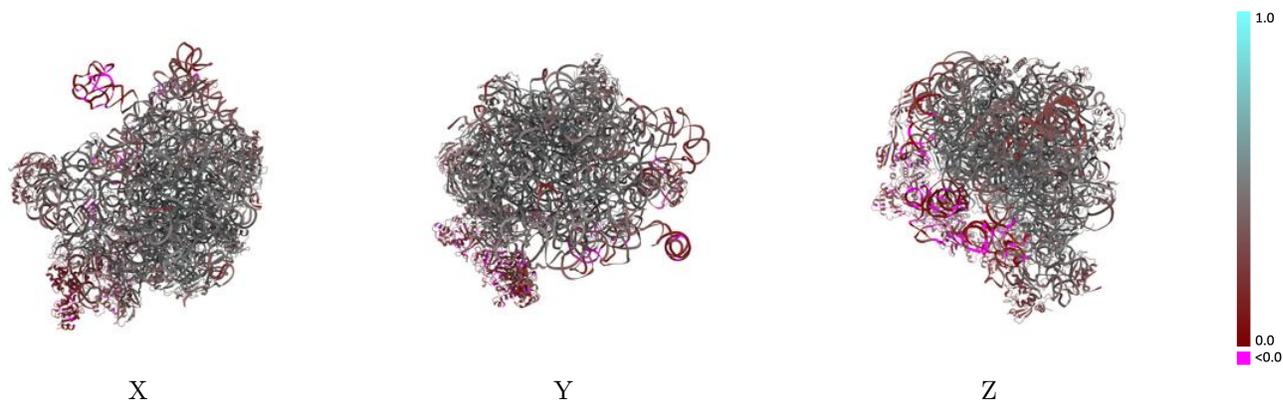
This section contains information regarding the fit between EMDB map EMD-61960 and PDB model 9K10. Per-residue inclusion information can be found in section 3 on page 12.

9.1 Map-model overlay [i](#)



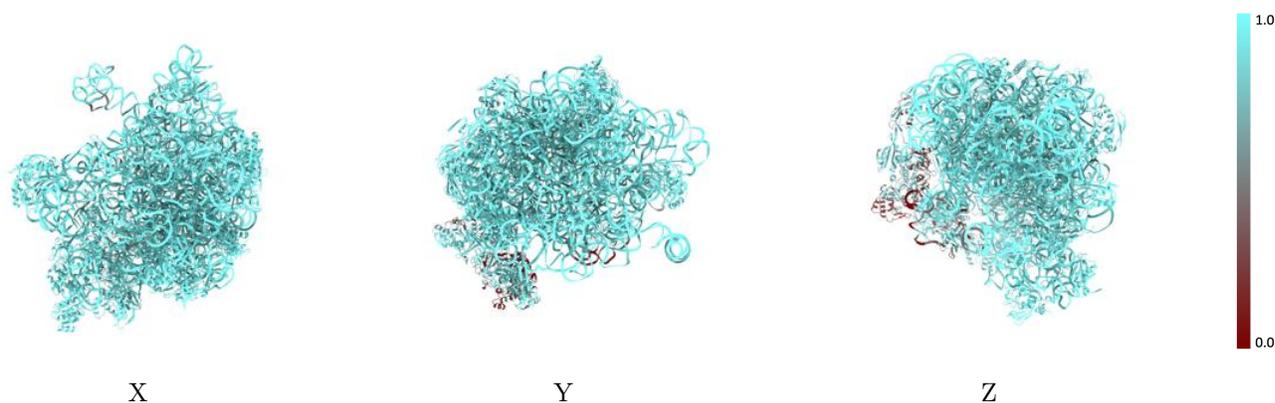
The images above show the 3D surface view of the map at the recommended contour level 0.00715 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



