



Full wwPDB EM Validation Report ⓘ

Oct 13, 2025 – 04:51 pm BST

PDB ID : 7ASO / pdb_00007aso
EMDB ID : EMD-11902
Title : Staphylococcus aureus 70S after 30 minutes incubation at 37C
Authors : Camicata, G.; Bashan, A.; Yonath, A.
Deposited on : 2020-10-27
Resolution : 3.11 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.dev129
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.46

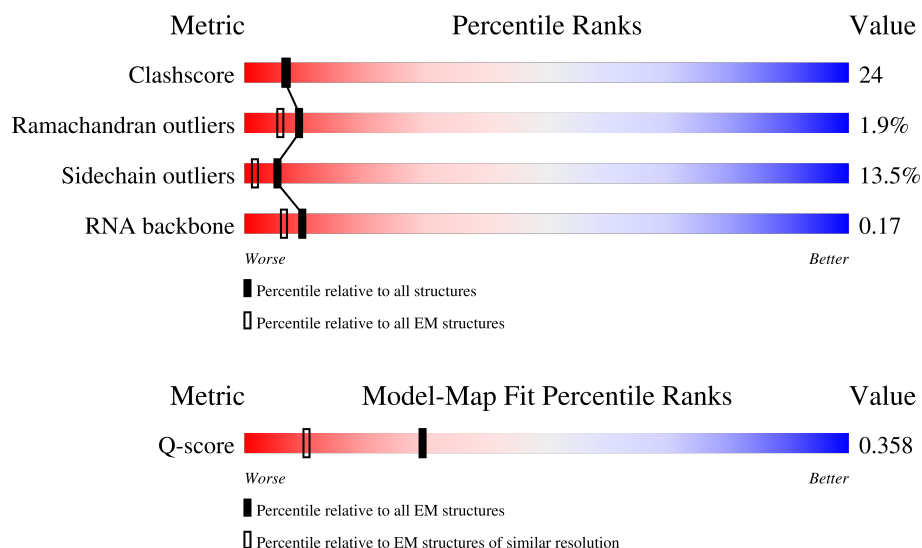
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.11 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	14465 (2.61 - 3.61)

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	C	114	
2	B	202	
3	1	198	

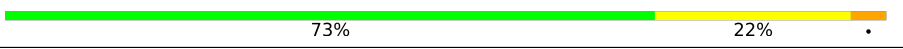
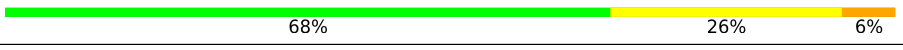
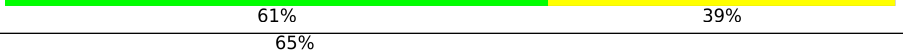
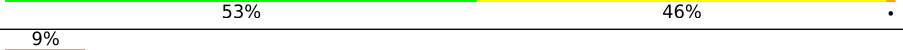
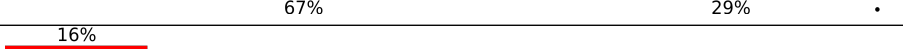
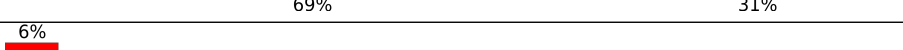
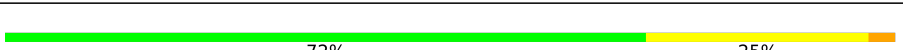
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Mol	Chain	Length	Quality of chain
4	D	156	
5	E	95	
6	G	155	
7	F	130	
8	H	127	
9	1	80	
10	2	114	
11	3	136	
12	4	113	
13	5	60	
14	6	88	
15	7	83	
16	8	80	
17	9	56	
18	I	78	
19	A	78	
20	X	1415	
21	e	215	
22	J	205	
23	K	165	
24	L	174	
25	M	145	
26	N	122	
27	O	145	
28	P	136	

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Mol	Chain	Length	Quality of chain
29	Q	119	
30	R	113	
31	S	116	
32	U	102	
33	V	112	
34	W	89	
35	Z	103	
36	a	93	
37	b	82	
38	c	49	
39	d	62	
40	f	57	
41	g	47	
42	T	47	
43	i	43	
44	j	60	
45	k	37	
46	h	74	
47	Y	2720	

2 Entry composition

There are 47 unique types of molecules in this entry. The entry contains 125530 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 5S.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	C	114	Total	C	N	O	P	0	0
			2430	1086	436	794	114		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	202	Total	C	N	O	S	0	0
			1551	979	293	278	1		

- Molecule 3 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms				AltConf	Trace
3	1	198	Total	C	N	O	0	0
			1058	634	211	213		

- Molecule 4 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	156	Total	C	N	O	S	0	0
			1153	727	211	213	2		

- Molecule 5 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	95	Total	C	N	O	S	0	0
			785	496	138	149	2		

- Molecule 6 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	155	Total	C	N	O	S	0	0
			1164	724	220	217	3		

- Molecule 7 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	F	130	Total	C	N	O	S	0	0
			1007	639	180	184	4		

- Molecule 8 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	127	Total	C	N	O	S	0	0
			975	605	194	175	1		

- Molecule 9 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms				AltConf	Trace
9	1	80	Total	C	N	O	0	0
			626	394	116	116		

- Molecule 10 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	2	114	Total	C	N	O	S	0	0
			826	507	158	159	2		

- Molecule 11 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	3	136	Total	C	N	O	S	0	0
			976	611	190	173	2		

- Molecule 12 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	4	113	Total	C	N	O	S	0	0
			828	510	168	149	1		

- Molecule 13 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	5	60	Total	C	N	O	S	0	0
			497	314	99	79	5		

- Molecule 14 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	6	88	Total	C	N	O	S	0	0
			713	441	148	123	1		

- Molecule 15 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	7	83	Total	C	N	O	S	0	0
			537	335	105	96	1		

- Molecule 16 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	8	80	Total	C	N	O	S	0	0
			520	327	97	96			

- Molecule 17 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	9	56	Total	C	N	O	S	0	0
			458	292	88	76	2		

- Molecule 18 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	I	78	Total	C	N	O	S	0	0
			541	340	104	96	1		

- Molecule 19 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	A	78	Total	C	N	O	S	0	0
			503	303	100	99	1		

- Molecule 20 is a RNA chain called 16S.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	X	1415	Total	C	N	O	P	0	0
			30328	13542	5559	9814	1413		

- Molecule 21 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	e	215	Total	C	N	O	S	0	0
			1570	987	295	283	5		

- Molecule 22 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	J	205	Total	C	N	O	S	0	0
			1514	953	282	277	2		

- Molecule 23 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	K	165	Total	C	N	O	S	0	0
			1021	632	184	203	2		

- Molecule 24 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	L	174	Total	C	N	O	S	0	0
			1062	660	205	195	2		

- Molecule 25 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	M	145	Total	C	N	O	S	0	0
			1124	703	205	213	3		

- Molecule 26 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	N	122	Total	C	N	O	S	0	0
			918	572	174	168	4		

- Molecule 27 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms				AltConf	Trace
27	O	145	Total	C	N	O	0	0
			1020	631	207	182		

- Molecule 28 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	P	136	Total	C	N	O	S	0	0
			1043	672	202	165	4		

- Molecule 29 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Q	119	Total	C	N	O	S	0	0
			898	551	176	170	1		

- Molecule 30 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	R	113	Total	C	N	O	S	0	0
			765	474	145	146			

- Molecule 31 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	S	116	Total	C	N	O	S	0	0
			942	593	189	156	4		

- Molecule 32 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	U	102	Total	C	N	O	S	0	0
			749	474	140	134	1		

- Molecule 33 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	V	112	Total	C	N	O	S	0	0
			837	526	163	146	2		

- Molecule 34 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	W	89	Total	C	N	O	S	0	0
			694	436	126	128	4		

- Molecule 35 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				AltConf	Trace
35	Z	103	Total	C	N	O	0	0
			734	462	137	135		

- Molecule 36 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms				AltConf	Trace
36	a	93	Total	C	N	O	0	0
			648	411	115	122		

- Molecule 37 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	b	82	Total	C	N	O	0	0
			615	382	122	111		

- Molecule 38 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	c	49	Total	C	N	O	0	0
			377	233	82	62		

- Molecule 39 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	d	62	Total	C	N	O	0	0
			493	304	93	96		

- Molecule 40 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	f	57	Total	C	N	O	0	0
			436	272	83	81		

- Molecule 41 is a protein called 50S ribosomalprotein L32p.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	g	47	Total	C	N	O	S	0	0
			356	218	77	59	2		

- Molecule 42 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	T	47	Total	C	N	O	S	0	0
			380	233	75	68	4		

- Molecule 43 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	i	43	Total	C	N	O	S	0	0
			367	225	89	52	1		

- Molecule 44 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	j	60	Total	C	N	O	S	0	0
			446	277	92	75	2		

- Molecule 45 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	k	37	Total	C	N	O	S	0	0
			272	170	57	40	5		

- Molecule 46 is a protein called 50S ribosomal protein L31 type B.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	h	74	Total	C	N	O	S	0	0
			447	269	86	91	1		

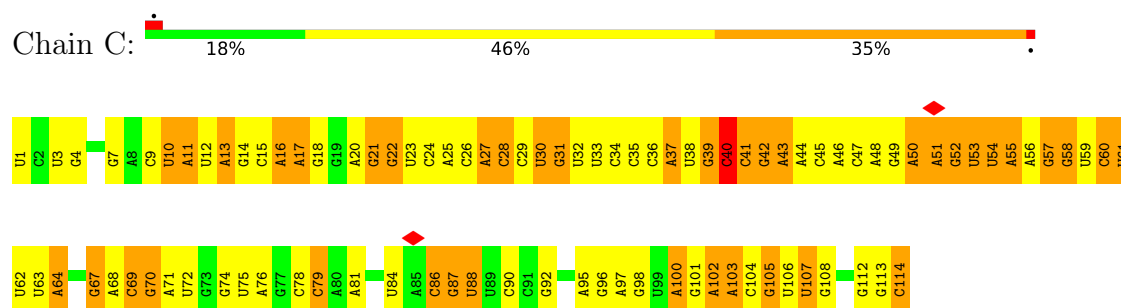
- Molecule 47 is a RNA chain called 23S.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Y	2720	Total	C	N	O	P	0	0
			58326	26039	10694	18873	2720		

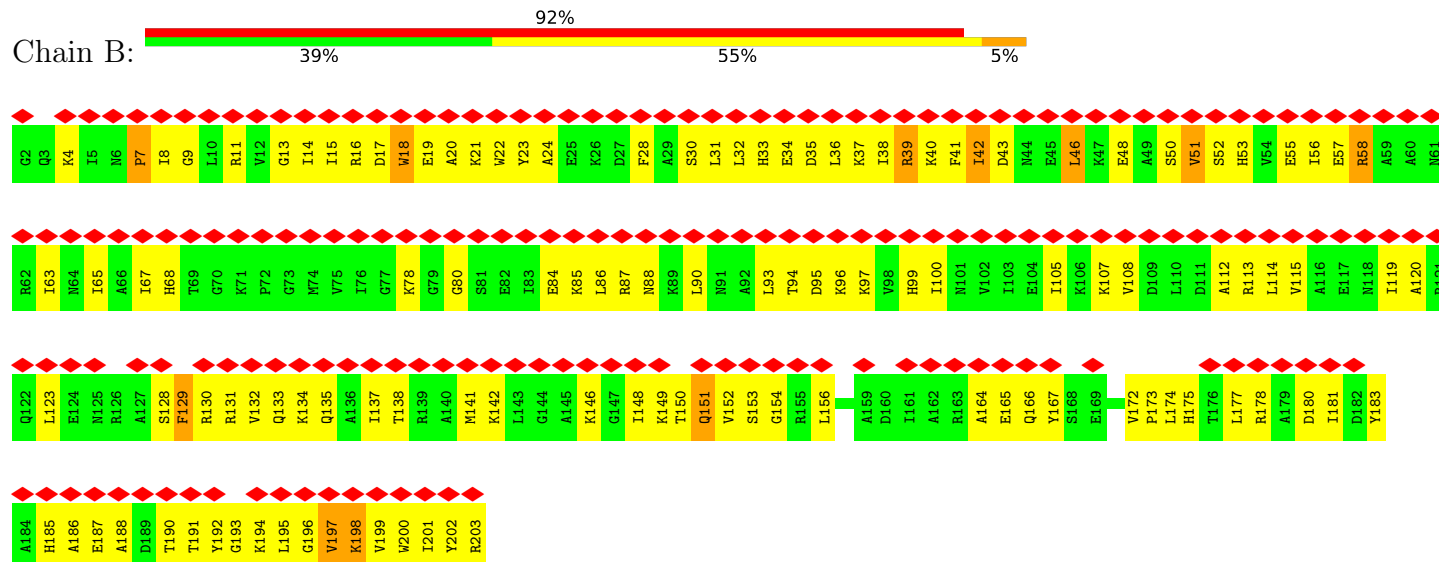
3 Residue-property plots

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.

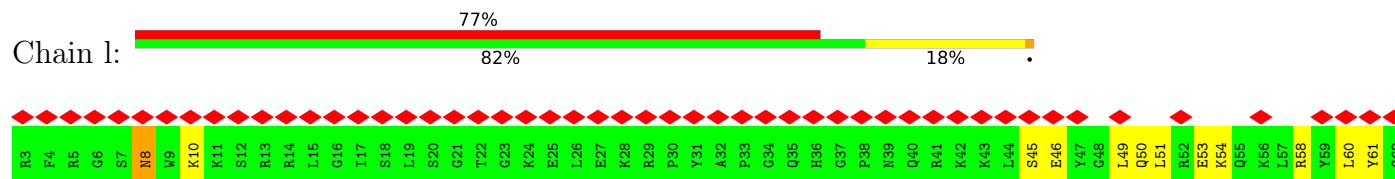
• Molecule 1: 5S

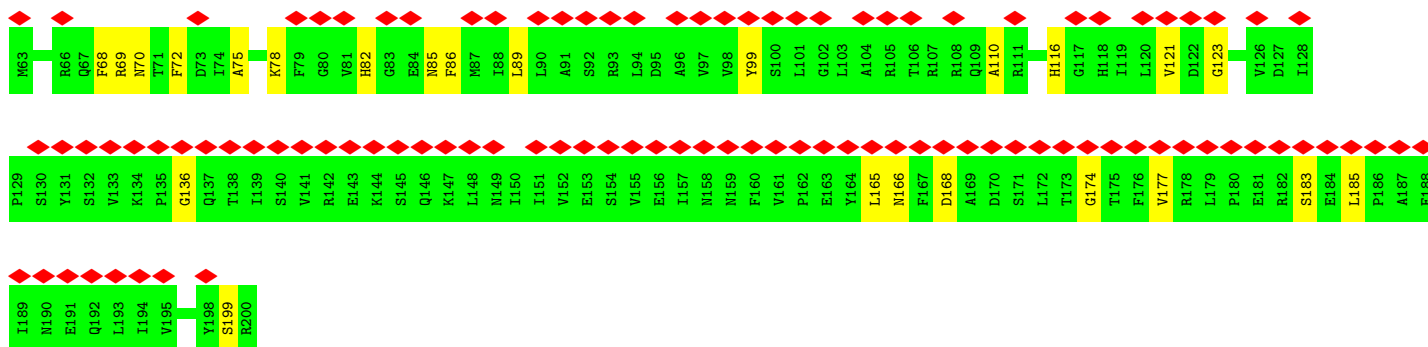


• Molecule 2: 30S ribosomal protein S3

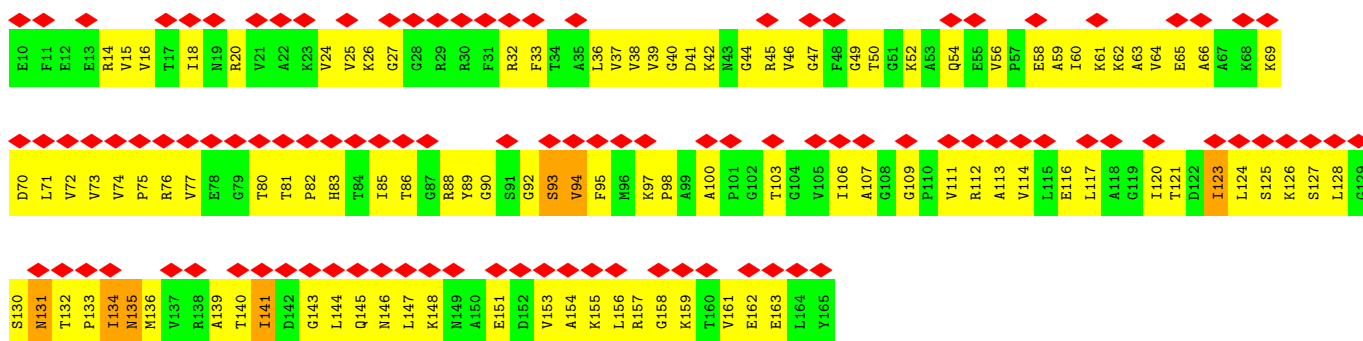


• Molecule 3: 30S ribosomal protein S4

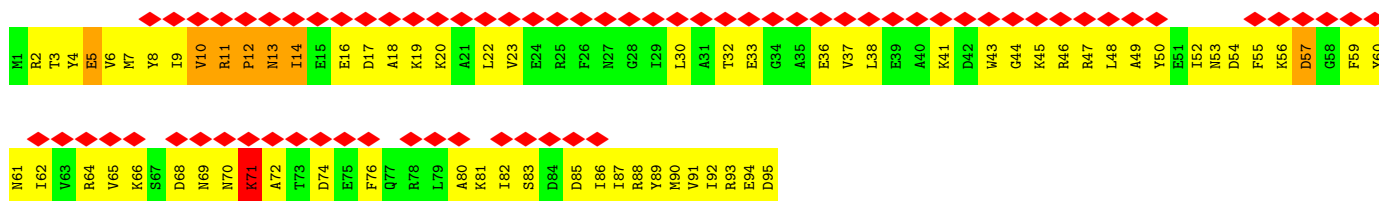
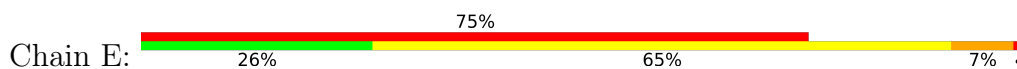




