



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 03:22 PM UTC

PDB ID : 5APO / pdb_00005apo
EMDB ID : EMD-3151
Title : Structure of the yeast 60S ribosomal subunit in complex with Arx1, Alb1 and C-terminally tagged Rei1
Authors : Greber, B.J.; Gerhardy, S.; Leitner, A.; Leibundgut, M.; Salem, M.; Boehringer, D.; Leulliot, N.; Aebersold, R.; Panse, V.G.; Ban, N.
Deposited on : 2015-09-17
Resolution : 3.41 Å(reported)

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

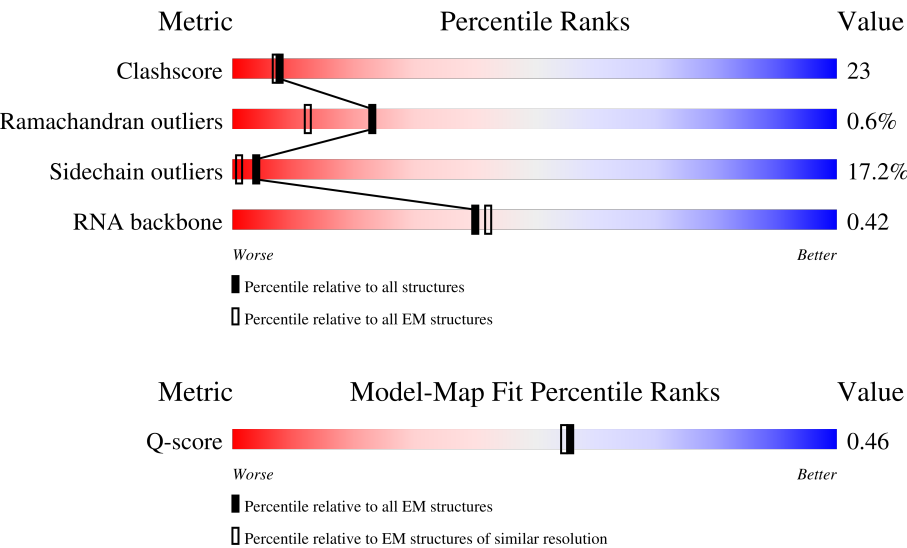
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.41 Å.

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



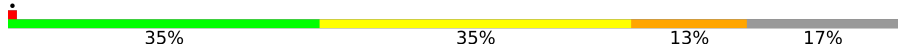
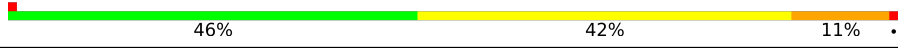
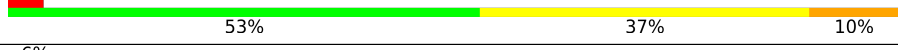
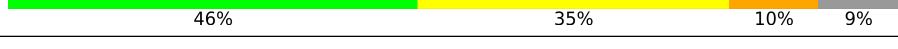
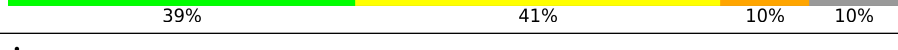
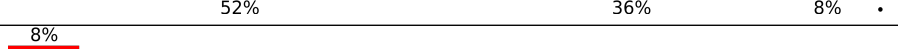
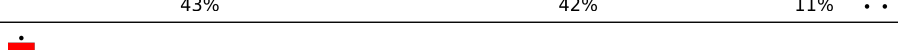
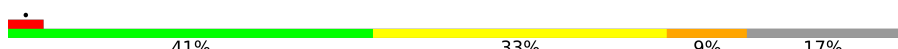
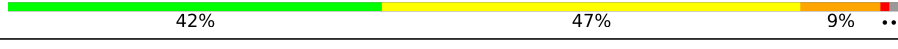
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	14717 (2.90 - 3.90)

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	5	3396	5% 40% 38% 13% 8%
2	7	121	43% 50% 7%
3	8	158	48% 36% 16%

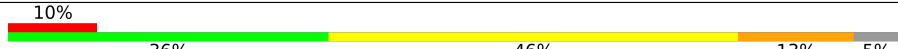
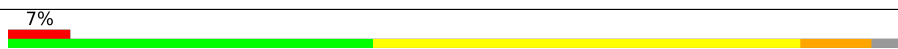
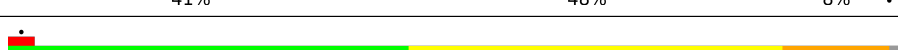
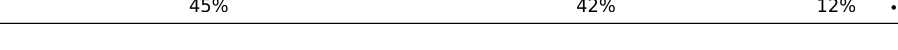
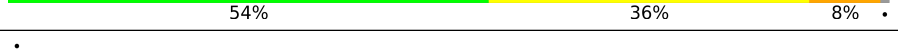
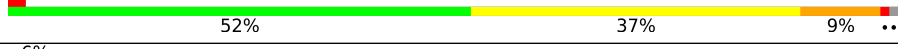
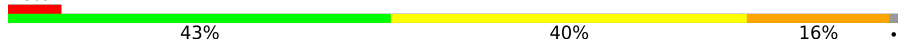
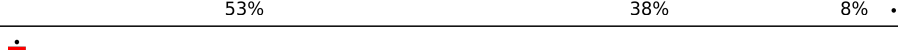
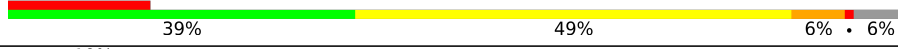
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
4	A	254	
5	B	387	
6	C	362	
7	D	297	
8	E	176	
9	F	244	
10	G	256	
11	H	191	
12	I	221	
13	J	174	
14	L	199	
15	M	138	
16	N	204	
17	O	199	
18	P	184	
19	Q	186	
20	R	189	
21	S	172	
22	T	160	
23	U	121	
24	V	137	
25	W	155	
26	X	142	
27	Y	127	
28	Z	136	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
29	a	149	
30	b	59	
31	c	105	
32	d	113	
33	e	130	
34	f	107	
35	g	121	
36	h	120	
37	i	100	
38	j	88	
39	k	78	
40	l	51	
41	m	128	
42	o	106	
43	p	92	
44	q	312	
45	x	616	
46	y	401	
47	z	95	

2 Entry composition

There are 49 unique types of molecules in this entry. The entry contains 129386 atoms, of which 3 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	5	3112	Total	C	N	O	P	0	0
			66537	29736	11996	21694	3111		

- Molecule 2 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	7	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 3 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	8	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 4 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	A	212	Total	C	N	O	S	0	0
			1630	1021	325	283	1		

- Molecule 5 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	B	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 6 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	C	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 7 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	294	Total	C	N	O	S	0	0
			2359	1489	412	456	2		

- Molecule 8 is a protein called 60S RIBOSOMAL PROTEIN EL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	175	Total	C	N	O	S	0	0
			1356	878	242	235	1		

- Molecule 9 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	223	Total	C	N	O	S	0	0
			1791	1155	325	310	1		

- Molecule 10 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	231	Total	C	N	O	S	0	0
			1763	1130	316	314	3		

- Molecule 11 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 12 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	I	213	Total	C	N	O	S	0	0
			1722	1094	325	297	6		

- Molecule 13 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 14 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	L	194	Total	C	N	O	0	0
			1548	965	316	267		

- Molecule 15 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	M	137	Total	C	N	O	S	0	0
			1059	678	200	179	2		

- Molecule 16 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	N	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 17 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	O	197	Total	C	N	O	S	0	0
			1555	1003	289	262	1		

- Molecule 18 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	P	183	Total	C	N	O	0	0
			1442	896	287	259		

- Molecule 19 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Q	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 20 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	R	156	Total	C	N	O	0	0
			1258	781	265	212		

- Molecule 21 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	S	171	Total	C	N	O	S	0	0
			1437	925	266	243	3		

- Molecule 22 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	T	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 23 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	U	102	Total	C	N	O		0	0
			808	524	132	152			

- Molecule 24 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	V	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 25 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	W	63	Total	C	N	O	S	0	0
			521	336	102	82	1		

- Molecule 26 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	X	120	Total	C	N	O	S	0	0
			959	617	168	172	2		

- Molecule 27 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Y	126	Total	C	N	O		0	0
			993	625	192	176			

- Molecule 28 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	Z	135	Total	C	N	O	0	0
			1092	710	202	180		

- Molecule 29 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	a	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 30 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	b	58	Total	C	N	O	0	0
			462	289	100	73		

- Molecule 31 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	c	100	Total	C	N	O	S	0	0
			767	492	128	146	1		

- Molecule 32 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	d	109	Total	C	N	O	S	0	0
			883	559	167	156	1		

- Molecule 33 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	e	129	Total	C	N	O	S	0	0
			1034	655	207	171	1		

- Molecule 34 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	f	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 35 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	g	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 36 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	h	119	Total	C	N	O	S	0	0
			965	612	185	167	1		

- Molecule 37 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	i	99	Total	C	N	O	S	0	0
			770	481	156	131	2		

- Molecule 38 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	j	87	Total	C	N	O	S	0	0
			681	414	148	114	5		

- Molecule 39 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	k	77	Total	C	N	O	0	0
			608	388	114	106		

- Molecule 40 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	l	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 41 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	m	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 42 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	o	105	Total	C	N	O	S	0	0
			847	534	170	138	5		

- Molecule 43 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	p	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 44 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	q	120	Total	C	N	O	S	0	0
			962	618	169	172	3		

- Molecule 45 is a protein called Probable metalloprotease ARX1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	x	579	Total	C	N	O	S	0	0
			4477	2823	772	867	15		

There are 23 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
x	-22	MET	-	initiating methionine	UNP Q03862
x	-21	GLY	-	expression tag	UNP Q03862
x	-20	SER	-	expression tag	UNP Q03862
x	-19	SER	-	expression tag	UNP Q03862
x	-18	HIS	-	expression tag	UNP Q03862
x	-17	HIS	-	expression tag	UNP Q03862
x	-16	HIS	-	expression tag	UNP Q03862
x	-15	HIS	-	expression tag	UNP Q03862
x	-14	HIS	-	expression tag	UNP Q03862
x	-13	HIS	-	expression tag	UNP Q03862
x	-12	SER	-	expression tag	UNP Q03862
x	-11	SER	-	expression tag	UNP Q03862
x	-10	GLY	-	expression tag	UNP Q03862
x	-9	LEU	-	expression tag	UNP Q03862
x	-8	VAL	-	expression tag	UNP Q03862
x	-7	PRO	-	expression tag	UNP Q03862
x	-6	ARG	-	expression tag	UNP Q03862
x	-5	GLY	-	expression tag	UNP Q03862
x	-4	SER	-	expression tag	UNP Q03862

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
x	-3	HIS	-	expression tag	UNP Q03862
x	-2	MET	-	expression tag	UNP Q03862
x	-1	LEU	-	expression tag	UNP Q03862
x	0	GLU	-	expression tag	UNP Q03862

- Molecule 46 is a protein called CYTOPLASMIC 60S SUBUNIT BIOGENESIS FACTOR REI1.

Mol	Chain	Residues	Atoms						AltConf	Trace
46	y	217	Total	C	H	N	O	S	0	0
			1788	1131	3	324	322	8		

- Molecule 47 is a protein called ALB1.

Mol	Chain	Residues	Atoms				AltConf	Trace
47	z	85	Total	C	N	O	0	0
			510	340	85	85		

- Molecule 48 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
48	5	259	Total	Mg	0
			259	259	
48	7	6	Total	Mg	0
			6	6	
48	8	7	Total	Mg	0
			7	7	
48	B	2	Total	Mg	0
			2	2	
48	C	1	Total	Mg	0
			1	1	
48	N	1	Total	Mg	0
			1	1	
48	P	1	Total	Mg	0
			1	1	
48	R	1	Total	Mg	0
			1	1	
48	V	1	Total	Mg	0
			1	1	
48	y	1	Total	Mg	0
			1	1	

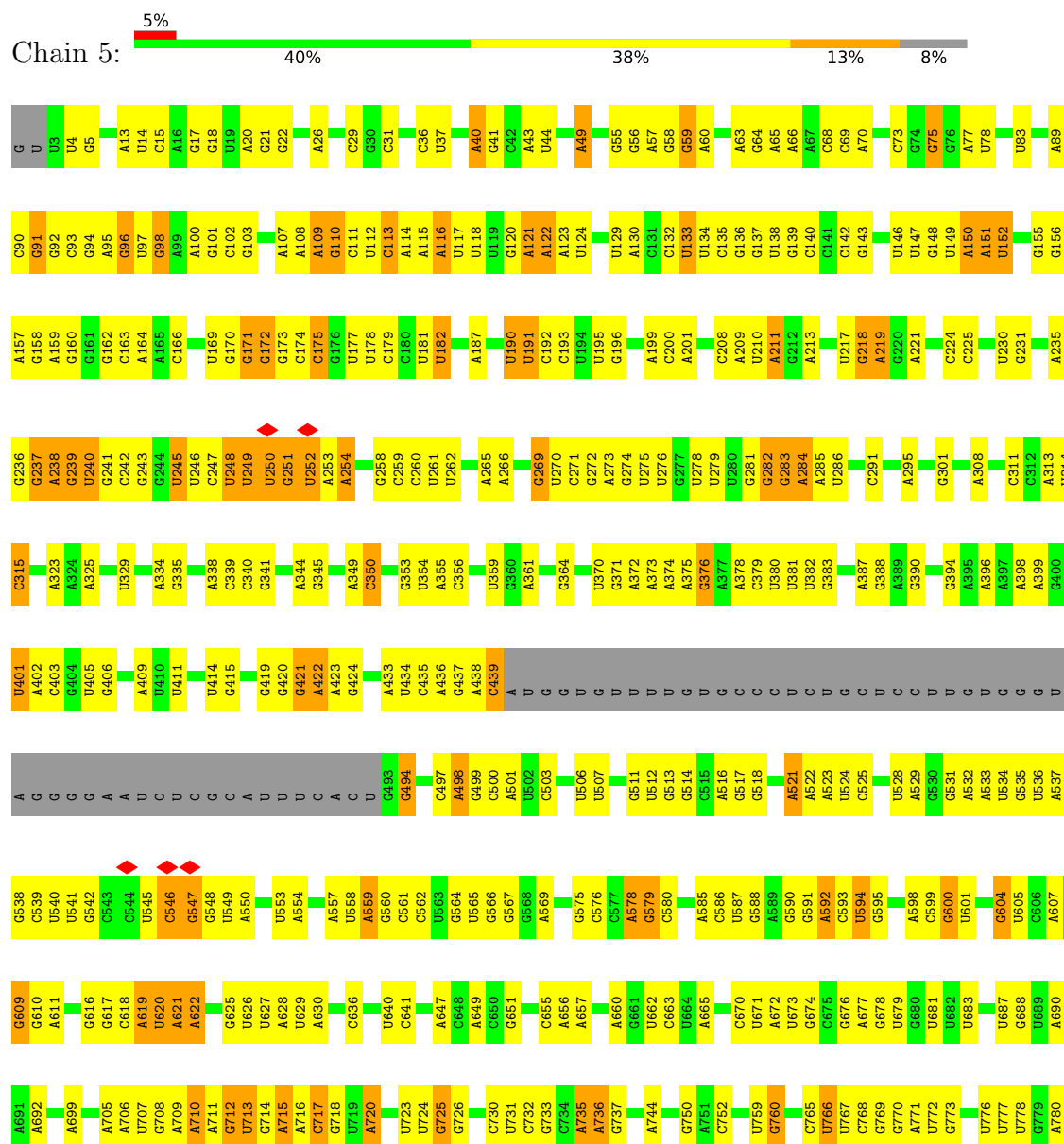
- Molecule 49 is ZINC ION (CCD ID: ZN) (formula: Zn).

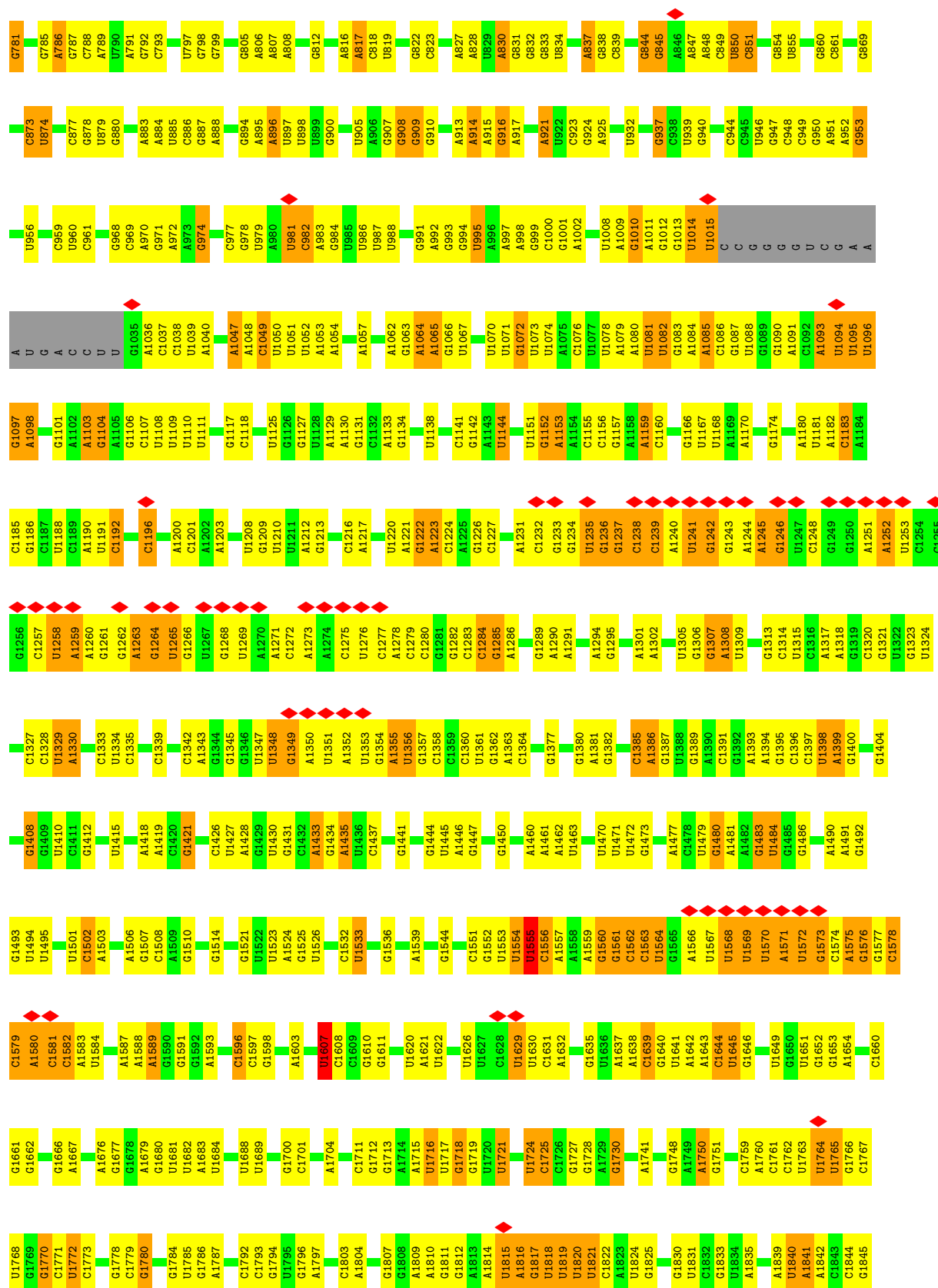
Mol	Chain	Residues	Atoms		AltConf
49	j	1	Total 1	Zn 1	0
49	m	1	Total 1	Zn 1	0
49	o	1	Total 1	Zn 1	0
49	p	1	Total 1	Zn 1	0
49	y	2	Total 2	Zn 2	0

3 Residue-property plots

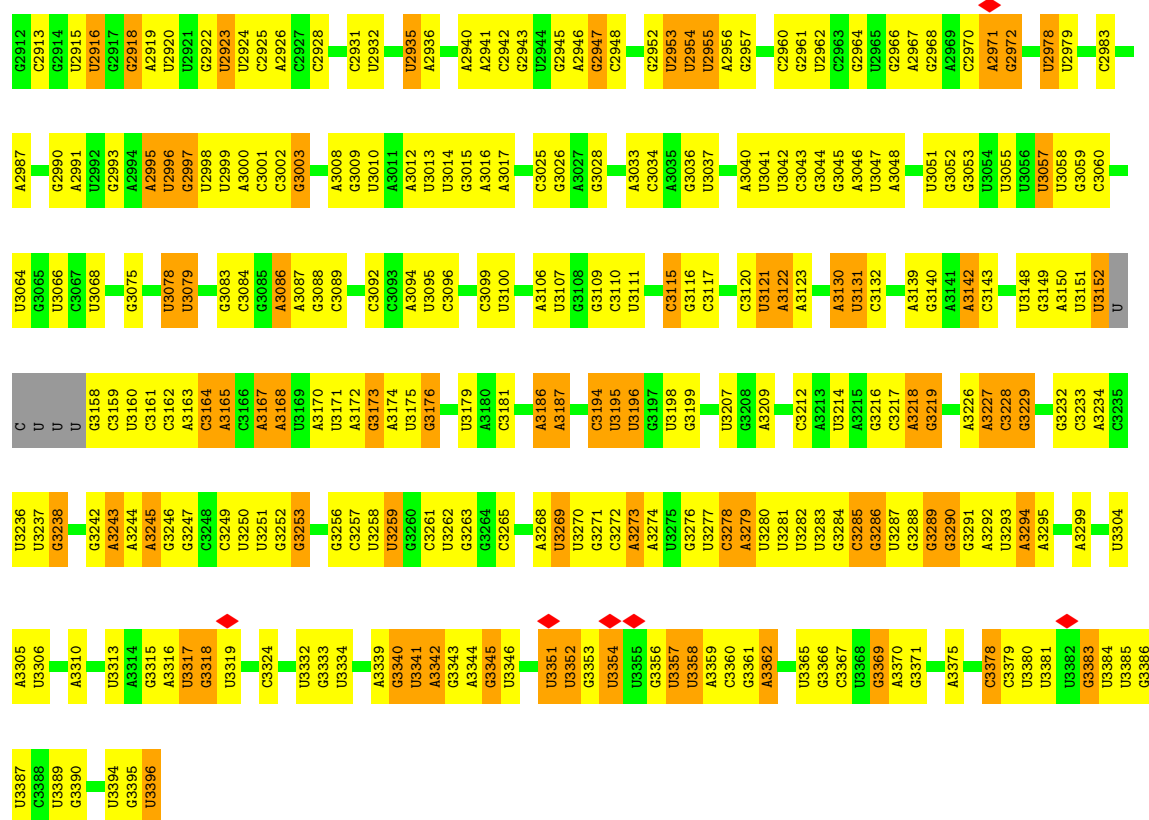
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: 25S ribosomal RNA

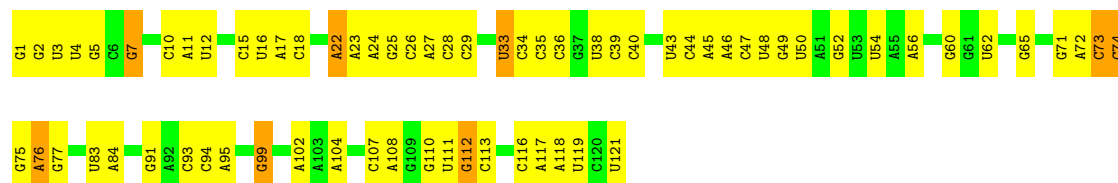




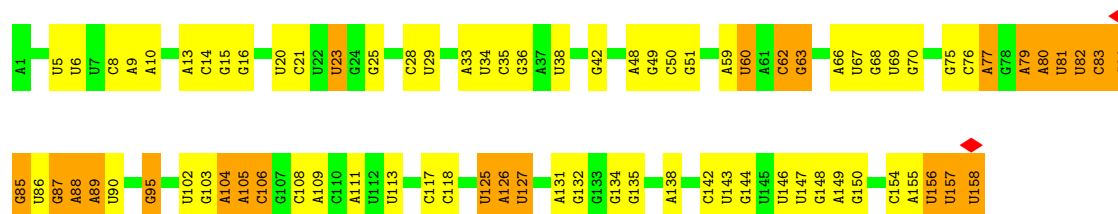
U2835	A2746	A2657	G2573	C	A	G2376	G2283	A2223	A2145	PSP	A2019	G1949	C1846
C2836	A2747	G2661	G2574	U	G	G2377	C2284	A2224	C2146	PSP	A2020	U1950	A1849
A2837	A2748	G2662	G2575	U2509	A	C2378	C2285	A2225	U2147	PSP	A2021	G1952	A1850
A2838	G2749	G2663	G2576	A2511	G	G	U2286	U2226	U2148	PSP	A2022	G1953	
G2839	G2750	G2664	G2577	C2512	G	U2388	G2287	C2227	C2156	PSP	A2023	Y5P	U1862
G2840	U2752	U2665	G2578	U2513	U	C2389	G2288	A2228	C2157	PSP	A2024	Y5P	G1863
G2841	G2753	C2666	C2582	U2514	U	C2390	U2289	A2229	U2158	PSP	A2025	Y5P	G1864
U2842		A2667	C2583	A2515	U	G2391	C2290	A2230	C2163	PSP		Y5P	A1865
U2843		U2668	C2584	A2516	G	C2392	U2291	C2231	A2164	PSP		Y5P	C1866
C2844		G2669	G2585	A2519	A	G2393	U2292	C2232		PSP		Y5P	
A2845	G2761			A2520	A	G2394	C2293	A2233	A2168	PSP		Y5P	C1870
U2846		A2674	G2589	U2521	U		U2294	A2234	G2169	PSP		Y5P	
A2847	C2764	C2675	A2590	G2522	A	A2397	U2295	G2234		PSP		Y5P	A1874
	C2765	A2676	A2591	A2523	A	A2398	A2296	G2235	U2175	PSP		Y5P	G1876
G2850	U2766	G2677	G2592	A2524	A	A2399	U2297	G2236	U2176	PSP		Y5P	U1877
A2853	U2767	A2678	G2593	G2525	U	G2400	U2298	G2237	G2177	PSP		Y5P	G1878
U2854	U2768	A2679	C2594	G2526	U	A2401	A2299	C2238	A2178	PSP		Y5P	U1879
U2855	A2769	A2680	G2594	G2527	G	A2402		G2239	G2179	PSP		Y5P	A1880
G2856	U2770	U2681	U2599	G2528	G	A2403	C2304	G2240	G2180	PSP		Y5P	
	U2771	C2682	C2600	C2530	G	A2404	G2305	G2241	C2181	PSP		Y5P	A1887
C2867	C2772	U2683	A2601	C2531	A		C2306	U2241		PSP		Y5P	
	C2773	C2684	G2602	U2532	G		U2307	A2242	U2186	PSP		Y5P	A1891
		C2685	G2603	G2533	C	C2407	C2308	G2243	G2187	PSP		Y5P	A1892
G2871	G2777	A2689	U2604	G2534	U	G2408	C2309	A2244		PSP		Y5P	A1893
A2872	G2778	G2690	G2605	A2535	U	G2409	A2243			PSP		Y5P	U1894
U2873	A2779	A2691	G2606	A2536	C	U2410	G2245	G2247	U2190	PSP		Y5P	A1895
U2874			G2607	A2537	G	U2411	G2246	G	U2191	PSP		Y5P	
U2875			G2608	U2538	G	U2412	G2247	G	U2192	PSP		Y5P	G1898
	A2790	A2694	G2609	C2539	C	U2413	A2248	A	U2193	PSP		Y5P	A1899
G2794	G2794	U2701	U2610	G2540	C	U2414	G2249	G	U2194	PSP		Y5P	A1900
U2880	U2795	A2702	U2611	U2541	C	G2415	G	G	C2101	PSP		Y5P	A1901
C2881	G2796	G2703	U2612	U2542	C	U2416	G2250	A	U2102	PSP		Y5P	G1906
U2883	C2797	A2704	G2613	U2543	G	U2417	G2251	U	U2103	PSP		Y5P	C1907
C2884	C2798	G2705	U2614	U2544	A	U2418	G2252	A	G2110	PSP		Y5P	A1908
C2885	A2799	A2706	G2615	U2545	A	U2419	G2253	C	G2111	PSP		Y5P	A1913
U2886	G2800	U2712	C2616	U2546	U	U2420	G2254	U	U2112	PSP		Y5P	G1914
A2887	A2801	U2713	U2617	C2547	A	C2422	A2317	A	G2113	PSP		Y5P	A1915
U2888	U2714	G2714	U2618	A2548	A	U2423	G2322	G	G2114	PSP		Y5P	U1916
A2890	A2802		A2626	C2549	A	A2424	G2323	A	G2115	PSP		Y5P	C1917
U2891	U2717	U2718	U2629	U2550	U	U2425	A2332	U	G2116	PSP		Y5P	C1918
G2895	G2803	U2719	C2630	G2551	C	U2426	C2333	C	C2118	PSP		Y5P	G1928
C2896	A2804	U2720	U2631	U2552	C	U2427	U2334	A	A2119	PSP		Y5P	G1929
	U2721	U2722	G2632	C2553	C	U2428	G2335	U	G2121	PSP		Y5P	A1930
A2897	C2807	U2723	U2633	U2554	U	A2430	U2336	A	G2122	PSP		Y5P	G1935
G2898	A2808	C2726	U2634	U2555	C	C2431	C2337	G		PSP		Y5P	
C2899	U2809	A2727	A2636	G2556	U	A2432	C2338	A	U2205	PSP		Y5P	
A2900	C2810	G2728	A2637	A2557	C	U2433	C2339	C	G2206	PSP		Y5P	
G2901	G2811	U2729	A2642	C2558	U	U2434	A2341	U	A2207	PSP		Y5P	
	U2812	U2730	A2643	U2559	U	U2435	U2342	C	U2208	PSP		Y5P	
U2904	G2813	U2731	U2644	C2560	U	G2436	A2357	C	U2209	PSP		Y5P	
G2905	U2814	A2736	A2645	U2561	A	U2437	A2358	U	G2210	PSP		Y5P	
C2906	U2815	C2737	A2649	A2562	U	A2438	A2359	A	U2211	PSP		Y5P	
G2907	U2816	U2740	U2650	C2563	U	A2439	A2360	U	G2212	PSP		Y5P	
C2908	U2817	G2741	U2651	C2564	A	G	A2361	U	A2213	PSP		Y5P	
U2909	A2818	C2742	U2652	U2565	G	A	C2362	A2270	A2214	PSP		Y5P	
A2910	U2819		U2653	C2566	U	A	A2363	A2271	G2215	PSP		Y5P	
A2911	G2824		C2654	C2567	U	A	C2364	G2272	G2216	PSP		Y5P	
	G2828		A2656	C2568	U	A	C2365	U2273	U2217	PSP		Y5P	
				U2570	U	A		U2274	G2218	PSP		Y5P	
				U2571	U	A		A2275	A2219	PSP		Y5P	
				C2572	U	A		G2276	A2220	PSP		Y5P	
					U	A		C2277	G2221	PSP		Y5P	
					U	A		C2278	G2222	PSP		Y5P	
					U	A		A2279	A2223	PSP		Y5P	
					U	A		A2280	G2224	PSP		Y5P	
					U	A		A2281	G2225	PSP		Y5P	
					U	A		U2282	G2226	PSP		Y5P	



• Molecule 2: 5S ribosomal RNA

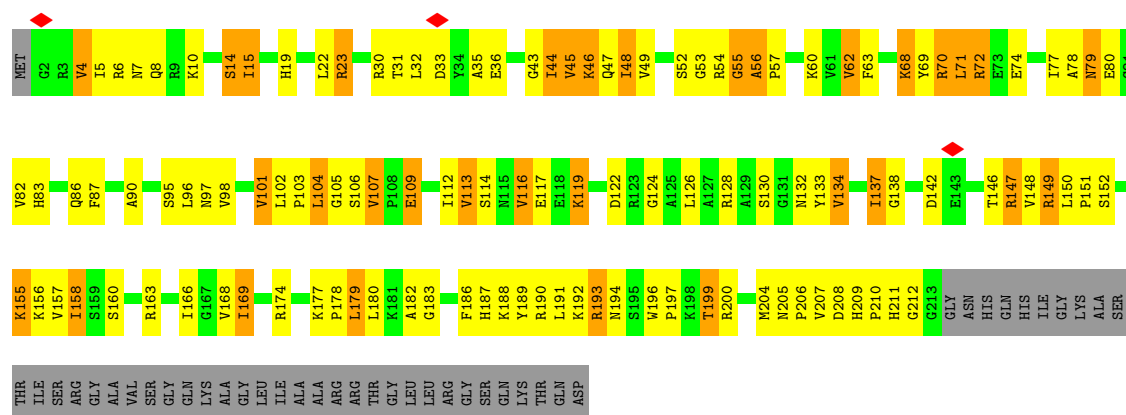


• Molecule 3: 5.8S ribosomal RNA

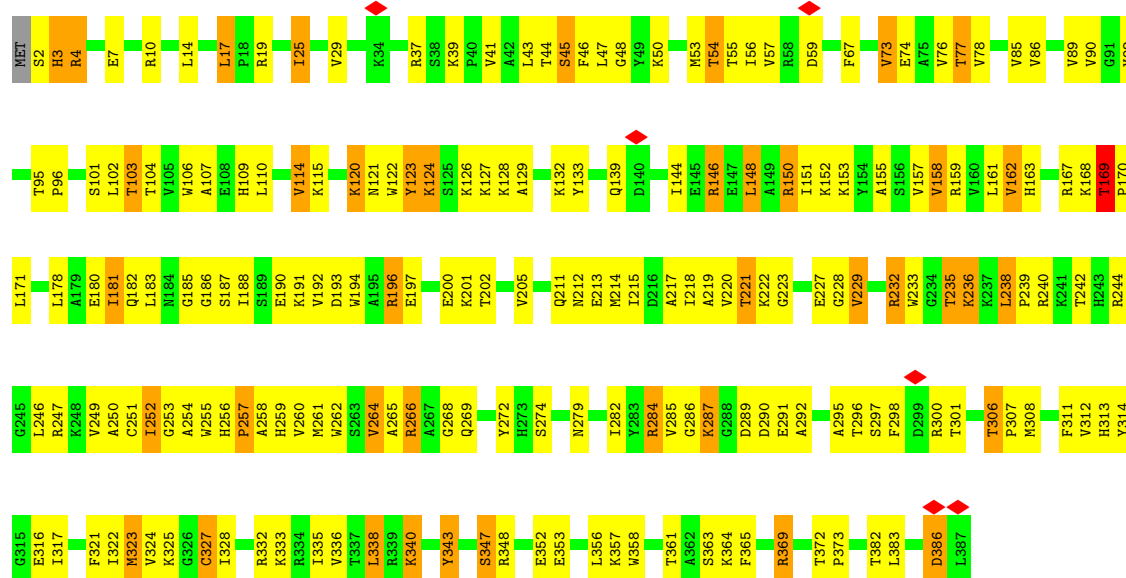


• Molecule 4: 60S ribosomal protein L2-A

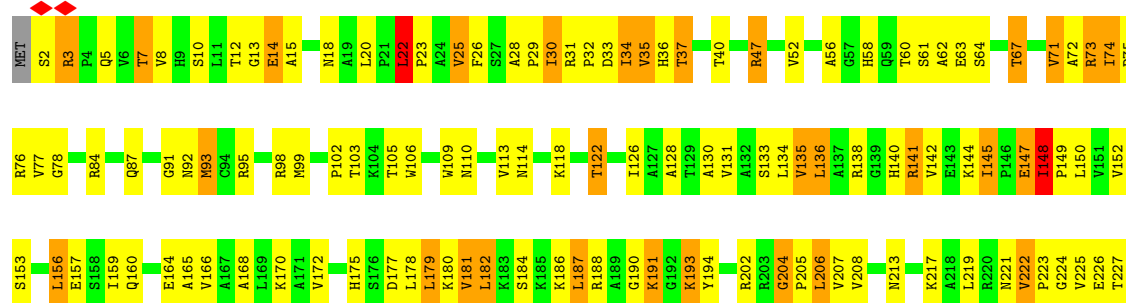


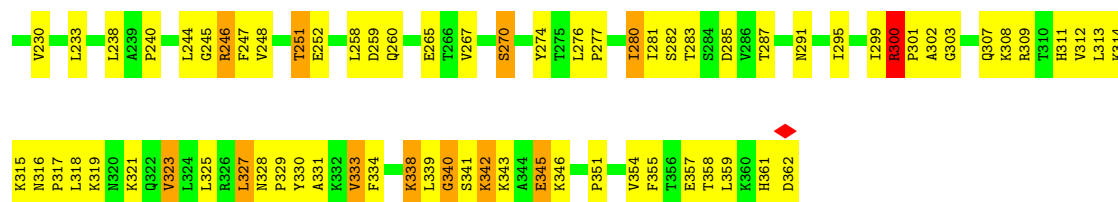


• Molecule 5: 60S ribosomal protein L3

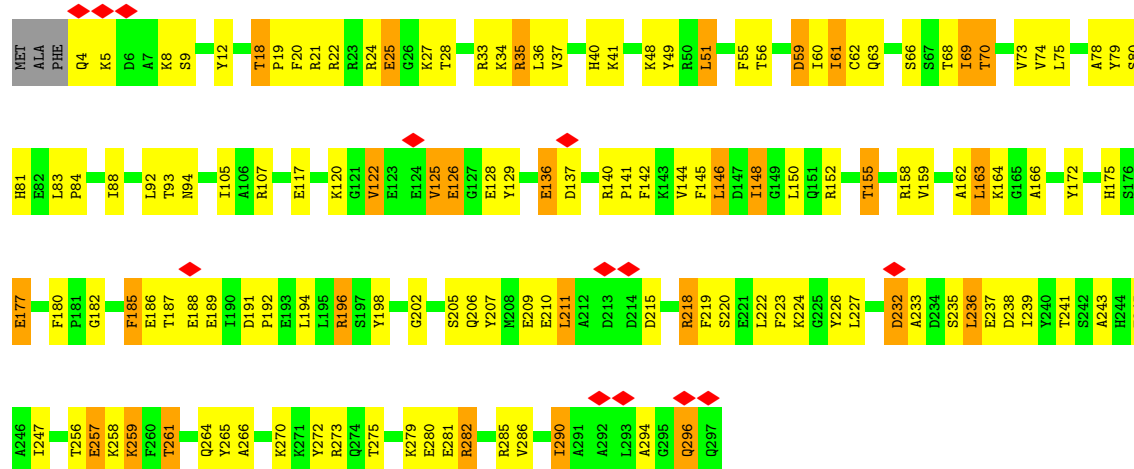


• Molecule 6: 60S ribosomal protein L4-A

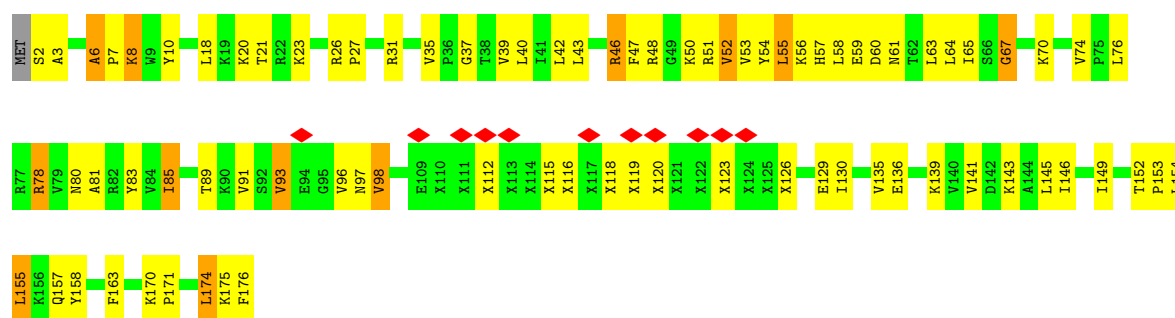




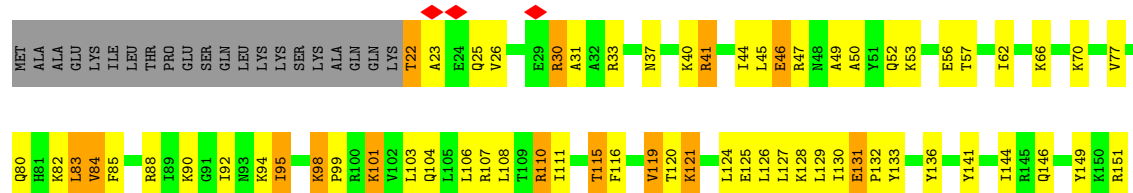
• Molecule 7: 60S ribosomal protein L5

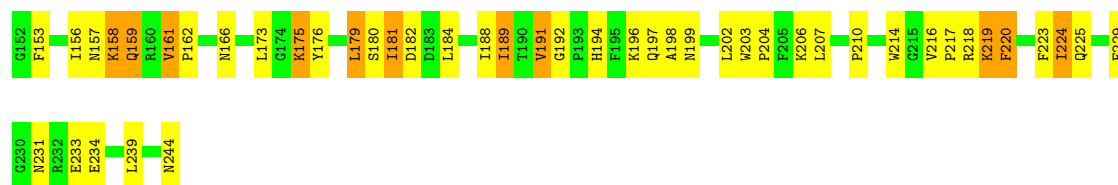


• Molecule 8: 60S RIBOSOMAL PROTEIN EL6

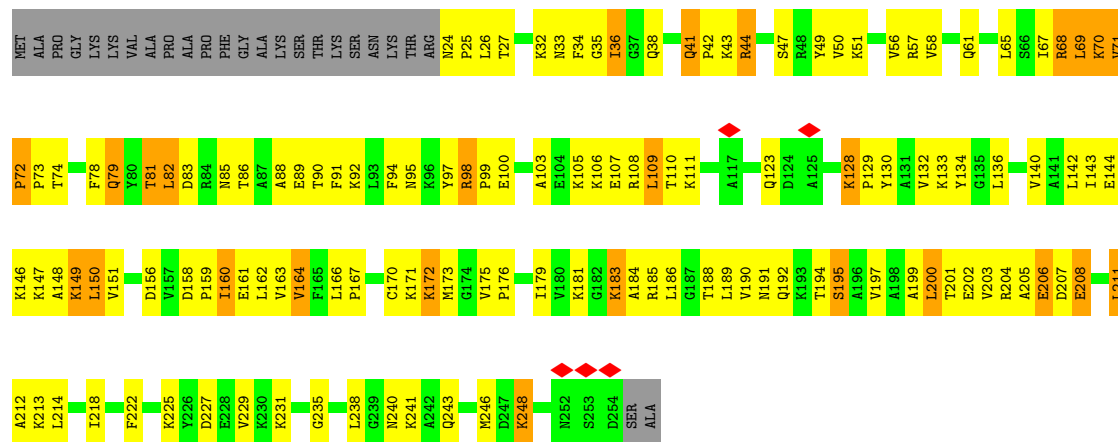


• Molecule 9: 60S ribosomal protein L7-A

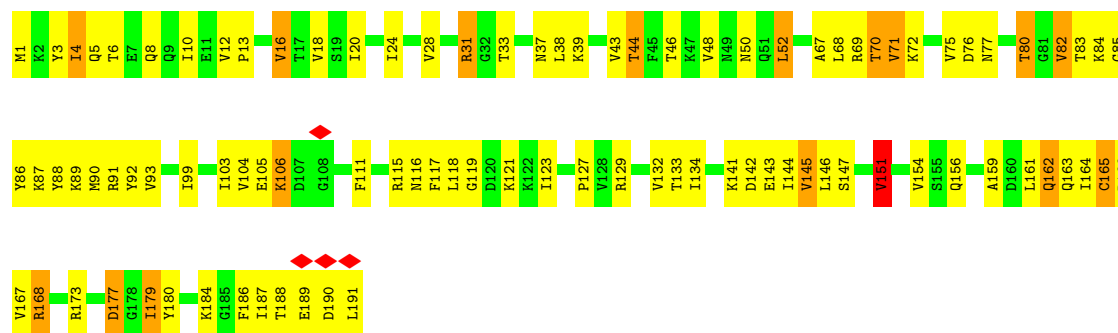




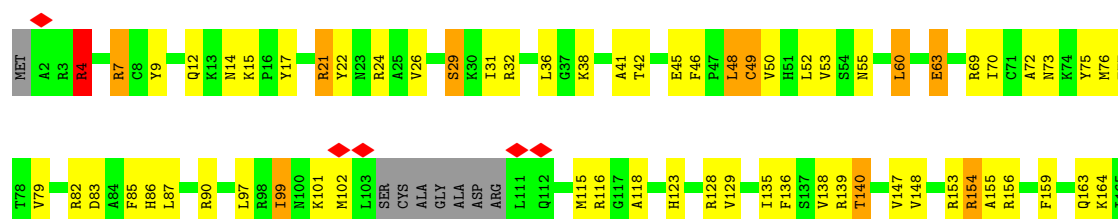
• Molecule 10: 60S ribosomal protein L8-A

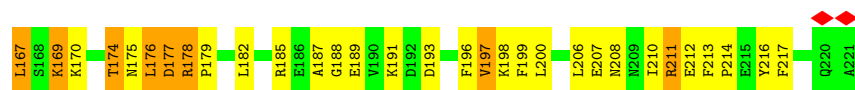


• Molecule 11: 60S ribosomal protein L9-A

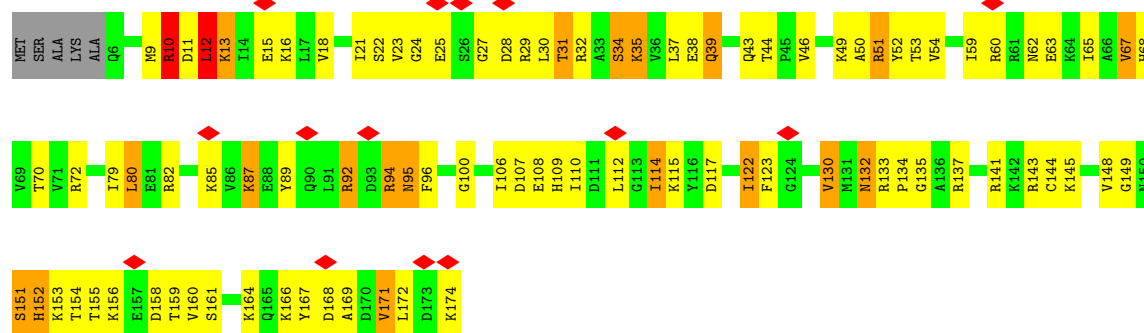
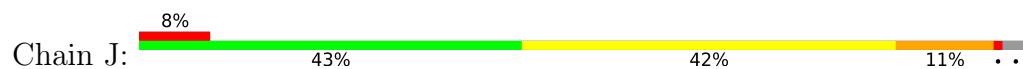


• Molecule 12: 60S ribosomal protein L10

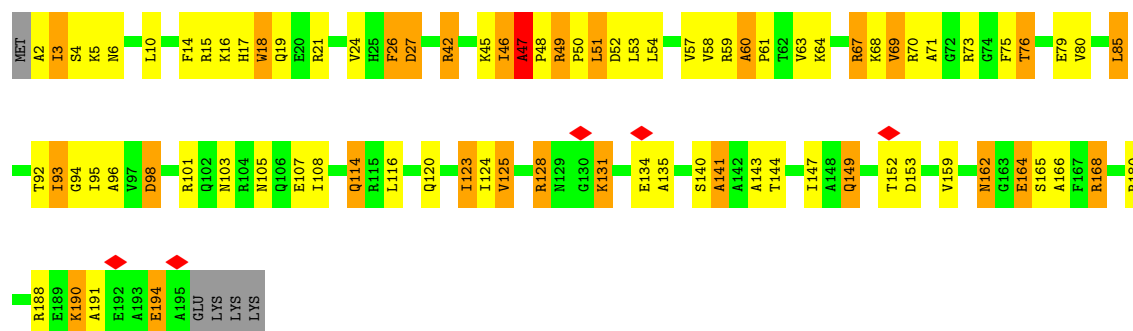




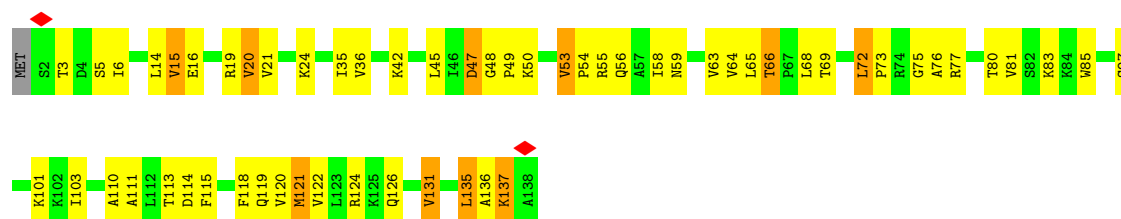
• Molecule 13: 60S ribosomal protein L11-A



• Molecule 14: 60S ribosomal protein L13-A

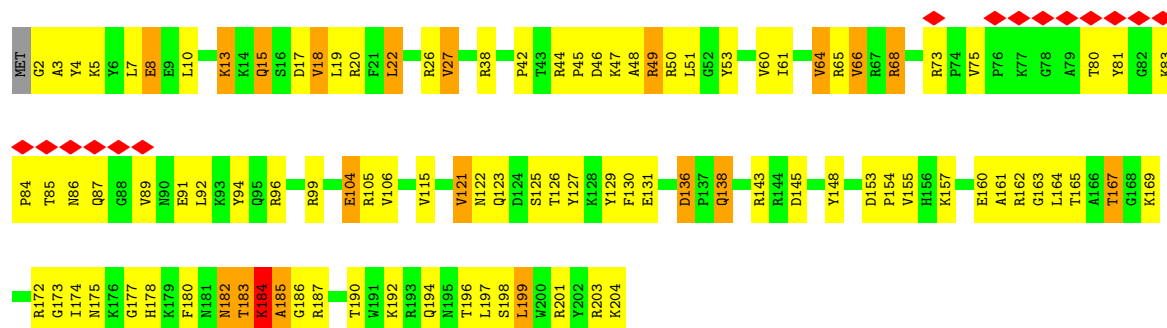


• Molecule 15: 60S ribosomal protein L14-A



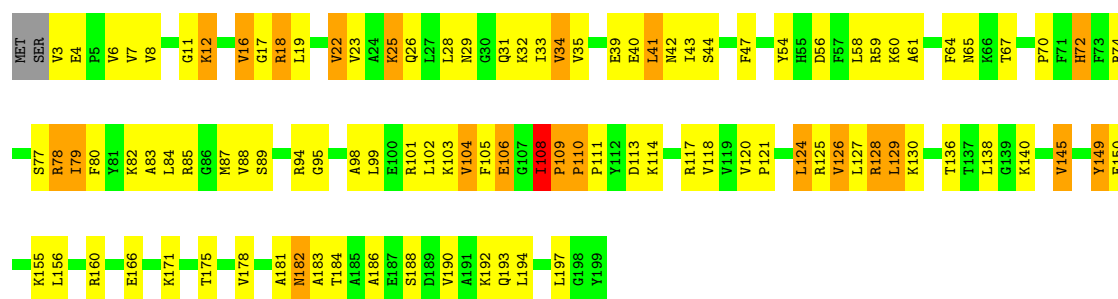
• Molecule 16: 60S ribosomal protein L15-A





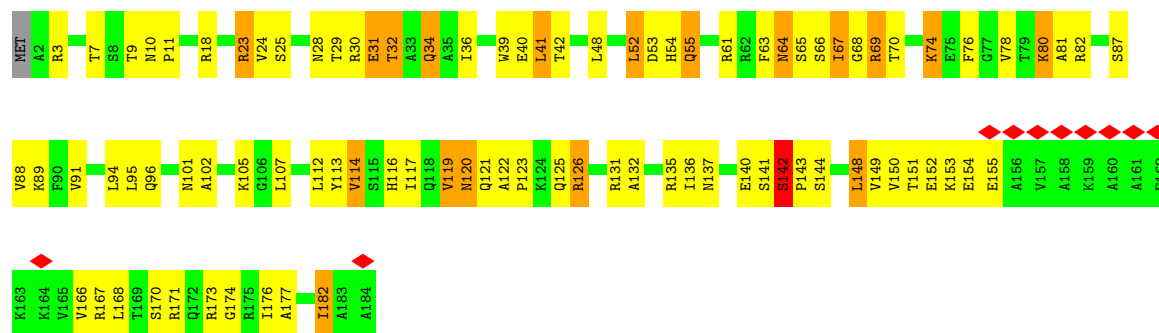
• Molecule 17: 60S ribosomal protein L16-A

Chain O: 47% 41% 11% ..



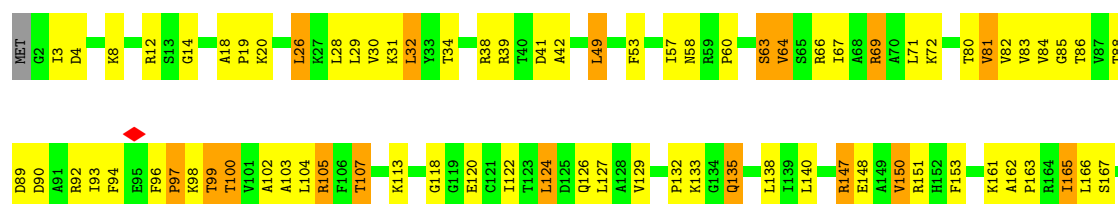
• Molecule 18: 60S ribosomal protein L17-A

Chain P: 5% 50% 39% 10% ..



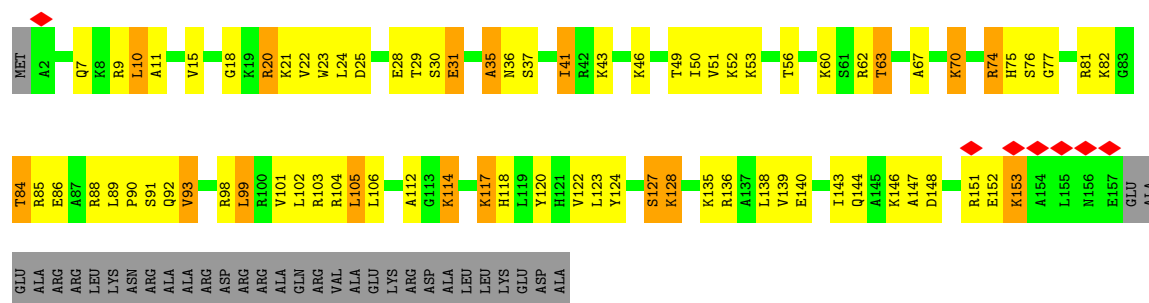
• Molecule 19: 60S ribosomal protein L18-A

Chain Q: 52% 36% 11% ..

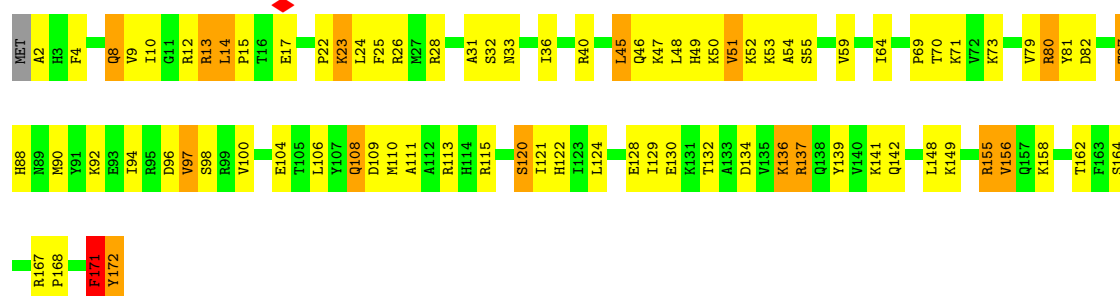




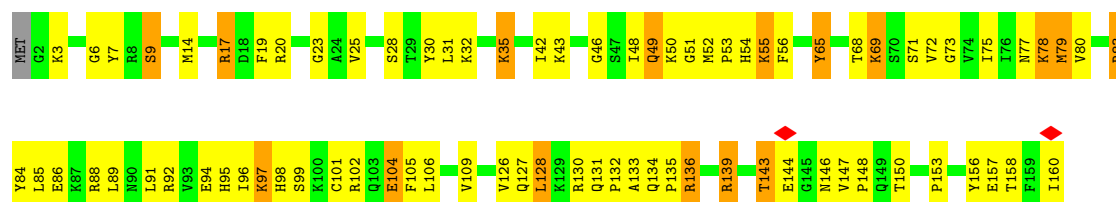
• Molecule 20: 60S ribosomal protein L19-A



• Molecule 21: 60S ribosomal protein L20-A



• Molecule 22: 60S ribosomal protein L21-A



• Molecule 23: 60S ribosomal protein L22-A

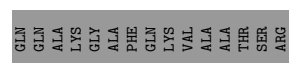
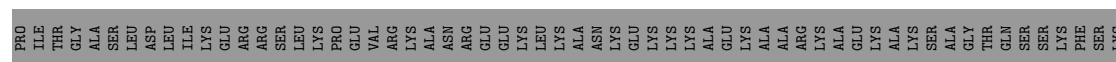
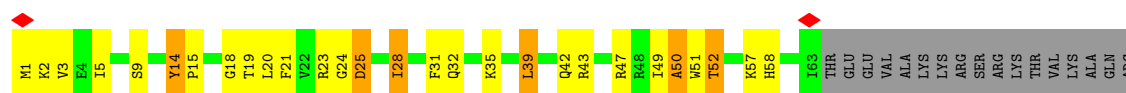




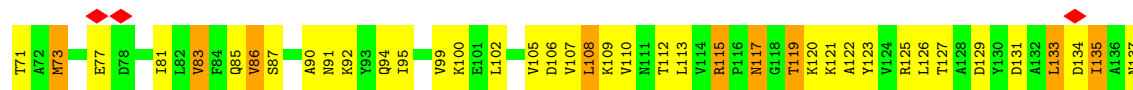
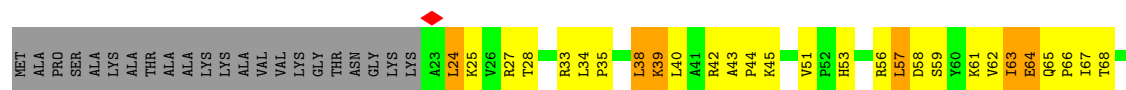
• Molecule 24: 60S ribosomal protein L23-A



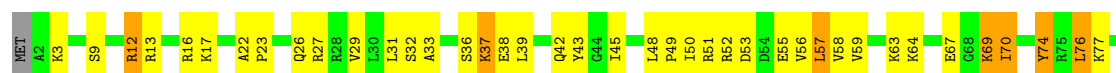
• Molecule 25: 60S ribosomal protein L24-A

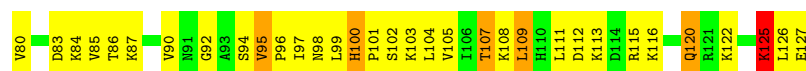


• Molecule 26: 60S ribosomal protein L25

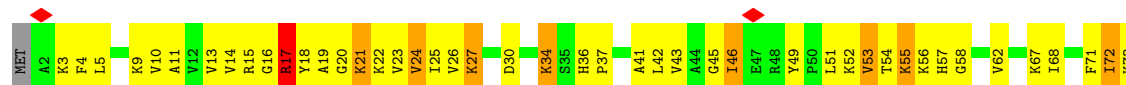


• Molecule 27: 60S ribosomal protein L26-A





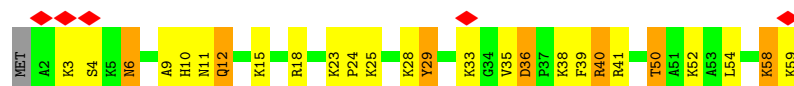
- Molecule 28: 60S ribosomal protein L27-A



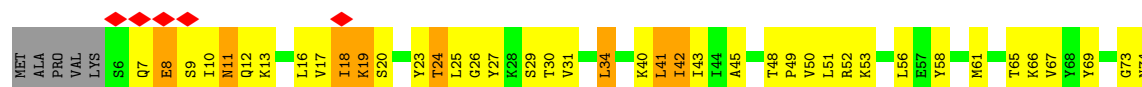
- Molecule 29: 60S ribosomal protein L28



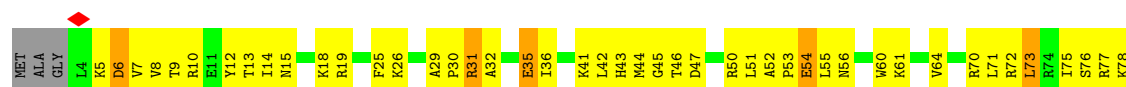
- Molecule 30: 60S ribosomal protein L29

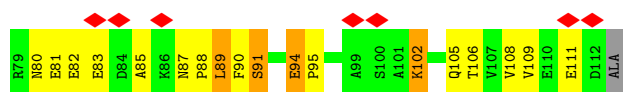


- Molecule 31: 60S ribosomal protein L30



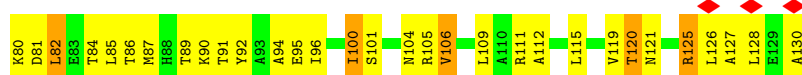
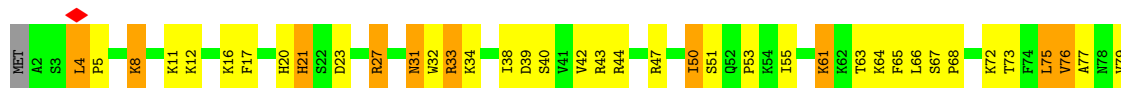
- Molecule 32: 60S ribosomal protein L31-A





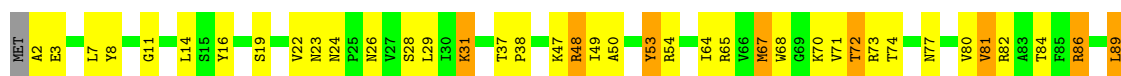
- Molecule 33: 60S ribosomal protein L32

Chain e: 45% 42% 12%



- Molecule 34: 60S ribosomal protein L33-A

Chain f: 54% 36% 8%



- Molecule 35: 60S ribosomal protein L34-A

Chain g: 48% 35% 10% 7%

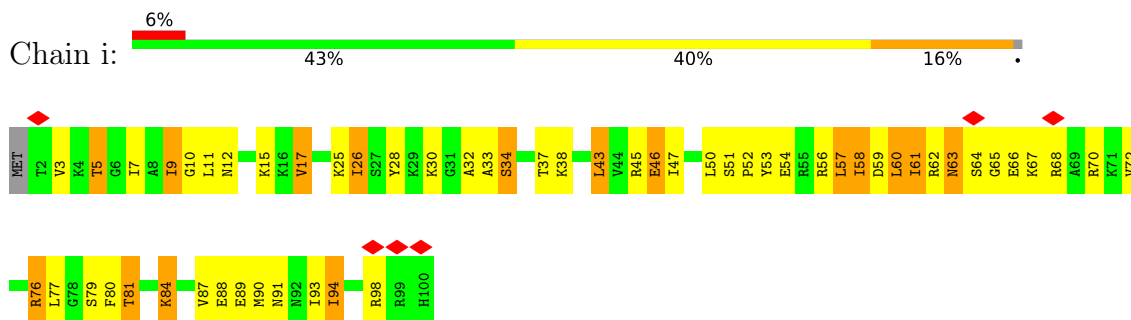


- Molecule 36: 60S ribosomal protein L35-A

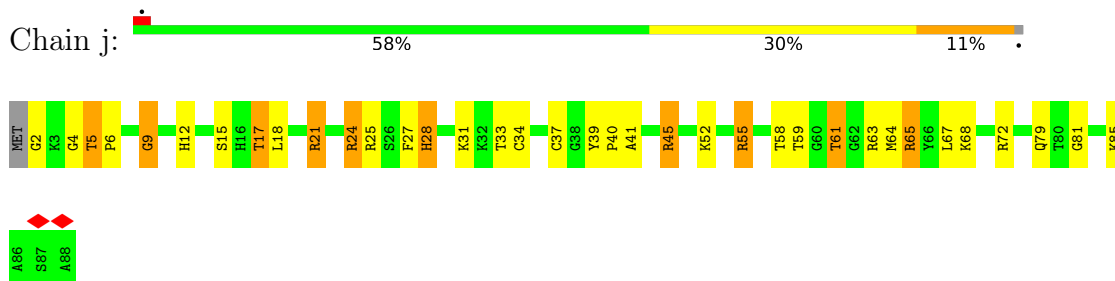
Chain h: 52% 37% 9%



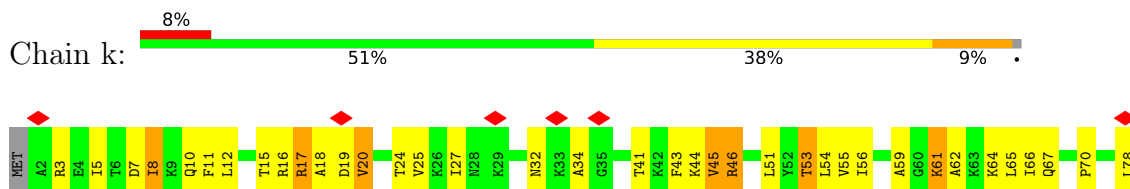
- Molecule 37: 60S ribosomal protein L36-A



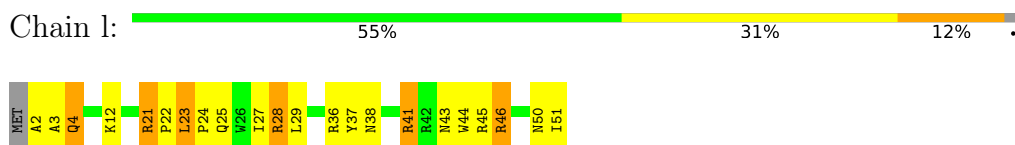
- Molecule 38: 60S ribosomal protein L37-A



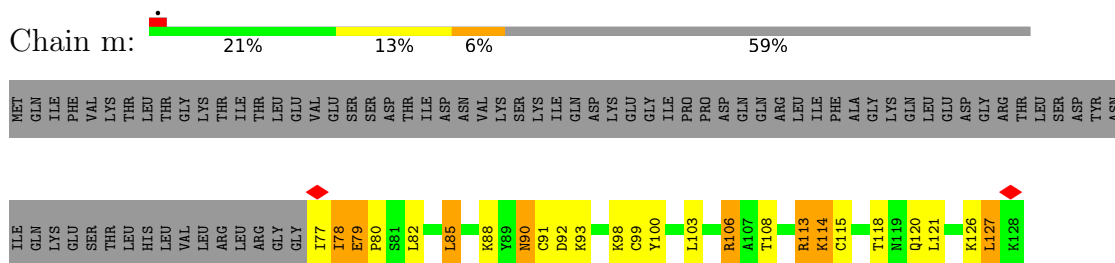
- Molecule 39: 60S ribosomal protein L38



- Molecule 40: 60S ribosomal protein L39



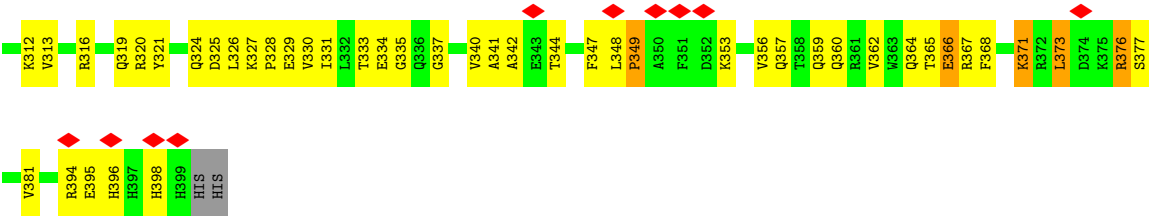
- Molecule 41: Ubiquitin-60S ribosomal protein L40



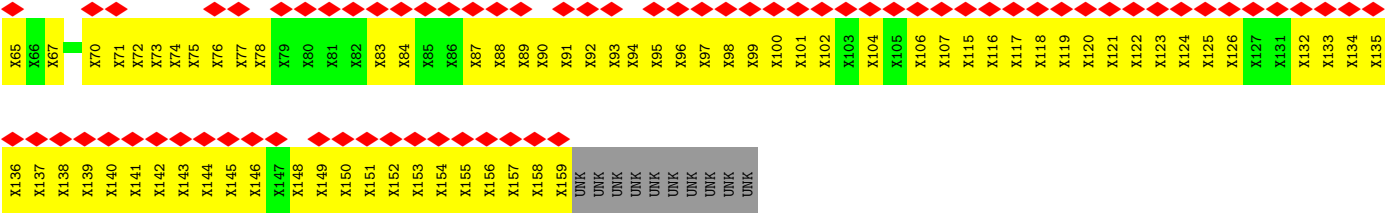
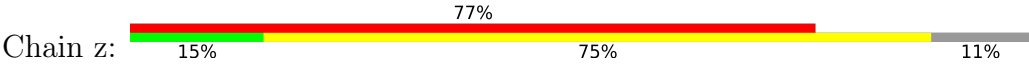
- Molecule 42: 60S ribosomal protein L42-A







• Molecule 47: ALB1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	134701	Depositor
Resolution determination method	Not provided	
CTF correction method	PER DETECTOR FRAME	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	20	Depositor
Minimum defocus (nm)	800.00	Depositor
Maximum defocus (nm)	3000.00	Depositor
Magnification	100720	Depositor
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	1.020	Depositor
Minimum map value	-0.642	Depositor
Average map value	0.006	Depositor
Map value standard deviation	0.055	Depositor
Recommended contour level	0.1	Depositor
Map size ($\text{\AA}$)	300.24, 300.24, 300.24	wwPDB
Map dimensions	216, 216, 216	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.39, 1.39, 1.39	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: Y5P, P5P, ZN, MG

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	5	0.32	0/74039	0.44	3/115426 (0.0%)
2	7	0.21	0/2883	0.32	0/4491
3	8	0.34	0/3746	0.45	0/5832
4	A	0.52	0/1662	0.99	3/2236 (0.1%)
5	B	0.57	1/3146 (0.0%)	0.96	10/4228 (0.2%)
6	C	0.61	0/2800	1.06	14/3790 (0.4%)
7	D	0.41	0/2408	0.85	3/3248 (0.1%)
8	E	0.48	0/1269	0.94	4/1705 (0.2%)
9	F	0.57	0/1828	0.96	5/2461 (0.2%)
10	G	0.49	0/1795	1.02	10/2429 (0.4%)
11	H	0.50	0/1539	0.88	1/2073 (0.0%)
12	I	0.45	0/1758	0.95	8/2358 (0.3%)
13	J	0.42	0/1374	0.88	3/1842 (0.2%)
14	L	0.60	0/1573	1.02	8/2113 (0.4%)
15	M	0.49	0/1074	0.91	0/1446
16	N	0.66	0/1757	1.07	8/2354 (0.3%)
17	O	0.61	0/1585	1.00	6/2128 (0.3%)
18	P	0.67	0/1465	0.98	4/1968 (0.2%)
19	Q	0.54	0/1465	0.99	2/1965 (0.1%)
20	R	0.51	0/1275	0.85	0/1702
21	S	0.58	0/1473	0.95	4/1980 (0.2%)
22	T	0.49	0/1300	0.87	1/1743 (0.1%)
23	U	0.44	0/825	0.88	0/1120
24	V	0.56	0/1018	0.98	3/1369 (0.2%)
25	W	0.47	0/533	0.90	3/707 (0.4%)
26	X	0.54	0/974	0.99	5/1314 (0.4%)
27	Y	0.55	0/1004	1.03	6/1341 (0.4%)
28	Z	0.47	0/1118	1.04	8/1497 (0.5%)
29	a	0.60	0/1204	0.99	2/1612 (0.1%)
30	b	0.48	0/473	0.93	3/629 (0.5%)
31	c	0.44	0/775	0.77	0/1040
32	d	0.60	0/897	0.96	2/1205 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	e	0.69	1/1055 (0.1%)	0.96	0/1413
34	f	0.64	0/868	1.10	4/1168 (0.3%)
35	g	0.54	0/890	1.04	4/1189 (0.3%)
36	h	0.54	0/974	1.02	4/1297 (0.3%)
37	i	0.47	0/777	0.88	0/1033
38	j	0.66	0/696	0.95	3/923 (0.3%)
39	k	0.41	0/614	0.87	2/822 (0.2%)
40	l	0.57	0/443	0.92	0/588
41	m	0.52	0/423	1.04	5/562 (0.9%)
42	o	0.49	0/860	0.90	1/1136 (0.1%)
43	p	0.55	0/701	0.96	3/934 (0.3%)
44	q	0.89	1/977 (0.1%)	0.91	2/1313 (0.2%)
45	x	0.49	0/4557	0.96	13/6189 (0.2%)
46	y	0.49	0/1746	0.93	5/2346 (0.2%)
All	All	0.43	3/137616 (0.0%)	0.69	175/202265 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
6	C	0	3
8	E	0	1
14	L	0	1
16	N	0	1
27	Y	0	1
28	Z	0	1
32	d	0	3
37	i	0	1
45	x	0	3
46	y	0	1
All	All	0	16

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	e	21	HIS	CG-ND1	5.77	1.44	1.38
5	B	220	VAL	CA-CB	-5.51	1.47	1.54
44	q	28	VAL	CA-CB	5.10	1.59	1.53