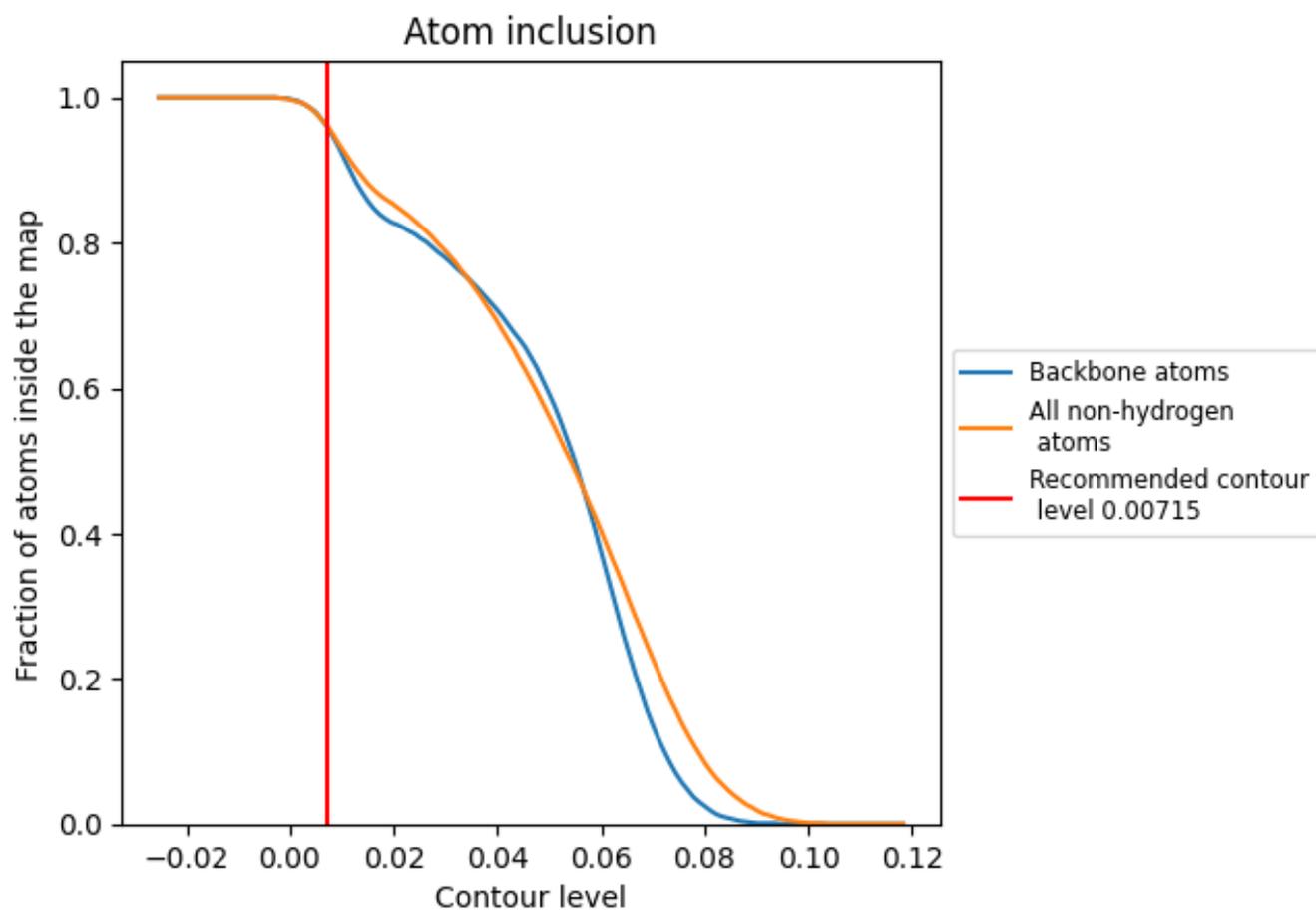
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.00715).

9.4 Atom inclusion [i](#)



At the recommended contour level, 96% of all backbone atoms, 96% 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 (0.00715) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9620	 0.3820
3	 0.9890	 0.4380
5	 0.8110	 0.1370
6	 0.6100	 0.1690
A	 0.9880	 0.4100
B	 0.9980	 0.4130
C	 0.9910	 0.4470
D	 1.0000	 0.4660
E	 0.9940	 0.4420
F	 0.9960	 0.3000
G	 0.9920	 0.3840
H	 0.9680	 0.3500
I	 0.9760	 0.1390
J	 0.9830	 0.1250
K	 0.9940	 0.4520
L	 0.9950	 0.4460
M	 0.9970	 0.4300
N	 0.9960	 0.4480
O	 0.9960	 0.4470
P	 0.9980	 0.3820
Q	 0.9810	 0.4250
R	 0.9970	 0.4460
S	 0.9990	 0.4760
T	 0.9950	 0.4590
U	 0.9910	 0.4310
V	 0.9930	 0.3930
W	 0.9890	 0.3860
X	 1.0000	 0.4690
Y	 0.9960	 0.4550
Z	 0.9980	 0.3900
a	 0.9940	 0.4370
b	 0.9930	 0.4610
c	 0.9870	 0.4290
d	 0.9940	 0.4630
e	 0.9580	 0.4030



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Chain	Atom inclusion	Q-score
f	 0.9970	 0.4590
g	 0.9890	 0.2600