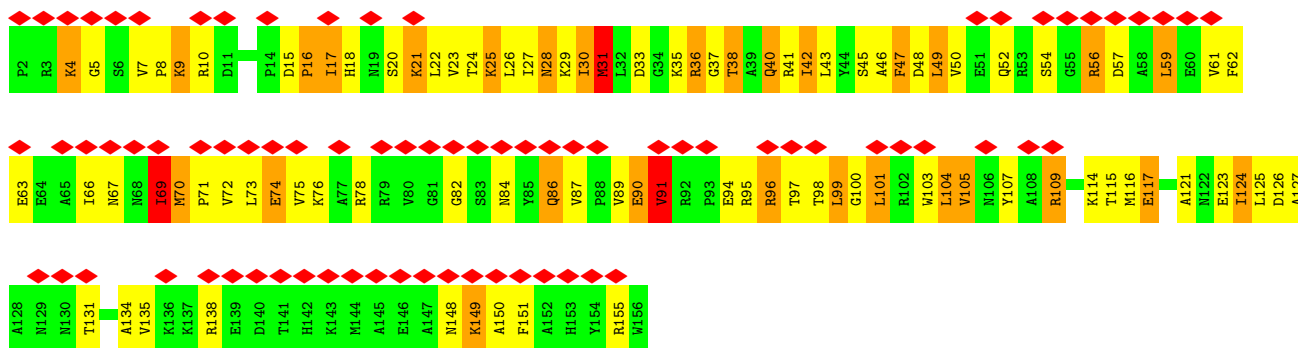
• Molecule 4: 30S ribosomal protein S5



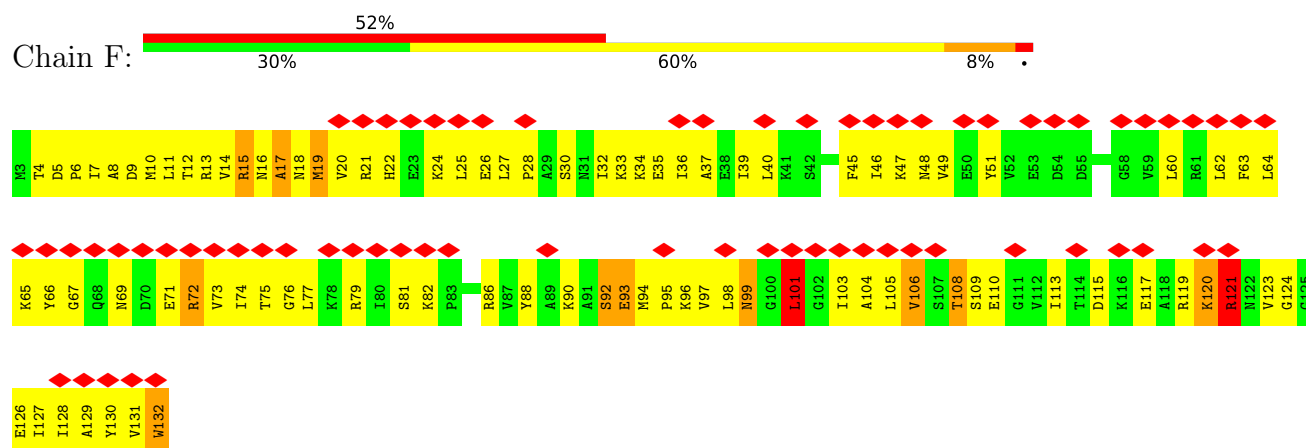
• Molecule 5: 30S ribosomal protein S6



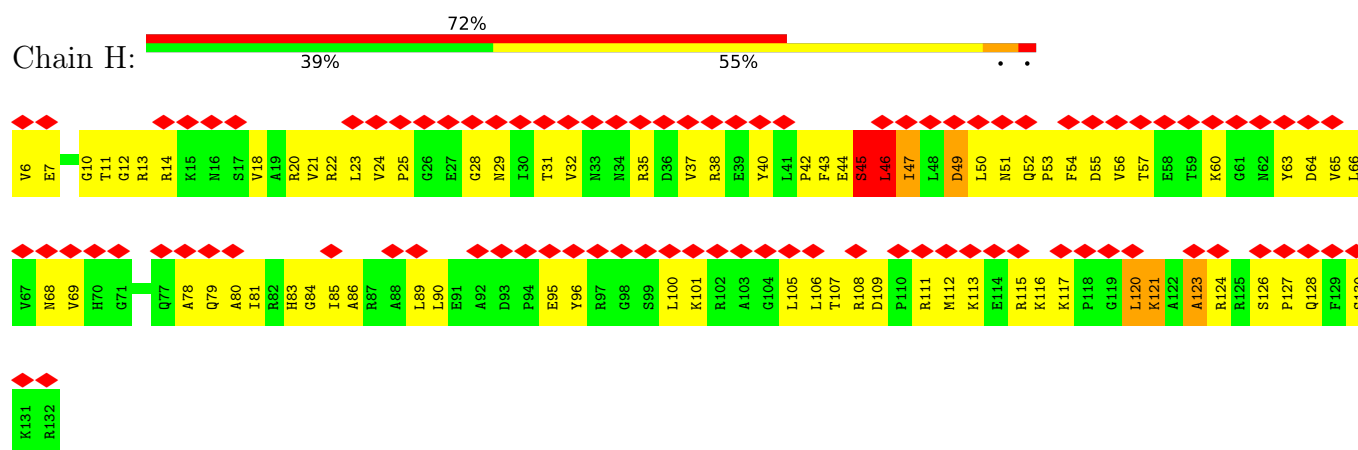
• Molecule 6: 30S ribosomal protein S7



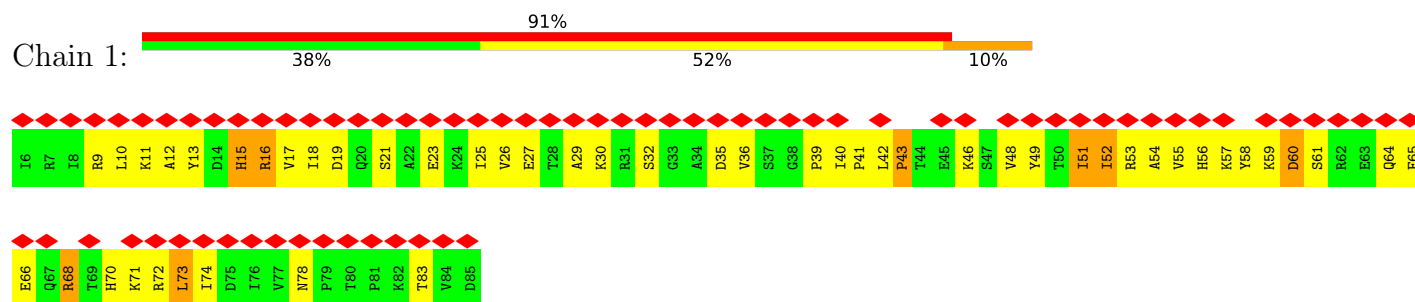
- Molecule 7: 30S ribosomal protein S8



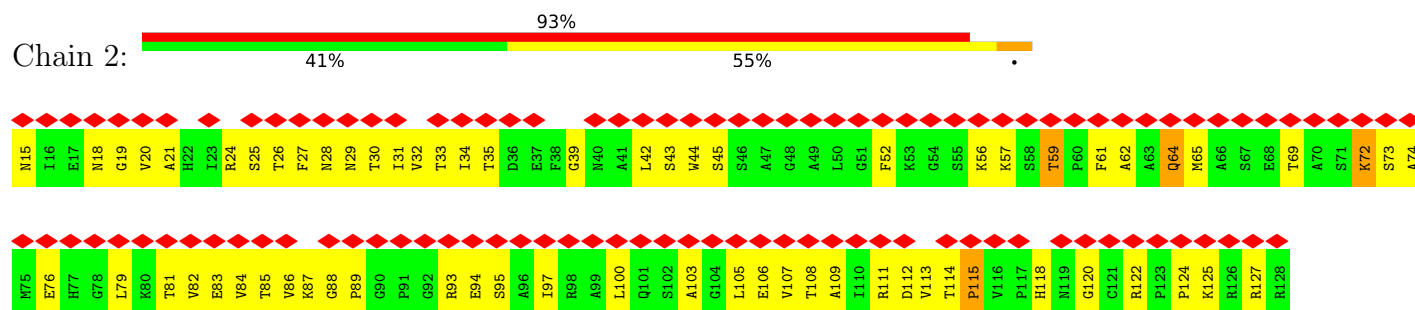
- Molecule 8: 30S ribosomal protein S9



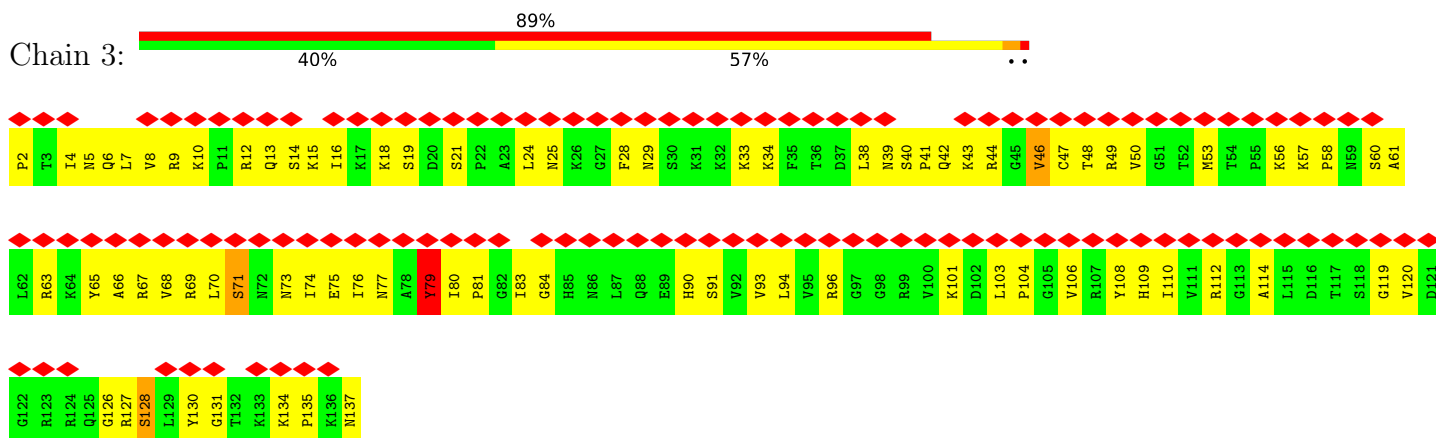
- Molecule 9: 30S ribosomal protein S10



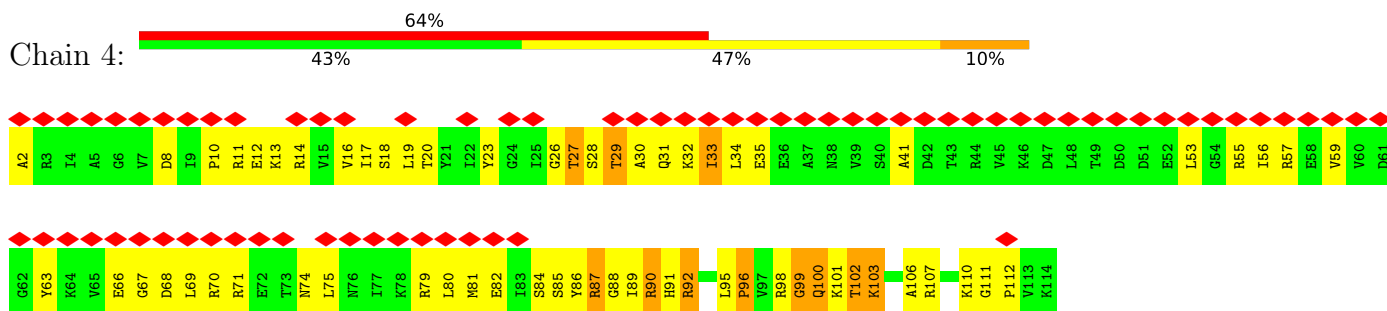
- Molecule 10: 30S ribosomal protein S11



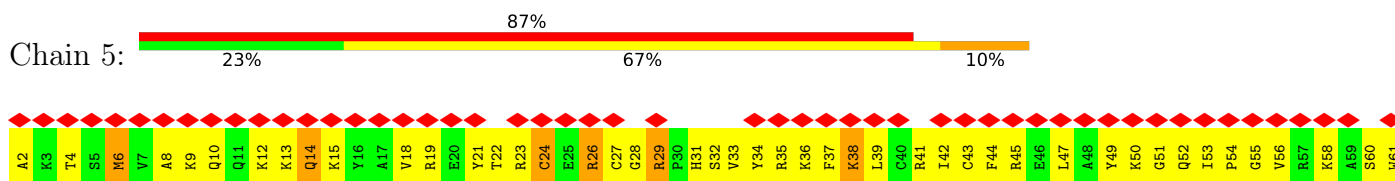
- Molecule 11: 30S ribosomal protein S12



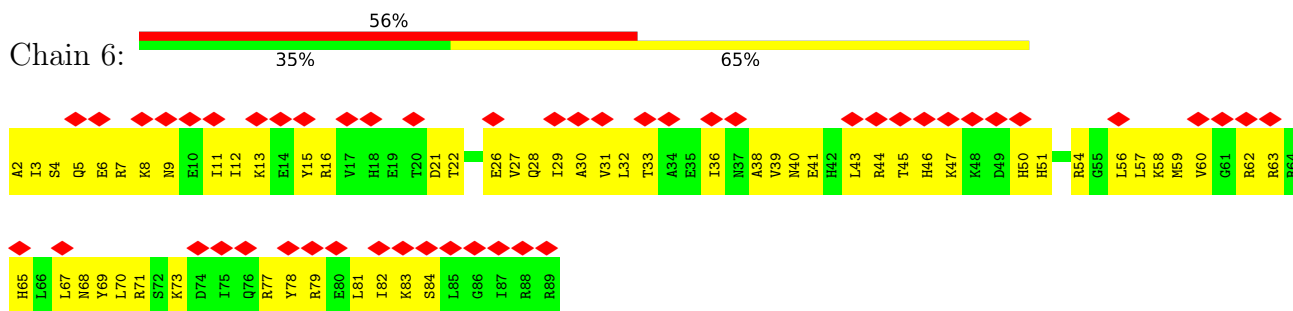
- Molecule 12: 30S ribosomal protein S13



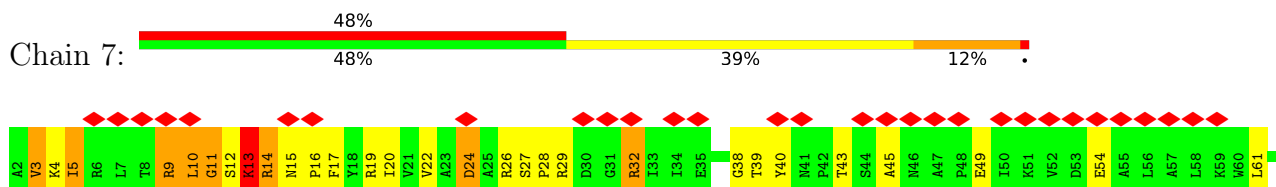
- Molecule 13: 30S ribosomal protein S14 type Z



- Molecule 14: 30S ribosomal protein S15

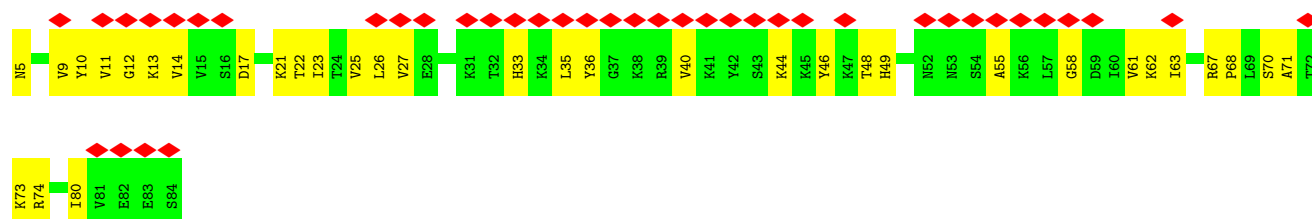


- Molecule 15: 30S ribosomal protein S16





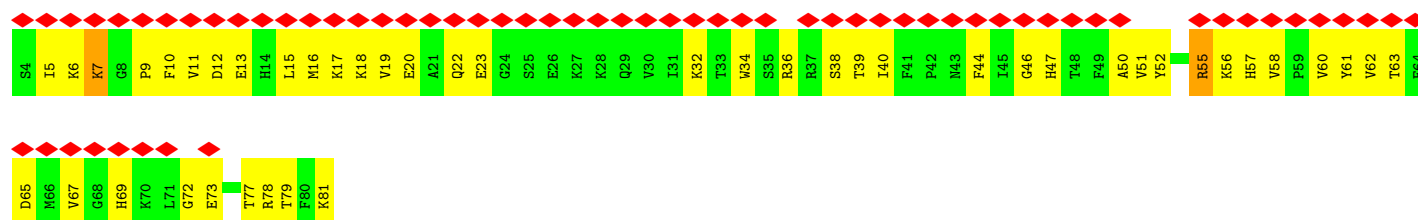
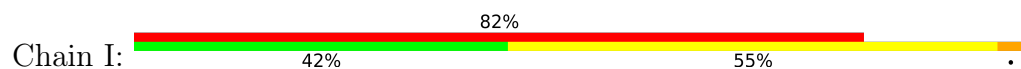
• Molecule 16: 30S ribosomal protein S17



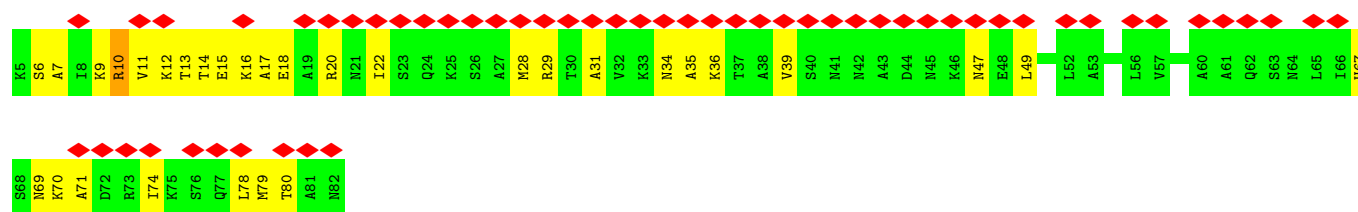
• Molecule 17: 30S ribosomal protein S18