All (175) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	h	41	LEU	CA-C-N	10.07	129.73	119.56
36	h	41	LEU	C-N-CA	10.07	129.73	119.56
34	f	89	LEU	CA-C-N	9.72	131.99	119.84
34	f	89	LEU	C-N-CA	9.72	131.99	119.84
28	Z	27	LYS	CA-C-N	9.50	130.15	119.32
28	Z	27	LYS	C-N-CA	9.50	130.15	119.32
10	G	72	PRO	CA-C-N	9.42	129.03	119.24
10	G	72	PRO	C-N-CA	9.42	129.03	119.24
35	g	11	ASN	CA-C-N	9.25	131.40	119.84
35	g	11	ASN	C-N-CA	9.25	131.40	119.84
16	N	177	GLY	N-CA-C	9.19	121.41	112.04
17	O	108	ILE	CA-C-N	9.12	129.78	120.38
17	O	108	ILE	C-N-CA	9.12	129.78	120.38
19	Q	99	THR	CB-CA-C	-8.79	105.33	115.79
16	N	83	LYS	CA-C-N	8.75	128.40	119.82
16	N	83	LYS	C-N-CA	8.75	128.40	119.82
45	x	122	ASP	N-CA-C	8.65	119.66	108.24
14	L	49	ARG	CA-C-N	8.31	128.51	119.87
14	L	49	ARG	C-N-CA	8.31	128.51	119.87
41	m	79	GLU	CA-C-N	8.08	127.64	119.24
41	m	79	GLU	C-N-CA	8.08	127.64	119.24
26	X	43	ALA	CA-C-N	7.81	127.09	118.97
26	X	43	ALA	C-N-CA	7.81	127.09	118.97
17	O	109	PRO	CA-C-N	7.66	128.27	120.38
17	O	109	PRO	C-N-CA	7.66	128.27	120.38
36	h	38	ARG	CA-C-N	7.62	127.28	119.82
36	h	38	ARG	C-N-CA	7.62	127.28	119.82
27	Y	22	ALA	CA-C-N	7.46	127.37	120.21
27	Y	22	ALA	C-N-CA	7.46	127.37	120.21
44	q	70	LEU	CA-C-N	7.44	127.08	119.19
44	q	70	LEU	C-N-CA	7.44	127.08	119.19
6	C	340	GLY	N-CA-C	-7.42	102.72	113.86
6	C	316	ASN	CA-C-N	7.28	127.44	119.87
6	C	316	ASN	C-N-CA	7.28	127.44	119.87
28	Z	133	LYS	N-CA-C	7.21	120.00	111.71
45	x	468	LEU	CA-C-N	6.99	127.29	119.32
45	x	468	LEU	C-N-CA	6.99	127.29	119.32
9	F	131	GLU	CA-C-N	6.95	126.63	119.82
9	F	131	GLU	C-N-CA	6.95	126.63	119.82
17	O	110	PRO	N-CA-C	6.86	119.06	110.70
29	a	121	VAL	N-CA-C	6.84	116.49	108.96
6	C	31	ARG	CA-C-N	6.82	127.10	119.32
6	C	31	ARG	C-N-CA	6.82	127.10	119.32

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	N	185	ALA	N-CA-C	-6.76	104.65	113.17
5	B	306	THR	CA-C-N	6.68	126.62	120.21
5	B	306	THR	C-N-CA	6.68	126.62	120.21
34	f	92	LYS	N-CA-C	-6.62	105.17	113.18
16	N	44	ARG	CA-C-N	6.61	126.86	119.32
16	N	44	ARG	C-N-CA	6.61	126.86	119.32
13	J	117	ASP	CA-C-N	6.58	127.10	119.47
13	J	117	ASP	C-N-CA	6.58	127.10	119.47
6	C	22	LEU	CA-C-N	6.56	126.59	119.90
6	C	22	LEU	C-N-CA	6.56	126.59	119.90
6	C	3	ARG	CA-C-N	6.54	126.22	119.82
6	C	3	ARG	C-N-CA	6.54	126.22	119.82
9	F	161	VAL	N-CA-C	6.53	115.01	107.89
24	V	126	TRP	CA-C-N	6.52	126.45	119.28
24	V	126	TRP	C-N-CA	6.52	126.45	119.28
46	y	220	CYS	N-CA-C	6.48	118.88	111.11
45	x	542	GLU	N-CA-C	6.46	118.64	110.24
4	A	79	ASN	N-CA-C	6.38	120.00	112.72
6	C	191	LYS	N-CA-C	-6.38	105.49	113.28
5	B	386	ASP	CB-CA-C	-6.36	108.58	117.23
10	G	41	GLN	CA-C-N	6.30	126.49	120.31
10	G	41	GLN	C-N-CA	6.30	126.49	120.31
35	g	78	GLY	N-CA-C	-6.25	100.70	112.64
45	x	388	TYR	CA-C-N	6.20	126.53	119.83
45	x	388	TYR	C-N-CA	6.20	126.53	119.83
9	F	233	GLU	CB-CA-C	-6.18	108.83	117.23
12	I	188	GLY	N-CA-C	-6.12	106.19	115.00
45	x	478	LEU	N-CA-C	6.12	118.92	110.35
4	A	14	SER	CB-CA-C	-6.06	108.99	117.23
5	B	257	PRO	CA-C-N	-6.04	113.82	122.77
5	B	257	PRO	C-N-CA	-6.04	113.82	122.77
38	j	24	ARG	CA-C-N	-6.00	113.95	122.41
38	j	24	ARG	C-N-CA	-6.00	113.95	122.41
14	L	26	PHE	N-CA-C	-5.97	106.04	113.38
4	A	55	GLY	N-CA-C	-5.93	104.49	112.14
24	V	5	GLY	N-CA-C	-5.92	106.93	115.27
27	Y	33	ALA	CA-C-N	5.90	126.40	120.14
27	Y	33	ALA	C-N-CA	5.90	126.40	120.14
19	Q	99	THR	N-CA-C	5.90	120.17	109.32
46	y	168	GLU	N-CA-C	5.90	117.79	111.36
43	p	4	ARG	CB-CA-C	-5.88	109.24	117.23
14	L	47	ALA	CA-C-N	-5.83	112.55	119.84

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	L	47	ALA	C-N-CA	-5.83	112.55	119.84
14	L	5	LYS	CB-CA-C	-5.80	108.22	116.34
5	B	223	GLY	N-CA-C	5.76	119.09	111.03
6	C	204	GLY	CA-C-N	5.75	126.07	119.92
6	C	204	GLY	C-N-CA	5.75	126.07	119.92
8	E	170	LYS	CA-C-N	5.74	127.02	119.84
8	E	170	LYS	C-N-CA	5.74	127.02	119.84
1	5	1555	U	C2'-C3'-O3'	5.72	118.08	109.50
14	L	60	ALA	CA-C-N	5.71	126.97	119.84
14	L	60	ALA	C-N-CA	5.71	126.97	119.84
12	I	17	TYR	CA-C-N	5.69	125.88	120.31
12	I	17	TYR	C-N-CA	5.69	125.88	120.31
45	x	239	VAL	CA-C-N	5.63	125.34	119.82
45	x	239	VAL	C-N-CA	5.63	125.34	119.82
8	E	6	ALA	CA-C-N	5.60	125.91	119.92
8	E	6	ALA	C-N-CA	5.60	125.91	119.92
7	D	18	THR	CA-C-N	5.59	125.58	120.21
7	D	18	THR	C-N-CA	5.59	125.58	120.21
30	b	40	ARG	N-CA-C	-5.58	104.59	111.40
25	W	14	TYR	CA-C-N	5.56	125.88	119.93
25	W	14	TYR	C-N-CA	5.56	125.88	119.93
39	k	70	PRO	CA-C-N	5.55	125.07	119.19
39	k	70	PRO	C-N-CA	5.55	125.07	119.19
46	y	191	ILE	CA-C-N	5.54	125.49	119.78
46	y	191	ILE	C-N-CA	5.54	125.49	119.78
28	Z	15	ARG	N-CA-C	5.54	117.88	108.02
18	P	140	GLU	N-CA-C	5.53	118.11	108.76
22	T	42	ILE	N-CA-C	5.51	115.53	107.37
28	Z	81	LEU	CA-C-N	5.46	125.22	119.76
28	Z	81	LEU	C-N-CA	5.46	125.22	119.76
10	G	98	ARG	CA-C-N	5.45	125.75	119.92
10	G	98	ARG	C-N-CA	5.45	125.75	119.92
42	o	47	GLN	N-CA-C	-5.42	106.71	113.38
7	D	59	ASP	N-CA-C	5.42	117.08	108.79
10	G	128	LYS	CA-C-N	5.42	125.62	120.31
10	G	128	LYS	C-N-CA	5.42	125.62	120.31
5	B	169	THR	CA-C-N	5.40	125.73	119.47
5	B	169	THR	C-N-CA	5.40	125.73	119.47
46	y	254	SER	N-CA-C	5.39	117.58	111.11
43	p	8	VAL	N-CA-C	5.39	117.82	111.09
5	B	347	SER	N-CA-C	5.38	118.64	111.75
30	b	36	ASP	CA-C-N	5.38	124.56	118.97

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	b	36	ASP	C-N-CA	5.38	124.56	118.97
11	H	151	VAL	CB-CA-C	-5.38	105.09	111.81
10	G	35	GLY	N-CA-C	-5.36	104.37	112.41
26	X	38	LEU	N-CA-C	5.36	116.81	111.07
34	f	72	THR	N-CA-C	5.35	117.93	111.40
27	Y	100	HIS	CA-C-N	5.33	125.40	119.32
27	Y	100	HIS	C-N-CA	5.33	125.40	119.32
21	S	134	ASP	N-CA-C	-5.33	106.45	113.17
12	I	4	ARG	CA-C-N	5.32	125.32	119.90
12	I	4	ARG	C-N-CA	5.32	125.32	119.90
17	O	149	TYR	N-CA-C	5.29	119.43	112.92
21	S	171	PHE	N-CA-C	5.29	117.48	111.02
28	Z	103	GLN	CA-C-N	5.29	125.35	119.32
28	Z	103	GLN	C-N-CA	5.29	125.35	119.32
21	S	14	LEU	CA-C-N	5.29	125.54	119.83
21	S	14	LEU	C-N-CA	5.29	125.54	119.83
41	m	91	CYS	N-CA-C	5.27	116.88	111.03
13	J	151	SER	N-CA-C	-5.26	103.54	110.43
25	W	50	ALA	N-CA-C	5.25	117.41	111.11
29	a	31	GLY	N-CA-C	5.24	125.60	113.18
35	g	81	CYS	N-CA-C	5.22	118.68	112.72
9	F	220	PHE	N-CA-C	5.21	119.33	112.92
41	m	103	LEU	CA-C-N	5.21	125.75	120.38
41	m	103	LEU	C-N-CA	5.21	125.75	120.38
45	x	173	THR	N-CA-C	5.21	117.90	110.24
38	j	9	GLY	N-CA-C	-5.20	107.87	114.16
26	X	81	ILE	N-CA-C	5.18	115.44	107.77
12	I	140	THR	N-CA-C	5.16	114.95	108.45
1	5	1607	U	C2'-C3'-O3'	5.15	117.22	109.50
18	P	142	SER	CA-C-N	5.14	125.42	119.92
18	P	142	SER	C-N-CA	5.14	125.42	119.92
1	5	1607	U	P-O3'-C3'	5.12	127.89	120.20
10	G	222	PHE	N-CA-C	5.12	117.99	111.69
16	N	136	ASP	CA-C-N	5.12	124.73	119.56
16	N	136	ASP	C-N-CA	5.12	124.73	119.56
6	C	30	ILE	N-CA-C	5.11	114.94	107.37
32	d	87	ASN	CA-C-N	5.11	124.72	119.56
32	d	87	ASN	C-N-CA	5.11	124.72	119.56
43	p	12	GLY	N-CA-C	-5.10	108.98	115.31
45	x	98	ASP	N-CA-C	5.09	117.23	111.02
18	P	126	ARG	N-CA-C	5.09	116.71	108.26
26	X	83	VAL	N-CA-C	5.09	115.60	108.17

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	x	399	PHE	CA-C-N	-5.06	113.43	119.05
45	x	399	PHE	C-N-CA	-5.06	113.43	119.05
5	B	86	VAL	N-CA-C	5.04	114.84	107.37
12	I	159	PHE	CA-C-N	5.04	124.80	119.76
12	I	159	PHE	C-N-CA	5.04	124.80	119.76
6	C	5	GLN	N-CA-C	5.01	116.77	110.91

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	C	145	ILE	Peptide
6	C	148	ILE	Peptide
6	C	300	ARG	Peptide
8	E	67	GLY	Peptide
14	L	141	ALA	Peptide
16	N	184	LYS	Peptide
27	Y	125	LYS	Peptide
28	Z	101	PHE	Peptide
32	d	6	ASP	Peptide
32	d	82	GLU	Peptide
32	d	89	LEU	Peptide
37	i	32	ALA	Peptide
45	x	473	LEU	Peptide
45	x	477	LYS	Peptide
45	x	541	HIS	Peptide
46	y	349	PRO	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	5	66537	0	33466	1633	0
2	7	2579	0	1304	70	0
3	8	3353	0	1695	86	0
4	A	1630	0	1682	127	0
5	B	3075	0	3142	191	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	C	2748	0	2859	178	0
7	D	2359	0	2311	134	0
8	E	1356	0	1448	94	0
9	F	1791	0	1869	115	0
10	G	1763	0	1819	121	0
11	H	1518	0	1587	84	0
12	I	1722	0	1755	98	0
13	J	1353	0	1383	89	0
14	L	1548	0	1613	109	0
15	M	1059	0	1154	55	0
16	N	1720	0	1779	95	0
17	O	1555	0	1659	95	0
18	P	1442	0	1485	77	0
19	Q	1441	0	1543	83	0
20	R	1258	0	1342	75	0
21	S	1437	0	1475	79	0
22	T	1276	0	1323	87	0
23	U	808	0	822	42	0
24	V	1003	0	1048	78	0
25	W	521	0	551	28	0
26	X	959	0	1023	76	0
27	Y	993	0	1081	87	0
28	Z	1092	0	1155	79	0
29	a	1173	0	1215	88	0
30	b	462	0	491	25	0
31	c	767	0	816	67	0
32	d	883	0	918	67	0
33	e	1034	0	1101	70	0
34	f	850	0	880	55	0
35	g	880	0	945	53	0
36	h	965	0	1067	60	0
37	i	770	0	846	51	0
38	j	681	0	683	36	0
39	k	608	0	671	35	0
40	l	436	0	475	27	0
41	m	417	0	455	27	0
42	o	847	0	914	48	0
43	p	694	0	734	41	0
44	q	962	0	989	140	0
45	x	4477	0	4559	399	0
46	y	1785	3	1755	133	0
47	z	510	0	517	100	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
48	5	259	0	0	0	0
48	7	6	0	0	0	0
48	8	7	0	0	0	0
48	B	2	0	0	0	0
48	C	1	0	0	0	0
48	N	1	0	0	0	0
48	P	1	0	0	0	0
48	R	1	0	0	0	0
48	V	1	0	0	0	0
48	y	1	0	0	0	0
49	j	1	0	0	0	0
49	m	1	0	0	0	0
49	o	1	0	0	0	0
49	p	1	0	0	0	0
49	y	2	0	0	0	0
All	All	129383	3	95404	5040	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 23.

All (5040) 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)
15:M:48:GLY:HA3	15:M:53:VAL:HG13	1.25	1.18
45:x:279:LEU:HD11	47:z:98:UNK:HB1	1.24	1.18
4:A:149:ARG:HH12	4:A:155:LYS:HE3	1.06	1.18
8:E:78:ARG:HG3	8:E:78:ARG:HH11	1.03	1.14
1:5:1221:A:H5'	44:q:57:THR:HB	1.13	1.12
5:B:4:ARG:HH11	5:B:4:ARG:HG3	1.03	1.12
45:x:202:LEU:HD21	45:x:509:LEU:HB3	1.24	1.12
10:G:44:ARG:HH11	10:G:44:ARG:HG3	1.15	1.11
6:C:148:ILE:HG23	6:C:149:PRO:HD3	1.31	1.09
10:G:24:ASN:HB3	10:G:25:PRO:HD3	1.14	1.08
17:O:128:ARG:HB3	17:O:128:ARG:HH11	1.13	1.08
17:O:78:ARG:HH11	17:O:78:ARG:HG3	0.95	1.06
27:Y:45:ILE:HD11	27:Y:122:LYS:HE3	1.36	1.06
22:T:17:ARG:HG2	22:T:17:ARG:HH11	1.08	1.05
33:e:82:LEU:HD11	33:e:112:ALA:HB2	1.35	1.05
1:5:1324:U:H5''	21:S:2:ALA:HA	1.36	1.05
36:h:89:ARG:HG2	36:h:89:ARG:HH11	1.22	1.05
38:j:65:ARG:HH11	38:j:65:ARG:HG3	1.19	1.05

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1133:A:H2'	1:5:1134:G:H5'	1.37	1.04
19:Q:86:THR:HG22	19:Q:105:ARG:HB3	1.39	1.04
13:J:51:ARG:HG3	13:J:51:ARG:HH11	0.96	1.04
10:G:70:LYS:HA	10:G:235:GLY:HA3	1.41	1.03
1:5:1764:U:H3'	1:5:1765:U:H2'	1.37	1.02
45:x:378:LEU:HD21	45:x:423:MET:HE2	1.35	1.02
1:5:1581:C:H41	1:5:2522:G:H4'	1.19	1.02
30:b:58:LYS:HA	30:b:58:LYS:NZ	1.73	1.02
44:q:28:VAL:HG11	44:q:100:ILE:HD13	1.40	1.02
24:V:48:ARG:HG3	24:V:48:ARG:HH11	1.25	1.02
29:a:133:LEU:HD11	29:a:137:LYS:HE3	1.41	1.02
35:g:58:ARG:HH11	35:g:58:ARG:HG3	1.23	1.02
19:Q:69:ARG:HH11	19:Q:69:ARG:HG3	1.16	1.01
32:d:46:THR:HG21	32:d:91:SER:HB2	1.37	1.01
1:5:1347:U:H5'	6:C:303:GLY:HA3	1.38	1.01
45:x:473:LEU:HD22	45:x:474:PRO:HD3	1.42	1.01
40:l:23:LEU:HD22	40:l:24:PRO:HD2	1.41	1.00
44:q:91:GLU:HB3	44:q:92:PRO:HD2	1.38	1.00
45:x:181:ALA:HB1	45:x:537:ILE:HG23	1.41	1.00
14:L:165:SER:HB3	14:L:168:ARG:HB3	1.43	0.99
1:5:375:A:H1'	27:Y:87:LYS:NZ	1.76	0.99
44:q:25:LEU:HB3	44:q:191:TYR:HD2	1.25	0.99
6:C:74:ILE:HD12	6:C:75:PRO:HD2	1.41	0.99
44:q:87:VAL:HG11	44:q:100:ILE:HD11	1.43	0.98
5:B:211:GLN:HE22	5:B:284:ARG:HA	1.28	0.98
10:G:24:ASN:HB3	10:G:25:PRO:CD	1.93	0.98
28:Z:83:THR:HG23	28:Z:85:TYR:H	1.29	0.98
45:x:197:LEU:HD11	45:x:226:ILE:HD12	1.45	0.98
15:M:72:LEU:HD23	15:M:73:PRO:HD2	1.45	0.98
1:5:375:A:H1'	27:Y:87:LYS:HZ2	1.24	0.98
29:a:6:THR:HG22	29:a:8:THR:H	1.24	0.98
21:S:155:ARG:HH21	21:S:155:ARG:HG2	1.27	0.97
9:F:131:GLU:HB3	9:F:132:PRO:HD3	1.45	0.97
45:x:486:LYS:HA	45:x:489:MET:HE2	1.44	0.97
21:S:13:ARG:HH11	21:S:13:ARG:HG3	1.30	0.97
19:Q:133:LYS:HB2	19:Q:135:GLN:HE22	1.27	0.97
7:D:22:ARG:NH1	7:D:28:THR:OG1	1.98	0.97
1:5:2277:C:H4'	1:5:2317:A:H4'	1.47	0.97
14:L:114:GLN:HE21	14:L:114:GLN:HA	1.30	0.97
16:N:18:VAL:HG22	16:N:19:LEU:HD12	1.45	0.97
17:O:108:ILE:HD11	17:O:113:ASP:HA	1.45	0.96

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:26:ARG:HH11	22:T:150:THR:HG21	1.29	0.96
34:f:86:ARG:HH11	34:f:86:ARG:HG3	1.31	0.96
41:m:106:ARG:NH1	41:m:106:ARG:HB2	1.80	0.96
47:z:67:UNK:HG2	47:z:70:UNK:HB1	1.44	0.96
26:X:115:ARG:HG3	26:X:115:ARG:HH11	1.30	0.96
23:U:50:LEU:HD22	23:U:54:VAL:HB	1.45	0.96
12:I:36:LEU:HD11	12:I:69:ARG:HD3	1.46	0.96
29:a:34:MET:HA	29:a:34:MET:HE2	1.45	0.96
1:5:2270:A:H2'	1:5:2271:A:C8	2.01	0.96
11:H:28:VAL:HG13	11:H:33:THR:HG22	1.47	0.96
16:N:172:ARG:HB3	16:N:174:ILE:HD13	1.48	0.96
44:q:67:LEU:HD21	44:q:74:GLU:HB2	1.44	0.95
45:x:39:LEU:HD23	45:x:531:THR:HG23	1.47	0.95
24:V:136:VAL:HG12	24:V:137:VAL:HG23	1.48	0.95
1:5:1221:A:H5'	44:q:57:THR:CB	1.97	0.95
16:N:99:ARG:HG2	16:N:130:PHE:CE2	2.03	0.94
44:q:48:ARG:HD3	44:q:91:GLU:HG3	1.48	0.94
1:5:1567:U:H3'	1:5:1568:U:H5''	1.48	0.94
1:5:2552:C:H5	31:c:53:LYS:HZ1	1.00	0.94
4:A:149:ARG:NH1	4:A:155:LYS:HE3	1.81	0.94
5:B:185:GLY:O	5:B:191:LYS:NZ	2.00	0.94
1:5:247:C:H2'	1:5:248:U:H1'	1.50	0.94
45:x:155:SER:HB2	45:x:504:CYS:HB3	1.45	0.94
45:x:220:GLY:HA2	45:x:309:PHE:CE2	2.02	0.94
1:5:1578:C:OP1	10:G:43:LYS:NZ	2.00	0.94
1:5:2338:C:OP1	5:B:236:LYS:NZ	2.00	0.94
6:C:93:MET:HE2	6:C:93:MET:H	1.32	0.94
46:y:157:UNK:HG1	46:y:227:LEU:HD13	1.49	0.94
19:Q:71:LEU:HD13	19:Q:99:THR:HG21	1.49	0.93
32:d:44:MET:HB3	32:d:77:ARG:HD3	1.49	0.93
1:5:619:A:H5'	1:5:620:U:C5	2.04	0.93
21:S:26:ARG:HH11	22:T:150:THR:CG2	1.80	0.93
1:5:2569:A:H4'	1:5:2570:U:H5'	1.49	0.93
1:5:2304:C:H2'	1:5:2305:G:H5'	1.51	0.93
17:O:183:ALA:HA	17:O:186:ALA:HB2	1.51	0.93
17:O:121:PRO:HA	17:O:124:LEU:HD23	1.47	0.93
1:5:1133:A:C2'	1:5:1134:G:H5'	1.99	0.92
3:8:95:G:OP2	38:j:72:ARG:NH1	2.02	0.92
9:F:41:ARG:HH11	9:F:41:ARG:HG3	1.34	0.92
17:O:128:ARG:HH11	17:O:128:ARG:CB	1.81	0.92
1:5:1724:U:OP2	20:R:128:LYS:NZ	2.03	0.92

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:4:ARG:HG3	5:B:4:ARG:NH1	1.77	0.92
5:B:150:ARG:HH11	5:B:150:ARG:HG2	1.33	0.92
11:H:86:TYR:CE2	11:H:151:VAL:HG22	2.03	0.92
13:J:92:ARG:HG2	13:J:92:ARG:HH11	1.32	0.92
44:q:89:THR:HB	44:q:96:ILE:HG21	1.52	0.92
9:F:41:ARG:HH11	9:F:41:ARG:CG	1.83	0.91
44:q:76:LEU:HD21	44:q:191:TYR:HB2	1.52	0.91
1:5:253:A:O2'	1:5:254:A:O5'	1.88	0.91
8:E:115:UNK:HA	8:E:118:UNK:HG3	1.52	0.91
27:Y:86:THR:HG22	27:Y:96:PRO:HA	1.53	0.91
33:e:125:ARG:HA	33:e:128:LEU:HD12	1.53	0.91
45:x:97:ILE:HG22	45:x:98:ASP:H	1.35	0.91
1:5:149:U:OP2	16:N:49:ARG:NH2	2.04	0.90
1:5:2572:C:O2'	1:5:2573:G:OP2	1.88	0.90
39:k:5:ILE:HD11	39:k:10:GLN:HE22	1.34	0.90
13:J:94:ARG:O	13:J:96:PHE:N	2.04	0.90
18:P:64:ASN:HB2	18:P:80:LYS:HE3	1.52	0.90
16:N:172:ARG:HB3	16:N:174:ILE:CD1	2.02	0.90
45:x:319:ILE:HD11	45:x:507:ILE:HD12	1.53	0.90
47:z:74:UNK:HB2	47:z:76:UNK:HG3	1.52	0.90
5:B:53:MET:HE1	5:B:327:CYS:HB3	1.54	0.90
44:q:37:GLN:HG2	44:q:104:ARG:HD2	1.54	0.90
1:5:2276:G:O6	1:5:2311:G:C2	2.25	0.90
1:5:2748:A:O2'	7:D:48:LYS:NZ	2.05	0.90
1:5:2276:G:N2	1:5:2316:G:O2'	2.03	0.90
18:P:32:THR:HG21	18:P:87:SER:HB3	1.54	0.90
45:x:195:VAL:HG22	45:x:507:ILE:HD11	1.51	0.90
1:5:1575:A:O2'	1:5:1576:G:O4'	1.91	0.89
5:B:188:ILE:HD12	5:B:188:ILE:H	1.35	0.89
9:F:22:THR:HA	9:F:25:GLN:HG2	1.53	0.89
45:x:239:VAL:HG12	45:x:241:GLY:H	1.37	0.89
16:N:183:THR:O	16:N:184:LYS:HB3	1.72	0.89
6:C:204:GLY:O	6:C:246:ARG:NH1	2.06	0.89
12:I:187:ALA:HB1	12:I:189:GLU:HG3	1.54	0.89
17:O:78:ARG:HH11	17:O:78:ARG:CG	1.84	0.89
35:g:58:ARG:HH11	35:g:58:ARG:CG	1.86	0.89
45:x:20:LEU:HD22	45:x:25:LEU:HD21	1.53	0.89
2:7:44:C:OP2	13:J:137:ARG:NH2	2.04	0.89
41:m:106:ARG:HB2	41:m:106:ARG:HH11	1.38	0.89
8:E:96:VAL:HG12	8:E:98:VAL:HG23	1.55	0.88
1:5:2954:U:H4'	1:5:2955:U:OP1	1.72	0.88

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:22:LEU:HD23	6:C:23:PRO:HD2	1.56	0.88
13:J:51:ARG:HH11	13:J:51:ARG:CG	1.84	0.88
19:Q:84:VAL:HG22	19:Q:124:LEU:HD11	1.53	0.88
1:5:1639:C:OP2	35:g:74:ARG:NH2	2.06	0.88
1:5:2925:C:H2'	1:5:2926:A:H5'	1.54	0.88
45:x:332:LYS:HE3	47:z:87:UNK:HB1	1.54	0.88
1:5:364:G:OP2	38:j:52:LYS:NZ	2.05	0.88
1:5:75:G:H5'	14:L:58:VAL:CG1	2.03	0.88
4:A:174:ARG:HG2	4:A:174:ARG:HH11	1.36	0.88
33:e:8:LYS:NZ	33:e:8:LYS:HB3	1.89	0.87
45:x:158:MET:HE3	47:z:65:UNK:HG1	1.55	0.87
6:C:300:ARG:HH11	6:C:300:ARG:CG	1.85	0.87
25:W:20:LEU:HD21	25:W:28:ILE:HG23	1.54	0.87
6:C:148:ILE:HG23	6:C:149:PRO:CD	2.04	0.87
1:5:2890:A:H61	1:5:2913:C:H42	1.19	0.87
7:D:125:VAL:HG12	7:D:126:GLU:H	1.39	0.87
26:X:73:MET:HA	26:X:73:MET:HE3	1.57	0.87
40:l:28:ARG:HB3	40:l:28:ARG:HH11	1.38	0.87
45:x:154:VAL:HA	45:x:526:THR:HG21	1.54	0.87
20:R:74:ARG:HA	20:R:74:ARG:HE	1.39	0.87
40:l:41:ARG:HG2	40:l:41:ARG:HH11	1.37	0.87
1:5:2511:A:H2'	1:5:2512:C:H5'	1.56	0.86
19:Q:133:LYS:HB2	19:Q:135:GLN:NE2	1.89	0.86
1:5:2144:A:H1'	1:5:2281:A:N6	1.90	0.86
14:L:85:LEU:HD22	14:L:120:GLN:HE22	1.40	0.86
14:L:131:LYS:HD3	14:L:131:LYS:H	1.38	0.86
20:R:105:LEU:HD23	20:R:135:LYS:HE3	1.58	0.86
28:Z:23:VAL:HG12	28:Z:45:GLY:HA3	1.58	0.86
8:E:78:ARG:HG3	8:E:78:ARG:NH1	1.84	0.86
37:i:43:LEU:HD13	37:i:47:ILE:HD11	1.58	0.86
1:5:1427:U:OP2	29:a:4:ARG:NH2	2.07	0.86
6:C:299:ILE:HG21	19:Q:39:ARG:NH1	1.91	0.86
31:c:86:ARG:HH12	43:p:44:LYS:HG2	1.41	0.86
45:x:154:VAL:HG22	45:x:526:THR:HG23	1.58	0.86
1:5:2307:G:H4'	1:5:2308:C:OP2	1.75	0.85
21:S:13:ARG:HG3	21:S:13:ARG:NH1	1.86	0.85
1:5:1761:C:H1'	1:5:1765:U:C5	2.10	0.85
6:C:283:THR:HG22	6:C:285:ASP:H	1.41	0.85
1:5:2806:U:H2'	1:5:2807:U:H5'	1.58	0.85
13:J:109:HIS:HD2	13:J:123:PHE:H	1.23	0.85
22:T:94:GLU:OE1	22:T:94:GLU:N	2.09	0.85

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1761:C:H1'	1:5:1765:U:H5	1.41	0.85
44:q:45:LEU:HD22	44:q:49:ALA:HB3	1.57	0.85
1:5:1238:C:O2'	1:5:1239:C:OP1	1.95	0.85
5:B:232:ARG:NH1	5:B:269:GLN:O	2.09	0.85
1:5:177:U:O4	1:5:239:G:N2	2.08	0.85
1:5:769:G:O2'	1:5:770:G:H5'	1.76	0.85
6:C:156:LEU:HD23	6:C:159:ILE:HD12	1.58	0.85
19:Q:100:THR:HG22	19:Q:120:GLU:HB3	1.58	0.85
46:y:211:ILE:HD11	46:y:231:ARG:HG2	1.58	0.85
1:5:2227:C:H2'	1:5:2228:A:H5''	1.57	0.85
1:5:2537:U:O2'	1:5:2538:U:O4'	1.94	0.85
1:5:2532:U:H2'	1:5:2533:G:H8	1.39	0.84
1:5:2248:C:O2'	1:5:2249:G:OP2	1.96	0.84
17:O:78:ARG:HG3	17:O:78:ARG:NH1	1.72	0.84
44:q:30:VAL:HG21	44:q:53:MET:HE1	1.57	0.84
45:x:455:ASN:OD1	45:x:484:LYS:NZ	2.08	0.84
1:5:439:C:O2	1:5:494:G:N2	2.09	0.84
13:J:51:ARG:HG3	13:J:51:ARG:NH1	1.73	0.84
44:q:79:PHE:CE2	44:q:196:VAL:HG11	2.13	0.84
5:B:41:VAL:HA	5:B:185:GLY:HA3	1.59	0.84
44:q:69:ASP:O	44:q:70:LEU:HG	1.77	0.84
1:5:75:G:H5'	14:L:58:VAL:HG11	1.59	0.84
1:5:248:U:H3'	1:5:249:U:H5'	1.59	0.84
1:5:1580:A:H4'	1:5:1581:C:OP2	1.75	0.84
1:5:2186:U:C2'	1:5:2187:G:H5'	2.08	0.84
44:q:51:VAL:HG13	44:q:87:VAL:HG22	1.57	0.84
45:x:43:THR:O	45:x:47:ASN:ND2	2.11	0.84
19:Q:69:ARG:HG3	19:Q:69:ARG:NH1	1.83	0.84
40:l:28:ARG:HB3	40:l:28:ARG:NH1	1.92	0.84
26:X:34:LEU:HD12	26:X:35:PRO:HD2	1.60	0.83
3:8:80:A:O3'	3:8:81:U:H3'	1.78	0.83
16:N:42:PRO:HG3	16:N:61:ILE:HG13	1.60	0.83
44:q:64:ARG:HA	44:q:67:LEU:HD23	1.60	0.83
1:5:1575:A:H2'	1:5:1576:G:C8	2.13	0.83
1:5:3289:G:H2'	1:5:3290:G:H8	1.42	0.83
11:H:106:LYS:HA	11:H:106:LYS:HE3	1.59	0.83
26:X:115:ARG:HG3	26:X:115:ARG:NH1	1.90	0.83
38:j:65:ARG:HG3	38:j:65:ARG:NH1	1.92	0.83
1:5:3068:U:OP2	20:R:62:ARG:NH2	2.10	0.83
8:E:89:THR:HG21	15:M:115:PHE:HB2	1.58	0.83
15:M:55:ARG:NH2	15:M:76:ALA:O	2.11	0.83

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:279:LEU:HD11	47:z:98:UNK:CB	2.06	0.83
1:5:132:C:H2'	1:5:133:U:H5''	1.60	0.83
5:B:150:ARG:HG2	5:B:150:ARG:NH1	1.90	0.83
18:P:170:SER:HA	18:P:173:ARG:HH21	1.42	0.83
24:V:13:ILE:HD11	24:V:53:SER:HB2	1.61	0.83
32:d:13:THR:HG22	32:d:72:ARG:HD3	1.59	0.83
45:x:226:ILE:HG23	45:x:553:ILE:HD11	1.60	0.83
1:5:2609:A:H2'	1:5:2610:G:H5''	1.60	0.83
6:C:299:ILE:HG23	19:Q:39:ARG:HB3	1.60	0.83
46:y:176:VAL:HG11	46:y:201:ILE:HD11	1.61	0.83
12:I:38:LYS:HG2	12:I:41:ALA:HB2	1.61	0.83
45:x:226:ILE:CG2	45:x:553:ILE:HD11	2.09	0.82
35:g:58:ARG:HG3	35:g:58:ARG:NH1	1.89	0.82
45:x:197:LEU:HD11	45:x:226:ILE:CD1	2.09	0.82
16:N:94:TYR:HE2	16:N:96:ARG:HB2	1.43	0.82
1:5:36:C:H2'	1:5:37:U:H5'	1.61	0.82
41:m:98:LYS:HD3	41:m:118:THR:HG21	1.61	0.82
44:q:19:LEU:HD22	44:q:73:PHE:CE1	2.14	0.82
1:5:1221:A:O2'	44:q:8:LYS:NZ	2.11	0.82
9:F:33:ARG:HH11	9:F:33:ARG:HG3	1.45	0.82
17:O:128:ARG:HB3	17:O:128:ARG:NH1	1.93	0.82
30:b:58:LYS:HA	30:b:58:LYS:HZ2	1.39	0.82
32:d:46:THR:HG21	32:d:91:SER:CB	2.09	0.82
5:B:4:ARG:HH11	5:B:4:ARG:CG	1.90	0.81
35:g:41:ARG:HG2	35:g:56:THR:HG21	1.60	0.81
1:5:2144:A:H1'	1:5:2281:A:H61	1.46	0.81
1:5:2213:A:H2'	1:5:2214:A:H8	1.45	0.81
34:f:14:LEU:HD11	34:f:31:LYS:HB2	1.63	0.81
1:5:2568:C:O2'	1:5:2569:A:O5'	1.96	0.81
12:I:85:PHE:HA	12:I:140:THR:HG22	1.60	0.81
1:5:1324:U:C5'	21:S:2:ALA:HA	2.09	0.81
10:G:44:ARG:HG3	10:G:44:ARG:NH1	1.94	0.81
22:T:79:MET:HB2	22:T:84:TYR:CE2	2.16	0.81
6:C:145:ILE:O	6:C:147:GLU:N	2.14	0.81
8:E:18:LEU:H	8:E:18:LEU:HD12	1.45	0.81
42:o:8:ARG:HB2	42:o:8:ARG:HH11	1.46	0.81
1:5:2509:U:H2'	1:5:2510:U:H5'	1.62	0.81
44:q:42:ARG:HB3	44:q:46:ARG:HH21	1.45	0.81
4:A:149:ARG:NH1	4:A:149:ARG:HB2	1.95	0.81
20:R:114:LYS:O	20:R:146:LYS:NZ	2.13	0.81
34:f:49:ILE:HD11	34:f:71:VAL:HG22	1.62	0.81

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:h:37:SER:HB2	45:x:343:TYR:HE2	1.45	0.81
22:T:17:ARG:HG2	22:T:17:ARG:NH1	1.87	0.80
1:5:249:U:H3'	1:5:249:U:OP2	1.80	0.80
1:5:619:A:H5'	1:5:620:U:C6	2.16	0.80
11:H:91:ARG:HD2	11:H:143:GLU:HG3	1.64	0.80
21:S:26:ARG:NH1	22:T:150:THR:HG21	1.95	0.80
1:5:2112:U:H4'	1:5:2113:A:H5'	1.63	0.80
6:C:342:LYS:HG3	6:C:342:LYS:O	1.81	0.80
27:Y:51:ARG:HG2	27:Y:115:ARG:NH2	1.97	0.80
34:f:47:LYS:NZ	34:f:104:PRO:O	2.13	0.80
44:q:30:VAL:HG21	44:q:53:MET:CE	2.11	0.80
26:X:137:ASN:HB3	26:X:142:ILE:HD12	1.62	0.80
1:5:2796:G:H3'	42:o:60:LYS:HZ3	1.46	0.80
5:B:53:MET:CE	5:B:327:CYS:HB3	2.11	0.80
5:B:238:LEU:HD12	5:B:239:PRO:HD3	1.61	0.80
44:q:25:LEU:HB3	44:q:191:TYR:CD2	2.14	0.80
1:5:396:A:H5''	47:z:136:UNK:HG1	1.64	0.80
16:N:99:ARG:HG2	16:N:130:PHE:HE2	1.47	0.80
19:Q:72:LYS:HB3	19:Q:72:LYS:NZ	1.97	0.80
40:l:23:LEU:HD22	40:l:24:PRO:CD	2.11	0.80
45:x:224:ARG:HG3	45:x:267:VAL:HG11	1.64	0.80
1:5:900:G:H1'	1:5:1589:A:N6	1.97	0.80
1:5:1307:G:C5'	17:O:60:LYS:HE2	2.13	0.80
10:G:161:GLU:N	10:G:161:GLU:OE1	2.15	0.80
26:X:24:LEU:HD22	26:X:25:LYS:H	1.46	0.80
27:Y:86:THR:HA	27:Y:97:ILE:HD13	1.64	0.80
1:5:541:U:H2'	1:5:542:G:H8	1.45	0.79
9:F:103:LEU:HG	9:F:130:ILE:HD11	1.64	0.79
1:5:2925:C:C2'	1:5:2926:A:H5'	2.12	0.79
6:C:299:ILE:HG21	19:Q:39:ARG:HH11	1.43	0.79
9:F:98:LYS:HB3	9:F:99:PRO:HD3	1.65	0.79
1:5:2312:A:O2'	1:5:2315:G:O2'	1.95	0.79
31:c:95:ALA:HB2	31:c:101:LEU:HD21	1.63	0.79
1:5:3163:A:O2'	1:5:3164:C:H5'	1.82	0.79
8:E:78:ARG:HH11	8:E:78:ARG:CG	1.92	0.79
1:5:3226:A:H2'	1:5:3227:A:H5''	1.64	0.79
17:O:108:ILE:CD1	17:O:113:ASP:HA	2.12	0.79
22:T:53:PRO:HB3	22:T:91:LEU:HD21	1.63	0.79
28:Z:88:ASP:HB3	28:Z:121:ARG:NH2	1.98	0.79
1:5:383:G:H5'	18:P:96:GLN:HE22	1.47	0.79
1:5:2530:G:H2'	1:5:2531:C:H5''	1.63	0.79

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2954:U:H1'	1:5:2955:U:H5''	1.64	0.79
8:E:3:ALA:HB2	33:e:77:ALA:HB2	1.63	0.79
33:e:8:LYS:HB3	33:e:8:LYS:HZ2	1.46	0.79
34:f:54:ARG:HG2	34:f:64:ILE:CD1	2.12	0.79
17:O:54:TYR:CD2	17:O:145:VAL:HG11	2.18	0.79
1:5:860:G:OP1	43:p:17:ARG:NH1	2.16	0.78
1:5:2532:U:H2'	1:5:2533:G:C8	2.18	0.78
5:B:169:THR:HG23	5:B:170:PRO:HD2	1.65	0.78
10:G:150:LEU:HD22	10:G:151:VAL:H	1.47	0.78
33:e:20:HIS:HB2	33:e:50:ILE:HD11	1.63	0.78
34:f:38:PRO:HD3	34:f:77:ASN:O	1.83	0.78
39:k:8:ILE:HD12	39:k:8:ILE:H	1.46	0.78
1:5:1049:C:H2'	1:5:1050:U:H6	1.47	0.78
1:5:2193:U:H1'	1:5:2275:A:O2'	1.83	0.78
1:5:2275:A:H2'	1:5:2276:G:O4'	1.83	0.78
1:5:2661:G:C2'	1:5:2662:G:H5'	2.14	0.78
12:I:76:MET:HE1	12:I:148:VAL:HG22	1.65	0.78
35:g:20:ILE:HD11	35:g:32:ALA:HB1	1.64	0.78
1:5:1040:A:O2'	12:I:198:LYS:NZ	2.17	0.78
17:O:61:ALA:HA	17:O:70:PRO:HD2	1.64	0.78
45:x:191:MET:HE1	45:x:319:ILE:HG22	1.66	0.78
6:C:182:LEU:HD11	6:C:223:PRO:HG2	1.64	0.78
45:x:158:MET:HE3	47:z:65:UNK:CG	2.13	0.78
1:5:3055:U:H1'	1:5:3057:U:OP2	1.83	0.78
19:Q:69:ARG:HH11	19:Q:69:ARG:CG	1.96	0.78
36:h:28:LEU:HA	36:h:31:LEU:HD13	1.65	0.78
23:U:46:ALA:HB3	46:y:238:ARG:HG3	1.64	0.78
45:x:12:ILE:O	45:x:16:ASP:HB2	1.84	0.78
1:5:1348:U:OP1	19:Q:39:ARG:NH2	2.16	0.78
3:8:157:U:O2'	3:8:158:U:H5'	1.83	0.78
45:x:3:LEU:HD22	46:y:330:VAL:HG22	1.66	0.78
26:X:108:LEU:HD23	26:X:127:THR:HA	1.66	0.78
1:5:2304:C:C2'	1:5:2305:G:H5'	2.13	0.77
1:5:2604:U:O2'	1:5:2605:G:OP1	2.02	0.77
1:5:2952:G:H2'	1:5:2953:U:H5'	1.65	0.77
45:x:42:VAL:HG11	45:x:141:ILE:HD13	1.64	0.77
1:5:2312:A:O2'	1:5:2315:G:H1'	1.84	0.77
5:B:109:HIS:N	5:B:200:GLU:OE2	2.17	0.77
9:F:216:VAL:HB	9:F:217:PRO:HD2	1.67	0.77
29:a:45:MET:HA	29:a:45:MET:HE2	1.66	0.77
46:y:157:UNK:HG1	46:y:227:LEU:CD1	2.13	0.77

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:12:LYS:HB3	21:S:167:ARG:HH22	1.48	0.77
1:5:2814:G:OP1	6:C:73:ARG:NH2	2.18	0.77
45:x:199:ALA:CB	45:x:567:LEU:HD22	2.14	0.77
45:x:270:THR:HG22	45:x:271:GLU:H	1.49	0.77
24:V:48:ARG:HH11	24:V:48:ARG:CG	1.96	0.77
32:d:60:TRP:HZ3	32:d:64:VAL:HG12	1.49	0.77
46:y:199:ASP:HB2	46:y:256:PHE:HA	1.66	0.77
1:5:914:A:C2	4:A:204:MET:HG2	2.20	0.77
1:5:1772:U:H5''	1:5:1773:C:H5'	1.66	0.77
1:5:1621:A:H2'	1:5:1622:U:C6	2.20	0.77
1:5:2567:C:H2'	1:5:2568:C:H5'	1.67	0.77
1:5:2661:G:H2'	1:5:2662:G:H5'	1.65	0.77
6:C:13:GLY:C	6:C:14:GLU:HG3	2.09	0.76
6:C:299:ILE:CG2	19:Q:39:ARG:HH11	1.98	0.76
8:E:46:ARG:HH11	8:E:46:ARG:CG	1.98	0.76
39:k:11:PHE:HD1	39:k:12:LEU:HD22	1.50	0.76
1:5:1307:G:H5''	17:O:60:LYS:HE2	1.67	0.76
36:h:89:ARG:HH11	36:h:89:ARG:CG	1.96	0.76
1:5:1807:G:H5''	28:Z:135:ARG:NH1	2.00	0.76
1:5:2186:U:H2'	1:5:2187:G:H5'	1.65	0.76
1:5:2204:C:H4'	1:5:2205:U:OP1	1.84	0.76
1:5:2964:G:N2	1:5:2967:A:OP2	2.12	0.76
1:5:3279:A:O2'	1:5:3280:U:H5'	1.84	0.76
7:D:34:LYS:HE3	22:T:30:TYR:CE1	2.20	0.76
32:d:29:ALA:HB3	32:d:30:PRO:HD3	1.67	0.76
45:x:105:CYS:SG	45:x:391:LYS:HD3	2.25	0.76
1:5:148:G:OP2	16:N:4:TYR:OH	2.03	0.76
27:Y:23:PRO:HG2	27:Y:26:GLN:HG3	1.68	0.76
34:f:86:ARG:HG3	34:f:86:ARG:NH1	2.00	0.76
1:5:3358:U:H2'	1:5:3359:A:H8	1.47	0.76
13:J:18:VAL:HG22	13:J:70:THR:HG23	1.66	0.76
37:i:70:ARG:HH11	37:i:84:LYS:HG2	1.51	0.76
47:z:102:UNK:O	47:z:104:UNK:N	2.19	0.76
1:5:1816:A:O2'	1:5:1817:G:OP1	2.02	0.76
1:5:2276:G:O6	1:5:2311:G:N2	2.19	0.76
1:5:844:G:H2'	1:5:845:G:H5'	1.67	0.76
1:5:1486:G:H21	35:g:6:THR:HG22	1.49	0.76
1:5:1644:C:H5'	1:5:1645:U:H5''	1.67	0.76
35:g:46:ASP:OD1	35:g:80:ARG:HD2	1.86	0.76
46:y:198:VAL:HG13	46:y:258:ASP:HB2	1.68	0.76
36:h:85:THR:CG2	36:h:88:LEU:HG	2.16	0.76

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:473:LEU:HD13	45:x:474:PRO:HD2	1.68	0.76
1:5:640:U:OP1	29:a:21:ARG:NH2	2.19	0.76
1:5:1819:U:O2'	1:5:1820:U:OP1	2.01	0.76
13:J:100:GLY:O	13:J:159:THR:HG21	1.85	0.76
1:5:190:U:O2'	1:5:191:U:OP2	2.02	0.75
1:5:2309:A:C8	1:5:2962:U:H4'	2.22	0.75
14:L:159:VAL:HG13	29:a:144:VAL:HG13	1.66	0.75
19:Q:30:VAL:O	19:Q:34:THR:HG22	1.85	0.75
1:5:1259:A:N6	44:q:35:SER:OG	2.19	0.75
1:5:2282:U:O4'	1:5:2960:C:O2'	2.02	0.75
12:I:12:GLN:NE2	12:I:128:ARG:HB3	2.00	0.75
16:N:182:ASN:O	16:N:183:THR:HG22	1.87	0.75
45:x:60:THR:HG22	45:x:62:PRO:HD2	1.68	0.75
1:5:1235:U:H4'	1:5:1236:G:H5'	1.68	0.75
1:5:2796:G:H3'	42:o:60:LYS:NZ	2.01	0.75
19:Q:94:PHE:CZ	29:a:119:PRO:HD3	2.21	0.75
21:S:155:ARG:HG2	21:S:155:ARG:NH2	1.95	0.75
34:f:54:ARG:NH1	34:f:64:ILE:HD11	2.00	0.75
46:y:191:ILE:HD11	46:y:197:LEU:HD11	1.66	0.75
1:5:2997:G:H1'	1:5:3396:U:H5'	1.67	0.75
1:5:3310:A:OP1	18:P:74:LYS:NZ	2.18	0.75
36:h:43:LYS:HB3	45:x:345:GLY:HA2	1.68	0.75
1:5:2213:A:H2'	1:5:2214:A:C8	2.21	0.75
3:8:81:U:O3'	3:8:82:U:H4'	1.86	0.75
10:G:183:LYS:HD2	10:G:194:THR:HB	1.68	0.75
1:5:915:A:C2'	1:5:916:G:H5'	2.17	0.75
24:V:104:ASN:HD21	24:V:108:GLU:HB2	1.52	0.75
31:c:50:VAL:HG13	31:c:53:LYS:HE3	1.67	0.75
28:Z:102:GLU:OE1	28:Z:103:GLN:N	2.19	0.75
45:x:199:ALA:O	45:x:567:LEU:HD13	1.87	0.75
1:5:2778:G:H2'	1:5:2779:A:H5'	1.69	0.74
1:5:248:U:C3'	1:5:249:U:H5'	2.16	0.74
1:5:3163:A:C2'	1:5:3164:C:H5'	2.16	0.74
18:P:126:ARG:HB2	46:y:371:LYS:HE3	1.67	0.74
32:d:44:MET:HE1	32:d:75:ILE:CG2	2.17	0.74
1:5:2437:G:H2'	1:5:2438:A:H5''	1.67	0.74
1:5:3359:A:H5''	46:y:237:LYS:HG3	1.69	0.74
1:5:924:G:O6	1:5:2808:A:N6	2.20	0.74
1:5:2093:A:N6	20:R:114:LYS:HD3	2.02	0.74
1:5:2270:A:H2'	1:5:2271:A:H8	1.52	0.74
1:5:2555:G:H1'	35:g:91:ARG:HG2	1.69	0.74

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:299:ILE:HG22	6:C:300:ARG:O	1.86	0.74
1:5:2339:C:OP2	24:V:48:ARG:NH1	2.20	0.74
26:X:34:LEU:HD12	26:X:35:PRO:CD	2.17	0.74
27:Y:37:LYS:HE2	27:Y:37:LYS:H	1.52	0.74
7:D:270:LYS:HG2	7:D:273:ARG:HH21	1.52	0.74
1:5:844:G:C2'	1:5:845:G:H5'	2.18	0.74
1:5:1555:U:O2	1:5:1555:U:H2'	1.87	0.74
1:5:3083:G:H4'	25:W:42:GLN:HE22	1.52	0.74
38:j:64:MET:HE3	38:j:67:LEU:HB3	1.70	0.74
1:5:1575:A:H3'	1:5:1576:G:H5''	1.70	0.74
1:5:2817:A:H4'	1:5:2818:U:OP2	1.88	0.74
34:f:53:TYR:CE1	34:f:65:ARG:HB2	2.23	0.74
1:5:3341:U:H3	46:y:225:ARG:NH1	1.86	0.74
7:D:51:LEU:HD13	7:D:146:LEU:HD21	1.68	0.74
9:F:136:TYR:CZ	9:F:231:ASN:HB2	2.23	0.74
32:d:60:TRP:CZ3	32:d:64:VAL:HG12	2.23	0.74
46:y:199:ASP:CB	46:y:256:PHE:HA	2.17	0.74
1:5:247:C:H2'	1:5:248:U:C1'	2.18	0.74
1:5:2271:A:C2'	1:5:2272:G:H5'	2.17	0.74
6:C:329:PRO:O	6:C:330:TYR:HB3	1.88	0.74
14:L:46:ILE:HG22	14:L:49:ARG:HB2	1.70	0.74
26:X:38:LEU:HD22	26:X:40:LEU:HD22	1.68	0.74
31:c:86:ARG:NH1	43:p:44:LYS:HG2	2.02	0.74
45:x:378:LEU:CD2	45:x:423:MET:HE2	2.17	0.74
1:5:670:C:OP1	19:Q:147:ARG:NH2	2.21	0.73
1:5:1095:U:H3	22:T:127:GLN:HG3	1.53	0.73
4:A:68:LYS:HG3	4:A:69:TYR:N	2.02	0.73
11:H:87:LYS:HZ2	11:H:191:LEU:HD21	1.52	0.73
12:I:14:ASN:O	12:I:128:ARG:NH2	2.21	0.73
1:5:109:A:H4'	1:5:110:G:OP1	1.88	0.73
1:5:159:A:O2'	1:5:160:G:H5'	1.86	0.73
1:5:798:G:O2'	14:L:14:PHE:O	2.05	0.73
22:T:46:GLY:HA2	22:T:52:MET:HE3	1.70	0.73
41:m:77:ILE:HD12	41:m:78:ILE:H	1.52	0.73
6:C:136:LEU:HD22	6:C:142:VAL:HG22	1.68	0.73
12:I:42:THR:CG2	12:I:45:GLU:HG3	2.18	0.73
1:5:90:C:C2'	1:5:91:G:H5'	2.19	0.73
1:5:1362:G:H1'	9:F:159:GLN:NE2	2.04	0.73
1:5:1645:U:H2'	1:5:1646:G:H5'	1.70	0.73
1:5:3291:G:H2'	1:5:3292:A:C8	2.22	0.73
2:7:73:C:O2	21:S:13:ARG:NH2	2.20	0.73

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:142:VAL:HB	6:C:145:ILE:HD11	1.71	0.73
23:U:90:ARG:CZ	46:y:316:ARG:NH1	2.51	0.73
1:5:2584:G:H5'	1:5:2585:G:OP2	1.88	0.73
3:8:154:C:H5''	10:G:181:LYS:HD3	1.70	0.73
11:H:77:ASN:HB3	11:H:151:VAL:HG21	1.70	0.73
16:N:184:LYS:H	16:N:186:GLY:H	1.34	0.73
1:5:541:U:H2'	1:5:542:G:C8	2.23	0.73
2:7:36:C:H4'	7:D:155:THR:HG23	1.71	0.73
15:M:48:GLY:CA	15:M:53:VAL:HG13	2.14	0.73
44:q:28:VAL:CG1	44:q:100:ILE:HD13	2.17	0.73
1:5:2436:U:H3	1:5:2511:A:H62	1.34	0.73
6:C:354:VAL:HG11	22:T:143:THR:HG21	1.68	0.73
7:D:51:LEU:HB3	7:D:146:LEU:HD23	1.69	0.73
7:D:107:ARG:HH22	7:D:120:LYS:HA	1.52	0.73
13:J:50:ALA:HB2	13:J:65:ILE:HD11	1.68	0.73
31:c:30:THR:HG21	31:c:89:VAL:CG2	2.17	0.73
44:q:80:VAL:HA	44:q:84:VAL:HG21	1.71	0.73
1:5:2309:A:O4'	1:5:2962:U:H5'	1.89	0.73
12:I:4:ARG:NH1	12:I:99:ILE:HG22	2.04	0.73
1:5:1098:A:OP2	22:T:130:ARG:HD3	1.89	0.72
1:5:1555:U:O2'	1:5:1556:C:OP1	2.07	0.72
1:5:2276:G:H21	1:5:2316:G:HO2'	1.36	0.72
1:5:3343:G:H21	1:5:3362:A:H2	1.37	0.72
17:O:12:LYS:O	21:S:167:ARG:NH2	2.22	0.72
39:k:65:LEU:HD23	39:k:65:LEU:O	1.88	0.72
45:x:155:SER:CB	45:x:504:CYS:HB3	2.17	0.72
45:x:536:TRP:HA	47:z:71:UNK:H	1.54	0.72
45:x:540:GLN:HB3	47:z:75:UNK:HG1	1.69	0.72
4:A:54:ARG:HG2	4:A:55:GLY:O	1.89	0.72
46:y:206:TYR:HD2	46:y:207:MET:HE3	1.53	0.72
4:A:114:SER:HB2	4:A:169:ILE:HD13	1.69	0.72
12:I:191:LYS:HB2	12:I:213:PHE:HE1	1.52	0.72
1:5:2946:A:H5''	1:5:2947:G:H5'	1.70	0.72
14:L:45:LYS:HG3	14:L:46:ILE:HD13	1.70	0.72
37:i:62:ARG:NH1	37:i:94:ILE:HD11	2.04	0.72
44:q:76:LEU:CD2	44:q:191:TYR:HB2	2.19	0.72
37:i:63:ASN:O	37:i:65:GLY:N	2.22	0.72
45:x:146:HIS:HA	45:x:150:TYR:O	1.89	0.72
45:x:447:HIS:HE1	45:x:491:SER:HB2	1.54	0.72
1:5:2584:G:O2'	10:G:240:ASN:ND2	2.22	0.72
3:8:82:U:H2'	3:8:85:G:OP1	1.90	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:g:47:CYS:HB3	35:g:84:CYS:SG	2.29	0.72
1:5:90:C:H2'	1:5:91:G:H5'	1.71	0.72
1:5:275:U:H2'	1:5:276:U:H6	1.54	0.72
1:5:715:A:HO2'	1:5:752:C:HO2'	1.33	0.72
1:5:3216:G:OP2	34:f:2:ALA:HB2	1.89	0.72
10:G:24:ASN:O	10:G:26:LEU:N	2.22	0.72
12:I:169:LYS:HE2	12:I:169:LYS:H	1.55	0.72
20:R:74:ARG:HA	20:R:74:ARG:NE	2.05	0.72
45:x:172:PRO:HG2	47:z:67:UNK:CB	2.19	0.72
1:5:2898:G:H5''	1:5:2899:C:H5'	1.72	0.72
4:A:44:ILE:HD12	4:A:44:ILE:H	1.55	0.72
22:T:91:LEU:HD13	22:T:96:ILE:HD11	1.71	0.72
7:D:182:GLY:HA2	7:D:194:LEU:HD23	1.70	0.72
8:E:46:ARG:HH11	8:E:46:ARG:HG3	1.53	0.72
12:I:42:THR:HG22	12:I:45:GLU:HG3	1.71	0.72
14:L:6:ASN:HB2	29:a:48:TYR:CD2	2.23	0.72
29:a:90:TYR:HD1	29:a:100:PRO:HD3	1.55	0.72
1:5:2675:C:H42	13:J:22:SER:HB2	1.55	0.72
1:5:2806:U:C2'	1:5:2807:U:H5'	2.19	0.72
17:O:19:LEU:O	17:O:23:VAL:HG23	1.90	0.72
27:Y:45:ILE:CD1	27:Y:122:LYS:HE3	2.17	0.72
17:O:126:VAL:HG22	17:O:127:LEU:HD23	1.71	0.71
45:x:543:LEU:HD22	45:x:554:PHE:CZ	2.25	0.71
1:5:1412:G:OP1	33:e:105:ARG:NH2	2.24	0.71
1:5:2421:U:H2'	1:5:2422:C:H5''	1.71	0.71
19:Q:86:THR:HG22	19:Q:105:ARG:CB	2.18	0.71
26:X:115:ARG:HH11	26:X:115:ARG:CG	2.02	0.71
20:R:20:ARG:HH11	20:R:21:LYS:HZ2	1.34	0.71
26:X:59:SER:HB3	26:X:102:LEU:HD21	1.70	0.71
1:5:2332:A:H2'	1:5:2333:C:O4'	1.90	0.71
1:5:2392:C:O2'	5:B:266:ARG:NH2	2.22	0.71
1:5:2511:A:C2'	1:5:2512:C:H5'	2.20	0.71
18:P:125:GLN:NE2	46:y:367:ARG:HD2	2.06	0.71
42:o:70:LEU:HD11	42:o:85:LEU:HD21	1.70	0.71
6:C:300:ARG:HH11	6:C:300:ARG:HG3	1.53	0.71
16:N:94:TYR:CE2	16:N:96:ARG:HB2	2.26	0.71
32:d:70:ARG:HE	32:d:102:LYS:HE2	1.55	0.71
37:i:59:ASP:O	37:i:63:ASN:HB2	1.90	0.71
37:i:84:LYS:HB2	37:i:84:LYS:HZ2	1.55	0.71
45:x:484:LYS:O	45:x:488:LEU:HG	1.91	0.71
46:y:160:PRO:HG2	46:y:163:GLN:HB2	1.70	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:59:G:H2'	3:8:33:A:O2'	1.90	0.71
1:5:1073:U:H1'	30:b:50:THR:HG22	1.73	0.71
11:H:177:ASP:OD1	11:H:177:ASP:N	2.24	0.71
18:P:67:ILE:HD12	18:P:82:ARG:NH2	2.06	0.71
46:y:348:LEU:HB2	46:y:349:PRO:HD3	1.73	0.71
1:5:2102:U:H2'	1:5:2103:U:H6	1.56	0.71
45:x:60:THR:HG22	45:x:61:VAL:H	1.55	0.71
1:5:1098:A:OP2	22:T:130:ARG:NH1	2.17	0.71
5:B:169:THR:HG22	5:B:171:LEU:H	1.53	0.71
45:x:332:LYS:HE3	47:z:87:UNK:CB	2.20	0.71
1:5:1556:C:H2'	1:5:2169:G:N1	2.05	0.71
8:E:56:LYS:HB2	8:E:98:VAL:HG11	1.71	0.71
10:G:83:ASP:OD2	10:G:86:THR:N	2.21	0.71
21:S:96:ASP:OD1	21:S:97:VAL:N	2.19	0.71
45:x:60:THR:CG2	45:x:131:GLY:HA3	2.20	0.71
1:5:767:U:H1'	1:5:768:C:C6	2.26	0.71
1:5:3139:A:C2'	1:5:3140:G:H5'	2.21	0.71
1:5:3252:G:H2'	1:5:3253:G:C8	2.25	0.71
29:a:77:LYS:O	29:a:79:TRP:N	2.24	0.71
35:g:5:VAL:HG22	35:g:6:THR:H	1.55	0.71
44:q:87:VAL:CG1	44:q:100:ILE:HD11	2.18	0.71
47:z:67:UNK:CG	47:z:70:UNK:HB1	2.20	0.71
9:F:121:LYS:HB2	22:T:133:ALA:HB3	1.72	0.70
11:H:8:GLN:NE2	11:H:69:ARG:HG2	2.05	0.70
44:q:15:LEU:O	44:q:19:LEU:HG	1.91	0.70
1:5:1051:U:H2'	1:5:1052:U:H5'	1.72	0.70
1:5:2433:U:H1'	16:N:125:SER:HB3	1.72	0.70
9:F:218:ARG:HG2	9:F:218:ARG:HH11	1.56	0.70
3:8:134:G:O2'	3:8:135:G:H5'	1.91	0.70
4:A:149:ARG:HB2	4:A:149:ARG:HH11	1.56	0.70
6:C:74:ILE:CD1	6:C:75:PRO:HD2	2.18	0.70
44:q:43:LYS:HA	44:q:46:ARG:HG2	1.73	0.70
1:5:2794:G:H5'	42:o:57:VAL:O	1.91	0.70
10:G:44:ARG:HH11	10:G:44:ARG:CG	1.98	0.70
12:I:48:LEU:HD22	12:I:49:CYS:H	1.56	0.70
14:L:123:ILE:HG12	14:L:124:ILE:N	2.05	0.70
35:g:44:CYS:SG	35:g:81:CYS:HB3	2.32	0.70
4:A:174:ARG:HG2	4:A:174:ARG:NH1	2.05	0.70
5:B:369:ARG:HG2	5:B:369:ARG:HH11	1.57	0.70
22:T:32:LYS:HE2	22:T:98:HIS:HD2	1.57	0.70
28:Z:13:VAL:HG12	28:Z:19:ALA:HA	1.72	0.70

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3170:A:O2'	1:5:3171:U:H5'	1.92	0.70
14:L:149:GLN:HE21	14:L:149:GLN:H	1.39	0.70
1:5:2178:A:H5''	4:A:132:ASN:HD21	1.57	0.70
23:U:90:ARG:NH1	46:y:316:ARG:HH11	1.90	0.70
25:W:35:LYS:HE2	25:W:51:TRP:CZ2	2.27	0.70
39:k:5:ILE:HD11	39:k:10:GLN:NE2	2.06	0.70
1:5:121:A:C4	10:G:108:ARG:NH1	2.60	0.70
1:5:2978:U:OP2	46:y:394:ARG:NH2	2.24	0.70
5:B:150:ARG:HH11	5:B:150:ARG:CG	2.05	0.70
6:C:60:THR:HG22	6:C:62:ALA:H	1.55	0.70
35:g:12:PRO:HG2	35:g:13:TYR:CD2	2.26	0.70
45:x:199:ALA:HB1	45:x:567:LEU:HD22	1.73	0.70
45:x:262:ARG:O	45:x:263:GLU:HG2	1.91	0.70
45:x:267:VAL:HG13	45:x:309:PHE:HE2	1.57	0.70
1:5:173:G:H1	1:5:245:U:H3	1.39	0.70
6:C:20:LEU:HD11	6:C:252:GLU:HG3	1.74	0.70
10:G:172:LYS:NZ	10:G:172:LYS:HB2	2.06	0.70
27:Y:95:VAL:HA	45:x:452:THR:HG22	1.74	0.70
8:E:171:PRO:HA	8:E:174:LEU:HD12	1.72	0.70
1:5:3228:C:H1'	1:5:3229:G:OP2	1.91	0.69
6:C:190:GLY:O	6:C:193:LYS:NZ	2.22	0.69
14:L:3:ILE:HG21	29:a:45:MET:HE3	1.72	0.69
19:Q:122:ILE:CG2	19:Q:126:GLN:HB2	2.22	0.69
44:q:61:ARG:NH2	44:q:61:ARG:O	2.23	0.69
1:5:1348:U:H3'	1:5:1348:U:C6	2.28	0.69
1:5:3261:C:O2'	1:5:3262:U:H5'	1.92	0.69
11:H:87:LYS:NZ	11:H:191:LEU:HD21	2.07	0.69
1:5:981:U:H1'	1:5:982:C:OP1	1.91	0.69
1:5:1236:G:N2	1:5:1244:A:OP1	2.24	0.69
1:5:1355:A:H1'	1:5:1356:U:OP2	1.92	0.69
1:5:2971:A:H5''	1:5:2972:G:C5'	2.22	0.69
2:7:71:G:O2'	2:7:72:A:H5'	1.90	0.69
3:8:60:U:OP2	26:X:61:LYS:NZ	2.25	0.69
21:S:12:ARG:HB3	21:S:24:LEU:HD23	1.75	0.69
40:l:38:ASN:HD22	40:l:41:ARG:HD3	1.56	0.69
45:x:543:LEU:HD22	45:x:554:PHE:HZ	1.54	0.69
1:5:2593:A:H4'	1:5:2594:C:O5'	1.92	0.69
13:J:15:GLU:HB3	13:J:130:VAL:HG22	1.73	0.69
19:Q:19:PRO:HD3	19:Q:53:PHE:CE1	2.27	0.69
45:x:535:SER:HA	47:z:70:UNK:HB2	1.72	0.69
46:y:160:PRO:HG2	46:y:163:GLN:CB	2.22	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1083:G:H2'	1:5:1084:A:C8	2.28	0.69
1:5:1083:G:H2'	1:5:1084:A:H8	1.58	0.69
1:5:1430:U:H2'	29:a:9:ARG:HH22	1.58	0.69
1:5:2423:U:H3'	1:5:2605:G:H22	1.56	0.69
1:5:3214:U:H2'	15:M:121:MET:HE1	1.74	0.69
1:5:3278:C:H3'	1:5:3279:A:H5'	1.74	0.69
5:B:106:TRP:HB2	5:B:133:TYR:CE2	2.28	0.69
12:I:187:ALA:CB	12:I:189:GLU:HG3	2.21	0.69
44:q:79:PHE:HE2	44:q:196:VAL:HG11	1.57	0.69
1:5:2422:C:H2'	1:5:2423:U:O4'	1.93	0.69
1:5:3380:U:O2'	1:5:3381:U:H5'	1.93	0.69
4:A:44:ILE:CD1	4:A:62:VAL:HG13	2.22	0.69
1:5:251:G:H1'	1:5:253:A:C5	2.28	0.69
1:5:717:C:H2'	1:5:718:G:H5'	1.73	0.69
1:5:1084:A:H2'	1:5:1085:A:C8	2.28	0.69
1:5:2898:G:H5''	1:5:2899:C:C5'	2.23	0.69
1:5:3358:U:H2'	1:5:3359:A:C8	2.28	0.69
5:B:167:ARG:HH12	5:B:168:LYS:NZ	1.90	0.69
21:S:137:ARG:HG2	21:S:139:TYR:CE1	2.27	0.69
28:Z:54:THR:HG22	28:Z:57:HIS:CD2	2.27	0.69
28:Z:83:THR:HG23	28:Z:85:TYR:N	2.05	0.69
45:x:21:GLN:HG3	45:x:22:GLU:N	2.08	0.69
1:5:1269:U:H1'	1:5:1272:C:H5	1.57	0.69
1:5:1284:C:O2'	1:5:1285:G:OP1	2.09	0.69
1:5:2341:A:OP2	5:B:247:ARG:NH2	2.26	0.69
1:5:2418:G:O2'	1:5:2419:A:O5'	2.07	0.69
1:5:2537:U:O2'	1:5:2538:U:O5'	2.10	0.69
4:A:30:ARG:HD3	4:A:63:PHE:CD2	2.26	0.69
8:E:152:THR:HG23	8:E:155:LEU:HB2	1.72	0.69
12:I:48:LEU:HD22	12:I:49:CYS:N	2.08	0.69
14:L:3:ILE:HD12	29:a:41:HIS:HB3	1.75	0.69
21:S:12:ARG:HD2	21:S:22:PRO:HG2	1.73	0.69
29:a:78:LEU:HD13	29:a:78:LEU:O	1.93	0.69
39:k:41:THR:HG21	39:k:62:ALA:HB1	1.73	0.69
45:x:272:SER:HA	45:x:474:PRO:HG3	1.75	0.69
11:H:28:VAL:HG13	11:H:33:THR:CG2	2.21	0.69
27:Y:56:VAL:HG21	27:Y:70:ILE:HD11	1.73	0.69
32:d:42:LEU:HD23	32:d:43:HIS:CE1	2.27	0.69
45:x:21:GLN:HG3	45:x:22:GLU:H	1.56	0.69
1:5:822:G:H1'	4:A:15:ILE:HD12	1.75	0.68
1:5:2175:U:H4'	1:5:2176:U:OP2	1.92	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I:191:LYS:HB2	12:I:213:PHE:CE1	2.27	0.68
31:c:16:LEU:HB2	31:c:98:SER:HB2	1.72	0.68
1:5:1010:G:N2	12:I:193:ASP:OD2	2.26	0.68
1:5:2430:A:H2'	1:5:2431:C:C6	2.27	0.68
1:5:2923:U:H2'	1:5:2924:U:C6	2.28	0.68
14:L:76:THR:HG22	14:L:101:ARG:NH1	2.09	0.68
27:Y:63:LYS:HE3	27:Y:85:VAL:HG13	1.75	0.68
35:g:20:ILE:HD11	35:g:32:ALA:CB	2.23	0.68
1:5:103:G:OP1	14:L:70:ARG:NH2	2.24	0.68
1:5:1284:C:O2'	1:5:1285:G:H5'	1.93	0.68
5:B:238:LEU:HD12	5:B:239:PRO:CD	2.23	0.68
13:J:108:GLU:HA	13:J:122:ILE:HD12	1.74	0.68
22:T:95:HIS:O	22:T:96:ILE:HD13	1.94	0.68
36:h:37:SER:HB2	45:x:343:TYR:CE2	2.25	0.68
1:5:3094:A:OP1	24:V:14:SER:OG	2.10	0.68
12:I:36:LEU:HD11	12:I:69:ARG:CD	2.23	0.68
20:R:20:ARG:HH11	20:R:21:LYS:NZ	1.91	0.68
24:V:59:MET:HA	24:V:59:MET:HE3	1.74	0.68
36:h:42:PRO:HD2	45:x:345:GLY:O	1.93	0.68
1:5:242:C:H2'	1:5:243:G:C8	2.29	0.68
1:5:2884:C:O2'	1:5:2885:C:H5'	1.94	0.68
1:5:2952:G:C2'	1:5:2953:U:H5'	2.23	0.68
7:D:88:ILE:HD11	7:D:243:ALA:HB2	1.76	0.68
11:H:88:TYR:CE2	11:H:184:LYS:HB3	2.29	0.68
13:J:109:HIS:CD2	13:J:123:PHE:H	2.10	0.68
27:Y:37:LYS:HE2	27:Y:37:LYS:N	2.07	0.68
37:i:84:LYS:HB2	37:i:84:LYS:NZ	2.07	0.68
45:x:5:ILE:HD12	46:y:340:VAL:HG13	1.74	0.68
46:y:211:ILE:HD11	46:y:231:ARG:CG	2.23	0.68
1:5:837:A:OP2	43:p:4:ARG:HD2	1.93	0.68
3:8:104:A:H3'	3:8:105:A:H5''	1.75	0.68
44:q:26:PHE:HE2	44:q:89:THR:HG21	1.58	0.68
45:x:464:SER:HB2	45:x:469:PRO:HB3	1.76	0.68
47:z:87:UNK:HB2	47:z:90:UNK:HG3	1.74	0.68
1:5:2393:G:H4'	5:B:252:ILE:HG12	1.74	0.68
16:N:15:GLN:HE21	16:N:20:ARG:HD3	1.57	0.68
16:N:15:GLN:HB3	37:i:51:SER:HB2	1.75	0.68
21:S:155:ARG:HH21	21:S:155:ARG:CG	2.03	0.68
11:H:76:ASP:O	11:H:80:THR:HG23	1.93	0.68
14:L:114:GLN:HA	14:L:114:GLN:NE2	2.07	0.68
14:L:123:ILE:HD11	14:L:125:VAL:HG23	1.76	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3386:G:H2'	1:5:3387:U:H6	1.59	0.68
2:7:48:U:OP2	7:D:94:ASN:HB3	1.94	0.68
20:R:81:ARG:CD	20:R:88:ARG:HH12	2.06	0.68
45:x:537:ILE:O	47:z:73:UNK:HG3	1.94	0.68
1:5:97:U:C2'	1:5:98:G:H5'	2.24	0.68
13:J:92:ARG:O	13:J:95:ASN:HB2	1.94	0.68
17:O:84:LEU:HD23	17:O:84:LEU:O	1.94	0.68
1:5:1257:C:H2'	1:5:1258:U:O4'	1.95	0.67
1:5:1807:G:C5'	28:Z:135:ARG:NH1	2.57	0.67
15:M:135:LEU:HD13	15:M:136:ALA:N	2.08	0.67
16:N:136:ASP:OD1	16:N:138:GLN:HG2	1.94	0.67
18:P:170:SER:HA	18:P:173:ARG:NH2	2.09	0.67
28:Z:88:ASP:HB3	28:Z:121:ARG:HH22	1.59	0.67
1:5:1174:G:N2	17:O:87:MET:HE2	2.10	0.67
1:5:1431:G:OP2	29:a:12:ARG:NH1	2.27	0.67
5:B:107:ALA:HB1	5:B:200:GLU:HG3	1.75	0.67
8:E:48:ARG:HG2	8:E:48:ARG:HH11	1.57	0.67
32:d:8:VAL:HG12	32:d:9:THR:N	2.09	0.67
45:x:446:ASP:N	45:x:446:ASP:OD1	2.23	0.67
1:5:2178:A:H5''	4:A:132:ASN:ND2	2.09	0.67
35:g:41:ARG:HA	35:g:56:THR:HG22	1.75	0.67
42:o:10:THR:O	42:o:20:HIS:HA	1.94	0.67
45:x:84:VAL:HG21	45:x:148:ASP:CG	2.20	0.67
4:A:101:VAL:C	4:A:102:LEU:HD12	2.19	0.67
5:B:256:HIS:HA	5:B:257:PRO:C	2.19	0.67
13:J:28:ASP:HA	13:J:31:THR:CG2	2.25	0.67
30:b:28:LYS:HE2	30:b:29:TYR:HE1	1.59	0.67
1:5:536:U:C2'	1:5:537:A:H5'	2.24	0.67
1:5:3291:G:H2'	1:5:3292:A:H8	1.59	0.67
5:B:44:THR:HA	5:B:340:LYS:HD3	1.77	0.67
5:B:148:LEU:O	5:B:152:LYS:HG3	1.95	0.67
5:B:308:MET:HE1	5:B:373:PRO:N	2.08	0.67
37:i:62:ARG:CZ	37:i:94:ILE:HD11	2.25	0.67
1:5:240:U:O2'	1:5:241:G:O5'	2.12	0.67
1:5:1221:A:C5'	44:q:57:THR:HB	2.08	0.67
1:5:1226:G:H2'	1:5:1227:C:C6	2.30	0.67
1:5:2277:C:C4'	1:5:2317:A:H4'	2.22	0.67
20:R:144:GLN:O	20:R:148:ASP:HB2	1.95	0.67
1:5:604:G:H2'	1:5:605:U:C6	2.30	0.67
1:5:627:U:H4'	1:5:1399:A:O2'	1.95	0.67
9:F:179:LEU:H	9:F:179:LEU:HD22	1.59	0.67