• Molecule 18: 30S ribosomal protein S19



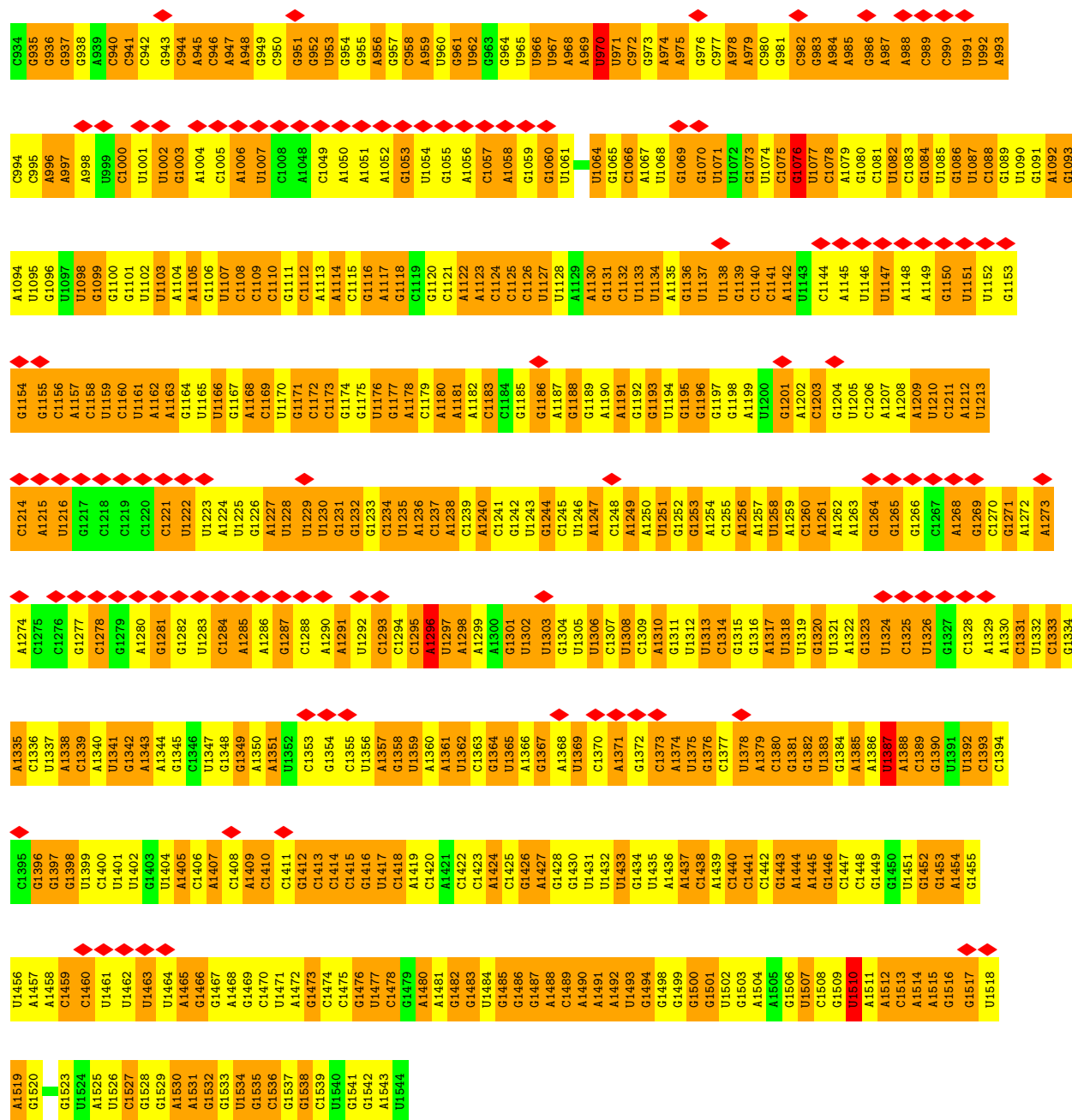
• Molecule 19: 30S ribosomal protein S20



• Molecule 20: 16S





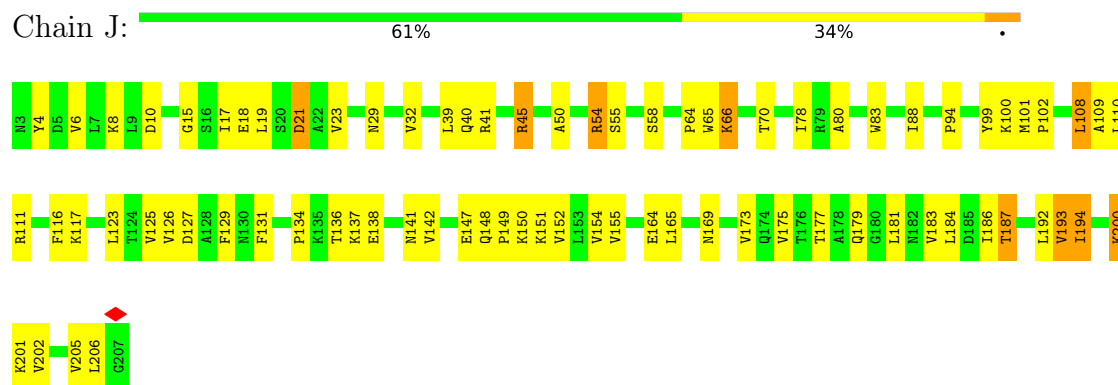


• Molecule 21: 50S ribosomal protein L3

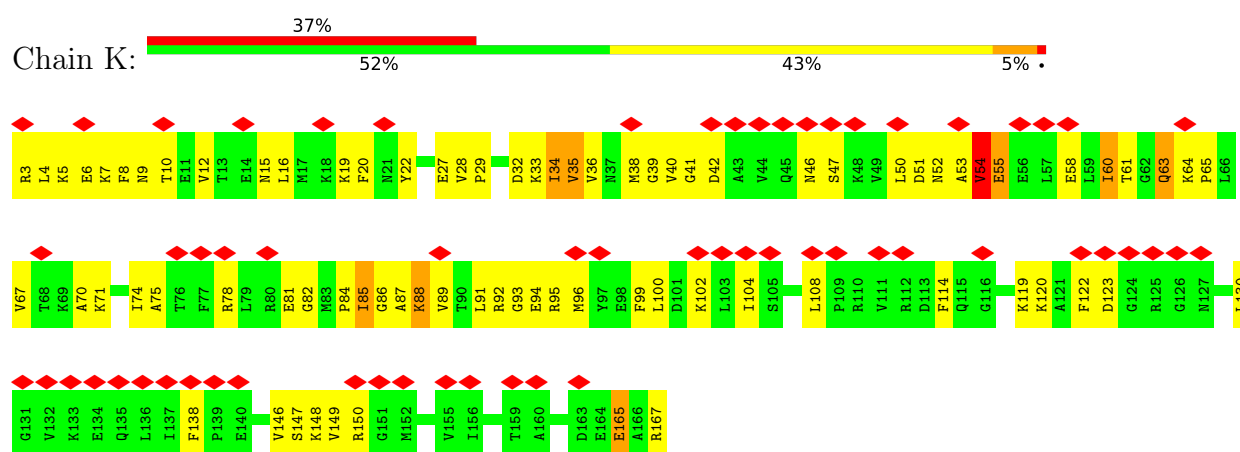
Chain e: 65% 29% 6%



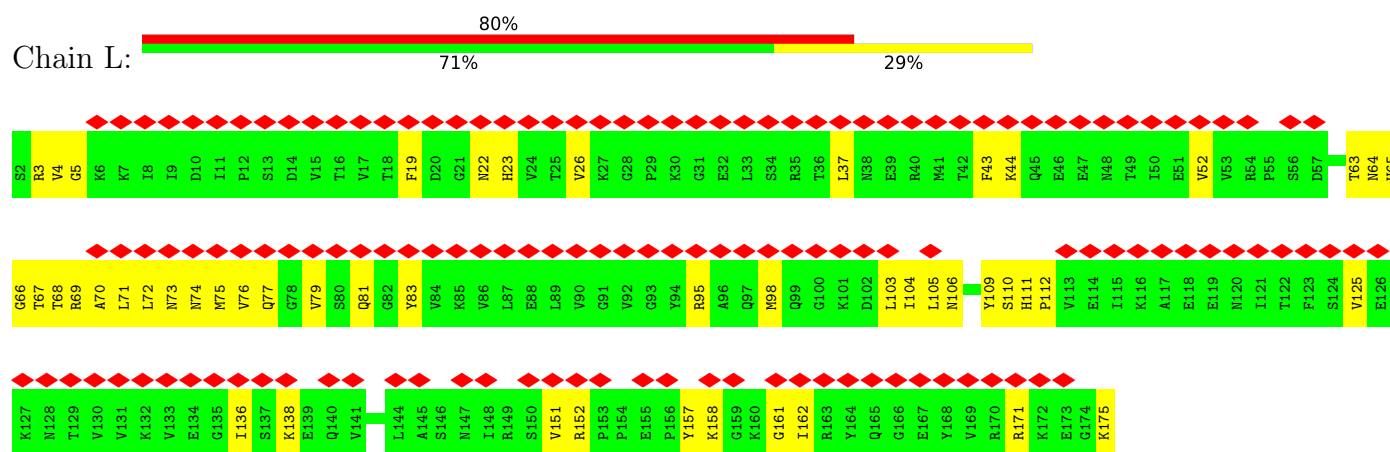
- Molecule 22: 50S ribosomal protein L4



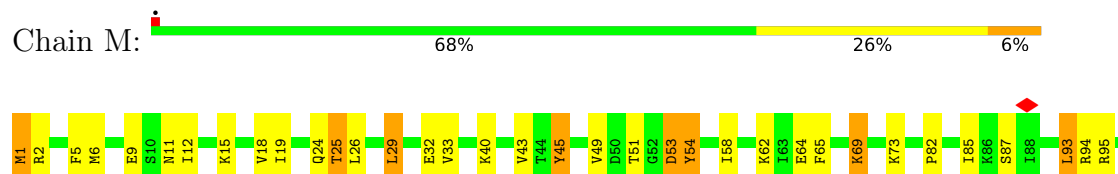
- Molecule 23: 50S ribosomal protein L5



- Molecule 24: 50S ribosomal protein L6



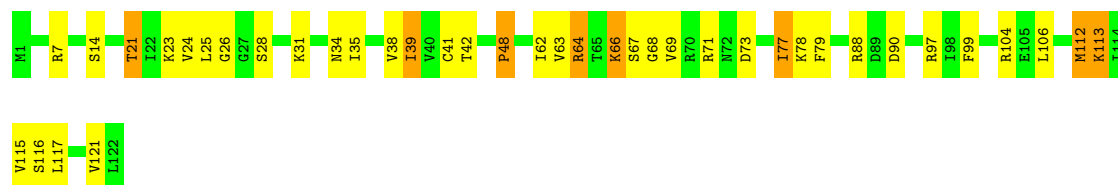
- Molecule 25: 50S ribosomal protein L13





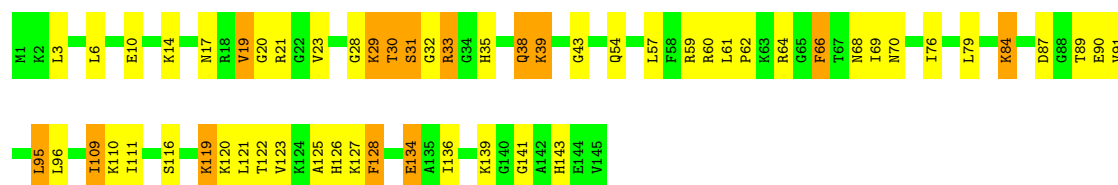
- Molecule 26: 50S ribosomal protein L14

Chain N: 67% 26% 7%



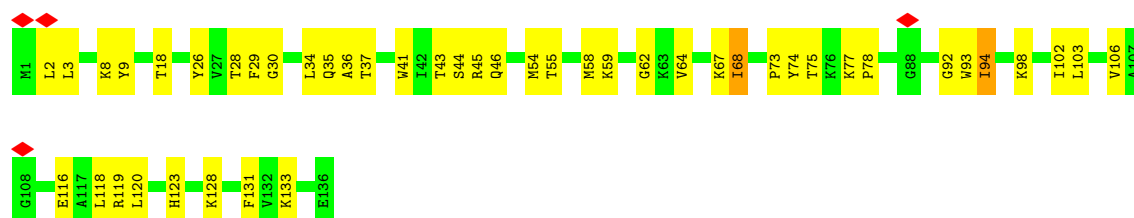
- Molecule 27: 50S ribosomal protein L15

Chain O: 61% 30% 10%



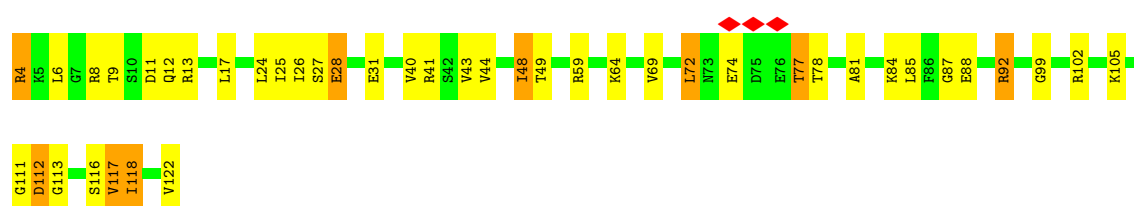
- Molecule 28: 50S ribosomal protein L16

Chain P: 66% 32% 2%



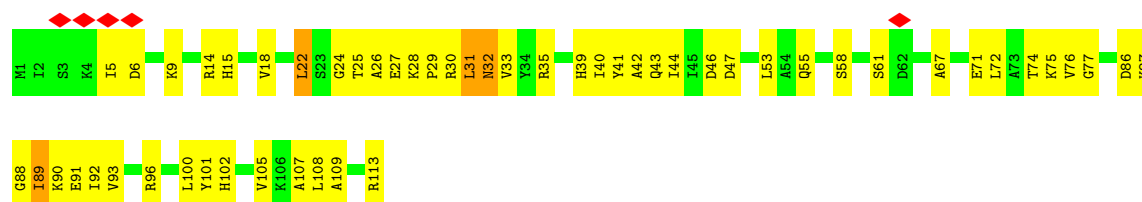
- Molecule 29: 50S ribosomal protein L17

Chain Q: 64% 29% 8%



- Molecule 30: 50S ribosomal protein L18

Chain R: 52% 44% 4%



- Molecule 31: 50S ribosomal protein L20

Chain S: 73% 22%



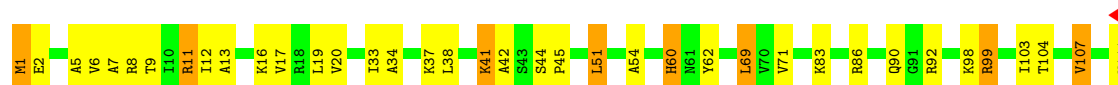
- Molecule 32: 50S ribosomal protein L21

Chain U: 68% 26% 6%



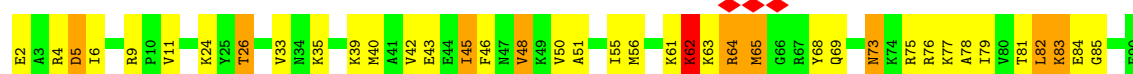
- Molecule 33: 50S ribosomal protein L22

Chain V: 66% 27% 7%



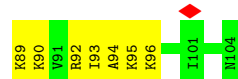
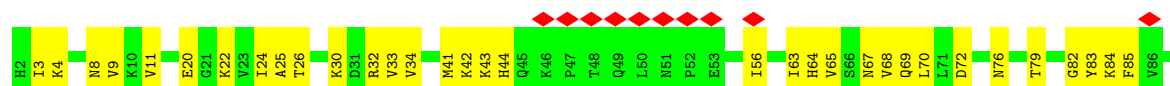
- Molecule 34: 50S ribosomal protein L23

Chain W: 56% 33% 10%

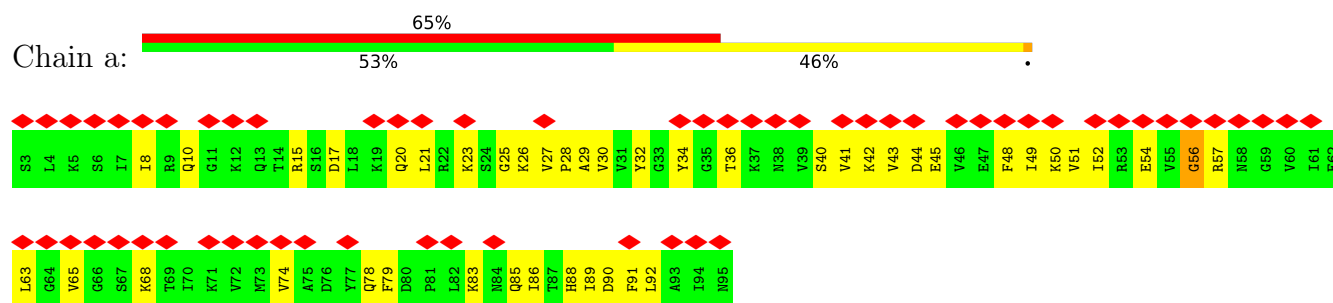


- Molecule 35: 50S ribosomal protein L24

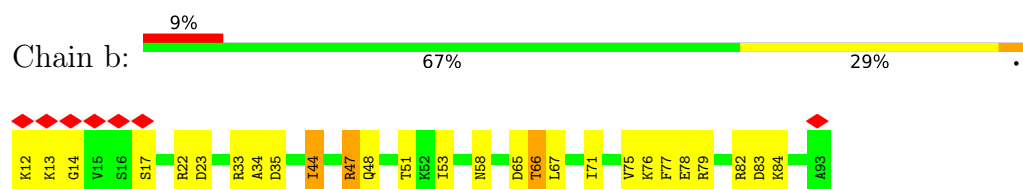
Chain Z: 11% 61% 39%



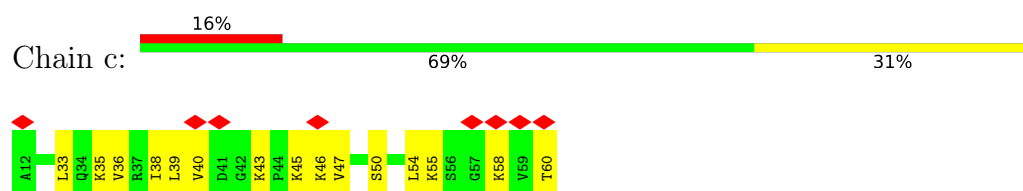
- Molecule 36: 50S ribosomal protein L25



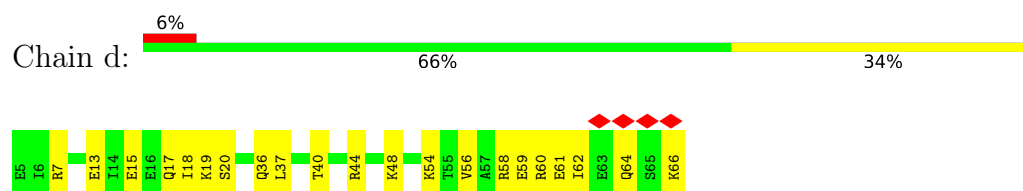
- Molecule 37: 50S ribosomal protein L27



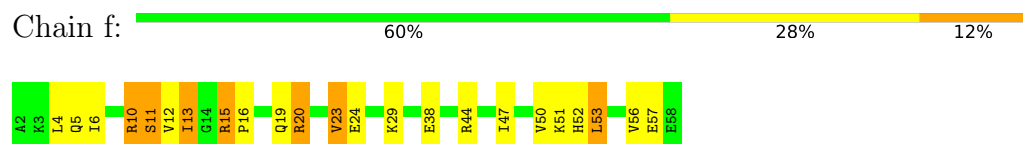
- Molecule 38: 50S ribosomal protein L28



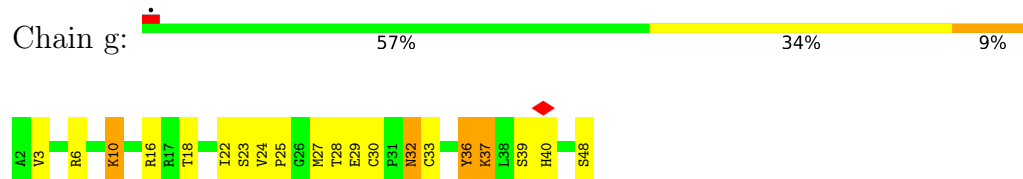
- Molecule 39: 50S ribosomal protein L29



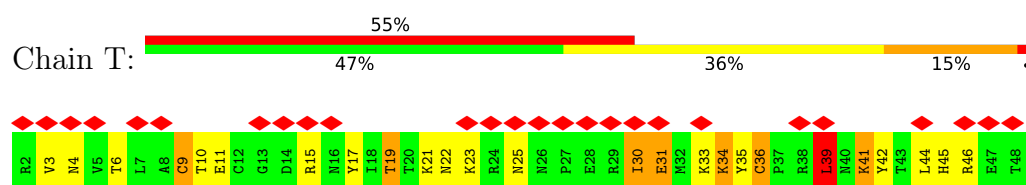
- Molecule 40: 50S ribosomal protein L30



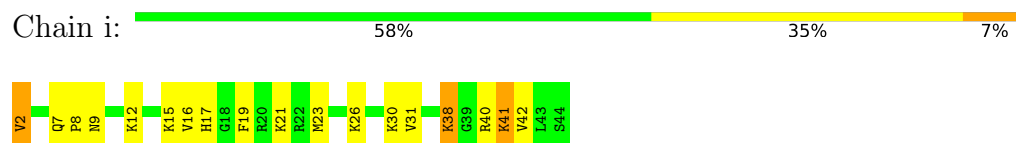
- Molecule 41: 50S ribosomal protein L32p



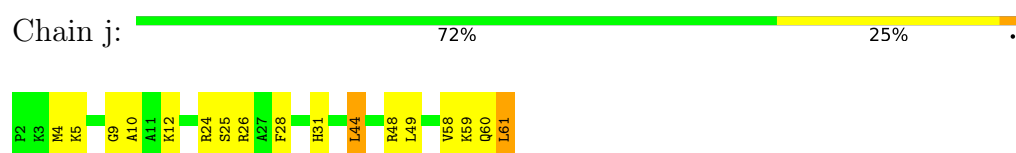
- Molecule 42: 50S ribosomal protein L33



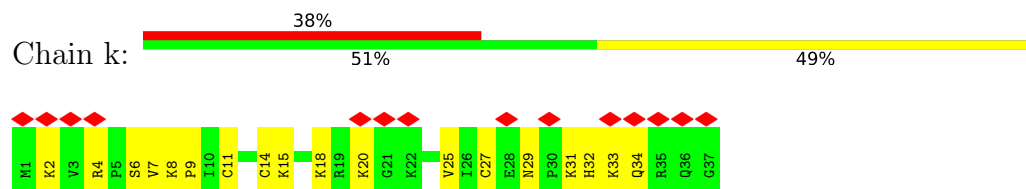
- Molecule 43: 50S ribosomal protein L34



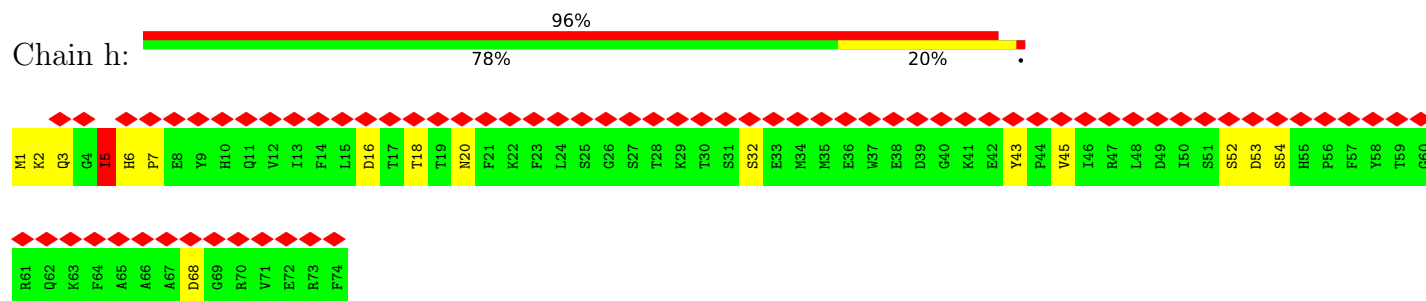
- Molecule 44: 50S ribosomal protein L35



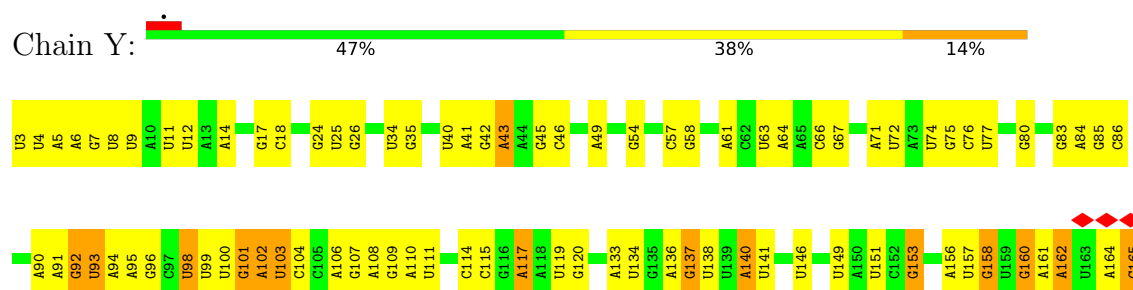
- Molecule 45: 50S ribosomal protein L36

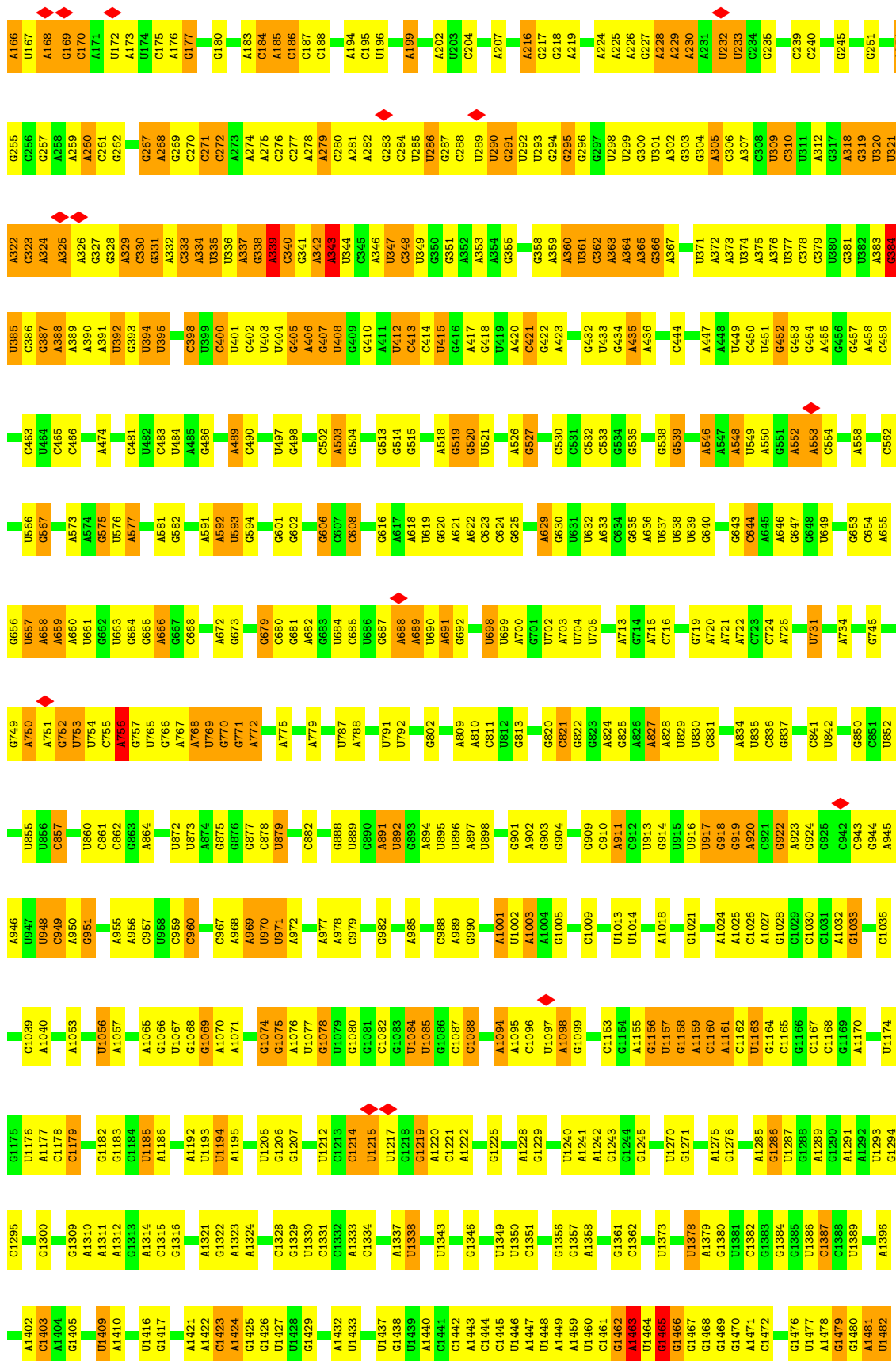


- Molecule 46: 50S ribosomal protein L31 type B

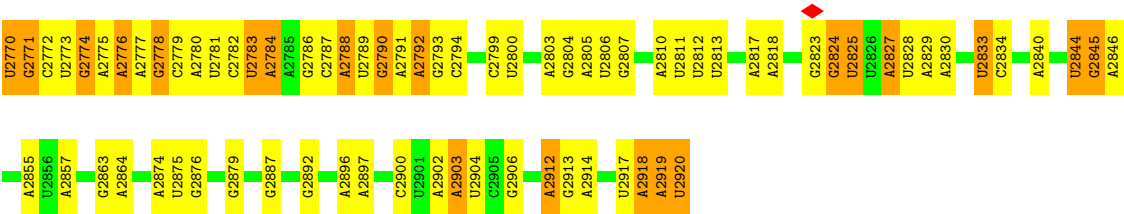


- Molecule 47: 23S





U2680	A2599	A2509	G2432	G2362	G2265	C2129	G2019	C1932	C1857	U1755	A1634	C1552	A1483
A2681	C2600	C2510	C2433	G2352	G2266	A2130	U2020	G1953	G1858	A1758	A1635	U1563	G1484
G2682	G2601	G2519	A2434	U2353	C2267	C2131	A2024	C1934	C1859	A1759	A1637	U1564	A1488
A2683	C2602	U2519	U2435	A2354	G2268	G2132	G2035	C1935	A1760	G1759	A1638	U1565	A1489
C2684	G2605	U2520	G2436	A2355	G2269	G2133	G2036	C1936	G1761	G1760	G1638	A1567	G1490
G2685	G2608	G2521	G2437	A2356	A2274	G2134	G2037	U1938	G1762	U1640	G1639	U1568	G1491
G2686	G2608	G2522	A2438	U2361	C2275	G2135	A2042	G1946	U1763	G1641	G1641	G1569	G1492
A2687	G2608	C2525	G2439	A2362	G2281	U2135	G2046	A1945	A1764	C1651	C1651	G1570	U1498
G2688	U2611	C2526	G2440	A2363	G2282	A2208	A2047	C1947	A1765	A1652	A1652	G1571	U1499
A2689	U2612	G2527	G2441	G2364	G2283	G2209	G2048	G1948	G1766	A1653	A1653	G1572	G1500
C2690	C2613	G2528	C2442	U2370	G2284	G2210	A2049	G1949	C1767	A1654	A1654	A1573	G1501
A2691	A2614	G2529	C2443	U2371	G2285	U2211	G2050	U1950	C1768	U1503	U1503	A1574	A1502
G2692	G2693	A2530	A2445	U2372	G2287	G2212	G2051	C1951	C1769	A1658	A1658	A1575	U1504
C2693	G2618	U2531	G2446	A2373	C2290	U2213	A2052	G1956	C1770	C1661	C1661	A1576	G1505
G2694	G2619	U2532	C2447	A2374	A2295	G2214	G2053	G1957	A1771	C1662	C1662	A1577	G1506
U2695	U2620	U2533	A2451	U2375	G2306	U2215	U2054	U1958	G1772	G1663	G1663	A1578	A1507
G2696	G2623	U2541	A2452	C2377	C2310	U2216	G2054	A1959	G1777	A1670	A1670	C1579	G1508
G2700	G2626	C2542	G2455	C2381	C2310	G2217	A2058	A1960	U1784	A1678	A1678	C1590	U1510
G2701	G2626	U2545	G2456	C2382	A2313	U2220	G2059	G1961	G1785	A1679	A1679	G1591	C1511
A2702	A2629	U2546	A2457	A2388	A2314	U2221	A2060	C1962	A1789	U1680	U1680	A1592	U1512
G2705	G2630	C2547	U2458	G2389	A2315	U2222	A2061	A1963	G1790	U1681	U1681	U1593	A1513
A2706	G2633	G2550	A2460	G2390	G2316	U2224	U2068	A1964	G1791	C1682	C1682	U1594	A1514
G2712	G2633	G2551	A2461	C2391	G2317	U2225	A2069	A1965	G1792	U1683	U1683	G1595	G1515
G2713	U2636	G2552	A2462	C2392	U2318	A2226	G2070	U1971	C1793	U1684	U1684	U1596	C1516
U2714	U2636	G2553	A2463	G2393	U2319	A2227	G2071	U1972	C1794	A1690	A1690	U1597	A1517
G2715	C2637	C2554	A2464	G2394	C2320	G2228	G2072	U1973	A1800	G1691	G1691	U1600	G1518
U2716	U2640	G2555	A2465	U2395	C2321	G2229	G2073	C1974	A1806	C1692	C1692	A1601	U1519
A2717	A2641	U2556	G2467	G2396	C2322	U2230	G2079	U1982	U1806	U1602	U1602	U1602	A1521
G2725	U2642	U2556	C2468	U2400	G2323	G2231	A2087	A1987	U1821	U1603	U1603	G1613	G1522
C2726	G2645	G2561	G2472	G2401	U2331	C2231	G2088	C1987	C1822	C1719	C1719	A1614	G1523
G2727	U2646	G2562	G2473	G2402	U2332	A2232	A2089	C1988	C1823	A1720	A1720	G1615	C1524
U2728	G2646	G2563	G2474	A2403	G2326	C2233	G2096	C1989	U1824	A1726	A1726	A1616	A1530
A2729	G2651	U2564	A2475	A2404	A2327	G2234	G2097	C1990	U1825	C1727	C1727	A1617	A1539
G2730	G2652	C2566	U2476	A2405	A2328	A2235	A2098	G1991	G1826	C1728	C1728	A1618	U1540
C2731	C2653	G2566	A2477	G2406	U2329	G2236	C2100	C1992	U1827	C1729	C1729	A1619	C1541
A2732	A2656	U2574	U2487	G2408	G2330	U2237	U2103	C1993	A1831	C1730	C1730	G1620	C1542
G2740	G2657	G2575	G2488	G2409	G2331	U2238	A2104	C1994	U1832	C1738	C1738	U1623	G1543
G2741	G2658	U2579	C2492	G2410	U2332	A2239	U2119	G1995	C1827	G1739	G1739	C1624	G1544
U2747	A2659	G2580	C2493	A2411	U2333	G2241	G2120	A1996	U1843	G1740	G1740	U1625	U1545
G2753	A2660	U2581	C2494	C2412	G2334	G2242	G2121	A1997	U1844	G1747	G1747	A1626	A1546
G2758	A2661	U2582	A2495	U2417	A2335	G2243	A2121	C1998	U1845	A1627	A1627	A1627	C1547
G2759	A2666	G2583	G2497	G2418	A2336	G2244	A2122	C1999	G1915	C1752	C1752	U1629	U1548
G2760	G2667	A2419	A2498	U2419	A2337	G2245	G2127	C1999	U1917	U1753	U1753	A1630	G1549
A2760	A2668	U2420	U2500	G2424	U2338	U2246	C2127	A2004	G1918	G1754	G1754	A1631	G1550
G2763	G2669	U2425	U2501	U2425	U2339	G2247	G2128	U2009	C1922	A1632	A1632	A1632	G1555
C2763	C2673	A2593	C2502	G2426	C2340	G2248	G2128	U2009	A1923	A1633	A1633	G1556	C1557
G2764	U2676	G2594	A2503	G2427	A2345	G2249	G2129	U2009	G1927	A1634	A1634	U1558	U1558
A2765	C2677	C2595	C2504	U2428	A2346	U2255	G2129	U2009	A1927	A1635	A1635	G1559	G1559
U2766	C2678	G2596	A2505	U2429	A2347	U2256	G2129	U2009	A1927	A1636	A1636	A1560	A1560
A2767	G2679	U2598	C2506	U2430	A2348	G2257	G2129	U2009	A1927	A1637	A1637	A1561	A1561
A2768	G2679	U2598	C2507	G2431	A2349	U2258	G2129	U2009	A1927	A1638	A1638	A1562	A1562
G2769	G2679	U2598	G2508	C2431	A2349	U2258	G2129	U2009	A1927	A1639	A1639	A1563	A1563