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:76:LEU:O	27:Y:77:LYS:HB2	1.94	0.67
39:k:8:ILE:O	39:k:12:LEU:HD23	1.95	0.67
44:q:60:ARG:HA	44:q:77:LEU:HD22	1.76	0.67
20:R:81:ARG:HD3	20:R:88:ARG:HH12	1.60	0.67
24:V:121:GLU:N	24:V:121:GLU:OE1	2.28	0.67
44:q:25:LEU:HD11	44:q:86:PHE:CD1	2.30	0.67
45:x:264:TYR:CE2	45:x:304:ILE:HG23	2.30	0.67
30:b:58:LYS:HA	30:b:58:LYS:HZ3	1.59	0.67
32:d:13:THR:HG23	32:d:72:ARG:HH21	1.58	0.67
45:x:26:ASN:HA	45:x:29:ARG:HD2	1.77	0.67
1:5:924:G:O2'	1:5:2810:C:O4'	2.12	0.66
1:5:2609:A:C2'	1:5:2610:G:H5''	2.26	0.66
1:5:2745:G:N2	1:5:2748:A:OP2	2.27	0.66
11:H:13:PRO:HG2	11:H:16:VAL:HG11	1.75	0.66
31:c:101:LEU:HD22	31:c:101:LEU:H	1.60	0.66
1:5:717:C:C2'	1:5:718:G:H5'	2.25	0.66
2:7:3:U:H2'	2:7:4:U:C6	2.30	0.66
10:G:238:LEU:HD12	10:G:238:LEU:H	1.59	0.66
14:L:47:ALA:O	14:L:49:ARG:N	2.28	0.66
18:P:64:ASN:HB2	18:P:80:LYS:CE	2.25	0.66
25:W:1:MET:SD	25:W:15:PRO:HG2	2.35	0.66
45:x:298:PHE:HB3	45:x:301:VAL:CG2	2.24	0.66
1:5:2137:U:OP2	1:5:2142:A:N6	2.27	0.66
1:5:2677:G:O2'	1:5:2679:A:N7	2.22	0.66
1:5:3194:C:H2'	1:5:3195:U:H5'	1.77	0.66
21:S:82:ASP:OD1	21:S:87:THR:HB	1.94	0.66
36:h:105:ARG:CZ	36:h:105:ARG:HB2	2.25	0.66
38:j:17:THR:HG22	38:j:18:LEU:H	1.60	0.66
1:5:73:C:N3	14:L:59:ARG:NH1	2.43	0.66
1:5:253:A:HO2'	1:5:254:A:P	2.18	0.66
1:5:1231:A:N6	1:5:1277:C:OP2	2.28	0.66
1:5:2509:U:C2'	1:5:2510:U:H5'	2.26	0.66
1:5:2712:U:H2'	1:5:2713:U:C6	2.30	0.66
2:7:29:C:OP2	13:J:137:ARG:HD2	1.96	0.66
6:C:99:MET:HE2	6:C:102:PRO:HA	1.78	0.66
6:C:300:ARG:HH11	6:C:300:ARG:HG2	1.59	0.66
21:S:81:TYR:CE1	21:S:90:MET:HE3	2.30	0.66
33:e:81:ASP:O	33:e:84:THR:HG23	1.95	0.66
45:x:42:VAL:CG1	45:x:141:ILE:HD13	2.25	0.66
45:x:172:PRO:HG2	47:z:67:UNK:HB1	1.75	0.66
1:5:1259:A:O2'	1:5:1260:A:H5'	1.94	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:49:TYR:CE2	7:D:75:LEU:HD12	2.31	0.66
9:F:234:GLU:HA	9:F:234:GLU:OE1	1.95	0.66
17:O:98:ALA:HA	17:O:101:ARG:NH1	2.10	0.66
22:T:17:ARG:HH11	22:T:17:ARG:CG	1.95	0.66
1:5:3299:A:H4'	18:P:55:GLN:NE2	2.10	0.66
4:A:14:SER:OG	4:A:15:ILE:N	2.26	0.66
6:C:208:VAL:O	6:C:251:THR:HG23	1.95	0.66
11:H:67:ALA:O	11:H:70:THR:HG23	1.96	0.66
15:M:47:ASP:C	15:M:49:PRO:HD3	2.20	0.66
45:x:91:ILE:HG13	45:x:254:GLN:NE2	2.11	0.66
45:x:239:VAL:HG13	45:x:240:PRO:HD2	1.76	0.66
1:5:1220:U:H5''	1:5:1222:G:O4'	1.95	0.66
1:5:1324:U:H5''	21:S:2:ALA:CA	2.20	0.66
1:5:1575:A:H2'	1:5:1576:G:H8	1.60	0.66
1:5:1715:A:N7	31:c:84:LEU:HD22	2.11	0.66
1:5:2190:U:H2'	1:5:2191:U:C6	2.31	0.66
11:H:31:ARG:HB2	11:H:82:VAL:O	1.96	0.66
11:H:111:PHE:HD1	11:H:127:PRO:HA	1.61	0.66
24:V:75:PRO:HB2	24:V:103:ALA:O	1.96	0.66
26:X:24:LEU:CD2	26:X:25:LYS:H	2.08	0.66
32:d:15:ASN:ND2	32:d:18:LYS:HB3	2.10	0.66
1:5:621:A:H4'	1:5:622:A:O5'	1.95	0.66
1:5:1765:U:H4'	1:5:1766:G:O5'	1.95	0.66
2:7:112:G:H2'	2:7:113:C:C6	2.30	0.66
6:C:26:PHE:HD2	6:C:130:ALA:HB2	1.61	0.66
17:O:89:SER:O	17:O:95:GLY:HA3	1.95	0.66
32:d:44:MET:HE1	32:d:75:ILE:HG21	1.77	0.66
42:o:8:ARG:HB2	42:o:8:ARG:NH1	2.10	0.66
45:x:391:LYS:HG2	45:x:394:HIS:CE1	2.30	0.66
1:5:915:A:H2'	1:5:916:G:H5'	1.77	0.66
4:A:57:PRO:HG2	4:A:78:ALA:HB3	1.76	0.66
8:E:65:ILE:O	8:E:76:LEU:HD23	1.95	0.66
23:U:35:LYS:CE	46:y:192:PRO:HG3	2.25	0.66
23:U:50:LEU:HD22	23:U:54:VAL:CB	2.24	0.66
37:i:26:ILE:H	37:i:26:ILE:HD12	1.60	0.66
1:5:1563:C:H2'	1:5:1564:U:C6	2.31	0.66
3:8:142:C:OP1	16:N:38:ARG:NH1	2.29	0.66
14:L:27:ASP:OD1	14:L:27:ASP:N	2.23	0.66
23:U:25:ASN:HB3	46:y:307:LEU:HD23	1.77	0.66
29:a:34:MET:HA	29:a:34:MET:CE	2.24	0.66
1:5:1389:G:O6	6:C:186:LYS:NZ	2.29	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:167:ARG:HH12	5:B:168:LYS:HZ3	1.43	0.65
17:O:121:PRO:HA	17:O:124:LEU:CD2	2.25	0.65
26:X:142:ILE:HD13	45:x:420:ARG:HB3	1.78	0.65
33:e:125:ARG:HA	33:e:128:LEU:CD1	2.24	0.65
1:5:939:U:OP2	29:a:26:ARG:NH1	2.25	0.65
1:5:2675:C:N4	13:J:22:SER:HB2	2.12	0.65
15:M:20:VAL:O	15:M:66:THR:HG23	1.95	0.65
16:N:18:VAL:HG22	16:N:19:LEU:CD1	2.25	0.65
29:a:6:THR:HG22	29:a:8:THR:N	2.04	0.65
41:m:92:ASP:C	41:m:93:LYS:HG2	2.20	0.65
1:5:1560:G:H2'	1:5:1561:G:C8	2.32	0.65
5:B:227:GLU:OE1	5:B:228:GLY:N	2.29	0.65
8:E:56:LYS:HE3	8:E:98:VAL:HG12	1.77	0.65
12:I:38:LYS:HD3	12:I:41:ALA:HB2	1.78	0.65
45:x:225:THR:O	45:x:229:THR:OG1	2.15	0.65
45:x:252:ALA:HB3	45:x:255:ASN:CG	2.21	0.65
45:x:298:PHE:HB3	45:x:301:VAL:HG22	1.77	0.65
1:5:587:U:H2'	1:5:588:G:H5'	1.78	0.65
1:5:2828:G:OP2	12:I:7:ARG:NH1	2.28	0.65
17:O:110:PRO:HD2	17:O:111:PRO:HD2	1.78	0.65
19:Q:72:LYS:HB3	19:Q:72:LYS:HZ3	1.60	0.65
27:Y:52:ARG:HG2	27:Y:53:ASP:N	2.12	0.65
29:a:133:LEU:CD1	29:a:137:LYS:HE3	2.23	0.65
1:5:250:U:OP1	1:5:250:U:H4'	1.95	0.65
1:5:396:A:H5''	47:z:136:UNK:CG	2.27	0.65
1:5:1063:G:N1	22:T:109:VAL:HG13	2.11	0.65
1:5:2530:G:C2'	1:5:2531:C:H5''	2.25	0.65
14:L:47:ALA:HB1	14:L:48:PRO:CD	2.26	0.65
18:P:67:ILE:HD12	18:P:82:ARG:CZ	2.27	0.65
21:S:13:ARG:HH11	21:S:13:ARG:CG	2.06	0.65
27:Y:58:VAL:HG22	27:Y:104:LEU:CD2	2.26	0.65
47:z:120:UNK:HA	47:z:123:UNK:HG3	1.79	0.65
1:5:2148:U:O2'	4:A:182:ALA:HB2	1.96	0.65
1:5:2548:C:H5''	1:5:2549:G:OP1	1.97	0.65
5:B:369:ARG:HH11	5:B:369:ARG:CG	2.09	0.65
26:X:38:LEU:O	26:X:38:LEU:HD23	1.97	0.65
28:Z:119:GLU:O	28:Z:123:GLN:HG2	1.97	0.65
30:b:38:LYS:O	30:b:39:PHE:HB3	1.95	0.65
31:c:30:THR:HG21	31:c:89:VAL:HG22	1.78	0.65
1:5:1397:C:C2'	1:5:1398:U:H5'	2.26	0.65
1:5:3386:G:H2'	1:5:3387:U:C6	2.32	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:7:56:A:O2'	13:J:148:VAL:HG13	1.97	0.65
5:B:296:THR:HG22	5:B:298:PHE:H	1.62	0.65
6:C:138:ARG:HH21	6:C:240:PRO:HB2	1.60	0.65
28:Z:21:LYS:N	28:Z:21:LYS:HD2	2.11	0.65
1:5:1874:A:OP2	20:R:21:LYS:NZ	2.26	0.65
1:5:3016:A:H2'	1:5:3017:A:C8	2.32	0.65
1:5:3366:G:H2'	1:5:3367:C:C6	2.31	0.65
16:N:8:GLU:HG3	16:N:50:ARG:NH1	2.12	0.65
45:x:39:LEU:HD23	45:x:531:THR:CG2	2.26	0.65
1:5:2292:U:H2'	1:5:2293:C:C6	2.32	0.65
1:5:3042:U:C2'	1:5:3043:C:H5'	2.27	0.65
3:8:155:A:H2'	3:8:156:U:O4'	1.97	0.65
5:B:313:HIS:O	5:B:333:LYS:HE3	1.96	0.65
24:V:104:ASN:HB2	24:V:105:PRO:CD	2.27	0.65
40:l:41:ARG:HG2	40:l:41:ARG:NH1	2.04	0.65
45:x:39:LEU:HD22	45:x:154:VAL:HG11	1.77	0.65
45:x:211:LEU:HD21	45:x:548:SER:O	1.97	0.65
1:5:1950:U:H2'	1:5:1951:C:H6	1.62	0.65
1:5:1993:Y5P:H4A	1:5:1994:Y5P:H4	1.79	0.65
11:H:180:TYR:HB2	41:m:85:LEU:HD11	1.77	0.65
26:X:113:LEU:HD11	26:X:121:LYS:HD2	1.79	0.65
35:g:82:ALA:O	35:g:85:VAL:N	2.30	0.65
1:5:75:G:C5'	14:L:58:VAL:HG11	2.27	0.64
1:5:759:U:C2'	1:5:760:G:H5'	2.27	0.64
1:5:848:A:H2'	1:5:849:C:O4'	1.97	0.64
1:5:1260:A:O2'	1:5:1261:G:O4'	2.11	0.64
1:5:2677:G:H2'	1:5:2677:G:N3	2.11	0.64
9:F:157:ASN:O	9:F:158:LYS:HB3	1.97	0.64
10:G:162:LEU:HD23	16:N:7:LEU:HD11	1.78	0.64
11:H:115:ARG:NH1	11:H:123:ILE:HD11	2.12	0.64
17:O:54:TYR:HD2	17:O:145:VAL:HG11	1.59	0.64
29:a:34:MET:HE2	29:a:34:MET:CA	2.25	0.64
46:y:356:VAL:O	46:y:360:GLN:HB2	1.97	0.64
14:L:165:SER:HB3	14:L:168:ARG:CB	2.25	0.64
34:f:71:VAL:HG13	34:f:81:VAL:CG1	2.27	0.64
45:x:268:VAL:HG21	45:x:304:ILE:HG21	1.79	0.64
45:x:292:ARG:NH2	45:x:458:LEU:HD12	2.12	0.64
1:5:381:U:H2'	1:5:382:U:C6	2.33	0.64
1:5:769:G:C2'	1:5:770:G:H5'	2.27	0.64
1:5:1063:G:O2'	1:5:1097:G:N2	2.29	0.64
1:5:2510:U:O2'	1:5:2511:A:H5''	1.98	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2519:A:O2'	1:5:2520:A:H5'	1.97	0.64
1:5:2836:C:C2'	1:5:2837:A:H5'	2.28	0.64
9:F:90:LYS:HD3	9:F:220:PHE:CE1	2.31	0.64
10:G:156:ASP:OD1	10:G:183:LYS:HB3	1.98	0.64
12:I:38:LYS:CG	12:I:41:ALA:HB2	2.28	0.64
29:a:81:LEU:HD23	29:a:81:LEU:N	2.12	0.64
32:d:50:ARG:CZ	32:d:90:PHE:HE1	2.10	0.64
1:5:97:U:H2'	1:5:98:G:H5'	1.78	0.64
1:5:1235:U:H4'	1:5:1236:G:C5'	2.28	0.64
1:5:2987:A:O2'	5:B:259:HIS:HB3	1.98	0.64
44:q:91:GLU:HB3	44:q:92:PRO:CD	2.22	0.64
1:5:1072:G:O2'	1:5:1073:U:H5'	1.96	0.64
1:5:2841:G:H2'	1:5:2844:C:H42	1.63	0.64
5:B:347:SER:O	5:B:348:ARG:HB3	1.97	0.64
7:D:294:ALA:HB1	12:I:217:PHE:O	1.97	0.64
8:E:96:VAL:CG1	8:E:98:VAL:HG23	2.27	0.64
26:X:57:LEU:HD12	26:X:94:GLN:NE2	2.12	0.64
30:b:28:LYS:HG2	30:b:29:TYR:CD1	2.32	0.64
1:5:1803:C:H2'	1:5:1804:A:C8	2.33	0.64
1:5:3040:A:H5''	24:V:12:ARG:HB2	1.78	0.64
1:5:3289:G:H2'	1:5:3290:G:C8	2.29	0.64
8:E:26:ARG:HB3	8:E:27:PRO:HD2	1.79	0.64
8:E:116:UNK:O	8:E:120:UNK:HB1	1.98	0.64
1:5:946:U:O2'	1:5:947:G:H5'	1.98	0.64
1:5:1222:G:H1'	1:5:1223:A:OP2	1.97	0.64
1:5:1567:U:C3'	1:5:1568:U:H5''	2.27	0.64
1:5:1807:G:H5''	28:Z:135:ARG:HH11	1.61	0.64
1:5:2538:U:H3'	1:5:2539:C:H5''	1.80	0.64
16:N:122:ASN:OD1	16:N:123:GLN:N	2.30	0.64
17:O:103:LYS:HB3	17:O:105:PHE:HE1	1.62	0.64
28:Z:71:PHE:HA	28:Z:111:LYS:HE2	1.80	0.64
36:h:7:TYR:CE1	36:h:8:GLU:HG3	2.33	0.64
44:q:18:TYR:HB3	44:q:88:PHE:CD1	2.33	0.64
45:x:336:THR:HG22	45:x:337:LEU:N	2.12	0.64
1:5:1134:G:O2'	1:5:2642:A:N3	2.31	0.64
1:5:2404:A:N3	1:5:2404:A:H2'	2.11	0.64
1:5:3139:A:H2'	1:5:3140:G:H5'	1.80	0.64
1:5:3384:U:H1'	32:d:105:GLN:OE1	1.98	0.64
5:B:17:LEU:N	5:B:17:LEU:HD13	2.11	0.64
10:G:70:LYS:HA	10:G:235:GLY:CA	2.25	0.64
36:h:101:THR:CG2	36:h:104:GLN:H	2.11	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:55:THR:O	45:x:56:GLN:HB2	1.98	0.64
1:5:381:U:H2'	1:5:382:U:H6	1.63	0.64
1:5:1064:A:H4'	1:5:1065:A:O5'	1.98	0.64
1:5:3228:C:H5''	15:M:137:LYS:NZ	2.13	0.64
6:C:26:PHE:CD2	6:C:130:ALA:HB2	2.33	0.64
18:P:170:SER:CA	18:P:173:ARG:HH21	2.08	0.64
32:d:15:ASN:HD21	32:d:18:LYS:HB3	1.62	0.64
45:x:43:THR:HG23	47:z:65:UNK:CG	2.28	0.64
45:x:60:THR:HG23	45:x:131:GLY:HA3	1.80	0.64
1:5:252:U:H4'	1:5:253:A:H5'	1.79	0.64
1:5:284:A:H5'	1:5:285:A:H5'	1.80	0.64
1:5:1235:U:C4'	1:5:1236:G:H5'	2.27	0.64
9:F:103:LEU:CG	9:F:130:ILE:HD11	2.28	0.64
13:J:92:ARG:HG2	13:J:92:ARG:NH1	2.04	0.64
25:W:47:ARG:HH12	25:W:58:HIS:CD2	2.15	0.64
26:X:65:GLN:HE21	36:h:36:LEU:HD11	1.63	0.64
29:a:6:THR:CG2	29:a:8:THR:HG23	2.27	0.64
1:5:73:C:O2'	14:L:59:ARG:HG2	1.97	0.63
1:5:759:U:H2'	1:5:760:G:H5'	1.80	0.63
1:5:1354:G:C6	1:5:1358:C:H5'	2.34	0.63
1:5:1568:U:O2'	1:5:1569:U:O5'	2.07	0.63
1:5:2676:A:H4'	1:5:2677:G:O5'	1.98	0.63
7:D:219:PHE:CZ	7:D:227:LEU:HD21	2.32	0.63
10:G:248:LYS:HA	10:G:248:LYS:HZ2	1.63	0.63
32:d:54:GLU:H	32:d:54:GLU:CD	2.06	0.63
44:q:59:VAL:HG12	44:q:80:VAL:HG11	1.78	0.63
1:5:1048:A:HO2'	1:5:2632:G:HO2'	1.45	0.63
1:5:2271:A:O2'	1:5:2272:G:H5'	1.98	0.63
1:5:2275:A:N1	1:5:2316:G:H1'	2.13	0.63
1:5:2555:G:H5'	1:5:2556:C:OP2	1.97	0.63
9:F:33:ARG:HG3	9:F:33:ARG:NH1	2.11	0.63
12:I:175:ASN:HB3	12:I:176:LEU:HD23	1.79	0.63
16:N:155:VAL:O	16:N:162:ARG:NH2	2.30	0.63
29:a:6:THR:CG2	29:a:8:THR:H	2.06	0.63
44:q:5:ARG:HH21	44:q:8:LYS:HB2	1.62	0.63
45:x:18:ASN:HD21	45:x:248:ARG:HA	1.63	0.63
45:x:288:THR:CB	45:x:478:LEU:HD22	2.28	0.63
1:5:2227:C:C2'	1:5:2228:A:H5''	2.28	0.63
8:E:18:LEU:HD12	8:E:18:LEU:N	2.14	0.63
32:d:14:ILE:HG22	32:d:73:LEU:HD21	1.79	0.63
40:l:43:ASN:HB3	40:l:46:ARG:HG3	1.80	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:578:A:H2'	6:C:334:PHE:HD2	1.63	0.63
1:5:1307:G:H5'	17:O:60:LYS:HE2	1.80	0.63
1:5:2771:U:O2'	1:5:2772:C:O4'	2.15	0.63
12:I:36:LEU:HD13	12:I:73:ASN:HB2	1.81	0.63
42:o:43:TYR:CD2	42:o:55:LYS:HE3	2.33	0.63
44:q:40:GLU:HB2	44:q:104:ARG:HG3	1.81	0.63
4:A:188:LYS:HD2	4:A:189:TYR:CE1	2.34	0.63
5:B:14:LEU:HD23	5:B:17:LEU:HD21	1.79	0.63
35:g:42:PRO:HD3	35:g:56:THR:HG22	1.81	0.63
1:5:96:G:H5'	14:L:15:ARG:NH2	2.12	0.63
1:5:587:U:C2'	1:5:588:G:H5'	2.29	0.63
5:B:218:ILE:N	5:B:218:ILE:HD12	2.13	0.63
5:B:287:LYS:NZ	5:B:287:LYS:HB3	2.13	0.63
35:g:31:ARG:HG3	35:g:32:ALA:N	2.12	0.63
44:q:11:TYR:HA	44:q:14:LYS:HE2	1.80	0.63
7:D:146:LEU:HD11	7:D:163:LEU:HB2	1.79	0.63
10:G:147:LYS:O	10:G:201:THR:HG22	1.97	0.63
18:P:166:VAL:HG12	18:P:168:LEU:HG	1.81	0.63
24:V:13:ILE:CD1	24:V:53:SER:HB2	2.29	0.63
24:V:117:PRO:HD3	25:W:25:ASP:O	1.99	0.63
36:h:27:GLU:O	36:h:31:LEU:HD12	1.99	0.63
45:x:104:TRP:CD1	45:x:106:PRO:HD3	2.34	0.63
45:x:271:GLU:OE2	45:x:336:THR:HG23	1.99	0.63
45:x:473:LEU:HD13	45:x:474:PRO:CD	2.27	0.63
46:y:307:LEU:HG	46:y:308:PRO:HD2	1.81	0.63
1:5:692:A:OP1	16:N:201:ARG:NH2	2.31	0.63
1:5:1261:G:H4'	1:5:1278:A:C2	2.33	0.63
1:5:1428:A:OP2	29:a:2:PRO:HA	1.99	0.63
1:5:2567:C:C2'	1:5:2568:C:H5'	2.28	0.63
1:5:2947:G:OP2	1:5:2947:G:H4'	1.98	0.63
1:5:3195:U:O3'	1:5:3196:U:H6	1.81	0.63
14:L:140:SER:HG	14:L:143:ALA:H	1.46	0.63
45:x:25:LEU:O	45:x:29:ARG:HG3	1.98	0.63
1:5:2591:A:H2'	1:5:2592:G:O4'	1.99	0.63
2:7:52:G:H21	13:J:9:MET:HE1	1.63	0.63
38:j:21:ARG:NH2	38:j:41:ALA:O	2.32	0.63
45:x:121:LYS:HD2	45:x:349:LYS:O	1.99	0.63
45:x:202:LEU:HD12	45:x:567:LEU:HD11	1.79	0.63
1:5:158:G:H2'	1:5:159:A:H8	1.63	0.62
1:5:174:C:H2'	1:5:175:C:O4'	1.98	0.62
1:5:549:U:H2'	1:5:550:A:H8	1.64	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1259:A:H62	44:q:35:SER:CB	2.11	0.62
1:5:1639:C:O2'	1:5:1640:G:H5'	1.99	0.62
1:5:1807:G:OP1	28:Z:133:LYS:HE3	1.98	0.62
2:7:3:U:H2'	2:7:4:U:H6	1.63	0.62
14:L:47:ALA:HB1	14:L:48:PRO:HD2	1.80	0.62
33:e:4:LEU:CD1	33:e:90:LYS:HE3	2.28	0.62
33:e:127:ALA:O	33:e:130:ALA:HB3	1.99	0.62
45:x:196:ALA:HB1	45:x:556:LEU:HG	1.80	0.62
45:x:223:ILE:O	45:x:227:VAL:HG23	1.98	0.62
1:5:275:U:H2'	1:5:276:U:C6	2.34	0.62
1:5:595:G:H1	1:5:609:G:H5''	1.64	0.62
1:5:3272:C:OP2	8:E:78:ARG:NH1	2.32	0.62
44:q:81:LYS:HD3	44:q:82:GLY:H	1.63	0.62
44:q:89:THR:CB	44:q:96:ILE:HG21	2.27	0.62
45:x:43:THR:HG23	47:z:65:UNK:HG1	1.81	0.62
1:5:132:C:C2'	1:5:133:U:H5''	2.29	0.62
1:5:3016:A:H2'	1:5:3017:A:H8	1.65	0.62
7:D:205:SER:HB3	7:D:236:LEU:HD22	1.81	0.62
1:5:908:G:H3'	16:N:81:TYR:OH	2.00	0.62
1:5:1556:C:H2'	1:5:2169:G:H1	1.64	0.62
1:5:1645:U:C2'	1:5:1646:G:H5'	2.29	0.62
1:5:1724:U:H4'	1:5:1725:C:OP1	1.98	0.62
1:5:2523:A:H4'	1:5:2524:A:OP2	1.99	0.62
5:B:188:ILE:H	5:B:188:ILE:CD1	2.07	0.62
8:E:157:GLN:N	8:E:157:GLN:OE1	2.33	0.62
9:F:26:VAL:O	9:F:30:ARG:HB3	1.98	0.62
47:z:143:UNK:HA	47:z:146:UNK:HG3	1.80	0.62
1:5:982:C:O2	1:5:982:C:H2'	2.00	0.62
1:5:2213:A:H61	1:5:2429:G:H1'	1.65	0.62
9:F:22:THR:O	9:F:26:VAL:HG13	1.99	0.62
13:J:94:ARG:C	13:J:96:PHE:H	2.05	0.62
18:P:120:ASN:N	18:P:120:ASN:OD1	2.31	0.62
20:R:85:ARG:HG3	20:R:85:ARG:HH11	1.64	0.62
27:Y:69:LYS:HB2	27:Y:69:LYS:NZ	2.14	0.62
29:a:111:LYS:HG3	29:a:129:PHE:O	1.99	0.62
31:c:8:GLU:O	31:c:12:GLN:HB3	2.00	0.62
45:x:449:LEU:HA	45:x:477:LYS:HZ3	1.64	0.62
1:5:524:U:OP1	15:M:77:ARG:NH2	2.32	0.62
1:5:1555:U:O2'	1:5:1556:C:H5''	1.99	0.62
1:5:1772:U:C5'	1:5:1773:C:H5'	2.29	0.62
3:8:81:U:O3'	3:8:82:U:C4'	2.48	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:257:GLU:CD	7:D:257:GLU:H	2.08	0.62
13:J:38:GLU:HG3	13:J:44:THR:HA	1.82	0.62
33:e:106:VAL:HG12	33:e:126:LEU:HD21	1.80	0.62
47:z:149:UNK:O	47:z:152:UNK:HG3	1.98	0.62
1:5:1385:C:HO2'	8:E:2:SER:N	1.98	0.62
1:5:1524:A:O2'	1:5:1526:U:OP2	2.16	0.62
1:5:2437:G:H2'	1:5:2438:A:C5'	2.29	0.62
1:5:2995:A:H4'	1:5:2996:U:OP1	1.99	0.62
6:C:93:MET:H	6:C:93:MET:CE	2.08	0.62
12:I:72:ALA:O	12:I:76:MET:HG3	1.99	0.62
16:N:173:GLY:O	16:N:183:THR:HG23	1.99	0.62
21:S:128:GLU:HG2	21:S:129:ILE:N	2.15	0.62
22:T:32:LYS:HZ3	22:T:98:HIS:H	1.48	0.62
25:W:3:VAL:HG21	25:W:14:TYR:CE1	2.35	0.62
37:i:7:ILE:HG22	37:i:9:ILE:H	1.65	0.62
44:q:19:LEU:HD12	44:q:66:PHE:CD2	2.34	0.62
1:5:2585:G:H2'	1:5:2585:G:N3	2.14	0.62
5:B:115:LYS:HE3	5:B:129:ALA:HB3	1.80	0.62
11:H:93:VAL:O	11:H:177:ASP:HA	1.99	0.62
33:e:106:VAL:N	33:e:126:LEU:HD11	2.15	0.62
44:q:42:ARG:HB3	44:q:46:ARG:NH2	2.13	0.62
45:x:181:ALA:HB1	45:x:537:ILE:CG2	2.24	0.62
45:x:449:LEU:HD22	47:z:97:UNK:CB	2.30	0.62
6:C:295:ILE:O	6:C:299:ILE:HG12	2.00	0.62
16:N:153:ASP:OD2	16:N:154:PRO:HD2	1.99	0.62
17:O:12:LYS:HB3	21:S:167:ARG:NH2	2.15	0.62
26:X:135:ILE:O	26:X:135:ILE:HD13	2.00	0.62
36:h:85:THR:HG23	36:h:88:LEU:HG	1.81	0.62
1:5:364:G:OP1	6:C:60:THR:HG23	1.99	0.62
1:5:1223:A:OP2	1:5:1285:G:N2	2.33	0.62
1:5:1360:C:H2'	1:5:1361:U:C6	2.35	0.62
1:5:2280:A:H5''	1:5:2281:A:OP2	1.99	0.62
4:A:178:PRO:HD2	43:p:26:VAL:HG23	1.82	0.62
7:D:8:LYS:HB3	7:D:12:TYR:CD2	2.35	0.62
7:D:270:LYS:HE2	7:D:273:ARG:NH2	2.14	0.62
11:H:89:LYS:HG2	11:H:145:VAL:HG22	1.81	0.62
14:L:162:ASN:OD1	14:L:162:ASN:N	2.32	0.62
18:P:148:LEU:HD11	18:P:150:VAL:HG13	1.82	0.62
33:e:86:THR:HG23	33:e:115:LEU:HD22	1.82	0.62
37:i:33:ALA:O	37:i:34:SER:HB2	1.99	0.62
38:j:64:MET:CE	38:j:67:LEU:HB3	2.30	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:445:TRP:O	45:x:449:LEU:HG	2.00	0.62
1:5:120:G:N2	10:G:123:GLN:O	2.33	0.61
1:5:1360:C:H2'	1:5:1361:U:H6	1.65	0.61
2:7:77:G:H5''	21:S:49:HIS:O	1.99	0.61
12:I:99:ILE:HG13	12:I:123:HIS:HB2	1.82	0.61
13:J:23:VAL:HG11	13:J:29:ARG:HB3	1.80	0.61
14:L:52:ASP:OD1	14:L:141:ALA:HB3	2.00	0.61
19:Q:94:PHE:CE2	29:a:119:PRO:HD3	2.35	0.61
31:c:7:GLN:HG3	31:c:9:SER:H	1.63	0.61
45:x:167:LYS:HG3	45:x:171:GLN:HB3	1.81	0.61
45:x:270:THR:HG22	45:x:271:GLU:N	2.15	0.61
45:x:333:GLY:HA2	45:x:445:TRP:CD1	2.35	0.61
1:5:158:G:O2'	1:5:159:A:H5'	2.00	0.61
1:5:1581:C:N4	1:5:2522:G:H4'	2.04	0.61
2:7:23:A:H2'	2:7:24:A:C8	2.36	0.61
4:A:44:ILE:HD13	4:A:62:VAL:HG13	1.80	0.61
21:S:26:ARG:HD3	22:T:150:THR:HG22	1.81	0.61
30:b:28:LYS:HG2	30:b:29:TYR:HD1	1.65	0.61
1:5:1095:U:N3	22:T:127:GLN:HG3	2.15	0.61
1:5:2198:A:C8	1:5:2270:A:H1'	2.34	0.61
1:5:3001:C:OP1	5:B:120:LYS:NZ	2.33	0.61
1:5:3160:U:H2'	1:5:3161:C:C6	2.35	0.61
3:8:134:G:C2'	3:8:135:G:H5'	2.30	0.61
8:E:64:LEU:O	8:E:65:ILE:HD13	1.99	0.61
16:N:49:ARG:HG2	16:N:49:ARG:HH11	1.65	0.61
19:Q:98:LYS:HE3	19:Q:118:GLY:O	2.00	0.61
23:U:35:LYS:HE3	46:y:192:PRO:HG3	1.82	0.61
28:Z:25:ILE:HA	28:Z:43:VAL:HG12	1.83	0.61
45:x:449:LEU:HA	45:x:477:LYS:NZ	2.15	0.61
1:5:248:U:H2'	1:5:249:U:C5'	2.29	0.61
1:5:383:G:H5'	18:P:96:GLN:NE2	2.14	0.61
1:5:405:U:H2'	1:5:406:G:H5'	1.83	0.61
2:7:27:A:H2'	2:7:28:C:C6	2.36	0.61
5:B:54:THR:HG23	5:B:55:THR:N	2.15	0.61
5:B:56:ILE:HD13	5:B:76:VAL:CG1	2.31	0.61
7:D:219:PHE:CE2	7:D:227:LEU:HD21	2.36	0.61
45:x:77:GLU:O	45:x:81:LYS:HD2	2.01	0.61
45:x:474:PRO:HB2	45:x:476:PRO:HD2	1.81	0.61
1:5:93:C:OP2	1:5:2764:C:O2'	2.18	0.61
1:5:627:U:H2'	1:5:628:A:H8	1.65	0.61
1:5:1349:G:H8	1:5:1349:G:H3'	1.65	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:8:154:C:H5''	10:G:181:LYS:CD	2.31	0.61
5:B:214:MET:HE3	5:B:279:ASN:HA	1.83	0.61
7:D:211:LEU:HD13	7:D:219:PHE:HA	1.80	0.61
16:N:121:VAL:O	16:N:122:ASN:HB2	2.01	0.61
45:x:18:ASN:ND2	45:x:248:ARG:HA	2.15	0.61
47:z:98:UNK:O	47:z:101:UNK:HG3	2.00	0.61
1:5:2701:U:H5''	22:T:23:GLY:HA2	1.82	0.61
6:C:7:THR:HG23	6:C:147:GLU:OE2	2.00	0.61
13:J:133:ARG:HB3	13:J:134:PRO:HD2	1.81	0.61
39:k:12:LEU:O	39:k:15:THR:OG1	2.18	0.61
1:5:248:U:H2'	1:5:248:U:O2	2.00	0.61
1:5:532:A:O2'	1:5:533:A:H5'	2.01	0.61
1:5:2115:G:O2'	20:R:82:LYS:HE3	2.01	0.61
2:7:17:A:H2'	2:7:18:C:C6	2.35	0.61
3:8:126:A:OP2	3:8:126:A:H2'	2.00	0.61
11:H:115:ARG:NH1	11:H:123:ILE:CD1	2.64	0.61
36:h:28:LEU:HD12	36:h:47:VAL:HG13	1.83	0.61
45:x:191:MET:O	45:x:195:VAL:HG23	2.01	0.61
45:x:398:ASN:ND2	45:x:411:SER:HB3	2.16	0.61
45:x:522:LEU:HB2	45:x:567:LEU:HD21	1.82	0.61
27:Y:97:ILE:HG22	27:Y:99:LEU:HD21	1.83	0.61
37:i:84:LYS:NZ	37:i:84:LYS:CB	2.64	0.61
44:q:26:PHE:CE2	44:q:89:THR:HG21	2.36	0.61
1:5:94:G:H2'	1:5:95:A:C8	2.35	0.61
1:5:2431:C:O2'	1:5:2432:A:H5'	2.00	0.61
3:8:95:G:O2'	38:j:81:GLY:O	2.18	0.61
6:C:131:VAL:O	6:C:135:VAL:HG23	2.00	0.61
13:J:13:LYS:HE2	13:J:132:ASN:HD21	1.65	0.61
1:5:253:A:O2'	1:5:254:A:H8	1.84	0.61
1:5:284:A:OP2	42:o:41:ARG:NH1	2.34	0.61
1:5:1844:C:O2	38:j:9:GLY:HA2	2.01	0.61
5:B:171:LEU:HD21	5:B:333:LYS:HG2	1.82	0.61
6:C:159:ILE:HG23	6:C:164:GLU:CD	2.26	0.61
1:5:2585:G:O6	26:X:24:LEU:HD21	2.01	0.60
3:8:80:A:O2'	3:8:81:U:OP1	2.19	0.60
4:A:46:LYS:HA	4:A:46:LYS:NZ	2.16	0.60
17:O:84:LEU:HD23	17:O:84:LEU:C	2.26	0.60
33:e:125:ARG:CA	33:e:128:LEU:HD12	2.28	0.60
1:5:531:G:H2'	1:5:532:A:C8	2.36	0.60
1:5:1715:A:H4'	1:5:1716:U:OP1	2.00	0.60
1:5:2604:U:HO2'	1:5:2605:G:P	2.24	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:538:HIS:ND1	47:z:73:UNK:HG2	2.16	0.60
1:5:1049:C:H2'	1:5:1050:U:C6	2.34	0.60
1:5:1597:C:H2'	1:5:1598:G:C8	2.36	0.60
1:5:2404:A:N1	46:y:395:GLU:HG2	2.15	0.60
6:C:282:SER:HB3	19:Q:126:GLN:HE21	1.65	0.60
44:q:18:TYR:CD2	44:q:52:LEU:HB2	2.37	0.60
1:5:242:C:H2'	1:5:243:G:H8	1.64	0.60
1:5:561:C:OP1	15:M:77:ARG:HG3	2.01	0.60
1:5:1196:C:H2'	1:5:1196:C:OP2	2.01	0.60
4:A:119:LYS:HD3	4:A:119:LYS:N	2.15	0.60
20:R:60:LYS:O	20:R:63:THR:HG23	2.01	0.60
27:Y:37:LYS:HE2	27:Y:38:GLU:H	1.66	0.60
30:b:9:ALA:O	30:b:12:GLN:HB2	2.01	0.60
31:c:100:ILE:HD12	31:c:100:ILE:N	2.17	0.60
35:g:106:LYS:O	35:g:110:GLU:HG3	2.01	0.60
45:x:544:ASN:O	45:x:550:VAL:HG11	2.01	0.60
46:y:197:LEU:HD22	46:y:257:TYR:HD2	1.66	0.60
1:5:1362:G:H2'	1:5:1363:A:C8	2.36	0.60
5:B:3:HIS:CG	5:B:3:HIS:O	2.55	0.60
5:B:109:HIS:C	5:B:110:LEU:HD12	2.27	0.60
10:G:86:THR:O	10:G:90:THR:HG23	2.02	0.60
16:N:172:ARG:CB	16:N:174:ILE:HD13	2.28	0.60
23:U:42:LYS:HB3	23:U:45:GLY:O	2.02	0.60
29:a:95:SER:HB2	29:a:97:GLU:HG2	1.83	0.60
31:c:86:ARG:HH22	43:p:44:LYS:HA	1.66	0.60
44:q:38:MET:O	44:q:42:ARG:HG2	2.01	0.60
47:z:136:UNK:O	47:z:139:UNK:HG3	2.01	0.60
1:5:1492:G:N7	40:l:2:ALA:N	2.49	0.60
1:5:2283:G:H1'	1:5:2285:C:N4	2.15	0.60
1:5:2424:A:N6	1:5:2605:G:O2'	2.32	0.60
7:D:61:ILE:HG23	7:D:79:TYR:CE1	2.36	0.60
12:I:187:ALA:HB3	12:I:189:GLU:H	1.67	0.60
24:V:72:LYS:O	24:V:74:MET:HE3	2.02	0.60
26:X:73:MET:HA	26:X:73:MET:CE	2.29	0.60
35:g:46:ASP:OD1	35:g:46:ASP:N	2.29	0.60
40:l:50:ASN:O	40:l:51:ILE:HB	2.02	0.60
1:5:977:C:O2'	1:5:978:G:H5'	2.00	0.60
1:5:1349:G:H3'	1:5:1349:G:C8	2.37	0.60
1:5:3285:C:H2'	1:5:3286:G:H5''	1.83	0.60
4:A:209:HIS:CD2	4:A:211:HIS:H	2.19	0.60
5:B:17:LEU:HD11	5:B:233:TRP:HH2	1.66	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:92:GLY:HA3	45:x:478:LEU:HD13	1.83	0.60
1:5:13:A:H4'	26:X:39:LYS:HD2	1.83	0.60
1:5:516:A:O2'	1:5:517:G:H5'	2.02	0.60
1:5:1824:U:O3'	39:k:17:ARG:NH2	2.34	0.60
1:5:2131:A:N6	43:p:18:TYR:HA	2.16	0.60
1:5:2855:U:H2'	1:5:2856:G:O4'	2.02	0.60
10:G:83:ASP:OD2	10:G:85:ASN:HB2	2.01	0.60
11:H:48:VAL:HG21	11:H:52:LEU:HD13	1.82	0.60
28:Z:22:LYS:HD3	28:Z:129:TRP:CZ3	2.37	0.60
1:5:948:C:O2'	1:5:949:C:H5'	2.02	0.60
1:5:1626:U:H3	1:5:1817:G:H1	1.49	0.60
14:L:159:VAL:CG1	29:a:144:VAL:HG13	2.32	0.60
26:X:133:LEU:O	26:X:133:LEU:HD22	2.02	0.60
43:p:54:ILE:HD13	43:p:54:ILE:C	2.26	0.60
45:x:189:ILE:HD12	45:x:234:TYR:OH	2.02	0.60
45:x:288:THR:HB	45:x:478:LEU:HD22	1.83	0.60
45:x:292:ARG:HH11	45:x:294:GLN:NE2	1.99	0.60
1:5:2572:C:HO2'	1:5:2573:G:P	2.21	0.60
4:A:70:ARG:NH1	4:A:72:ARG:HH21	1.99	0.60
7:D:37:VAL:HG12	22:T:31:LEU:HD21	1.83	0.60
12:I:99:ILE:HD13	12:I:101:LYS:HB2	1.84	0.60
12:I:208:ASN:HA	12:I:211:ARG:HG2	1.84	0.60
32:d:8:VAL:HG12	32:d:9:THR:H	1.67	0.60
46:y:165:LEU:HD11	46:y:208:SER:OG	2.02	0.60
47:z:151:UNK:HA	47:z:154:UNK:HG3	1.84	0.60
1:5:528:U:H2'	1:5:529:A:C8	2.36	0.59
1:5:771:A:C2'	1:5:772:U:H5'	2.32	0.59
1:5:1915:A:H2'	1:5:1916:U:C6	2.37	0.59
3:8:38:U:H5	36:h:82:ALA:O	1.85	0.59
5:B:76:VAL:HB	5:B:323:MET:HE3	1.84	0.59
5:B:285:VAL:HG22	5:B:322:ILE:HD12	1.84	0.59
27:Y:37:LYS:H	27:Y:37:LYS:CE	2.13	0.59
27:Y:98:ASN:C	27:Y:99:LEU:HD23	2.26	0.59
28:Z:128:GLN:HG2	28:Z:129:TRP:N	2.16	0.59
31:c:86:ARG:H	31:c:86:ARG:HD2	1.66	0.59
36:h:89:ARG:HG2	36:h:89:ARG:NH1	2.04	0.59
45:x:486:LYS:HA	45:x:489:MET:CE	2.27	0.59
1:5:2656:A:H4'	42:o:98:LYS:HD2	1.84	0.59
1:5:3047:U:O2'	1:5:3048:A:H5'	2.02	0.59
1:5:3164:C:HO2'	1:5:3165:A:H8	1.49	0.59
1:5:3226:A:C2'	1:5:3227:A:H5''	2.32	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:7:62:U:O3'	7:D:285:ARG:NH1	2.35	0.59
4:A:6:ARG:HH12	4:A:199:THR:H	1.47	0.59
4:A:187:HIS:ND1	4:A:190:ARG:NH1	2.51	0.59
18:P:125:GLN:HE22	46:y:367:ARG:HD2	1.67	0.59
22:T:46:GLY:HA2	22:T:52:MET:CE	2.32	0.59
45:x:211:LEU:HD11	45:x:552:GLY:HA3	1.83	0.59
46:y:162:GLU:HB3	46:y:173:PHE:O	2.01	0.59
1:5:355:A:H2'	1:5:356:C:O4'	2.03	0.59
6:C:321:LYS:O	6:C:325:LEU:HG	2.03	0.59
10:G:88:ALA:O	10:G:92:LYS:HB2	2.02	0.59
17:O:11:GLY:O	17:O:41:LEU:HD13	2.02	0.59
19:Q:96:PHE:CD2	19:Q:97:PRO:HD2	2.37	0.59
23:U:77:LYS:O	23:U:81:LYS:HB2	2.02	0.59
38:j:64:MET:O	38:j:68:LYS:HD2	2.02	0.59
45:x:28:TYR:HB3	45:x:525:LEU:HD11	1.84	0.59
1:5:2797:C:OP1	42:o:60:LYS:NZ	2.35	0.59
1:5:2967:A:C8	1:5:2968:G:H1'	2.37	0.59
4:A:112:ILE:HG13	4:A:112:ILE:O	2.02	0.59
4:A:205:ASN:HB3	4:A:206:PRO:HD2	1.84	0.59
8:E:55:LEU:HD23	8:E:55:LEU:N	2.18	0.59
12:I:169:LYS:O	12:I:170:LYS:HD3	2.02	0.59
13:J:164:LYS:CE	13:J:171:VAL:HB	2.32	0.59
19:Q:18:ALA:HA	19:Q:53:PHE:CE1	2.38	0.59
36:h:18:ALA:O	36:h:22:VAL:HG23	2.03	0.59
36:h:119:LYS:HA	36:h:119:LYS:CE	2.31	0.59
45:x:245:ARG:NH1	45:x:264:TYR:HE1	2.00	0.59
1:5:497:C:O3'	34:f:86:ARG:NH2	2.35	0.59
1:5:1272:C:H2'	1:5:1273:A:H5'	1.84	0.59
1:5:2554:A:H4'	1:5:2555:G:OP1	2.01	0.59
1:5:3195:U:O2'	1:5:3196:U:H5'	2.01	0.59
2:7:110:G:O2'	2:7:111:U:H5'	2.03	0.59
5:B:306:THR:HG21	5:B:316:GLU:HA	1.82	0.59
12:I:86:HIS:ND1	12:I:139:ARG:NH1	2.51	0.59
12:I:212:GLU:C	12:I:214:PRO:HD3	2.27	0.59
19:Q:153:PHE:O	19:Q:161:LYS:HG2	2.03	0.59
21:S:124:LEU:N	21:S:124:LEU:HD23	2.18	0.59
26:X:58:ASP:O	26:X:62:VAL:HG23	2.03	0.59
28:Z:121:ARG:HH11	28:Z:121:ARG:CG	2.15	0.59
34:f:53:TYR:HD1	34:f:53:TYR:H	1.51	0.59
45:x:546:GLN:HA	45:x:551:GLN:NE2	2.17	0.59
1:5:915:A:C5	1:5:917:A:H1'	2.36	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1767:C:C2'	1:5:1768:U:H5'	2.32	0.59
1:5:1991:Y5P:H2'	1:5:1992:Y5P:H6	1.84	0.59
17:O:74:ARG:HG2	17:O:74:ARG:HH11	1.66	0.59
17:O:178:VAL:O	17:O:182:ASN:HB3	2.03	0.59
18:P:70:THR:HG21	18:P:81:ALA:HB3	1.84	0.59
31:c:77:LEU:HD23	31:c:87:VAL:O	2.01	0.59
39:k:54:LEU:HD12	39:k:55:VAL:H	1.68	0.59
44:q:42:ARG:O	44:q:46:ARG:HG2	2.01	0.59
1:5:162:G:O2'	1:5:163:C:H5'	2.03	0.59
1:5:195:U:H2'	1:5:196:G:O4'	2.02	0.59
1:5:1323:G:O2'	1:5:1324:U:H5'	2.03	0.59
1:5:1874:A:O2'	1:5:1875:G:H5'	2.03	0.59
6:C:280:ILE:O	6:C:280:ILE:HG13	2.00	0.59
8:E:174:LEU:HB2	8:E:176:PHE:CE1	2.37	0.59
11:H:162:GLN:HB2	11:H:179:ILE:O	2.03	0.59
13:J:53:THR:HG23	13:J:59:ILE:O	2.03	0.59
13:J:79:ILE:HG12	13:J:82:ARG:HH21	1.68	0.59
15:M:76:ALA:HB1	15:M:80:THR:OG1	2.01	0.59
23:U:39:ASP:O	23:U:47:VAL:HB	2.03	0.59
45:x:468:LEU:HB2	45:x:469:PRO:HD3	1.84	0.59
1:5:627:U:H2'	1:5:628:A:C8	2.38	0.59
1:5:1588:A:C2	40:l:4:GLN:HG2	2.38	0.59
1:5:3150:A:H5'	5:B:129:ALA:O	2.03	0.59
6:C:317:PRO:HA	6:C:323:VAL:HG22	1.84	0.59
8:E:47:PHE:CD1	8:E:74:VAL:HG22	2.37	0.59
18:P:87:SER:O	18:P:91:VAL:HG23	2.03	0.59
20:R:153:LYS:HB2	20:R:153:LYS:HZ3	1.68	0.59
45:x:220:GLY:HA2	45:x:309:PHE:CZ	2.37	0.59
1:5:101:G:H2'	1:5:102:C:O4'	2.03	0.59
1:5:506:U:H2'	1:5:507:U:O4'	2.03	0.59
1:5:620:U:H5''	1:5:622:A:N7	2.18	0.59
6:C:274:TYR:HE1	6:C:276:LEU:HD12	1.68	0.59
22:T:135:PRO:O	22:T:136:ARG:HB2	2.02	0.59
34:f:14:LEU:HD11	34:f:31:LYS:CB	2.32	0.59
47:z:153:UNK:O	47:z:156:UNK:HG3	2.03	0.59
9:F:41:ARG:CG	9:F:41:ARG:NH1	2.53	0.59
17:O:77:SER:HB3	17:O:106:GLU:OE1	2.03	0.59
32:d:9:THR:HG22	32:d:109:VAL:HB	1.84	0.59
45:x:54:THR:HG22	45:x:56:GLN:H	1.67	0.59
1:5:382:U:H3	1:5:387:A:H61	1.50	0.58
7:D:51:LEU:HB2	7:D:144:VAL:CG1	2.33	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:154:LEU:CD1	15:M:119:GLN:HG2	2.32	0.58
12:I:197:VAL:HG12	12:I:199:PHE:CE1	2.38	0.58
24:V:120:LYS:HZ2	24:V:137:VAL:HG21	1.69	0.58
39:k:32:ASN:HD21	39:k:34:ALA:HB3	1.67	0.58
45:x:200:CYS:SG	45:x:207:LEU:HB2	2.43	0.58
1:5:379:C:H2'	1:5:380:U:H6	1.67	0.58
1:5:1786:G:H2'	1:5:1787:A:C8	2.37	0.58
1:5:2147:A:OP1	4:A:200:ARG:HG3	2.02	0.58
1:5:2523:A:C8	10:G:51:LYS:HB2	2.38	0.58
1:5:3237:U:H2'	1:5:3238:G:H5''	1.86	0.58
1:5:3287:U:H2'	1:5:3288:G:H5'	1.84	0.58
7:D:140:ARG:HB3	7:D:141:PRO:HD2	1.84	0.58
13:J:50:ALA:HB2	13:J:65:ILE:CD1	2.31	0.58
25:W:5:ILE:HD12	25:W:5:ILE:O	2.03	0.58
29:a:90:TYR:CD1	29:a:100:PRO:HB3	2.37	0.58
31:c:16:LEU:O	31:c:20:SER:OG	2.21	0.58
41:m:114:LYS:HG2	41:m:115:CYS:N	2.18	0.58
1:5:1721:U:OP2	20:R:124:TYR:OH	2.21	0.58
1:5:3041:U:H2'	1:5:3042:U:C6	2.38	0.58
19:Q:85:GLY:H	19:Q:104:LEU:HB2	1.66	0.58
22:T:91:LEU:CD1	22:T:96:ILE:HD11	2.34	0.58
32:d:46:THR:CG2	32:d:91:SER:HB2	2.24	0.58
36:h:101:THR:HG22	36:h:104:GLN:HB2	1.86	0.58
45:x:154:VAL:HA	45:x:526:THR:CG2	2.29	0.58
46:y:227:LEU:O	46:y:231:ARG:HG3	2.03	0.58
6:C:63:GLU:O	6:C:76:ARG:N	2.35	0.58
7:D:25:GLU:HB2	7:D:27:LYS:HG3	1.85	0.58
9:F:108:LEU:CD2	9:F:115:THR:HG23	2.33	0.58
13:J:25:GLU:HG3	13:J:63:GLU:OE2	2.03	0.58
31:c:40:LYS:O	31:c:65:THR:HG23	2.03	0.58
37:i:43:LEU:O	37:i:46:GLU:HG2	2.03	0.58
39:k:24:THR:HG23	39:k:44:LYS:HB2	1.84	0.58
1:5:1472:U:O2'	1:5:1473:G:H5'	2.02	0.58
1:5:1818:U:H2'	1:5:1819:U:C6	2.37	0.58
1:5:2186:U:H2'	1:5:2187:G:C5'	2.34	0.58
1:5:3195:U:H5''	1:5:3195:U:O2	2.03	0.58
6:C:138:ARG:NH2	6:C:240:PRO:HB2	2.19	0.58
6:C:280:ILE:HD12	19:Q:104:LEU:CD2	2.33	0.58
9:F:161:VAL:CG1	9:F:162:PRO:HD2	2.33	0.58
16:N:182:ASN:OD1	16:N:182:ASN:N	2.37	0.58
31:c:24:THR:HG22	31:c:93:LEU:HD11	1.84	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:k:16:ARG:C	39:k:18:ALA:H	2.12	0.58
39:k:43:PHE:O	39:k:53:THR:HA	2.04	0.58
45:x:219:THR:HG22	45:x:220:GLY:H	1.67	0.58
45:x:332:LYS:HG3	47:z:90:UNK:HG1	1.84	0.58
46:y:234:MET:HE2	46:y:239:HIS:O	2.04	0.58
47:z:134:UNK:O	47:z:138:UNK:HB1	2.03	0.58
1:5:374:A:HO2'	1:5:376:G:H8	1.52	0.58
1:5:375:A:H1'	27:Y:87:LYS:HZ3	1.65	0.58
1:5:797:U:O2'	1:5:798:G:H5'	2.03	0.58
1:5:1008:U:O2'	1:5:1009:A:H5'	2.02	0.58
1:5:1916:U:H2'	1:5:1917:C:C6	2.38	0.58
1:5:2426:U:H3	1:5:2603:G:H1	1.50	0.58
2:7:28:C:O3'	13:J:135:GLY:HA2	2.03	0.58
4:A:116:VAL:HG13	4:A:126:LEU:HB2	1.86	0.58
5:B:53:MET:HE2	5:B:77:THR:HG22	1.85	0.58
8:E:65:ILE:O	8:E:76:LEU:HA	2.02	0.58
8:E:115:UNK:HA	8:E:118:UNK:CG	2.31	0.58
12:I:169:LYS:NZ	22:T:158:THR:O	2.26	0.58
24:V:104:ASN:HB2	24:V:105:PRO:HD2	1.85	0.58
39:k:24:THR:CG2	39:k:44:LYS:HB2	2.34	0.58
1:5:353:G:N7	38:j:55:ARG:HD3	2.19	0.58
1:5:3252:G:H2'	1:5:3253:G:H8	1.66	0.58
1:5:3292:A:O2'	1:5:3293:U:H5'	2.03	0.58
5:B:287:LYS:HB3	5:B:287:LYS:HZ2	1.69	0.58
6:C:202:ARG:HA	6:C:202:ARG:NE	2.18	0.58
7:D:219:PHE:CE2	7:D:227:LEU:HD11	2.39	0.58
17:O:103:LYS:HB3	17:O:105:PHE:CE1	2.39	0.58
23:U:58:GLU:HG2	23:U:60:GLY:H	1.69	0.58
29:a:28:HIS:CD2	29:a:32:ARG:HE	2.20	0.58
45:x:90:ALA:O	45:x:91:ILE:HD13	2.04	0.58
45:x:124:THR:HG23	45:x:125:PHE:CD1	2.38	0.58
46:y:199:ASP:O	46:y:202:GLY:N	2.37	0.58
47:z:138:UNK:HA	47:z:141:UNK:HG3	1.85	0.58
1:5:679:U:O2'	1:5:788:C:H1'	2.03	0.58
1:5:2101:C:O2'	1:5:2102:U:OP1	2.18	0.58
1:5:2925:C:H2'	1:5:2926:A:C5'	2.31	0.58
1:5:3228:C:H5''	15:M:137:LYS:HZ1	1.68	0.58
26:X:100:LYS:HG3	26:X:105:VAL:O	2.03	0.58
28:Z:26:VAL:HG22	28:Z:42:LEU:O	2.03	0.58
35:g:10:ARG:O	35:g:12:PRO:HD3	2.03	0.58
39:k:20:VAL:HG11	39:k:45:VAL:HG12	1.85	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:292:ARG:HH11	45:x:294:GLN:HE21	1.51	0.58
45:x:526:THR:O	45:x:526:THR:HG22	2.03	0.58
45:x:562:ASP:HB3	45:x:564:ARG:HG2	1.86	0.58
46:y:324:GLN:HG3	46:y:324:GLN:O	2.04	0.58
1:5:169:U:H4'	14:L:128:ARG:NH2	2.19	0.58
1:5:766:U:H4'	1:5:767:U:H5'	1.86	0.58
1:5:2157:G:N7	4:A:152:SER:OG	2.35	0.58
5:B:290:ASP:OD2	5:B:292:ALA:HB3	2.04	0.58
6:C:345:GLU:OE1	6:C:346:LYS:N	2.36	0.58
20:R:117:LYS:HG3	20:R:118:HIS:N	2.18	0.58
26:X:133:LEU:HD23	45:x:421:LEU:HD22	1.85	0.58
44:q:63:ILE:CG2	44:q:77:LEU:HD21	2.34	0.58
45:x:60:THR:HG22	45:x:61:VAL:N	2.19	0.58
45:x:70:SER:OG	45:x:400:PRO:O	2.22	0.58
46:y:192:PRO:HD2	46:y:257:TYR:OH	2.02	0.58
1:5:662:U:H2'	1:5:663:C:C6	2.39	0.58
1:5:1265:U:O2	1:5:1277:C:H1'	2.04	0.58
6:C:33:ASP:O	6:C:37:THR:HG23	2.04	0.58
24:V:87:ARG:HB2	24:V:89:ASP:OD1	2.03	0.58
27:Y:55:GLU:CD	27:Y:108:LYS:HB2	2.29	0.58
38:j:58:THR:O	38:j:61:THR:HG23	2.04	0.58
39:k:11:PHE:CD1	39:k:12:LEU:HD22	2.34	0.58
1:5:3162:C:O2	1:5:3163:A:C8	2.57	0.57
4:A:52:SER:HB3	4:A:191:LEU:HD12	1.84	0.57
6:C:30:ILE:O	6:C:32:PRO:HD3	2.04	0.57
8:E:48:ARG:HG2	8:E:48:ARG:NH1	2.19	0.57
8:E:152:THR:CG2	8:E:155:LEU:HD12	2.34	0.57
17:O:58:LEU:HD12	17:O:72:HIS:CG	2.39	0.57
32:d:31:ARG:O	32:d:35:GLU:HB2	2.03	0.57
32:d:55:LEU:HB2	32:d:95:PRO:HD3	1.86	0.57
45:x:63:GLU:O	45:x:67:LEU:HG	2.03	0.57
45:x:66:LEU:HD12	45:x:399:PHE:CE1	2.39	0.57
45:x:122:ASP:CG	45:x:123:SER:H	2.11	0.57
1:5:1036:A:H2'	1:5:1037:C:O4'	2.03	0.57
6:C:60:THR:HG22	6:C:61:SER:N	2.18	0.57
16:N:48:ALA:O	16:N:53:TYR:HB3	2.04	0.57
20:R:28:GLU:O	20:R:31:GLU:N	2.37	0.57
24:V:20:GLY:HA2	24:V:35:TYR:CE1	2.39	0.57
27:Y:100:HIS:CG	27:Y:101:PRO:HD2	2.38	0.57
45:x:154:VAL:HG22	45:x:526:THR:CG2	2.33	0.57
1:5:388:G:H4'	18:P:18:ARG:O	2.05	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1096:U:H4'	1:5:1097:G:O5'	2.04	0.57
1:5:1245:A:N7	1:5:1271:A:O2'	2.26	0.57
1:5:1681:U:OP2	46:y:316:ARG:NH2	2.38	0.57
1:5:2102:U:H2'	1:5:2103:U:C6	2.39	0.57
1:5:3151:U:H5'	1:5:3152:U:OP1	2.03	0.57
1:5:3360:C:P	46:y:237:LYS:HE2	2.44	0.57
10:G:149:LYS:HD3	10:G:201:THR:O	2.02	0.57
12:I:38:LYS:HB2	12:I:83:ASP:OD1	2.03	0.57
44:q:48:ARG:CD	44:q:91:GLU:HG3	2.30	0.57
45:x:337:LEU:HD12	45:x:439:ILE:O	2.05	0.57
1:5:1203:A:N3	1:5:2855:U:O2'	2.37	0.57
1:5:1305:U:C2	5:B:257:PRO:HB3	2.39	0.57
1:5:2915:U:C5	5:B:7:GLU:HG2	2.39	0.57
1:5:3384:U:H2'	1:5:3385:U:H6	1.70	0.57
4:A:209:HIS:HD2	4:A:211:HIS:H	1.53	0.57
8:E:58:LEU:HD12	8:E:78:ARG:HD3	1.85	0.57
14:L:59:ARG:HH21	14:L:69:VAL:HG23	1.69	0.57
22:T:95:HIS:C	22:T:96:ILE:HD13	2.29	0.57
27:Y:109:LEU:HD22	27:Y:115:ARG:NH1	2.20	0.57
27:Y:120:GLN:HE21	27:Y:120:GLN:CA	2.16	0.57
29:a:77:LYS:C	29:a:79:TRP:H	2.10	0.57
33:e:87:MET:HA	33:e:87:MET:HE3	1.86	0.57
1:5:121:A:C2	10:G:129:PRO:HB3	2.40	0.57
1:5:149:U:P	16:N:49:ARG:HH21	2.28	0.57
1:5:844:G:C3'	1:5:845:G:H5'	2.35	0.57
1:5:1630:U:OP1	28:Z:67:LYS:NZ	2.34	0.57
1:5:2769:A:C2'	1:5:2770:G:H5'	2.35	0.57
6:C:99:MET:CE	6:C:103:THR:H	2.17	0.57
6:C:327:LEU:HA	9:F:166:ASN:HD21	1.69	0.57
46:y:167:CYS:HB3	46:y:187:HIS:CE1	2.39	0.57
1:5:1486:G:N2	35:g:6:THR:HG22	2.17	0.57
1:5:1891:A:O2'	1:5:1892:G:H5'	2.04	0.57
1:5:2558:U:O2'	1:5:2559:U:H5'	2.03	0.57
1:5:2770:G:O2'	1:5:2771:U:H5'	2.05	0.57
4:A:149:ARG:HH22	4:A:155:LYS:CD	2.18	0.57
11:H:13:PRO:O	11:H:16:VAL:HG13	2.05	0.57
13:J:80:LEU:O	13:J:80:LEU:HD22	2.04	0.57
1:5:248:U:C2'	1:5:249:U:H5'	2.34	0.57
1:5:1444:G:H2'	1:5:1445:U:O4'	2.04	0.57
1:5:1891:A:C2'	1:5:1892:G:H5'	2.33	0.57
1:5:2526:C:H2'	1:5:2527:G:H8	1.70	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2880:U:H1'	5:B:250:ALA:CB	2.34	0.57
1:5:3151:U:OP1	5:B:128:LYS:NZ	2.38	0.57
5:B:215:ILE:HD12	5:B:338:LEU:HB3	1.87	0.57
8:E:8:LYS:HA	8:E:8:LYS:NZ	2.20	0.57
9:F:218:ARG:HG2	9:F:218:ARG:NH1	2.18	0.57
1:5:75:G:OP1	14:L:58:VAL:HG13	2.04	0.57
1:5:1767:C:O2'	1:5:1768:U:H5'	2.04	0.57
1:5:2922:G:H2'	1:5:2923:U:O4'	2.04	0.57
9:F:103:LEU:HG	9:F:130:ILE:CD1	2.35	0.57
27:Y:97:ILE:HG22	27:Y:99:LEU:CD2	2.35	0.57
33:e:125:ARG:O	33:e:128:LEU:HB2	2.05	0.57
37:i:80:PHE:CE1	37:i:84:LYS:HE3	2.40	0.57
39:k:16:ARG:O	39:k:18:ALA:N	2.36	0.57
45:x:302:SER:HB2	45:x:466:LEU:CD2	2.34	0.57
1:5:92:G:H5'	1:5:93:C:H5''	1.86	0.57
1:5:2213:A:H1'	1:5:2602:G:O4'	2.05	0.57
1:5:2428:U:H2'	1:5:2429:G:H8	1.70	0.57
1:5:2573:G:H2'	1:5:2574:G:O4'	2.05	0.57
6:C:99:MET:CE	6:C:102:PRO:HA	2.34	0.57
6:C:355:PHE:O	6:C:358:THR:HG22	2.05	0.57
17:O:126:VAL:HG22	17:O:127:LEU:CD2	2.34	0.57
39:k:27:ILE:HG12	39:k:78:LEU:HD11	1.87	0.57
44:q:41:VAL:HG21	44:q:185:LEU:HD21	1.87	0.57
45:x:80:TYR:HB3	45:x:84:VAL:HG12	1.87	0.57
46:y:206:TYR:CD2	46:y:207:MET:HE3	2.37	0.57
1:5:1362:G:H2'	1:5:1363:A:H8	1.70	0.57
1:5:1382:G:OP2	6:C:188:ARG:NH1	2.38	0.57
1:5:1408:G:OP1	33:e:33:ARG:NH2	2.38	0.57
1:5:2131:A:H2'	1:5:2132:C:O4'	2.05	0.57
1:5:2907:G:O2'	1:5:2908:G:H5'	2.04	0.57
3:8:131:A:O2'	3:8:132:G:H5'	2.04	0.57
3:8:157:U:H2'	3:8:158:U:C6	2.40	0.57
5:B:73:VAL:HG22	24:V:86:ARG:HH21	1.70	0.57
8:E:171:PRO:HA	8:E:174:LEU:CD1	2.34	0.57
26:X:117:ASN:OD1	26:X:119:THR:HG23	2.05	0.57
45:x:248:ARG:NH1	45:x:263:GLU:OE2	2.38	0.57
1:5:250:U:H2'	1:5:251:G:H5'	1.87	0.56
1:5:499:G:H5''	34:f:48:ARG:HH21	1.69	0.56
1:5:2807:U:O2'	1:5:2808:A:H2'	2.05	0.56
1:5:3044:G:O2'	1:5:3045:G:H5'	2.04	0.56
5:B:171:LEU:CD2	5:B:333:LYS:HG2	2.35	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:280:ILE:HD12	19:Q:104:LEU:HD22	1.87	0.56
8:E:136:GLU:OE1	8:E:136:GLU:HA	2.05	0.56
9:F:45:LEU:HD13	9:F:45:LEU:C	2.29	0.56
9:F:196:LYS:HB3	9:F:197:GLN:OE1	2.05	0.56
13:J:13:LYS:HE2	13:J:132:ASN:ND2	2.20	0.56
13:J:30:LEU:O	13:J:34:SER:HB2	2.04	0.56
15:M:14:LEU:H	15:M:19:ARG:NH2	2.01	0.56
17:O:77:SER:HB3	17:O:106:GLU:CD	2.30	0.56
26:X:63:ILE:HD13	26:X:63:ILE:C	2.30	0.56
27:Y:23:PRO:HG2	27:Y:26:GLN:CG	2.33	0.56
37:i:62:ARG:O	37:i:63:ASN:ND2	2.35	0.56
45:x:76:LEU:O	45:x:87:ARG:NH1	2.38	0.56
1:5:238:A:H2'	1:5:239:G:O4'	2.05	0.56
1:5:839:C:H1'	1:5:1724:U:OP1	2.05	0.56
1:5:2552:C:H5	31:c:53:LYS:NZ	1.88	0.56
1:5:3278:C:C3'	1:5:3279:A:H5'	2.34	0.56
1:5:3365:U:H2'	1:5:3366:G:H8	1.70	0.56
9:F:95:ILE:HG23	9:F:133:TYR:CE2	2.40	0.56
22:T:68:THR:CG2	22:T:71:SER:HB2	2.34	0.56
34:f:50:ALA:HB2	34:f:68:TRP:CZ3	2.39	0.56
45:x:416:LEU:O	45:x:420:ARG:HG2	2.05	0.56
1:5:44:U:H5''	16:N:85:THR:HG23	1.86	0.56
1:5:600:G:H5'	1:5:601:U:OP2	2.06	0.56
1:5:974:G:H5''	19:Q:14:GLY:O	2.05	0.56
1:5:1471:U:H2'	1:5:1472:U:H6	1.70	0.56
1:5:1631:C:H5''	1:5:1632:A:H5''	1.87	0.56
1:5:2649:A:O2'	1:5:2650:U:H5'	2.05	0.56
1:5:2769:A:O2'	1:5:2770:G:H5'	2.04	0.56
7:D:126:GLU:HB2	7:D:196:ARG:HB2	1.87	0.56
8:E:39:VAL:C	8:E:40:LEU:HD23	2.31	0.56
9:F:103:LEU:CD2	9:F:130:ILE:HD11	2.35	0.56
9:F:179:LEU:HD13	9:F:179:LEU:N	2.20	0.56
13:J:49:LYS:HD2	13:J:62:ASN:O	2.05	0.56
14:L:50:PRO:HB3	36:h:118:ILE:HD12	1.87	0.56
16:N:73:ARG:CB	16:N:89:VAL:HG13	2.36	0.56
20:R:81:ARG:HD3	20:R:88:ARG:NH1	2.18	0.56
26:X:141:TYR:O	26:X:142:ILE:HB	2.06	0.56
31:c:27:TYR:O	31:c:31:VAL:HG23	2.04	0.56
42:o:43:TYR:HD2	42:o:55:LYS:HE3	1.69	0.56
44:q:60:ARG:NH2	44:q:81:LYS:NZ	2.54	0.56
45:x:134:ARG:HB3	45:x:135:PRO:HD2	1.86	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:138:LEU:HD11	45:x:180:LYS:HB3	1.87	0.56
45:x:302:SER:HB2	45:x:466:LEU:HD22	1.86	0.56
46:y:167:CYS:HB3	46:y:187:HIS:HE1	1.69	0.56
1:5:4:U:O2'	1:5:5:G:H5'	2.04	0.56
1:5:1220:U:H4'	1:5:1221:A:H5''	1.87	0.56
1:5:2408:U:C2'	1:5:2409:G:H5'	2.36	0.56
1:5:2967:A:N7	1:5:2968:G:H1'	2.20	0.56
26:X:57:LEU:HD12	26:X:94:GLN:HE22	1.70	0.56
44:q:18:TYR:CD2	44:q:52:LEU:HG	2.40	0.56
45:x:234:TYR:CE2	45:x:542:GLU:HB3	2.41	0.56
46:y:211:ILE:O	46:y:211:ILE:HG12	2.04	0.56
1:5:159:A:C2'	1:5:160:G:H5'	2.36	0.56
1:5:173:G:H2'	1:5:174:C:C6	2.40	0.56
1:5:1240:A:H2'	1:5:1241:U:H5'	1.87	0.56
1:5:2211:U:H5	1:5:2234:G:H1	1.53	0.56
7:D:163:LEU:HD12	7:D:163:LEU:O	2.06	0.56
9:F:203:TRP:CD1	9:F:204:PRO:HD2	2.41	0.56
10:G:130:TYR:HD1	10:G:202:GLU:HB2	1.69	0.56
13:J:25:GLU:HG3	13:J:63:GLU:CD	2.30	0.56
36:h:101:THR:HG23	36:h:104:GLN:H	1.71	0.56
42:o:60:LYS:HE2	42:o:62:ALA:HB2	1.87	0.56
44:q:24:SER:CB	44:q:93:LEU:HD21	2.36	0.56
1:5:107:A:H2'	1:5:108:A:O4'	2.06	0.56
1:5:3194:C:C2'	1:5:3195:U:H5'	2.36	0.56
6:C:265:GLU:OE1	6:C:265:GLU:HA	2.06	0.56
13:J:164:LYS:HE3	13:J:171:VAL:HB	1.87	0.56
16:N:49:ARG:HH11	16:N:49:ARG:CG	2.19	0.56
25:W:49:ILE:O	25:W:52:THR:HG23	2.06	0.56
29:a:65:GLN:O	29:a:66:ALA:HB3	2.06	0.56
45:x:261:GLU:HA	46:y:342:ALA:O	2.06	0.56
1:5:238:A:HO2'	1:5:239:G:P	2.28	0.56
1:5:850:U:H2'	1:5:851:C:H6	1.71	0.56
5:B:159:ARG:HG2	5:B:182:GLN:HA	1.87	0.56
7:D:51:LEU:HB2	7:D:144:VAL:HG11	1.87	0.56
8:E:31:ARG:NH2	8:E:81:ALA:O	2.38	0.56
8:E:175:LYS:NZ	15:M:111:ALA:HA	2.21	0.56
12:I:48:LEU:HD13	12:I:48:LEU:C	2.31	0.56
27:Y:120:GLN:HE21	27:Y:120:GLN:HA	1.70	0.56
28:Z:10:VAL:O	28:Z:83:THR:HG22	2.06	0.56
45:x:239:VAL:HB	45:x:322:LYS:HB2	1.88	0.56
45:x:387:VAL:O	45:x:387:VAL:HG12	2.06	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:447:HIS:CE1	45:x:491:SER:HB2	2.38	0.56
1:5:2243:A:O4'	1:5:2313:A:H3'	2.06	0.56
3:8:81:U:H1'	3:8:82:U:O4'	2.06	0.56
6:C:178:LEU:O	6:C:182:LEU:HD22	2.06	0.56
6:C:246:ARG:O	6:C:248:VAL:HG23	2.06	0.56
17:O:120:VAL:O	17:O:124:LEU:HD22	2.05	0.56
27:Y:52:ARG:HG2	27:Y:53:ASP:H	1.70	0.56
31:c:76:GLU:H	31:c:76:GLU:CD	2.14	0.56
45:x:3:LEU:HD22	46:y:330:VAL:CG2	2.34	0.56
47:z:93:UNK:HA	47:z:96:UNK:HG3	1.87	0.56
1:5:238:A:O2'	1:5:239:G:OP1	2.21	0.56
1:5:1877:U:H5''	1:5:1878:G:H5'	1.86	0.56
1:5:2885:C:O2'	1:5:2886:U:H5'	2.05	0.56
1:5:3289:G:H4'	1:5:3290:G:OP1	2.06	0.56
7:D:286:VAL:O	7:D:290:ILE:HG13	2.06	0.56
8:E:130:ILE:HD12	8:E:135:VAL:CG2	2.35	0.56
10:G:81:THR:HG23	10:G:82:LEU:H	1.71	0.56
14:L:85:LEU:HD22	14:L:120:GLN:NE2	2.16	0.56
17:O:65:ASN:OD1	17:O:67:THR:HB	2.05	0.56
24:V:45:ARG:HD2	24:V:46:LEU:H	1.70	0.56
35:g:12:PRO:HG2	35:g:13:TYR:CE2	2.40	0.56
38:j:18:LEU:HD11	40:l:51:ILE:CG2	2.36	0.56
43:p:54:ILE:HD13	43:p:54:ILE:O	2.06	0.56
45:x:263:GLU:H	45:x:301:VAL:HB	1.71	0.56
45:x:336:THR:HG22	45:x:337:LEU:H	1.69	0.56
1:5:1559:A:H2'	26:X:33:ARG:HH22	1.70	0.56
1:5:3186:A:C2	11:H:44:THR:HG22	2.40	0.56
4:A:95:SER:OG	4:A:97:ASN:ND2	2.39	0.56
5:B:332:ARG:O	5:B:333:LYS:HB2	2.06	0.56
12:I:169:LYS:H	12:I:169:LYS:CE	2.18	0.56
22:T:48:ILE:HG13	22:T:94:GLU:HG2	1.86	0.56
26:X:108:LEU:HD22	26:X:127:THR:HG22	1.87	0.56
34:f:28:SER:C	34:f:29:LEU:HD23	2.31	0.56
41:m:78:ILE:O	41:m:78:ILE:HG23	2.05	0.56
1:5:908:G:H4'	1:5:909:G:O5'	2.06	0.55
1:5:1226:G:H2'	1:5:1227:C:H6	1.69	0.55
1:5:1770:G:H5'	1:5:1771:C:OP2	2.06	0.55
1:5:2725:U:H3'	1:5:2726:C:O2	2.06	0.55
4:A:83:HIS:NE2	4:A:86:GLN:HB2	2.21	0.55
4:A:117:GLU:OE2	4:A:163:ARG:NH2	2.39	0.55
7:D:62:CYS:C	7:D:63:GLN:HG3	2.31	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:22:THR:CA	9:F:25:GLN:HG2	2.30	0.55
10:G:34:PHE:CE1	10:G:42:PRO:HD3	2.41	0.55
14:L:85:LEU:N	14:L:85:LEU:HD23	2.21	0.55
19:Q:42:ALA:HB2	19:Q:133:LYS:HD3	1.88	0.55
19:Q:177:GLY:O	19:Q:186:VAL:N	2.27	0.55
24:V:23:MET:HE1	24:V:78:VAL:HG22	1.87	0.55
24:V:89:ASP:OD1	24:V:91:VAL:HG12	2.06	0.55
31:c:95:ALA:HB2	31:c:101:LEU:CD2	2.35	0.55
34:f:8:TYR:CE2	34:f:99:ARG:HG2	2.41	0.55
42:o:8:ARG:HD2	42:o:10:THR:HB	1.88	0.55
42:o:23:HIS:HA	42:o:73:GLU:O	2.06	0.55
45:x:61:VAL:N	45:x:62:PRO:HD2	2.20	0.55
46:y:191:ILE:HD11	46:y:197:LEU:CD1	2.35	0.55
1:5:116:A:OP2	16:N:2:GLY:HA3	2.06	0.55
1:5:394:G:N2	1:5:396:A:H3'	2.21	0.55
1:5:503:C:O2	8:E:23:LYS:NZ	2.35	0.55
1:5:999:G:C6	1:5:1000:C:N4	2.73	0.55
1:5:1240:A:H2	1:5:1248:C:H41	1.54	0.55
1:5:3214:U:C2'	15:M:121:MET:HE1	2.36	0.55
5:B:14:LEU:HD22	5:B:262:TRP:CZ3	2.41	0.55
5:B:221:THR:HG22	5:B:272:TYR:H	1.71	0.55
45:x:449:LEU:HD22	47:z:97:UNK:HG1	1.88	0.55
46:y:152:UNK:O	46:y:213:LEU:HD22	2.05	0.55
47:z:92:UNK:HA	47:z:95:UNK:HG3	1.87	0.55
1:5:55:G:C2'	1:5:56:G:H5'	2.35	0.55
1:5:248:U:H2'	1:5:249:U:H5'	1.88	0.55
1:5:2616:C:H2'	1:5:2617:U:H5'	1.87	0.55
2:7:4:U:H2'	2:7:5:G:H8	1.70	0.55
2:7:112:G:H2'	2:7:113:C:H6	1.72	0.55
4:A:70:ARG:HG3	4:A:71:LEU:N	2.21	0.55
5:B:74:GLU:OE2	5:B:325:LYS:HE3	2.07	0.55
7:D:294:ALA:O	7:D:296:GLN:HG2	2.06	0.55
8:E:43:LEU:HD11	8:E:85:ILE:HG13	1.88	0.55
12:I:86:HIS:HB3	12:I:139:ARG:HG2	1.88	0.55
17:O:126:VAL:CG2	17:O:127:LEU:HD23	2.36	0.55
20:R:67:ALA:HA	20:R:70:LYS:HB2	1.88	0.55
28:Z:97:SER:HB3	28:Z:99:GLU:OE2	2.06	0.55
45:x:426:ILE:HG23	45:x:431:LEU:HB2	1.87	0.55
47:z:106:UNK:O	47:z:107:UNK:HB2	2.05	0.55
1:5:500:C:O2'	1:5:501:A:H5'	2.06	0.55
1:5:1559:A:H2'	26:X:33:ARG:NH2	2.20	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1874:A:C2'	1:5:1875:G:H5'	2.36	0.55
5:B:221:THR:O	5:B:272:TYR:HA	2.06	0.55
10:G:172:LYS:HB2	10:G:172:LYS:HZ3	1.70	0.55
14:L:64:LYS:HG3	29:a:69:TRP:CG	2.41	0.55
21:S:26:ARG:HH22	21:S:28:ARG:HH21	1.55	0.55
21:S:73:LYS:NZ	21:S:97:VAL:O	2.36	0.55
37:i:54:GLU:O	37:i:58:ILE:HG23	2.07	0.55
45:x:464:SER:CB	45:x:469:PRO:HG3	2.37	0.55
46:y:230:VAL:O	46:y:234:MET:HG3	2.07	0.55
1:5:36:C:C2'	1:5:37:U:H5'	2.34	0.55
1:5:282:G:C8	1:5:282:G:H3'	2.41	0.55
1:5:1347:U:H5'	6:C:303:GLY:CA	2.26	0.55
1:5:2181:C:OP1	4:A:193:ARG:NH2	2.40	0.55
3:8:134:G:OP1	26:X:56:ARG:HG2	2.07	0.55
4:A:205:ASN:HB3	4:A:206:PRO:CD	2.37	0.55
5:B:217:ALA:C	5:B:218:ILE:HD12	2.31	0.55
5:B:308:MET:HE1	5:B:372:THR:C	2.31	0.55
9:F:191:VAL:HG12	9:F:192:GLY:H	1.71	0.55
10:G:70:LYS:CA	10:G:235:GLY:HA3	2.27	0.55
11:H:93:VAL:CG1	41:m:78:ILE:HD11	2.36	0.55
12:I:175:ASN:HB3	12:I:176:LEU:CD2	2.35	0.55
16:N:8:GLU:HB2	16:N:50:ARG:HH12	1.72	0.55
16:N:184:LYS:O	16:N:184:LYS:HG2	2.05	0.55
21:S:94:ILE:HD11	21:S:106:LEU:HD23	1.89	0.55
37:i:50:LEU:HD21	37:i:93:ILE:HD13	1.89	0.55
40:l:23:LEU:CD2	40:l:24:PRO:HD2	2.28	0.55
45:x:270:THR:OG1	45:x:468:LEU:HD13	2.07	0.55
46:y:197:LEU:HD22	46:y:257:TYR:CD2	2.41	0.55
1:5:1238:C:C3'	1:5:1239:C:H5''	2.37	0.55
1:5:1462:A:C2'	1:5:1463:U:H5'	2.36	0.55
1:5:1748:G:OP1	39:k:53:THR:HG21	2.07	0.55
1:5:2017:P5P:H2'	1:5:2018:P5P:H8	1.89	0.55
1:5:2213:A:H1'	1:5:2602:G:C4'	2.37	0.55
1:5:2536:A:H2'	1:5:2537:U:O4'	2.06	0.55
1:5:2880:U:H1'	5:B:250:ALA:HB3	1.87	0.55
1:5:3218:A:H5''	1:5:3219:G:C5	2.41	0.55
6:C:179:LEU:O	6:C:179:LEU:HD22	2.07	0.55
9:F:108:LEU:HD21	9:F:115:THR:HG23	1.88	0.55
9:F:124:LEU:O	9:F:124:LEU:HD13	2.06	0.55
13:J:53:THR:OG1	13:J:60:ARG:HA	2.07	0.55
13:J:79:ILE:HG12	13:J:82:ARG:NH2	2.21	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:103:LYS:N	27:Y:103:LYS:HD3	2.20	0.55
29:a:6:THR:HG21	29:a:8:THR:HG23	1.88	0.55
45:x:375:SER:HB2	45:x:422:GLY:O	2.05	0.55
45:x:482:ALA:O	45:x:486:LYS:HG3	2.07	0.55
1:5:249:U:H1'	1:5:250:U:O4'	2.07	0.55
1:5:977:C:C2'	1:5:978:G:H5'	2.37	0.55
1:5:1290:A:H2'	1:5:1291:A:C8	2.41	0.55
1:5:2421:U:C2'	1:5:2422:C:H5''	2.34	0.55
1:5:2916:U:H1'	24:V:44:SER:HB3	1.89	0.55
1:5:3250:U:O2'	1:5:3251:U:H5'	2.07	0.55
3:8:81:U:OP1	3:8:87:G:H4'	2.07	0.55
10:G:183:LYS:HD2	10:G:194:THR:CB	2.36	0.55
12:I:36:LEU:HD12	12:I:87:LEU:HD23	1.88	0.55
20:R:136:ARG:O	20:R:139:VAL:HG22	2.07	0.55
37:i:91:ASN:O	37:i:94:ILE:HG22	2.07	0.55
45:x:41:TYR:O	45:x:45:LEU:HG	2.06	0.55
1:5:884:A:OP2	38:j:4:GLY:HA3	2.06	0.55
1:5:1233:G:O2'	1:5:1234:G:H5'	2.07	0.55
1:5:1916:U:H2'	1:5:1917:C:H6	1.72	0.55
1:5:2608:G:H2'	1:5:2609:A:C8	2.41	0.55
7:D:146:LEU:HD13	7:D:148:ILE:HD11	1.89	0.55
9:F:216:VAL:HB	9:F:217:PRO:CD	2.37	0.55
10:G:144:GLU:HA	10:G:173:MET:HE3	1.87	0.55
13:J:27:GLY:O	13:J:31:THR:HG22	2.06	0.55
20:R:123:LEU:O	20:R:127:SER:HB3	2.07	0.55
27:Y:23:PRO:HD2	27:Y:26:GLN:CD	2.32	0.55
44:q:66:PHE:HB3	44:q:70:LEU:CD1	2.37	0.55
44:q:89:THR:OG1	44:q:96:ILE:HG13	2.06	0.55
1:5:517:G:O2'	1:5:518:G:H5'	2.07	0.55
1:5:620:U:H3'	1:5:621:A:H5'	1.89	0.55
1:5:992:A:C2'	1:5:993:G:H5'	2.37	0.55
1:5:2181:C:H5''	4:A:193:ARG:NH2	2.21	0.55
2:7:17:A:H2'	2:7:18:C:H6	1.71	0.55
5:B:238:LEU:CD1	5:B:239:PRO:HD3	2.33	0.55
18:P:53:ASP:O	18:P:54:HIS:HB2	2.06	0.55
19:Q:170:ARG:NH1	29:a:56:VAL:O	2.40	0.55
24:V:2:SER:HB2	24:V:125:LEU:HD21	1.89	0.55
24:V:59:MET:HA	24:V:59:MET:CE	2.36	0.55
27:Y:45:ILE:HD11	27:Y:122:LYS:CE	2.23	0.55
32:d:10:ARG:HG2	32:d:108:VAL:HG22	1.88	0.55
35:g:58:ARG:CG	35:g:58:ARG:NH1	2.55	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:h:13:SER:OG	36:h:16:GLN:HG3	2.07	0.55
45:x:289:VAL:HG12	45:x:290:VAL:O	2.06	0.55
1:5:549:U:H2'	1:5:550:A:C8	2.42	0.55
1:5:599:C:H2'	1:5:600:G:O4'	2.06	0.55
1:5:2093:A:H61	20:R:114:LYS:HD3	1.69	0.55
1:5:2583:C:O2'	1:5:2584:G:OP1	2.25	0.55
1:5:3083:G:H4'	25:W:42:GLN:NE2	2.22	0.55
10:G:78:PHE:O	10:G:79:GLN:HB3	2.07	0.55
10:G:150:LEU:HD22	10:G:151:VAL:N	2.19	0.55
14:L:71:ALA:HB2	14:L:147:ILE:CD1	2.37	0.55
17:O:109:PRO:HB2	17:O:110:PRO:CD	2.36	0.55
28:Z:95:VAL:HG21	28:Z:113:VAL:HG11	1.88	0.55
29:a:134:ALA:O	29:a:138:ILE:HG13	2.07	0.55
45:x:158:MET:CE	47:z:65:UNK:HG1	2.32	0.55
45:x:380:THR:O	45:x:384:LYS:HD2	2.06	0.55
46:y:211:ILE:CD1	46:y:231:ARG:HG2	2.33	0.55
46:y:234:MET:HB3	46:y:239:HIS:O	2.06	0.55
1:5:585:A:H2'	1:5:586:C:H6	1.70	0.54
1:5:724:U:H2'	1:5:725:G:O4'	2.07	0.54
1:5:2408:U:O2'	1:5:2409:G:H5'	2.07	0.54
5:B:48:GLY:O	5:B:335:ILE:HD12	2.07	0.54
14:L:71:ALA:HB2	14:L:147:ILE:HD11	1.89	0.54
29:a:19:LYS:HG3	29:a:25:HIS:CD2	2.43	0.54
33:e:23:ASP:OD1	33:e:23:ASP:N	2.37	0.54
35:g:41:ARG:HA	35:g:56:THR:CG2	2.36	0.54
35:g:81:CYS:O	35:g:82:ALA:HB3	2.06	0.54
45:x:271:GLU:HB3	45:x:334:LEU:HD11	1.88	0.54
1:5:1651:U:H5''	4:A:71:LEU:HD22	1.89	0.54
1:5:3384:U:H2'	1:5:3385:U:C6	2.41	0.54
2:7:119:U:H3'	7:D:258:LYS:NZ	2.22	0.54
4:A:204:MET:HE2	4:A:209:HIS:HB2	1.89	0.54
7:D:282:ARG:O	7:D:286:VAL:HG23	2.07	0.54
8:E:149:ILE:HG23	8:E:155:LEU:HD13	1.88	0.54
10:G:25:PRO:O	10:G:26:LEU:HD23	2.08	0.54
18:P:136:ILE:O	18:P:137:ASN:ND2	2.41	0.54
28:Z:10:VAL:HG22	28:Z:24:VAL:HG13	1.88	0.54
31:c:73:GLY:H	31:c:76:GLU:CD	2.15	0.54
32:d:71:LEU:HB3	32:d:73:LEU:CD2	2.37	0.54
45:x:391:LYS:HG2	45:x:394:HIS:NE2	2.22	0.54
46:y:207:MET:SD	46:y:242:ILE:HG21	2.47	0.54
1:5:29:C:O3'	16:N:172:ARG:NH1	2.40	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2569:A:C4'	1:5:2570:U:H5'	2.30	0.54
1:5:2605:G:H2'	1:5:2607:G:O6	2.07	0.54
1:5:2712:U:H2'	1:5:2713:U:H6	1.69	0.54
1:5:3078:U:H4'	1:5:3079:U:O5'	2.07	0.54
6:C:74:ILE:HD12	6:C:75:PRO:CD	2.27	0.54
23:U:90:ARG:NH1	46:y:316:ARG:NH1	2.56	0.54
29:a:19:LYS:HG3	29:a:25:HIS:HD2	1.72	0.54
1:5:1573:G:C2	1:5:1574:C:H1'	2.42	0.54
1:5:2402:A:H5''	6:C:67:THR:OG1	2.08	0.54
1:5:2746:A:H2'	1:5:2747:A:O4'	2.07	0.54
1:5:2772:C:H1'	1:5:2773:C:OP2	2.08	0.54
1:5:3351:U:H5'	1:5:3352:U:OP2	2.07	0.54
2:7:27:A:H2'	2:7:28:C:H6	1.72	0.54
4:A:147:ARG:NH1	4:A:147:ARG:HB2	2.22	0.54
7:D:41:LYS:HB2	22:T:68:THR:O	2.07	0.54
9:F:136:TYR:CE2	9:F:231:ASN:HB2	2.43	0.54
9:F:149:TYR:CE1	9:F:181:ILE:HD13	2.43	0.54
24:V:48:ARG:CG	24:V:48:ARG:NH1	2.65	0.54
44:q:28:VAL:HG22	44:q:85:GLY:O	2.07	0.54
45:x:97:ILE:HG22	45:x:98:ASP:N	2.12	0.54
45:x:191:MET:HE1	45:x:319:ILE:CG2	2.36	0.54
46:y:321:TYR:HA	46:y:324:GLN:HG2	1.88	0.54
1:5:1078:U:N3	1:5:1081:U:OP2	2.34	0.54
1:5:2098:C:O2'	1:5:2099:A:H5'	2.06	0.54
1:5:2614:G:H5'	1:5:2614:G:H8	1.72	0.54
6:C:99:MET:HE2	6:C:103:THR:H	1.73	0.54
12:I:85:PHE:CA	12:I:140:THR:HG22	2.33	0.54
37:i:43:LEU:CD1	37:i:47:ILE:HD11	2.35	0.54
44:q:24:SER:HB3	44:q:93:LEU:HD21	1.89	0.54
44:q:87:VAL:HG21	44:q:100:ILE:CD1	2.38	0.54
45:x:66:LEU:HD11	45:x:401:PHE:CE2	2.43	0.54
1:5:1570:U:O2'	1:5:1571:A:O4'	2.19	0.54
1:5:2309:A:N3	1:5:2961:G:O2'	2.30	0.54
1:5:2582:C:O2'	1:5:2583:C:H5'	2.07	0.54
1:5:2611:U:O2'	1:5:2803:A:N1	2.31	0.54
1:5:3161:C:H42	1:5:3289:G:H1	1.54	0.54
5:B:37:ARG:HA	5:B:186:GLY:CA	2.37	0.54
6:C:64:SER:HA	6:C:75:PRO:HA	1.89	0.54
10:G:211:LEU:HD13	10:G:212:ALA:N	2.22	0.54
10:G:238:LEU:H	10:G:238:LEU:CD1	2.21	0.54
14:L:165:SER:CB	14:L:168:ARG:HB3	2.27	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:122:ILE:HG23	19:Q:126:GLN:HB2	1.90	0.54
26:X:38:LEU:HD23	26:X:38:LEU:C	2.32	0.54
27:Y:27:ARG:NH1	27:Y:76:LEU:HA	2.21	0.54
33:e:94:ALA:O	33:e:120:THR:HG23	2.08	0.54
34:f:101:PHE:HB3	34:f:103:TYR:CE1	2.43	0.54
37:i:34:SER:O	37:i:38:LYS:HB2	2.08	0.54
44:q:63:ILE:HG22	44:q:77:LEU:HD21	1.89	0.54
45:x:359:ALA:HB3	45:x:435:SER:HB2	1.89	0.54
45:x:542:GLU:OE1	47:z:74:UNK:HB1	2.06	0.54
46:y:325:ASP:OD1	46:y:326:LEU:N	2.41	0.54
1:5:20:A:OP2	36:h:90:ARG:NH1	2.41	0.54
1:5:609:G:H3'	1:5:609:G:N3	2.22	0.54
1:5:625:G:H2'	1:5:626:U:H6	1.73	0.54
1:5:732:C:H2'	1:5:733:G:H5'	1.90	0.54
1:5:1261:G:H4'	1:5:1278:A:N1	2.22	0.54
1:5:1819:U:O2'	1:5:1820:U:H5'	2.08	0.54
1:5:2186:U:O2'	1:5:2187:G:H5'	2.08	0.54
1:5:2777:G:H5''	1:5:2778:G:OP1	2.08	0.54
1:5:2960:C:H2'	1:5:2961:G:H8	1.73	0.54
5:B:14:LEU:HD23	5:B:17:LEU:CD2	2.38	0.54
6:C:93:MET:HE2	6:C:93:MET:N	2.13	0.54
7:D:266:ALA:O	7:D:270:LYS:HG3	2.07	0.54
8:E:56:LYS:HG2	8:E:57:HIS:N	2.21	0.54
8:E:59:GLU:OE1	8:E:59:GLU:HA	2.08	0.54
8:E:80:ASN:HB3	8:E:83:TYR:HD2	1.72	0.54
20:R:81:ARG:HG2	20:R:88:ARG:NH1	2.22	0.54
21:S:47:LYS:C	21:S:48:LEU:HD23	2.33	0.54
24:V:39:VAL:O	24:V:42:SER:OG	2.25	0.54
27:Y:58:VAL:HG22	27:Y:104:LEU:HD22	1.90	0.54
47:z:150:UNK:HA	47:z:153:UNK:HG3	1.89	0.54
1:5:797:U:C2'	1:5:798:G:H5'	2.38	0.54
1:5:807:A:H4'	1:5:2811:A:O2'	2.08	0.54
1:5:873:C:H5''	1:5:874:U:H4'	1.90	0.54
1:5:2101:C:HO2'	1:5:2102:U:P	2.30	0.54
1:5:2550:U:O4'	10:G:38:GLN:NE2	2.38	0.54
1:5:2993:G:H2'	1:5:3142:A:N6	2.23	0.54
1:5:3359:A:C5'	46:y:237:LYS:HG3	2.35	0.54
6:C:193:LYS:NZ	6:C:193:LYS:HB2	2.23	0.54
8:E:51:ARG:NH1	8:E:163:PHE:HB2	2.22	0.54
21:S:108:GLN:NE2	21:S:108:GLN:HA	2.19	0.54
23:U:27:VAL:HG13	46:y:307:LEU:HD11	1.88	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:e:90:LYS:NZ	33:e:90:LYS:HB3	2.22	0.54
44:q:77:LEU:HB2	44:q:78:PRO:HD3	1.90	0.54
1:5:536:U:O2'	1:5:537:A:H5'	2.08	0.54
1:5:2357:A:H2'	1:5:2358:A:C8	2.43	0.54
1:5:2726:C:O2'	1:5:2727:A:H2'	2.07	0.54
1:5:2808:A:O2'	1:5:2809:C:O5'	2.26	0.54
5:B:167:ARG:NH1	5:B:168:LYS:HZ3	2.05	0.54
22:T:88:ARG:O	22:T:89:LEU:HD12	2.08	0.54
27:Y:113:LYS:HB2	27:Y:113:LYS:HZ3	1.73	0.54
28:Z:56:LYS:NZ	28:Z:56:LYS:HB2	2.23	0.54
34:f:54:ARG:HH11	34:f:64:ILE:HD11	1.70	0.54
45:x:519:ARG:HG3	45:x:520:PRO:HD2	1.89	0.54
1:5:117:U:O4	10:G:147:LYS:HD3	2.08	0.54
1:5:137:G:H2'	1:5:138:U:C6	2.42	0.54
1:5:173:G:H2'	1:5:174:C:O4'	2.08	0.54
1:5:671:U:H2'	1:5:672:A:H8	1.71	0.54
1:5:1221:A:H3'	1:5:1222:G:C5'	2.38	0.54
4:A:77:ILE:HD12	4:A:128:ARG:HB3	1.90	0.54
4:A:149:ARG:HH22	4:A:155:LYS:HD2	1.73	0.54
5:B:213:GLU:OE2	5:B:340:LYS:NZ	2.41	0.54
6:C:10:SER:OG	6:C:14:GLU:OE2	2.25	0.54
6:C:338:LYS:HD3	6:C:338:LYS:N	2.23	0.54
12:I:38:LYS:CD	12:I:41:ALA:HB2	2.37	0.54
13:J:143:ARG:HG2	13:J:144:CYS:SG	2.48	0.54
21:S:137:ARG:O	21:S:141:LYS:HG3	2.08	0.54
23:U:98:THR:CG2	23:U:104:ARG:HE	2.20	0.54
24:V:15:LEU:HA	24:V:53:SER:HB3	1.90	0.54
33:e:75:LEU:HD23	33:e:76:VAL:H	1.71	0.54
1:5:138:U:H2'	1:5:139:G:H8	1.72	0.53
1:5:539:C:H2'	1:5:540:U:C6	2.44	0.53
1:5:2223:A:OP1	37:i:67:LYS:HE3	2.07	0.53
1:5:3013:U:H2'	1:5:3014:U:C6	2.42	0.53
1:5:3163:A:N6	1:5:3288:G:O6	2.41	0.53
3:8:125:U:O2'	3:8:126:A:H5'	2.06	0.53
5:B:46:PHE:C	5:B:47:LEU:HD12	2.33	0.53
8:E:78:ARG:NH1	8:E:78:ARG:CG	2.61	0.53
11:H:13:PRO:HG2	11:H:16:VAL:CG1	2.37	0.53
12:I:177:ASP:C	12:I:179:PRO:HD2	2.34	0.53
16:N:197:LEU:HG	16:N:199:LEU:HD21	1.90	0.53
19:Q:63:SER:OG	19:Q:64:VAL:N	2.41	0.53
20:R:147:ALA:O	20:R:151:ARG:HG2	2.08	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:a:90:TYR:CE1	29:a:100:PRO:HB3	2.43	0.53
41:m:90:ASN:N	41:m:90:ASN:OD1	2.38	0.53
43:p:82:THR:HG22	43:p:83:ILE:HD13	1.90	0.53
1:5:173:G:H2'	1:5:174:C:H6	1.72	0.53
1:5:1127:G:O2'	12:I:115:MET:HE1	2.08	0.53
1:5:1334:U:H2'	1:5:1335:C:C6	2.44	0.53
1:5:2180:G:H2'	1:5:2181:C:C6	2.42	0.53
1:5:2662:G:H2'	1:5:2663:G:H8	1.74	0.53
8:E:43:LEU:HB2	8:E:83:TYR:O	2.08	0.53
12:I:60:LEU:HD21	12:I:129:VAL:HG11	1.91	0.53
38:j:5:THR:N	38:j:6:PRO:HD2	2.22	0.53
45:x:229:THR:O	45:x:233:SER:OG	2.19	0.53
45:x:522:LEU:HD23	45:x:569:LEU:HD22	1.89	0.53
1:5:1290:A:H2'	1:5:1291:A:H8	1.72	0.53
1:5:1640:G:C2'	1:5:1641:U:H5'	2.38	0.53
1:5:1727:G:OP1	43:p:44:LYS:NZ	2.40	0.53
1:5:2114:C:H3'	1:5:2114:C:H6	1.72	0.53
1:5:2131:A:H61	43:p:18:TYR:HA	1.72	0.53
1:5:2551:U:O4	4:A:95:SER:N	2.42	0.53
2:7:33:U:O2'	2:7:34:C:H5'	2.08	0.53
10:G:41:GLN:HG3	10:G:42:PRO:HD2	1.90	0.53
11:H:67:ALA:HA	11:H:70:THR:CG2	2.37	0.53
30:b:10:HIS:O	30:b:11:ASN:HB3	2.08	0.53
34:f:71:VAL:HG13	34:f:81:VAL:HG11	1.90	0.53
41:m:106:ARG:HB2	41:m:106:ARG:CZ	2.37	0.53
45:x:220:GLY:HA3	45:x:306:SER:O	2.08	0.53
45:x:231:ALA:HA	45:x:323:MET:HE1	1.90	0.53
45:x:252:ALA:HB3	45:x:255:ASN:OD1	2.08	0.53
1:5:1144:U:OP2	33:e:43:ARG:NH2	2.41	0.53
1:5:1950:U:H2'	1:5:1951:C:C6	2.44	0.53
1:5:2271:A:H2'	1:5:2272:G:H5'	1.88	0.53
2:7:74:C:O2'	2:7:75:G:H5'	2.09	0.53
3:8:80:A:C2'	3:8:81:U:H5'	2.38	0.53
3:8:80:A:C3'	3:8:81:U:H3'	2.39	0.53
5:B:25:ILE:O	5:B:25:ILE:HD13	2.09	0.53
6:C:34:ILE:HG22	6:C:35:VAL:N	2.22	0.53
7:D:107:ARG:HH22	7:D:120:LYS:CA	2.20	0.53
7:D:206:GLN:O	7:D:210:GLU:HG3	2.09	0.53
8:E:129:GLU:HG2	8:E:130:ILE:N	2.23	0.53
9:F:131:GLU:HB3	9:F:132:PRO:CD	2.27	0.53
26:X:86:VAL:HG11	26:X:95:ILE:HD11	1.90	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:k:61:LYS:HB2	39:k:61:LYS:NZ	2.24	0.53
45:x:219:THR:HG22	45:x:220:GLY:N	2.24	0.53
46:y:148:UNK:O	46:y:152:UNK:HB1	2.08	0.53
1:5:283:G:H3'	1:5:283:G:N3	2.24	0.53
1:5:732:C:C2'	1:5:733:G:H5'	2.39	0.53
1:5:1221:A:H3'	1:5:1222:G:H5'	1.91	0.53
1:5:1845:G:H5''	1:5:1846:C:H5'	1.90	0.53
1:5:2372:A:H3'	1:5:2373:A:C5'	2.38	0.53
3:8:85:G:H3'	3:8:85:G:N3	2.23	0.53
8:E:153:PRO:O	8:E:154:LEU:HB2	2.08	0.53
21:S:26:ARG:HH11	22:T:150:THR:HG22	1.68	0.53
22:T:65:TYR:H	22:T:65:TYR:HD2	1.56	0.53
22:T:77:ASN:HD21	30:b:24:PRO:HD2	1.74	0.53
28:Z:4:PHE:O	28:Z:5:LEU:HB2	2.08	0.53
44:q:60:ARG:HA	44:q:77:LEU:CD2	2.39	0.53
45:x:172:PRO:HG2	47:z:67:UNK:HB2	1.90	0.53
47:z:118:UNK:O	47:z:121:UNK:HG3	2.09	0.53
5:B:126:LYS:HB2	5:B:128:LYS:HG2	1.91	0.53
5:B:308:MET:HB2	5:B:363:SER:HB2	1.89	0.53
7:D:49:TYR:HE2	7:D:75:LEU:HD12	1.73	0.53
7:D:88:ILE:CD1	7:D:239:ILE:HG22	2.39	0.53
8:E:52:VAL:CG1	8:E:65:ILE:HG23	2.38	0.53
12:I:169:LYS:HE2	12:I:169:LYS:N	2.20	0.53
25:W:9:SER:HB3	25:W:51:TRP:HZ3	1.72	0.53
27:Y:42:GLN:O	27:Y:125:LYS:HG3	2.09	0.53
45:x:17:LYS:HB3	45:x:249:ARG:HD2	1.90	0.53
45:x:49:SER:OG	45:x:58:GLN:HA	2.08	0.53
45:x:226:ILE:O	45:x:230:ILE:HG12	2.08	0.53
1:5:361:A:OP1	38:j:24:ARG:NH1	2.41	0.53
1:5:1784:G:H2'	1:5:1785:U:O4'	2.09	0.53
1:5:1870:C:H1'	1:5:3066:U:O2'	2.09	0.53
1:5:1874:A:H5''	20:R:18:GLY:HA3	1.91	0.53
4:A:205:ASN:O	4:A:212:GLY:HA2	2.08	0.53
5:B:41:VAL:HA	5:B:185:GLY:CA	2.35	0.53
6:C:260:GLN:HA	6:C:260:GLN:NE2	2.23	0.53
12:I:72:ALA:HB2	12:I:155:ALA:HB2	1.89	0.53
13:J:133:ARG:HB3	13:J:134:PRO:CD	2.39	0.53
16:N:153:ASP:CG	16:N:154:PRO:HD2	2.33	0.53
27:Y:23:PRO:HD2	27:Y:26:GLN:OE1	2.08	0.53
44:q:27:VAL:HG11	44:q:79:PHE:O	2.08	0.53
1:5:822:G:C1'	4:A:15:ILE:HD12	2.38	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1327:C:O2'	1:5:1328:C:H5'	2.08	0.53
1:5:1583:A:H2'	1:5:1584:U:O4'	2.08	0.53
1:5:1803:C:H2'	1:5:1804:A:H8	1.74	0.53
6:C:22:LEU:HD23	6:C:23:PRO:CD	2.33	0.53
11:H:103:ILE:HD11	11:H:134:ILE:HG22	1.90	0.53
12:I:182:LEU:HD21	12:I:185:ARG:NH2	2.23	0.53
14:L:105:ASN:ND2	37:i:17:VAL:HG11	2.23	0.53
14:L:114:GLN:HE21	14:L:114:GLN:CA	2.09	0.53
15:M:45:LEU:HD12	15:M:56:GLN:O	2.09	0.53
18:P:105:LYS:HB3	18:P:107:LEU:HD13	1.91	0.53
24:V:2:SER:CB	24:V:125:LEU:HD21	2.39	0.53
24:V:72:LYS:HG2	24:V:74:MET:CE	2.38	0.53
26:X:77:GLU:HG3	45:x:421:LEU:HD21	1.91	0.53
33:e:101:SER:OG	33:e:104:ASN:ND2	2.41	0.53
35:g:82:ALA:O	35:g:84:CYS:N	2.42	0.53
1:5:237:G:H2'	1:5:238:A:H5'	1.90	0.53
1:5:411:U:C2	3:8:13:A:C2	2.97	0.53
1:5:528:U:H2'	1:5:529:A:H8	1.74	0.53
1:5:560:G:OP1	15:M:83:LYS:NZ	2.31	0.53
1:5:771:A:H2'	1:5:772:U:H5'	1.91	0.53
1:5:2541:U:H4'	1:5:2542:U:OP1	2.08	0.53
1:5:2683:U:OP1	13:J:18:VAL:HG11	2.07	0.53
1:5:2799:A:H1'	29:a:42:ARG:HH12	1.73	0.53
3:8:9:A:H2'	3:8:10:A:C8	2.44	0.53
5:B:56:ILE:HD13	5:B:76:VAL:HG11	1.91	0.53
5:B:123:TYR:CE1	5:B:124:LYS:HB3	2.44	0.53
14:L:46:ILE:CG2	14:L:49:ARG:HB2	2.38	0.53
14:L:58:VAL:HG12	14:L:59:ARG:N	2.24	0.53
35:g:80:ARG:HD3	35:g:80:ARG:N	2.24	0.53
36:h:43:LYS:CB	45:x:345:GLY:HA2	2.38	0.53
38:j:25:ARG:HG3	40:l:51:ILE:HD12	1.91	0.53
45:x:331:LYS:HD2	45:x:446:ASP:OD2	2.08	0.53
1:5:1129:A:H2'	1:5:1130:A:C8	2.44	0.53
1:5:1223:A:C5	1:5:1224:C:C5	2.97	0.53
1:5:1245:A:H2'	1:5:1272:C:OP1	2.08	0.53
1:5:1629:U:O4'	28:Z:115:LYS:HD3	2.09	0.53
1:5:2404:A:C6	46:y:395:GLU:HG2	2.44	0.53
1:5:2573:G:H2'	1:5:2574:G:H5''	1.91	0.53
1:5:2653:C:OP1	42:o:89:LYS:HB2	2.08	0.53
4:A:193:ARG:HB3	4:A:193:ARG:HH11	1.72	0.53
5:B:123:TYR:CD1	5:B:124:LYS:N	2.77	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:98:ARG:HD2	10:G:189:LEU:O	2.09	0.53
10:G:100:GLU:OE2	10:G:108:ARG:NH1	2.41	0.53
12:I:206:LEU:O	12:I:210:ILE:HG23	2.08	0.53
14:L:76:THR:O	14:L:80:VAL:HG23	2.09	0.53
14:L:180:ARG:NH1	14:L:180:ARG:HB3	2.24	0.53
24:V:45:ARG:HD2	24:V:46:LEU:N	2.24	0.53
28:Z:103:GLN:OE1	28:Z:103:GLN:HA	2.09	0.53
31:c:104:LEU:HD12	31:c:105:ALA:H	1.73	0.53
45:x:136:GLY:O	45:x:180:LYS:NZ	2.42	0.53
46:y:199:ASP:HB3	46:y:256:PHE:HA	1.91	0.53
47:z:156:UNK:HA	47:z:159:UNK:HG3	1.91	0.53
1:5:251:G:H3'	1:5:251:G:P	2.49	0.52
1:5:313:A:H2'	1:5:314:U:C6	2.42	0.52
1:5:536:U:H2'	1:5:537:A:H5'	1.89	0.52
1:5:1081:U:O2'	1:5:1082:U:P	2.67	0.52
1:5:1234:G:OP2	1:5:1235:U:H3'	2.08	0.52
1:5:3008:A:O2'	1:5:3009:G:H5'	2.09	0.52
3:8:49:G:H2'	3:8:50:C:C6	2.44	0.52
9:F:23:ALA:O	9:F:26:VAL:HG22	2.09	0.52
9:F:191:VAL:HG12	9:F:192:GLY:N	2.24	0.52
11:H:103:ILE:HD11	11:H:134:ILE:CG2	2.38	0.52
13:J:171:VAL:HG13	13:J:172:LEU:N	2.24	0.52
14:L:76:THR:HG23	14:L:79:GLU:CD	2.35	0.52
16:N:184:LYS:N	16:N:186:GLY:H	2.03	0.52
17:O:127:LEU:HD22	21:S:156:VAL:HG13	1.91	0.52
18:P:78:VAL:HG12	18:P:80:LYS:H	1.74	0.52
29:a:6:THR:CG2	29:a:7:LYS:N	2.72	0.52
33:e:38:ILE:HG13	33:e:39:ASP:N	2.25	0.52
37:i:70:ARG:NH1	37:i:84:LYS:HG2	2.21	0.52
42:o:64:THR:HG22	42:o:65:THR:H	1.72	0.52
45:x:195:VAL:HG13	45:x:507:ILE:CD1	2.39	0.52
1:5:2398:A:H2'	1:5:2399:A:H5'	1.91	0.52
1:5:3025:C:C2'	1:5:3026:G:H5'	2.40	0.52
4:A:53:GLY:O	4:A:192:LYS:HE3	2.09	0.52
5:B:55:THR:C	5:B:56:ILE:HD12	2.34	0.52
5:B:300:ARG:HA	5:B:300:ARG:HH11	1.73	0.52
6:C:136:LEU:CD2	6:C:142:VAL:HG22	2.39	0.52
7:D:125:VAL:HG12	7:D:126:GLU:N	2.18	0.52
7:D:215:ASP:OD2	7:D:218:ARG:HB2	2.08	0.52
11:H:106:LYS:HE3	11:H:106:LYS:CA	2.36	0.52
11:H:116:ASN:OD1	11:H:119:GLY:HA2	2.08	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:66:VAL:O	16:N:127:TYR:HA	2.09	0.52
19:Q:132:PRO:HD2	19:Q:135:GLN:OE1	2.09	0.52
26:X:77:GLU:HG3	45:x:421:LEU:CD2	2.39	0.52
45:x:267:VAL:HG13	45:x:309:PHE:CE2	2.40	0.52
1:5:40:A:H2'	1:5:40:A:N3	2.24	0.52
1:5:147:U:O4	10:G:183:LYS:HE2	2.10	0.52
1:5:837:A:H5''	1:5:838:G:OP2	2.09	0.52
1:5:1591:G:OP1	35:g:37:LYS:NZ	2.38	0.52
1:5:1915:A:H2'	1:5:1916:U:H6	1.73	0.52
1:5:2375:G:O2'	1:5:2377:G:OP2	2.22	0.52
1:5:3042:U:O2'	1:5:3043:C:H5'	2.10	0.52
1:5:3375:A:O2'	1:5:3378:C:H5'	2.10	0.52
3:8:148:G:H2'	3:8:149:A:C8	2.44	0.52
4:A:90:ALA:HB2	4:A:101:VAL:HG13	1.90	0.52
5:B:122:TRP:CZ3	5:B:127:LYS:HG2	2.43	0.52
6:C:92:ASN:HA	6:C:98:ARG:O	2.09	0.52
7:D:241:THR:O	7:D:245:GLU:HG3	2.08	0.52
11:H:164:ILE:HG23	11:H:165:CYS:SG	2.50	0.52
13:J:29:ARG:HA	13:J:32:ARG:HD2	1.91	0.52
17:O:102:LEU:HG	17:O:103:LYS:N	2.24	0.52
22:T:99:SER:HG	22:T:101:CYS:HG	1.52	0.52
24:V:46:LEU:O	24:V:47:ASN:HB2	2.08	0.52
28:Z:26:VAL:HG23	28:Z:27:LYS:N	2.24	0.52
44:q:55:LYS:HB2	44:q:55:LYS:NZ	2.24	0.52
45:x:332:LYS:CG	47:z:90:UNK:HG1	2.39	0.52
46:y:167:CYS:O	46:y:231:ARG:NH1	2.40	0.52
47:z:148:UNK:O	47:z:151:UNK:HG3	2.09	0.52
1:5:818:C:H2'	1:5:818:C:O2	2.07	0.52
1:5:1640:G:O2'	1:5:1641:U:H5'	2.10	0.52
1:5:2312:A:H4'	1:5:2312:A:OP1	2.09	0.52
1:5:2778:G:C2'	1:5:2779:A:H5'	2.37	0.52
1:5:3159:C:H2'	1:5:3160:U:H6	1.73	0.52
4:A:35:ALA:HA	10:G:36:ILE:HD13	1.91	0.52
5:B:43:LEU:N	5:B:43:LEU:HD12	2.24	0.52
6:C:71:VAL:HG13	6:C:76:ARG:NH1	2.24	0.52
7:D:68:THR:HG22	7:D:70:THR:HG22	1.91	0.52
8:E:52:VAL:HG11	8:E:65:ILE:HG21	1.92	0.52
10:G:78:PHE:CD2	10:G:179:ILE:HD13	2.44	0.52
16:N:104:GLU:HG2	16:N:160:GLU:HG2	1.90	0.52
18:P:102:ALA:HB1	18:P:112:LEU:HD11	1.90	0.52
19:Q:19:PRO:HD3	19:Q:53:PHE:HE1	1.72	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:139:VAL:O	20:R:143:ILE:HD13	2.09	0.52
23:U:58:GLU:HB2	23:U:63:VAL:HG13	1.92	0.52
24:V:128:ARG:NH2	24:V:128:ARG:HB3	2.25	0.52
28:Z:68:ILE:O	28:Z:115:LYS:HE2	2.10	0.52
29:a:82:ILE:N	29:a:82:ILE:HD12	2.24	0.52
34:f:53:TYR:HE1	34:f:65:ARG:HB2	1.70	0.52
37:i:34:SER:O	37:i:38:LYS:HE2	2.09	0.52
42:o:4:VAL:CG1	42:o:5:PRO:HD2	2.40	0.52
45:x:208:PRO:HB3	45:x:555:GLN:OE1	2.09	0.52
45:x:244:VAL:HB	45:x:267:VAL:HG23	1.91	0.52
47:z:121:UNK:HA	47:z:124:UNK:HG3	1.92	0.52
1:5:578:A:H2'	6:C:334:PHE:CD2	2.44	0.52
1:5:2943:G:O2'	5:B:254:ALA:HB1	2.09	0.52
5:B:14:LEU:O	5:B:17:LEU:HD22	2.09	0.52
8:E:56:LYS:HB2	8:E:98:VAL:CG1	2.39	0.52
17:O:6:VAL:HG12	17:O:7:VAL:N	2.25	0.52
19:Q:124:LEU:O	19:Q:127:LEU:HB3	2.09	0.52
27:Y:96:PRO:HG3	45:x:452:THR:HG21	1.92	0.52
44:q:19:LEU:HD23	44:q:88:PHE:CZ	2.43	0.52
1:5:419:G:O3'	1:5:420:G:H5''	2.10	0.52
1:5:537:A:C2	1:5:538:G:H1'	2.45	0.52
1:5:546:C:H4'	1:5:547:G:O5'	2.09	0.52
1:5:1276:U:H2'	1:5:1277:C:O4'	2.09	0.52
1:5:2186:U:O2'	1:5:2313:A:N3	2.39	0.52
1:5:2665:U:H4'	1:5:2666:C:OP1	2.10	0.52
1:5:2828:G:O2'	12:I:4:ARG:NH2	2.42	0.52
1:5:3150:A:C2	1:5:3151:U:H1'	2.44	0.52
8:E:64:LEU:HD13	8:E:65:ILE:N	2.24	0.52
9:F:37:ASN:O	9:F:41:ARG:HB2	2.09	0.52
10:G:47:SER:O	10:G:50:VAL:HG12	2.09	0.52
14:L:17:HIS:O	14:L:19:GLN:N	2.43	0.52
15:M:20:VAL:HG13	15:M:68:LEU:O	2.09	0.52
16:N:165:THR:O	16:N:169:LYS:HG3	2.09	0.52
17:O:16:VAL:HG12	17:O:17:GLY:N	2.23	0.52
28:Z:134:LEU:C	28:Z:134:LEU:HD22	2.35	0.52
29:a:82:ILE:HD11	29:a:102:ILE:HD11	1.91	0.52
31:c:49:PRO:HG2	31:c:52:ARG:HB3	1.91	0.52
37:i:70:ARG:HH11	37:i:84:LYS:CG	2.21	0.52
43:p:75:ALA:O	43:p:79:VAL:HG23	2.09	0.52
44:q:48:ARG:HD3	44:q:91:GLU:CG	2.30	0.52
45:x:292:ARG:CZ	45:x:458:LEU:HD12	2.40	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:509:LEU:HD23	45:x:522:LEU:CD1	2.40	0.52
1:5:17:G:H2'	1:5:18:G:O4'	2.10	0.52
1:5:1818:U:H2'	1:5:1819:U:O4'	2.10	0.52
1:5:2398:A:C2'	1:5:2399:A:H5'	2.40	0.52
1:5:3218:A:H5''	1:5:3219:G:C4	2.45	0.52
4:A:105:GLY:HA3	4:A:160:SER:HB3	1.90	0.52
6:C:222:VAL:HG23	6:C:223:PRO:HD2	1.92	0.52
8:E:52:VAL:HG11	8:E:65:ILE:CG2	2.40	0.52
8:E:60:ASP:O	8:E:61:ASN:HB2	2.09	0.52
9:F:161:VAL:HG13	9:F:162:PRO:HD2	1.91	0.52
16:N:185:ALA:HB3	16:N:190:THR:CG2	2.40	0.52
22:T:19:PHE:CE2	22:T:20:ARG:HD3	2.45	0.52
31:c:10:ILE:O	31:c:13:LYS:N	2.41	0.52
36:h:38:ARG:NH1	45:x:346:LYS:HB3	2.25	0.52
44:q:44:GLU:CD	44:q:99:VAL:HG13	2.35	0.52
47:z:155:UNK:HA	47:z:158:UNK:HG3	1.92	0.52
1:5:1819:U:C2'	1:5:1820:U:H5'	2.39	0.52
1:5:2222:A:H8	1:5:2222:A:O5'	1.93	0.52
2:7:49:G:H4'	2:7:50:U:O5'	2.09	0.52
3:8:81:U:O2'	3:8:82:U:OP2	2.27	0.52
5:B:343:TYR:H	5:B:343:TYR:HD1	1.57	0.52
6:C:28:ALA:HB1	6:C:29:PRO:HD2	1.91	0.52
7:D:220:SER:O	7:D:224:LYS:HB2	2.09	0.52
10:G:166:LEU:HB2	10:G:167:PRO:HD3	1.92	0.52
13:J:112:LEU:HD23	13:J:112:LEU:H	1.75	0.52
16:N:64:VAL:CG2	16:N:65:ARG:N	2.73	0.52
18:P:141:SER:C	18:P:143:PRO:HD3	2.34	0.52
19:Q:92:ARG:HD3	29:a:76:ASP:OD2	2.09	0.52
23:U:25:ASN:O	46:y:308:PRO:HG2	2.09	0.52
26:X:64:GLU:OE1	26:X:85:GLN:HG2	2.10	0.52
33:e:32:TRP:CZ2	33:e:53:PRO:HD2	2.45	0.52
35:g:21:LYS:HE2	35:g:23:VAL:HG23	1.92	0.52
45:x:66:LEU:HD11	45:x:401:PHE:HE2	1.74	0.52
1:5:1103:A:H3'	1:5:1104:G:H5'	1.91	0.52
1:5:1348:U:C6	1:5:1348:U:C3'	2.91	0.52
1:5:1809:A:H2'	1:5:1810:A:O4'	2.10	0.52
1:5:3237:U:C3'	1:5:3238:G:H5''	2.39	0.52
5:B:286:GLY:HA3	5:B:321:PHE:CE1	2.45	0.52
6:C:361:HIS:CG	6:C:362:ASP:N	2.78	0.52
9:F:41:ARG:HG3	9:F:41:ARG:NH1	2.11	0.52
13:J:51:ARG:HB2	13:J:52:TYR:CD1	2.45	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:2:ALA:HA	29:a:41:HIS:CE1	2.44	0.52
19:Q:100:THR:CG2	19:Q:120:GLU:HB3	2.36	0.52
22:T:88:ARG:C	22:T:89:LEU:HD12	2.35	0.52
23:U:77:LYS:HE2	23:U:81:LYS:HE2	1.92	0.52
26:X:64:GLU:O	26:X:65:GLN:HB2	2.10	0.52
26:X:83:VAL:HG22	26:X:123:TYR:HD1	1.75	0.52
27:Y:97:ILE:CG2	27:Y:99:LEU:HD21	2.39	0.52
32:d:44:MET:C	32:d:46:THR:H	2.17	0.52
45:x:37:THR:O	45:x:40:LYS:HB3	2.10	0.52
1:5:251:G:O2'	1:5:252:U:O4'	2.21	0.52
1:5:1066:G:H2'	1:5:1067:U:C6	2.45	0.52
1:5:1816:A:O2'	1:5:1817:G:P	2.68	0.52
1:5:2248:C:C2'	1:5:2249:G:OP2	2.58	0.52
1:5:3009:G:C2'	1:5:3010:U:H5'	2.40	0.52
8:E:52:VAL:HG13	8:E:65:ILE:HG23	1.92	0.52
9:F:77:VAL:HG21	22:T:139:ARG:HD3	1.92	0.52
9:F:156:ILE:HD12	9:F:161:VAL:HG21	1.92	0.52
19:Q:170:ARG:HA	19:Q:174:ARG:HD2	1.92	0.52
27:Y:74:TYR:CE1	27:Y:77:LYS:HD2	2.44	0.52
28:Z:121:ARG:CG	28:Z:121:ARG:NH1	2.72	0.52
39:k:32:ASN:ND2	39:k:34:ALA:HB3	2.25	0.52
45:x:86:GLU:O	45:x:148:ASP:N	2.39	0.52
45:x:164:ASP:HB2	45:x:173:THR:HB	1.92	0.52
45:x:293:GLY:O	45:x:296:THR:OG1	2.24	0.52
1:5:1315:U:OP1	17:O:18:ARG:NH1	2.42	0.51
3:8:83:C:H41	27:Y:113:LYS:NZ	2.08	0.51
8:E:154:LEU:HD12	15:M:119:GLN:HG2	1.92	0.51
9:F:175:LYS:HD3	9:F:176:TYR:CE2	2.45	0.51
10:G:148:ALA:HB3	10:G:175:VAL:HG11	1.91	0.51
20:R:11:ALA:O	20:R:15:VAL:HG23	2.10	0.51
21:S:48:LEU:HD23	21:S:48:LEU:N	2.26	0.51
30:b:58:LYS:HA	30:b:58:LYS:CE	2.40	0.51
34:f:90:PRO:O	34:f:91:ALA:HB3	2.09	0.51
41:m:120:GLN:O	41:m:121:LEU:HD23	2.11	0.51
44:q:30:VAL:CG2	44:q:53:MET:HE1	2.37	0.51
45:x:243:ARG:HH22	45:x:254:GLN:HB3	1.75	0.51
46:y:197:LEU:HD23	46:y:197:LEU:N	2.25	0.51
1:5:284:A:C5'	1:5:285:A:H5'	2.39	0.51
1:5:885:U:H2'	1:5:886:C:H6	1.76	0.51
1:5:1289:G:O2'	1:5:1290:A:H5'	2.09	0.51
1:5:2416:U:O2'	1:5:2966:G:H1'	2.10	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3351:U:H3'	1:5:3351:U:O2	2.10	0.51
6:C:13:GLY:O	6:C:14:GLU:HG3	2.10	0.51
7:D:80:SER:O	7:D:92:LEU:HD22	2.11	0.51
10:G:133:LYS:HB2	10:G:199:ALA:O	2.10	0.51
22:T:28:SER:O	22:T:32:LYS:HG3	2.10	0.51
25:W:9:SER:HB3	25:W:51:TRP:CZ3	2.45	0.51
27:Y:43:TYR:HA	27:Y:125:LYS:HB2	1.91	0.51
32:d:53:PRO:O	32:d:56:ASN:HB3	2.11	0.51
37:i:63:ASN:C	37:i:65:GLY:H	2.17	0.51
37:i:79:SER:OG	37:i:81:THR:HG23	2.10	0.51
45:x:91:ILE:HD11	45:x:254:GLN:HG3	1.92	0.51
1:5:712:G:H2'	1:5:713:U:H6	1.74	0.51
1:5:787:G:OP1	19:Q:148:GLU:HB2	2.10	0.51
1:5:816:A:H1'	1:5:819:U:O4	2.11	0.51
1:5:1073:U:H2'	1:5:1074:U:C6	2.45	0.51
1:5:2093:A:H3'	1:5:2093:A:N3	2.26	0.51
1:5:2193:U:O2	1:5:2275:A:H1'	2.11	0.51
1:5:2198:A:C2	1:5:2199:G:C8	2.99	0.51
1:5:2724:U:H4'	22:T:54:HIS:CD2	2.46	0.51
2:7:117:A:O4'	7:D:74:VAL:HG11	2.09	0.51
9:F:33:ARG:O	9:F:37:ASN:ND2	2.43	0.51
10:G:91:PHE:O	10:G:95:ASN:HB2	2.11	0.51
10:G:185:ARG:O	10:G:188:THR:OG1	2.28	0.51
14:L:47:ALA:C	14:L:49:ARG:H	2.17	0.51
14:L:164:GLU:O	29:a:139:ARG:NH2	2.42	0.51
17:O:25:LYS:O	17:O:29:ASN:ND2	2.43	0.51
26:X:65:GLN:NE2	36:h:36:LEU:HD11	2.25	0.51
28:Z:9:LYS:HD2	28:Z:83:THR:O	2.10	0.51
37:i:9:ILE:HD13	37:i:10:GLY:N	2.26	0.51
45:x:331:LYS:HE3	45:x:444:PRO:HG3	1.91	0.51
45:x:340:VAL:HG13	45:x:353:LEU:O	2.11	0.51
46:y:205:LYS:O	46:y:209:GLU:HG3	2.11	0.51
1:5:89:A:OP2	19:Q:171:LYS:HD2	2.11	0.51
1:5:579:G:O2'	1:5:580:C:H5'	2.09	0.51
1:5:712:G:H2'	1:5:713:U:C6	2.45	0.51
1:5:1012:G:O2'	1:5:1013:G:H5'	2.11	0.51
1:5:1014:U:C2'	1:5:1015:U:H5'	2.40	0.51
1:5:1479:U:C3'	1:5:1480:G:H5'	2.40	0.51
1:5:1603:A:OP1	20:R:9:ARG:NH2	2.44	0.51
1:5:2283:G:H4'	1:5:2308:C:H41	1.74	0.51
1:5:2636:A:H5''	1:5:2637:A:H5''	1.91	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3051:U:H1'	24:V:92:PHE:CE1	2.46	0.51
5:B:115:LYS:CE	5:B:129:ALA:HB3	2.40	0.51
5:B:369:ARG:CG	5:B:369:ARG:NH1	2.69	0.51
9:F:125:GLU:OE1	9:F:128:LYS:HE3	2.11	0.51
9:F:179:LEU:HD22	9:F:179:LEU:N	2.25	0.51
17:O:79:ILE:HG21	17:O:138:LEU:HD11	1.91	0.51
40:l:41:ARG:NH1	40:l:41:ARG:CG	2.69	0.51
45:x:222:LEU:O	45:x:226:ILE:HG13	2.10	0.51
1:5:44:U:H5''	16:N:85:THR:CG2	2.39	0.51
1:5:662:U:OP1	29:a:8:THR:HG21	2.10	0.51
1:5:1551:C:H2'	1:5:1552:G:O4'	2.11	0.51
1:5:2572:C:O2	1:5:2572:C:H2'	2.09	0.51
1:5:3228:C:H4'	1:5:3229:G:O5'	2.10	0.51
1:5:3287:U:H2'	1:5:3288:G:C5'	2.40	0.51
2:7:121:U:H5''	7:D:265:TYR:HE1	1.74	0.51
6:C:128:ALA:HB2	6:C:244:LEU:HD22	1.92	0.51
10:G:79:GLN:HG2	10:G:79:GLN:O	2.09	0.51
13:J:89:TYR:O	13:J:169:ALA:HB1	2.10	0.51
18:P:148:LEU:HD12	18:P:149:VAL:N	2.25	0.51
24:V:129:VAL:HG12	24:V:130:ALA:N	2.25	0.51
28:Z:54:THR:H	28:Z:57:HIS:HD2	1.57	0.51
39:k:56:ILE:N	39:k:56:ILE:HD12	2.25	0.51
1:5:73:C:C4	37:i:15:LYS:HE2	2.46	0.51
1:5:421:G:H3'	1:5:421:G:N3	2.25	0.51
1:5:1913:A:N3	1:5:2120:A:H2'	2.25	0.51
2:7:119:U:H3'	7:D:258:LYS:HZ1	1.73	0.51
5:B:78:VAL:HG11	5:B:317:ILE:CD1	2.40	0.51
6:C:317:PRO:HA	6:C:323:VAL:CG2	2.41	0.51
16:N:73:ARG:HB3	16:N:89:VAL:HG13	1.91	0.51
19:Q:173:GLU:HA	29:a:51:GLY:O	2.11	0.51
32:d:88:PRO:C	32:d:89:LEU:HD12	2.35	0.51
36:h:28:LEU:HA	36:h:31:LEU:CD1	2.39	0.51
36:h:68:GLN:NE2	36:h:68:GLN:HA	2.24	0.51
1:5:150:A:H2'	1:5:151:A:H5'	1.93	0.51
1:5:656:A:H2'	1:5:657:A:C8	2.45	0.51
1:5:2312:A:HO2'	1:5:2315:G:HO2'	1.25	0.51
1:5:3261:C:C2'	1:5:3262:U:H5'	2.41	0.51
1:5:3317:U:H4'	1:5:3318:G:O5'	2.10	0.51
5:B:252:ILE:HG21	5:B:260:VAL:HG22	1.91	0.51
14:L:45:LYS:HG3	14:L:46:ILE:CD1	2.39	0.51
16:N:145:ASP:OD2	16:N:148:TYR:HD2	1.94	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:102:ALA:CB	18:P:112:LEU:HD11	2.41	0.51
20:R:106:LEU:HD21	20:R:123:LEU:HB2	1.93	0.51
21:S:110:MET:HB3	21:S:121:ILE:HD11	1.92	0.51
24:V:26:ALA:O	24:V:115:THR:HG23	2.11	0.51
32:d:5:LYS:CB	32:d:89:LEU:HD22	2.41	0.51
43:p:24:ARG:HH11	43:p:24:ARG:HG3	1.76	0.51
44:q:60:ARG:HG2	44:q:77:LEU:HD22	1.93	0.51
44:q:188:VAL:HG12	44:q:189:GLN:HG2	1.93	0.51
45:x:236:CYS:SG	45:x:325:SER:HA	2.51	0.51
45:x:296:THR:HB	45:x:297:PRO:HD3	1.92	0.51
47:z:141:UNK:O	47:z:144:UNK:HG3	2.10	0.51
1:5:845:G:N2	1:5:848:A:OP2	2.43	0.51
1:5:2725:U:H5''	1:5:2726:C:OP2	2.11	0.51
4:A:130:SER:HA	4:A:169:ILE:CG2	2.41	0.51
5:B:144:ILE:HG22	5:B:148:LEU:CD2	2.41	0.51
7:D:237:GLU:CD	7:D:237:GLU:H	2.17	0.51
11:H:180:TYR:HB2	41:m:85:LEU:CD1	2.41	0.51
13:J:92:ARG:NH1	13:J:92:ARG:CG	2.72	0.51
20:R:23:TRP:CH2	20:R:25:ASP:HA	2.46	0.51
24:V:39:VAL:HG13	24:V:58:VAL:HG12	1.93	0.51
36:h:70:TYR:CD1	36:h:77:PRO:HD3	2.46	0.51
38:j:5:THR:HG22	38:j:6:PRO:N	2.25	0.51
46:y:325:ASP:O	46:y:326:LEU:HD23	2.11	0.51
1:5:171:G:H5'	1:5:172:G:OP2	2.10	0.51
1:5:422:A:N1	1:5:2362:C:O2'	2.42	0.51
1:5:1275:C:C2'	1:5:1276:U:H5'	2.41	0.51
2:7:39:C:H4'	13:J:44:THR:HG23	1.93	0.51
4:A:44:ILE:HG23	4:A:87:PHE:CE1	2.46	0.51
9:F:62:ILE:O	9:F:66:LYS:HG3	2.11	0.51
12:I:21:ARG:NH1	12:I:22:TYR:CE1	2.79	0.51
15:M:135:LEU:O	15:M:136:ALA:HB3	2.11	0.51
18:P:174:GLY:O	18:P:177:ALA:HB3	2.10	0.51
28:Z:46:ILE:HD11	28:Z:49:TYR:CG	2.45	0.51
44:q:19:LEU:HD23	44:q:88:PHE:CE2	2.46	0.51
1:5:1364:C:OP1	9:F:110:ARG:NH2	2.38	0.51
1:5:2538:U:C3'	1:5:2539:C:H5''	2.40	0.51
1:5:2631:U:O2'	1:5:2632:G:H5'	2.11	0.51
1:5:3037:U:H5''	5:B:348:ARG:NH1	2.26	0.51
1:5:3167:A:HO2'	1:5:3168:A:P	2.33	0.51
1:5:3357:U:HO2'	1:5:3358:U:P	2.34	0.51
2:7:46:A:OP1	7:D:158:ARG:HD3	2.11	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:352:GLU:HG2	5:B:353:GLU:N	2.25	0.51
7:D:51:LEU:HD13	7:D:146:LEU:CD2	2.40	0.51
7:D:78:ALA:HB3	7:D:105:ILE:CG2	2.41	0.51
9:F:83:LEU:C	9:F:83:LEU:HD13	2.36	0.51
9:F:229:PHE:CD1	9:F:229:PHE:C	2.88	0.51
10:G:27:THR:HG22	28:Z:53:VAL:O	2.11	0.51
13:J:28:ASP:O	13:J:31:THR:HG23	2.11	0.51
14:L:67:ARG:HG2	29:a:105:LEU:HG	1.93	0.51
17:O:109:PRO:HB2	17:O:110:PRO:HD3	1.93	0.51
17:O:188:SER:O	17:O:192:LYS:HG2	2.11	0.51
17:O:193:GLN:O	17:O:197:LEU:HD12	2.11	0.51
27:Y:74:TYR:CD1	27:Y:77:LYS:HD2	2.45	0.51
40:l:28:ARG:HH21	46:y:362:VAL:CG2	2.24	0.51
41:m:92:ASP:O	41:m:93:LYS:HG2	2.11	0.51
45:x:405:ASN:HB2	45:x:407:GLU:HG2	1.93	0.51
1:5:714:G:H2'	29:a:113:LEU:HD13	1.93	0.50
1:5:1208:U:C6	1:5:3115:C:N4	2.79	0.50
6:C:219:LEU:HD22	6:C:222:VAL:HG11	1.93	0.50
6:C:361:HIS:CG	6:C:362:ASP:H	2.30	0.50
9:F:41:ARG:HH11	9:F:41:ARG:HG2	1.73	0.50
9:F:84:VAL:HG23	9:F:85:PHE:N	2.25	0.50
10:G:150:LEU:HD13	10:G:151:VAL:N	2.26	0.50
10:G:158:ASP:OD1	10:G:159:PRO:HA	2.11	0.50
11:H:87:LYS:NZ	11:H:191:LEU:CD2	2.74	0.50
13:J:23:VAL:HG13	13:J:29:ARG:HD3	1.93	0.50
15:M:113:THR:HG22	15:M:114:ASP:N	2.27	0.50
25:W:5:ILE:HD12	25:W:5:ILE:C	2.37	0.50
36:h:101:THR:HG23	36:h:103:LYS:N	2.26	0.50
43:p:38:ASP:OD1	43:p:45:LYS:HB2	2.11	0.50
44:q:17:GLU:O	44:q:21:GLU:HB3	2.11	0.50
45:x:288:THR:HB	45:x:478:LEU:CD2	2.41	0.50
1:5:1047:A:N3	1:5:2633:U:O2'	2.43	0.50
1:5:1051:U:C5	1:5:1052:U:C6	2.99	0.50
1:5:1582:C:H4'	1:5:1583:A:OP1	2.11	0.50
1:5:2295:A:C2	24:V:37:ILE:HD12	2.46	0.50
4:A:77:ILE:CG2	4:A:169:ILE:HG13	2.41	0.50
5:B:90:VAL:HG13	5:B:103:THR:O	2.11	0.50
6:C:205:PRO:HG2	6:C:225:VAL:HG22	1.93	0.50
6:C:311:HIS:CD2	9:F:162:PRO:HG3	2.46	0.50
6:C:330:TYR:HA	6:C:333:VAL:HG13	1.91	0.50
8:E:139:LYS:HB3	8:E:143:LYS:HE3	1.91	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:106:LYS:O	10:G:110:THR:HG23	2.12	0.50
13:J:110:ILE:HG22	13:J:114:ILE:O	2.12	0.50
15:M:53:VAL:HG23	15:M:54:PRO:HD2	1.92	0.50
17:O:39:GLU:OE1	17:O:39:GLU:N	2.33	0.50
17:O:128:ARG:HH11	17:O:128:ARG:CG	2.24	0.50
24:V:59:MET:HE1	24:V:74:MET:C	2.36	0.50
30:b:36:ASP:O	30:b:40:ARG:HG3	2.12	0.50
32:d:56:ASN:O	32:d:60:TRP:HD1	1.93	0.50
41:m:79:GLU:HB2	41:m:80:PRO:HD2	1.94	0.50
44:q:89:THR:HG21	44:q:93:LEU:HD23	1.94	0.50
45:x:211:LEU:HD21	45:x:548:SER:C	2.37	0.50
1:5:137:G:H2'	1:5:138:U:H6	1.75	0.50
1:5:708:G:H5'	1:5:709:A:OP2	2.11	0.50
1:5:798:G:OP1	29:a:32:ARG:HA	2.11	0.50
1:5:1066:G:H2'	1:5:1067:U:H6	1.76	0.50
1:5:1152:G:N2	1:5:1200:A:H61	2.08	0.50
1:5:1430:U:H2'	29:a:9:ARG:NH2	2.25	0.50
1:5:1819:U:HO2'	1:5:1820:U:P	2.29	0.50
1:5:2223:A:H8	1:5:2223:A:OP2	1.94	0.50
1:5:2935:U:O2	1:5:2935:U:H2'	2.12	0.50
2:7:99:G:OP1	21:S:53:LYS:HD3	2.12	0.50
4:A:104:LEU:HD21	4:A:116:VAL:CG2	2.41	0.50
7:D:177:GLU:OE1	7:D:177:GLU:N	2.45	0.50
9:F:106:LEU:O	9:F:107:ARG:HB2	2.11	0.50
10:G:238:LEU:HD12	10:G:238:LEU:N	2.24	0.50
11:H:84:LYS:HE2	11:H:189:GLU:HG3	1.92	0.50
12:I:86:HIS:HB3	12:I:139:ARG:CG	2.42	0.50
13:J:59:ILE:O	13:J:59:ILE:HG13	2.10	0.50
16:N:94:TYR:OH	16:N:96:ARG:HD3	2.11	0.50
23:U:51:GLY:O	23:U:52:ASN:HB2	2.11	0.50
31:c:101:LEU:HD22	31:c:101:LEU:N	2.26	0.50
34:f:16:TYR:HD2	34:f:23:ASN:ND2	2.10	0.50
45:x:370:LEU:HD21	45:x:429:ASN:HD22	1.75	0.50
1:5:1575:A:C3'	1:5:1576:G:H5''	2.39	0.50
1:5:1819:U:O2'	1:5:1820:U:C5'	2.60	0.50
1:5:2219:A:O2'	1:5:2220:A:H5'	2.12	0.50
1:5:2312:A:O2'	1:5:2315:G:C1'	2.59	0.50
1:5:2599:U:H2'	1:5:2600:C:H6	1.77	0.50
1:5:3000:A:H2'	1:5:3001:C:H6	1.77	0.50
4:A:150:LEU:HB3	4:A:151:PRO:CD	2.41	0.50
5:B:43:LEU:HD11	5:B:194:TRP:CH2	2.47	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:118:LYS:O	6:C:122:THR:HG22	2.10	0.50
6:C:206:LEU:HB3	6:C:248:VAL:HG22	1.93	0.50
7:D:202:GLY:O	7:D:206:GLN:HG3	2.11	0.50
12:I:55:ASN:HD21	12:I:164:LYS:HE3	1.75	0.50
12:I:176:LEU:HD23	12:I:176:LEU:N	2.27	0.50
12:I:200:LEU:HD12	12:I:213:PHE:CD2	2.47	0.50
17:O:77:SER:HB3	17:O:106:GLU:OE2	2.11	0.50
37:i:66:GLU:OE1	37:i:70:ARG:NH2	2.45	0.50
42:o:60:LYS:HG2	42:o:62:ALA:HB2	1.93	0.50
1:5:1461:A:H2'	1:5:1462:A:H8	1.77	0.50
1:5:2748:A:H4'	7:D:145:PHE:CD2	2.46	0.50
1:5:3386:G:H5''	32:d:10:ARG:HH21	1.76	0.50
2:7:116:C:O2'	7:D:74:VAL:HG12	2.12	0.50
5:B:308:MET:HE1	5:B:373:PRO:CD	2.42	0.50
6:C:187:LEU:HD11	6:C:193:LYS:HD3	1.92	0.50
7:D:88:ILE:HD11	7:D:243:ALA:CB	2.41	0.50
9:F:84:VAL:HG13	9:F:119:VAL:HG22	1.93	0.50
10:G:94:PHE:HB3	10:G:189:LEU:HD11	1.93	0.50
10:G:190:VAL:O	10:G:190:VAL:HG12	2.11	0.50
18:P:67:ILE:N	18:P:67:ILE:HD13	2.26	0.50
25:W:20:LEU:CD2	25:W:28:ILE:HG23	2.35	0.50
27:Y:102:SER:C	27:Y:103:LYS:HD3	2.36	0.50
45:x:381:LYS:HD3	45:x:395:LEU:HB3	1.93	0.50
46:y:168:GLU:OE2	46:y:232:GLN:HG3	2.10	0.50
1:5:1009:A:H2'	1:5:1010:G:O4'	2.12	0.50
1:5:1491:A:O2'	1:5:1492:G:H5'	2.12	0.50
1:5:3149:G:O2'	5:B:129:ALA:O	2.26	0.50
5:B:78:VAL:HG11	5:B:317:ILE:HD13	1.94	0.50
14:L:76:THR:HG21	14:L:103:ASN:OD1	2.11	0.50
14:L:152:THR:O	14:L:153:ASP:HB2	2.11	0.50
43:p:24:ARG:HB3	43:p:24:ARG:CZ	2.40	0.50
45:x:122:ASP:OD1	45:x:123:SER:N	2.24	0.50
46:y:198:VAL:CG1	46:y:258:ASP:HB2	2.40	0.50
46:y:353:LYS:O	46:y:357:GLN:HG2	2.11	0.50
47:z:89:UNK:O	47:z:92:UNK:HG3	2.11	0.50
47:z:102:UNK:O	47:z:104:UNK:HG3	2.12	0.50
1:5:252:U:H4'	1:5:253:A:C5'	2.41	0.50
1:5:1349:G:O2'	6:C:291:ASN:ND2	2.44	0.50
1:5:1553:U:H6	1:5:1553:U:C5'	2.24	0.50
1:5:3237:U:H2'	1:5:3238:G:O4'	2.12	0.50
7:D:281:GLU:O	7:D:285:ARG:HG3	2.12	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:42:LEU:HD23	8:E:42:LEU:N	2.25	0.50
10:G:44:ARG:O	26:X:28:THR:HG22	2.12	0.50
10:G:68:ARG:O	10:G:69:LEU:HB2	2.12	0.50
16:N:121:VAL:HG11	16:N:131:GLU:HG3	1.93	0.50
42:o:64:THR:HG22	42:o:65:THR:N	2.27	0.50
1:5:546:C:H5'	1:5:547:G:OP1	2.12	0.50
1:5:1560:G:H2'	1:5:1561:G:H8	1.75	0.50
1:5:1750:A:OP1	39:k:44:LYS:NZ	2.32	0.50
1:5:1915:A:H5''	20:R:84:THR:HG22	1.94	0.50
1:5:1953:G:O6	1:5:2094:C:N4	2.44	0.50
1:5:1987:Y5P:H2'	1:5:1988:Y5P:H6	1.94	0.50
1:5:2209:U:H4'	1:5:2210:G:OP1	2.12	0.50
1:5:2308:C:H2'	1:5:2309:A:N7	2.26	0.50
1:5:2433:U:OP2	1:5:2434:U:O2'	2.25	0.50
1:5:2526:C:H2'	1:5:2527:G:C8	2.47	0.50
1:5:2730:G:H2'	1:5:2731:U:O4'	2.11	0.50
5:B:73:VAL:CG2	24:V:86:ARG:HH21	2.24	0.50
8:E:48:ARG:HG3	8:E:48:ARG:O	2.12	0.50
8:E:130:ILE:HD12	8:E:135:VAL:HG21	1.92	0.50
12:I:99:ILE:HD12	12:I:99:ILE:O	2.12	0.50
15:M:21:VAL:HG12	15:M:65:LEU:HD23	1.94	0.50
21:S:31:ALA:HB1	21:S:36:ILE:HB	1.94	0.50
22:T:99:SER:OG	22:T:101:CYS:SG	2.64	0.50
26:X:131:ASP:HB3	26:X:134:ASP:HB2	1.94	0.50
28:Z:121:ARG:HH11	28:Z:121:ARG:HG3	1.77	0.50
32:d:13:THR:HG23	32:d:72:ARG:NH2	2.25	0.50
42:o:54:THR:HG22	42:o:55:LYS:H	1.77	0.50
42:o:58:PHE:HZ	42:o:66:LYS:CE	2.25	0.50
47:z:117:UNK:O	47:z:120:UNK:HG3	2.12	0.50
47:z:141:UNK:O	47:z:145:UNK:HG3	2.11	0.50
1:5:1079:A:O2'	1:5:1080:A:H5'	2.12	0.50
1:5:1637:A:OP2	28:Z:73:LYS:NZ	2.45	0.50
1:5:1765:U:HO2'	20:R:43:LYS:HZ1	1.57	0.50
1:5:2590:A:O2'	1:5:2591:A:H5'	2.11	0.50
2:7:28:C:H5''	13:J:137:ARG:HG2	1.94	0.50
3:8:5:U:H2'	3:8:6:U:H6	1.76	0.50
4:A:44:ILE:HG23	4:A:87:PHE:CD1	2.46	0.50
5:B:285:VAL:HG22	5:B:322:ILE:CD1	2.42	0.50
9:F:179:LEU:H	9:F:179:LEU:HD13	1.76	0.50
16:N:154:PRO:O	16:N:157:LYS:HG3	2.12	0.50
21:S:4:PHE:N	21:S:4:PHE:CD1	2.78	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:83:LYS:HD2	24:V:84:SER:N	2.27	0.50
27:Y:69:LYS:HB2	27:Y:69:LYS:HZ2	1.76	0.50
31:c:10:ILE:HG23	31:c:11:ASN:N	2.26	0.50
33:e:87:MET:HA	33:e:87:MET:CE	2.41	0.50
36:h:43:LYS:HG3	36:h:43:LYS:O	2.12	0.50
44:q:44:GLU:HG2	44:q:99:VAL:HG13	1.93	0.50
45:x:268:VAL:CG2	45:x:304:ILE:HG21	2.41	0.50
1:5:177:U:H3	1:5:241:G:H1	1.59	0.49
1:5:687:U:O2'	1:5:688:G:H5'	2.12	0.49
1:5:1183:C:OP1	21:S:158:LYS:NZ	2.33	0.49
1:5:1212:A:H5'	21:S:113:ARG:HE	1.76	0.49
1:5:1462:A:O2'	1:5:1463:U:H5'	2.11	0.49
1:5:2407:C:H1'	1:5:2818:U:O2	2.11	0.49
1:5:2428:U:H2'	1:5:2429:G:C8	2.47	0.49
1:5:2909:U:H2'	1:5:2910:A:O4'	2.11	0.49
4:A:104:LEU:HD21	4:A:116:VAL:HG21	1.93	0.49
4:A:113:VAL:HG22	4:A:134:VAL:HG22	1.94	0.49
8:E:46:ARG:CG	8:E:46:ARG:NH1	2.63	0.49
10:G:225:LYS:O	10:G:229:VAL:HG23	2.13	0.49
13:J:9:MET:O	13:J:11:ASP:N	2.45	0.49
13:J:112:LEU:HD23	13:J:112:LEU:N	2.26	0.49
14:L:71:ALA:CA	14:L:147:ILE:HD11	2.42	0.49
18:P:41:LEU:HD21	18:P:95:LEU:HD22	1.94	0.49
27:Y:45:ILE:HD13	27:Y:48:LEU:HD21	1.93	0.49
33:e:96:ILE:HB	33:e:121:ASN:HD21	1.77	0.49
43:p:45:LYS:HB2	43:p:45:LYS:NZ	2.27	0.49
45:x:201:ALA:HB1	45:x:311:VAL:HB	1.93	0.49
47:z:83:UNK:HG2	47:z:83:UNK:O	2.12	0.49
1:5:562:C:OP2	15:M:77:ARG:NH1	2.45	0.49
1:5:595:G:N1	1:5:609:G:H5''	2.27	0.49
1:5:2268:U:H2'	1:5:2269:U:C6	2.47	0.49
1:5:2418:G:H4'	1:5:2419:A:OP1	2.12	0.49
1:5:2438:A:C2'	1:5:2439:A:OP1	2.59	0.49
1:5:2767:U:O3'	42:o:31:GLY:HA3	2.12	0.49
1:5:3257:C:H2'	1:5:3258:U:O4'	2.12	0.49
4:A:47:GLN:HE21	4:A:60:LYS:HD2	1.77	0.49
11:H:3:TYR:HD1	11:H:3:TYR:H	1.58	0.49
14:L:58:VAL:CG1	14:L:59:ARG:N	2.75	0.49
16:N:163:GLY:C	16:N:164:LEU:HD23	2.38	0.49
23:U:29:ASP:HB3	23:U:32:SER:HB3	1.94	0.49
37:i:66:GLU:O	37:i:66:GLU:HG2	2.11	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:l:25:GLN:HE22	40:l:28:ARG:HE	1.57	0.49
45:x:236:CYS:HB2	45:x:323:MET:HE2	1.93	0.49
45:x:468:LEU:N	45:x:469:PRO:HD2	2.26	0.49
46:y:198:VAL:HG23	46:y:199:ASP:N	2.27	0.49
1:5:291:C:OP1	16:N:68:ARG:HG3	2.12	0.49
1:5:598:A:H2'	1:5:599:C:C6	2.47	0.49
1:5:1792:C:HO2'	1:5:1794:G:H8	1.60	0.49
1:5:2530:G:C3'	1:5:2531:C:H5''	2.42	0.49
1:5:2954:U:H1'	1:5:2955:U:C5'	2.40	0.49
1:5:3087:A:H2'	1:5:3088:G:O4'	2.12	0.49
1:5:3121:U:H4'	1:5:3122:A:OP1	2.13	0.49
1:5:3243:A:H4'	5:B:95:THR:HG22	1.94	0.49
4:A:46:LYS:HA	4:A:46:LYS:HZ3	1.76	0.49
4:A:55:GLY:O	4:A:56:ALA:HB3	2.11	0.49
4:A:114:SER:CB	4:A:169:ILE:HD13	2.40	0.49
5:B:312:VAL:HG12	5:B:313:HIS:ND1	2.28	0.49
6:C:207:VAL:HB	6:C:227:THR:HG22	1.95	0.49
9:F:33:ARG:NH1	9:F:33:ARG:CG	2.76	0.49
11:H:117:PHE:CE2	11:H:118:LEU:HD12	2.47	0.49
14:L:140:SER:OG	14:L:143:ALA:HB3	2.12	0.49
19:Q:83:VAL:O	19:Q:103:ALA:HA	2.12	0.49
20:R:81:ARG:CG	20:R:88:ARG:HH12	2.25	0.49
21:S:46:GLN:HG2	21:S:51:VAL:O	2.12	0.49
32:d:51:LEU:HD13	32:d:55:LEU:HD12	1.94	0.49
33:e:16:LYS:O	33:e:17:PHE:HB2	2.10	0.49
37:i:56:ARG:O	37:i:60:LEU:HD22	2.12	0.49
40:l:36:ARG:HA	40:l:36:ARG:HH11	1.78	0.49
41:m:79:GLU:HB2	41:m:80:PRO:CD	2.42	0.49
44:q:60:ARG:NH2	44:q:81:LYS:HZ2	2.11	0.49
45:x:231:ALA:HA	45:x:323:MET:CE	2.43	0.49
47:z:74:UNK:O	47:z:77:UNK:HG3	2.12	0.49
1:5:230:U:H2'	1:5:231:G:O4'	2.13	0.49
1:5:1223:A:C8	1:5:1286:A:N1	2.80	0.49
1:5:1272:C:C2'	1:5:1273:A:H5'	2.43	0.49
1:5:2948:C:O2'	5:B:242:THR:HG22	2.12	0.49
1:5:3341:U:H3	46:y:225:ARG:HH11	1.60	0.49
3:8:117:C:H2'	3:8:118:C:H6	1.76	0.49
6:C:73:ARG:HG3	6:C:73:ARG:NH1	2.28	0.49
8:E:54:TYR:C	8:E:55:LEU:HD23	2.37	0.49
11:H:8:GLN:HE21	11:H:69:ARG:HG2	1.76	0.49
12:I:216:TYR:CD1	12:I:216:TYR:C	2.90	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:149:GLN:HE21	14:L:149:GLN:N	2.09	0.49
19:Q:124:LEU:N	19:Q:124:LEU:HD23	2.26	0.49
21:S:36:ILE:O	21:S:40:ARG:HG2	2.11	0.49
22:T:147:VAL:HG13	22:T:148:PRO:HD2	1.94	0.49
25:W:47:ARG:NH1	25:W:58:HIS:CD2	2.80	0.49
26:X:142:ILE:HG12	45:x:421:LEU:HA	1.94	0.49
28:Z:129:TRP:O	28:Z:132:SER:N	2.45	0.49
32:d:29:ALA:O	32:d:32:ALA:HB3	2.12	0.49
33:e:105:ARG:HH12	33:e:125:ARG:HE	1.60	0.49
34:f:53:TYR:N	34:f:53:TYR:CD1	2.80	0.49
43:p:45:LYS:NZ	43:p:45:LYS:CB	2.75	0.49
44:q:93:LEU:O	44:q:97:LYS:HB3	2.13	0.49
45:x:468:LEU:N	45:x:469:PRO:CD	2.76	0.49
1:5:68:C:OP2	1:5:301:G:N2	2.45	0.49
1:5:181:U:H2'	1:5:182:U:O4'	2.12	0.49
1:5:1301:A:H8	1:5:1301:A:OP1	1.96	0.49
1:5:1762:C:N4	46:y:325:ASP:OD2	2.46	0.49
1:5:2572:C:O2	1:5:2572:C:C2'	2.60	0.49
1:5:3051:U:O2'	1:5:3052:G:H5'	2.13	0.49
1:5:3167:A:O2'	1:5:3168:A:OP1	2.27	0.49
1:5:3341:U:H5''	1:5:3342:A:OP2	2.12	0.49
6:C:191:LYS:HG3	6:C:194:TYR:OH	2.13	0.49
7:D:243:ALA:O	7:D:247:ILE:HG13	2.13	0.49
12:I:50:VAL:HG22	12:I:167:LEU:HD13	1.94	0.49
18:P:34:GLN:OE1	18:P:34:GLN:HA	2.11	0.49
27:Y:74:TYR:HD1	27:Y:77:LYS:HB2	1.77	0.49
1:5:252:U:C4'	1:5:253:A:H5'	2.42	0.49
1:5:1251:A:H2'	1:5:1252:A:O4'	2.13	0.49
1:5:2232:A:H2'	1:5:2233:A:C8	2.47	0.49
1:5:3009:G:O2'	1:5:3010:U:H5'	2.13	0.49
4:A:177:LYS:NZ	43:p:33:GLN:OE1	2.46	0.49
7:D:25:GLU:O	13:J:144:CYS:HA	2.12	0.49
10:G:161:GLU:HA	10:G:164:VAL:HG22	1.94	0.49
17:O:113:ASP:OD1	17:O:114:LYS:N	2.44	0.49
27:Y:57:LEU:HA	27:Y:67:GLU:HG2	1.93	0.49
34:f:28:SER:O	34:f:29:LEU:HD23	2.12	0.49
41:m:77:ILE:O	41:m:78:ILE:HG22	2.12	0.49
42:o:35:LEU:CD1	42:o:40:LYS:HE2	2.43	0.49
45:x:473:LEU:CD2	45:x:474:PRO:HD3	2.30	0.49
46:y:187:HIS:HB2	46:y:240:CYS:SG	2.52	0.49
1:5:63:A:OP1	16:N:172:ARG:NH2	2.45	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1471:U:H2'	1:5:1472:U:C6	2.48	0.49
1:5:1949:G:H2'	1:5:1950:U:H6	1.77	0.49
1:5:2770:G:C2'	1:5:2771:U:H5'	2.42	0.49
6:C:77:VAL:HG12	6:C:78:GLY:O	2.13	0.49
10:G:72:PRO:HG2	16:N:18:VAL:HA	1.95	0.49
10:G:97:TYR:OH	10:G:207:ASP:OD2	2.27	0.49
10:G:150:LEU:HB3	10:G:200:LEU:HD11	1.94	0.49
12:I:49:CYS:SG	12:I:50:VAL:N	2.85	0.49
14:L:14:PHE:HB3	14:L:18:TRP:CD1	2.47	0.49
20:R:136:ARG:O	20:R:140:GLU:HG3	2.13	0.49
23:U:19:VAL:HG12	23:U:105:LEU:HD12	1.95	0.49
35:g:85:VAL:HA	35:g:88:ARG:HB2	1.95	0.49
45:x:542:GLU:CD	47:z:74:UNK:HB1	2.37	0.49
1:5:435:C:H2'	1:5:436:A:H8	1.77	0.49
1:5:992:A:O2'	1:5:993:G:H5'	2.11	0.49
1:5:2748:A:H1'	7:D:36:LEU:HD23	1.94	0.49
1:5:3000:A:H2'	1:5:3001:C:C6	2.47	0.49
1:5:3159:C:H2'	1:5:3160:U:C6	2.48	0.49
2:7:24:A:H2'	2:7:25:G:O4'	2.13	0.49
2:7:45:A:H2'	2:7:46:A:O4'	2.12	0.49
2:7:94:C:H2'	2:7:95:A:H8	1.76	0.49
5:B:190:GLU:O	5:B:193:ASP:HB2	2.13	0.49
6:C:157:GLU:O	6:C:213:ASN:HB2	2.13	0.49
11:H:3:TYR:HA	21:S:142:GLN:OE1	2.13	0.49
13:J:23:VAL:HG12	13:J:24:GLY:N	2.28	0.49
14:L:6:ASN:HB2	29:a:48:TYR:CE2	2.48	0.49
14:L:93:ILE:HG22	14:L:94:GLY:H	1.77	0.49
15:M:50:LYS:HD2	15:M:85:TRP:NE1	2.28	0.49
24:V:54:LEU:HD21	24:V:119:GLY:HA3	1.94	0.49
36:h:45:LYS:HD2	36:h:49:LYS:HE2	1.94	0.49
42:o:10:THR:OG1	42:o:11:TYR:N	2.46	0.49
42:o:55:LYS:O	42:o:57:VAL:N	2.40	0.49
1:5:55:G:H2'	1:5:56:G:H5'	1.94	0.49
1:5:1495:U:H2'	1:5:1495:U:O2	2.11	0.49
1:5:2433:U:H5''	1:5:2434:U:H2'	1.95	0.49
1:5:2561:A:O2'	1:5:2562:A:H8	1.96	0.49
1:5:3045:G:H2'	1:5:3046:A:O4'	2.13	0.49
3:8:143:U:H2'	3:8:144:G:O4'	2.12	0.49
6:C:301:PRO:O	6:C:302:ALA:HB2	2.12	0.49
8:E:175:LYS:HZ2	15:M:111:ALA:HA	1.77	0.49
10:G:57:ARG:HG2	10:G:61:GLN:OE1	2.12	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:83:THR:OG1	11:H:84:LYS:N	2.46	0.49
12:I:174:THR:OG1	12:I:175:ASN:N	2.41	0.49
12:I:177:ASP:OD1	12:I:177:ASP:N	2.46	0.49
13:J:21:ILE:CD1	13:J:37:LEU:HD21	2.42	0.49
13:J:23:VAL:HG11	13:J:29:ARG:CB	2.42	0.49
16:N:27:VAL:HB	16:N:122:ASN:HD21	1.78	0.49
20:R:20:ARG:NH1	20:R:21:LYS:NZ	2.60	0.49
22:T:17:ARG:NH1	22:T:17:ARG:CG	2.61	0.49
23:U:56:VAL:HG22	23:U:65:VAL:HG22	1.93	0.49
29:a:86:LYS:HB3	29:a:90:TYR:HE2	1.76	0.49
31:c:41:LEU:HD22	31:c:42:ILE:N	2.27	0.49
31:c:58:TYR:CE1	31:c:61:MET:HE3	2.47	0.49
33:e:4:LEU:HB3	33:e:5:PRO:HD2	1.94	0.49
34:f:73:ARG:HD3	34:f:82:ARG:HH11	1.78	0.49
35:g:41:ARG:CG	35:g:56:THR:HG21	2.39	0.49
42:o:10:THR:HG23	42:o:11:TYR:O	2.11	0.49
46:y:198:VAL:HG23	46:y:199:ASP:H	1.78	0.49
1:5:251:G:H1'	1:5:253:A:C6	2.47	0.49
1:5:1349:G:C8	1:5:1349:G:C3'	2.94	0.49
1:5:1532:C:H2'	1:5:1533:U:C6	2.48	0.49
1:5:1621:A:H2'	1:5:1622:U:H6	1.76	0.49
1:5:1901:A:O2'	1:5:2918:G:OP1	2.23	0.49
1:5:2276:G:O6	1:5:2311:G:N3	2.46	0.49
1:5:2556:C:O2'	1:5:2557:A:H5'	2.13	0.49
1:5:2606:G:H4'	1:5:2607:G:C8	2.48	0.49
1:5:2748:A:C2	7:D:35:ARG:HB3	2.48	0.49
1:5:3164:C:O2'	1:5:3165:A:H8	1.96	0.49
1:5:3195:U:HO2'	1:5:3196:U:H5'	1.78	0.49
3:8:28:C:O2'	3:8:29:U:H5'	2.12	0.49
4:A:15:ILE:HG23	4:A:194:ASN:HD22	1.77	0.49
5:B:187:SER:O	5:B:190:GLU:N	2.36	0.49
6:C:311:HIS:CE1	6:C:314:LYS:HA	2.48	0.49
21:S:26:ARG:HD3	22:T:150:THR:CG2	2.41	0.49
22:T:49:GLN:NE2	22:T:49:GLN:H	2.10	0.49
24:V:11:PHE:CD2	24:V:88:ARG:NH1	2.81	0.49
32:d:13:THR:HG22	32:d:72:ARG:CD	2.38	0.49
33:e:125:ARG:HA	33:e:128:LEU:CG	2.43	0.49
45:x:195:VAL:CG2	45:x:507:ILE:HD11	2.33	0.49
1:5:435:C:H2'	1:5:436:A:C8	2.48	0.48
1:5:607:A:H2'	1:5:607:A:N3	2.28	0.48
1:5:827:A:H5''	35:g:14:ASN:O	2.13	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2276:G:N2	1:5:2316:G:HO2'	2.00	0.48
1:5:2609:A:C3'	1:5:2610:G:H5''	2.43	0.48
1:5:3036:G:C2'	1:5:3037:U:H5'	2.43	0.48
3:8:155:A:H3'	3:8:156:U:H5''	1.95	0.48
12:I:191:LYS:O	12:I:197:VAL:HG22	2.13	0.48
14:L:53:LEU:HD22	14:L:94:GLY:O	2.13	0.48
14:L:166:ALA:HB3	29:a:135:GLU:OE2	2.12	0.48
26:X:83:VAL:HG22	26:X:123:TYR:CD1	2.47	0.48
26:X:92:LYS:HE2	26:X:110:VAL:O	2.13	0.48
33:e:75:LEU:HD23	33:e:76:VAL:N	2.28	0.48
34:f:11:GLY:O	34:f:98:VAL:N	2.46	0.48
36:h:89:ARG:CG	36:h:89:ARG:NH1	2.65	0.48
38:j:18:LEU:HD11	40:l:51:ILE:HG22	1.94	0.48
1:5:241:G:H2'	1:5:242:C:C6	2.48	0.48
1:5:1355:A:H4'	1:5:1356:U:O5'	2.13	0.48
1:5:2998:U:H2'	1:5:2999:U:O4'	2.13	0.48
1:5:3173:G:H2'	1:5:3173:G:N3	2.28	0.48
2:7:16:U:H2'	2:7:17:A:H8	1.78	0.48
8:E:112:UNK:HB2	8:E:115:UNK:HB1	1.94	0.48
12:I:175:ASN:C	12:I:176:LEU:HG	2.38	0.48
13:J:149:GLY:O	13:J:153:LYS:HB2	2.13	0.48
14:L:3:ILE:HD12	29:a:41:HIS:CB	2.42	0.48
14:L:59:ARG:HE	14:L:69:VAL:HG23	1.78	0.48
22:T:128:LEU:H	22:T:128:LEU:HD12	1.77	0.48
24:V:32:ARG:HB2	24:V:64:LYS:HB3	1.95	0.48
27:Y:55:GLU:HB2	27:Y:108:LYS:HB2	1.95	0.48
27:Y:112:ASP:O	27:Y:116:LYS:HG3	2.14	0.48
27:Y:113:LYS:HB2	27:Y:113:LYS:NZ	2.27	0.48
28:Z:41:ALA:HB2	28:Z:77:TYR:HE2	1.77	0.48
33:e:20:HIS:O	33:e:21:HIS:HB2	2.12	0.48
36:h:6:ALA:HB1	36:h:10:ARG:NH2	2.28	0.48
45:x:449:LEU:CD2	47:z:97:UNK:HG1	2.44	0.48
1:5:57:A:O2'	1:5:58:G:H5'	2.13	0.48
1:5:873:C:H5''	1:5:874:U:O5'	2.13	0.48
1:5:2531:C:O2	1:5:2531:C:O4'	2.29	0.48
1:5:3243:A:C8	17:O:156:LEU:HD13	2.48	0.48
1:5:3370:A:C2	1:5:3371:G:C4	3.02	0.48
3:8:75:G:H2'	3:8:76:C:H6	1.78	0.48
3:8:127:U:O2	3:8:127:U:H2'	2.14	0.48
3:8:157:U:C2'	3:8:158:U:H5'	2.44	0.48
11:H:188:THR:HG22	11:H:189:GLU:N	2.28	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:46:VAL:O	13:J:67:VAL:HG23	2.13	0.48
19:Q:67:ILE:O	19:Q:71:LEU:HG	2.13	0.48
21:S:8:GLN:HG3	21:S:26:ARG:HE	1.78	0.48
24:V:11:PHE:CG	24:V:88:ARG:NH1	2.82	0.48
28:Z:110:ALA:O	28:Z:114:VAL:HG23	2.13	0.48
29:a:14:HIS:ND1	29:a:14:HIS:N	2.61	0.48
33:e:125:ARG:H	33:e:125:ARG:HG2	1.41	0.48
44:q:59:VAL:O	44:q:63:ILE:HB	2.13	0.48
1:5:63:A:O2'	1:5:64:G:H5'	2.13	0.48
1:5:344:A:H2'	1:5:345:G:H5'	1.95	0.48
1:5:499:G:H5''	34:f:48:ARG:NH2	2.27	0.48
1:5:604:G:H2'	1:5:605:U:H6	1.76	0.48
1:5:948:C:C2'	1:5:949:C:H5'	2.44	0.48
1:5:2436:U:H2'	1:5:2437:G:H5'	1.95	0.48
1:5:3257:C:O2'	1:5:3258:U:H5'	2.14	0.48
1:5:3340:G:O2'	1:5:3341:U:OP1	2.28	0.48
1:5:3359:A:H5''	46:y:237:LYS:HE3	1.96	0.48
2:7:107:C:H2'	2:7:108:A:H8	1.78	0.48
5:B:221:THR:CG2	5:B:222:LYS:N	2.76	0.48
6:C:92:ASN:N	6:C:93:MET:HE2	2.29	0.48
6:C:95:ARG:HG2	6:C:95:ARG:NH1	2.29	0.48
6:C:351:PRO:HA	9:F:70:LYS:O	2.13	0.48
9:F:40:LYS:O	9:F:44:ILE:HG13	2.13	0.48
16:N:15:GLN:HB3	37:i:51:SER:CB	2.43	0.48
17:O:42:ASN:HA	17:O:136:THR:O	2.13	0.48
20:R:51:VAL:HG12	20:R:52:LYS:N	2.27	0.48
23:U:108:TYR:HE2	46:y:319:GLN:HE21	1.61	0.48
26:X:100:LYS:HZ1	26:X:107:VAL:H	1.61	0.48
27:Y:96:PRO:CG	45:x:452:THR:HG21	2.43	0.48
28:Z:135:ARG:NH2	28:Z:135:ARG:HB3	2.27	0.48
31:c:86:ARG:NH2	43:p:44:LYS:HA	2.28	0.48
33:e:100:ILE:N	33:e:100:ILE:CD1	2.76	0.48
34:f:89:LEU:HA	34:f:90:PRO:HD3	1.51	0.48
36:h:119:LYS:O	36:h:119:LYS:HE3	2.14	0.48
45:x:455:ASN:HA	45:x:484:LYS:NZ	2.29	0.48
1:5:710:A:H2'	1:5:711:A:C8	2.48	0.48
1:5:778:U:O2	1:5:778:U:H2'	2.14	0.48
1:5:1090:G:O2'	1:5:1091:A:H5'	2.14	0.48
1:5:1152:G:H5''	1:5:1153:A:OP2	2.13	0.48
1:5:1679:A:O2'	1:5:1680:G:H5'	2.13	0.48
1:5:1764:U:H4'	1:5:1765:U:OP2	2.13	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3379:C:O2'	1:5:3380:U:H5'	2.13	0.48
20:R:85:ARG:HH11	20:R:85:ARG:CG	2.27	0.48
36:h:36:LEU:HD13	36:h:36:LEU:N	2.28	0.48
36:h:64:GLU:OE2	36:h:64:GLU:HA	2.13	0.48
36:h:78:LYS:HG3	36:h:81:ARG:NH1	2.29	0.48
44:q:59:VAL:CG1	44:q:80:VAL:HG11	2.41	0.48
45:x:197:LEU:HD23	45:x:556:LEU:HD21	1.94	0.48
47:z:122:UNK:O	47:z:125:UNK:HG3	2.12	0.48
1:5:1245:A:H3'	1:5:1246:G:H5''	1.94	0.48
1:5:1666:G:H2'	1:5:1667:A:C8	2.48	0.48
1:5:2689:A:H2'	1:5:2689:A:N3	2.29	0.48
1:5:2836:C:H2'	1:5:2837:A:H5'	1.94	0.48
2:7:52:G:N2	13:J:9:MET:HE1	2.27	0.48
3:8:146:U:H2'	3:8:147:U:H6	1.78	0.48
5:B:282:ILE:O	5:B:282:ILE:HG22	2.13	0.48
7:D:232:ASP:N	7:D:232:ASP:OD1	2.46	0.48
9:F:149:TYR:HE1	9:F:181:ILE:HD13	1.79	0.48
18:P:119:VAL:O	18:P:119:VAL:HG22	2.14	0.48
20:R:90:PRO:HG2	20:R:93:VAL:HB	1.95	0.48
21:S:106:LEU:HD13	21:S:106:LEU:C	2.39	0.48
33:e:82:LEU:HD11	33:e:112:ALA:CB	2.25	0.48
38:j:65:ARG:HH11	38:j:65:ARG:CG	2.06	0.48
42:o:65:THR:OG1	42:o:66:LYS:N	2.45	0.48
45:x:92:PRO:O	45:x:94:THR:HG23	2.13	0.48
1:5:715:A:H8	1:5:715:A:H3'	1.78	0.48
1:5:1483:G:O2'	1:5:1484:U:H5''	2.14	0.48
1:5:1596:C:H2'	1:5:1597:C:C6	2.49	0.48
1:5:1863:G:N1	1:5:1866:C:OP2	2.46	0.48
1:5:2728:G:O6	22:T:78:LYS:HE3	2.14	0.48
1:5:2882:U:H2'	1:5:2883:U:C6	2.48	0.48
2:7:10:C:C2	7:D:20:PHE:HD1	2.32	0.48
4:A:23:ARG:HD3	4:A:52:SER:O	2.13	0.48
6:C:122:THR:O	6:C:126:ILE:HG13	2.14	0.48
6:C:274:TYR:CE1	6:C:276:LEU:HD12	2.48	0.48
7:D:61:ILE:HG23	7:D:79:TYR:CD1	2.49	0.48
7:D:78:ALA:HB3	7:D:105:ILE:HG23	1.95	0.48
10:G:134:TYR:CD2	10:G:190:VAL:HG11	2.49	0.48
22:T:51:GLY:HA3	22:T:92:ARG:HG3	1.96	0.48
23:U:27:VAL:CG1	46:y:307:LEU:HD11	2.44	0.48
36:h:31:LEU:HD21	36:h:43:LYS:HG2	1.96	0.48
37:i:58:ILE:HG22	37:i:90:MET:SD	2.54	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:i:60:LEU:HD13	37:i:60:LEU:N	2.28	0.48
43:p:58:SER:O	43:p:61:LYS:NZ	2.32	0.48
44:q:18:TYR:HD2	44:q:52:LEU:HB2	1.77	0.48
44:q:28:VAL:CG2	44:q:87:VAL:HG23	2.43	0.48
1:5:75:G:H5'	14:L:58:VAL:HG13	1.91	0.48
1:5:224:C:O2'	1:5:225:C:H5'	2.14	0.48
1:5:620:U:O2'	18:P:167:ARG:NE	2.46	0.48
1:5:921:A:OP1	1:5:921:A:H3'	2.13	0.48
1:5:1182:A:C2'	1:5:1183:C:H5'	2.44	0.48
1:5:1830:G:H2'	1:5:1830:G:N3	2.28	0.48
1:5:3008:A:C2'	1:5:3009:G:H5'	2.43	0.48
1:5:3232:G:O2'	1:5:3233:C:H5'	2.13	0.48
1:5:3360:C:O2'	1:5:3361:G:H5'	2.14	0.48
3:8:68:G:H2'	3:8:69:U:O4'	2.14	0.48
3:8:80:A:O2'	3:8:81:U:H5'	2.13	0.48
5:B:296:THR:HG22	5:B:297:SER:N	2.28	0.48
6:C:156:LEU:HD23	6:C:159:ILE:CD1	2.36	0.48
9:F:22:THR:HA	9:F:25:GLN:CG	2.35	0.48
9:F:133:TYR:N	9:F:133:TYR:CD1	2.81	0.48
12:I:77:THR:HG22	12:I:82:ARG:HA	1.96	0.48
14:L:46:ILE:CG2	14:L:46:ILE:O	2.62	0.48
16:N:49:ARG:CG	16:N:49:ARG:NH1	2.74	0.48
38:j:64:MET:HE3	38:j:67:LEU:CB	2.43	0.48
39:k:54:LEU:HD12	39:k:55:VAL:N	2.29	0.48
44:q:4:ILE:HG12	44:q:5:ARG:N	2.29	0.48
44:q:5:ARG:HH21	44:q:8:LYS:CB	2.25	0.48
45:x:362:ARG:HB2	45:x:382:ILE:HG21	1.96	0.48
45:x:465:THR:N	45:x:469:PRO:HG3	2.29	0.48
1:5:199:A:H4'	1:5:200:C:OP1	2.12	0.48
1:5:524:U:H2'	1:5:525:C:H5'	1.96	0.48
1:5:1560:G:H2'	1:5:1561:G:O4'	2.14	0.48
1:5:1949:G:H5''	20:R:104:ARG:NH1	2.29	0.48
1:5:2524:A:O2'	1:5:2525:G:OP2	2.27	0.48
1:5:3242:G:H5''	1:5:3245:A:H8	1.79	0.48
1:5:3273:A:C6	1:5:3274:A:C6	3.01	0.48
7:D:136:GLU:O	7:D:137:ASP:HB3	2.13	0.48
9:F:158:LYS:HD3	9:F:158:LYS:C	2.39	0.48
12:I:170:LYS:HA	12:I:177:ASP:HA	1.96	0.48
22:T:104:GLU:HG3	22:T:105:PHE:N	2.28	0.48
32:d:44:MET:O	32:d:46:THR:HG22	2.14	0.48
37:i:25:LYS:O	37:i:28:TYR:HB2	2.14	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:q:190:VAL:HG12	44:q:192:ASP:OD1	2.14	0.48
45:x:464:SER:C	45:x:469:PRO:HG3	2.39	0.48
47:z:87:UNK:HB2	47:z:90:UNK:CG	2.42	0.48
1:5:162:G:C2'	1:5:163:C:H5'	2.43	0.48
1:5:726:G:H1'	1:5:744:A:H61	1.78	0.48
1:5:1279:C:H2'	1:5:1280:C:C6	2.49	0.48
1:5:1294:A:O2'	1:5:1295:G:H5''	2.14	0.48
1:5:1818:U:O2'	1:5:1819:U:H5'	2.13	0.48
1:5:2887:A:H2'	1:5:2887:A:N3	2.28	0.48
1:5:2946:A:C5'	1:5:2947:G:H5'	2.42	0.48
5:B:41:VAL:HG22	5:B:185:GLY:HA3	1.95	0.48
6:C:338:LYS:HB3	6:C:341:SER:HB2	1.96	0.48
7:D:270:LYS:HE2	7:D:273:ARG:HH21	1.79	0.48
9:F:141:TYR:HA	9:F:189:ILE:CD1	2.44	0.48
10:G:41:GLN:HE21	10:G:44:ARG:NH2	2.12	0.48
12:I:167:LEU:HD22	12:I:167:LEU:N	2.29	0.48
13:J:82:ARG:HD2	13:J:112:LEU:HB2	1.96	0.48
28:Z:72:ILE:HD13	28:Z:72:ILE:N	2.29	0.48
34:f:72:THR:CG2	34:f:84:THR:HG23	2.44	0.48
35:g:5:VAL:HG22	35:g:6:THR:N	2.26	0.48
39:k:8:ILE:HD12	39:k:8:ILE:N	2.23	0.48
44:q:67:LEU:CD2	44:q:74:GLU:HB2	2.31	0.48
45:x:154:VAL:HG13	45:x:526:THR:HG23	1.95	0.48
45:x:545:PRO:O	45:x:546:GLN:HB2	2.12	0.48
47:z:90:UNK:O	47:z:93:UNK:HG3	2.14	0.48
47:z:91:UNK:O	47:z:94:UNK:HG3	2.13	0.48
1:5:151:A:O2'	1:5:152:U:OP1	2.32	0.47
1:5:173:G:O2'	1:5:174:C:H5'	2.14	0.47
1:5:699:A:OP1	14:L:68:LYS:HE3	2.14	0.47
1:5:994:G:N2	1:5:1053:A:H2'	2.28	0.47
1:5:1568:U:HO2'	1:5:1569:U:P	2.32	0.47
1:5:1682:U:H4'	1:5:1684:U:O4	2.14	0.47
1:5:2599:U:H2'	1:5:2600:C:C6	2.49	0.47
1:5:3237:U:C2'	1:5:3238:G:H5''	2.43	0.47
1:5:3386:G:H5''	32:d:10:ARG:NH2	2.29	0.47
17:O:78:ARG:N	17:O:78:ARG:HD2	2.23	0.47
33:e:125:ARG:HB3	33:e:128:LEU:HD12	1.96	0.47
35:g:8:ARG:HE	35:g:31:ARG:HD2	1.79	0.47
40:l:37:TYR:CE1	46:y:366:GLU:HG3	2.49	0.47
44:q:6:GLU:O	44:q:10:GLU:HB2	2.13	0.47
45:x:110:ASP:O	45:x:114:LEU:HG	2.14	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:z:72:UNK:HG2	47:z:72:UNK:O	2.14	0.47
1:5:1348:U:OP2	19:Q:38:ARG:NH2	2.44	0.47
1:5:2278:C:H1'	1:5:2280:A:C2	2.49	0.47
1:5:2289:U:H2'	1:5:2290:C:H6	1.79	0.47
1:5:3042:U:H2'	1:5:3043:C:H5'	1.95	0.47
1:5:3195:U:O3'	1:5:3196:U:C6	2.65	0.47
1:5:3283:U:H2'	1:5:3284:G:C8	2.49	0.47
3:8:156:U:O2'	3:8:157:U:OP1	2.26	0.47
5:B:197:GLU:O	5:B:201:LYS:HD2	2.14	0.47
6:C:315:LYS:O	6:C:317:PRO:HD3	2.14	0.47
7:D:211:LEU:HD13	7:D:219:PHE:CA	2.44	0.47
8:E:123:UNK:CG	8:E:126:UNK:HB1	2.44	0.47
9:F:144:ILE:HD12	9:F:189:ILE:HG13	1.94	0.47
9:F:214:TRP:CE2	9:F:219:LYS:HD3	2.50	0.47
14:L:14:PHE:CD1	14:L:14:PHE:N	2.82	0.47
20:R:81:ARG:CG	20:R:88:ARG:NH1	2.76	0.47
21:S:80:ARG:HD2	21:S:122:HIS:ND1	2.30	0.47
23:U:98:THR:HG23	23:U:104:ARG:HE	1.77	0.47
31:c:18:ILE:HG22	31:c:19:LYS:N	2.28	0.47
42:o:70:LEU:HD11	42:o:85:LEU:CD2	2.40	0.47
45:x:75:ARG:NH1	45:x:575:MET:HE2	2.29	0.47
1:5:564:G:H2'	1:5:565:U:C6	2.49	0.47
1:5:837:A:O2'	43:p:10:ILE:HD13	2.14	0.47
1:5:1223:A:C5	1:5:1286:A:C2	3.02	0.47
1:5:1329:U:O2'	1:5:1330:A:H5''	2.14	0.47
1:5:2537:U:O2	1:5:2543:U:C4	2.66	0.47
1:5:2636:A:H5''	1:5:2637:A:C5'	2.45	0.47
1:5:2940:A:OP2	5:B:2:SER:HB3	2.13	0.47
1:5:3176:G:H1'	34:f:3:GLU:HG2	1.96	0.47
1:5:3339:A:O2'	1:5:3340:G:H5'	2.14	0.47
3:8:5:U:H2'	3:8:6:U:C6	2.49	0.47
3:8:67:U:OP1	38:j:85:LYS:HD2	2.14	0.47
4:A:149:ARG:NH2	4:A:155:LYS:HD2	2.29	0.47
10:G:44:ARG:NH1	10:G:44:ARG:CG	2.62	0.47
10:G:191:ASN:O	10:G:192:GLN:HG3	2.15	0.47
11:H:77:ASN:HB3	11:H:151:VAL:CG2	2.43	0.47
17:O:110:PRO:CD	17:O:111:PRO:HD2	2.44	0.47
18:P:153:LYS:HD3	18:P:154:GLU:N	2.29	0.47
21:S:167:ARG:HG3	21:S:168:PRO:HD2	1.96	0.47
31:c:101:LEU:H	31:c:101:LEU:CD2	2.26	0.47
32:d:44:MET:HE1	32:d:75:ILE:HG22	1.92	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:d:109:VAL:O	32:d:111:GLU:HG3	2.14	0.47
33:e:105:ARG:C	33:e:126:LEU:HD11	2.39	0.47
34:f:71:VAL:CG1	34:f:81:VAL:HG11	2.44	0.47
35:g:93:PHE:CD2	35:g:94:LEU:HD23	2.48	0.47
42:o:77:CYS:O	42:o:78:LYS:HB2	2.14	0.47
44:q:91:GLU:CB	44:q:92:PRO:HD2	2.25	0.47
45:x:303:ALA:HB1	45:x:467:THR:OG1	2.14	0.47
45:x:378:LEU:HD23	45:x:426:ILE:HD12	1.97	0.47
47:z:116:UNK:O	47:z:119:UNK:HG3	2.13	0.47
47:z:120:UNK:HA	47:z:123:UNK:CG	2.44	0.47
1:5:178:U:O2'	1:5:179:C:H5'	2.15	0.47
1:5:235:A:H2'	1:5:236:G:C8	2.49	0.47
1:5:546:C:O2	1:5:546:C:H2'	2.14	0.47
1:5:1064:A:H5''	1:5:1066:G:O4'	2.14	0.47
1:5:1213:G:OP1	21:S:137:ARG:HD3	2.14	0.47
1:5:1461:A:H2'	1:5:1462:A:C8	2.49	0.47
1:5:2436:U:C2'	1:5:2437:G:H5'	2.44	0.47
1:5:2954:U:O2	1:5:2954:U:H2'	2.14	0.47
4:A:205:ASN:HB2	4:A:208:ASP:OD1	2.15	0.47
5:B:323:MET:HB3	5:B:323:MET:HE2	1.68	0.47
10:G:67:ILE:O	10:G:235:GLY:HA2	2.15	0.47
16:N:3:ALA:O	16:N:7:LEU:HB2	2.14	0.47
16:N:22:LEU:O	16:N:26:ARG:HG3	2.14	0.47
18:P:52:LEU:HD13	18:P:88:VAL:HG11	1.97	0.47
19:Q:57:ILE:HD12	19:Q:57:ILE:N	2.30	0.47
24:V:118:VAL:O	24:V:136:VAL:HG13	2.14	0.47
33:e:109:LEU:HD21	33:e:119:VAL:HG11	1.96	0.47
37:i:80:PHE:CD1	37:i:84:LYS:HE3	2.49	0.47
38:j:28:HIS:C	38:j:28:HIS:ND1	2.72	0.47
46:y:253:ILE:O	46:y:253:ILE:HG22	2.15	0.47
1:5:172:G:H2'	1:5:172:G:N3	2.30	0.47
1:5:594:U:C6	6:C:308:LYS:HE2	2.50	0.47
1:5:951:A:C2'	1:5:952:A:H5'	2.44	0.47
1:5:1037:C:H2'	1:5:1038:C:C6	2.50	0.47
1:5:1085:A:OP1	22:T:35:LYS:HE2	2.14	0.47
1:5:2211:U:H5	1:5:2234:G:N1	2.12	0.47
1:5:2668:U:O2'	1:5:2669:G:H5'	2.14	0.47
1:5:2971:A:OP2	1:5:2972:G:H5''	2.15	0.47
1:5:2987:A:HO2'	5:B:259:HIS:HB3	1.80	0.47
1:5:3110:C:H2'	1:5:3111:U:C6	2.49	0.47
1:5:3369:G:H3'	1:5:3369:G:N3	2.30	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:8:VAL:O	6:C:15:ALA:HB1	2.14	0.47
6:C:159:ILE:HG23	6:C:164:GLU:OE1	2.14	0.47
6:C:259:ASP:OD1	6:C:259:ASP:N	2.47	0.47
7:D:218:ARG:HA	7:D:218:ARG:NE	2.29	0.47
8:E:52:VAL:HG22	8:E:67:GLY:CA	2.44	0.47
9:F:121:LYS:HE2	9:F:125:GLU:OE2	2.14	0.47
12:I:9:TYR:CD2	12:I:97:LEU:HD13	2.49	0.47
15:M:36:VAL:HG12	15:M:75:GLY:HA2	1.96	0.47
20:R:23:TRP:CD2	46:y:320:ARG:NH1	2.82	0.47
35:g:29:ILE:HG23	35:g:30:LEU:N	2.29	0.47
42:o:4:VAL:CG1	42:o:5:PRO:CD	2.92	0.47
45:x:75:ARG:HH11	45:x:575:MET:HE2	1.80	0.47
45:x:218:ILE:HA	45:x:222:LEU:HD12	1.95	0.47
45:x:529:SER:O	45:x:533:GLN:HG3	2.14	0.47
46:y:159:ILE:HD13	46:y:231:ARG:HH21	1.80	0.47
1:5:139:G:H2'	1:5:140:C:C6	2.50	0.47
1:5:349:A:H4'	1:5:350:C:OP2	2.14	0.47
1:5:1037:C:H2'	1:5:1038:C:H6	1.80	0.47
1:5:1095:U:H3	22:T:127:GLN:CG	2.24	0.47
1:5:2853:A:OP1	12:I:63:GLU:HB2	2.15	0.47
1:5:2923:U:H2'	1:5:2924:U:H6	1.73	0.47
1:5:2931:C:H2'	1:5:2932:U:O4'	2.15	0.47
2:7:4:U:H2'	2:7:5:G:C8	2.50	0.47
2:7:11:A:C2'	2:7:12:U:H5''	2.44	0.47
2:7:34:C:H2'	2:7:35:C:C6	2.50	0.47
3:8:126:A:H4'	3:8:127:U:OP1	2.14	0.47
5:B:169:THR:HG23	5:B:170:PRO:CD	2.39	0.47
5:B:306:THR:HA	5:B:307:PRO:HD3	1.72	0.47
6:C:188:ARG:HG2	6:C:190:GLY:H	1.80	0.47
9:F:92:ILE:C	9:F:92:ILE:HD12	2.40	0.47
14:L:131:LYS:HD3	14:L:131:LYS:N	2.19	0.47
28:Z:10:VAL:HG13	28:Z:23:VAL:O	2.15	0.47
33:e:63:THR:O	33:e:66:LEU:HB2	2.15	0.47
34:f:54:ARG:HG2	34:f:64:ILE:HD11	1.93	0.47
45:x:282:THR:HB	47:z:98:UNK:HG1	1.97	0.47
45:x:343:TYR:O	45:x:346:LYS:HG2	2.13	0.47
45:x:375:SER:HA	45:x:422:GLY:HA3	1.97	0.47
1:5:523:A:O2'	21:S:69:PRO:HD2	2.15	0.47
1:5:1063:G:C6	22:T:109:VAL:HG13	2.49	0.47
1:5:1106:G:O2'	30:b:25:LYS:NZ	2.30	0.47
1:5:1107:C:H5'	30:b:25:LYS:NZ	2.30	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1347:U:H3'	19:Q:38:ARG:NH2	2.29	0.47
1:5:1555:U:O2'	1:5:1556:C:P	2.72	0.47
1:5:1576:G:H2'	1:5:1577:G:O4'	2.15	0.47
1:5:1635:G:O6	28:Z:17:ARG:HB2	2.14	0.47
1:5:1949:G:H2'	1:5:1950:U:C6	2.49	0.47
1:5:2216:G:H22	1:5:2229:A:H2	1.63	0.47
1:5:2276:G:C6	1:5:2311:G:N2	2.82	0.47
1:5:2749:G:O2'	7:D:35:ARG:HG2	2.14	0.47
1:5:3106:A:H2'	1:5:3107:U:O4'	2.15	0.47
1:5:3139:A:O2'	1:5:3140:G:H5'	2.14	0.47
2:7:11:A:O2'	2:7:12:U:H3'	2.15	0.47
3:8:15:G:C6	3:8:16:G:N1	2.83	0.47
3:8:70:G:N2	3:8:87:G:O2'	2.46	0.47
4:A:109:GLU:H	4:A:109:GLU:CD	2.21	0.47
4:A:117:GLU:HG2	4:A:124:GLY:H	1.80	0.47
5:B:258:ALA:O	5:B:259:HIS:CG	2.68	0.47
6:C:60:THR:CG2	6:C:61:SER:N	2.78	0.47
6:C:177:ASP:OD2	6:C:205:PRO:HD3	2.15	0.47
6:C:233:LEU:HA	6:C:233:LEU:HD23	1.55	0.47
7:D:21:ARG:HA	7:D:24:ARG:NH2	2.30	0.47
7:D:51:LEU:HD21	7:D:105:ILE:HD11	1.97	0.47
8:E:119:UNK:O	8:E:123:UNK:HG2	2.15	0.47
8:E:154:LEU:HD13	15:M:119:GLN:HG2	1.95	0.47
9:F:85:PHE:O	9:F:136:TYR:HA	2.15	0.47
10:G:90:THR:HG22	10:G:214:LEU:HD21	1.96	0.47
10:G:166:LEU:HA	10:G:166:LEU:HD23	1.45	0.47
15:M:15:VAL:HG23	15:M:35:ILE:HD13	1.97	0.47
16:N:199:LEU:HD23	16:N:199:LEU:N	2.30	0.47
17:O:98:ALA:HA	17:O:101:ARG:HH11	1.78	0.47
20:R:102:LEU:CD2	20:R:138:LEU:HG	2.45	0.47
22:T:65:TYR:CE2	22:T:73:GLY:HA3	2.49	0.47
24:V:94:TYR:CE1	25:W:21:PHE:HD1	2.31	0.47
24:V:128:ARG:HB3	24:V:128:ARG:CZ	2.45	0.47
29:a:31:GLY:O	29:a:35:ALA:HB3	2.15	0.47
29:a:75:LEU:HD13	29:a:118:ILE:HG12	1.97	0.47
32:d:80:ASN:ND2	32:d:85:ALA:HB3	2.29	0.47
33:e:66:LEU:HD23	33:e:72:LYS:HG2	1.96	0.47
38:j:65:ARG:NH1	38:j:65:ARG:CG	2.70	0.47
46:y:368:PHE:O	46:y:371:LYS:HB3	2.15	0.47
47:z:104:UNK:O	47:z:104:UNK:HG2	2.15	0.47
47:z:135:UNK:CG	47:z:137:UNK:HG3	2.45	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:123:A:H5'	1:5:124:U:OP2	2.14	0.47
1:5:1038:C:O2'	1:5:1039:U:H5'	2.14	0.47
1:5:1238:C:H2'	1:5:1239:C:H5''	1.96	0.47
1:5:1651:U:C5'	4:A:71:LEU:HD22	2.45	0.47
1:5:3333:G:O2'	25:W:50:ALA:HB3	2.15	0.47
7:D:83:LEU:N	7:D:84:PRO:HD2	2.29	0.47
10:G:200:LEU:H	10:G:200:LEU:HD12	1.79	0.47
11:H:24:ILE:HD11	11:H:37:ASN:ND2	2.30	0.47
11:H:141:LYS:HE2	11:H:142:ASP:OD2	2.14	0.47
12:I:196:PHE:CG	12:I:197:VAL:N	2.83	0.47
14:L:3:ILE:H	14:L:3:ILE:HG13	1.47	0.47
17:O:140:LYS:HG2	17:O:140:LYS:O	2.15	0.47
18:P:29:THR:HA	18:P:32:THR:CG2	2.45	0.47
20:R:89:LEU:HD12	20:R:90:PRO:HD2	1.97	0.47
20:R:112:ALA:CB	20:R:114:LYS:NZ	2.78	0.47
28:Z:97:SER:HB3	28:Z:99:GLU:HG3	1.97	0.47
31:c:41:LEU:CD2	31:c:42:ILE:N	2.77	0.47
34:f:16:TYR:OH	34:f:91:ALA:HB2	2.15	0.47
45:x:544:ASN:O	45:x:550:VAL:HG21	2.15	0.47
1:5:238:A:O2'	1:5:239:G:P	2.73	0.47
1:5:250:U:H2'	1:5:251:G:C5'	2.45	0.47
1:5:405:U:C5	1:5:406:G:C5	3.03	0.47
1:5:558:U:H4'	1:5:559:A:OP2	2.15	0.47
1:5:1110:U:H2'	1:5:1111:U:C6	2.49	0.47
1:5:1221:A:O4'	44:q:58:MET:HG2	2.14	0.47
1:5:1333:C:H2'	1:5:1334:U:C6	2.50	0.47
1:5:1554:U:O2'	1:5:1555:U:H5''	2.14	0.47
1:5:1639:C:C2'	1:5:1640:G:H5'	2.45	0.47
1:5:2137:U:C6	1:5:2141:U:C5	3.03	0.47
1:5:2569:A:H4'	1:5:2570:U:C5'	2.32	0.47
4:A:183:GLY:O	4:A:186:PHE:HB3	2.14	0.47
6:C:36:HIS:O	6:C:40:THR:HG23	2.15	0.47
6:C:131:VAL:HG12	6:C:134:LEU:H	1.78	0.47
7:D:128:GLU:OE2	7:D:192:PRO:HA	2.15	0.47
9:F:77:VAL:HG12	21:S:59:VAL:O	2.14	0.47
12:I:9:TYR:OH	12:I:99:ILE:HG23	2.15	0.47
12:I:135:ILE:HG22	12:I:136:PHE:CD1	2.50	0.47
12:I:178:ARG:H	12:I:178:ARG:HG2	1.38	0.47
14:L:21:ARG:O	16:N:196:THR:HG23	2.14	0.47
22:T:56:PHE:CZ	22:T:78:LYS:HD3	2.50	0.47
22:T:144:GLU:C	22:T:146:ASN:H	2.22	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:c:30:THR:O	31:c:34:LEU:N	2.48	0.47
31:c:45:ALA:O	31:c:48:THR:HG23	2.15	0.47
42:o:59:HIS:CG	42:o:60:LYS:N	2.83	0.47
44:q:18:TYR:OH	44:q:50:VAL:HG11	2.15	0.47
45:x:8:GLU:O	45:x:12:ILE:HG13	2.14	0.47
45:x:60:THR:HG23	45:x:131:GLY:CA	2.44	0.47
45:x:370:LEU:HD13	45:x:375:SER:OG	2.15	0.47
1:5:139:G:H2'	1:5:140:C:H6	1.80	0.47
1:5:788:C:O2'	1:5:789:A:H5'	2.15	0.47
1:5:915:A:H8	1:5:2136:C:O2'	1.98	0.47
1:5:1506:A:C2	1:5:1510:G:N1	2.83	0.47
3:8:88:A:H3'	3:8:89:A:C8	2.50	0.47
5:B:252:ILE:HG22	5:B:253:GLY:N	2.29	0.47
9:F:103:LEU:HD22	9:F:108:LEU:HB2	1.97	0.47
10:G:231:LYS:O	10:G:231:LYS:HG2	2.15	0.47
11:H:82:VAL:O	11:H:82:VAL:HG13	2.15	0.47
11:H:85:GLY:O	11:H:186:PHE:HA	2.14	0.47
13:J:46:VAL:HG12	13:J:68:HIS:O	2.14	0.47
21:S:14:LEU:HB2	21:S:55:SER:O	2.14	0.47
22:T:32:LYS:HE2	22:T:98:HIS:CD2	2.43	0.47
24:V:54:LEU:HD12	24:V:78:VAL:O	2.14	0.47
28:Z:16:GLY:O	28:Z:18:TYR:N	2.36	0.47
28:Z:55:LYS:HD3	28:Z:55:LYS:C	2.39	0.47
33:e:72:LYS:HB2	33:e:92:TYR:CD1	2.50	0.47
36:h:85:THR:HG22	36:h:88:LEU:HG	1.96	0.47
45:x:270:THR:CG2	45:x:271:GLU:H	2.26	0.47
45:x:337:LEU:HG	45:x:438:GLN:HB3	1.96	0.47
46:y:305:LEU:HB3	46:y:313:VAL:CG2	2.45	0.47
46:y:377:SER:O	46:y:381:VAL:HG23	2.15	0.47
1:5:376:G:C4	1:5:401:U:C5	3.04	0.46
1:5:564:G:H2'	1:5:565:U:H6	1.80	0.46
1:5:1072:G:H2'	1:5:1073:U:C6	2.50	0.46
1:5:1307:G:O2'	1:5:1308:A:OP2	2.26	0.46
1:5:2110:G:O2'	1:5:2111:G:H5''	2.14	0.46
1:5:2403:G:N2	1:5:2404:A:N6	2.63	0.46
1:5:2568:C:HO2'	1:5:2569:A:P	2.32	0.46
1:5:2808:A:H3'	1:5:2808:A:OP2	2.14	0.46
1:5:2971:A:H5''	1:5:2972:G:O5'	2.15	0.46
4:A:45:VAL:HG12	4:A:86:GLN:O	2.14	0.46
4:A:137:ILE:HG23	4:A:147:ARG:O	2.15	0.46
5:B:106:TRP:HB2	5:B:133:TYR:HE2	1.78	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:239:PRO:O	5:B:242:THR:HG23	2.14	0.46
5:B:252:ILE:O	5:B:264:VAL:HG11	2.14	0.46
7:D:88:ILE:HD13	7:D:239:ILE:HG22	1.97	0.46
8:E:18:LEU:H	8:E:18:LEU:CD1	2.22	0.46
10:G:160:ILE:HG22	10:G:161:GLU:OE1	2.15	0.46
11:H:37:ASN:OD1	11:H:39:LYS:HB2	2.15	0.46
12:I:53:VAL:HG21	12:I:166:ILE:HD12	1.97	0.46
14:L:50:PRO:HB3	36:h:118:ILE:CD1	2.44	0.46
14:L:75:PHE:CZ	14:L:116:LEU:HD21	2.50	0.46
20:R:120:TYR:CD2	20:R:120:TYR:C	2.92	0.46
22:T:56:PHE:CD1	22:T:56:PHE:C	2.94	0.46
26:X:51:VAL:HG21	36:h:62:GLN:HB3	1.97	0.46
31:c:100:ILE:HD13	31:c:101:LEU:HD22	1.97	0.46
33:e:106:VAL:CA	33:e:126:LEU:HD11	2.44	0.46
35:g:56:THR:O	35:g:57:LEU:HD23	2.15	0.46
44:q:28:VAL:HG11	44:q:87:VAL:HG21	1.97	0.46
45:x:5:ILE:HG21	46:y:341:ALA:HB2	1.97	0.46
45:x:109:ASP:OD1	45:x:413:LYS:HG2	2.15	0.46
45:x:524:ARG:HG2	45:x:527:GLY:HA3	1.97	0.46
1:5:1631:C:H5''	1:5:1632:A:C5'	2.45	0.46
1:5:1779:C:H1'	20:R:93:VAL:HG21	1.97	0.46
1:5:2290:C:H2'	1:5:2291:A:H8	1.79	0.46
1:5:2584:G:C5'	1:5:2585:G:OP2	2.62	0.46
1:5:2616:C:C2'	1:5:2617:U:H5'	2.44	0.46
1:5:2790:A:OP1	19:Q:180:ARG:HD3	2.14	0.46
3:8:147:U:H4'	26:X:38:LEU:HD12	1.97	0.46
4:A:70:ARG:HD2	4:A:72:ARG:HE	1.80	0.46
6:C:99:MET:HE1	6:C:103:THR:HG23	1.97	0.46
10:G:211:LEU:HD13	10:G:211:LEU:C	2.40	0.46
12:I:49:CYS:HA	12:I:138:VAL:O	2.15	0.46
16:N:198:SER:C	16:N:199:LEU:HD23	2.40	0.46
18:P:155:GLU:O	18:P:155:GLU:HG2	2.15	0.46
20:R:81:ARG:HG2	20:R:88:ARG:HH12	1.80	0.46
23:U:43:VAL:CG2	23:U:50:LEU:HD23	2.45	0.46
43:p:49:ARG:HB2	43:p:55:TRP:CZ3	2.51	0.46
45:x:263:GLU:N	45:x:301:VAL:HB	2.29	0.46
47:z:138:UNK:O	47:z:142:UNK:N	2.49	0.46
1:5:70:A:N1	1:5:313:A:O2'	2.46	0.46
1:5:498:A:OP1	34:f:86:ARG:NH1	2.48	0.46
1:5:512:U:O2'	1:5:513:G:H5'	2.16	0.46
1:5:1213:G:H4'	21:S:90:MET:HG2	1.97	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1728:G:C4	31:c:85:PHE:CE1	3.03	0.46
1:5:3033:A:H2'	1:5:3034:C:C6	2.51	0.46
1:5:3051:U:H2'	1:5:3052:G:H8	1.80	0.46
3:8:105:A:H4'	3:8:106:C:OP1	2.15	0.46
5:B:41:VAL:CA	5:B:185:GLY:HA3	2.39	0.46
8:E:8:LYS:HA	8:E:8:LYS:HZ3	1.79	0.46
8:E:40:LEU:HD11	8:E:54:TYR:HB2	1.97	0.46
10:G:162:LEU:HD21	16:N:45:PRO:HG2	1.97	0.46
13:J:141:ARG:O	13:J:145:LYS:NZ	2.48	0.46
17:O:28:LEU:HD23	17:O:28:LEU:HA	1.55	0.46
17:O:40:GLU:OE1	17:O:40:GLU:HA	2.15	0.46
19:Q:8:LYS:HE3	19:Q:8:LYS:HB2	1.53	0.46
29:a:92:LYS:HD2	29:a:92:LYS:HA	1.70	0.46
31:c:78:GLY:HA2	31:c:87:VAL:HG12	1.96	0.46
42:o:85:LEU:HD13	42:o:85:LEU:N	2.30	0.46
44:q:18:TYR:HB3	44:q:88:PHE:CG	2.50	0.46
44:q:26:PHE:CD1	44:q:190:VAL:HG22	2.51	0.46
44:q:37:GLN:HG2	44:q:104:ARG:HH11	1.80	0.46
45:x:319:ILE:O	45:x:504:CYS:HA	2.14	0.46
46:y:195:LYS:HB3	46:y:196:TYR:CD1	2.50	0.46
1:5:665:A:H8	1:5:665:A:O5'	1.98	0.46
1:5:805:G:H1'	6:C:73:ARG:NH1	2.31	0.46
1:5:999:G:O2'	1:5:1000:C:H5'	2.16	0.46
1:5:1354:G:O6	1:5:1358:C:H5'	2.14	0.46
1:5:1562:C:O2	1:5:1562:C:H2'	2.14	0.46
1:5:2209:U:H1'	1:5:2210:G:H5''	1.97	0.46
1:5:2248:C:O2'	1:5:2272:G:H1'	2.16	0.46
1:5:3002:C:H2'	1:5:3003:G:O4'	2.15	0.46
1:5:3160:U:H2'	1:5:3161:C:H6	1.75	0.46
11:H:88:TYR:HE2	11:H:184:LYS:HE2	1.81	0.46
14:L:64:LYS:HE3	29:a:69:TRP:CD1	2.50	0.46
19:Q:49:LEU:HD23	19:Q:49:LEU:HA	1.69	0.46
19:Q:104:LEU:HA	19:Q:104:LEU:HD23	1.59	0.46
27:Y:56:VAL:HG21	27:Y:70:ILE:CD1	2.42	0.46
27:Y:76:LEU:O	27:Y:77:LYS:CB	2.61	0.46
31:c:26:GLY:O	31:c:30:THR:HG23	2.16	0.46
31:c:100:ILE:HA	31:c:103:THR:OG1	2.15	0.46
1:5:534:U:OP1	21:S:132:THR:OG1	2.33	0.46
1:5:1072:G:H2'	1:5:1073:U:H6	1.81	0.46
1:5:1263:A:H2'	1:5:1263:A:N3	2.31	0.46
1:5:1277:C:O2	1:5:1277:C:H2'	2.14	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1495:U:O2	1:5:1495:U:C2'	2.64	0.46
1:5:2436:U:H3	1:5:2511:A:N6	2.08	0.46
1:5:2717:U:O2'	1:5:2718:U:H5'	2.16	0.46
4:A:102:LEU:HD12	4:A:102:LEU:N	2.31	0.46
6:C:60:THR:HG22	6:C:62:ALA:N	2.25	0.46
6:C:84:ARG:HD2	6:C:87:GLN:OE1	2.16	0.46
9:F:30:ARG:CG	9:F:31:ALA:N	2.77	0.46
9:F:120:THR:O	9:F:124:LEU:HB2	2.16	0.46
14:L:24:VAL:HB	14:L:26:PHE:CE2	2.51	0.46
16:N:190:THR:O	16:N:194:GLN:HG2	2.16	0.46
20:R:153:LYS:HA	20:R:153:LYS:HZ2	1.80	0.46
21:S:14:LEU:HA	21:S:15:PRO:HD3	1.75	0.46
21:S:45:LEU:HD22	21:S:45:LEU:HA	1.64	0.46
30:b:39:PHE:CD2	30:b:39:PHE:C	2.94	0.46
42:o:4:VAL:HG13	42:o:5:PRO:HD2	1.98	0.46
45:x:84:VAL:HG22	45:x:85:ASN:N	2.31	0.46
45:x:477:LYS:HD3	45:x:477:LYS:HA	1.59	0.46
47:z:96:UNK:O	47:z:99:UNK:HG3	2.15	0.46
1:5:241:G:H2'	1:5:242:C:H6	1.81	0.46
1:5:766:U:H4'	1:5:767:U:C5'	2.46	0.46
1:5:946:U:C2'	1:5:947:G:H5'	2.44	0.46
1:5:1063:G:H2'	1:5:1097:G:N2	2.31	0.46
1:5:1236:G:H3'	1:5:1237:G:C5'	2.45	0.46
1:5:1765:U:O2'	20:R:43:LYS:NZ	2.33	0.46
1:5:2747:A:O2'	1:5:2748:A:H5'	2.16	0.46
1:5:3384:U:C2	1:5:3385:U:C5	3.03	0.46
6:C:73:ARG:HG3	6:C:73:ARG:HH11	1.81	0.46
7:D:207:TYR:O	7:D:211:LEU:HB2	2.16	0.46
9:F:46:GLU:O	9:F:49:ALA:HB3	2.15	0.46
10:G:248:LYS:HA	10:G:248:LYS:NZ	2.28	0.46
12:I:182:LEU:HD23	12:I:182:LEU:HA	1.61	0.46
24:V:104:ASN:ND2	24:V:108:GLU:HB2	2.27	0.46
28:Z:97:SER:HB3	28:Z:99:GLU:CG	2.46	0.46
28:Z:128:GLN:O	28:Z:129:TRP:C	2.57	0.46
33:e:47:ARG:HB3	33:e:47:ARG:NH1	2.30	0.46
45:x:169:ILE:HG22	45:x:169:ILE:O	2.16	0.46
1:5:69:C:OP1	16:N:178:HIS:ND1	2.49	0.46
1:5:1087:G:C2	1:5:1088:U:C5	3.04	0.46
1:5:1167:U:H2'	1:5:1168:U:O4'	2.16	0.46
1:5:1393:A:C8	1:5:1418:A:C6	3.04	0.46
1:5:1472:U:H2'	1:5:1473:G:H8	1.81	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1730:G:C6	31:c:26:GLY:HA3	2.50	0.46
1:5:3013:U:H2'	1:5:3014:U:H6	1.79	0.46
4:A:155:LYS:HE2	4:A:155:LYS:HB3	1.70	0.46
5:B:158:VAL:HG23	5:B:191:LYS:HD2	1.98	0.46
5:B:382:THR:C	5:B:383:LEU:HD23	2.41	0.46
6:C:148:ILE:HD12	6:C:148:ILE:HA	1.80	0.46
6:C:238:LEU:HA	6:C:238:LEU:HD23	1.57	0.46
7:D:188:GLU:C	7:D:189:GLU:HG3	2.40	0.46
15:M:55:ARG:HH11	21:S:70:THR:HB	1.81	0.46
16:N:104:GLU:OE2	16:N:161:ALA:HA	2.15	0.46
20:R:41:ILE:HD13	20:R:41:ILE:HA	1.82	0.46
21:S:50:LYS:O	21:S:51:VAL:HG22	2.15	0.46
35:g:76:TYR:CD2	35:g:76:TYR:N	2.84	0.46
37:i:61:ILE:HD13	37:i:61:ILE:HA	1.85	0.46
40:l:28:ARG:HH11	40:l:28:ARG:CB	2.20	0.46
44:q:18:TYR:CE2	44:q:52:LEU:HB2	2.51	0.46
45:x:51:HIS:HE1	45:x:161:TYR:H	1.62	0.46
45:x:164:ASP:HB2	45:x:173:THR:CG2	2.46	0.46
45:x:234:TYR:CZ	45:x:542:GLU:HB3	2.51	0.46
45:x:449:LEU:HD23	45:x:477:LYS:HE2	1.97	0.46
46:y:228:THR:O	46:y:232:GLN:HB2	2.16	0.46
47:z:123:UNK:O	47:z:126:UNK:HG3	2.16	0.46
1:5:129:U:H2'	1:5:130:A:C8	2.51	0.46
1:5:282:G:C8	1:5:282:G:C3'	2.98	0.46
1:5:344:A:C2'	1:5:345:G:H5'	2.46	0.46
1:5:620:U:O2'	18:P:167:ARG:CZ	2.64	0.46
1:5:1073:U:O2'	1:5:1074:U:H5'	2.15	0.46
1:5:1404:G:OP2	33:e:11:LYS:NZ	2.25	0.46
1:5:2234:G:O2'	1:5:2603:G:O2'	1.98	0.46
1:5:2522:G:O6	4:A:70:ARG:NH2	2.49	0.46
1:5:3187:A:H4'	1:5:3187:A:OP1	2.16	0.46
6:C:318:LEU:HD11	9:F:146:GLN:HG2	1.98	0.46
6:C:338:LYS:N	6:C:338:LYS:CD	2.79	0.46
10:G:143:ILE:HD13	10:G:170:CYS:SG	2.56	0.46
14:L:128:ARG:HD2	36:h:112:PRO:HG2	1.97	0.46
18:P:30:ARG:HD2	18:P:63:PHE:HE1	1.80	0.46
18:P:70:THR:CG2	18:P:81:ALA:HB3	2.45	0.46
24:V:54:LEU:HD12	24:V:54:LEU:HA	1.57	0.46
26:X:25:LYS:HB2	26:X:25:LYS:HE3	1.78	0.46
26:X:62:VAL:HG13	26:X:90:ALA:CB	2.45	0.46
27:Y:87:LYS:HB2	27:Y:97:ILE:HD11	1.97	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Z:13:VAL:O	28:Z:19:ALA:HA	2.16	0.46
33:e:8:LYS:HB3	33:e:8:LYS:HZ3	1.76	0.46
33:e:106:VAL:HA	33:e:126:LEU:HD11	1.98	0.46
34:f:86:ARG:C	34:f:86:ARG:HD3	2.41	0.46
46:y:307:LEU:CG	46:y:308:PRO:HD2	2.45	0.46
47:z:95:UNK:O	47:z:98:UNK:HG3	2.16	0.46
1:5:592:A:O2'	1:5:593:C:H5'	2.16	0.46
1:5:1062:A:H4'	22:T:105:PHE:CE2	2.50	0.46
1:5:1109:U:H2'	1:5:1110:U:O4'	2.16	0.46
1:5:1185:C:OP1	15:M:42:LYS:HE3	2.15	0.46
1:5:1208:U:O2	1:5:1208:U:H2'	2.16	0.46
1:5:1572:U:O2	1:5:1573:G:N7	2.49	0.46
1:5:2388:U:O3'	18:P:80:LYS:NZ	2.49	0.46
1:5:3148:U:O2'	1:5:3149:G:H5'	2.16	0.46
4:A:90:ALA:CB	4:A:101:VAL:HG13	2.46	0.46
9:F:151:ARG:HG3	9:F:244:ASN:OD1	2.16	0.46
9:F:224:ILE:HG22	9:F:225:GLN:N	2.31	0.46
11:H:117:PHE:O	11:H:118:LEU:HB2	2.16	0.46
14:L:71:ALA:HA	14:L:147:ILE:HD11	1.98	0.46
16:N:73:ARG:HB3	16:N:75:VAL:HG22	1.97	0.46
22:T:132:PRO:O	22:T:134:GLN:NE2	2.49	0.46
27:Y:52:ARG:O	27:Y:53:ASP:HB2	2.16	0.46
27:Y:59:VAL:O	27:Y:64:LYS:HD2	2.16	0.46
32:d:19:ARG:HB3	32:d:35:GLU:HG2	1.98	0.46
46:y:176:VAL:O	46:y:180:LEU:HG	2.16	0.46
46:y:348:LEU:HB2	46:y:349:PRO:CD	2.44	0.46
1:5:20:A:O2'	1:5:21:G:H5'	2.15	0.46
1:5:437:G:H8	1:5:437:G:O5'	1.99	0.46
1:5:916:G:H5''	1:5:917:A:OP1	2.16	0.46
1:5:968:G:H2'	1:5:969:C:C6	2.51	0.46
1:5:1268:G:O2'	1:5:1269:U:H5'	2.16	0.46
1:5:2400:G:H5'	1:5:2401:A:OP2	2.16	0.46
2:7:22:A:H2'	2:7:22:A:N3	2.30	0.46
6:C:106:TRP:HZ2	14:L:19:GLN:NE2	2.13	0.46
6:C:205:PRO:HB3	6:C:247:PHE:CE2	2.51	0.46
6:C:330:TYR:HB2	9:F:45:LEU:CD2	2.46	0.46
8:E:70:LYS:HB3	8:E:146:ILE:HD11	1.97	0.46
13:J:12:LEU:HD22	13:J:12:LEU:HA	1.77	0.46
13:J:156:LYS:O	13:J:160:VAL:HG23	2.16	0.46
14:L:49:ARG:HB3	14:L:50:PRO:HD2	1.98	0.46
19:Q:81:VAL:HG23	19:Q:140:LEU:HG	1.98	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:122:ILE:HG22	19:Q:126:GLN:HB2	1.96	0.46
28:Z:4:PHE:O	28:Z:5:LEU:CB	2.64	0.46
29:a:77:LYS:HB3	29:a:80:THR:OG1	2.16	0.46
44:q:25:LEU:HD23	44:q:76:LEU:HG	1.98	0.46
1:5:956:U:H4'	1:5:2726:C:H5''	1.99	0.45
1:5:1284:C:O2'	1:5:1285:G:P	2.73	0.45
1:5:1339:C:OP1	33:e:61:LYS:HD3	2.16	0.45
1:5:2101:C:O2'	1:5:2102:U:P	2.74	0.45
1:5:2388:U:H2'	1:5:2389:C:H6	1.80	0.45
1:5:2556:C:C2'	1:5:2557:A:H5'	2.46	0.45
1:5:2997:G:H1'	1:5:3396:U:C5'	2.42	0.45
1:5:3083:G:H2'	1:5:3084:C:O4'	2.16	0.45
4:A:33:ASP:OD1	4:A:36:GLU:HG3	2.16	0.45
11:H:121:LYS:HD3	11:H:121:LYS:HA	1.68	0.45
12:I:60:LEU:HD23	12:I:60:LEU:N	2.31	0.45
17:O:22:VAL:O	17:O:26:GLN:HG2	2.16	0.45
22:T:32:LYS:CE	22:T:98:HIS:HD2	2.28	0.45
24:V:96:GLU:OE1	25:W:24:GLY:N	2.49	0.45
26:X:62:VAL:HG13	26:X:90:ALA:HB2	1.98	0.45
27:Y:108:LYS:HD3	27:Y:108:LYS:HA	1.76	0.45
45:x:202:LEU:CD2	45:x:313:SER:HB3	2.46	0.45
45:x:247:ILE:HG22	45:x:248:ARG:N	2.31	0.45
45:x:378:LEU:O	45:x:382:ILE:HG13	2.16	0.45
46:y:197:LEU:CD2	46:y:257:TYR:CD2	2.99	0.45
47:z:95:UNK:HA	47:z:98:UNK:HG3	1.98	0.45
47:z:134:UNK:O	47:z:135:UNK:HG3	2.16	0.45
1:5:41:G:H21	1:5:2612:U:H5''	1.81	0.45
1:5:1170:A:O5'	1:5:1170:A:H8	1.99	0.45
1:5:1580:A:H2'	1:5:1580:A:N3	2.31	0.45
1:5:1815:U:O2'	1:5:1816:A:P	2.75	0.45
1:5:2283:G:H4'	1:5:2308:C:N4	2.31	0.45
1:5:2836:C:O2'	1:5:2837:A:H5'	2.16	0.45
10:G:134:TYR:CG	10:G:190:VAL:HG11	2.51	0.45
11:H:146:LEU:HD12	11:H:146:LEU:N	2.30	0.45
14:L:140:SER:OG	14:L:143:ALA:N	2.45	0.45
16:N:53:TYR:CD1	16:N:53:TYR:C	2.95	0.45
19:Q:26:LEU:HD22	19:Q:26:LEU:HA	1.69	0.45
21:S:136:LYS:H	21:S:136:LYS:HG2	1.55	0.45
22:T:75:ILE:HG23	22:T:86:GLU:HG3	1.99	0.45
23:U:34:ALA:O	23:U:38:ILE:HG13	2.15	0.45
23:U:35:LYS:HE2	46:y:192:PRO:HG3	1.95	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:48:GLY:O	46:y:188:GLY:HA3	2.16	0.45
26:X:135:ILE:HD13	26:X:135:ILE:C	2.40	0.45
28:Z:56:LYS:HB2	28:Z:56:LYS:HZ2	1.81	0.45
31:c:56:LEU:HA	31:c:56:LEU:HD23	1.69	0.45
37:i:34:SER:HB3	37:i:37:THR:H	1.82	0.45
39:k:20:VAL:HG11	39:k:45:VAL:CG1	2.47	0.45
44:q:64:ARG:CG	44:q:77:LEU:HD11	2.46	0.45
45:x:258:ILE:HG22	45:x:463:THR:HG23	1.98	0.45
45:x:477:LYS:O	45:x:480:VAL:HG23	2.15	0.45
46:y:329:GLU:OE2	46:y:331:ILE:HD12	2.16	0.45
1:5:359:U:H4'	1:5:817:A:N6	2.32	0.45
1:5:419:G:O3'	1:5:420:G:C5'	2.64	0.45
1:5:715:A:O2'	1:5:752:C:O2'	2.11	0.45
1:5:781:G:OP1	19:Q:151:ARG:HD2	2.17	0.45
1:5:1282:G:H2'	1:5:1283:C:H6	1.81	0.45
1:5:1766:G:O2'	1:5:1767:C:H5'	2.17	0.45
1:5:2145:A:H2'	1:5:2145:A:N3	2.30	0.45
1:5:2176:U:C2'	1:5:2177:G:H5'	2.47	0.45
1:5:2298:U:H2'	1:5:2920:U:O2'	2.17	0.45
1:5:2880:U:O2	5:B:250:ALA:HB3	2.17	0.45
1:5:3243:A:C8	17:O:156:LEU:HD22	2.51	0.45
1:5:3385:U:H1'	32:d:106:THR:HG21	1.98	0.45
2:7:44:C:H2'	2:7:45:A:H5'	1.97	0.45
3:8:23:U:OP1	27:Y:16:ARG:NH2	2.46	0.45
3:8:143:U:OP1	16:N:38:ARG:NH2	2.49	0.45
4:A:132:ASN:O	4:A:133:TYR:HB3	2.17	0.45
5:B:55:THR:O	5:B:56:ILE:HD12	2.17	0.45
5:B:238:LEU:HD13	5:B:238:LEU:HA	1.76	0.45
8:E:76:LEU:HD11	8:E:141:VAL:HG21	1.98	0.45
10:G:105:LYS:O	10:G:109:LEU:HD23	2.16	0.45
12:I:178:ARG:N	12:I:179:PRO:HD2	2.32	0.45
12:I:200:LEU:HD23	12:I:200:LEU:C	2.41	0.45
13:J:25:GLU:HG3	13:J:63:GLU:OE1	2.16	0.45
18:P:122:ALA:HB1	18:P:123:PRO:HD2	1.97	0.45
27:Y:126:LEU:C	27:Y:127:GLU:HG3	2.41	0.45
28:Z:34:LYS:HA	28:Z:34:LYS:HD2	1.59	0.45
33:e:64:LYS:O	33:e:65:PHE:HB2	2.17	0.45
35:g:30:LEU:HA	35:g:30:LEU:HD23	1.38	0.45
35:g:79:SER:OG	35:g:80:ARG:NE	2.40	0.45
44:q:45:LEU:HD22	44:q:49:ALA:CB	2.38	0.45
44:q:87:VAL:CB	44:q:100:ILE:HD11	2.46	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:36:GLN:NE2	45:x:526:THR:H	2.14	0.45
1:5:1011:A:H1'	12:I:193:ASP:OD1	2.17	0.45
1:5:1989:Y5P:H2'	1:5:1990:Y5P:H6	1.99	0.45
1:5:2181:C:H5''	4:A:193:ARG:HH21	1.81	0.45
1:5:2573:G:C3'	1:5:2574:G:H5''	2.46	0.45
1:5:2727:A:OP2	1:5:2728:G:N2	2.46	0.45
1:5:2943:G:C8	5:B:2:SER:N	2.85	0.45
1:5:3009:G:H2'	1:5:3010:U:H5'	1.98	0.45
1:5:3195:U:H1'	1:5:3196:U:OP1	2.16	0.45
1:5:3315:G:H2'	5:B:123:TYR:CD2	2.52	0.45
3:8:36:G:OP2	36:h:85:THR:OG1	2.29	0.45
11:H:24:ILE:HD13	11:H:37:ASN:HA	1.99	0.45
18:P:52:LEU:HD12	18:P:52:LEU:HA	1.60	0.45
21:S:52:LYS:HE3	21:S:54:ALA:HB3	1.98	0.45
28:Z:81:LEU:HD22	28:Z:81:LEU:HA	1.61	0.45
28:Z:122:HIS:HB2	28:Z:131:PHE:CE1	2.51	0.45
31:c:100:ILE:HD12	31:c:100:ILE:H	1.79	0.45
45:x:39:LEU:CD2	45:x:154:VAL:HG11	2.45	0.45
45:x:211:LEU:CD1	45:x:552:GLY:HA3	2.46	0.45
45:x:332:LYS:HD2	47:z:90:UNK:HG1	1.98	0.45
45:x:464:SER:HB2	45:x:469:PRO:CB	2.45	0.45
46:y:151:UNK:O	46:y:155:UNK:HB1	2.15	0.45
1:5:100:A:C2'	1:5:101:G:H5'	2.46	0.45
1:5:236:G:H2'	1:5:237:G:O4'	2.17	0.45
1:5:266:A:N6	37:i:30:LYS:HA	2.32	0.45
1:5:651:G:O2'	1:5:1435:A:OP1	2.32	0.45
1:5:886:C:O2'	1:5:887:G:H5'	2.16	0.45
1:5:894:G:N2	1:5:1660:C:H5'	2.31	0.45
1:5:1597:C:H2'	1:5:1598:G:H8	1.78	0.45
1:5:1778:G:O2'	1:5:1780:G:OP2	2.35	0.45
1:5:2422:C:N3	1:5:2609:A:N1	2.64	0.45
1:5:2513:U:C4'	1:5:2514:U:OP1	2.64	0.45
1:5:2875:U:C6	46:y:396:HIS:HB2	2.52	0.45
1:5:2960:C:H2'	1:5:2961:G:C8	2.51	0.45
4:A:102:LEU:HB3	4:A:103:PRO:HD2	1.96	0.45
7:D:75:LEU:O	7:D:75:LEU:HD23	2.16	0.45
7:D:259:LYS:H	7:D:259:LYS:HD3	1.80	0.45
22:T:102:ARG:NH1	22:T:106:LEU:HD21	2.31	0.45
24:V:84:SER:HA	24:V:94:TYR:HB3	1.98	0.45
28:Z:123:GLN:O	28:Z:124:ALA:HB3	2.16	0.45
31:c:104:LEU:HD12	31:c:105:ALA:N	2.32	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:f:103:TYR:HA	34:f:104:PRO:C	2.40	0.45
43:p:36:ARG:HD3	43:p:45:LYS:O	2.16	0.45
44:q:87:VAL:HG21	44:q:100:ILE:HD13	1.97	0.45
1:5:142:C:H2'	1:5:143:G:O4'	2.17	0.45
1:5:159:A:H2'	1:5:160:G:H8	1.81	0.45
1:5:2270:A:C6	1:5:2271:A:N6	2.84	0.45
1:5:2537:U:HO2'	1:5:2538:U:C4'	2.22	0.45
1:5:3152:U:C5	1:5:3395:G:C6	3.05	0.45
1:5:3209:A:H2'	1:5:3209:A:N3	2.31	0.45
2:7:24:A:H2'	2:7:25:G:C8	2.51	0.45
2:7:26:C:H2'	2:7:27:A:O4'	2.16	0.45
5:B:114:VAL:HG13	5:B:163:HIS:CG	2.50	0.45
5:B:265:ALA:C	5:B:266:ARG:HG2	2.42	0.45
12:I:191:LYS:CB	12:I:213:PHE:HE1	2.27	0.45
15:M:55:ARG:HD3	21:S:70:THR:HB	1.97	0.45
18:P:166:VAL:CG1	18:P:168:LEU:HG	2.46	0.45
26:X:113:LEU:C	26:X:113:LEU:HD12	2.42	0.45
31:c:23:TYR:C	31:c:23:TYR:CD2	2.95	0.45
45:x:175:PRO:HG2	45:x:177:LEU:HD21	1.97	0.45
45:x:245:ARG:CZ	45:x:253:GLY:HA2	2.46	0.45
45:x:449:LEU:HD22	47:z:97:UNK:CG	2.46	0.45
45:x:540:GLN:HB3	47:z:75:UNK:CG	2.40	0.45
47:z:149:UNK:O	47:z:153:UNK:HG3	2.17	0.45
1:5:995:U:N3	1:5:2637:A:C8	2.85	0.45
1:5:2511:A:C3'	1:5:2512:C:H5'	2.46	0.45
1:5:2538:U:H2'	1:5:2539:C:C5'	2.47	0.45
1:5:3214:U:H3'	15:M:121:MET:HE1	1.99	0.45
2:7:43:U:C4	2:7:44:C:C5	3.04	0.45
3:8:83:C:N4	27:Y:113:LYS:NZ	2.65	0.45
3:8:104:A:H3'	3:8:105:A:C5'	2.43	0.45
8:E:152:THR:HG23	8:E:155:LEU:CB	2.46	0.45
9:F:166:ASN:OD1	9:F:181:ILE:N	2.44	0.45
13:J:166:LYS:C	13:J:168:ASP:H	2.24	0.45
15:M:97:SER:O	15:M:101:LYS:HG3	2.16	0.45
24:V:106:LYS:HB3	24:V:106:LYS:HE2	1.78	0.45
24:V:120:LYS:HB2	24:V:120:LYS:NZ	2.32	0.45
27:Y:52:ARG:HB3	27:Y:52:ARG:NH1	2.31	0.45
31:c:24:THR:HG23	31:c:91:SER:HB3	1.99	0.45
41:m:108:THR:O	41:m:121:LEU:HD11	2.16	0.45
44:q:95:GLU:O	44:q:99:VAL:HG23	2.17	0.45
45:x:374:THR:O	45:x:374:THR:HG22	2.17	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:121:A:C5	10:G:108:ARG:NH1	2.84	0.45
1:5:338:A:OP1	6:C:47:ARG:HA	2.17	0.45
1:5:1182:A:OP2	21:S:158:LYS:HE3	2.17	0.45
1:5:1724:U:H1'	1:5:1725:C:C6	2.52	0.45
1:5:2845:A:H2	1:5:2850:G:H1	1.64	0.45
1:5:3199:G:H4'	15:M:6:ILE:HD13	1.98	0.45
1:5:3294:A:OP2	5:B:126:LYS:NZ	2.50	0.45
2:7:34:C:H2'	2:7:35:C:H6	1.81	0.45
4:A:174:ARG:NH1	4:A:174:ARG:CG	2.71	0.45
10:G:243:GLN:NE2	10:G:246:MET:HE2	2.32	0.45
11:H:161:LEU:C	11:H:161:LEU:HD13	2.42	0.45
12:I:75:TYR:O	12:I:79:VAL:HG23	2.17	0.45
18:P:114:VAL:O	18:P:114:VAL:HG22	2.17	0.45
18:P:117:ILE:O	18:P:117:ILE:HG23	2.17	0.45
19:Q:58:ASN:C	19:Q:60:PRO:HD3	2.41	0.45
22:T:96:ILE:HG22	22:T:97:LYS:N	2.32	0.45
34:f:86:ARG:HD3	34:f:86:ARG:O	2.16	0.45
37:i:58:ILE:O	37:i:58:ILE:HG12	2.17	0.45
38:j:31:LYS:O	38:j:33:THR:HG22	2.17	0.45
45:x:121:LYS:HB2	45:x:350:ALA:HA	1.99	0.45
45:x:124:THR:HG23	45:x:125:PHE:N	2.32	0.45
45:x:231:ALA:HB1	45:x:236:CYS:O	2.16	0.45
45:x:292:ARG:HH21	45:x:458:LEU:HD12	1.78	0.45
1:5:107:A:H1'	1:5:325:A:N3	2.32	0.45
1:5:224:C:C2'	1:5:225:C:H5'	2.47	0.45
1:5:278:U:H2'	1:5:279:U:H6	1.81	0.45
1:5:655:C:H2'	1:5:656:A:C8	2.52	0.45
1:5:1898:G:C2'	1:5:1899:G:H5'	2.47	0.45
1:5:2022:P5P:OP1	45:x:83:LYS:HE3	2.16	0.45
1:5:2592:G:H4'	1:5:2594:C:C2	2.52	0.45
1:5:2894:C:OP1	11:H:168:ARG:HD2	2.16	0.45
1:5:3334:U:O2	1:5:3334:U:O2'	2.31	0.45
3:8:84:C:H4'	3:8:85:G:OP1	2.16	0.45
6:C:219:LEU:HD13	6:C:225:VAL:HG11	1.98	0.45
7:D:270:LYS:HG2	7:D:273:ARG:NH2	2.26	0.45
8:E:37:GLY:HA2	8:E:93:VAL:HG23	1.99	0.45
9:F:124:LEU:HD13	9:F:124:LEU:C	2.42	0.45
14:L:46:ILE:O	14:L:47:ALA:HB3	2.16	0.45
21:S:4:PHE:N	21:S:4:PHE:HD1	2.14	0.45
21:S:8:GLN:HB2	21:S:64:ILE:HD11	1.98	0.45
26:X:91:ASN:ND2	26:X:94:GLN:OE1	2.50	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:a:73:LEU:HD21	29:a:77:LYS:HB2	1.99	0.45
33:e:47:ARG:HB3	33:e:47:ARG:HH11	1.82	0.45
37:i:53:TYR:HB2	37:i:76:ARG:HD2	1.98	0.45
44:q:58:MET:O	44:q:62:ALA:HB3	2.17	0.45
45:x:144:GLY:HA2	45:x:152:SER:O	2.17	0.45
45:x:336:THR:CG2	45:x:337:LEU:N	2.78	0.45
46:y:243:PRO:O	46:y:249:GLU:HB3	2.17	0.45
1:5:850:U:O2'	1:5:851:C:P	2.75	0.45
1:5:1063:G:C2'	1:5:1097:G:N2	2.80	0.45
1:5:1447:G:O5'	18:P:63:PHE:HB3	2.17	0.45
1:5:1989:Y5P:H4A	1:5:1990:Y5P:H4	1.99	0.45
1:5:2837:A:H5''	12:I:154:ARG:HH12	1.81	0.45
2:7:94:C:H2'	2:7:95:A:C8	2.50	0.45
4:A:72:ARG:HD3	4:A:72:ARG:HA	1.34	0.45
5:B:45:SER:OG	5:B:181:ILE:HG12	2.17	0.45
5:B:287:LYS:NZ	5:B:287:LYS:CB	2.80	0.45
6:C:56:ALA:C	6:C:58:HIS:H	2.25	0.45
7:D:40:HIS:CE1	22:T:69:LYS:HA	2.52	0.45
20:R:99:LEU:HD22	20:R:103:ARG:NE	2.32	0.45
26:X:67:ILE:HB	26:X:83:VAL:HG12	1.98	0.45
26:X:112:THR:HG22	26:X:122:ALA:HB2	1.98	0.45
27:Y:74:TYR:CD1	27:Y:77:LYS:HB2	2.52	0.45
41:m:113:ARG:HG3	41:m:114:LYS:N	2.30	0.45
45:x:154:VAL:CG2	45:x:526:THR:HG23	2.37	0.45
46:y:197:LEU:HD21	46:y:257:TYR:CE2	2.52	0.45
47:z:152:UNK:O	47:z:155:UNK:HG3	2.17	0.45
1:5:163:C:O2'	1:5:164:A:H5'	2.17	0.44
1:5:970:A:C2	1:5:971:G:C4	3.05	0.44
1:5:1279:C:H2'	1:5:1280:C:H6	1.83	0.44
1:5:1313:G:H5'	17:O:83:ALA:HB1	1.98	0.44
1:5:1718:G:H2'	1:5:1719:G:C8	2.52	0.44
1:5:1908:A:O5'	1:5:1908:A:H8	2.00	0.44
1:5:2388:U:H2'	1:5:2389:C:C6	2.52	0.44
1:5:2525:G:H4'	10:G:49:TYR:OH	2.17	0.44
28:Z:129:TRP:O	28:Z:132:SER:OG	2.24	0.44
31:c:12:GLN:O	31:c:16:LEU:HG	2.17	0.44
32:d:29:ALA:HB2	32:d:64:VAL:HA	1.98	0.44
44:q:25:LEU:CD2	44:q:76:LEU:HG	2.47	0.44
44:q:40:GLU:HB2	44:q:104:ARG:CG	2.48	0.44
44:q:43:LYS:HA	44:q:46:ARG:CG	2.43	0.44
45:x:118:ASN:HD21	45:x:354:ILE:N	2.15	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:337:LEU:HD12	45:x:337:LEU:HA	1.66	0.44
45:x:467:THR:C	45:x:469:PRO:HD2	2.43	0.44
1:5:110:G:OP2	14:L:73:ARG:NH1	2.43	0.44
1:5:118:U:N3	1:5:122:A:OP2	2.44	0.44
1:5:987:U:H2'	1:5:988:U:C6	2.52	0.44
1:5:1265:U:C2	1:5:1277:C:H1'	2.52	0.44
1:5:1306:G:O6	1:5:2366:C:O2'	2.33	0.44
1:5:1793:C:C4	4:A:179:LEU:HD22	2.52	0.44
1:5:2094:C:H2'	1:5:2094:C:O2	2.17	0.44
1:5:2213:A:O4'	1:5:2602:G:H4'	2.18	0.44
1:5:2426:U:H2'	1:5:2427:U:C6	2.53	0.44
1:5:2746:A:C2	7:D:148:ILE:HD13	2.52	0.44
1:5:2883:U:O2'	1:5:2884:C:H5'	2.17	0.44
1:5:3130:A:H2'	1:5:3130:A:N3	2.32	0.44
1:5:3195:U:C1'	1:5:3196:U:OP1	2.65	0.44
1:5:3232:G:C6	1:5:3256:G:C6	3.06	0.44
1:5:3344:A:H5''	1:5:3345:G:OP2	2.17	0.44
2:7:1:G:C2	2:7:2:G:C8	3.05	0.44
2:7:83:U:C2'	2:7:84:A:H5'	2.47	0.44
4:A:5:ILE:HG22	4:A:209:HIS:HA	1.99	0.44
5:B:218:ILE:N	5:B:218:ILE:CD1	2.80	0.44
5:B:343:TYR:N	5:B:343:TYR:CD1	2.85	0.44
5:B:358:TRP:CE2	25:W:1:MET:HE1	2.52	0.44
7:D:36:LEU:O	7:D:48:LYS:HD2	2.16	0.44
12:I:207:GLU:O	12:I:210:ILE:HG12	2.17	0.44
13:J:87:LYS:HE2	13:J:87:LYS:HA	1.98	0.44
15:M:19:ARG:HG2	15:M:65:LEU:HD22	1.98	0.44
16:N:94:TYR:HD2	16:N:96:ARG:O	1.99	0.44
17:O:31:GLN:HE21	17:O:32:LYS:N	2.15	0.44
17:O:47:PHE:HA	17:O:136:THR:OG1	2.17	0.44
23:U:111:THR:HG23	23:U:112:PRO:HD2	1.98	0.44
24:V:11:PHE:O	24:V:13:ILE:HG22	2.18	0.44
26:X:61:LYS:HE3	26:X:61:LYS:HB2	1.82	0.44
33:e:90:LYS:HB3	33:e:90:LYS:HZ1	1.82	0.44
37:i:25:LYS:HB2	37:i:28:TYR:CD2	2.52	0.44
42:o:6:LYS:HE2	42:o:94:GLY:HA3	1.99	0.44
44:q:19:LEU:HB3	44:q:73:PHE:CE2	2.52	0.44
45:x:523:LEU:HD23	45:x:570:LYS:HB3	1.99	0.44
47:z:78:UNK:O	47:z:78:UNK:HG2	2.16	0.44
1:5:94:G:H2'	1:5:95:A:H8	1.81	0.44
1:5:361:A:O3'	38:j:45:ARG:NH2	2.50	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1477:A:OP1	1:5:3075:G:O2'	2.35	0.44
1:5:2158:A:OP2	4:A:156:LYS:NZ	2.45	0.44
1:5:2211:U:H5	1:5:2234:G:C6	2.36	0.44
1:5:2684:C:H2'	1:5:2685:C:C6	2.53	0.44
1:5:2757:U:H4'	22:T:7:TYR:HB3	1.99	0.44
4:A:77:ILE:HG21	4:A:169:ILE:HG13	2.00	0.44
4:A:79:ASN:O	4:A:80:GLU:HB3	2.16	0.44
4:A:180:LEU:HD21	43:p:22:LEU:HB3	1.99	0.44
5:B:146:ARG:CZ	5:B:146:ARG:HA	2.47	0.44
12:I:36:LEU:HD11	12:I:69:ARG:CG	2.48	0.44
15:M:19:ARG:HA	15:M:69:THR:HG22	1.99	0.44
21:S:87:THR:HG23	22:T:156:TYR:CE2	2.52	0.44
25:W:2:LYS:HG2	25:W:3:VAL:N	2.31	0.44
27:Y:83:ASP:O	27:Y:84:LYS:HB2	2.16	0.44
38:j:2:GLY:C	38:j:4:GLY:H	2.25	0.44
39:k:46:ARG:HA	39:k:51:LEU:HD12	1.99	0.44
42:o:53:GLN:HG3	42:o:53:GLN:O	2.18	0.44
44:q:38:MET:HE3	44:q:42:ARG:NH1	2.31	0.44
44:q:67:LEU:HD11	44:q:74:GLU:CB	2.47	0.44
44:q:80:VAL:HG23	44:q:84:VAL:HG23	1.98	0.44
45:x:221:GLN:O	45:x:225:THR:OG1	2.27	0.44
45:x:489:MET:HE2	45:x:489:MET:HB3	1.83	0.44
45:x:550:VAL:CG1	45:x:554:PHE:HE1	2.30	0.44
47:z:151:UNK:O	47:z:154:UNK:HG3	2.17	0.44
1:5:877:C:H2'	1:5:878:G:O4'	2.18	0.44
1:5:1220:U:O5'	1:5:1222:G:H5''	2.18	0.44
1:5:3294:A:H2'	1:5:3295:A:O4'	2.17	0.44
3:8:117:C:H2'	3:8:118:C:C6	2.51	0.44
5:B:214:MET:HE3	5:B:279:ASN:CA	2.47	0.44
11:H:129:ARG:O	11:H:132:VAL:HB	2.17	0.44
15:M:45:LEU:HD12	15:M:56:GLN:C	2.42	0.44
20:R:85:ARG:HB2	20:R:85:ARG:CZ	2.48	0.44
23:U:52:ASN:OD1	46:y:185:ARG:HG2	2.16	0.44
26:X:57:LEU:HD13	26:X:62:VAL:HG22	1.98	0.44
27:Y:36:SER:HB2	27:Y:37:LYS:NZ	2.33	0.44
27:Y:39:LEU:HD21	27:Y:107:THR:O	2.18	0.44
31:c:43:ILE:HD12	31:c:90:VAL:HB	1.99	0.44
31:c:58:TYR:O	31:c:61:MET:HG3	2.16	0.44
34:f:7:LEU:HD23	34:f:7:LEU:HA	1.73	0.44
45:x:175:PRO:HG2	45:x:177:LEU:CD2	2.47	0.44
46:y:187:HIS:CB	46:y:240:CYS:SG	3.05	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:208:C:C2'	1:5:209:A:H5'	2.47	0.44
1:5:640:U:H2'	1:5:641:C:C6	2.52	0.44
1:5:723:U:O2'	30:b:29:TYR:OH	2.29	0.44
1:5:791:A:H2'	1:5:792:G:C8	2.53	0.44
1:5:1252:A:H2'	1:5:1253:U:H5'	1.99	0.44
1:5:1301:A:H4'	1:5:1302:A:H5''	2.00	0.44
1:5:1317:A:H3'	1:5:1317:A:OP2	2.17	0.44
1:5:1491:A:C2'	1:5:1492:G:H5'	2.47	0.44
1:5:3086:A:H2'	1:5:3086:A:N3	2.32	0.44
1:5:3242:G:C5'	1:5:3245:A:H8	2.31	0.44
4:A:117:GLU:HB3	4:A:122:ASP:OD1	2.17	0.44
5:B:240:ARG:O	5:B:240:ARG:HG2	2.16	0.44
7:D:261:THR:O	7:D:264:GLN:N	2.39	0.44
9:F:127:LEU:HD23	9:F:127:LEU:HA	1.65	0.44
10:G:162:LEU:HD23	16:N:7:LEU:CD1	2.47	0.44
12:I:79:VAL:HG11	12:I:147:VAL:HG13	1.98	0.44
16:N:183:THR:O	16:N:183:THR:CG2	2.66	0.44
27:Y:3:LYS:HG3	27:Y:3:LYS:O	2.17	0.44
28:Z:115:LYS:O	28:Z:119:GLU:HG3	2.17	0.44
32:d:44:MET:HE3	32:d:44:MET:HB2	1.75	0.44
33:e:16:LYS:O	33:e:16:LYS:HG2	2.18	0.44
41:m:77:ILE:CD1	41:m:78:ILE:H	2.25	0.44
45:x:195:VAL:HG13	45:x:507:ILE:HD11	1.98	0.44
1:5:383:G:C5'	18:P:96:GLN:HE22	2.24	0.44
1:5:575:G:H2'	1:5:576:C:H6	1.82	0.44
1:5:1093:A:C2	1:5:1096:U:O2	2.70	0.44
1:5:1241:U:C4'	1:5:1242:G:OP1	2.65	0.44
1:5:1562:C:H2'	1:5:1563:C:C6	2.53	0.44
1:5:1833:G:O2'	40:l:4:GLN:HA	2.18	0.44
1:5:2144:A:C1'	1:5:2281:A:H61	2.25	0.44
1:5:2997:G:C6	1:5:3396:U:C4	3.05	0.44
5:B:120:LYS:HA	5:B:120:LYS:HD2	1.73	0.44
6:C:95:ARG:HG2	6:C:95:ARG:HH11	1.82	0.44
6:C:152:VAL:HG12	6:C:153:SER:N	2.32	0.44
7:D:185:PHE:H	7:D:185:PHE:HD1	1.65	0.44
11:H:3:TYR:CD1	11:H:3:TYR:N	2.85	0.44
17:O:155:LYS:HE2	17:O:155:LYS:HB3	1.83	0.44
21:S:10:ILE:HA	21:S:25:PHE:O	2.17	0.44
28:Z:130:PHE:CD1	28:Z:130:PHE:C	2.95	0.44
32:d:31:ARG:HB3	32:d:31:ARG:HH11	1.82	0.44
32:d:44:MET:O	32:d:46:THR:N	2.45	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:e:31:ASN:OD1	33:e:31:ASN:N	2.51	0.44
33:e:67:SER:HB3	33:e:68:PRO:HD2	1.99	0.44
34:f:67:MET:HE2	34:f:67:MET:HB3	1.85	0.44
36:h:33:VAL:O	36:h:36:LEU:HD22	2.17	0.44
41:m:126:LYS:HA	41:m:126:LYS:HD3	1.83	0.44
45:x:12:ILE:HA	45:x:16:ASP:CG	2.43	0.44
45:x:124:THR:HG23	45:x:125:PHE:HD1	1.82	0.44
45:x:126:ALA:HB1	45:x:134:ARG:NH2	2.32	0.44
46:y:197:LEU:HD12	46:y:200:LYS:HB2	1.98	0.44
1:5:269:G:OP1	16:N:47:LYS:HE2	2.18	0.44
1:5:970:A:OP1	30:b:18:ARG:HG2	2.18	0.44
1:5:3218:A:H3'	1:5:3218:A:OP1	2.18	0.44
4:A:102:LEU:HB3	4:A:103:PRO:CD	2.47	0.44
5:B:215:ILE:HG21	5:B:282:ILE:HD11	1.99	0.44
5:B:284:ARG:NH2	5:B:295:ALA:O	2.51	0.44
9:F:77:VAL:HG22	22:T:139:ARG:O	2.18	0.44
9:F:199:ASN:O	9:F:202:LEU:HB2	2.17	0.44
9:F:210:PRO:HG3	9:F:214:TRP:CE2	2.52	0.44
11:H:38:LEU:HD13	11:H:71:VAL:HG22	1.99	0.44
11:H:99:ILE:HD11	11:H:117:PHE:HD1	1.82	0.44
16:N:143:ARG:NH2	36:h:92:LEU:HD23	2.32	0.44
18:P:39:TRP:O	18:P:113:TYR:HB2	2.18	0.44
19:Q:172:PHE:N	19:Q:172:PHE:CD1	2.86	0.44
21:S:111:ALA:O	21:S:115:ARG:HA	2.18	0.44
27:Y:12:ARG:HD2	27:Y:12:ARG:C	2.43	0.44
27:Y:70:ILE:HG13	27:Y:80:VAL:CG1	2.47	0.44
30:b:35:VAL:HG12	30:b:36:ASP:N	2.32	0.44
31:c:24:THR:OG1	31:c:29:SER:OG	2.35	0.44
33:e:11:LYS:O	33:e:12:LYS:HB3	2.16	0.44
41:m:85:LEU:O	41:m:85:LEU:HD22	2.17	0.44
42:o:9:LYS:HE2	42:o:22:GLN:OE1	2.17	0.44
45:x:53:LYS:HG2	45:x:54:THR:N	2.33	0.44
47:z:120:UNK:CA	47:z:123:UNK:HG3	2.47	0.44
47:z:154:UNK:HA	47:z:157:UNK:HG3	1.99	0.44
1:5:308:A:H5'	1:5:2223:A:O2'	2.18	0.44
1:5:847:A:O5'	1:5:847:A:H8	2.01	0.44
1:5:1101:G:OP2	9:F:196:LYS:NZ	2.49	0.44
1:5:1156:C:OP2	9:F:94:LYS:NZ	2.51	0.44
1:5:1713:G:N2	1:5:1730:G:H1'	2.32	0.44
1:5:1840:U:H4'	1:5:1841:A:H5'	1.99	0.44
3:8:79:A:H2'	3:8:79:A:N3	2.32	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:8:80:A:H2'	3:8:81:U:H2'	1.99	0.44
3:8:83:C:N4	27:Y:113:LYS:HZ1	2.15	0.44
4:A:112:ILE:HD13	43:p:79:VAL:HG22	2.00	0.44
5:B:232:ARG:CZ	5:B:268:GLY:HA3	2.47	0.44
6:C:73:ARG:HH11	6:C:73:ARG:CG	2.30	0.44
6:C:299:ILE:CG2	19:Q:39:ARG:NH1	2.67	0.44
7:D:117:GLU:H	7:D:117:GLU:HG3	1.55	0.44
8:E:52:VAL:HG13	8:E:53:VAL:N	2.33	0.44
11:H:92:TYR:HD1	11:H:142:ASP:O	2.00	0.44
14:L:47:ALA:CB	14:L:48:PRO:CD	2.96	0.44
16:N:65:ARG:C	16:N:66:VAL:HG22	2.43	0.44
26:X:142:ILE:HD13	45:x:420:ARG:CB	2.45	0.44
42:o:45:ARG:HB3	42:o:45:ARG:CZ	2.47	0.44
43:p:36:ARG:CD	43:p:45:LYS:HG2	2.48	0.44
44:q:53:MET:CE	44:q:85:GLY:HA3	2.48	0.44
45:x:97:ILE:O	45:x:140:LYS:NZ	2.50	0.44
45:x:186:ALA:HB1	45:x:323:MET:CE	2.48	0.44
45:x:224:ARG:HG3	45:x:267:VAL:CG1	2.41	0.44
45:x:303:ALA:C	45:x:304:ILE:HG13	2.43	0.44
45:x:475:LEU:O	45:x:478:LEU:HB3	2.17	0.44
1:5:524:U:H5''	15:M:77:ARG:HH21	1.83	0.44
1:5:1334:U:H2'	1:5:1335:C:H6	1.82	0.44
1:5:1397:C:O2'	1:5:1398:U:H5'	2.18	0.44
1:5:1819:U:O2'	1:5:1820:U:P	2.76	0.44
1:5:2611:U:H2'	1:5:2612:U:C6	2.52	0.44
1:5:3121:U:H1'	1:5:3122:A:H5''	2.00	0.44
6:C:47:ARG:NH1	6:C:109:TRP:O	2.51	0.44
6:C:178:LEU:HA	6:C:178:LEU:HD23	1.71	0.44
6:C:330:TYR:OH	9:F:52:GLN:HG2	2.18	0.44
7:D:191:ASP:HA	7:D:192:PRO:HD2	1.77	0.44
8:E:123:UNK:HG2	8:E:126:UNK:HB1	1.99	0.44
9:F:151:ARG:NH1	9:F:244:ASN:HA	2.33	0.44
10:G:205:ALA:HA	10:G:208:GLU:OE1	2.17	0.44
11:H:173:ARG:NH2	41:m:127:LEU:HD23	2.33	0.44
13:J:133:ARG:NH1	13:J:154:THR:HG22	2.33	0.44
14:L:71:ALA:CB	14:L:147:ILE:HD11	2.48	0.44
33:e:111:ARG:HD2	33:e:111:ARG:O	2.17	0.44
34:f:89:LEU:HA	34:f:89:LEU:HD23	1.80	0.44
41:m:99:CYS:O	41:m:100:TYR:HB2	2.18	0.44
43:p:88:GLU:HA	43:p:91:GLU:HG2	2.00	0.44
44:q:60:ARG:HB3	44:q:64:ARG:NH2	2.33	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:202:LEU:HD22	45:x:313:SER:HB3	1.99	0.44
45:x:239:VAL:CG1	45:x:240:PRO:HD2	2.47	0.44
45:x:264:TYR:HB3	45:x:301:VAL:O	2.18	0.44
46:y:175:ASP:HB2	46:y:178:GLU:HG3	1.98	0.44
47:z:88:UNK:HA	47:z:91:UNK:HG3	1.99	0.44
47:z:132:UNK:HG2	47:z:132:UNK:O	2.18	0.44
1:5:259:C:C2	1:5:260:C:C5	3.06	0.43
1:5:281:G:C2'	1:5:282:G:H5'	2.48	0.43
1:5:715:A:C8	29:a:115:LYS:HG3	2.53	0.43
1:5:2023:P5P:H2'	1:5:2024:P5P:H8	1.99	0.43
1:5:2233:A:H2	1:5:2603:G:O4'	2.01	0.43
1:5:2552:C:C5	31:c:53:LYS:NZ	2.71	0.43
1:5:2662:G:H2'	1:5:2663:G:C8	2.52	0.43
1:5:3047:U:C2'	1:5:3048:A:H5'	2.48	0.43
1:5:3162:C:O2'	1:5:3163:A:H5'	2.18	0.43
1:5:3186:A:N3	11:H:44:THR:HG22	2.33	0.43
2:7:15:C:C2	2:7:16:U:C5	3.05	0.43
3:8:36:G:O2'	3:8:104:A:N1	2.47	0.43
3:8:155:A:C3'	3:8:156:U:H5''	2.48	0.43
4:A:130:SER:HA	4:A:169:ILE:HG22	1.99	0.43
4:A:149:ARG:HB2	4:A:149:ARG:CZ	2.46	0.43
6:C:318:LEU:N	6:C:318:LEU:HD23	2.33	0.43
7:D:68:THR:HG22	7:D:69:ILE:N	2.32	0.43
7:D:126:GLU:HB2	7:D:196:ARG:HE	1.82	0.43
7:D:194:LEU:HD11	7:D:198:TYR:HE2	1.82	0.43
9:F:151:ARG:HD2	9:F:207:LEU:HD23	2.00	0.43
11:H:156:GLN:O	11:H:159:ALA:N	2.49	0.43
15:M:118:PHE:O	15:M:121:MET:HB3	2.18	0.43
16:N:182:ASN:O	16:N:183:THR:CG2	2.63	0.43
17:O:105:PHE:CD1	17:O:105:PHE:N	2.86	0.43
17:O:109:PRO:CB	17:O:110:PRO:HD3	2.48	0.43
18:P:10:ASN:HA	18:P:11:PRO:HD2	1.89	0.43
21:S:23:LYS:HD2	21:S:23:LYS:N	2.32	0.43
24:V:72:LYS:HG2	24:V:74:MET:HE1	1.99	0.43
26:X:34:LEU:CD1	26:X:35:PRO:HD2	2.41	0.43
27:Y:23:PRO:HG2	27:Y:26:GLN:CD	2.43	0.43
28:Z:36:HIS:N	28:Z:37:PRO:HD3	2.33	0.43
29:a:90:TYR:HD1	29:a:100:PRO:CD	2.28	0.43
32:d:19:ARG:HD3	32:d:35:GLU:HG3	1.99	0.43
35:g:20:ILE:CD1	35:g:32:ALA:HB1	2.40	0.43
45:x:60:THR:CG2	45:x:61:VAL:H	2.29	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:332:LYS:CD	47:z:90:UNK:HG1	2.48	0.43
1:5:258:G:H2'	1:5:259:C:H6	1.83	0.43
1:5:271:C:H2'	1:5:272:G:O4'	2.18	0.43
1:5:281:G:H2'	1:5:282:G:H5'	2.00	0.43
1:5:601:U:H6	1:5:601:U:OP1	2.01	0.43
1:5:618:C:H2'	1:5:619:A:O4'	2.18	0.43
1:5:671:U:O2'	19:Q:20:LYS:HD3	2.17	0.43
1:5:953:G:OP1	30:b:15:LYS:NZ	2.46	0.43
1:5:1275:C:H2'	1:5:1276:U:H5'	1.99	0.43
1:5:1410:U:O2'	33:e:95:GLU:OE1	2.30	0.43
1:5:2714:G:N3	1:5:2714:G:H5''	2.33	0.43
1:5:3058:U:O2	1:5:3058:U:H3'	2.17	0.43
1:5:3212:C:OP2	15:M:124:ARG:NH2	2.51	0.43
1:5:3233:C:H2'	1:5:3234:A:C8	2.52	0.43
1:5:3245:A:H2	1:5:3246:G:C2	2.35	0.43
7:D:162:ALA:O	7:D:166:ALA:HB2	2.19	0.43
11:H:161:LEU:HD13	11:H:161:LEU:O	2.18	0.43
13:J:16:LYS:HD3	13:J:72:ARG:CZ	2.48	0.43
13:J:158:ASP:O	13:J:161:SER:HB3	2.18	0.43
17:O:23:VAL:HG13	17:O:33:ILE:HG21	1.98	0.43
20:R:35:ALA:O	20:R:37:SER:N	2.51	0.43
26:X:105:VAL:HG11	26:X:126:LEU:HD13	2.00	0.43
27:Y:32:SER:HA	27:Y:49:PRO:HA	2.00	0.43
32:d:51:LEU:HD13	32:d:55:LEU:CD1	2.48	0.43
39:k:7:ASP:HB3	39:k:10:GLN:HB3	2.01	0.43
45:x:59:LEU:HD13	45:x:64:LEU:HD13	2.00	0.43
45:x:104:TRP:HZ3	45:x:353:LEU:HD21	1.82	0.43
46:y:305:LEU:O	46:y:312:LYS:HA	2.17	0.43
1:5:211:A:OP2	6:C:221:ASN:HB2	2.18	0.43
1:5:1118:C:O5'	1:5:1118:C:H6	2.02	0.43
1:5:1259:A:H62	44:q:35:SER:HB3	1.82	0.43
1:5:1387:G:N2	1:5:1421:G:C4	2.85	0.43
1:5:1447:G:OP1	18:P:65:SER:OG	2.26	0.43
1:5:1864:A:H5'	20:R:88:ARG:HD2	2.00	0.43
1:5:3095:U:H2'	1:5:3096:C:H6	1.83	0.43
1:5:3120:C:HO2'	1:5:3121:U:H6	1.64	0.43
1:5:3289:G:O2'	1:5:3290:G:P	2.76	0.43
1:5:3354:U:O2	1:5:3354:U:O4'	2.36	0.43
3:8:66:A:H2'	3:8:67:U:C6	2.53	0.43
6:C:140:HIS:ND1	6:C:247:PHE:HB3	2.33	0.43
6:C:180:LYS:O	6:C:184:SER:HB3	2.18	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:338:LYS:C	6:C:339:LEU:HG	2.42	0.43
7:D:122:VAL:CG1	7:D:125:VAL:HA	2.48	0.43
10:G:195:SER:C	10:G:197:VAL:H	2.27	0.43
19:Q:32:LEU:C	19:Q:32:LEU:HD23	2.43	0.43
20:R:112:ALA:CB	20:R:114:LYS:HZ1	2.31	0.43
25:W:9:SER:CB	25:W:51:TRP:HZ3	2.31	0.43
32:d:94:GLU:HB2	32:d:95:PRO:HD2	2.00	0.43
35:g:20:ILE:HG12	35:g:21:LYS:N	2.33	0.43
35:g:99:LYS:O	35:g:103:LYS:HG2	2.18	0.43
44:q:41:VAL:O	44:q:41:VAL:HG12	2.16	0.43
44:q:64:ARG:HE	44:q:77:LEU:HD13	1.83	0.43
46:y:337:GLY:O	46:y:340:VAL:HG12	2.17	0.43
1:5:40:A:O2'	1:5:937:G:O6	2.30	0.43
1:5:1063:G:H2'	1:5:1097:G:H21	1.83	0.43
1:5:1471:U:C2	1:5:1472:U:C5	3.06	0.43
1:5:3357:U:O2'	1:5:3358:U:OP1	2.33	0.43
2:7:16:U:H2'	2:7:17:A:C8	2.53	0.43
5:B:161:LEU:HD23	5:B:180:GLU:HG2	2.01	0.43
6:C:165:ALA:O	6:C:168:ALA:HB3	2.18	0.43
7:D:177:GLU:HA	7:D:180:PHE:CD2	2.53	0.43
10:G:171:LYS:HD2	10:G:171:LYS:HA	1.81	0.43
11:H:10:ILE:HD13	11:H:75:VAL:HG11	2.00	0.43
11:H:90:MET:HB3	11:H:180:TYR:O	2.19	0.43
14:L:134:GLU:HG3	14:L:135:ALA:N	2.33	0.43
18:P:28:ASN:O	18:P:32:THR:HG22	2.18	0.43
19:Q:32:LEU:C	19:Q:32:LEU:CD2	2.91	0.43
19:Q:165:ILE:HD12	19:Q:165:ILE:HA	1.82	0.43
20:R:86:GLU:CD	20:R:91:SER:H	2.26	0.43
22:T:157:GLU:HG2	22:T:158:THR:N	2.33	0.43
23:U:90:ARG:CZ	46:y:316:ARG:HH11	2.23	0.43
31:c:25:LEU:HD22	31:c:90:VAL:HG22	2.00	0.43
34:f:102:LEU:HA	34:f:102:LEU:HD23	1.64	0.43
44:q:79:PHE:CG	44:q:189:GLN:HG3	2.53	0.43
45:x:118:ASN:HD21	45:x:354:ILE:H	1.66	0.43
45:x:164:ASP:OD2	45:x:173:THR:HB	2.19	0.43
1:5:514:G:N2	6:C:340:GLY:O	2.50	0.43
1:5:545:U:H3'	1:5:546:C:H6	1.82	0.43
1:5:1566:A:H2'	1:5:1567:U:O4'	2.18	0.43
1:5:2552:C:H2'	31:c:50:VAL:HG11	1.99	0.43
1:5:2575:G:C2	1:5:2576:G:C8	3.06	0.43
1:5:3009:G:C5	1:5:3010:U:C5	3.06	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3015:G:C4	1:5:3040:A:C2	3.07	0.43
1:5:3358:U:C4'	46:y:232:GLN:HB3	2.49	0.43
2:7:22:A:H1'	7:D:272:TYR:CE2	2.54	0.43
3:8:150:G:O2'	10:G:56:VAL:HG13	2.19	0.43
6:C:91:GLY:HA3	6:C:93:MET:HE3	1.99	0.43
6:C:330:TYR:HB2	9:F:45:LEU:HD22	2.00	0.43
10:G:166:LEU:CB	10:G:167:PRO:HD3	2.49	0.43
11:H:89:LYS:HB3	11:H:143:GLU:OE2	2.19	0.43
14:L:46:ILE:HG22	14:L:46:ILE:O	2.17	0.43
17:O:80:PHE:CD1	17:O:80:PHE:C	2.96	0.43
17:O:128:ARG:NH1	17:O:128:ARG:CG	2.81	0.43
24:V:48:ARG:HG3	24:V:48:ARG:NH1	2.06	0.43
24:V:93:LEU:HA	25:W:20:LEU:O	2.18	0.43
26:X:86:VAL:CG1	26:X:87:SER:N	2.81	0.43
28:Z:58:GLY:O	28:Z:62:VAL:HG23	2.18	0.43
28:Z:130:PHE:HE1	28:Z:131:PHE:CE2	2.36	0.43
29:a:75:LEU:HA	29:a:75:LEU:HD23	1.65	0.43
30:b:23:LYS:HA	30:b:24:PRO:HD3	1.85	0.43
33:e:85:LEU:HD23	33:e:85:LEU:HA	1.82	0.43
35:g:57:LEU:HB2	35:g:61:GLN:HB2	2.00	0.43
39:k:41:THR:HG21	39:k:62:ALA:CB	2.45	0.43
43:p:11:THR:C	43:p:13:LYS:H	2.25	0.43
44:q:28:VAL:HG23	44:q:28:VAL:O	2.18	0.43
45:x:399:PHE:O	45:x:401:PHE:HD2	2.01	0.43
45:x:525:LEU:HD23	45:x:572:THR:OG1	2.18	0.43
46:y:195:LYS:HB3	46:y:196:TYR:HD1	1.83	0.43
47:z:84:UNK:HG2	47:z:84:UNK:O	2.18	0.43
1:5:59:G:H2'	3:8:33:A:C2'	2.48	0.43
1:5:100:A:O2'	1:5:101:G:H5'	2.19	0.43
1:5:112:U:O2'	1:5:113:C:H5''	2.19	0.43
1:5:335:G:OP1	27:Y:9:SER:HB2	2.19	0.43
1:5:678:G:H2'	1:5:679:U:O4'	2.18	0.43
1:5:897:U:C2	1:5:898:U:C5	3.06	0.43
1:5:1329:U:O2'	1:5:1330:A:OP1	2.28	0.43
1:5:1676:A:OP2	23:U:72:SER:HB2	2.18	0.43
1:5:2421:U:C3'	1:5:2422:C:H5''	2.48	0.43
1:5:2643:A:OP2	22:T:3:LYS:HE2	2.18	0.43
1:5:2871:G:H3'	1:5:2872:A:C5'	2.48	0.43
5:B:187:SER:HB3	5:B:190:GLU:OE1	2.18	0.43
14:L:188:ARG:HG2	14:L:188:ARG:O	2.19	0.43
16:N:203:ARG:HD3	16:N:203:ARG:HA	1.86	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:X:65:GLN:HA	26:X:66:PRO:HD3	1.87	0.43
27:Y:86:THR:CA	27:Y:97:ILE:HD13	2.40	0.43
29:a:74:ASN:OD1	29:a:113:LEU:HB2	2.18	0.43
34:f:72:THR:HG21	34:f:84:THR:CG2	2.49	0.43
35:g:51:LEU:HA	35:g:51:LEU:HD23	1.55	0.43
38:j:67:LEU:HA	38:j:67:LEU:HD23	1.76	0.43
43:p:3:LYS:HB3	43:p:3:LYS:HE3	1.40	0.43
44:q:30:VAL:O	44:q:30:VAL:HG12	2.19	0.43
45:x:164:ASP:CB	45:x:173:THR:HB	2.48	0.43
46:y:159:ILE:CG2	46:y:160:PRO:HD2	2.48	0.43
47:z:97:UNK:O	47:z:100:UNK:HG3	2.19	0.43
1:5:192:C:C2	1:5:193:C:C5	3.07	0.43
1:5:1188:U:OP1	1:5:1210:U:O2'	2.26	0.43
1:5:1323:G:C2'	1:5:1324:U:H5'	2.48	0.43
1:5:1555:U:O2'	1:5:1556:C:C5'	2.66	0.43
1:5:1845:G:C5'	1:5:1846:C:H5'	2.47	0.43
1:5:2116:G:C2	1:5:3064:U:H5'	2.54	0.43
1:5:2842:U:H2'	1:5:2843:U:H5'	2.00	0.43
4:A:138:GLY:O	4:A:146:THR:HG23	2.19	0.43
4:A:196:TRP:CG	4:A:197:PRO:HA	2.54	0.43
5:B:92:TYR:CE2	5:B:101:SER:HB3	2.54	0.43
12:I:174:THR:HG23	12:I:175:ASN:H	1.83	0.43
14:L:131:LYS:H	14:L:131:LYS:CD	2.19	0.43
17:O:126:VAL:HG22	17:O:127:LEU:N	2.34	0.43
21:S:171:PHE:CG	21:S:172:TYR:N	2.86	0.43
24:V:19:VAL:HG13	24:V:37:ILE:HA	2.00	0.43
32:d:71:LEU:HD23	32:d:71:LEU:HA	1.73	0.43
33:e:82:LEU:HD23	33:e:82:LEU:HA	1.82	0.43
37:i:5:THR:HG22	37:i:12:ASN:CB	2.49	0.43
37:i:53:TYR:O	37:i:57:LEU:HB2	2.17	0.43
41:m:77:ILE:HD12	41:m:78:ILE:N	2.27	0.43
43:p:28:LYS:HG2	43:p:29:LEU:N	2.34	0.43
45:x:21:GLN:O	45:x:25:LEU:HG	2.18	0.43
45:x:60:THR:HG23	45:x:131:GLY:C	2.43	0.43
45:x:68:THR:O	45:x:72:ILE:HG13	2.19	0.43
45:x:158:MET:HE3	47:z:65:UNK:CB	2.48	0.43
47:z:151:UNK:HA	47:z:154:UNK:CG	2.47	0.43
1:5:1553:U:H6	1:5:1553:U:H5'	1.82	0.43
1:5:2156:C:C4	1:5:2178:A:C2	3.06	0.43
1:5:2404:A:N6	46:y:395:GLU:HG2	2.33	0.43
1:5:2562:A:N6	1:5:2579:G:H1'	2.34	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2747:A:H5'	7:D:175:HIS:HA	2.01	0.43
1:5:2765:C:OP1	29:a:55:LYS:NZ	2.33	0.43
1:5:3268:A:H5''	8:E:46:ARG:HH21	1.83	0.43
2:7:76:A:O2'	21:S:50:LYS:NZ	2.50	0.43
3:8:155:A:H5'	10:G:185:ARG:HD2	2.01	0.43
4:A:180:LEU:HD23	4:A:180:LEU:HA	1.84	0.43
5:B:67:PHE:HD2	24:V:88:ARG:NH2	2.16	0.43
6:C:110:ASN:N	6:C:110:ASN:OD1	2.52	0.43
9:F:176:TYR:CD1	9:F:194:HIS:CD2	3.07	0.43
10:G:100:GLU:CD	10:G:108:ARG:NH1	2.77	0.43
10:G:163:VAL:O	10:G:166:LEU:HB2	2.19	0.43
12:I:29:SER:OG	12:I:31:ILE:O	2.37	0.43
16:N:84:PRO:HA	16:N:87:GLN:HB2	2.01	0.43
18:P:151:THR:CG2	18:P:152:GLU:N	2.82	0.43
18:P:151:THR:HG22	18:P:152:GLU:N	2.34	0.43
25:W:42:GLN:O	25:W:43:ARG:HB2	2.19	0.43
31:c:67:VAL:HG12	31:c:69:TYR:CE1	2.54	0.43
33:e:34:LYS:HB2	33:e:34:LYS:HE2	1.70	0.43
42:o:35:LEU:HD12	42:o:40:LYS:HE2	2.00	0.43
44:q:66:PHE:HB3	44:q:70:LEU:HD12	2.01	0.43
44:q:67:LEU:HD11	44:q:74:GLU:HB2	2.00	0.43
1:5:49:A:OP1	14:L:16:LYS:NZ	2.49	0.43
1:5:340:C:O2'	1:5:341:G:H5'	2.18	0.43
1:5:625:G:H2'	1:5:626:U:C6	2.53	0.43
1:5:833:G:H2'	1:5:834:U:O4'	2.19	0.43
1:5:939:U:H2'	1:5:940:G:H8	1.82	0.43
1:5:2176:U:H2'	1:5:2177:G:H5'	2.00	0.43
1:5:2222:A:H2'	1:5:2223:A:C8	2.54	0.43
1:5:2584:G:H1'	10:G:240:ASN:HD21	1.84	0.43
2:7:38:U:HO2'	2:7:40:C:H5	1.63	0.43
2:7:75:G:H1'	2:7:104:A:N6	2.34	0.43
3:8:84:C:C2	27:Y:112:ASP:HA	2.54	0.43
4:A:147:ARG:HB2	4:A:147:ARG:HH11	1.83	0.43
5:B:235:THR:HG23	5:B:236:LYS:N	2.33	0.43
9:F:53:LYS:O	9:F:57:THR:HG23	2.18	0.43
11:H:190:ASP:HB3	11:H:191:LEU:H	1.58	0.43
12:I:48:LEU:O	12:I:139:ARG:HA	2.19	0.43
12:I:85:PHE:CB	12:I:140:THR:CG2	2.96	0.43
17:O:35:VAL:HB	17:O:104:VAL:HG13	2.00	0.43
19:Q:32:LEU:HD23	19:Q:32:LEU:O	2.19	0.43
28:Z:89:VAL:O	28:Z:89:VAL:HG22	2.18	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:c:24:THR:C	31:c:25:LEU:HD23	2.44	0.43
31:c:41:LEU:HD23	31:c:66:LYS:O	2.18	0.43
32:d:35:GLU:HA	32:d:35:GLU:OE2	2.17	0.43
34:f:86:ARG:NH1	34:f:86:ARG:CG	2.74	0.43
42:o:85:LEU:N	42:o:85:LEU:CD1	2.81	0.43
44:q:44:GLU:CG	44:q:99:VAL:HG13	2.49	0.43
45:x:370:LEU:CD2	45:x:429:ASN:HD22	2.31	0.43
46:y:220:CYS:O	46:y:221:ASN:HB3	2.18	0.43
1:5:997:A:H2'	1:5:998:A:O4'	2.18	0.43
1:5:997:A:C2'	1:5:998:A:H5'	2.49	0.43
1:5:1054:A:H2'	1:5:1054:A:N3	2.33	0.43
1:5:1333:C:H2'	1:5:1334:U:H6	1.83	0.43
1:5:1377:G:H1'	1:5:1431:G:N2	2.33	0.43
1:5:1395:G:H2'	1:5:1396:C:C6	2.54	0.43
1:5:1494:U:OP1	40:l:44:TRP:HB3	2.19	0.43
1:5:1941:C:H2'	1:5:1942:U:C6	2.54	0.43
1:5:2211:U:H5	1:5:2234:G:O6	2.02	0.43
1:5:2573:G:C2'	1:5:2574:G:H5''	2.49	0.43
1:5:2689:A:C8	1:5:2702:A:C6	3.07	0.43
1:5:2899:C:O2'	1:5:2901:G:OP2	2.30	0.43
1:5:3340:G:H4'	1:5:3341:U:OP1	2.18	0.43
3:8:79:A:O2'	3:8:80:A:OP1	2.25	0.43
3:8:103:G:C6	3:8:105:A:N6	2.87	0.43
3:8:146:U:H2'	3:8:147:U:C6	2.54	0.43
5:B:343:TYR:HD1	5:B:343:TYR:N	2.16	0.43
5:B:369:ARG:HB3	25:W:32:GLN:NE2	2.34	0.43
6:C:357:GLU:O	6:C:361:HIS:HB2	2.19	0.43
7:D:142:PHE:O	7:D:172:TYR:HB3	2.19	0.43
9:F:47:ARG:O	9:F:50:ALA:N	2.52	0.43
10:G:81:THR:O	10:G:82:LEU:HD13	2.19	0.43
11:H:88:TYR:CD2	11:H:184:LYS:HB3	2.53	0.43
14:L:191:ALA:O	14:L:194:GLU:HB2	2.19	0.43
17:O:8:VAL:HG22	17:O:34:VAL:HG13	2.00	0.43
17:O:88:VAL:HG12	17:O:89:SER:N	2.33	0.43
17:O:183:ALA:HA	17:O:186:ALA:CB	2.35	0.43
20:R:85:ARG:CG	20:R:85:ARG:NH1	2.82	0.43
23:U:81:LYS:HD3	23:U:90:ARG:NH2	2.34	0.43
33:e:4:LEU:HD13	33:e:4:LEU:N	2.33	0.43
34:f:90:PRO:C	34:f:92:LYS:H	2.27	0.43
43:p:11:THR:C	43:p:13:LYS:N	2.76	0.43
45:x:238:VAL:HG11	45:x:269:TRP:CE3	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:z:139:UNK:HA	47:z:142:UNK:HG3	2.00	0.43
1:5:759:U:C3'	1:5:760:G:H5'	2.49	0.42
1:5:1494:U:H4'	1:5:1495:U:O5'	2.18	0.42
1:5:1523:U:H2'	1:5:1607:U:O2	2.18	0.42
1:5:3269:U:H5'	1:5:3271:G:O4'	2.19	0.42
2:7:47:C:OP2	7:D:158:ARG:HD2	2.19	0.42
3:8:62:C:H4'	3:8:63:G:O5'	2.18	0.42
5:B:188:ILE:HD12	5:B:188:ILE:N	2.17	0.42
11:H:147:SER:HB2	11:H:187:ILE:HD11	2.01	0.42
13:J:164:LYS:HE2	13:J:171:VAL:H	1.84	0.42
14:L:190:LYS:HB3	14:L:190:LYS:HE3	1.69	0.42
15:M:49:PRO:HG2	15:M:81:VAL:HG12	2.01	0.42
20:R:62:ARG:CZ	20:R:62:ARG:HB2	2.48	0.42
26:X:105:VAL:HG12	26:X:106:ASP:N	2.34	0.42
27:Y:109:LEU:HD23	27:Y:109:LEU:HA	1.68	0.42
31:c:13:LYS:HD3	31:c:100:ILE:HG23	2.01	0.42
32:d:26:LYS:HD2	32:d:26:LYS:HA	1.80	0.42
32:d:81:GLU:OE1	32:d:81:GLU:HA	2.19	0.42
38:j:4:GLY:C	38:j:6:PRO:HD2	2.43	0.42
45:x:486:LYS:O	45:x:490:ASN:N	2.51	0.42
1:5:315:C:H5	37:i:28:TYR:HE1	1.67	0.42
1:5:354:U:C5	1:5:364:G:N2	2.87	0.42
1:5:947:G:H5''	33:e:55:ILE:HB	2.00	0.42
1:5:1386:A:H5''	6:C:141:ARG:NH2	2.34	0.42
1:5:3158:G:OP2	1:5:3158:G:H4'	2.19	0.42
1:5:3214:U:C3'	15:M:121:MET:HE1	2.49	0.42
2:7:44:C:C2'	2:7:45:A:H5'	2.49	0.42
3:8:157:U:H3'	3:8:158:U:H3'	2.00	0.42
5:B:311:PHE:HB2	5:B:314:TYR:HB3	2.01	0.42
10:G:90:THR:OG1	10:G:91:PHE:N	2.52	0.42
10:G:183:LYS:HG3	10:G:184:ALA:N	2.34	0.42
11:H:71:VAL:HG12	11:H:72:LYS:N	2.33	0.42
13:J:21:ILE:HD11	13:J:37:LEU:HD21	2.01	0.42
17:O:181:ALA:O	17:O:184:THR:HG22	2.18	0.42
21:S:33:ASN:OD1	21:S:36:ILE:HG13	2.19	0.42
24:V:37:ILE:HG12	24:V:59:MET:O	2.19	0.42
29:a:65:GLN:O	29:a:66:ALA:CB	2.66	0.42
32:d:41:LYS:HG3	32:d:47:ASP:HA	2.00	0.42
34:f:24:ASN:OD1	34:f:26:ASN:HB2	2.19	0.42
42:o:59:HIS:CE1	42:o:60:LYS:HB2	2.54	0.42
45:x:207:LEU:O	45:x:207:LEU:HD23	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:535:SER:O	45:x:537:ILE:HG13	2.19	0.42
46:y:215:ASN:C	46:y:230:VAL:HG21	2.43	0.42
1:5:620:U:OP1	1:5:622:A:C6	2.73	0.42
1:5:679:U:O2'	1:5:788:C:O2	2.37	0.42
1:5:880:G:C8	18:P:132:ALA:CB	3.01	0.42
1:5:896:A:C2	1:5:913:A:C2	3.08	0.42
1:5:1796:G:H5'	4:A:22:LEU:HD13	2.00	0.42
1:5:1831:U:OP2	26:X:92:LYS:HD2	2.19	0.42
1:5:2243:A:C4	1:5:2313:A:H2'	2.55	0.42
1:5:2247:G:N2	1:5:2271:A:C2	2.86	0.42
1:5:2438:A:O2'	1:5:2439:A:OP1	2.30	0.42
1:5:2545:C:C2'	1:5:2546:C:H5'	2.49	0.42
1:5:3289:G:O2'	1:5:3290:G:O5'	2.34	0.42
2:7:7:G:OP1	7:D:33:ARG:HD2	2.19	0.42
3:8:108:C:H2'	3:8:109:A:O4'	2.18	0.42
5:B:73:VAL:HG22	24:V:86:ARG:NH2	2.33	0.42
5:B:261:MET:SD	17:O:64:PHE:HA	2.59	0.42
5:B:356:LEU:N	5:B:356:LEU:HD23	2.33	0.42
6:C:184:SER:HB2	6:C:202:ARG:HG2	2.02	0.42
7:D:18:THR:HA	7:D:19:PRO:HD3	1.80	0.42
7:D:56:THR:OG1	7:D:59:ASP:N	2.53	0.42
7:D:62:CYS:HB3	7:D:105:ILE:HD13	2.00	0.42
9:F:141:TYR:HA	9:F:189:ILE:HD12	1.99	0.42
11:H:88:TYR:CE2	11:H:184:LYS:CB	3.01	0.42
12:I:42:THR:HG23	12:I:45:GLU:HG3	1.99	0.42
19:Q:88:THR:HA	19:Q:107:THR:HG23	2.00	0.42
19:Q:102:ALA:HA	19:Q:122:ILE:O	2.20	0.42
20:R:112:ALA:HB1	20:R:114:LYS:NZ	2.34	0.42
26:X:57:LEU:CD1	26:X:62:VAL:HG22	2.49	0.42
28:Z:11:ALA:HB1	28:Z:81:LEU:O	2.19	0.42
28:Z:46:ILE:HD11	28:Z:49:TYR:CD2	2.54	0.42
29:a:63:LYS:HE2	29:a:68:PHE:CE2	2.55	0.42
29:a:82:ILE:HD11	29:a:102:ILE:CD1	2.49	0.42
32:d:41:LYS:O	32:d:41:LYS:HG2	2.19	0.42
38:j:27:PHE:HA	38:j:34:CYS:HA	2.00	0.42
43:p:45:LYS:HB2	43:p:45:LYS:HZ2	1.82	0.42
45:x:36:GLN:HE21	45:x:526:THR:H	1.65	0.42
45:x:236:CYS:O	45:x:323:MET:HE3	2.20	0.42
45:x:387:VAL:HG21	46:y:335:GLY:O	2.20	0.42
46:y:376:ARG:N	46:y:376:ARG:HD3	2.33	0.42
1:5:158:G:H2'	1:5:159:A:C8	2.49	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:553:U:O2'	1:5:554:A:H5'	2.19	0.42
1:5:854:G:H2'	1:5:855:U:H6	1.84	0.42
1:5:1166:G:O2'	1:5:1167:U:H5'	2.19	0.42
1:5:1246:G:N3	1:5:1264:G:O2'	2.41	0.42
1:5:1282:G:C5	1:5:1283:C:C5	3.07	0.42
1:5:1397:C:H2'	1:5:1398:U:H5'	1.99	0.42
1:5:2282:U:O2	1:5:2310:U:H4'	2.19	0.42
1:5:2512:C:H2'	1:5:2513:U:C6	2.54	0.42
3:8:79:A:OP1	45:x:348:HIS:HB2	2.19	0.42
4:A:209:HIS:HD2	4:A:211:HIS:HB2	1.85	0.42
5:B:56:ILE:CD1	5:B:76:VAL:HG11	2.49	0.42
6:C:144:LYS:O	6:C:145:ILE:C	2.62	0.42
6:C:300:ARG:HG3	6:C:300:ARG:NH1	2.25	0.42
9:F:80:GLN:HG3	22:T:136:ARG:HB3	2.01	0.42
10:G:33:ASN:HB3	10:G:38:GLN:HG3	2.01	0.42
10:G:68:ARG:O	10:G:69:LEU:CB	2.67	0.42
12:I:36:LEU:HD11	12:I:69:ARG:HG2	2.00	0.42
13:J:133:ARG:HH12	13:J:154:THR:HA	1.83	0.42
16:N:99:ARG:HH21	16:N:167:THR:HG22	1.85	0.42
17:O:25:LYS:HD3	17:O:29:ASN:HD21	1.83	0.42
17:O:128:ARG:CB	17:O:128:ARG:NH1	2.65	0.42
18:P:39:TRP:N	18:P:39:TRP:CD1	2.87	0.42
22:T:68:THR:HG23	22:T:69:LYS:N	2.34	0.42
22:T:134:GLN:OE1	22:T:134:GLN:HA	2.20	0.42
31:c:13:LYS:O	31:c:17:VAL:HG23	2.20	0.42
31:c:51:LEU:HD22	35:g:91:ARG:CZ	2.50	0.42
36:h:108:GLN:HE21	36:h:108:GLN:HB2	1.62	0.42
42:o:83:LEU:HD23	42:o:83:LEU:HA	1.82	0.42
45:x:5:ILE:HG23	45:x:9:ASP:HB2	2.02	0.42
45:x:492:THR:O	45:x:492:THR:HG22	2.18	0.42
45:x:497:SER:O	45:x:498:LEU:HD23	2.19	0.42
46:y:206:TYR:HD2	46:y:207:MET:CE	2.27	0.42
47:z:115:UNK:O	47:z:118:UNK:HG3	2.19	0.42
1:5:273:A:H2'	1:5:274:G:C8	2.55	0.42
1:5:281:G:C6	1:5:282:G:C6	3.07	0.42
1:5:617:G:C2'	1:5:618:C:H5'	2.49	0.42
1:5:994:G:H22	1:5:1053:A:H2'	1.84	0.42
1:5:1070:U:C2'	1:5:1071:U:H5'	2.49	0.42
1:5:1076:C:O2	1:5:1076:C:H2'	2.20	0.42
1:5:1141:C:H2'	1:5:1142:G:H5'	2.01	0.42
1:5:1238:C:C2'	1:5:1239:C:H5''	2.50	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1342:C:H2'	1:5:1343:A:C8	2.54	0.42
1:5:1381:A:C2	1:5:1426:C:C2	3.08	0.42
1:5:2101:C:H2'	1:5:2102:U:C6	2.54	0.42
1:5:2572:C:H2'	1:5:2572:C:OP2	2.19	0.42
1:5:3009:G:H2'	1:5:3010:U:C5'	2.50	0.42
1:5:3243:A:N7	17:O:156:LEU:HD22	2.35	0.42
2:7:56:A:HO2'	13:J:148:VAL:HG13	1.82	0.42
4:A:103:PRO:HD2	4:A:106:SER:HB2	2.01	0.42
4:A:179:LEU:HD13	4:A:179:LEU:HA	1.65	0.42
5:B:306:THR:HG23	5:B:311:PHE:CD1	2.54	0.42
5:B:307:PRO:HA	5:B:361:THR:O	2.20	0.42
6:C:25:VAL:HG13	6:C:276:LEU:HD21	2.02	0.42
7:D:107:ARG:HD3	7:D:107:ARG:HA	1.74	0.42
8:E:54:TYR:CE1	8:E:63:LEU:HD22	2.53	0.42
9:F:101:LYS:O	9:F:104:GLN:N	2.51	0.42
9:F:103:LEU:HG	9:F:130:ILE:CG1	2.48	0.42
9:F:116:PHE:HB2	9:F:199:ASN:OD1	2.19	0.42
12:I:206:LEU:O	12:I:206:LEU:HG	2.19	0.42
15:M:72:LEU:HD23	15:M:73:PRO:CD	2.32	0.42
19:Q:162:ALA:HA	19:Q:163:PRO:HD2	1.83	0.42
25:W:39:LEU:HA	25:W:39:LEU:HD12	1.78	0.42
28:Z:46:ILE:C	28:Z:46:ILE:HD12	2.44	0.42
28:Z:103:GLN:HB3	28:Z:106:GLN:CD	2.44	0.42
33:e:125:ARG:CB	33:e:128:LEU:HD12	2.50	0.42
36:h:28:LEU:HD21	36:h:32:LYS:NZ	2.35	0.42
45:x:39:LEU:HB2	45:x:143:LEU:CD1	2.49	0.42
45:x:127:SER:OG	45:x:134:ARG:HG3	2.19	0.42
45:x:133:LEU:HD13	45:x:160:ILE:HD11	2.02	0.42
46:y:331:ILE:O	46:y:331:ILE:HG23	2.19	0.42
47:z:137:UNK:O	47:z:140:UNK:HG3	2.19	0.42
1:5:730:C:C2	1:5:731:U:C5	3.08	0.42
1:5:905:U:O2'	1:5:910:G:H4'	2.20	0.42
1:5:1521:G:H21	1:5:1835:A:H1'	1.85	0.42
1:5:1554:U:H1'	1:5:1555:U:H5''	2.02	0.42
1:5:1555:U:HO2'	1:5:1556:C:P	2.35	0.42
1:5:1942:U:H2'	1:5:1943:C:O4'	2.20	0.42
1:5:2112:U:C4'	1:5:2113:A:H5'	2.40	0.42
1:5:2560:C:O2	1:5:2560:C:H2'	2.18	0.42
1:5:2796:G:H4'	1:5:2798:C:C6	2.54	0.42
1:5:2835:U:H2'	1:5:2836:C:O2	2.18	0.42
1:5:3357:U:O2'	1:5:3358:U:P	2.77	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:104:LEU:HD12	4:A:104:LEU:HA	1.71	0.42
4:A:112:ILE:HD11	43:p:79:VAL:CG1	2.50	0.42
6:C:300:ARG:CG	6:C:300:ARG:NH1	2.56	0.42
6:C:309:ARG:CZ	6:C:312:VAL:HG12	2.49	0.42
7:D:83:LEU:N	7:D:84:PRO:CD	2.82	0.42
8:E:52:VAL:HG22	8:E:67:GLY:HA2	2.00	0.42
11:H:38:LEU:HD23	11:H:38:LEU:HA	1.82	0.42
13:J:13:LYS:HB2	13:J:13:LYS:HE3	1.79	0.42
14:L:180:ARG:HB3	14:L:180:ARG:HH11	1.84	0.42
15:M:36:VAL:CG2	15:M:47:ASP:HB2	2.50	0.42
16:N:38:ARG:NE	16:N:60:VAL:HG13	2.34	0.42
16:N:164:LEU:HD23	16:N:164:LEU:N	2.34	0.42
24:V:13:ILE:HD11	24:V:54:LEU:H	1.84	0.42
25:W:18:GLY:HA3	25:W:31:PHE:O	2.19	0.42
28:Z:135:ARG:HB3	28:Z:135:ARG:HH21	1.84	0.42
32:d:54:GLU:CD	32:d:54:GLU:N	2.75	0.42
32:d:88:PRO:O	32:d:89:LEU:HD12	2.20	0.42
36:h:55:LEU:HD23	36:h:55:LEU:HA	1.73	0.42
37:i:77:LEU:HD23	37:i:77:LEU:HA	1.81	0.42
40:l:21:ARG:NH1	40:l:22:PRO:O	2.43	0.42
41:m:82:LEU:O	41:m:85:LEU:N	2.53	0.42
43:p:24:ARG:HH11	43:p:24:ARG:CG	2.32	0.42
46:y:198:VAL:HG13	46:y:258:ASP:CB	2.44	0.42
47:z:70:UNK:O	47:z:70:UNK:HG2	2.18	0.42
1:5:282:G:H3'	1:5:282:G:H8	1.84	0.42
1:5:947:G:C6	1:5:948:C:N4	2.88	0.42
1:5:2168:A:H8	1:5:2168:A:O5'	2.03	0.42
1:5:2514:U:OP1	1:5:2514:U:H6	2.03	0.42
1:5:2542:U:HO2'	1:5:2543:U:P	2.42	0.42
1:5:2919:A:C6	1:5:2920:U:C4	3.08	0.42
1:5:3274:A:C5	18:P:171:ARG:NH2	2.88	0.42
2:7:28:C:H2'	2:7:29:C:O4'	2.20	0.42
2:7:118:A:H2'	2:7:119:U:O4'	2.20	0.42
3:8:35:C:H6	3:8:35:C:O5'	2.02	0.42
7:D:74:VAL:HG13	7:D:74:VAL:O	2.19	0.42
7:D:194:LEU:HD12	7:D:194:LEU:O	2.20	0.42
9:F:153:PHE:CD1	9:F:162:PRO:HA	2.55	0.42
10:G:204:ARG:HB3	10:G:206:GLU:OE2	2.20	0.42
14:L:14:PHE:HE2	16:N:197:LEU:HD22	1.84	0.42
18:P:135:ARG:C	18:P:136:ILE:HG12	2.44	0.42
20:R:112:ALA:HB1	20:R:114:LYS:HZ1	1.84	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:83:ARG:NH1	22:T:85:LEU:HD21	2.34	0.42
24:V:59:MET:HE3	24:V:59:MET:CA	2.45	0.42
28:Z:26:VAL:HG23	28:Z:27:LYS:H	1.84	0.42
28:Z:51:LEU:HA	28:Z:51:LEU:HD23	1.78	0.42
28:Z:116:LYS:HE3	28:Z:116:LYS:HB2	1.73	0.42
31:c:9:SER:HG	31:c:12:GLN:HB3	1.84	0.42
44:q:56:ASN:ND2	44:q:82:GLY:O	2.50	0.42
45:x:31:ALA:HB1	45:x:152:SER:HB3	2.01	0.42
45:x:201:ALA:CB	45:x:311:VAL:HB	2.49	0.42
45:x:409:LEU:HG	45:x:413:LYS:HE3	2.01	0.42
1:5:112:U:O2'	1:5:113:C:P	2.78	0.42
1:5:715:A:H3'	1:5:715:A:C8	2.54	0.42
1:5:1223:A:OP2	1:5:1223:A:H8	2.02	0.42
1:5:1653:G:H2'	1:5:1654:A:O4'	2.19	0.42
1:5:1711:C:H2'	1:5:1712:G:O4'	2.19	0.42
1:5:1862:U:H5''	1:5:1863:G:OP2	2.19	0.42
1:5:2279:A:H2	1:5:2305:G:N7	2.18	0.42
1:5:2342:U:H5''	1:5:3089:C:O2'	2.20	0.42
1:5:2538:U:H2'	1:5:2539:C:H5''	2.01	0.42
1:5:3044:G:H2'	1:5:3045:G:C8	2.55	0.42
1:5:3131:U:H2'	1:5:3132:C:H6	1.83	0.42
1:5:3305:A:O2'	1:5:3306:U:H5'	2.20	0.42
4:A:47:GLN:NE2	4:A:60:LYS:HD2	2.34	0.42
5:B:57:VAL:O	5:B:357:LYS:HB2	2.19	0.42
5:B:211:GLN:HB3	5:B:212:ASN:ND2	2.34	0.42
7:D:68:THR:CG2	7:D:70:THR:HG22	2.50	0.42
7:D:185:PHE:CD1	7:D:186:GLU:N	2.88	0.42
13:J:166:LYS:O	13:J:167:TYR:HB2	2.19	0.42
27:Y:36:SER:OG	27:Y:39:LEU:HD23	2.19	0.42
37:i:9:ILE:HG12	37:i:10:GLY:H	1.84	0.42
39:k:17:ARG:HG2	39:k:19:ASP:OD2	2.20	0.42
45:x:118:ASN:ND2	45:x:354:ILE:H	2.17	0.42
45:x:246:ARG:O	45:x:246:ARG:HG2	2.18	0.42
45:x:336:THR:CG2	45:x:337:LEU:H	2.32	0.42
46:y:160:PRO:HG2	46:y:163:GLN:HB3	1.97	0.42
1:5:211:A:H3'	6:C:221:ASN:ND2	2.34	0.42
1:5:253:A:C4	1:5:254:A:C8	3.08	0.42
1:5:261:U:H2'	1:5:262:U:C6	2.55	0.42
1:5:833:G:N2	1:5:834:U:H1'	2.35	0.42
1:5:1125:U:OP1	12:I:15:LYS:HG3	2.19	0.42
1:5:1939:G:H1'	1:5:2114:C:O2	2.20	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1946:A:H2'	1:5:1947:G:O4'	2.20	0.42
1:5:2233:A:C4'	1:5:2428:U:H4'	2.50	0.42
1:5:2235:C:C2	1:5:2236:G:C8	3.08	0.42
1:5:2561:A:C2	10:G:32:LYS:HG2	2.54	0.42
1:5:3043:C:C2	1:5:3044:G:C8	3.08	0.42
1:5:3292:A:H4'	5:B:132:LYS:NZ	2.35	0.42
2:7:48:U:C2'	2:7:49:G:H5'	2.50	0.42
3:8:148:G:H2'	3:8:149:A:H8	1.83	0.42
9:F:131:GLU:CB	9:F:132:PRO:HD3	2.23	0.42
11:H:50:ASN:ND2	15:M:5:SER:H	2.18	0.42
14:L:42:ARG:O	14:L:42:ARG:HG3	2.18	0.42
15:M:131:VAL:HG22	17:O:182:ASN:HA	2.01	0.42
17:O:149:TYR:O	17:O:150:GLU:C	2.63	0.42
18:P:95:LEU:HD23	18:P:95:LEU:HA	1.88	0.42
24:V:16:GLY:O	24:V:18:PRO:HD3	2.20	0.42
26:X:42:ARG:C	26:X:44:PRO:HD3	2.45	0.42
27:Y:99:LEU:HD23	27:Y:99:LEU:N	2.33	0.42
29:a:12:ARG:HA	29:a:12:ARG:HD3	1.76	0.42
29:a:136:GLU:H	29:a:136:GLU:HG3	1.60	0.42
31:c:19:LYS:H	31:c:19:LYS:HG2	1.62	0.42
34:f:8:TYR:CD2	34:f:99:ARG:HG2	2.55	0.42
34:f:80:VAL:HG12	34:f:81:VAL:N	2.34	0.42
35:g:31:ARG:HG3	35:g:32:ALA:H	1.82	0.42
42:o:63:LYS:HB2	42:o:63:LYS:HE3	1.58	0.42
43:p:33:GLN:HE21	43:p:33:GLN:HB2	1.58	0.42
45:x:84:VAL:HG21	45:x:148:ASP:HB2	2.02	0.42
45:x:130:THR:CG2	45:x:132:THR:HB	2.49	0.42
45:x:271:GLU:HB3	45:x:334:LEU:CD1	2.50	0.42
1:5:57:A:C2	1:5:58:G:C4	3.07	0.42
1:5:715:A:H8	29:a:115:LYS:HG3	1.84	0.42
1:5:823:C:H5'	4:A:19:HIS:CE1	2.55	0.42
1:5:1062:A:H5''	1:5:1063:G:H5'	2.02	0.42
1:5:1094:U:H3'	1:5:1096:U:OP1	2.20	0.42
1:5:1212:A:O2'	1:5:1213:G:H5'	2.19	0.42
1:5:2308:C:H2'	1:5:2309:A:C8	2.54	0.42
1:5:2309:A:H1'	1:5:2961:G:O2'	2.19	0.42
1:5:2538:U:H4'	1:5:2541:U:O4	2.20	0.42
1:5:2736:A:OP1	22:T:92:ARG:NH1	2.48	0.42
1:5:2915:U:H5	5:B:7:GLU:HG2	1.83	0.42
3:8:76:C:H2'	3:8:77:A:O5'	2.19	0.42
4:A:189:TYR:N	4:A:189:TYR:CD1	2.88	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:196:ARG:HA	5:B:196:ARG:HE	1.85	0.42
6:C:181:VAL:HG11	6:C:224:GLY:HA3	2.02	0.42
7:D:144:VAL:CG1	7:D:145:PHE:N	2.83	0.42
7:D:218:ARG:O	7:D:222:LEU:HG	2.19	0.42
9:F:92:ILE:HD12	9:F:92:ILE:O	2.20	0.42
11:H:86:TYR:O	11:H:147:SER:HA	2.20	0.42
11:H:92:TYR:HD1	11:H:142:ASP:C	2.28	0.42
14:L:60:ALA:HA	14:L:61:PRO:HD3	1.80	0.42
14:L:70:ARG:HG2	14:L:71:ALA:N	2.35	0.42
14:L:73:ARG:HG2	14:L:98:ASP:HB2	2.01	0.42
16:N:175:ASN:HB2	16:N:180:PHE:CD2	2.55	0.42
24:V:11:PHE:CZ	24:V:88:ARG:HD2	2.55	0.42
28:Z:76:ASN:OD1	28:Z:77:TYR:N	2.53	0.42
32:d:9:THR:N	32:d:111:GLU:OE1	2.53	0.42
32:d:76:SER:OG	32:d:78:LYS:HE3	2.20	0.42
34:f:71:VAL:CG1	34:f:81:VAL:CG1	2.97	0.42
40:l:41:ARG:HA	40:l:41:ARG:HD2	1.75	0.42
44:q:4:ILE:H	44:q:4:ILE:HD13	1.85	0.42
44:q:24:SER:HB2	44:q:89:THR:HG23	2.01	0.42
44:q:61:ARG:O	44:q:61:ARG:HD2	2.20	0.42
45:x:437:ILE:N	45:x:437:ILE:HD13	2.35	0.42
45:x:523:LEU:HD23	45:x:523:LEU:HA	1.73	0.42
1:5:179:C:C2	1:5:238:A:C2	3.07	0.41
1:5:414:U:C2'	1:5:415:G:H5'	2.50	0.41
1:5:1008:U:C2'	1:5:1009:A:H5'	2.50	0.41
1:5:1238:C:H3'	1:5:1239:C:H5''	2.01	0.41
1:5:1363:A:H2'	1:5:1364:C:O4'	2.20	0.41
1:5:1638:A:H5''	1:5:1639:C:OP2	2.19	0.41
1:5:1688:U:H2'	1:5:1689:U:C6	2.55	0.41
1:5:2023:P5P:OP1	45:x:82:ASN:HB2	2.19	0.41
1:5:2286:U:C4	1:5:2288:G:H1'	2.54	0.41
1:5:2919:A:N6	1:5:2920:U:O4	2.53	0.41
1:5:3060:C:O2	1:5:3332:U:O2'	2.35	0.41
1:5:3164:C:O2'	1:5:3165:A:O5'	2.37	0.41
2:7:107:C:H2'	2:7:108:A:C8	2.55	0.41
4:A:5:ILE:HG21	4:A:210:PRO:HD3	2.01	0.41
7:D:34:LYS:C	7:D:34:LYS:HD3	2.45	0.41
13:J:171:VAL:O	13:J:172:LEU:HD23	2.20	0.41
14:L:95:ILE:HG22	14:L:96:ALA:N	2.34	0.41
16:N:46:ASP:CG	16:N:47:LYS:N	2.78	0.41
16:N:185:ALA:HB3	16:N:190:THR:HG22	2.00	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:29:THR:HA	18:P:32:THR:HG23	2.01	0.41
18:P:131:ARG:HA	18:P:131:ARG:HD2	1.68	0.41
23:U:90:ARG:CZ	46:y:316:ARG:HH12	2.28	0.41
23:U:109:GLN:O	46:y:313:VAL:HA	2.21	0.41
24:V:28:ASN:OD1	24:V:28:ASN:N	2.48	0.41
26:X:133:LEU:HD22	26:X:133:LEU:C	2.45	0.41
27:Y:70:ILE:HG13	27:Y:80:VAL:HG11	2.01	0.41
33:e:40:SER:O	33:e:44:ARG:HG3	2.20	0.41
33:e:80:LYS:HG2	33:e:80:LYS:O	2.18	0.41
37:i:61:ILE:HG22	37:i:62:ARG:N	2.35	0.41
40:l:2:ALA:O	40:l:3:ALA:HB3	2.19	0.41
43:p:6:LYS:HE2	43:p:6:LYS:HB3	1.74	0.41
44:q:29:GLY:HA2	44:q:84:VAL:HG12	2.01	0.41
44:q:74:GLU:O	44:q:74:GLU:HG2	2.20	0.41
45:x:536:TRP:CD1	47:z:71:UNK:HG3	2.53	0.41
46:y:373:LEU:HA	46:y:373:LEU:HD22	1.68	0.41
1:5:265:A:H5''	1:5:266:A:OP2	2.20	0.41
1:5:374:A:O2'	1:5:376:G:H8	2.02	0.41
1:5:736:A:H2'	1:5:737:G:O4'	2.19	0.41
1:5:1231:A:H4'	1:5:1261:G:C8	2.55	0.41
1:5:1507:G:N3	1:5:1507:G:H5'	2.35	0.41
1:5:1725:C:H5''	43:p:36:ARG:HH12	1.85	0.41
1:5:1761:C:H2'	1:5:1762:C:O2	2.19	0.41
1:5:2214:A:H2	1:5:2430:A:C1'	2.33	0.41
4:A:103:PRO:HG2	4:A:106:SER:OG	2.20	0.41
5:B:4:ARG:NH1	5:B:4:ARG:CG	2.59	0.41
7:D:146:LEU:HD23	7:D:146:LEU:HA	1.75	0.41
10:G:72:PRO:HA	10:G:73:PRO:HD3	1.68	0.41
11:H:87:LYS:HE2	11:H:89:LYS:HE2	2.02	0.41
18:P:101:ASN:OD1	18:P:101:ASN:N	2.52	0.41
19:Q:31:LYS:HB3	19:Q:31:LYS:HE3	1.83	0.41
24:V:74:MET:HE2	24:V:74:MET:HB3	1.77	0.41
27:Y:31:LEU:HD23	27:Y:31:LEU:HA	1.80	0.41
29:a:78:LEU:HD13	29:a:78:LEU:C	2.44	0.41
29:a:80:THR:C	29:a:81:LEU:HD23	2.44	0.41
34:f:72:THR:HG21	34:f:84:THR:HG23	2.02	0.41
37:i:51:SER:HB2	37:i:52:PRO:CD	2.51	0.41
38:j:63:ARG:CZ	38:j:65:ARG:HD3	2.50	0.41
42:o:72:LEU:O	42:o:80:ARG:HB3	2.20	0.41
43:p:36:ARG:HD2	43:p:45:LYS:HG2	2.01	0.41
44:q:26:PHE:CE1	44:q:190:VAL:HG22	2.54	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:96:ASP:OD1	45:x:104:TRP:HB3	2.20	0.41
45:x:267:VAL:HG12	45:x:306:SER:HB2	2.02	0.41
45:x:441:ARG:HD3	45:x:441:ARG:HA	1.76	0.41
45:x:485:LEU:HD12	45:x:485:LEU:HA	1.84	0.41
47:z:120:UNK:C	47:z:123:UNK:HG3	2.50	0.41
47:z:150:UNK:HA	47:z:153:UNK:CG	2.49	0.41
1:5:248:U:C3'	1:5:249:U:C5'	2.93	0.41
1:5:616:G:H2'	1:5:617:G:H8	1.85	0.41
1:5:986:U:H1'	9:F:126:LEU:HD21	2.01	0.41
1:5:1127:G:H5'	12:I:118:ALA:O	2.20	0.41
1:5:1610:G:H2'	1:5:1611:G:O4'	2.21	0.41
1:5:2297:U:H2'	1:5:2299:A:N7	2.35	0.41
1:5:3167:A:H2'	1:5:3168:A:H8	1.85	0.41
1:5:3279:A:C2'	1:5:3280:U:H5'	2.50	0.41
3:8:14:C:N4	3:8:15:G:N1	2.68	0.41
6:C:74:ILE:HA	6:C:75:PRO:HD3	1.93	0.41
7:D:68:THR:HG22	7:D:70:THR:H	1.85	0.41
7:D:75:LEU:HD23	7:D:75:LEU:C	2.45	0.41
9:F:129:LEU:N	9:F:129:LEU:HD23	2.35	0.41
12:I:213:PHE:N	12:I:214:PRO:HD3	2.34	0.41
13:J:87:LYS:HB3	13:J:87:LYS:NZ	2.35	0.41
17:O:78:ARG:HD2	17:O:78:ARG:HA	1.72	0.41
18:P:7:THR:HB	18:P:9:THR:HG22	2.02	0.41
20:R:24:LEU:HD22	20:R:50:ILE:HG12	2.02	0.41
27:Y:94:SER:O	27:Y:95:VAL:HG23	2.21	0.41
29:a:133:LEU:HD22	29:a:133:LEU:O	2.20	0.41
32:d:78:LYS:O	32:d:90:PHE:HB3	2.19	0.41
33:e:105:ARG:NH1	33:e:125:ARG:HE	2.18	0.41
36:h:41:LEU:HA	36:h:42:PRO:HD3	1.68	0.41
39:k:8:ILE:CG2	39:k:65:LEU:HD11	2.49	0.41
39:k:17:ARG:O	39:k:18:ALA:HB3	2.20	0.41
43:p:61:LYS:N	43:p:61:LYS:HD3	2.36	0.41
44:q:45:LEU:CD2	44:q:96:ILE:HG23	2.51	0.41
44:q:45:LEU:HD21	44:q:96:ILE:HG23	2.02	0.41
45:x:250:PHE:CD2	46:y:335:GLY:HA2	2.55	0.41
45:x:473:LEU:HD11	45:x:477:LYS:HG3	2.03	0.41
1:5:511:G:H2'	1:5:512:U:O4'	2.20	0.41
1:5:618:C:H2'	1:5:619:A:C4'	2.51	0.41
1:5:629:U:H2'	1:5:630:A:C8	2.56	0.41
1:5:1220:U:H5''	1:5:1222:G:C5'	2.50	0.41
1:5:1492:G:H2'	1:5:1493:G:O4'	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1501:U:H2'	1:5:1502:C:C6	2.55	0.41
1:5:2096:A:H2'	1:5:2097:U:C6	2.55	0.41
3:8:80:A:H2'	3:8:81:U:H5'	2.02	0.41
5:B:37:ARG:HH11	5:B:37:ARG:HG3	1.84	0.41
5:B:56:ILE:HD13	5:B:76:VAL:HG13	2.02	0.41
5:B:95:THR:HB	5:B:96:PRO:HD2	2.01	0.41
5:B:244:ARG:HG2	5:B:244:ARG:HH11	1.83	0.41
5:B:311:PHE:CE1	5:B:317:ILE:HD11	2.55	0.41
6:C:318:LEU:CD1	9:F:146:GLN:HG2	2.51	0.41
7:D:215:ASP:CG	7:D:218:ARG:HB2	2.45	0.41
10:G:150:LEU:HD13	10:G:150:LEU:C	2.46	0.41
11:H:115:ARG:NH1	11:H:123:ILE:HD12	2.33	0.41
16:N:13:LYS:O	16:N:19:LEU:HD22	2.20	0.41
16:N:80:THR:HG21	16:N:86:ASN:O	2.20	0.41
16:N:129:TYR:N	16:N:129:TYR:CD1	2.88	0.41
16:N:194:GLN:HG2	16:N:194:GLN:H	1.59	0.41
18:P:31:GLU:OE2	18:P:61:ARG:N	2.53	0.41
21:S:53:LYS:HE3	21:S:53:LYS:HB2	1.78	0.41
32:d:41:LYS:O	32:d:45:GLY:HA2	2.20	0.41
44:q:97:LYS:O	44:q:97:LYS:HD2	2.20	0.41
45:x:395:LEU:O	45:x:396:SER:HB2	2.20	0.41
46:y:327:LYS:HA	46:y:328:PRO:HD3	1.90	0.41
47:z:116:UNK:HA	47:z:119:UNK:HG3	2.01	0.41
1:5:77:A:C2'	1:5:78:U:H5'	2.51	0.41
1:5:1277:C:O2	1:5:1277:C:C2'	2.68	0.41
1:5:1320:C:O2'	1:5:1321:G:H5'	2.20	0.41
1:5:1579:C:O5'	4:A:68:LYS:NZ	2.48	0.41
1:5:1635:G:N2	1:5:1638:A:OP2	2.41	0.41
1:5:1821:U:H4'	1:5:1822:C:OP2	2.19	0.41
1:5:1824:U:H2'	1:5:1825:G:O4'	2.21	0.41
1:5:2285:C:H2'	1:5:2286:U:C5	2.55	0.41
1:5:2309:A:C1'	1:5:2962:U:H5'	2.49	0.41
1:5:2612:U:H2'	1:5:2613:U:O4'	2.21	0.41
1:5:2892:A:O2'	1:5:2893:C:H5'	2.21	0.41
1:5:2991:A:N3	18:P:69:ARG:NH2	2.69	0.41
1:5:3236:U:O2'	1:5:3237:U:H5'	2.19	0.41
1:5:3353:G:H4'	1:5:3354:U:OP2	2.19	0.41
2:7:49:G:N3	2:7:50:U:H5	2.18	0.41
5:B:92:TYR:HB2	5:B:157:VAL:HG22	2.01	0.41
5:B:161:LEU:CD2	5:B:180:GLU:HG2	2.50	0.41
6:C:135:VAL:HG13	6:C:245:GLY:O	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:209:GLU:HG3	7:D:233:ALA:CB	2.50	0.41
14:L:59:ARG:O	14:L:60:ALA:HB3	2.21	0.41
17:O:125:ARG:HG3	17:O:129:LEU:HD22	2.02	0.41
20:R:20:ARG:NH1	20:R:21:LYS:HZ2	2.08	0.41
20:R:89:LEU:HA	20:R:90:PRO:HD2	1.93	0.41
22:T:83:ARG:HH11	22:T:85:LEU:HD21	1.86	0.41
26:X:53:HIS:ND1	26:X:56:ARG:NH1	2.67	0.41
28:Z:20:GLY:HA2	35:g:89:ILE:CD1	2.50	0.41
30:b:6:ASN:ND2	30:b:6:ASN:H	2.18	0.41
33:e:8:LYS:NZ	33:e:8:LYS:CB	2.71	0.41
35:g:105:VAL:O	35:g:109:THR:HG23	2.20	0.41
36:h:38:ARG:HH12	45:x:346:LYS:HB3	1.85	0.41
45:x:252:ALA:HB3	45:x:255:ASN:ND2	2.35	0.41
45:x:540:GLN:HA	47:z:75:UNK:HB1	2.01	0.41
1:5:31:C:O2	1:5:31:C:H2'	2.19	0.41
1:5:147:U:O4'	10:G:162:LEU:HD13	2.20	0.41
1:5:423:A:N6	1:5:424:G:C6	2.88	0.41
1:5:1081:U:O2'	1:5:1082:U:OP2	2.36	0.41
1:5:1159:A:H3'	1:5:1159:A:N3	2.36	0.41
1:5:2098:C:C2'	1:5:2099:A:H5'	2.50	0.41
1:5:2531:C:H2'	1:5:2532:U:H5'	2.03	0.41
4:A:79:ASN:ND2	4:A:166:ILE:O	2.54	0.41
5:B:37:ARG:HA	5:B:186:GLY:HA2	2.03	0.41
5:B:358:TRP:NE1	25:W:1:MET:HE1	2.36	0.41
6:C:300:ARG:HG2	6:C:300:ARG:NH1	2.29	0.41
7:D:256:THR:OG1	7:D:258:LYS:HE2	2.20	0.41
8:E:119:UNK:O	8:E:123:UNK:CG	2.68	0.41
10:G:186:LEU:HD23	10:G:186:LEU:HA	1.82	0.41
13:J:25:GLU:OE2	13:J:60:ARG:NH1	2.54	0.41
18:P:182:ILE:O	18:P:182:ILE:CG2	2.69	0.41
24:V:54:LEU:HD11	24:V:79:VAL:C	2.45	0.41
27:Y:98:ASN:O	27:Y:99:LEU:HD23	2.21	0.41
29:a:59:ARG:HE	29:a:59:ARG:HB2	1.55	0.41
45:x:496:ILE:HG12	45:x:497:SER:O	2.20	0.41
1:5:114:A:H2'	1:5:115:A:O4'	2.20	0.41
1:5:150:A:C2'	1:5:151:A:H5'	2.50	0.41
1:5:521:A:H2'	1:5:522:A:O4'	2.21	0.41
1:5:620:U:H3'	1:5:621:A:C5'	2.50	0.41
1:5:768:C:H2'	1:5:769:G:O5'	2.21	0.41
1:5:830:A:H2'	1:5:831:G:O4'	2.21	0.41
1:5:887:G:H2'	1:5:888:A:C8	2.56	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1525:G:H5'	1:5:1830:G:OP2	2.20	0.41
1:5:1748:G:OP1	39:k:44:LYS:HE2	2.21	0.41
1:5:1817:G:O2'	1:5:1818:U:C5	2.74	0.41
1:5:1874:A:H5''	20:R:18:GLY:CA	2.50	0.41
1:5:1893:A:C4	1:5:1894:U:C5	3.08	0.41
1:5:1928:G:H2'	1:5:1929:G:O4'	2.20	0.41
1:5:2112:U:H4'	1:5:2113:A:C5'	2.42	0.41
1:5:2243:A:N3	1:5:2313:A:H2'	2.36	0.41
1:5:2289:U:H2'	1:5:2290:C:C6	2.55	0.41
1:5:2373:A:N3	1:5:2824:G:O2'	2.37	0.41
1:5:3198:U:H4'	1:5:3199:G:OP2	2.21	0.41
1:5:3226:A:C3'	1:5:3227:A:H5''	2.50	0.41
1:5:3272:C:O2	8:E:80:ASN:HB2	2.21	0.41
1:5:3359:A:H2'	1:5:3360:C:C6	2.55	0.41
4:A:101:VAL:O	4:A:101:VAL:HG22	2.19	0.41
5:B:14:LEU:C	5:B:17:LEU:HD22	2.45	0.41
7:D:83:LEU:HB3	7:D:88:ILE:HB	2.02	0.41
7:D:122:VAL:O	7:D:122:VAL:HG12	2.21	0.41
7:D:223:PHE:O	7:D:226:TYR:N	2.51	0.41
8:E:64:LEU:HD22	8:E:64:LEU:HA	1.78	0.41
9:F:188:ILE:HD13	9:F:188:ILE:HA	1.84	0.41
10:G:98:ARG:HA	10:G:99:PRO:HD3	1.77	0.41
10:G:175:VAL:HA	10:G:176:PRO:HD3	1.84	0.41
11:H:4:ILE:HG22	21:S:142:GLN:CD	2.46	0.41
11:H:90:MET:HB3	11:H:90:MET:HE2	1.73	0.41
12:I:46:PHE:CD1	12:I:140:THR:HA	2.56	0.41
17:O:121:PRO:HG3	21:S:164:SER:HB2	2.01	0.41
18:P:3:ARG:HH22	47:z:133:UNK:HB2	1.85	0.41
18:P:170:SER:CB	18:P:173:ARG:HH21	2.34	0.41
23:U:99:LYS:HB2	23:U:102:GLU:OE1	2.20	0.41
28:Z:87:LEU:HD13	28:Z:127:ASN:CG	2.45	0.41
29:a:90:TYR:CD1	29:a:100:PRO:HD3	2.44	0.41
29:a:91:LEU:HD13	29:a:91:LEU:HA	1.82	0.41
29:a:147:LEU:HD23	29:a:147:LEU:HA	1.96	0.41
31:c:74:ASN:OD1	31:c:75:ASN:ND2	2.54	0.41
32:d:25:PHE:HD2	32:d:25:PHE:HA	1.69	0.41
42:o:4:VAL:HG13	42:o:5:PRO:CD	2.51	0.41
46:y:226:THR:O	46:y:229:ALA:HB3	2.20	0.41
1:5:249:U:H1'	1:5:250:U:C1'	2.51	0.41
1:5:591:G:N2	8:E:18:LEU:HB3	2.35	0.41
1:5:720:A:H2'	1:5:720:A:N3	2.35	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1088:U:H4'	30:b:54:LEU:HD21	2.03	0.41
1:5:1108:U:H2'	1:5:1109:U:C6	2.56	0.41
1:5:1330:A:OP1	34:f:19:SER:HB3	2.20	0.41
1:5:1939:G:OP1	20:R:77:GLY:HA3	2.20	0.41
1:5:2114:C:C3'	1:5:2114:C:C6	3.04	0.41
1:5:2200:U:C2	1:5:2201:G:C8	3.09	0.41
1:5:2514:U:OP1	1:5:2514:U:C6	2.74	0.41
3:8:135:G:OP2	26:X:56:ARG:NH2	2.53	0.41
4:A:186:PHE:CD1	4:A:186:PHE:C	2.99	0.41
5:B:14:LEU:HA	5:B:17:LEU:CD2	2.51	0.41
6:C:338:LYS:O	6:C:339:LEU:CB	2.68	0.41
8:E:126:UNK:HG2	8:E:126:UNK:O	2.21	0.41
8:E:152:THR:HA	8:E:153:PRO:HD3	1.89	0.41
10:G:103:ALA:O	10:G:107:GLU:HG3	2.21	0.41
11:H:163:GLN:O	11:H:166:ARG:HG3	2.20	0.41
11:H:173:ARG:HH21	41:m:127:LEU:HA	1.85	0.41
19:Q:3:ILE:HG22	19:Q:4:ASP:N	2.35	0.41
19:Q:29:LEU:HD21	19:Q:124:LEU:HB2	2.02	0.41
21:S:82:ASP:HB2	21:S:120:SER:OG	2.20	0.41
21:S:124:LEU:HD22	22:T:153:PRO:HB2	2.01	0.41
22:T:14:MET:CE	22:T:55:LYS:HB2	2.50	0.41
22:T:32:LYS:NZ	22:T:98:HIS:H	2.18	0.41
22:T:97:LYS:HE2	22:T:97:LYS:HB3	1.85	0.41
27:Y:111:LEU:HA	27:Y:111:LEU:HD23	1.66	0.41
35:g:72:VAL:HG22	35:g:77:GLY:O	2.21	0.41
44:q:38:MET:HE1	44:q:51:VAL:HG11	2.03	0.41
44:q:45:LEU:HG	44:q:99:VAL:CG1	2.50	0.41
45:x:75:ARG:HH11	45:x:575:MET:CE	2.34	0.41
46:y:203:LEU:O	46:y:207:MET:HG2	2.21	0.41
46:y:220:CYS:O	46:y:221:ASN:CB	2.69	0.41
46:y:330:VAL:O	46:y:330:VAL:HG23	2.20	0.41
1:5:199:A:C4	1:5:201:A:C8	3.08	0.41
1:5:218:G:C2	1:5:372:A:C2	3.08	0.41
1:5:311:C:O2	1:5:311:C:H2'	2.21	0.41
1:5:587:U:O2'	1:5:588:G:H5'	2.21	0.41
1:5:706:A:H2'	1:5:707:U:O4'	2.21	0.41
1:5:715:A:C8	1:5:715:A:C3'	3.03	0.41
1:5:724:U:H4'	30:b:28:LYS:NZ	2.36	0.41
1:5:981:U:C5	1:5:1065:A:N6	2.89	0.41
1:5:1070:U:O2'	1:5:1071:U:H5'	2.21	0.41
1:5:1208:U:H6	1:5:3115:C:N4	2.19	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1253:U:O2	1:5:1263:A:H5'	2.20	0.41
1:5:1895:A:O2'	1:5:3053:G:H4'	2.21	0.41
1:5:2282:U:C2	1:5:2310:U:H4'	2.55	0.41
1:5:2298:U:H5	1:5:2926:A:C2	2.39	0.41
1:5:2408:U:H2'	1:5:2409:G:H5'	2.03	0.41
1:5:2426:U:H2'	1:5:2427:U:H6	1.85	0.41
1:5:2553:U:H3'	1:5:2554:A:H5''	2.02	0.41
1:5:2682:C:HO2'	1:5:2683:U:P	2.44	0.41
1:5:2897:A:N7	1:5:2899:C:C6	2.88	0.41
3:8:20:U:H2'	3:8:21:C:O5'	2.20	0.41
4:A:148:VAL:HG11	4:A:158:ILE:HD11	2.03	0.41
5:B:151:ILE:O	5:B:155:ALA:HB3	2.20	0.41
6:C:329:PRO:C	6:C:331:ALA:H	2.28	0.41
7:D:205:SER:CB	7:D:236:LEU:HD22	2.50	0.41
8:E:51:ARG:HD2	8:E:158:TYR:CZ	2.56	0.41
11:H:92:TYR:CD1	11:H:142:ASP:C	2.98	0.41
13:J:137:ARG:O	13:J:141:ARG:HG2	2.21	0.41
15:M:16:GLU:HB3	21:S:149:LYS:HB3	2.02	0.41
17:O:129:LEU:HD12	17:O:129:LEU:HA	1.60	0.41
18:P:48:LEU:HA	18:P:48:LEU:HD23	1.81	0.41
18:P:148:LEU:HD12	18:P:148:LEU:C	2.46	0.41
19:Q:135:GLN:HE21	19:Q:135:GLN:HB3	1.61	0.41
19:Q:150:VAL:O	19:Q:150:VAL:HG23	2.21	0.41
19:Q:177:GLY:HA2	19:Q:184:PHE:CD2	2.55	0.41
20:R:105:LEU:CD1	20:R:105:LEU:C	2.94	0.41
23:U:84:LEU:HD23	23:U:84:LEU:HA	1.93	0.41
24:V:16:GLY:C	24:V:17:LEU:HG	2.45	0.41
24:V:117:PRO:HA	24:V:135:VAL:O	2.21	0.41
24:V:120:LYS:NZ	24:V:120:LYS:CB	2.84	0.41
31:c:99:ASP:HB2	31:c:103:THR:HG23	2.03	0.41
32:d:52:ALA:HA	32:d:53:PRO:HD3	1.95	0.41
34:f:37:THR:HB	34:f:38:PRO:HD2	2.01	0.41
36:h:70:TYR:CE1	36:h:77:PRO:HD3	2.56	0.41
36:h:101:THR:HG22	36:h:104:GLN:H	1.84	0.41
38:j:21:ARG:NH1	38:j:37:CYS:O	2.53	0.41
39:k:59:ALA:O	39:k:62:ALA:HB3	2.21	0.41
44:q:4:ILE:HG12	44:q:5:ARG:H	1.86	0.41
45:x:84:VAL:HG21	45:x:148:ASP:CB	2.51	0.41
45:x:275:GLU:HG2	45:x:474:PRO:HG2	2.02	0.41
45:x:292:ARG:NE	45:x:458:LEU:HD12	2.36	0.41
45:x:473:LEU:CD1	45:x:477:LYS:HB3	2.51	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:y:333:THR:HG22	46:y:334:GLU:N	2.36	0.41
47:z:151:UNK:C	47:z:154:UNK:HG3	2.51	0.41
1:5:585:A:C4	1:5:586:C:C5	3.09	0.41
1:5:791:A:H2'	1:5:792:G:H8	1.85	0.41
1:5:949:C:HO2'	1:5:950:G:H5'	1.85	0.41
1:5:992:A:H5''	22:T:43:LYS:HD2	2.03	0.41
1:5:1240:A:C2'	1:5:1241:U:H5'	2.51	0.41
1:5:1433:A:N3	33:e:27:ARG:NH1	2.69	0.41
1:5:1810:A:H2'	1:5:1811:G:O4'	2.21	0.41
1:5:2291:A:H2'	1:5:2292:U:C6	2.56	0.41
1:5:2389:C:H1'	18:P:69:ARG:NE	2.35	0.41
1:5:2922:G:H3'	1:5:2923:U:H5''	2.03	0.41
1:5:2941:A:OP1	5:B:255:TRP:HB3	2.21	0.41
1:5:2970:C:H4'	1:5:2971:A:N1	2.36	0.41
1:5:3150:A:H2'	1:5:3151:U:O4'	2.21	0.41
3:8:8:C:H2'	3:8:9:A:C8	2.56	0.41
4:A:4:VAL:HG12	4:A:8:GLN:HB2	2.03	0.41
4:A:48:ILE:HD11	43:p:65:ALA:HB2	2.02	0.41
6:C:71:VAL:HG22	6:C:72:ALA:H	1.86	0.41
6:C:113:VAL:HG12	6:C:114:ASN:N	2.36	0.41
7:D:187:THR:HG22	7:D:189:GLU:OE2	2.21	0.41
8:E:6:ALA:HA	8:E:7:PRO:HD3	1.84	0.41
8:E:175:LYS:HD2	15:M:110:ALA:O	2.21	0.41
9:F:103:LEU:CD2	9:F:108:LEU:HB2	2.50	0.41
10:G:243:GLN:HE22	10:G:246:MET:CE	2.34	0.41
11:H:37:ASN:OD1	11:H:39:LYS:N	2.40	0.41
13:J:10:ARG:O	13:J:10:ARG:HD3	2.20	0.41
13:J:151:SER:O	13:J:152:HIS:CB	2.66	0.41
14:L:92:THR:HB	36:h:114:ARG:HG2	2.02	0.41
14:L:141:ALA:HA	14:L:144:THR:HB	2.03	0.41
15:M:58:ILE:HG12	15:M:59:ASN:N	2.36	0.41
16:N:153:ASP:OD2	16:N:155:VAL:HG23	2.20	0.41
17:O:125:ARG:HG3	17:O:129:LEU:CD2	2.51	0.41
20:R:138:LEU:C	20:R:138:LEU:HD13	2.46	0.41
21:S:92:LYS:HE3	21:S:109:ASP:OD2	2.21	0.41
23:U:107:PHE:CD2	46:y:313:VAL:HG11	2.56	0.41
26:X:64:GLU:H	26:X:64:GLU:HG3	1.56	0.41
26:X:120:LYS:HB2	26:X:120:LYS:HE3	1.78	0.41
27:Y:57:LEU:O	27:Y:105:VAL:HG12	2.21	0.41
27:Y:95:VAL:CA	45:x:452:THR:HG22	2.48	0.41
32:d:10:ARG:HB2	32:d:12:TYR:HE2	1.86	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:h:5:LYS:HD2	36:h:7:TYR:OH	2.21	0.41
36:h:105:ARG:HB2	36:h:105:ARG:NH1	2.35	0.41
42:o:9:LYS:HE3	42:o:9:LYS:HB2	1.72	0.41
42:o:25:VAL:HG22	42:o:72:LEU:HD23	2.03	0.41
44:q:19:LEU:CD1	44:q:66:PHE:CD2	3.02	0.41
45:x:39:LEU:HD22	45:x:154:VAL:CG1	2.46	0.41
45:x:60:THR:O	45:x:64:LEU:HB2	2.21	0.41
45:x:302:SER:O	45:x:466:LEU:HD22	2.21	0.41
1:5:163:C:C2'	1:5:164:A:H5'	2.52	0.40
1:5:590:G:C2	1:5:610:G:H2'	2.56	0.40
1:5:1049:C:C2	1:5:1050:U:C5	3.09	0.40
1:5:1094:U:H4'	1:5:1095:U:OP2	2.21	0.40
1:5:1470:U:H2'	1:5:1471:U:C6	2.56	0.40
1:5:1479:U:H2'	1:5:1480:G:H5'	2.03	0.40
1:5:1700:G:H2'	1:5:1701:C:H6	1.86	0.40
1:5:2322:C:C2'	1:5:2323:G:H5'	2.51	0.40
1:5:2409:G:C2	1:5:2813:A:C2	3.09	0.40
1:5:2631:U:P	22:T:6:GLY:HA3	2.62	0.40
5:B:229:VAL:HG23	5:B:266:ARG:C	2.46	0.40
6:C:328:ASN:C	6:C:329:PRO:O	2.62	0.40
7:D:40:HIS:CE1	22:T:69:LYS:HB2	2.56	0.40
7:D:55:PHE:CD1	7:D:60:ILE:HG12	2.56	0.40
14:L:164:GLU:OE1	14:L:164:GLU:HA	2.19	0.40
16:N:192:LYS:HG2	16:N:192:LYS:O	2.21	0.40
17:O:58:LEU:HD12	17:O:58:LEU:HA	1.81	0.40
19:Q:28:LEU:O	19:Q:31:LYS:HB2	2.21	0.40
22:T:143:THR:O	22:T:143:THR:HG23	2.20	0.40
24:V:66:LYS:O	24:V:70:ARG:HG3	2.21	0.40
24:V:120:LYS:HB2	24:V:137:VAL:CG2	2.52	0.40
35:g:81:CYS:O	35:g:82:ALA:CB	2.69	0.40
38:j:64:MET:HE2	38:j:64:MET:HB3	1.92	0.40
44:q:28:VAL:HG12	44:q:187:VAL:HG22	2.02	0.40
44:q:30:VAL:HG21	44:q:53:MET:HE2	1.97	0.40
45:x:86:GLU:HG3	45:x:250:PHE:HZ	1.85	0.40
45:x:91:ILE:HG21	45:x:142:THR:CG2	2.51	0.40
45:x:235:ASN:O	45:x:326:LEU:HG	2.21	0.40
45:x:519:ARG:O	45:x:520:PRO:C	2.64	0.40
46:y:162:GLU:HB2	46:y:172:HIS:CE1	2.55	0.40
1:5:585:A:H4'	34:f:72:THR:HG22	2.04	0.40
1:5:676:G:O2'	1:5:786:A:N1	2.52	0.40
1:5:792:G:H2'	1:5:793:C:C6	2.56	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:827:A:O2'	1:5:828:A:H5'	2.21	0.40
1:5:1245:A:C3'	1:5:1246:G:H5''	2.51	0.40
1:5:1317:A:O2'	1:5:1318:A:H3'	2.22	0.40
1:5:2749:G:H2'	1:5:2750:U:H6	1.87	0.40
1:5:2904:U:H2'	1:5:2905:U:C6	2.56	0.40
1:5:3237:U:H3'	1:5:3238:G:H5''	2.02	0.40
4:A:7:ASN:OD1	4:A:7:ASN:C	2.64	0.40
4:A:96:LEU:HD21	4:A:107:VAL:HG12	2.04	0.40
5:B:37:ARG:HA	5:B:186:GLY:HA3	2.02	0.40
6:C:276:LEU:HA	6:C:277:PRO:HD3	1.91	0.40
9:F:223:PHE:CD1	9:F:223:PHE:C	2.99	0.40
19:Q:72:LYS:HB3	19:Q:72:LYS:HZ2	1.81	0.40
19:Q:89:ASP:OD1	19:Q:90:ASP:N	2.54	0.40
20:R:46:LYS:HB3	20:R:46:LYS:HE2	1.58	0.40
20:R:102:LEU:HD22	20:R:138:LEU:HG	2.02	0.40
28:Z:72:ILE:HD13	28:Z:72:ILE:H	1.86	0.40
29:a:43:ILE:H	29:a:43:ILE:HG12	1.62	0.40
30:b:29:TYR:CD1	30:b:29:TYR:N	2.89	0.40
44:q:19:LEU:HB3	44:q:73:PHE:CZ	2.56	0.40
44:q:33:VAL:O	44:q:33:VAL:HG12	2.21	0.40
44:q:44:GLU:OE2	44:q:103:ASN:HB3	2.21	0.40
45:x:14:LEU:O	45:x:18:ASN:HB2	2.21	0.40
45:x:200:CYS:CB	45:x:207:LEU:HB2	2.51	0.40
45:x:292:ARG:NH1	45:x:294:GLN:NE2	2.68	0.40
45:x:494:GLU:N	45:x:494:GLU:CD	2.79	0.40
47:z:93:UNK:O	47:z:96:UNK:HG3	2.21	0.40
1:5:219:A:H2'	1:5:219:A:N3	2.36	0.40
1:5:409:A:H2	1:5:1441:G:N3	2.19	0.40
1:5:433:A:H2'	1:5:434:U:O4'	2.21	0.40
1:5:714:G:C2	29:a:113:LEU:HD11	2.57	0.40
1:5:1048:A:H2'	12:I:22:TYR:CZ	2.56	0.40
1:5:1168:U:C5	1:5:1329:U:C4	3.09	0.40
1:5:1192:C:N4	1:5:1301:A:O3'	2.55	0.40
1:5:1661:G:H2'	1:5:1662:G:C8	2.56	0.40
1:5:2572:C:O2'	1:5:2573:G:P	2.75	0.40
1:5:2971:A:OP2	1:5:2972:G:C5'	2.69	0.40
1:5:3259:U:H5''	1:5:3261:C:H5	1.86	0.40
5:B:219:ALA:CB	5:B:336:VAL:HG22	2.51	0.40
6:C:30:ILE:HG22	6:C:32:PRO:HD3	2.02	0.40
6:C:170:LYS:HE3	6:C:175:HIS:ND1	2.37	0.40
6:C:260:GLN:O	6:C:270:SER:HB3	2.21	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:22:ARG:HA	7:D:25:GLU:CG	2.51	0.40
7:D:239:ILE:O	7:D:243:ALA:HB2	2.22	0.40
7:D:279:LYS:HG2	7:D:280:GLU:OE2	2.21	0.40
8:E:43:LEU:HD23	8:E:43:LEU:HA	1.80	0.40
9:F:82:LYS:HB3	9:F:191:VAL:HG21	2.03	0.40
10:G:71:VAL:HG23	10:G:72:PRO:O	2.20	0.40
10:G:214:LEU:HA	10:G:214:LEU:HD12	1.77	0.40
15:M:48:GLY:N	15:M:49:PRO:HD3	2.37	0.40
15:M:58:ILE:HG12	15:M:59:ASN:H	1.85	0.40
18:P:67:ILE:CG2	18:P:68:GLY:N	2.85	0.40
19:Q:28:LEU:HD23	19:Q:28:LEU:HA	1.68	0.40
22:T:6:GLY:H	22:T:9:SER:HB3	1.85	0.40
23:U:90:ARG:O	23:U:91:ASP:HB2	2.21	0.40
25:W:21:PHE:HE2	25:W:23:ARG:HG3	1.87	0.40
28:Z:127:ASN:HD22	28:Z:127:ASN:C	2.28	0.40
29:a:81:LEU:N	29:a:81:LEU:CD2	2.82	0.40
29:a:97:GLU:CD	29:a:97:GLU:N	2.78	0.40
31:c:50:VAL:HG13	31:c:53:LYS:CE	2.47	0.40
31:c:100:ILE:H	31:c:100:ILE:CD1	2.27	0.40
38:j:39:TYR:CG	38:j:40:PRO:HA	2.56	0.40
45:x:38:ALA:HB2	45:x:72:ILE:HG12	2.03	0.40
45:x:42:VAL:HG23	45:x:68:THR:CG2	2.51	0.40
45:x:91:ILE:HG21	45:x:142:THR:HG21	2.03	0.40
45:x:91:ILE:HA	45:x:92:PRO:HD3	1.93	0.40
45:x:217:GLY:O	45:x:218:ILE:HG12	2.21	0.40
45:x:298:PHE:O	45:x:302:SER:OG	2.34	0.40
45:x:382:ILE:HD13	45:x:390:PHE:HZ	1.87	0.40
1:5:92:G:H3'	1:5:92:G:H8	1.87	0.40
1:5:371:G:N2	1:5:373:A:H3'	2.36	0.40
1:5:566:G:O2'	1:5:567:G:H5'	2.20	0.40
1:5:735:A:O2'	1:5:736:A:OP1	2.40	0.40
1:5:818:C:C2	1:5:819:U:C6	3.10	0.40
1:5:971:G:C6	1:5:972:A:C5	3.09	0.40
1:5:1221:A:C1'	44:q:58:MET:HG2	2.51	0.40
1:5:1567:U:H2'	1:5:1570:U:H5	1.87	0.40
1:5:2115:G:C2	1:5:2119:A:C2	3.09	0.40
1:5:2283:G:H1	1:5:2307:G:H5'	1.86	0.40
1:5:3095:U:H2'	1:5:3096:C:C6	2.56	0.40
1:5:3243:A:N3	17:O:109:PRO:HB3	2.36	0.40
1:5:3383:G:H2'	1:5:3384:U:H6	1.86	0.40
4:A:43:GLY:HA3	4:A:63:PHE:CE1	2.57	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:136:LEU:HD11	10:G:162:LEU:HB3	2.02	0.40
13:J:35:LYS:O	13:J:39:GLN:HB2	2.22	0.40
14:L:2:ALA:HA	29:a:41:HIS:HE1	1.85	0.40
14:L:50:PRO:O	14:L:51:LEU:CB	2.70	0.40
14:L:141:ALA:HB2	36:h:118:ILE:CD1	2.51	0.40
17:O:78:ARG:CG	17:O:78:ARG:NH1	2.54	0.40
17:O:128:ARG:HA	17:O:128:ARG:HD2	1.74	0.40
18:P:65:SER:O	18:P:66:SER:HB2	2.21	0.40
18:P:142:SER:N	18:P:143:PRO:HD3	2.37	0.40
19:Q:135:GLN:CD	19:Q:135:GLN:H	2.30	0.40
20:R:22:VAL:O	20:R:53:LYS:NZ	2.52	0.40
20:R:35:ALA:C	20:R:37:SER:H	2.29	0.40
23:U:21:SER:N	23:U:22:PRO:HD2	2.37	0.40
23:U:98:THR:OG1	23:U:102:GLU:O	2.37	0.40
24:V:2:SER:HA	24:V:56:ASP:HA	2.03	0.40
26:X:137:ASN:HD21	45:x:417:LYS:HG2	1.86	0.40
32:d:71:LEU:HB3	32:d:73:LEU:HD23	2.03	0.40
33:e:91:THR:HG22	33:e:92:TYR:CD2	2.56	0.40
34:f:50:ALA:HB2	34:f:68:TRP:CE3	2.55	0.40
35:g:76:TYR:HD1	35:g:80:ARG:HG2	1.85	0.40
36:h:37:SER:HB3	45:x:343:TYR:OH	2.19	0.40
36:h:101:THR:HG22	36:h:104:GLN:CB	2.50	0.40
38:j:25:ARG:NH2	40:l:50:ASN:HB3	2.37	0.40
42:o:7:THR:OG1	42:o:22:GLN:NE2	2.54	0.40
45:x:161:TYR:HB3	45:x:162:PRO:HD2	2.03	0.40
45:x:164:ASP:HB2	45:x:173:THR:CB	2.51	0.40
45:x:496:ILE:HG12	45:x:497:SER:N	2.36	0.40
46:y:191:ILE:HA	46:y:192:PRO:HD3	1.84	0.40
1:5:178:U:H2'	1:5:179:C:O4'	2.21	0.40
1:5:616:G:H2'	1:5:617:G:C8	2.56	0.40
1:5:673:U:O2'	1:5:674:G:H5'	2.22	0.40
1:5:772:U:O2'	1:5:773:G:H5'	2.21	0.40
1:5:818:C:O2	1:5:818:C:C2'	2.70	0.40
1:5:986:U:C1'	9:F:126:LEU:HD21	2.51	0.40
1:5:1652:G:O2'	1:5:1653:G:H5'	2.22	0.40
1:5:2097:U:H2'	1:5:2098:C:C6	2.57	0.40
1:5:2193:U:H1'	1:5:2275:A:H1'	2.04	0.40
1:5:2291:A:O2'	1:5:2292:U:H5'	2.21	0.40
1:5:3099:C:O2'	1:5:3100:U:H5'	2.22	0.40
1:5:3131:U:H2'	1:5:3132:C:C6	2.56	0.40
2:7:43:U:O2	2:7:43:U:H2'	2.20	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:162:VAL:O	5:B:178:LEU:HD12	2.21	0.40
6:C:300:ARG:HB2	6:C:301:PRO:HD3	2.03	0.40
7:D:55:PHE:HE1	7:D:60:ILE:CD1	2.34	0.40
7:D:235:SER:O	7:D:239:ILE:HG12	2.21	0.40
8:E:93:VAL:O	8:E:93:VAL:CG1	2.69	0.40
9:F:173:LEU:HD21	9:F:198:ALA:HA	2.04	0.40
10:G:146:LYS:HB3	10:G:146:LYS:HE3	1.90	0.40
10:G:172:LYS:NZ	10:G:172:LYS:CB	2.79	0.40
18:P:23:ARG:HD3	18:P:23:ARG:HA	1.99	0.40
19:Q:176:ARG:O	29:a:51:GLY:HA2	2.21	0.40
20:R:10:LEU:HA	20:R:10:LEU:HD12	1.72	0.40
24:V:23:MET:HE3	24:V:100:GLY:HA3	2.04	0.40
26:X:131:ASP:O	26:X:135:ILE:HG22	2.22	0.40
28:Z:131:PHE:HD2	28:Z:131:PHE:HA	1.77	0.40
32:d:14:ILE:CG2	32:d:73:LEU:HD21	2.48	0.40
45:x:9:ASP:O	45:x:13:LEU:HG	2.22	0.40
45:x:195:VAL:HG13	45:x:507:ILE:HD13	2.03	0.40
45:x:297:PRO:HD2	46:y:344:THR:O	2.21	0.40
45:x:519:ARG:NH2	45:x:565:PHE:O	2.54	0.40
46:y:174:LYS:HE2	46:y:178:GLU:OE2	2.21	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	
4	A	210/254 (83%)	195 (93%)	14 (7%)	1 (0%)	24	54
5	B	384/387 (99%)	367 (96%)	17 (4%)	0	100	100
6	C	359/362 (99%)	329 (92%)	28 (8%)	2 (1%)	21	49
7	D	292/297 (98%)	282 (97%)	8 (3%)	2 (1%)	18	47