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	123520	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	47	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.039	Depositor
Minimum map value	-0.016	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.0052	Depositor
Map size ($\text{\AA}$)	361.2, 361.2, 361.2	wwPDB
Map dimensions	420, 420, 420	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	0.86, 0.86, 0.86	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	C	0.37	0/2717	0.64	1/4232 (0.0%)
2	B	0.48	0/1573	0.85	0/2121
3	I	0.29	0/1062	0.72	0/1465
4	D	0.55	0/1167	0.88	2/1576 (0.1%)
5	E	0.56	0/796	0.92	1/1069 (0.1%)
6	G	0.99	0/1180	1.14	0/1595
7	F	0.60	0/1019	1.04	3/1371 (0.2%)
8	H	0.57	0/990	0.88	0/1332
9	1	0.70	0/637	0.86	0/865
10	2	0.44	0/840	0.81	0/1137
11	3	0.57	0/991	0.92	1/1337 (0.1%)
12	4	0.61	0/835	0.92	0/1123
13	5	0.72	0/507	1.04	1/674 (0.1%)
14	6	0.37	0/721	0.78	0/964
15	7	1.09	0/541	1.17	0/733
16	8	0.34	0/527	0.77	0/721
17	9	0.74	0/465	1.08	0/620
18	I	0.48	0/551	0.88	1/747 (0.1%)
19	A	0.54	0/502	0.80	0/679
20	X	0.37	0/33951	0.69	46/52921 (0.1%)
21	e	1.06	0/1593	1.08	0/2143
22	J	1.01	0/1536	1.10	0/2078
23	K	0.62	0/1028	0.95	3/1405 (0.2%)
24	L	0.32	0/1074	0.74	0/1467
25	M	1.01	0/1146	1.05	0/1546
26	N	1.04	0/925	1.06	0/1242
27	O	1.04	0/1034	1.11	0/1388
28	P	0.68	0/1067	0.81	0/1436
29	Q	1.01	0/900	1.14	0/1205
30	R	0.46	0/770	0.75	0/1044
31	S	0.95	0/954	1.14	0/1264
32	U	1.03	0/758	1.01	0/1014
33	V	1.03	0/845	1.10	0/1140
34	W	1.01	0/701	1.05	0/939

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	Z	0.39	0/742	0.70	0/1001
36	a	0.47	0/655	0.93	3/888 (0.3%)
37	b	0.71	0/621	0.83	0/824
38	c	0.55	0/382	0.65	0/512
39	d	0.41	0/494	0.73	0/660
40	f	1.04	0/438	1.13	0/591
41	g	0.99	0/361	1.08	0/481
42	T	0.98	0/385	1.01	0/518
43	i	0.94	0/371	1.11	0/484
44	j	0.81	0/450	0.97	0/597
45	k	0.37	0/275	0.80	0/366
46	h	0.52	0/454	0.80	0/624
47	Y	0.36	1/65313 (0.0%)	0.61	26/101832 (0.0%)
All	All	0.50	1/136844 (0.0%)	0.72	88/205971 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	B	0	2
3	l	0	3
4	D	0	1
7	F	0	1
8	H	0	1
10	2	0	2
11	3	0	3
12	4	0	2
13	5	0	1
19	A	0	1
23	K	0	1
24	L	0	1
30	R	0	3
39	d	0	1
44	j	0	2
46	h	0	1
All	All	0	26

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	Y	765	U	O3'-P	6.08	1.70	1.61

All (88) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	Y	1897	U	C2'-C3'-O3'	9.66	124.00	109.50
20	X	679	G	C2'-C3'-O3'	9.41	123.61	109.50
47	Y	1463	A	C2'-C3'-O3'	8.83	126.95	113.70
20	X	970	U	C4'-C3'-O3'	8.64	122.35	109.40
47	Y	1898	C	C4'-C3'-O3'	8.45	122.07	109.40
47	Y	1885	G	C2'-C3'-O3'	8.43	122.14	109.50
20	X	70	A	C2'-C3'-O3'	8.39	122.09	109.50
47	Y	756	A	C2'-C3'-O3'	8.36	126.24	113.70
20	X	422	A	C4'-C3'-O3'	8.35	121.93	109.40
47	Y	309	U	C2'-C3'-O3'	8.28	121.92	109.50
20	X	1076	G	C4'-C3'-O3'	8.26	121.79	109.40
20	X	1510	U	C2'-C3'-O3'	8.21	121.82	109.50
47	Y	267	G	C2'-C3'-O3'	8.00	125.69	113.70
20	X	380	C	C2'-C3'-O3'	7.85	121.27	109.50
20	X	584	C	C2'-C3'-O3'	7.73	121.10	109.50
20	X	924	A	C2'-C3'-O3'	7.72	121.08	109.50
20	X	992	U	C2'-C3'-O3'	7.64	120.96	109.50
47	Y	343	A	C2'-C3'-O3'	7.60	120.90	109.50
20	X	409	C	C2'-C3'-O3'	7.54	125.00	113.70
20	X	139	U	C2'-C3'-O3'	7.48	124.92	113.70
47	Y	339	A	C2'-C3'-O3'	7.26	124.60	113.70
47	Y	1637	A	C2'-C3'-O3'	7.21	120.31	109.50
7	F	101	LEU	CA-C-N	-7.21	115.14	122.27
7	F	101	LEU	C-N-CA	-7.21	115.14	122.27
47	Y	292	U	C2'-C3'-O3'	-7.14	102.98	113.70
20	X	309	G	C2'-C3'-O3'	7.10	124.35	113.70
20	X	283	G	C2'-C3'-O3'	7.09	124.33	113.70
20	X	824	A	C2'-C3'-O3'	7.03	124.24	113.70
20	X	1507	U	C2'-C3'-O3'	7.03	124.24	113.70
47	Y	1933	G	C2'-C3'-O3'	7.00	120.00	109.50
20	X	551	G	C2'-C3'-O3'	6.97	124.16	113.70
20	X	1296	A	C2'-C3'-O3'	6.91	119.86	109.50
20	X	1268	A	C2'-C3'-O3'	6.85	119.77	109.50
20	X	342	C	C2'-C3'-O3'	6.84	123.96	113.70
20	X	889	C	C2'-C3'-O3'	6.75	123.83	113.70
20	X	42	G	C2'-C3'-O3'	6.68	123.72	113.70
47	Y	384	G	C2'-C3'-O3'	6.66	123.69	113.70
20	X	551	G	C3'-C2'-O2'	6.63	120.65	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	X	309	G	C3'-C2'-O2'	6.62	120.64	110.70
20	X	695	A	C2'-C3'-O3'	6.53	119.30	109.50
5	E	74	ASP	N-CA-C	-6.50	104.12	111.07
20	X	1507	U	C3'-C2'-O2'	6.45	120.37	110.70
47	Y	1463	A	C3'-C2'-O2'	6.41	120.32	110.70
20	X	409	C	C3'-C2'-O2'	6.41	120.31	110.70
20	X	695	A	C4'-C3'-O3'	6.39	118.99	109.40
20	X	42	G	C3'-C2'-O2'	6.36	120.24	110.70
20	X	49	C	C4'-C3'-O3'	6.34	118.92	109.40
11	3	79	TYR	O-C-N	-6.34	116.38	123.48
47	Y	1526	G	C4'-C3'-O3'	6.32	118.88	109.40
20	X	880	U	C4'-C3'-O3'	6.31	118.86	109.40
20	X	335	A	C4'-C3'-O3'	6.29	118.83	109.40
20	X	761	A	C4'-C3'-O3'	6.28	118.82	109.40
20	X	342	C	C3'-C2'-O2'	6.26	120.09	110.70
20	X	880	U	C2'-C3'-O3'	6.21	118.82	109.50
47	Y	339	A	C3'-C2'-O2'	6.18	119.98	110.70
20	X	926	G	C3'-C2'-O2'	6.18	119.97	110.70
1	C	40	C	C4'-C3'-O3'	6.17	118.65	109.40
47	Y	1845	U	C4'-C3'-O3'	6.12	118.58	109.40
20	X	684	A	C4'-C3'-O3'	6.10	118.55	109.40
47	Y	756	A	C3'-C2'-O2'	6.08	119.83	110.70
20	X	926	G	C2'-C3'-O3'	6.05	122.77	113.70
20	X	889	C	C3'-C2'-O2'	6.02	119.73	110.70
20	X	283	G	C3'-C2'-O2'	5.94	119.61	110.70
47	Y	309	U	C3'-C2'-O2'	5.94	123.51	114.60
47	Y	1465	G	C2'-C3'-O3'	5.76	122.33	113.70
20	X	1231	G	C1'-C2'-O2'	5.72	116.98	108.40
20	X	992	U	C4'-C3'-O3'	5.66	117.88	109.40
23	K	54	VAL	N-CA-C	-5.63	105.61	111.58
36	a	25	GLY	N-CA-C	5.59	117.90	111.36
47	Y	384	G	C3'-C2'-O2'	5.55	119.03	110.70
36	a	56	GLY	N-CA-C	-5.54	106.57	111.67
23	K	63	GLN	CA-C-N	-5.49	116.74	122.89
23	K	63	GLN	C-N-CA	-5.49	116.74	122.89
7	F	17	ALA	N-CA-C	-5.44	105.94	113.18
4	D	94	VAL	CA-C-N	-5.41	115.09	122.93
4	D	94	VAL	C-N-CA	-5.41	115.09	122.93
13	5	43	CYS	N-CA-C	-5.35	105.80	114.09
36	a	49	ILE	N-CA-C	-5.32	106.33	112.98
47	Y	1634	A	C3'-C2'-O2'	5.26	122.49	114.60
47	Y	309	U	C4'-C3'-O3'	-5.22	101.58	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	X	684	A	C2'-C3'-O3'	5.20	117.31	109.50
20	X	838	G	C2'-C3'-O3'	5.16	121.44	113.70
47	Y	821	C	C4'-C3'-O3'	5.16	117.13	109.40
20	X	1387	U	C2'-C3'-O3'	-5.13	106.01	113.70
47	Y	548	A	C4'-C3'-O3'	5.13	117.09	109.40
20	X	284	G	C2'-C3'-O3'	5.10	121.35	113.70
18	I	7	LYS	N-CA-C	5.08	116.86	110.91
47	Y	821	C	C2'-C3'-O3'	5.06	117.09	109.50

There are no chirality outliers.

All (26) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
10	2	124	PRO	Peptide
10	2	72	LYS	Peptide
11	3	46	VAL	Peptide
11	3	71	SER	Peptide
11	3	79	TYR	Mainchain
12	4	100	GLN	Peptide
12	4	103	LYS	Peptide
13	5	14	GLN	Peptide
19	A	10	ARG	Peptide
2	B	58	ARG	Peptide
2	B	7	PRO	Peptide
4	D	123	ILE	Peptide
7	F	93	GLU	Peptide
8	H	109	ASP	Peptide
23	K	165	GLU	Peptide
24	L	125	VAL	Peptide
30	R	31	LEU	Peptide
30	R	32	ASN	Peptide
30	R	61	SER	Peptide
39	d	37	LEU	Peptide
46	h	45	VAL	Peptide
44	j	10	ALA	Peptide
44	j	48	ARG	Peptide
3	l	168	ASP	Peptide
3	l	78	LYS	Peptide
3	l	8	ASN	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	2430	0	1229	136	0
2	B	1551	0	1570	170	0
3	I	1058	0	568	33	0
4	D	1153	0	1210	149	0
5	E	785	0	781	142	0
6	G	1164	0	1146	145	0
7	F	1007	0	1050	146	0
8	H	975	0	970	154	0
9	1	626	0	628	120	0
10	2	826	0	817	87	0
11	3	976	0	966	148	0
12	4	828	0	809	120	0
13	5	497	0	512	86	0
14	6	713	0	733	85	0
15	7	537	0	462	62	0
16	8	520	0	415	60	0
17	9	458	0	496	60	0
18	I	541	0	482	59	0
19	A	503	0	451	36	0
20	X	30328	0	15281	1940	0
21	e	1570	0	1593	54	0
22	J	1514	0	1540	57	0
23	K	1021	0	795	97	0
24	L	1062	0	808	55	0
25	M	1124	0	1101	41	0
26	N	918	0	981	43	0
27	O	1020	0	998	55	0
28	P	1043	0	1084	38	0
29	Q	898	0	932	26	0
30	R	765	0	720	57	0
31	S	942	0	1014	27	0
32	U	749	0	730	18	0
33	V	837	0	893	32	0
34	W	694	0	705	24	0
35	Z	734	0	731	32	0
36	a	648	0	598	41	0
37	b	615	0	637	25	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	c	377	0	395	11	0
39	d	493	0	503	19	0
40	f	436	0	474	30	0
41	g	356	0	354	25	0
42	T	380	0	379	34	0
43	i	367	0	415	16	0
44	j	446	0	465	20	0
45	k	272	0	290	25	0
46	h	447	0	289	40	0
47	Y	58326	0	29331	967	0
All	All	125530	0	79331	4907	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 24.

All (4907) 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)
4:D:134:ILE:CG2	20:X:19:C:H5''	1.33	1.56
4:D:134:ILE:HG21	20:X:19:C:C5'	1.31	1.54
9:1:56:HIS:CE1	20:X:1210:U:H5''	1.49	1.45
5:E:47:ARG:HA	5:E:57:ASP:CB	1.47	1.44
5:E:47:ARG:CA	5:E:57:ASP:HB3	1.44	1.43
1:C:81:A:H5''	40:f:52:HIS:CE1	1.64	1.32
10:2:120:GLY:HA3	20:X:683:A:C2	1.66	1.30
5:E:46:ARG:O	5:E:57:ASP:HB2	1.33	1.27
28:P:74:TYR:CE1	28:P:92:GLY:HA3	1.69	1.27
8:H:22:ARG:HB2	20:X:1142:A:C4	1.68	1.26
8:H:115:ARG:CZ	9:1:64:GLN:HE22	1.47	1.26
5:E:10:VAL:CG1	5:E:22:LEU:CD1	2.13	1.26
5:E:10:VAL:CG1	5:E:22:LEU:HD13	1.64	1.26
23:K:123:ASP:CB	47:Y:2331:G:H4'	1.67	1.25
17:9:66:ARG:HG2	20:X:744:U:OP1	1.31	1.25
16:8:67:ARG:HA	20:X:130:A:C2	1.73	1.24
15:7:27:SER:OG	15:7:28:PRO:HD2	1.37	1.24
35:Z:26:THR:HG21	47:Y:85:G:OP2	1.26	1.23
9:1:56:HIS:CE1	20:X:1210:U:C5'	2.21	1.22
17:9:75:TYR:HE2	20:X:726:A:N1	1.37	1.19
6:G:38:THR:HG23	20:X:1251:U:O4	1.37	1.19
7:F:106:VAL:CG2	7:F:128:ILE:HG23	1.70	1.19
10:2:125:LYS:HB2	20:X:805:C:OP1	1.42	1.19