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	E	155/176 (88%)	143 (92%)	9 (6%)	3 (2%)	6	26
9	F	221/244 (91%)	210 (95%)	10 (4%)	1 (0%)	24	54
10	G	229/256 (90%)	200 (87%)	28 (12%)	1 (0%)	30	59
11	H	189/191 (99%)	178 (94%)	10 (5%)	1 (0%)	24	54
12	I	209/221 (95%)	193 (92%)	16 (8%)	0	100	100
13	J	167/174 (96%)	143 (86%)	18 (11%)	6 (4%)	2	16
14	L	192/199 (96%)	170 (88%)	20 (10%)	2 (1%)	12	39
15	M	135/138 (98%)	133 (98%)	2 (2%)	0	100	100
16	N	201/204 (98%)	187 (93%)	13 (6%)	1 (0%)	24	54
17	O	195/199 (98%)	193 (99%)	2 (1%)	0	100	100
18	P	181/184 (98%)	176 (97%)	5 (3%)	0	100	100
19	Q	183/186 (98%)	174 (95%)	8 (4%)	1 (0%)	24	54
20	R	154/189 (82%)	148 (96%)	5 (3%)	1 (1%)	21	49
21	S	169/172 (98%)	163 (96%)	6 (4%)	0	100	100
22	T	157/160 (98%)	151 (96%)	4 (2%)	2 (1%)	9	33
23	U	100/121 (83%)	95 (95%)	5 (5%)	0	100	100
24	V	134/137 (98%)	130 (97%)	4 (3%)	0	100	100
25	W	61/155 (39%)	57 (93%)	3 (5%)	1 (2%)	7	29
26	X	118/142 (83%)	109 (92%)	9 (8%)	0	100	100
27	Y	124/127 (98%)	118 (95%)	5 (4%)	1 (1%)	16	44
28	Z	133/136 (98%)	112 (84%)	18 (14%)	3 (2%)	5	23
29	a	146/149 (98%)	132 (90%)	13 (9%)	1 (1%)	18	47
30	b	56/59 (95%)	53 (95%)	3 (5%)	0	100	100
31	c	98/105 (93%)	92 (94%)	6 (6%)	0	100	100
32	d	107/113 (95%)	97 (91%)	8 (8%)	2 (2%)	6	26
33	e	127/130 (98%)	120 (94%)	7 (6%)	0	100	100
34	f	104/107 (97%)	100 (96%)	4 (4%)	0	100	100
35	g	110/121 (91%)	104 (94%)	5 (4%)	1 (1%)	14	41
36	h	117/120 (98%)	109 (93%)	8 (7%)	0	100	100
37	i	97/100 (97%)	86 (89%)	8 (8%)	3 (3%)	3	18
38	j	85/88 (97%)	77 (91%)	8 (9%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	k	75/78 (96%)	70 (93%)	4 (5%)	1 (1%)	9	33
40	l	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
41	m	50/128 (39%)	46 (92%)	3 (6%)	1 (2%)	6	24
42	o	103/106 (97%)	94 (91%)	9 (9%)	0	100	100
43	p	89/92 (97%)	82 (92%)	7 (8%)	0	100	100
44	q	116/312 (37%)	111 (96%)	4 (3%)	1 (1%)	14	41
45	x	577/616 (94%)	544 (94%)	32 (6%)	1 (0%)	43	71
46	y	201/401 (50%)	191 (95%)	10 (5%)	0	100	100
All	All	6958/7887 (88%)	6511 (94%)	407 (6%)	40 (1%)	23	49

All (40) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
8	E	98	VAL
13	J	10	ARG
13	J	95	ASN
16	N	184	LYS
25	W	25	ASP
14	L	18	TRP
28	Z	17	ARG
28	Z	130	PHE
13	J	115	LYS
27	Y	125	LYS
28	Z	129	TRP
29	a	78	LEU
35	g	83	ASN
37	i	34	SER
37	i	63	ASN
39	k	17	ARG
6	C	71	VAL
9	F	191	VAL
20	R	35	ALA
32	d	83	GLU
37	i	64	SER
13	J	12	LEU
14	L	47	ALA
22	T	69	LYS
22	T	136	ARG
32	d	7	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	E	97	ASN
13	J	94	ARG
10	G	203	VAL
6	C	148	ILE
7	D	125	VAL
19	Q	97	PRO
45	x	519	ARG
4	A	56	ALA
8	E	10	TYR
11	H	167	VAL
13	J	114	ILE
41	m	78	ILE
44	q	33	VAL
7	D	122	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	A	166/196 (85%)	126 (76%)	40 (24%)	1	2
5	B	321/323 (99%)	254 (79%)	67 (21%)	1	4
6	C	288/289 (100%)	229 (80%)	59 (20%)	1	4
7	D	243/245 (99%)	204 (84%)	39 (16%)	2	10
8	E	135/136 (99%)	120 (89%)	15 (11%)	6	21
9	F	187/205 (91%)	158 (84%)	29 (16%)	2	10
10	G	177/208 (85%)	142 (80%)	35 (20%)	1	5
11	H	171/171 (100%)	140 (82%)	31 (18%)	2	7
12	I	179/187 (96%)	150 (84%)	29 (16%)	2	10
13	J	147/150 (98%)	123 (84%)	24 (16%)	2	10
14	L	154/159 (97%)	125 (81%)	29 (19%)	1	6
15	M	108/109 (99%)	90 (83%)	18 (17%)	2	9
16	N	175/176 (99%)	145 (83%)	30 (17%)	2	9