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:115:ARG:CZ	9:1:64:GLN:NE2	2.05	1.18
9:1:65:PHE:HD2	13:5:58:LYS:NZ	1.40	1.17
23:K:58:GLU:CB	23:K:85:ILE:HG21	1.74	1.17
5:E:81:LYS:HG3	20:X:680:U:C4'	1.75	1.17
11:3:120:VAL:CG1	11:3:130:TYR:HD1	1.56	1.16
11:3:2:PRO:HA	20:X:575:G:C6	1.79	1.16
11:3:5:ASN:HD22	20:X:889:C:H5''	0.99	1.16
5:E:10:VAL:HG12	5:E:22:LEU:CD1	1.76	1.15
9:1:41:PRO:HD2	20:X:1135:A:H5'	1.23	1.15
6:G:117:GLU:HB2	20:X:1251:U:OP2	1.45	1.15
17:9:37:PHE:O	17:9:44:ILE:HG23	1.45	1.15
8:H:115:ARG:NH1	9:1:64:GLN:NE2	1.94	1.14
9:1:56:HIS:NE2	20:X:1210:U:H5''	1.61	1.14
20:X:1434:G:OP1	26:N:48:PRO:HB3	1.44	1.14
7:F:106:VAL:HG21	7:F:128:ILE:HG23	1.24	1.14
8:H:130:SER:HB2	20:X:1242:G:O2'	1.45	1.14
25:M:43:VAL:HG12	31:S:68:ALA:HB2	1.26	1.13
14:6:77:ARG:O	14:6:81:LEU:HB2	1.47	1.12
4:D:26:LYS:HD3	20:X:1081:C:OP1	1.48	1.12
11:3:5:ASN:HD22	20:X:889:C:C5'	1.61	1.12
12:4:102:THR:HB	20:X:1236:A:H4'	1.31	1.12
2:B:133:GLN:HE21	2:B:152:VAL:HG23	1.13	1.12
8:H:115:ARG:NH1	9:1:64:GLN:HE22	1.47	1.12
11:3:14:SER:HA	20:X:570:U:H5	1.15	1.12
8:H:38:ARG:HA	8:H:47:ILE:CG2	1.80	1.11
17:9:75:TYR:CE2	20:X:726:A:C2	2.39	1.11
5:E:10:VAL:HG13	5:E:22:LEU:HD13	1.17	1.11
19:A:17:ALA:HB1	20:X:332:G:OP1	1.51	1.11
11:3:120:VAL:CG1	11:3:130:TYR:CD1	2.34	1.11
3:I:58:ARG:HD3	20:X:553:C:OP1	1.49	1.10
8:H:22:ARG:HD2	20:X:1142:A:N9	1.66	1.10
20:X:508:G:N2	20:X:554:A:H2	1.49	1.10
8:H:115:ARG:NH1	9:1:64:GLN:OE1	1.84	1.10
8:H:38:ARG:HA	8:H:47:ILE:HG21	1.34	1.10
25:M:1:MET:HG3	47:Y:1039:C:C5	1.87	1.09
8:H:115:ARG:NH1	9:1:64:GLN:CD	2.10	1.09
18:I:5:ILE:HG13	20:X:1325:C:N4	1.65	1.09
4:D:24:VAL:HB	20:X:1409:A:N6	1.67	1.09
1:C:37:A:N3	46:h:2:LYS:HG3	1.65	1.09
4:D:50:THR:HG21	20:X:1088:C:H41	0.97	1.09
16:8:68:PRO:HD2	20:X:130:A:N1	1.68	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:81:A:C5'	40:f:52:HIS:CE1	2.36	1.08
5:E:81:LYS:HG3	20:X:680:U:H4'	1.09	1.07
12:4:84:SER:HA	12:4:89:ILE:CB	1.84	1.07
8:H:115:ARG:HH12	9:1:64:GLN:CD	1.62	1.07
8:H:37:VAL:O	8:H:47:ILE:HG22	1.56	1.06
23:K:87:ALA:CB	23:K:92:ARG:HA	1.85	1.06
15:7:81:MET:HE2	20:X:482:A:H5''	1.29	1.06
17:9:75:TYR:CD2	20:X:726:A:H2	1.74	1.05
5:E:54:ASP:HA	20:X:718:G:OP1	1.56	1.05
9:1:48:VAL:HA	9:1:66:GLU:HB2	1.38	1.04
4:D:90:GLY:HA2	20:X:874:A:H5''	1.39	1.04
20:X:353:C:H5	26:N:116:SER:HA	1.15	1.04
23:K:87:ALA:HB1	23:K:92:ARG:CA	1.85	1.04
5:E:10:VAL:CG1	5:E:22:LEU:HD12	1.88	1.04
17:9:75:TYR:HE2	20:X:726:A:C2	1.75	1.04
17:9:75:TYR:CE2	20:X:726:A:N1	2.24	1.04
20:X:958:C:OP1	20:X:1317:A:H4'	1.56	1.03
5:E:81:LYS:HG3	20:X:680:U:C5'	1.89	1.03
20:X:229:C:H6	20:X:229:C:H5''	1.20	1.03
4:D:134:ILE:CG2	20:X:19:C:OP1	2.07	1.03
5:E:81:LYS:CG	20:X:680:U:H4'	1.87	1.02
20:X:1381:G:H8	20:X:1381:G:H5''	1.20	1.02
4:D:24:VAL:HB	20:X:1409:A:H62	0.89	1.02
14:6:54:ARG:HE	20:X:736:A:N6	1.57	1.02
17:9:23:ILE:O	17:9:56:TYR:CE2	2.13	1.02
8:H:38:ARG:CA	8:H:47:ILE:HG21	1.90	1.01
4:D:124:LEU:CD1	20:X:7:G:H2'	1.88	1.01
12:4:17:ILE:CB	12:4:27:THR:HA	1.90	1.01
20:X:648:A:H2'	20:X:650:A:H62	1.19	1.01
1:C:81:A:H5''	40:f:52:HIS:NE2	1.76	1.01
17:9:23:ILE:O	17:9:56:TYR:HE2	1.44	1.00
11:3:5:ASN:ND2	20:X:889:C:H5''	1.76	1.00
5:E:10:VAL:HG12	5:E:22:LEU:HD12	1.44	1.00
16:8:67:ARG:CA	20:X:130:A:H2	1.73	1.00
20:X:508:G:N2	20:X:554:A:C2	2.29	1.00
7:F:30:SER:HB2	7:F:33:LYS:H	1.26	0.99
8:H:22:ARG:HB2	20:X:1142:A:N3	1.75	0.99
9:1:51:ILE:HG22	13:5:45:ARG:HH12	1.25	0.99
23:K:65:PRO:HG2	23:K:82:GLY:O	1.63	0.99
22:J:148:GLN:HB3	22:J:149:PRO:HD2	1.41	0.99
4:D:90:GLY:O	20:X:874:A:H5'	1.62	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:3:128:SER:HB2	20:X:510:C:H5''	1.43	0.98
23:K:33:LYS:NZ	23:K:88:LYS:O	1.97	0.98
25:M:1:MET:HE3	47:Y:581:A:OP1	1.63	0.98
2:B:178:ARG:NH1	20:X:1124:C:H2'	1.77	0.98
12:4:101:LYS:HD3	20:X:959:A:H5''	1.42	0.97
17:9:64:ILE:HD11	17:9:73:LEU:CD1	1.94	0.97
1:C:42:G:N3	46:h:2:LYS:NZ	2.11	0.97
4:D:134:ILE:HG22	20:X:19:C:OP1	1.64	0.97
8:H:22:ARG:HB2	20:X:1142:A:C2	1.98	0.97
16:8:67:ARG:HA	20:X:130:A:H2	0.82	0.97
15:7:81:MET:CE	20:X:482:A:H5''	1.95	0.96
21:e:163:VAL:CG1	47:Y:2646:U:O4'	2.13	0.96
25:M:43:VAL:CG1	31:S:68:ALA:HB2	1.95	0.96
26:N:97:ARG:HE	26:N:99:PHE:HE1	1.09	0.96
8:H:10:GLY:H	20:X:1142:A:N6	1.62	0.96
14:6:39:VAL:HG23	20:X:748:U:H4'	1.44	0.96
12:4:17:ILE:O	12:4:27:THR:HA	1.65	0.96
12:4:17:ILE:O	12:4:27:THR:HG22	1.66	0.96
20:X:985:A:C5'	20:X:1369:U:H1'	1.96	0.96
28:P:74:TYR:HE1	28:P:92:GLY:HA3	1.27	0.95
16:8:68:PRO:CD	20:X:130:A:N1	2.29	0.95
5:E:11:ARG:NH2	5:E:87:ILE:HG21	1.81	0.95
5:E:38:LEU:HD13	5:E:64:ARG:HG2	1.49	0.95
23:K:87:ALA:HB1	23:K:92:ARG:HA	0.98	0.95
9:1:51:ILE:CG2	13:5:45:ARG:HH12	1.78	0.95
20:X:985:A:H4'	20:X:1369:U:O2'	1.66	0.95
4:D:126:LYS:HE2	20:X:8:G:C8	2.01	0.95
15:7:27:SER:OG	15:7:28:PRO:CD	2.15	0.95
11:3:120:VAL:HG12	11:3:130:TYR:HD1	1.29	0.94
19:A:17:ALA:CB	20:X:332:G:OP1	2.14	0.94
20:X:985:A:C4'	20:X:1369:U:H1'	1.98	0.94
12:4:16:VAL:CG1	20:X:1313:U:O4	2.15	0.94
18:I:5:ILE:CG1	20:X:1325:C:N4	2.29	0.94
11:3:81:PRO:HD3	11:3:109:HIS:HE1	1.30	0.94
12:4:17:ILE:CA	12:4:27:THR:HA	1.96	0.94
9:1:41:PRO:CD	20:X:1135:A:H5'	1.97	0.94
12:4:17:ILE:O	12:4:27:THR:CA	2.15	0.94
4:D:50:THR:HG21	20:X:1088:C:N4	1.81	0.93
10:2:120:GLY:HA3	20:X:683:A:H2	1.12	0.93
4:D:24:VAL:CB	20:X:1409:A:H62	1.81	0.93
15:7:32:ARG:HD3	20:X:318:G:H1'	1.51	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:124:LEU:HD13	20:X:7:G:H2'	1.50	0.93
6:G:95:ARG:HG2	6:G:95:ARG:HH11	1.34	0.93
7:F:17:ALA:HB2	7:F:25:LEU:HD13	1.51	0.93
9:1:41:PRO:HD2	20:X:1135:A:C5'	1.97	0.93
1:C:40:C:O3'	46:h:5:ILE:HG21	1.67	0.93
25:M:1:MET:HG3	47:Y:1039:C:H5	1.33	0.93
27:O:30:THR:CG2	47:Y:1229:G:OP1	2.17	0.93
10:2:29:ASN:H	10:2:57:LYS:HE3	1.29	0.92
20:X:353:C:C5	26:N:116:SER:HA	2.04	0.92
8:H:22:ARG:HD2	20:X:1142:A:C8	2.04	0.92
11:3:81:PRO:HD3	11:3:109:HIS:CE1	2.02	0.92
6:G:117:GLU:CB	20:X:1251:U:OP2	2.16	0.92
12:4:66:GLU:HB3	12:4:69:LEU:HB3	1.48	0.92
11:3:94:LEU:HD22	20:X:35:C:O2'	1.68	0.92
12:4:20:THR:HA	12:4:26:GLY:HA3	1.51	0.92
2:B:68:HIS:HB3	2:B:105:ILE:HG13	1.49	0.92
6:G:109:ARG:HH11	6:G:109:ARG:HG3	1.34	0.92
20:X:1381:G:H5''	20:X:1381:G:C8	2.05	0.92
8:H:38:ARG:CB	8:H:47:ILE:HG21	1.98	0.91
8:H:90:LEU:HD12	8:H:96:TYR:HB3	1.51	0.91
42:T:41:LYS:HE2	47:Y:2399:G:OP1	1.70	0.91
8:H:66:LEU:HD23	20:X:1142:A:O4'	1.71	0.91
8:H:68:ASN:ND2	20:X:1141:C:H3'	1.86	0.91
45:k:29:ASN:HD21	45:k:31:LYS:HB2	1.32	0.91
12:4:19:LEU:HD13	12:4:30:ALA:HB1	1.51	0.91
11:3:14:SER:HA	20:X:570:U:C5	2.06	0.91
8:H:22:ARG:HB2	20:X:1142:A:C5	2.06	0.90
2:B:23:TYR:HA	9:1:13:TYR:OH	1.70	0.90
1:C:40:C:O5'	46:h:5:ILE:HG22	1.71	0.90
2:B:150:THR:HG22	2:B:199:VAL:HG22	1.53	0.90
10:2:120:GLY:CA	20:X:683:A:C2	2.53	0.90
20:X:838:G:H5''	20:X:838:G:H8	1.33	0.90
6:G:40:GLN:HE22	8:H:45:SER:HB3	1.35	0.90
23:K:40:VAL:HG12	23:K:42:ASP:H	1.37	0.90
2:B:120:ALA:HB2	2:B:186:ALA:HB1	1.53	0.90
6:G:117:GLU:HB2	20:X:1251:U:P	2.11	0.90
10:2:127:ARG:HD2	20:X:701:G:OP1	1.70	0.90
5:E:46:ARG:O	5:E:57:ASP:CB	2.19	0.90
20:X:416:G:H2'	20:X:417:U:H4'	1.54	0.90
25:M:1:MET:CE	47:Y:581:A:OP1	2.21	0.89
11:3:15:LYS:HE2	20:X:24:C:OP1	1.71	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:g:24:VAL:HG12	41:g:25:PRO:HD2	1.52	0.89
12:4:84:SER:CA	12:4:89:ILE:CB	2.51	0.89
30:R:14:ARG:O	30:R:18:VAL:HG23	1.72	0.89
12:4:17:ILE:O	12:4:27:THR:CG2	2.21	0.89
29:Q:24:LEU:HD23	29:Q:44:VAL:HG21	1.54	0.89
22:J:101:MET:HG2	22:J:102:PRO:HD2	1.54	0.89
10:2:120:GLY:CA	20:X:683:A:H2	1.84	0.89
8:H:10:GLY:H	20:X:1142:A:H61	1.18	0.89
9:1:40:ILE:HG23	20:X:1135:A:O3'	1.72	0.89
27:O:6:LEU:HD23	27:O:6:LEU:H	1.37	0.89
13:5:34:TYR:CD2	20:X:1369:U:OP1	2.27	0.88
22:J:151:LYS:HE3	47:Y:1243:G:OP1	1.72	0.88
12:4:102:THR:HB	20:X:1236:A:C4'	2.04	0.88
17:9:75:TYR:CD2	20:X:726:A:C2	2.59	0.88
2:B:133:GLN:NE2	2:B:152:VAL:HG23	1.88	0.88
2:B:178:ARG:CZ	20:X:1124:C:H2'	2.04	0.88
33:V:99:ARG:HG2	33:V:99:ARG:HH11	1.37	0.87
6:G:38:THR:CG2	20:X:1251:U:O4	2.21	0.87
20:X:991:U:H6	20:X:991:U:H5'	1.38	0.87
6:G:116:MET:H	20:X:1250:A:H3'	1.39	0.87
19:A:20:ARG:HE	20:X:175:C:H4'	1.39	0.87
20:X:1261:A:H62	20:X:1296:A:H8	1.23	0.87
5:E:10:VAL:HG13	5:E:22:LEU:CD1	1.88	0.87
11:3:73:ASN:HB3	20:X:1493:U:OP1	1.74	0.87
47:Y:2398:G:OP2	47:Y:2398:G:N2	2.08	0.87
7:F:17:ALA:CB	7:F:25:LEU:HD13	2.05	0.87
2:B:43:ASP:O	2:B:48:GLU:HG2	1.75	0.87
34:W:65:MET:O	34:W:65:MET:HE3	1.75	0.87
7:F:99:ASN:O	7:F:99:ASN:ND2	2.08	0.86
4:D:128:LEU:HG	20:X:568:A:C2	2.10	0.86
5:E:81:LYS:HG3	20:X:680:U:H5''	1.56	0.86
5:E:81:LYS:CD	20:X:680:U:H5''	2.04	0.86
7:F:106:VAL:HG23	7:F:128:ILE:HG23	1.56	0.86
20:X:1212:A:H4'	20:X:1213:U:H5'	1.56	0.86
20:X:507:A:H5''	20:X:507:A:N3	1.90	0.86
22:J:17:ILE:HB	22:J:19:LEU:HD13	1.57	0.86
36:a:28:PRO:HD2	36:a:88:HIS:H	1.39	0.86
11:3:14:SER:CA	20:X:570:U:H5	1.89	0.86
4:D:97:LYS:HD2	20:X:7:G:O6	1.76	0.86
20:X:1406:C:H4'	20:X:1413:C:H4'	1.57	0.86
6:G:35:LYS:HB3	6:G:38:THR:HB	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:339:G:N2	20:X:339:G:OP2	2.08	0.85
20:X:1098:U:H6	20:X:1098:U:H5''	1.38	0.85
5:E:91:VAL:O	20:X:744:U:H5''	1.76	0.85
7:F:106:VAL:CG2	7:F:128:ILE:CG2	2.54	0.85
5:E:81:LYS:HE3	20:X:680:U:H5''	1.59	0.85
8:H:22:ARG:CB	20:X:1142:A:C4	2.55	0.85
20:X:513:G:H5''	20:X:513:G:H8	1.39	0.85
13:5:24:CYS:HA	13:5:39:LEU:HA	1.58	0.85
20:X:838:G:H5''	20:X:838:G:C8	2.12	0.85
7:F:13:ARG:HH12	20:X:834:C:H4'	1.42	0.85
12:4:16:VAL:HG12	20:X:1313:U:O4	1.76	0.85
19:A:70:LYS:O	19:A:74:ILE:HG23	1.76	0.85
12:4:20:THR:HB	12:4:27:THR:HG23	1.59	0.85
13:5:34:TYR:CE2	20:X:1369:U:P	2.70	0.85
12:4:17:ILE:C	12:4:27:THR:HA	2.01	0.84
12:4:16:VAL:CG2	12:4:31:GLN:HG3	2.08	0.84
13:5:32:SER:N	20:X:985:A:O2'	2.09	0.84
13:5:47:LEU:HD23	13:5:52:GLN:HE21	1.40	0.84
20:X:354:G:H3'	20:X:355:G:H4'	1.59	0.84
32:U:78:ARG:NH2	47:Y:606:G:OP2	2.11	0.84
47:Y:2329:U:H6	47:Y:2329:U:H5''	1.40	0.84
23:K:35:VAL:HA	23:K:86:GLY:HA2	1.57	0.84
5:E:91:VAL:O	20:X:744:U:C5'	2.26	0.84
6:G:33:ASP:OD2	20:X:1361:A:N6	2.09	0.84
8:H:130:SER:HB2	20:X:1242:G:HO2'	1.38	0.84
20:X:684:A:H3'	20:X:684:A:OP2	1.78	0.84
8:H:112:MET:SD	20:X:1128:U:O2'	2.36	0.84
1:C:40:C:C3'	46:h:5:ILE:HG21	2.08	0.84
2:B:15:ILE:HG13	2:B:16:ARG:H	1.41	0.84
13:5:31:HIS:ND1	20:X:984:A:H5''	1.92	0.83
20:X:229:C:H5''	20:X:229:C:C6	2.11	0.83
2:B:58:ARG:HH22	2:B:96:LYS:HA	1.41	0.83
5:E:8:TYR:CE2	5:E:10:VAL:HG22	2.14	0.83
11:3:128:SER:HB2	20:X:510:C:C5'	2.08	0.83
39:d:59:GLU:HA	39:d:62:ILE:HG22	1.59	0.83
47:Y:2329:U:H5''	47:Y:2329:U:C6	2.13	0.83
6:G:78:ARG:NH2	20:X:1390:G:H4'	1.92	0.83
12:4:59:VAL:O	12:4:63:TYR:N	2.12	0.83
7:F:106:VAL:HG23	7:F:128:ILE:CG2	2.09	0.83
28:P:41:TRP:HB3	28:P:94:ILE:CG2	2.08	0.83
8:H:11:THR:HB	20:X:1159:U:O2	1.79	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:4:67:GLY:H	12:4:70:ARG:HG2	1.44	0.83
2:B:8:ILE:HG23	13:5:50:LYS:HB2	1.60	0.83
4:D:148:LYS:NZ	7:F:101:LEU:HD13	1.93	0.83
30:R:30:ARG:HE	30:R:32:ASN:HD22	1.24	0.83
1:C:39:G:N3	1:C:39:G:H5''	1.93	0.83
47:Y:168:A:N3	47:Y:168:A:H5''	1.93	0.83
20:X:975:A:H4'	20:X:976:G:H5'	1.60	0.82
23:K:52:ASN:O	23:K:55:GLU:N	2.11	0.82
5:E:81:LYS:CG	20:X:680:U:C5'	2.56	0.82
12:4:102:THR:CG2	20:X:1236:A:O3'	2.27	0.82
8:H:22:ARG:N	20:X:1142:A:C2	2.47	0.82
7:F:14:VAL:HG12	7:F:74:ILE:HG21	1.59	0.82
15:7:32:ARG:CD	20:X:318:G:H1'	2.08	0.82
5:E:81:LYS:HD2	20:X:680:U:H5'	1.61	0.82
17:9:47:ARG:O	17:9:47:ARG:HD3	1.80	0.82
27:O:57:LEU:CD2	44:j:49:LEU:HD11	2.10	0.82
4:D:75:PRO:HD2	4:D:147:LEU:HD12	1.62	0.82
9:1:48:VAL:HA	9:1:66:GLU:CB	2.08	0.82
5:E:81:LYS:CE	20:X:680:U:H5''	2.09	0.82
24:L:157:TYR:CE2	47:Y:2558:A:H5'	2.15	0.82
33:V:51:LEU:HD12	33:V:51:LEU:O	1.78	0.82
42:T:25:ASN:ND2	47:Y:2313:A:OP1	2.13	0.82
5:E:46:ARG:HE	17:9:72:LEU:HD22	1.44	0.82
17:9:75:TYR:HD2	20:X:726:A:H2	1.28	0.82
20:X:152:A:H2'	20:X:152:A:N3	1.95	0.82
23:K:71:LYS:CB	47:Y:2337:A:H1'	2.10	0.82
20:X:1086:G:H2'	20:X:1086:G:N3	1.94	0.82
40:f:13:ILE:HD12	47:Y:1033:G:N7	1.94	0.82
20:X:1168:A:H4'	20:X:1169:C:H5'	1.62	0.81
35:Z:84:LYS:HE2	35:Z:93:ILE:HG21	1.62	0.81
6:G:99:LEU:HD13	20:X:949:G:OP1	1.80	0.81
18:I:5:ILE:HG13	20:X:1325:C:H41	1.42	0.81
20:X:991:U:H5'	20:X:991:U:C6	2.14	0.81
37:b:53:ILE:O	37:b:67:LEU:HD11	1.79	0.81
20:X:958:C:H2'	20:X:1336:C:OP1	1.80	0.81
8:H:22:ARG:HD2	20:X:1142:A:C1'	2.10	0.81
33:V:34:ALA:HB1	41:g:36:TYR:CE2	2.16	0.81
15:7:12:SER:HB2	20:X:632:C:C6	2.15	0.81
35:Z:26:THR:CG2	47:Y:85:G:OP2	2.21	0.81
7:F:95:PRO:O	7:F:119:ARG:NH1	2.14	0.81
8:H:38:ARG:HA	8:H:47:ILE:HG22	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:2:31:ILE:HG13	20:X:697:C:OP1	1.79	0.81
18:I:52:TYR:HE1	18:I:77:THR:HG1	0.82	0.81
20:X:581:A:H2'	20:X:581:A:N3	1.94	0.81
5:E:52:ILE:N	5:E:55:PHE:O	2.11	0.80
8:H:40:TYR:HE2	8:H:69:VAL:HG21	1.45	0.80
20:X:27:A:H4'	20:X:27:A:OP1	1.79	0.80
5:E:43:TRP:HB3	5:E:60:TYR:HB3	1.63	0.80
5:E:81:LYS:CG	20:X:680:U:H5''	2.11	0.80
12:4:20:THR:OG1	20:X:1342:G:C2	2.33	0.80
22:J:148:GLN:HB3	22:J:149:PRO:CD	2.11	0.80
36:a:30:VAL:HG22	36:a:40:SER:HB2	1.62	0.80
47:Y:2792:A:H2'	47:Y:2792:A:N3	1.95	0.80
7:F:47:LYS:HB2	7:F:63:PHE:HB3	1.62	0.80
15:7:73:ASN:ND2	20:X:461:C:OP1	2.11	0.80
18:I:52:TYR:HE1	18:I:77:THR:OG1	1.64	0.80
11:3:6:GLN:OE1	20:X:889:C:H3'	1.82	0.80
9:1:40:ILE:HA	20:X:1135:A:H4'	1.64	0.80
11:3:56:LYS:HD2	11:3:58:PRO:HD2	1.63	0.80
20:X:636:G:N3	20:X:636:G:H2'	1.96	0.80
47:Y:2729:G:N3	47:Y:2729:G:H2'	1.94	0.80
6:G:33:ASP:HB2	20:X:1361:A:C6	2.17	0.80
10:2:120:GLY:HA3	20:X:683:A:N3	1.97	0.80
20:X:1157:A:H2'	20:X:1158:C:H2'	1.64	0.80
20:X:1237:C:H6	20:X:1237:C:H3'	1.46	0.80
40:f:13:ILE:HD12	47:Y:1033:G:C5	2.16	0.80
5:E:11:ARG:HH21	5:E:87:ILE:HG21	1.46	0.80
5:E:81:LYS:CD	20:X:680:U:C5'	2.59	0.80
20:X:968:A:H2'	20:X:968:A:N3	1.96	0.80
20:X:1064:U:OP2	20:X:1064:U:H2'	1.82	0.80
8:H:22:ARG:N	20:X:1142:A:N1	2.30	0.79
12:4:16:VAL:HG22	12:4:31:GLN:CB	2.13	0.79
22:J:4:TYR:HA	22:J:18:GLU:HG3	1.64	0.79
22:J:154:VAL:HA	22:J:193:VAL:HG23	1.64	0.79
33:V:38:LEU:HD12	41:g:27:MET:HG2	1.62	0.79
7:F:13:ARG:HH12	20:X:834:C:C4'	1.96	0.79
20:X:787:C:H6	20:X:787:C:C5'	1.95	0.79
1:C:88:U:H4'	1:C:88:U:OP1	1.81	0.79
6:G:50:VAL:HG12	6:G:121:ALA:HB1	1.64	0.79
20:X:1187:A:H3'	20:X:1187:A:N3	1.97	0.79
24:L:158:LYS:HE3	47:Y:2686:G:OP1	1.82	0.79
36:a:32:TYR:H	36:a:92:LEU:HA	1.47	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:90:GLY:O	20:X:874:A:C5'	2.31	0.79
20:X:1151:U:OP2	20:X:1151:U:H4'	1.81	0.79
20:X:1172:C:H2'	20:X:1173:C:H4'	1.65	0.79
23:K:70:ALA:N	47:Y:2338:A:OP1	2.15	0.79
12:4:86:TYR:HE1	20:X:1332:U:H5'	1.46	0.79
24:L:23:HIS:HB3	24:L:37:LEU:HA	1.63	0.79
14:6:41:GLU:O	14:6:45:THR:N	2.15	0.79
17:9:75:TYR:CE2	20:X:726:A:H2	1.90	0.79
42:T:42:TYR:CE1	47:Y:2398:G:O2'	2.35	0.79
6:G:78:ARG:NH2	20:X:1390:G:C4'	2.45	0.79
10:2:39:GLY:HA3	20:X:692:U:H1'	1.64	0.78
18:I:69:HIS:HE2	20:X:1331:C:P	2.05	0.78
47:Y:268:A:H2'	47:Y:269:G:H4'	1.64	0.78
4:D:50:THR:CG2	20:X:1088:C:H41	1.89	0.78
8:H:10:GLY:N	20:X:1142:A:H61	1.81	0.78
36:a:51:VAL:HA	36:a:54:GLU:HG3	1.65	0.78
20:X:508:G:H22	20:X:554:A:H2	1.30	0.78
13:5:29:ARG:HH21	13:5:29:ARG:HG3	1.48	0.78
14:6:32:LEU:HD13	14:6:59:MET:HB2	1.65	0.78
4:D:109:GLY:N	4:D:136:MET:SD	2.54	0.78
41:g:24:VAL:CG1	41:g:25:PRO:HD2	2.13	0.78
6:G:31:MET:HE3	20:X:1384:G:H4'	1.64	0.78
8:H:130:SER:CB	20:X:1242:G:O2'	2.28	0.78
20:X:1443:G:H2'	20:X:1445:A:H62	1.47	0.78
24:L:70:ALA:HA	24:L:73:ASN:HB3	1.63	0.78
27:O:30:THR:HG21	47:Y:1229:G:OP1	1.82	0.78
26:N:97:ARG:NE	26:N:99:PHE:HE1	1.82	0.78
11:3:94:LEU:HD21	20:X:35:C:H1'	1.66	0.78
7:F:11:LEU:HB2	7:F:79:ARG:HH21	1.49	0.78
20:X:1055:G:H2'	20:X:1055:G:N3	1.98	0.78
12:4:17:ILE:CB	12:4:27:THR:CA	2.63	0.77
20:X:229:C:H6	20:X:229:C:C5'	1.95	0.77
20:X:1452:G:H3'	20:X:1452:G:N3	1.98	0.77
5:E:88:ARG:HD3	17:9:70:MET:HA	1.66	0.77
4:D:111:VAL:HG13	4:D:114:VAL:HG23	1.66	0.77
10:2:127:ARG:NH1	20:X:701:G:OP1	2.17	0.77
11:3:120:VAL:HG11	11:3:130:TYR:CD1	2.19	0.77
20:X:1430:G:H1'	20:X:1494:G:H21	1.49	0.77
24:L:63:THR:HA	47:Y:2775:A:O2'	1.84	0.77
33:V:99:ARG:HG2	33:V:99:ARG:NH1	1.98	0.77
20:X:511:A:H2'	20:X:518:A:H2	1.49	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:P:74:TYR:CG	28:P:94:ILE:HD11	2.19	0.77
7:F:32:ILE:HA	7:F:35:GLU:HB2	1.66	0.77
10:2:31:ILE:HD11	20:X:697:C:OP2	1.85	0.77
14:6:15:TYR:HB2	14:6:27:VAL:HG23	1.64	0.77
9:1:41:PRO:O	20:X:1135:A:H1'	1.83	0.77
12:4:102:THR:HB	20:X:1236:A:O3'	1.85	0.77
20:X:753:U:H3'	20:X:753:U:H6	1.47	0.77
8:H:38:ARG:CA	8:H:47:ILE:CG2	2.56	0.77
20:X:504:G:H2'	20:X:504:G:N3	2.00	0.77
22:J:17:ILE:HD11	22:J:125:VAL:HG21	1.64	0.76
2:B:99:HIS:ND1	2:B:99:HIS:O	2.19	0.76
20:X:115:A:H2'	20:X:115:A:N3	1.99	0.76
20:X:1512:A:H4'	20:X:1520:G:H5''	1.68	0.76
47:Y:664:G:H3'	47:Y:665:G:H21	1.50	0.76
2:B:20:ALA:HB2	2:B:39:ARG:HH12	1.51	0.76
20:X:318:G:H2'	20:X:318:G:N3	1.98	0.76
20:X:1261:A:N6	20:X:1296:A:H8	1.82	0.76
4:D:88:ARG:HD2	4:D:88:ARG:O	1.85	0.76
11:3:73:ASN:CB	20:X:1493:U:OP1	2.32	0.76
23:K:74:ILE:CB	47:Y:2338:A:O5'	2.33	0.76
42:T:25:ASN:ND2	47:Y:2313:A:P	2.58	0.76
4:D:151:GLU:O	4:D:155:LYS:NZ	2.15	0.76
19:A:36:LYS:HB2	19:A:78:LEU:HD21	1.67	0.76
20:X:489:G:OP1	20:X:489:G:N2	2.18	0.76
20:X:985:A:H4'	20:X:1369:U:H1'	1.66	0.76
41:g:3:VAL:HG12	47:Y:2042:A:C2	2.21	0.76
6:G:36:ARG:HB2	20:X:1384:G:OP1	1.86	0.76
24:L:77:GLN:O	24:L:81:GLN:N	2.18	0.76
9:1:40:ILE:HG21	20:X:1137:U:H5	1.50	0.76
23:K:35:VAL:HG21	47:Y:2341:A:H1'	1.66	0.76
5:E:3:THR:HA	5:E:66:LYS:HG3	1.67	0.75
9:1:68:ARG:HG2	9:1:68:ARG:HH11	1.50	0.75
10:2:82:VAL:HG22	10:2:108:THR:H	1.51	0.75
13:5:34:TYR:HD2	20:X:1369:U:OP1	1.67	0.75
20:X:835:U:H3	20:X:882:A:N6	1.83	0.75
45:k:32:HIS:HD2	47:Y:2504:C:H41	1.33	0.75
4:D:111:VAL:HG23	4:D:136:MET:HB3	1.68	0.75
6:G:28:ASN:CG	20:X:1385:A:H4'	2.11	0.75
14:6:5:GLN:O	14:6:9:ASN:ND2	2.20	0.75
17:9:65:LYS:HG2	20:X:728:C:C4	2.22	0.75
20:X:991:U:H6	20:X:991:U:C5'	1.99	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:d:15:GLU:OE1	39:d:15:GLU:N	2.19	0.75
20:X:1371:A:N3	20:X:1371:A:H5''	2.02	0.75
7:F:17:ALA:HB2	7:F:25:LEU:CD1	2.15	0.75
35:Z:72:ASP:O	35:Z:76:ASN:N	2.17	0.75
23:K:94:GLU:C	23:K:96:MET:H	1.94	0.75
32:U:3:ALA:HB2	32:U:100:ILE:HD11	1.68	0.75
12:4:16:VAL:HG22	12:4:31:GLN:CG	2.17	0.75
24:L:26:VAL:HG23	24:L:75:MET:HE1	1.68	0.75
28:P:74:TYR:CE1	28:P:92:GLY:CA	2.63	0.75
47:Y:158:G:N2	47:Y:158:G:OP2	2.19	0.75
4:D:134:ILE:HG23	20:X:19:C:H5''	1.64	0.75
6:G:31:MET:CE	20:X:1384:G:H4'	2.17	0.75
8:H:42:PRO:HG2	20:X:1301:G:H1	1.52	0.75
33:V:34:ALA:HB1	41:g:36:TYR:CD2	2.22	0.75
6:G:78:ARG:HH11	20:X:1392:U:H5	1.34	0.75
28:P:58:MET:HE2	28:P:62:GLY:H	1.52	0.75
20:X:511:A:C2	20:X:518:A:N3	2.55	0.74
20:X:530:C:H4'	20:X:544:C:H4'	1.68	0.74
47:Y:1759:G:OP1	47:Y:1759:G:H4'	1.85	0.74
16:8:74:ARG:NH2	20:X:243:C:OP1	2.19	0.74
20:X:701:G:N3	20:X:701:G:H2'	2.00	0.74
24:L:74:ASN:HB2	47:Y:2774:G:OP1	1.86	0.74
8:H:38:ARG:HG3	8:H:47:ILE:HD12	1.69	0.74
20:X:1543:A:H3'	20:X:1543:A:N3	2.00	0.74
28:P:41:TRP:HB3	28:P:94:ILE:HG21	1.69	0.74
7:F:13:ARG:NH1	20:X:834:C:C4'	2.50	0.74
15:7:43:THR:HA	20:X:459:A:OP1	1.88	0.74
20:X:631:C:H6	20:X:631:C:C5'	2.00	0.74
20:X:1098:U:H6	20:X:1098:U:C5'	1.99	0.74
23:K:65:PRO:CG	23:K:82:GLY:O	2.35	0.74
47:Y:318:A:H2'	47:Y:318:A:N3	2.00	0.74
2:B:153:SER:O	2:B:164:ALA:HA	1.85	0.74
5:E:71:LYS:O	5:E:71:LYS:HG2	1.85	0.74
9:1:51:ILE:HG22	13:5:45:ARG:NH1	2.00	0.74
15:7:27:SER:HG	15:7:28:PRO:HD2	1.51	0.74
20:X:1003:G:H1	20:X:1058:A:H1'	1.53	0.74
13:5:31:HIS:HB3	20:X:984:A:OP1	1.87	0.74
20:X:545:G:H5'	20:X:545:G:H8	1.52	0.74
20:X:985:A:H4'	20:X:1369:U:C1'	2.17	0.74
4:D:124:LEU:HD11	20:X:7:G:H2'	1.68	0.74
20:X:814:C:H5''	20:X:814:C:H6	1.52	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:823:A:H1'	20:X:825:C:H2'	1.70	0.74
20:X:972:C:H4'	20:X:972:C:OP1	1.88	0.74
21:e:79:LYS:NZ	47:Y:2812:U:O3'	2.20	0.74
22:J:169:ASN:OD1	47:Y:366:G:H2'	1.87	0.74
1:C:42:G:H1'	46:h:2:LYS:NZ	2.01	0.74
47:Y:2370:U:O2'	47:Y:2400:U:O2'	2.04	0.74
2:B:130:ARG:HH12	2:B:167:TYR:HE2	1.36	0.74
4:D:85:ILE:HG21	4:D:143:GLY:HA2	1.70	0.74
10:2:32:VAL:HB	10:2:45:SER:HB2	1.70	0.74
20:X:277:U:H5''	20:X:277:U:H6	1.52	0.74
20:X:778:C:OP1	20:X:778:C:H4'	1.87	0.74
20:X:1216:U:H4'	20:X:1216:U:OP1	1.86	0.74
15:7:81:MET:HE2	20:X:482:A:C5'	2.12	0.73
20:X:1427:A:H5''	20:X:1494:G:H1	1.51	0.73
8:H:38:ARG:HB2	8:H:47:ILE:HG21	1.69	0.73
24:L:110:SER:HB3	47:Y:2680:U:H2'	1.70	0.73
12:4:12:GLU:OE1	20:X:1308:U:H3'	1.88	0.73
7:F:90:LYS:HG3	7:F:92:SER:H	1.53	0.73
20:X:943:G:H3'	20:X:943:G:N3	2.04	0.73
6:G:26:LEU:HD22	6:G:101:LEU:HD12	1.70	0.73
6:G:99:LEU:HD12	6:G:99:LEU:O	1.89	0.73
20:X:106:G:H2'	20:X:106:G:N3	2.03	0.73
35:Z:69:GLN:NE2	35:Z:79:THR:O	2.22	0.73
47:Y:1544:G:H2'	47:Y:1544:G:N3	2.03	0.73
11:3:75:GLU:HB3	20:X:1424:A:OP1	1.87	0.73
20:X:65:G:H2'	20:X:65:G:N3	2.04	0.73
23:K:65:PRO:HB2	47:Y:2340:C:OP1	1.87	0.73
23:K:67:VAL:HG11	23:K:75:ALA:HA	1.70	0.73
6:G:109:ARG:HG3	6:G:109:ARG:NH1	2.04	0.73
14:6:16:ARG:NH1	14:6:22:THR:OG1	2.20	0.73
42:T:42:TYR:HE1	47:Y:2398:G:O2'	1.69	0.73
11:3:70:LEU:HD23	11:3:76:ILE:HG21	1.71	0.73
20:X:421:G:N3	20:X:421:G:H2'	2.03	0.73
8:H:22:ARG:CB	20:X:1142:A:C5	2.72	0.73
10:2:118:HIS:HB2	20:X:683:A:H1'	1.69	0.73
5:E:81:LYS:HD2	20:X:680:U:C5'	2.18	0.73
12:4:16:VAL:HG21	12:4:31:GLN:HG3	1.71	0.73
20:X:648:A:H3'	20:X:648:A:N3	2.04	0.73
20:X:974:A:OP1	20:X:974:A:H4'	1.89	0.73
20:X:1416:G:H4'	20:X:1530:A:H1'	1.70	0.73
30:R:30:ARG:NE	30:R:32:ASN:HD22	1.86	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:552:A:H5''	47:Y:553:A:H5'	1.69	0.72
1:C:38:U:C4	46:h:2:LYS:HB2	2.24	0.72
6:G:95:ARG:NH1	20:X:1388:A:OP2	2.15	0.72
23:K:60:ILE:CD1	23:K:84:PRO:O	2.38	0.72
32:U:80:LYS:N	32:U:80:LYS:HD3	2.02	0.72
8:H:13:ARG:NE	20:X:1160:C:N3	2.37	0.72
8:H:120:LEU:HD12	8:H:120:LEU:N	2.04	0.72
20:X:14:U:O4	20:X:21:U:N3	2.18	0.72
20:X:333:A:N3	20:X:333:A:H2'	2.04	0.72