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	O	160/162 (99%)	122 (76%)	38 (24%)	1	2
18	P	145/146 (99%)	115 (79%)	30 (21%)	1	4
19	Q	150/151 (99%)	120 (80%)	30 (20%)	1	5
20	R	129/154 (84%)	100 (78%)	29 (22%)	1	3
21	S	155/156 (99%)	127 (82%)	28 (18%)	2	7
22	T	136/137 (99%)	115 (85%)	21 (15%)	2	10
23	U	89/107 (83%)	76 (85%)	13 (15%)	3	12
24	V	104/105 (99%)	91 (88%)	13 (12%)	4	17
25	W	55/129 (43%)	50 (91%)	5 (9%)	9	29
26	X	104/118 (88%)	83 (80%)	21 (20%)	1	4
27	Y	109/110 (99%)	93 (85%)	16 (15%)	3	12
28	Z	115/116 (99%)	91 (79%)	24 (21%)	1	4
29	a	118/119 (99%)	102 (86%)	16 (14%)	3	14
30	b	46/47 (98%)	35 (76%)	11 (24%)	1	2
31	c	84/88 (96%)	69 (82%)	15 (18%)	2	7
32	d	94/97 (97%)	84 (89%)	10 (11%)	6	23
33	e	110/111 (99%)	91 (83%)	19 (17%)	2	8
34	f	90/91 (99%)	81 (90%)	9 (10%)	7	25
35	g	95/103 (92%)	79 (83%)	16 (17%)	2	9
36	h	103/105 (98%)	82 (80%)	21 (20%)	1	4
37	i	80/82 (98%)	57 (71%)	23 (29%)	0	1
38	j	70/71 (99%)	58 (83%)	12 (17%)	2	9
39	k	67/69 (97%)	56 (84%)	11 (16%)	2	10
40	l	45/46 (98%)	35 (78%)	10 (22%)	1	3
41	m	47/116 (40%)	40 (85%)	7 (15%)	3	12
42	o	90/91 (99%)	74 (82%)	16 (18%)	2	7
43	p	71/72 (99%)	52 (73%)	19 (27%)	0	1
44	q	105/254 (41%)	85 (81%)	20 (19%)	1	6
45	x	508/540 (94%)	461 (91%)	47 (9%)	8	29
46	y	187/355 (53%)	168 (90%)	19 (10%)	7	24
All	All	5912/6602 (90%)	4898 (83%)	1014 (17%)	4	9

All (1014) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	A	4	VAL
4	A	10	LYS
4	A	15	ILE
4	A	23	ARG
4	A	31	THR
4	A	32	LEU
4	A	44	ILE
4	A	45	VAL
4	A	46	LYS
4	A	48	ILE
4	A	49	VAL
4	A	62	VAL
4	A	68	LYS
4	A	70	ARG
4	A	71	LEU
4	A	72	ARG
4	A	74	GLU
4	A	82	VAL
4	A	98	VAL
4	A	101	VAL
4	A	104	LEU
4	A	107	VAL
4	A	109	GLU
4	A	113	VAL
4	A	116	VAL
4	A	119	LYS
4	A	134	VAL
4	A	137	ILE
4	A	142	ASP
4	A	147	ARG
4	A	149	ARG
4	A	155	LYS
4	A	157	VAL
4	A	158	ILE
4	A	168	VAL
4	A	169	ILE
4	A	179	LEU
4	A	193	ARG
4	A	199	THR
4	A	207	VAL
5	B	3	HIS
5	B	4	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	B	10	ARG
5	B	17	LEU
5	B	19	ARG
5	B	25	ILE
5	B	29	VAL
5	B	39	LYS
5	B	45	SER
5	B	50	LYS
5	B	54	THR
5	B	59	ASP
5	B	73	VAL
5	B	77	THR
5	B	85	VAL
5	B	89	VAL
5	B	102	LEU
5	B	103	THR
5	B	104	THR
5	B	114	VAL
5	B	120	LYS
5	B	121	ASN
5	B	123	TYR
5	B	124	LYS
5	B	139	GLN
5	B	146	ARG
5	B	148	LEU
5	B	150	ARG
5	B	153	LYS
5	B	158	VAL
5	B	162	VAL
5	B	169	THR
5	B	181	ILE
5	B	183	LEU
5	B	192	VAL
5	B	196	ARG
5	B	202	THR
5	B	205	VAL
5	B	221	THR
5	B	229	VAL
5	B	232	ARG
5	B	235	THR
5	B	236	LYS
5	B	238	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	B	246	LEU
5	B	249	VAL
5	B	251	CYS
5	B	252	ILE
5	B	264	VAL
5	B	266	ARG
5	B	274	SER
5	B	284	ARG
5	B	287	LYS
5	B	289	ASP
5	B	291	GLU
5	B	301	THR
5	B	323	MET
5	B	324	VAL
5	B	327	CYS
5	B	328	ILE
5	B	338	LEU
5	B	340	LYS
5	B	343	TYR
5	B	364	LYS
5	B	365	PHE
5	B	369	ARG
5	B	386	ASP
6	C	2	SER
6	C	3	ARG
6	C	7	THR
6	C	12	THR
6	C	14	GLU
6	C	18	ASN
6	C	22	LEU
6	C	25	VAL
6	C	34	ILE
6	C	35	VAL
6	C	37	THR
6	C	47	ARG
6	C	52	VAL
6	C	67	THR
6	C	73	ARG
6	C	74	ILE
6	C	93	MET
6	C	105	THR
6	C	122	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	C	133	SER
6	C	135	VAL
6	C	136	LEU
6	C	141	ARG
6	C	147	GLU
6	C	150	LEU
6	C	156	LEU
6	C	160	GLN
6	C	166	VAL
6	C	172	VAL
6	C	179	LEU
6	C	181	VAL
6	C	182	LEU
6	C	187	LEU
6	C	193	LYS
6	C	206	LEU
6	C	217	LYS
6	C	222	VAL
6	C	226	GLU
6	C	230	VAL
6	C	246	ARG
6	C	251	THR
6	C	258	LEU
6	C	267	VAL
6	C	270	SER
6	C	280	ILE
6	C	281	ILE
6	C	287	THR
6	C	300	ARG
6	C	307	GLN
6	C	313	LEU
6	C	319	LYS
6	C	323	VAL
6	C	327	LEU
6	C	333	VAL
6	C	338	LYS
6	C	342	LYS
6	C	343	LYS
6	C	345	GLU
6	C	359	LEU
7	D	4	GLN
7	D	5	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	D	9	SER
7	D	25	GLU
7	D	35	ARG
7	D	51	LEU
7	D	61	ILE
7	D	66	SER
7	D	69	ILE
7	D	70	THR
7	D	73	VAL
7	D	81	HIS
7	D	93	THR
7	D	126	GLU
7	D	129	TYR
7	D	136	GLU
7	D	146	LEU
7	D	148	ILE
7	D	150	LEU
7	D	152	ARG
7	D	155	THR
7	D	159	VAL
7	D	163	LEU
7	D	164	LYS
7	D	177	GLU
7	D	185	PHE
7	D	196	ARG
7	D	211	LEU
7	D	218	ARG
7	D	232	ASP
7	D	236	LEU
7	D	238	ASP
7	D	257	GLU
7	D	259	LYS
7	D	261	THR
7	D	275	THR
7	D	282	ARG
7	D	290	ILE
7	D	296	GLN
8	E	8	LYS
8	E	20	LYS
8	E	21	THR
8	E	35	VAL
8	E	46	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	E	50	LYS
8	E	52	VAL
8	E	55	LEU
8	E	78	ARG
8	E	85	ILE
8	E	91	VAL
8	E	93	VAL
8	E	145	LEU
8	E	155	LEU
8	E	174	LEU
9	F	22	THR
9	F	30	ARG
9	F	41	ARG
9	F	46	GLU
9	F	56	GLU
9	F	83	LEU
9	F	84	VAL
9	F	88	ARG
9	F	95	ILE
9	F	98	LYS
9	F	101	LYS
9	F	110	ARG
9	F	111	ILE
9	F	115	THR
9	F	119	VAL
9	F	121	LYS
9	F	158	LYS
9	F	159	GLN
9	F	175	LYS
9	F	179	LEU
9	F	180	SER
9	F	181	ILE
9	F	182	ASP
9	F	184	LEU
9	F	189	ILE
9	F	206	LYS
9	F	219	LYS
9	F	224	ILE
9	F	239	LEU
10	G	36	ILE
10	G	44	ARG
10	G	58	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
10	G	65	LEU
10	G	68	ARG
10	G	69	LEU
10	G	70	LYS
10	G	71	VAL
10	G	74	THR
10	G	79	GLN
10	G	81	THR
10	G	82	LEU
10	G	89	GLU
10	G	109	LEU
10	G	111	LYS
10	G	128	LYS
10	G	132	VAL
10	G	140	VAL
10	G	142	LEU
10	G	149	LYS
10	G	150	LEU
10	G	160	ILE
10	G	164	VAL
10	G	172	LYS
10	G	183	LYS
10	G	195	SER
10	G	200	LEU
10	G	206	GLU
10	G	208	GLU
10	G	211	LEU
10	G	213	LYS
10	G	218	ILE
10	G	227	ASP
10	G	241	LYS
10	G	248	LYS
11	H	1	MET
11	H	4	ILE
11	H	5	GLN
11	H	6	THR
11	H	12	VAL
11	H	16	VAL
11	H	18	VAL
11	H	20	ILE
11	H	31	ARG
11	H	43	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
11	H	44	THR
11	H	46	THR
11	H	52	LEU
11	H	68	LEU
11	H	70	THR
11	H	71	VAL
11	H	80	THR
11	H	82	VAL
11	H	104	VAL
11	H	105	GLU
11	H	106	LYS
11	H	133	THR
11	H	144	ILE
11	H	145	VAL
11	H	151	VAL
11	H	154	VAL
11	H	162	GLN
11	H	165	CYS
11	H	168	ARG
11	H	177	ASP
11	H	179	ILE
12	I	4	ARG
12	I	7	ARG
12	I	21	ARG
12	I	24	ARG
12	I	26	VAL
12	I	29	SER
12	I	32	ARG
12	I	48	LEU
12	I	49	CYS
12	I	52	LEU
12	I	60	LEU
12	I	63	GLU
12	I	70	ILE
12	I	90	ARG
12	I	99	ILE
12	I	102	MET
12	I	116	ARG
12	I	153	ARG
12	I	154	ARG
12	I	156	ARG
12	I	163	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
12	I	167	LEU
12	I	169	LYS
12	I	174	THR
12	I	176	LEU
12	I	177	ASP
12	I	178	ARG
12	I	197	VAL
12	I	211	ARG
13	J	10	ARG
13	J	12	LEU
13	J	13	LYS
13	J	31	THR
13	J	34	SER
13	J	35	LYS
13	J	39	GLN
13	J	43	GLN
13	J	51	ARG
13	J	54	VAL
13	J	67	VAL
13	J	80	LEU
13	J	85	LYS
13	J	87	LYS
13	J	92	ARG
13	J	106	ILE
13	J	107	ASP
13	J	122	ILE
13	J	130	VAL
13	J	132	ASN
13	J	152	HIS
13	J	155	THR
13	J	171	VAL
13	J	174	LYS
14	L	3	ILE
14	L	4	SER
14	L	10	LEU
14	L	27	ASP
14	L	42	ARG
14	L	46	ILE
14	L	51	LEU
14	L	54	LEU
14	L	57	VAL
14	L	63	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
14	L	67	ARG
14	L	69	VAL
14	L	76	THR
14	L	85	LEU
14	L	93	ILE
14	L	98	ASP
14	L	107	GLU
14	L	108	ILE
14	L	114	GLN
14	L	123	ILE
14	L	125	VAL
14	L	128	ARG
14	L	131	LYS
14	L	149	GLN
14	L	162	ASN
14	L	164	GLU
14	L	168	ARG
14	L	190	LYS
14	L	194	GLU
15	M	3	THR
15	M	15	VAL
15	M	20	VAL
15	M	24	LYS
15	M	47	ASP
15	M	53	VAL
15	M	63	VAL
15	M	64	VAL
15	M	66	THR
15	M	72	LEU
15	M	103	ILE
15	M	120	VAL
15	M	121	MET
15	M	122	VAL
15	M	126	GLN
15	M	131	VAL
15	M	135	LEU
15	M	137	LYS
16	N	5	LYS
16	N	8	GLU
16	N	10	LEU
16	N	13	LYS
16	N	15	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
16	N	17	ASP
16	N	18	VAL
16	N	22	LEU
16	N	27	VAL
16	N	49	ARG
16	N	51	LEU
16	N	64	VAL
16	N	66	VAL
16	N	68	ARG
16	N	91	GLU
16	N	92	LEU
16	N	104	GLU
16	N	105	ARG
16	N	106	VAL
16	N	115	VAL
16	N	121	VAL
16	N	126	THR
16	N	138	GLN
16	N	167	THR
16	N	182	ASN
16	N	183	THR
16	N	184	LYS
16	N	187	ARG
16	N	199	LEU
16	N	204	LYS
17	O	3	VAL
17	O	4	GLU
17	O	12	LYS
17	O	16	VAL
17	O	18	ARG
17	O	22	VAL
17	O	25	LYS
17	O	34	VAL
17	O	41	LEU
17	O	43	ILE
17	O	44	SER
17	O	56	ASP
17	O	59	ARG
17	O	72	HIS
17	O	78	ARG
17	O	79	ILE
17	O	82	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
17	O	85	ARG
17	O	94	ARG
17	O	99	LEU
17	O	104	VAL
17	O	106	GLU
17	O	108	ILE
17	O	117	ARG
17	O	118	VAL
17	O	124	LEU
17	O	126	VAL
17	O	128	ARG
17	O	129	LEU
17	O	130	LYS
17	O	145	VAL
17	O	160	ARG
17	O	166	GLU
17	O	171	LYS
17	O	175	THR
17	O	182	ASN
17	O	190	VAL
17	O	194	LEU
18	P	23	ARG
18	P	24	VAL
18	P	25	SER
18	P	31	GLU
18	P	32	THR
18	P	34	GLN
18	P	36	ILE
18	P	40	GLU
18	P	41	LEU
18	P	42	THR
18	P	52	LEU
18	P	55	GLN
18	P	64	ASN
18	P	67	ILE
18	P	69	ARG
18	P	74	LYS
18	P	76	PHE
18	P	80	LYS
18	P	89	LYS
18	P	94	LEU
18	P	114	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
18	P	116	HIS
18	P	119	VAL
18	P	120	ASN
18	P	121	GLN
18	P	142	SER
18	P	144	SER
18	P	148	LEU
18	P	176	ILE
18	P	182	ILE
19	Q	12	ARG
19	Q	26	LEU
19	Q	32	LEU
19	Q	41	ASP
19	Q	49	LEU
19	Q	63	SER
19	Q	64	VAL
19	Q	66	ARG
19	Q	69	ARG
19	Q	80	THR
19	Q	81	VAL
19	Q	82	VAL
19	Q	93	ILE
19	Q	100	THR
19	Q	105	ARG
19	Q	107	THR
19	Q	113	LYS
19	Q	124	LEU
19	Q	129	VAL
19	Q	135	GLN
19	Q	138	LEU
19	Q	147	ARG
19	Q	150	VAL
19	Q	165	ILE
19	Q	166	LEU
19	Q	167	SER
19	Q	170	ARG
19	Q	173	GLU
19	Q	180	ARG
19	Q	186	VAL
20	R	7	GLN
20	R	10	LEU
20	R	20	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
20	R	29	THR
20	R	30	SER
20	R	31	GLU
20	R	36	ASN
20	R	41	ILE
20	R	49	THR
20	R	56	THR
20	R	63	THR
20	R	70	LYS
20	R	74	ARG
20	R	75	HIS
20	R	76	SER
20	R	84	THR
20	R	92	GLN
20	R	93	VAL
20	R	98	ARG
20	R	99	LEU
20	R	101	VAL
20	R	105	LEU
20	R	114	LYS
20	R	117	LYS
20	R	122	VAL
20	R	127	SER
20	R	128	LYS
20	R	152	GLU
20	R	153	LYS
21	S	8	GLN
21	S	9	VAL
21	S	13	ARG
21	S	17	GLU
21	S	23	LYS
21	S	32	SER
21	S	45	LEU
21	S	51	VAL
21	S	71	LYS
21	S	79	VAL
21	S	80	ARG
21	S	87	THR
21	S	88	HIS
21	S	97	VAL
21	S	98	SER
21	S	100	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
21	S	104	GLU
21	S	108	GLN
21	S	120	SER
21	S	130	GLU
21	S	136	LYS
21	S	137	ARG
21	S	148	LEU
21	S	155	ARG
21	S	156	VAL
21	S	162	THR
21	S	171	PHE
21	S	172	TYR
22	T	9	SER
22	T	17	ARG
22	T	25	VAL
22	T	35	LYS
22	T	49	GLN
22	T	50	LYS
22	T	55	LYS
22	T	65	TYR
22	T	72	VAL
22	T	78	LYS
22	T	79	MET
22	T	80	VAL
22	T	83	ARG
22	T	97	LYS
22	T	104	GLU
22	T	126	VAL
22	T	128	LEU
22	T	131	GLN
22	T	139	ARG
22	T	143	THR
22	T	160	ILE
23	U	11	ILE
23	U	13	LYS
23	U	23	THR
23	U	27	VAL
23	U	43	VAL
23	U	58	GLU
23	U	61	THR
23	U	62	VAL
23	U	63	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
23	U	84	LEU
23	U	90	ARG
23	U	98	THR
23	U	100	THR
24	V	13	ILE
24	V	17	LEU
24	V	42	SER
24	V	48	ARG
24	V	64	LYS
24	V	68	GLU
24	V	69	LEU
24	V	88	ARG
24	V	101	VAL
24	V	115	THR
24	V	120	LYS
24	V	121	GLU
24	V	129	VAL
25	W	19	THR
25	W	28	ILE
25	W	39	LEU
25	W	52	THR
25	W	57	LYS
26	X	24	LEU
26	X	27	ARG
26	X	39	LYS
26	X	45	LYS
26	X	57	LEU
26	X	63	ILE
26	X	64	GLU
26	X	68	THR
26	X	71	THR
26	X	73	MET
26	X	86	VAL
26	X	99	VAL
26	X	108	LEU
26	X	109	LYS
26	X	115	ARG
26	X	117	ASN
26	X	119	THR
26	X	125	ARG
26	X	129	ASP
26	X	133	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
26	X	135	ILE
27	Y	12	ARG
27	Y	13	ARG
27	Y	17	LYS
27	Y	29	VAL
27	Y	37	LYS
27	Y	50	ILE
27	Y	57	LEU
27	Y	69	LYS
27	Y	70	ILE
27	Y	74	TYR
27	Y	76	LEU
27	Y	90	VAL
27	Y	95	VAL
27	Y	107	THR
27	Y	109	LEU
27	Y	120	GLN
28	Z	3	LYS
28	Z	14	VAL
28	Z	17	ARG
28	Z	21	LYS
28	Z	24	VAL
28	Z	30	ASP
28	Z	34	LYS
28	Z	46	ILE
28	Z	52	LYS
28	Z	53	VAL
28	Z	55	LYS
28	Z	72	ILE
28	Z	81	LEU
28	Z	83	THR
28	Z	92	PHE
28	Z	95	VAL
28	Z	99	GLU
28	Z	102	GLU
28	Z	103	GLN
28	Z	121	ARG
28	Z	126	LYS
28	Z	127	ASN
28	Z	130	PHE
28	Z	134	LEU
29	a	6	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	a	14	HIS
29	a	22	ILE
29	a	26	ARG
29	a	43	ILE
29	a	72	VAL
29	a	73	LEU
29	a	75	LEU
29	a	81	LEU
29	a	85	ASP
29	a	91	LEU
29	a	97	GLU
29	a	115	LYS
29	a	118	ILE
29	a	132	LYS
29	a	144	VAL
30	b	3	LYS
30	b	4	SER
30	b	6	ASN
30	b	12	GLN
30	b	29	TYR
30	b	33	LYS
30	b	41	ARG
30	b	50	THR
30	b	52	LYS
30	b	58	LYS
30	b	59	LYS
31	c	8	GLU
31	c	11	ASN
31	c	18	ILE
31	c	19	LYS
31	c	24	THR
31	c	34	LEU
31	c	41	LEU
31	c	42	ILE
31	c	76	GLU
31	c	83	LYS
31	c	86	ARG
31	c	89	VAL
31	c	100	ILE
31	c	101	LEU
31	c	104	LEU
32	d	6	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	d	31	ARG
32	d	35	GLU
32	d	36	ILE
32	d	54	GLU
32	d	61	LYS
32	d	73	LEU
32	d	91	SER
32	d	94	GLU
32	d	102	LYS
33	e	4	LEU
33	e	8	LYS
33	e	27	ARG
33	e	31	ASN
33	e	33	ARG
33	e	42	VAL
33	e	50	ILE
33	e	51	SER
33	e	61	LYS
33	e	73	THR
33	e	75	LEU
33	e	76	VAL
33	e	79	VAL
33	e	82	LEU
33	e	89	THR
33	e	100	ILE
33	e	106	VAL
33	e	120	THR
33	e	125	ARG
34	f	22	VAL
34	f	31	LYS
34	f	48	ARG
34	f	53	TYR
34	f	67	MET
34	f	70	LYS
34	f	74	THR
34	f	81	VAL
34	f	86	ARG
35	g	19	LYS
35	g	23	VAL
35	g	29	ILE
35	g	46	ASP
35	g	51	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	g	54	ILE
35	g	57	LEU
35	g	58	ARG
35	g	76	TYR
35	g	85	VAL
35	g	88	ARG
35	g	90	ILE
35	g	95	ILE
35	g	98	GLN
35	g	103	LYS
35	g	105	VAL
36	h	19	SER
36	h	20	GLN
36	h	21	LEU
36	h	36	LEU
36	h	41	LEU
36	h	44	ILE
36	h	45	LYS
36	h	48	ARG
36	h	51	ILE
36	h	56	THR
36	h	62	GLN
36	h	68	GLN
36	h	81	ARG
36	h	89	ARG
36	h	90	ARG
36	h	94	LYS
36	h	101	THR
36	h	105	ARG
36	h	107	LYS
36	h	109	ILE
36	h	119	LYS
37	i	3	VAL
37	i	5	THR
37	i	9	ILE
37	i	11	LEU
37	i	17	VAL
37	i	26	ILE
37	i	43	LEU
37	i	45	ARG
37	i	46	GLU
37	i	57	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
37	i	58	ILE
37	i	60	LEU
37	i	61	ILE
37	i	68	ARG
37	i	72	VAL
37	i	76	ARG
37	i	81	THR
37	i	84	LYS
37	i	87	VAL
37	i	88	GLU
37	i	89	GLU
37	i	94	ILE
37	i	98	ARG
38	j	5	THR
38	j	12	HIS
38	j	15	SER
38	j	17	THR
38	j	21	ARG
38	j	28	HIS
38	j	45	ARG
38	j	55	ARG
38	j	59	THR
38	j	61	THR
38	j	65	ARG
38	j	79	GLN
39	k	3	ARG
39	k	8	ILE
39	k	20	VAL
39	k	25	VAL
39	k	45	VAL
39	k	46	ARG
39	k	53	THR
39	k	61	LYS
39	k	64	LYS
39	k	66	ILE
39	k	67	GLN
40	l	4	GLN
40	l	12	LYS
40	l	21	ARG
40	l	23	LEU
40	l	27	ILE
40	l	28	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	l	29	LEU
40	l	41	ARG
40	l	45	ARG
40	l	46	ARG
41	m	85	LEU
41	m	88	LYS
41	m	90	ASN
41	m	106	ARG
41	m	113	ARG
41	m	114	LYS
41	m	127	LEU
42	o	2	VAL
42	o	6	LYS
42	o	7	THR
42	o	8	ARG
42	o	15	LYS
42	o	45	ARG
42	o	47	GLN
42	o	80	ARG
42	o	83	LEU
42	o	84	THR
42	o	85	LEU
42	o	89	LYS
42	o	93	LEU
42	o	99	GLN
42	o	104	LEU
42	o	105	GLN
43	p	3	LYS
43	p	6	LYS
43	p	8	VAL
43	p	16	VAL
43	p	22	LEU
43	p	26	VAL
43	p	28	LYS
43	p	33	GLN
43	p	45	LYS
43	p	46	THR
43	p	49	ARG
43	p	54	ILE
43	p	56	THR
43	p	71	VAL
43	p	73	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
43	p	78	THR
43	p	80	ARG
43	p	82	THR
43	p	90	VAL
44	q	4	ILE
44	q	15	LEU
44	q	17	GLU
44	q	35	SER
44	q	39	HIS
44	q	46	ARG
44	q	51	VAL
44	q	52	LEU
44	q	55	LYS
44	q	57	THR
44	q	63	ILE
44	q	67	LEU
44	q	70	LEU
44	q	72	ASP
44	q	76	LEU
44	q	81	LYS
44	q	93	LEU
44	q	97	LYS
44	q	104	ARG
44	q	185	LEU
45	x	9	ASP
45	x	30	THR
45	x	42	VAL
45	x	74	THR
45	x	87	ARG
45	x	108	ILE
45	x	143	LEU
45	x	145	VAL
45	x	167	LYS
45	x	184	VAL
45	x	189	ILE
45	x	203	THR
45	x	207	LEU
45	x	216	SER
45	x	229	THR
45	x	235	ASN
45	x	243	ARG
45	x	244	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
45	x	261	GLU
45	x	267	VAL
45	x	275	GLU
45	x	290	VAL
45	x	315	GLU
45	x	334	LEU
45	x	337	LEU
45	x	375	SER
45	x	384	LYS
45	x	427	SER
45	x	432	CYS
45	x	446	ASP
45	x	447	HIS
45	x	452	THR
45	x	453	ASN
45	x	473	LEU
45	x	477	LYS
45	x	478	LEU
45	x	496	ILE
45	x	497	SER
45	x	504	CYS
45	x	510	CYS
45	x	511	ASP
45	x	518	ASP
45	x	523	LEU
45	x	541	HIS
45	x	542	GLU
45	x	572	THR
45	x	580	VAL
46	y	172	HIS
46	y	179	ASN
46	y	197	LEU
46	y	199	ASP
46	y	201	ILE
46	y	207	MET
46	y	208	SER
46	y	211	ILE
46	y	227	LEU
46	y	307	LEU
46	y	347	PHE
46	y	359	GLN
46	y	364	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
46	y	365	THR
46	y	366	GLU
46	y	371	LYS
46	y	373	LEU
46	y	376	ARG
46	y	398	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (149) such sidechains are listed below:

Mol	Chain	Res	Type
4	A	47	GLN
4	A	97	ASN
4	A	194	ASN
4	A	205	ASN
4	A	209	HIS
5	B	182	GLN
5	B	211	GLN
5	B	224	HIS
5	B	243	HIS
5	B	273	HIS
6	C	5	GLN
6	C	58	HIS
6	C	114	ASN
6	C	213	ASN
6	C	221	ASN
6	C	243	HIS
6	C	260	GLN
6	C	291	ASN
6	C	311	HIS
6	C	322	GLN
7	D	40	HIS
7	D	57	ASN
7	D	63	GLN
8	E	167	ASN
8	E	172	HIS
9	F	37	ASN
9	F	93	ASN
9	F	159	GLN
9	F	194	HIS
10	G	28	HIS
10	G	41	GLN
10	G	85	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
10	G	221	ASN
10	G	240	ASN
10	G	243	GLN
11	H	8	GLN
11	H	50	ASN
11	H	59	ASN
11	H	100	ASN
11	H	183	HIS
12	I	12	GLN
12	I	59	GLN
12	I	73	ASN
12	I	163	GLN
13	J	20	ASN
13	J	132	ASN
14	L	13	HIS
14	L	19	GLN
14	L	25	HIS
14	L	114	GLN
14	L	120	GLN
14	L	149	GLN
15	M	56	GLN
16	N	15	GLN
16	N	90	ASN
17	O	29	ASN
17	O	31	GLN
17	O	50	ASN
17	O	122	GLN
17	O	182	ASN
18	P	55	GLN
18	P	96	GLN
18	P	125	GLN
18	P	172	GLN
19	Q	9	GLN
19	Q	73	GLN
19	Q	126	GLN
20	R	66	HIS
20	R	156	ASN
21	S	8	GLN
21	S	65	ASN
21	S	68	HIS
21	S	138	GLN
22	T	5	HIS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
22	T	16	GLN
22	T	49	GLN
22	T	77	ASN
22	T	95	HIS
22	T	98	HIS
23	U	109	GLN
24	V	7	GLN
24	V	104	ASN
25	W	58	HIS
25	W	59	HIS
26	X	65	GLN
26	X	137	ASN
27	Y	98	ASN
27	Y	120	GLN
28	Z	36	HIS
28	Z	57	HIS
28	Z	78	ASN
28	Z	106	GLN
29	a	11	HIS
29	a	44	ASN
29	a	62	HIS
29	a	65	GLN
30	b	6	ASN
30	b	11	ASN
30	b	12	GLN
30	b	19	ASN
31	c	75	ASN
32	d	56	ASN
33	e	20	HIS
33	e	21	HIS
33	e	52	GLN
33	e	71	HIS
34	f	5	HIS
34	f	13	HIS
34	f	77	ASN
35	g	3	GLN
35	g	18	ASN
36	h	16	GLN
36	h	20	GLN
36	h	68	GLN
36	h	99	GLN
36	h	104	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	h	108	GLN
40	l	11	GLN
40	l	25	GLN
40	l	38	ASN
42	o	22	GLN
42	o	53	GLN
42	o	82	GLN
44	q	36	GLN
44	q	37	GLN
44	q	193	ASN
45	x	18	ASN
45	x	51	HIS
45	x	99	GLN
45	x	118	ASN
45	x	146	HIS
45	x	188	HIS
45	x	235	ASN
45	x	273	HIS
45	x	281	ASN
45	x	294	GLN
45	x	366	GLN
45	x	403	HIS
45	x	405	ASN
45	x	429	ASN
45	x	447	HIS
45	x	471	HIS
45	x	577	GLN
46	y	170	ASN
46	y	172	HIS
46	y	182	HIS
46	y	232	GLN
46	y	239	HIS
46	y	319	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	5	3102/3396 (91%)	669 (21%)	73 (2%)
2	7	120/121 (99%)	14 (11%)	0
3	8	157/158 (99%)	36 (22%)	5 (3%)
All	All	3379/3675 (91%)	719 (21%)	78 (2%)

All (719) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	5	14	U
1	5	15	C
1	5	22	G
1	5	26	A
1	5	40	A
1	5	43	A
1	5	49	A
1	5	59	G
1	5	60	A
1	5	65	A
1	5	66	A
1	5	75	G
1	5	83	U
1	5	91	G
1	5	96	G
1	5	98	G
1	5	109	A
1	5	110	G
1	5	111	C
1	5	113	C
1	5	116	A
1	5	121	A
1	5	122	A
1	5	133	U
1	5	134	U
1	5	135	C
1	5	136	G
1	5	146	U
1	5	150	A
1	5	152	U
1	5	155	G
1	5	156	G
1	5	157	A
1	5	166	C
1	5	170	G
1	5	171	G
1	5	172	G
1	5	175	C
1	5	182	U
1	5	187	A
1	5	190	U
1	5	191	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	210	U
1	5	211	A
1	5	213	A
1	5	218	G
1	5	219	A
1	5	221	A
1	5	237	G
1	5	239	G
1	5	240	U
1	5	245	U
1	5	246	U
1	5	248	U
1	5	249	U
1	5	250	U
1	5	251	G
1	5	252	U
1	5	254	A
1	5	269	G
1	5	270	U
1	5	282	G
1	5	283	G
1	5	284	A
1	5	286	U
1	5	295	A
1	5	315	C
1	5	323	A
1	5	329	U
1	5	334	A
1	5	339	C
1	5	350	C
1	5	370	U
1	5	376	G
1	5	378	A
1	5	390	G
1	5	398	A
1	5	399	A
1	5	401	U
1	5	402	A
1	5	403	C
1	5	421	G
1	5	422	A
1	5	438	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	439	C
1	5	494	G
1	5	498	A
1	5	521	A
1	5	535	G
1	5	546	C
1	5	547	G
1	5	548	G
1	5	557	A
1	5	559	A
1	5	569	A
1	5	578	A
1	5	579	G
1	5	592	A
1	5	594	U
1	5	600	G
1	5	604	G
1	5	609	G
1	5	611	A
1	5	619	A
1	5	620	U
1	5	621	A
1	5	622	A
1	5	636	C
1	5	647	A
1	5	649	A
1	5	660	A
1	5	677	A
1	5	681	U
1	5	683	U
1	5	690	A
1	5	705	A
1	5	710	A
1	5	712	G
1	5	713	U
1	5	715	A
1	5	716	A
1	5	717	C
1	5	720	A
1	5	725	G
1	5	735	A
1	5	736	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	750	G
1	5	760	G
1	5	766	U
1	5	776	U
1	5	777	U
1	5	780	A
1	5	781	G
1	5	785	G
1	5	786	A
1	5	799	G
1	5	806	A
1	5	808	A
1	5	812	G
1	5	817	A
1	5	830	A
1	5	832	G
1	5	837	A
1	5	844	G
1	5	845	G
1	5	851	C
1	5	861	C
1	5	869	G
1	5	873	C
1	5	874	U
1	5	879	U
1	5	883	A
1	5	895	A
1	5	896	A
1	5	907	G
1	5	908	G
1	5	909	G
1	5	914	A
1	5	916	G
1	5	921	A
1	5	923	C
1	5	925	A
1	5	932	U
1	5	937	G
1	5	944	C
1	5	953	G
1	5	959	C
1	5	960	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	961	C
1	5	974	G
1	5	979	U
1	5	982	C
1	5	983	A
1	5	984	G
1	5	991	G
1	5	995	U
1	5	1001	G
1	5	1002	A
1	5	1010	G
1	5	1014	U
1	5	1015	U
1	5	1047	A
1	5	1049	C
1	5	1057	A
1	5	1064	A
1	5	1065	A
1	5	1072	G
1	5	1081	U
1	5	1082	U
1	5	1085	A
1	5	1086	C
1	5	1093	A
1	5	1094	U
1	5	1095	U
1	5	1096	U
1	5	1097	G
1	5	1098	A
1	5	1103	A
1	5	1104	G
1	5	1117	G
1	5	1131	G
1	5	1138	U
1	5	1144	U
1	5	1151	U
1	5	1152	G
1	5	1153	A
1	5	1155	C
1	5	1157	G
1	5	1159	A
1	5	1160	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	1180	A
1	5	1181	U
1	5	1183	C
1	5	1186	G
1	5	1190	A
1	5	1191	U
1	5	1192	C
1	5	1196	C
1	5	1201	C
1	5	1209	G
1	5	1216	C
1	5	1217	A
1	5	1222	G
1	5	1223	A
1	5	1232	C
1	5	1235	U
1	5	1236	G
1	5	1237	G
1	5	1239	C
1	5	1241	U
1	5	1242	G
1	5	1243	G
1	5	1245	A
1	5	1246	G
1	5	1252	A
1	5	1258	U
1	5	1259	A
1	5	1262	G
1	5	1263	A
1	5	1264	G
1	5	1265	U
1	5	1266	G
1	5	1285	G
1	5	1307	G
1	5	1308	A
1	5	1309	U
1	5	1314	C
1	5	1329	U
1	5	1330	A
1	5	1345	G
1	5	1348	U
1	5	1349	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	1350	A
1	5	1351	U
1	5	1352	A
1	5	1353	U
1	5	1356	U
1	5	1357	G
1	5	1380	G
1	5	1385	C
1	5	1386	A
1	5	1391	C
1	5	1394	A
1	5	1398	U
1	5	1399	A
1	5	1400	G
1	5	1408	G
1	5	1415	U
1	5	1419	A
1	5	1421	G
1	5	1433	A
1	5	1434	G
1	5	1435	A
1	5	1437	C
1	5	1446	A
1	5	1450	G
1	5	1460	A
1	5	1480	G
1	5	1481	A
1	5	1483	G
1	5	1484	U
1	5	1490	A
1	5	1502	C
1	5	1503	A
1	5	1508	C
1	5	1514	G
1	5	1533	U
1	5	1536	G
1	5	1539	A
1	5	1544	G
1	5	1554	U
1	5	1555	U
1	5	1556	C
1	5	1557	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	1560	G
1	5	1561	G
1	5	1562	C
1	5	1563	C
1	5	1564	U
1	5	1568	U
1	5	1569	U
1	5	1570	U
1	5	1571	A
1	5	1572	U
1	5	1573	G
1	5	1575	A
1	5	1576	G
1	5	1578	C
1	5	1579	C
1	5	1581	C
1	5	1582	C
1	5	1587	A
1	5	1589	A
1	5	1593	A
1	5	1596	C
1	5	1607	U
1	5	1608	C
1	5	1620	U
1	5	1629	U
1	5	1639	C
1	5	1642	A
1	5	1643	A
1	5	1644	C
1	5	1645	U
1	5	1649	U
1	5	1677	G
1	5	1683	A
1	5	1704	A
1	5	1716	U
1	5	1717	U
1	5	1718	G
1	5	1721	U
1	5	1724	U
1	5	1725	C
1	5	1730	G
1	5	1741	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	1750	A
1	5	1751	G
1	5	1759	C
1	5	1760	A
1	5	1763	U
1	5	1764	U
1	5	1765	U
1	5	1770	G
1	5	1772	U
1	5	1780	G
1	5	1797	A
1	5	1812	G
1	5	1814	A
1	5	1815	U
1	5	1816	A
1	5	1817	G
1	5	1818	U
1	5	1820	U
1	5	1821	U
1	5	1839	A
1	5	1840	U
1	5	1841	A
1	5	1842	A
1	5	1846	C
1	5	1849	C
1	5	1850	A
1	5	1866	C
1	5	1877	U
1	5	1878	G
1	5	1879	A
1	5	1880	U
1	5	1887	A
1	5	1893	A
1	5	1901	A
1	5	1906	G
1	5	1907	C
1	5	1918	C
1	5	1930	A
1	5	1935	G
1	5	1943	C
1	5	2101	C
1	5	2102	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2111	G
1	5	2112	U
1	5	2113	A
1	5	2114	C
1	5	2118	C
1	5	2121	G
1	5	2122	G
1	5	2131	A
1	5	2144	A
1	5	2158	A
1	5	2163	C
1	5	2164	A
1	5	2169	G
1	5	2185	G
1	5	2192	C
1	5	2193	U
1	5	2205	U
1	5	2210	G
1	5	2223	A
1	5	2225	U
1	5	2228	A
1	5	2229	A
1	5	2244	A
1	5	2249	G
1	5	2270	A
1	5	2273	G
1	5	2275	A
1	5	2279	A
1	5	2281	A
1	5	2288	G
1	5	2298	U
1	5	2307	G
1	5	2308	C
1	5	2309	A
1	5	2310	U
1	5	2313	A
1	5	2314	U
1	5	2315	G
1	5	2334	U
1	5	2335	G
1	5	2336	U
1	5	2337	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2338	C
1	5	2363	A
1	5	2373	A
1	5	2374	C
1	5	2375	G
1	5	2378	C
1	5	2385	G
1	5	2388	U
1	5	2390	A
1	5	2391	G
1	5	2393	G
1	5	2394	G
1	5	2397	A
1	5	2401	A
1	5	2402	A
1	5	2403	G
1	5	2411	U
1	5	2417	U
1	5	2418	G
1	5	2419	A
1	5	2420	C
1	5	2421	U
1	5	2422	C
1	5	2423	U
1	5	2426	U
1	5	2437	G
1	5	2438	A
1	5	2439	A
1	5	2510	U
1	5	2511	A
1	5	2512	C
1	5	2514	U
1	5	2515	A
1	5	2522	G
1	5	2523	A
1	5	2524	A
1	5	2525	G
1	5	2526	C
1	5	2530	G
1	5	2531	C
1	5	2532	U
1	5	2537	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2538	U
1	5	2539	C
1	5	2540	A
1	5	2543	U
1	5	2552	C
1	5	2554	A
1	5	2555	G
1	5	2567	C
1	5	2568	C
1	5	2569	A
1	5	2570	U
1	5	2571	U
1	5	2572	C
1	5	2573	G
1	5	2574	G
1	5	2584	G
1	5	2585	G
1	5	2589	G
1	5	2593	A
1	5	2594	C
1	5	2604	U
1	5	2605	G
1	5	2606	G
1	5	2607	G
1	5	2609	A
1	5	2610	G
1	5	2614	G
1	5	2615	G
1	5	2626	A
1	5	2629	U
1	5	2636	A
1	5	2652	U
1	5	2656	A
1	5	2657	A
1	5	2662	G
1	5	2663	G
1	5	2674	A
1	5	2677	G
1	5	2681	U
1	5	2683	U
1	5	2689	A
1	5	2690	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2691	A
1	5	2694	A
1	5	2703	A
1	5	2704	A
1	5	2714	G
1	5	2726	C
1	5	2728	G
1	5	2729	U
1	5	2736	A
1	5	2737	C
1	5	2740	A
1	5	2742	C
1	5	2752	U
1	5	2753	G
1	5	2761	G
1	5	2772	C
1	5	2773	C
1	5	2777	G
1	5	2778	G
1	5	2779	A
1	5	2796	G
1	5	2799	A
1	5	2800	G
1	5	2801	A
1	5	2802	A
1	5	2804	A
1	5	2807	U
1	5	2808	A
1	5	2809	C
1	5	2810	C
1	5	2812	C
1	5	2814	G
1	5	2816	G
1	5	2817	A
1	5	2818	U
1	5	2819	A
1	5	2839	G
1	5	2844	C
1	5	2845	A
1	5	2847	A
1	5	2853	A
1	5	2856	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2867	C
1	5	2871	G
1	5	2872	A
1	5	2873	U
1	5	2875	U
1	5	2887	A
1	5	2889	C
1	5	2898	G
1	5	2899	C
1	5	2907	G
1	5	2911	A
1	5	2916	U
1	5	2918	G
1	5	2923	U
1	5	2928	C
1	5	2935	U
1	5	2936	A
1	5	2942	C
1	5	2945	G
1	5	2947	G
1	5	2953	U
1	5	2954	U
1	5	2955	U
1	5	2956	A
1	5	2957	G
1	5	2971	A
1	5	2972	G
1	5	2978	U
1	5	2979	U
1	5	2983	C
1	5	2990	G
1	5	2996	U
1	5	2997	G
1	5	3003	G
1	5	3012	A
1	5	3028	G
1	5	3057	U
1	5	3059	G
1	5	3078	U
1	5	3079	U
1	5	3086	A
1	5	3092	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	3109	G
1	5	3116	G
1	5	3117	C
1	5	3122	A
1	5	3123	A
1	5	3130	A
1	5	3131	U
1	5	3142	A
1	5	3143	C
1	5	3152	U
1	5	3164	C
1	5	3165	A
1	5	3168	A
1	5	3172	A
1	5	3173	G
1	5	3174	A
1	5	3175	U
1	5	3176	G
1	5	3179	U
1	5	3181	C
1	5	3186	A
1	5	3187	A
1	5	3194	C
1	5	3195	U
1	5	3196	U
1	5	3207	U
1	5	3217	C
1	5	3218	A
1	5	3219	G
1	5	3227	A
1	5	3228	C
1	5	3229	G
1	5	3238	G
1	5	3243	A
1	5	3244	A
1	5	3245	A
1	5	3247	G
1	5	3249	C
1	5	3253	G
1	5	3259	U
1	5	3263	G
1	5	3265	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	3269	U
1	5	3270	U
1	5	3273	A
1	5	3276	G
1	5	3277	U
1	5	3278	C
1	5	3279	A
1	5	3281	U
1	5	3282	U
1	5	3285	C
1	5	3286	G
1	5	3289	G
1	5	3290	G
1	5	3294	A
1	5	3304	U
1	5	3313	U
1	5	3316	A
1	5	3317	U
1	5	3318	G
1	5	3319	U
1	5	3324	C
1	5	3341	U
1	5	3342	A
1	5	3345	G
1	5	3346	U
1	5	3351	U
1	5	3352	U
1	5	3354	U
1	5	3356	G
1	5	3357	U
1	5	3358	U
1	5	3362	A
1	5	3369	G
1	5	3378	C
1	5	3383	G
1	5	3389	U
1	5	3390	G
1	5	3394	U
1	5	3396	U
2	7	7	G
2	7	22	A
2	7	33	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	7	54	U
2	7	60	G
2	7	65	G
2	7	73	C
2	7	74	C
2	7	76	A
2	7	91	G
2	7	93	C
2	7	99	G
2	7	102	A
2	7	112	G
3	8	23	U
3	8	25	G
3	8	34	U
3	8	42	G
3	8	48	A
3	8	51	G
3	8	59	A
3	8	60	U
3	8	62	C
3	8	63	G
3	8	77	A
3	8	80	A
3	8	81	U
3	8	82	U
3	8	83	C
3	8	84	C
3	8	85	G
3	8	86	U
3	8	87	G
3	8	88	A
3	8	89	A
3	8	90	U
3	8	95	G
3	8	102	U
3	8	104	A
3	8	105	A
3	8	106	C
3	8	111	A
3	8	113	U
3	8	125	U
3	8	126	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	8	127	U
3	8	138	A
3	8	156	U
3	8	157	U
3	8	158	U

All (78) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	5	151	A
1	5	190	U
1	5	210	U
1	5	217	U
1	5	238	A
1	5	282	G
1	5	438	A
1	5	546	C
1	5	620	U
1	5	621	A
1	5	715	A
1	5	735	A
1	5	765	C
1	5	850	U
1	5	873	C
1	5	981	U
1	5	982	C
1	5	1064	A
1	5	1081	U
1	5	1094	U
1	5	1222	G
1	5	1238	C
1	5	1241	U
1	5	1284	C
1	5	1307	G
1	5	1329	U
1	5	1352	A
1	5	1355	A
1	5	1555	U
1	5	1568	U
1	5	1571	A
1	5	1580	A
1	5	1607	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	1716	U
1	5	1724	U
1	5	1816	A
1	5	1819	U
1	5	2101	C
1	5	2112	U
1	5	2204	C
1	5	2209	U
1	5	2248	C
1	5	2307	G
1	5	2418	G
1	5	2422	C
1	5	2438	A
1	5	2513	U
1	5	2539	C
1	5	2583	C
1	5	2593	A
1	5	2604	U
1	5	2662	G
1	5	2682	C
1	5	2772	C
1	5	2807	U
1	5	2817	A
1	5	2871	G
1	5	2872	A
1	5	2954	U
1	5	2971	A
1	5	2995	A
1	5	3078	U
1	5	3115	C
1	5	3121	U
1	5	3167	A
1	5	3195	U
1	5	3218	A
1	5	3228	C
1	5	3269	U
1	5	3289	G
1	5	3340	G
1	5	3341	U
1	5	3357	U
3	8	79	A
3	8	80	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	8	88	A
3	8	126	A
3	8	156	U

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

20 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
1	Y5P	5	1991	1	14,19,20	4.20	2 (14%)	18,26,29	1.03	1 (5%)
1	P5P	5	2021	1	20,23,24	0.66	1 (5%)	27,33,36	0.70	1 (3%)
1	P5P	5	2016	1	20,23,24	0.74	1 (5%)	27,33,36	0.73	1 (3%)
1	P5P	5	2020	1	20,23,24	0.74	1 (5%)	27,33,36	0.74	1 (3%)
1	Y5P	5	1989	1	14,19,20	4.22	2 (14%)	18,26,29	1.01	1 (5%)
1	Y5P	5	1988	1	14,19,20	4.35	2 (14%)	18,26,29	1.07	1 (5%)
1	Y5P	5	1994	1	14,19,20	4.34	2 (14%)	18,26,29	1.09	1 (5%)
1	P5P	5	2022	1	20,23,24	0.77	1 (5%)	27,33,36	0.75	1 (3%)
1	Y5P	5	1992	1	14,19,20	4.41	2 (14%)	18,26,29	1.08	1 (5%)
1	Y5P	5	1993	1	14,19,20	4.36	2 (14%)	18,26,29	1.04	1 (5%)
1	P5P	5	2017	1	20,23,24	0.65	1 (5%)	27,33,36	0.71	1 (3%)
1	P5P	5	2019	1	20,23,24	0.68	1 (5%)	27,33,36	0.75	1 (3%)
1	P5P	5	2018	1	20,23,24	0.71	1 (5%)	27,33,36	0.74	1 (3%)
1	P5P	5	2025	1	20,23,24	0.65	1 (5%)	27,33,36	0.70	1 (3%)
1	Y5P	5	1995	1	14,19,20	4.20	2 (14%)	18,26,29	1.00	1 (5%)
1	Y5P	5	1987	1	14,19,20	4.19	2 (14%)	18,26,29	1.05	1 (5%)
1	Y5P	5	1986	1	14,19,20	4.38	2 (14%)	18,26,29	1.06	1 (5%)
1	P5P	5	2023	1	20,23,24	0.66	1 (5%)	27,33,36	0.75	1 (3%)
1	Y5P	5	1990	1	14,19,20	4.33	2 (14%)	18,26,29	1.10	1 (5%)
1	P5P	5	2024	1	20,23,24	0.74	1 (5%)	27,33,36	0.73	1 (3%)

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
1	Y5P	5	1991	1	-	1/7/33/34	0/2/2/2
1	P5P	5	2021	1	-	0/7/25/26	0/3/3/3
1	P5P	5	2016	1	-	0/7/25/26	0/3/3/3
1	P5P	5	2020	1	-	0/7/25/26	0/3/3/3
1	Y5P	5	1989	1	-	1/7/33/34	0/2/2/2
1	Y5P	5	1988	1	-	1/7/33/34	0/2/2/2
1	Y5P	5	1994	1	-	1/7/33/34	0/2/2/2
1	P5P	5	2022	1	-	0/7/25/26	0/3/3/3
1	Y5P	5	1992	1	-	1/7/33/34	0/2/2/2
1	Y5P	5	1993	1	-	1/7/33/34	0/2/2/2
1	P5P	5	2017	1	-	0/7/25/26	0/3/3/3
1	P5P	5	2019	1	-	0/7/25/26	0/3/3/3
1	P5P	5	2018	1	-	0/7/25/26	0/3/3/3
1	P5P	5	2025	1	-	0/7/25/26	0/3/3/3
1	Y5P	5	1995	1	-	1/7/33/34	0/2/2/2
1	Y5P	5	1987	1	-	1/7/33/34	0/2/2/2
1	Y5P	5	1986	1	-	1/7/33/34	0/2/2/2
1	P5P	5	2023	1	-	0/7/25/26	0/3/3/3
1	Y5P	5	1990	1	-	1/7/33/34	0/2/2/2
1	P5P	5	2024	1	-	0/7/25/26	0/3/3/3

All (30) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	1992	Y5P	C2-N3	14.39	1.38	1.27
1	5	1986	Y5P	C2-N3	14.18	1.38	1.27
1	5	1988	Y5P	C2-N3	14.04	1.38	1.27
1	5	1993	Y5P	C2-N3	13.96	1.38	1.27
1	5	1994	Y5P	C2-N3	13.95	1.38	1.27
1	5	1990	Y5P	C2-N3	13.92	1.38	1.27
1	5	1989	Y5P	C2-N3	13.42	1.37	1.27
1	5	1995	Y5P	C2-N3	13.31	1.37	1.27
1	5	1987	Y5P	C2-N3	13.23	1.37	1.27
1	5	1991	Y5P	C2-N3	13.22	1.37	1.27
1	5	1991	Y5P	C4-N3	-8.41	1.38	1.46
1	5	1993	Y5P	C4-N3	-8.34	1.38	1.46
1	5	1987	Y5P	C4-N3	-8.30	1.38	1.46
1	5	1995	Y5P	C4-N3	-8.27	1.38	1.46
1	5	1989	Y5P	C4-N3	-8.25	1.38	1.46

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	1994	Y5P	C4-N3	-8.23	1.38	1.46
1	5	1988	Y5P	C4-N3	-8.15	1.38	1.46
1	5	1990	Y5P	C4-N3	-8.15	1.38	1.46
1	5	1986	Y5P	C4-N3	-8.11	1.38	1.46
1	5	1992	Y5P	C4-N3	-7.96	1.38	1.46
1	5	2022	P5P	C1'-N9	-2.64	1.39	1.46
1	5	2016	P5P	C1'-N9	-2.60	1.39	1.46
1	5	2024	P5P	C1'-N9	-2.57	1.39	1.46
1	5	2020	P5P	C1'-N9	-2.55	1.39	1.46
1	5	2018	P5P	C1'-N9	-2.38	1.39	1.46
1	5	2019	P5P	C1'-N9	-2.26	1.40	1.46
1	5	2021	P5P	C1'-N9	-2.17	1.40	1.46
1	5	2025	P5P	C1'-N9	-2.10	1.40	1.46
1	5	2017	P5P	C1'-N9	-2.09	1.40	1.46
1	5	2023	P5P	C1'-N9	-2.08	1.40	1.46

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	5	1986	Y5P	N1-C2-N3	-3.99	114.34	125.39
1	5	1994	Y5P	N1-C2-N3	-3.97	114.37	125.39
1	5	1992	Y5P	N1-C2-N3	-3.93	114.50	125.39
1	5	1990	Y5P	N1-C2-N3	-3.92	114.53	125.39
1	5	1988	Y5P	N1-C2-N3	-3.89	114.61	125.39
1	5	1993	Y5P	N1-C2-N3	-3.77	114.93	125.39
1	5	1989	Y5P	N1-C2-N3	-3.75	114.99	125.39
1	5	1987	Y5P	N1-C2-N3	-3.74	115.03	125.39
1	5	1995	Y5P	N1-C2-N3	-3.72	115.08	125.39
1	5	1991	Y5P	N1-C2-N3	-3.62	115.36	125.39
1	5	2016	P5P	C6-N1-C2	2.40	118.64	115.80
1	5	2019	P5P	C6-N1-C2	2.38	118.61	115.80
1	5	2017	P5P	C6-N1-C2	2.37	118.60	115.80
1	5	2024	P5P	C6-N1-C2	2.37	118.60	115.80
1	5	2025	P5P	C6-N1-C2	2.37	118.60	115.80
1	5	2021	P5P	C6-N1-C2	2.37	118.59	115.80
1	5	2018	P5P	C6-N1-C2	2.36	118.58	115.80
1	5	2020	P5P	C6-N1-C2	2.35	118.58	115.80
1	5	2023	P5P	C6-N1-C2	2.35	118.58	115.80
1	5	2022	P5P	C6-N1-C2	2.35	118.58	115.80

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	5	1987	Y5P	O4'-C1'-N1-C2
1	5	1989	Y5P	O4'-C1'-N1-C2
1	5	1990	Y5P	O4'-C1'-N1-C2
1	5	1991	Y5P	O4'-C1'-N1-C2
1	5	1993	Y5P	O4'-C1'-N1-C2
1	5	1995	Y5P	O4'-C1'-N1-C2
1	5	1986	Y5P	O4'-C1'-N1-C2
1	5	1988	Y5P	O4'-C1'-N1-C2
1	5	1992	Y5P	O4'-C1'-N1-C2
1	5	1994	Y5P	O4'-C1'-N1-C2

There are no ring outliers.

13 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	5	1991	Y5P	1	0
1	5	1989	Y5P	2	0
1	5	1988	Y5P	1	0
1	5	1994	Y5P	1	0
1	5	2022	P5P	1	0
1	5	1992	Y5P	1	0
1	5	1993	Y5P	1	0
1	5	2017	P5P	1	0
1	5	2018	P5P	1	0
1	5	1987	Y5P	1	0
1	5	2023	P5P	2	0
1	5	1990	Y5P	2	0
1	5	2024	P5P	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 286 ligands modelled in this entry, 286 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
47	z	2
1	5	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	z	107:UNK	C	115:UNK	N	20.22
1	5	1995:Y5P	O3'	2016:P5P	P	17.42
1	z	127:UNK	C	131:UNK	N	9.67

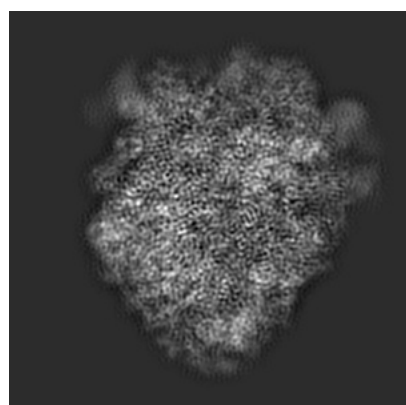
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-3151. These allow visual inspection of the internal detail of the map and identification of artifacts.

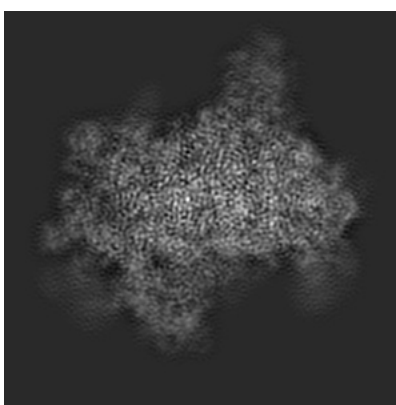
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

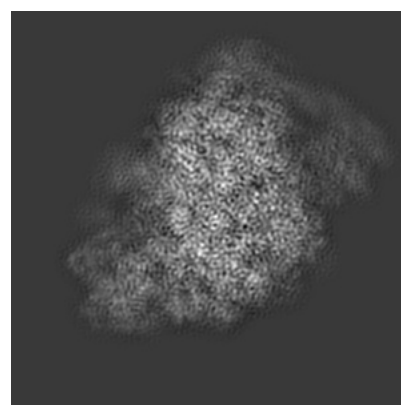
6.1.1 Primary map



X



Y

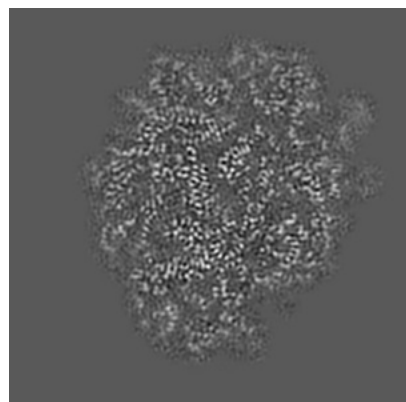


Z

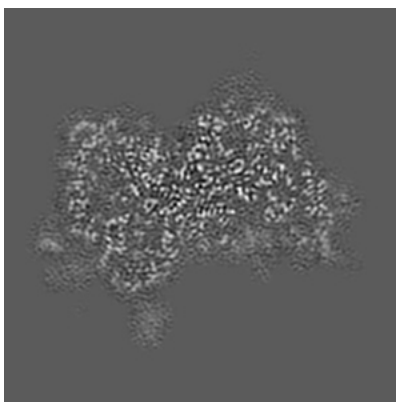
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

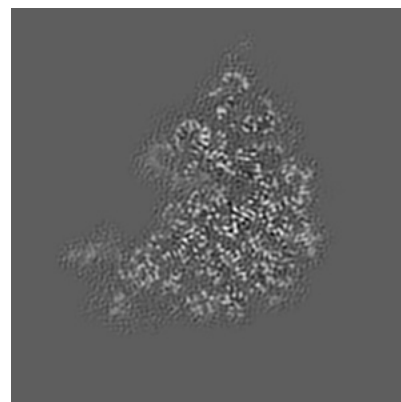
6.2.1 Primary map



X Index: 108



Y Index: 108

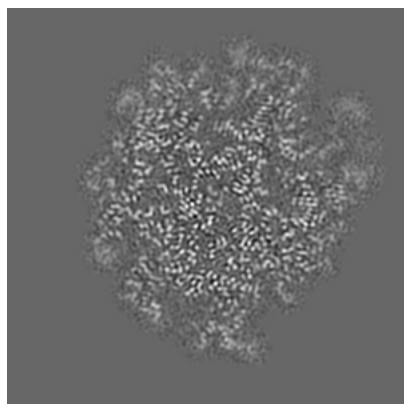


Z Index: 108

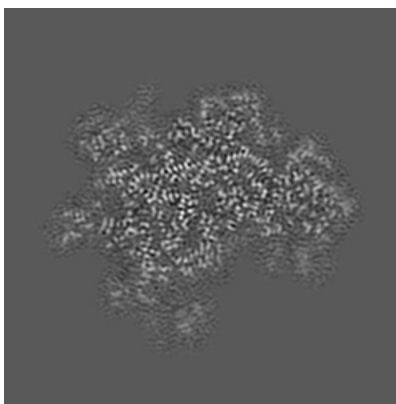
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 116



Y Index: 91

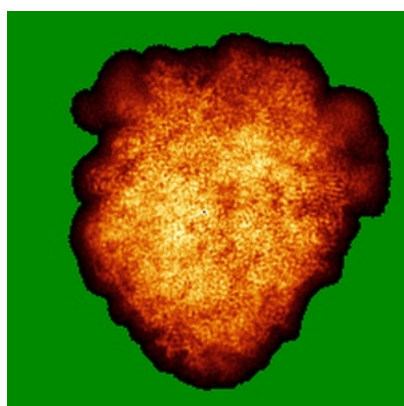


Z Index: 94

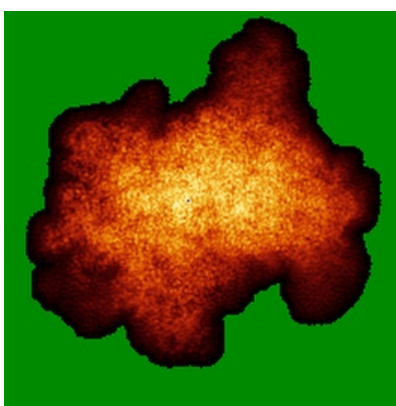
The images above show the largest variance slices of the map in three orthogonal directions.

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

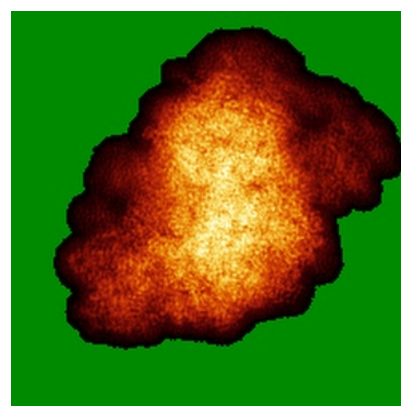
6.4.1 Primary map



X



Y

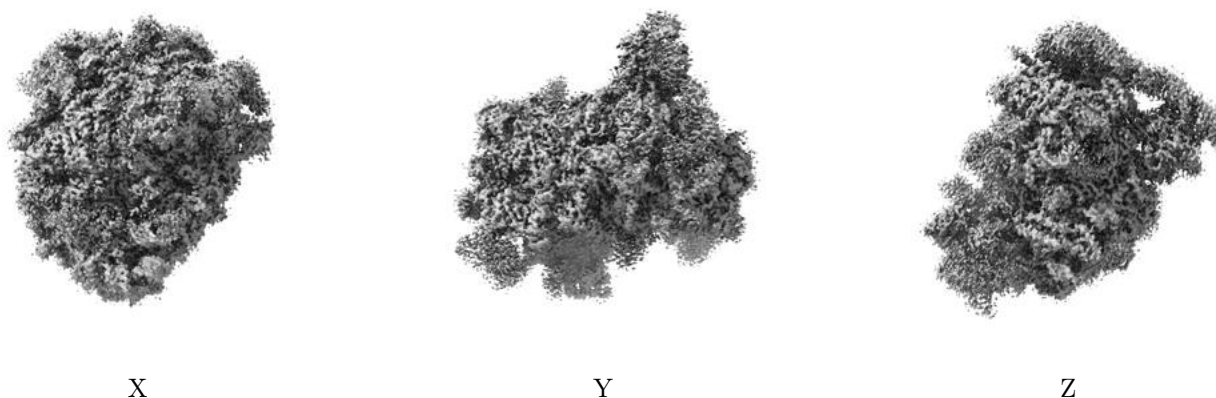


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

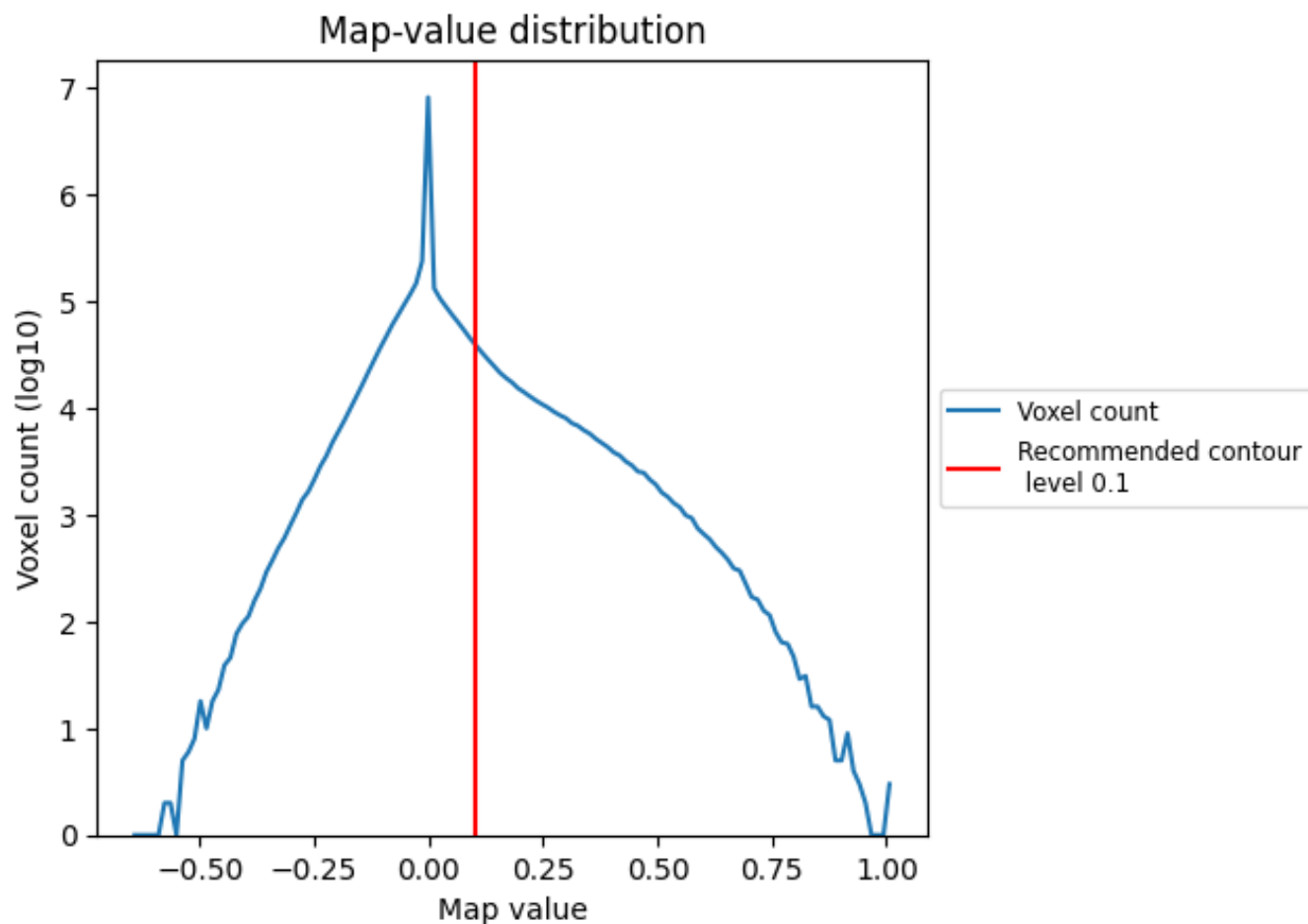
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

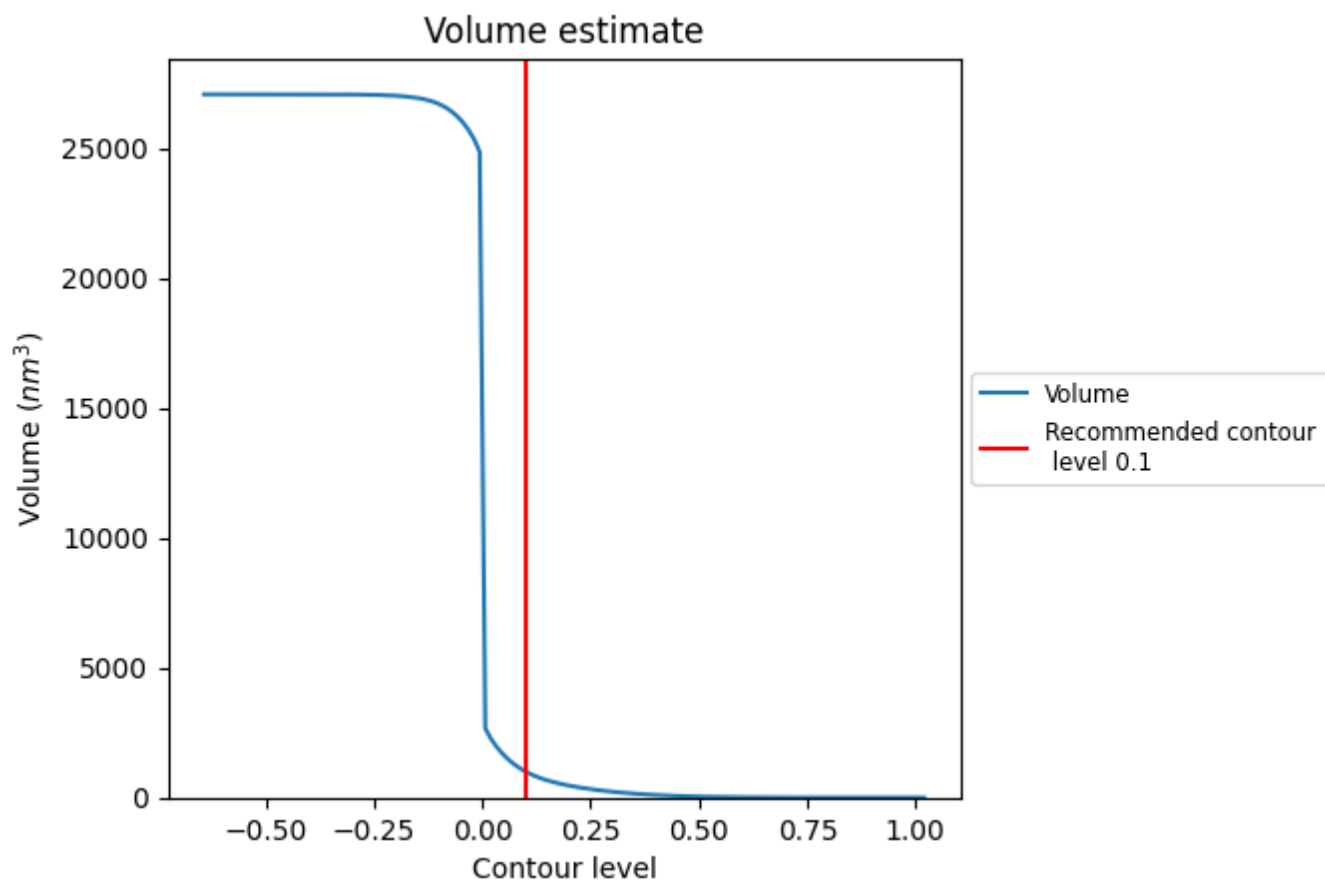
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

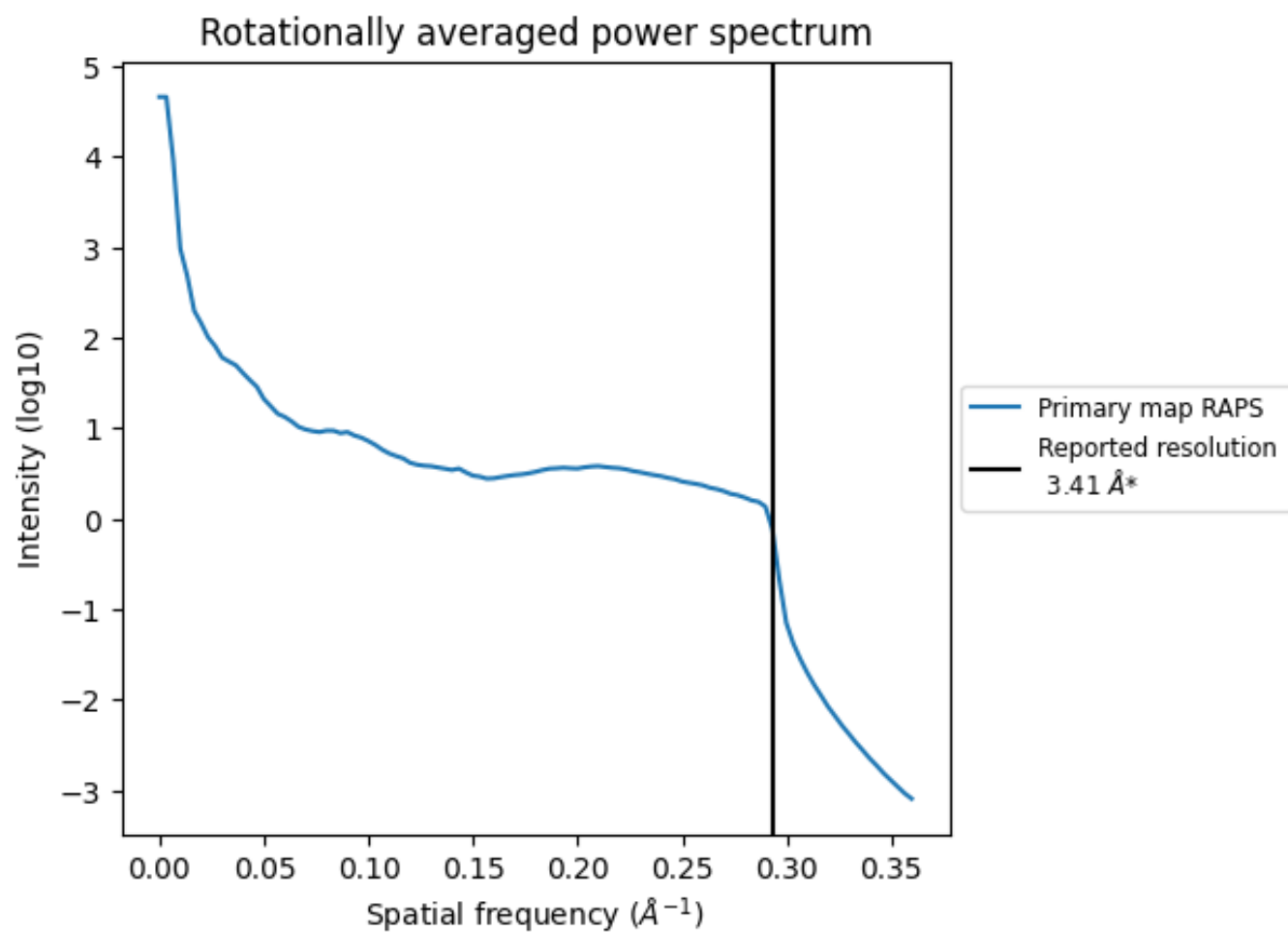
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1001 nm^3 ; this corresponds to an approximate mass of 904 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.293 Å⁻¹

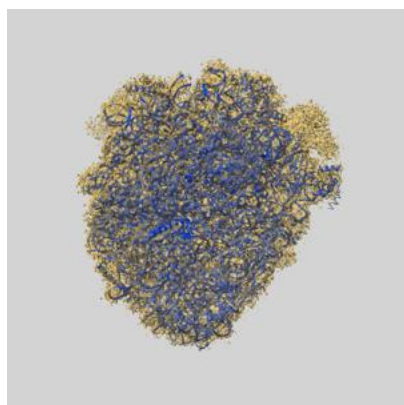
8 Fourier-Shell correlation

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

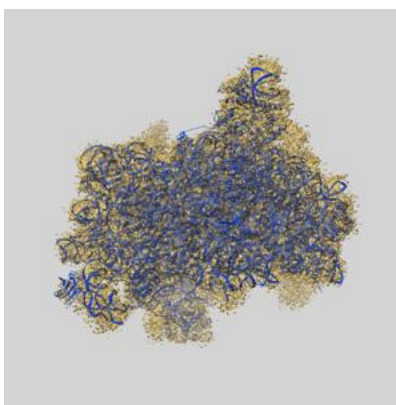
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-3151 and PDB model 5APO. Per-residue inclusion information can be found in [section 3](#) on [page 14](#).

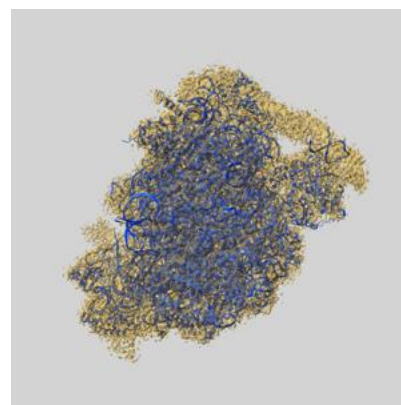
9.1 Map-model overlay [i](#)



X



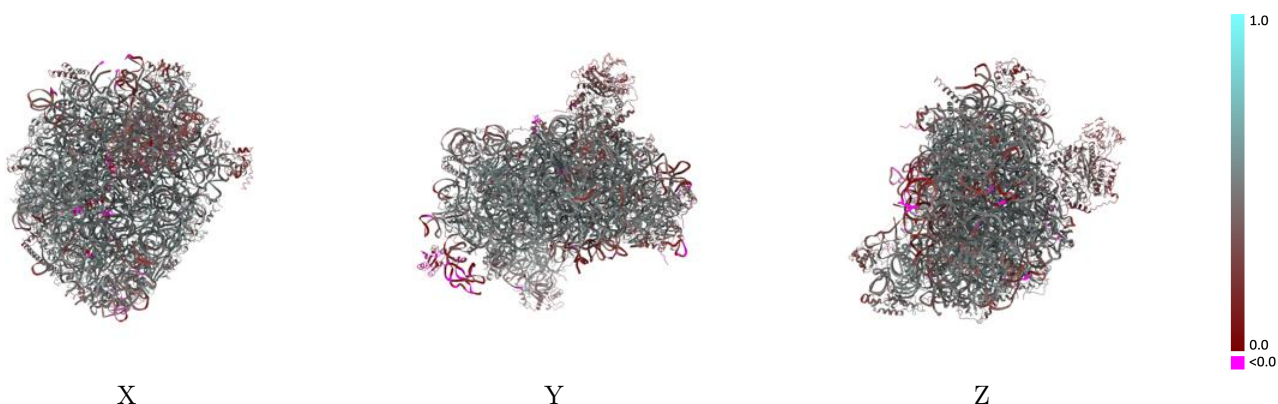
Y



Z

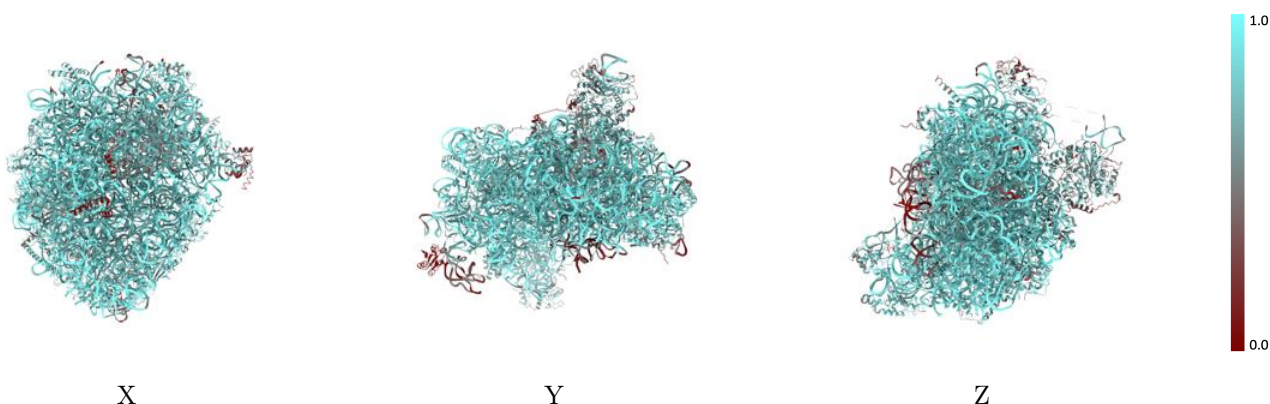
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



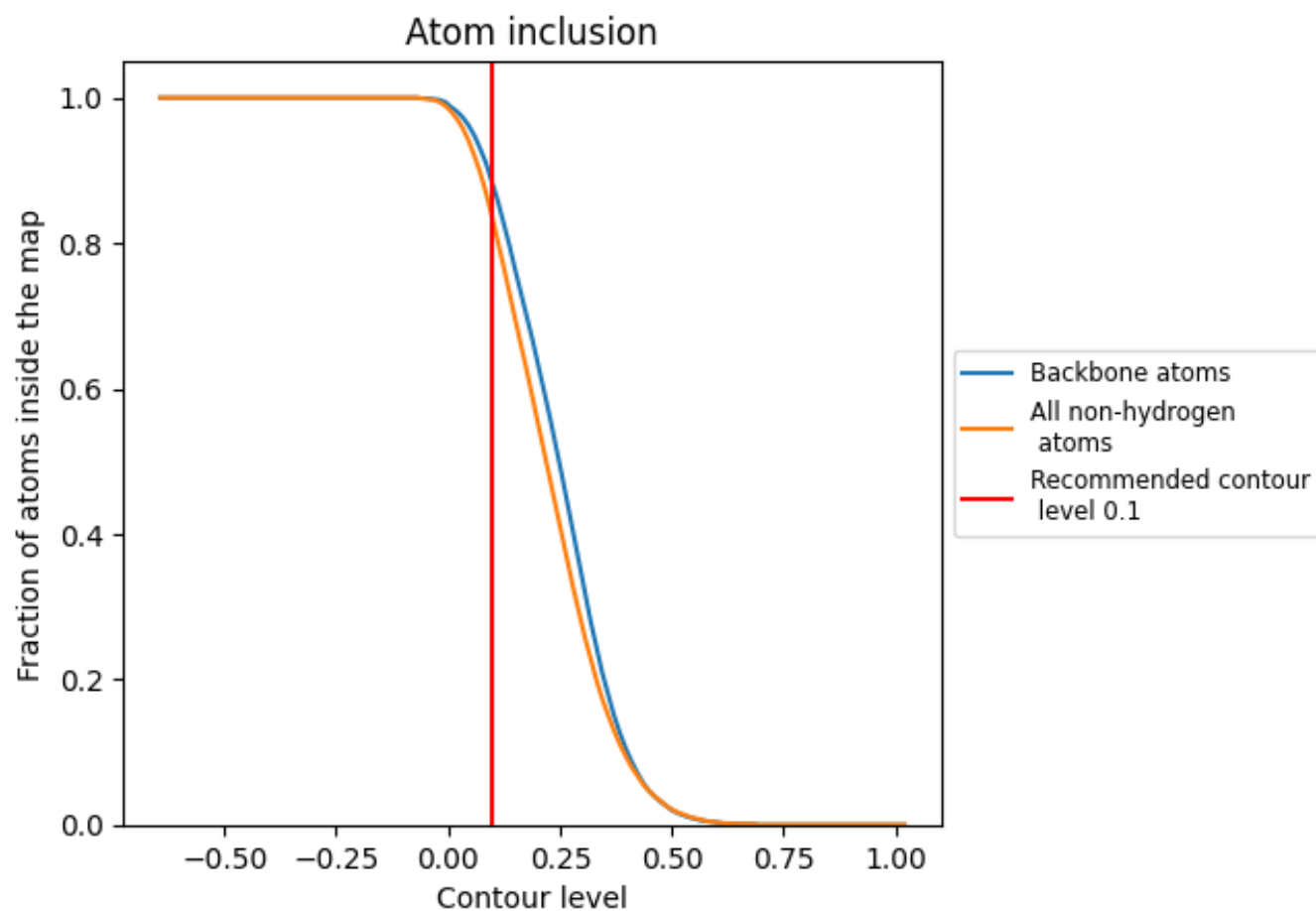
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.1).

9.4 Atom inclusion [i](#)



At the recommended contour level, 88% of all backbone atoms, 83% 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 (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8320	 0.4600
5	 0.8790	 0.4610
7	 0.9300	 0.4640
8	 0.9160	 0.4870
A	 0.8160	 0.5030
B	 0.8610	 0.5040
C	 0.8540	 0.5080
D	 0.7770	 0.4220
E	 0.7700	 0.4440
F	 0.8600	 0.5080
G	 0.7920	 0.4370
H	 0.8090	 0.4780
I	 0.7880	 0.4720
J	 0.7020	 0.3630
L	 0.8340	 0.4890
M	 0.8430	 0.4840
N	 0.8130	 0.5010
O	 0.8650	 0.5110
P	 0.8180	 0.5010
Q	 0.8520	 0.5180
R	 0.8170	 0.4810
S	 0.8480	 0.5050
T	 0.8160	 0.4920
U	 0.7240	 0.4450
V	 0.8220	 0.4870
W	 0.8260	 0.4880
X	 0.8120	 0.4890
Y	 0.8170	 0.4890
Z	 0.7700	 0.4300
a	 0.8570	 0.5030
b	 0.7630	 0.4570
c	 0.7300	 0.4050
d	 0.7670	 0.4720
e	 0.8480	 0.5200
f	 0.8760	 0.5270



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
g	 0.7980	 0.4900
h	 0.8130	 0.4970
i	 0.7450	 0.4320
j	 0.8830	 0.5260
k	 0.6920	 0.4240
l	 0.8360	 0.5070
m	 0.7850	 0.4820
o	 0.6490	 0.4210
p	 0.8010	 0.4720
q	 0.0520	 0.0480
x	 0.6010	 0.3600
y	 0.5160	 0.3680
z	 0.1490	 0.1320