8:H:85:ILE:HG22	8:H:89:LEU:HD22	1.71	0.72
8:H:115:ARG:NH2	9:1:64:GLN:NE2	2.37	0.72
11:3:39:ASN:ND2	20:X:562:U:OP1	2.21	0.72
20:X:571:A:H2'	20:X:571:A:N3	2.02	0.72
20:X:715:U:H2'	20:X:715:U:OP2	1.90	0.72
21:e:163:VAL:HG11	47:Y:2646:U:O4'	1.86	0.72
22:J:40:GLN:HG2	22:J:184:LEU:HB2	1.71	0.72
23:K:34:ILE:HD12	23:K:34:ILE:N	2.04	0.72
9:1:29:ALA:HB1	9:1:36:VAL:HG11	1.71	0.72
12:4:16:VAL:CG2	12:4:31:GLN:CG	2.67	0.72
14:6:51:HIS:HD2	14:6:54:ARG:HH22	1.35	0.72
17:9:47:ARG:HD3	17:9:47:ARG:C	2.14	0.72
47:Y:387:G:H2'	47:Y:388:A:H8	1.55	0.72
1:C:37:A:C2	46:h:2:LYS:HG3	2.25	0.72
1:C:42:G:H1'	46:h:2:LYS:HZ3	1.54	0.72
20:X:985:A:H4'	20:X:1369:U:C2'	2.18	0.72
47:Y:969:A:H3'	47:Y:970:U:H4'	1.70	0.72
5:E:13:ASN:ND2	5:E:55:PHE:CZ	2.58	0.72
6:G:95:ARG:HG2	6:G:95:ARG:NH1	2.02	0.72
20:X:517:A:H3'	20:X:517:A:N3	2.04	0.72
20:X:259:G:H2'	20:X:259:G:N3	2.05	0.72
20:X:535:G:N3	20:X:535:G:H2'	2.05	0.72
45:k:32:HIS:CD2	47:Y:2504:C:H41	2.08	0.72
23:K:60:ILE:HD12	23:K:84:PRO:C	2.15	0.72
1:C:32:U:H2'	46:h:1:MET:SD	2.30	0.72
2:B:108:VAL:HA	2:B:114:LEU:HD21	1.70	0.72
4:D:37:VAL:HG11	4:D:64:VAL:HG23	1.72	0.72
7:F:9:ASP:OD2	20:X:833:G:H1'	1.90	0.72
9:1:41:PRO:O	20:X:1135:A:C1'	2.37	0.72
20:X:1193:G:OP1	20:X:1193:G:H4'	1.88	0.72
22:J:39:LEU:O	22:J:39:LEU:HD23	1.90	0.72
36:a:45:GLU:O	36:a:48:PHE:N	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:72:PHE:HA	3:I:82:HIS:CE1	2.24	0.71
9:1:40:ILE:HA	20:X:1135:A:H5''	1.72	0.71
11:3:18:LYS:HD2	11:3:19:SER:H	1.54	0.71
18:I:69:HIS:NE2	20:X:1331:C:OP2	2.21	0.71
20:X:388:G:H4'	20:X:388:G:OP1	1.90	0.71
20:X:781:G:H5''	20:X:781:G:H8	1.55	0.71
24:L:26:VAL:HG21	24:L:76:VAL:HA	1.71	0.71
47:Y:322:A:H2'	47:Y:322:A:N3	2.04	0.71
12:4:102:THR:CB	20:X:1236:A:H4'	2.17	0.71
20:X:509:C:H4'	20:X:557:C:O2'	1.91	0.71
20:X:955:G:H2'	20:X:955:G:N3	2.03	0.71
30:R:46:ASP:HB2	30:R:53:LEU:HD22	1.71	0.71
7:F:18:ASN:HA	7:F:22:HIS:H	1.54	0.71
7:F:108:THR:HG21	7:F:113:ILE:HG23	1.71	0.71
9:1:64:GLN:O	13:5:58:LYS:O	2.08	0.71
9:1:65:PHE:CE2	13:5:58:LYS:HD2	2.25	0.71
47:Y:1094:A:H4'	47:Y:1094:A:OP1	1.90	0.71
47:Y:1156:G:OP1	47:Y:1156:G:H4'	1.89	0.71
5:E:19:LYS:HD2	5:E:59:PHE:CE2	2.25	0.71
23:K:60:ILE:HD12	23:K:84:PRO:O	1.90	0.71
7:F:32:ILE:O	7:F:36:ILE:N	2.22	0.71
16:8:22:THR:HG22	20:X:262:G:N3	2.05	0.71
23:K:5:LYS:HA	23:K:8:PHE:HD2	1.55	0.71
2:B:152:VAL:HB	2:B:156:LEU:HD21	1.72	0.71
13:5:31:HIS:ND1	20:X:984:A:C5'	2.54	0.71
20:X:985:A:C4'	20:X:1369:U:C1'	2.68	0.71
29:Q:92:ARG:HG2	29:Q:92:ARG:O	1.90	0.71
47:Y:199:A:H2'	47:Y:199:A:N3	2.06	0.71
4:D:66:ALA:HB1	4:D:69:LYS:HE2	1.73	0.71
6:G:99:LEU:HB2	20:X:949:G:OP1	1.89	0.71
8:H:22:ARG:O	8:H:23:LEU:HD23	1.89	0.71
8:H:42:PRO:HB2	20:X:1301:G:H22	1.56	0.71
12:4:28:SER:HB3	20:X:1340:A:H5''	1.73	0.71
18:I:69:HIS:CE1	20:X:1331:C:OP1	2.44	0.71
20:X:761:A:H1'	20:X:762:C:H5''	1.72	0.71
5:E:92:ILE:HB	17:9:28:TYR:CE1	2.26	0.71
19:A:7:ALA:O	19:A:11:VAL:N	2.24	0.71
20:X:405:A:H2'	20:X:405:A:N3	2.06	0.71
29:Q:4:ARG:NH1	29:Q:4:ARG:HG3	2.05	0.71
45:k:32:HIS:HD2	47:Y:2504:C:N4	1.87	0.71
47:Y:1901:C:H2'	47:Y:1901:C:OP2	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:156:LEU:HA	7:F:67:GLY:HA3	1.71	0.71
6:G:149:LYS:HD3	10:2:64:GLN:HG2	1.73	0.71
3:l:49:LEU:O	3:l:53:GLU:HG3	1.91	0.71
5:E:22:LEU:HD22	5:E:86:ILE:HD11	1.73	0.71
8:H:37:VAL:O	8:H:47:ILE:CG2	2.35	0.71
16:8:68:PRO:HD2	20:X:130:A:C2	2.26	0.71
30:R:30:ARG:HE	30:R:32:ASN:ND2	1.89	0.71
2:B:183:TYR:CZ	2:B:185:HIS:HB3	2.26	0.70
4:D:144:LEU:HD23	4:D:147:LEU:HD11	1.73	0.70
11:3:47:CYS:HB2	11:3:90:HIS:H	1.55	0.70
20:X:1388:A:H3'	20:X:1388:A:N3	2.06	0.70
29:Q:4:ARG:HG3	29:Q:4:ARG:HH11	1.55	0.70
47:Y:2503:A:H4'	47:Y:2503:A:OP2	1.90	0.70
20:X:779:G:H21	20:X:816:C:H3'	1.56	0.70
26:N:104:ARG:HH11	26:N:104:ARG:HG3	1.57	0.70
33:V:38:LEU:HD12	41:g:27:MET:CG	2.21	0.70
20:X:1444:A:H2'	20:X:1444:A:N3	2.04	0.70
20:X:1519:A:H2'	20:X:1520:G:H8	1.56	0.70
9:1:40:ILE:CA	20:X:1135:A:H4'	2.20	0.70
21:e:122:SER:HB2	21:e:175:GLY:HA2	1.73	0.70
20:X:61:A:N3	20:X:61:A:H2'	2.06	0.70
20:X:1371:A:N3	20:X:1371:A:H3'	2.07	0.70
20:X:1059:G:O2'	20:X:1226:G:O2'	2.04	0.70
20:X:1105:A:H3'	20:X:1105:A:N3	2.06	0.70
20:X:1368:A:H2'	20:X:1368:A:N3	2.07	0.70
11:3:83:ILE:HG13	11:3:83:ILE:O	1.90	0.70
20:X:5:A:H4'	20:X:307:G:H5'	1.73	0.70
23:K:35:VAL:HG23	23:K:147:SER:O	1.92	0.70
35:Z:64:HIS:HB3	35:Z:67:ASN:ND2	2.07	0.70
36:a:21:LEU:O	36:a:26:LYS:NZ	2.20	0.70
6:G:78:ARG:HH21	20:X:1390:G:C4'	2.04	0.70
7:F:82:LYS:HB3	20:X:887:C:H1'	1.74	0.70
13:5:34:TYR:CE2	20:X:1369:U:OP1	2.44	0.70
14:6:16:ARG:HH11	14:6:22:THR:HG1	1.37	0.70
15:7:11:GLY:HA2	20:X:631:C:H5''	1.73	0.70
16:8:26:LEU:HD12	16:8:27:VAL:H	1.55	0.70
23:K:70:ALA:HB1	23:K:75:ALA:HB2	1.74	0.70
1:C:41:C:OP2	46:h:5:ILE:HB	1.91	0.70
2:B:149:LYS:HE3	2:B:172:VAL:HB	1.73	0.70
5:E:38:LEU:HB3	5:E:64:ARG:HB3	1.73	0.70
7:F:13:ARG:NH1	20:X:834:C:H4'	2.05	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:3:29:ASN:ND2	11:3:34:LYS:O	2.22	0.70
11:3:70:LEU:HB2	11:3:76:ILE:HG13	1.72	0.70
20:X:513:G:H5''	20:X:513:G:C8	2.25	0.70
9:1:56:HIS:CD2	20:X:1210:U:H5''	2.27	0.70
17:9:64:ILE:HD11	17:9:73:LEU:HD12	1.74	0.70
20:X:643:A:H3'	20:X:643:A:N3	2.06	0.70
23:K:3:ARG:O	23:K:7:LYS:N	2.25	0.70
26:N:25:LEU:HD12	26:N:25:LEU:O	1.92	0.70
28:P:74:TYR:HB3	28:P:94:ILE:HG13	1.74	0.70
37:b:23:ASP:OD1	47:Y:2290:C:N4	2.23	0.70
47:Y:1946:A:H2'	47:Y:1946:A:N3	2.06	0.70
1:C:87:G:H2'	1:C:87:G:N3	2.07	0.69
16:8:10:TYR:O	16:8:63:ILE:N	2.24	0.69
17:9:34:LEU:HG	17:9:64:ILE:HB	1.73	0.69
17:9:68:ARG:HH21	17:9:75:TYR:HA	1.58	0.69
14:6:81:LEU:HA	14:6:84:SER:HB3	1.74	0.69
20:X:532:G:N3	20:X:532:G:H2'	2.07	0.69
20:X:753:U:H3'	20:X:753:U:C6	2.28	0.69
20:X:1379:A:H5''	20:X:1379:A:H8	1.57	0.69
20:X:1382:G:N3	20:X:1382:G:H2'	2.06	0.69
20:X:1476:G:H2'	20:X:1476:G:N3	2.08	0.69
42:T:34:LYS:HB3	42:T:45:HIS:CD2	2.27	0.69
47:Y:364:A:HO2'	47:Y:383:A:HO2'	1.38	0.69
6:G:29:LYS:CE	20:X:1386:A:H1'	2.22	0.69
12:4:27:THR:CG2	20:X:1313:U:O4'	2.40	0.69
47:Y:575:G:H2'	47:Y:575:G:N3	2.07	0.69
4:D:15:VAL:HA	4:D:60:ILE:HD11	1.73	0.69
4:D:132:THR:HG22	4:D:135:ASN:HB2	1.73	0.69
8:H:22:ARG:CD	20:X:1142:A:C8	2.76	0.69
8:H:22:ARG:HG3	20:X:1142:A:C5	2.28	0.69
7:F:79:ARG:HB3	7:F:82:LYS:HD2	1.74	0.69
11:3:2:PRO:CA	20:X:575:G:C6	2.70	0.69
20:X:637:A:N3	20:X:637:A:H2'	2.07	0.69
20:X:100:A:H5''	20:X:100:A:C8	2.27	0.69
20:X:211:A:H3'	20:X:211:A:N3	2.06	0.69
20:X:489:G:H21	20:X:489:G:P	2.15	0.69
20:X:511:A:N3	20:X:518:A:N3	2.40	0.69
22:J:101:MET:CG	22:J:102:PRO:HD2	2.22	0.69
25:M:1:MET:CG	47:Y:1039:C:C5	2.72	0.69
4:D:38:VAL:HG21	4:D:113:ALA:HB1	1.75	0.69
4:D:123:ILE:HG21	4:D:125:SER:HB2	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:128:LEU:O	4:D:128:LEU:HD23	1.93	0.69
5:E:53:ASN:HA	20:X:719:G:OP2	1.93	0.69
6:G:21:LYS:HD3	6:G:21:LYS:O	1.91	0.69
7:F:11:LEU:HD11	7:F:77:LEU:HD21	1.74	0.69
8:H:38:ARG:CG	8:H:47:ILE:HD12	2.23	0.69
8:H:40:TYR:CE2	8:H:69:VAL:HG21	2.28	0.69
12:4:16:VAL:HB	12:4:41:ALA:HB2	1.75	0.69
13:5:34:TYR:CD2	20:X:1369:U:P	2.86	0.69
20:X:1096:G:H4'	20:X:1114:A:H5''	1.75	0.69
20:X:1201:G:OP2	20:X:1201:G:H2'	1.92	0.69
22:J:39:LEU:HD23	22:J:39:LEU:C	2.18	0.69
45:k:14:CYS:HA	45:k:27:CYS:HB3	1.74	0.69
8:H:22:ARG:HD2	20:X:1142:A:H1'	1.74	0.69
17:9:66:ARG:CG	20:X:744:U:OP1	2.26	0.69
18:I:77:THR:HG23	18:I:78:ARG:HG2	1.75	0.69
20:X:258:A:H4'	20:X:259:G:H5'	1.75	0.69
20:X:723:A:H5''	20:X:813:C:H4'	1.74	0.69
20:X:988:A:H2'	20:X:988:A:N3	2.07	0.69
20:X:1156:C:H3'	20:X:1157:A:H4'	1.74	0.69
27:O:6:LEU:H	27:O:6:LEU:CD2	2.06	0.69
47:Y:1900:G:H21	47:Y:1901:C:H41	1.41	0.69
5:E:54:ASP:CA	20:X:718:G:OP1	2.39	0.69
12:4:84:SER:H	12:4:89:ILE:CB	2.06	0.69
14:6:2:ALA:N	20:X:748:U:C5	2.60	0.69
20:X:277:U:H5''	20:X:277:U:C6	2.28	0.69
20:X:1249:A:H2	20:X:1314:C:H5'	1.58	0.69
10:2:83:GLU:HA	10:2:109:ALA:HB3	1.74	0.68
18:I:6:LYS:HG3	18:I:7:LYS:N	2.09	0.68
19:A:6:SER:CB	20:X:62:G:O6	2.41	0.68
46:h:53:ASP:OD1	46:h:54:SER:N	2.25	0.68
1:C:41:C:P	46:h:5:ILE:HG21	2.33	0.68
2:B:146:LYS:HB2	2:B:202:TYR:HD2	1.58	0.68
8:H:43:PHE:HB2	20:X:1302:U:H4'	1.75	0.68
14:6:2:ALA:N	20:X:748:U:OP2	2.25	0.68
14:6:5:GLN:HA	14:6:8:LYS:HG2	1.74	0.68
20:X:166:U:H3'	20:X:167:A:H8	1.58	0.68
37:b:83:ASP:OD2	37:b:84:LYS:NZ	2.26	0.68
20:X:508:G:C2	20:X:554:A:C2	2.82	0.68
40:f:11:SER:OG	47:Y:1033:G:OP2	2.11	0.68
47:Y:2562:G:H2'	47:Y:2563:G:H8	1.58	0.68
4:D:154:ALA:O	4:D:159:LYS:N	2.25	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:395:U:H4'	20:X:395:U:OP1	1.92	0.68
20:X:966:U:H5	20:X:970:U:H5	1.41	0.68
21:e:163:VAL:HG12	47:Y:2645:G:O2'	1.93	0.68
36:a:56:GLY:C	36:a:57:ARG:HD2	2.18	0.68
2:B:93:LEU:HD13	2:B:96:LYS:HG2	1.76	0.68
7:F:17:ALA:CB	7:F:25:LEU:CD1	2.69	0.68
7:F:108:THR:HA	7:F:124:GLY:HA2	1.75	0.68
20:X:666:G:H2'	20:X:666:G:N3	2.09	0.68
20:X:819:C:H4'	20:X:819:C:OP1	1.93	0.68
24:L:110:SER:HB3	47:Y:2680:U:C2'	2.24	0.68
27:O:43:GLY:N	47:Y:716:C:OP1	2.25	0.68
47:Y:2506:U:H2'	47:Y:2507:C:H6	1.59	0.68
2:B:8:ILE:O	13:5:50:LYS:N	2.26	0.68
20:X:401:A:H3'	20:X:401:A:N3	2.08	0.68
20:X:511:A:H2'	20:X:518:A:C2	2.28	0.68
20:X:522:C:H6	20:X:522:C:C5'	2.06	0.68
47:Y:327:G:N3	47:Y:327:G:H2'	2.06	0.68
47:Y:1630:A:N3	47:Y:1630:A:H2'	2.09	0.68
5:E:82:ILE:HG13	5:E:83:SER:N	2.06	0.68
6:G:78:ARG:NH1	20:X:1392:U:C5	2.61	0.68
20:X:787:C:H6	20:X:787:C:H5''	1.58	0.68
32:U:99:LYS:HB3	32:U:99:LYS:NZ	2.06	0.68
43:i:41:LYS:HG2	43:i:41:LYS:O	1.93	0.68
47:Y:1591:G:N2	47:Y:1591:G:OP2	2.27	0.68
5:E:19:LYS:CG	5:E:59:PHE:HD2	2.07	0.68
5:E:47:ARG:HB2	5:E:57:ASP:OD2	1.94	0.68
7:F:11:LEU:HD22	7:F:79:ARG:HE	1.59	0.68
12:4:29:THR:HG22	20:X:1340:A:H5'	1.75	0.68
20:X:565:G:H3'	20:X:566:G:H8	1.58	0.68
20:X:769:G:H4'	20:X:769:G:OP1	1.93	0.68
20:X:1150:G:H3'	20:X:1150:G:N3	2.08	0.68
21:e:163:VAL:HG13	47:Y:2646:U:C4'	2.24	0.68
2:B:8:ILE:HG22	13:5:49:TYR:HB3	1.76	0.68
2:B:9:GLY:HA2	13:5:49:TYR:HA	1.76	0.68
6:G:49:LEU:HG	6:G:49:LEU:O	1.91	0.68
8:H:96:TYR:HA	8:H:100:LEU:HD23	1.76	0.68
11:3:81:PRO:CD	11:3:109:HIS:CE1	2.77	0.68
20:X:56:A:H4'	20:X:56:A:OP2	1.94	0.68
20:X:498:U:H2'	20:X:499:A:H2'	1.74	0.68
20:X:524:U:H3'	20:X:524:U:OP2	1.94	0.68
20:X:686:U:H3'	20:X:686:U:H6	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:K:4:LEU:HA	23:K:7:LYS:HB3	1.76	0.68
47:Y:310:C:H4'	47:Y:310:C:OP1	1.94	0.68
10:2:85:THR:HG22	10:2:111:ARG:HE	1.59	0.67
20:X:145:U:O5'	20:X:145:U:H6	1.77	0.67
20:X:230:U:H6	20:X:230:U:H3'	1.59	0.67
20:X:960:U:H3'	20:X:961:G:H8	1.58	0.67
20:X:1310:A:H2'	20:X:1310:A:N3	2.08	0.67
27:O:30:THR:HG22	47:Y:1229:G:OP1	1.94	0.67
34:W:26:THR:HG23	34:W:79:ILE:HG13	1.75	0.67
47:Y:1549:C:H3'	47:Y:1549:C:H6	1.59	0.67
7:F:77:LEU:HD13	7:F:131:VAL:HA	1.75	0.67
15:7:32:ARG:NE	20:X:318:G:C1'	2.57	0.67
20:X:69:G:H2'	20:X:69:G:N3	2.08	0.67
20:X:98:U:H3'	20:X:99:U:H2'	1.76	0.67
26:N:88:ARG:HH21	26:N:88:ARG:HG2	1.59	0.67
47:Y:1638:G:H8	47:Y:1638:G:OP1	1.77	0.67
4:D:37:VAL:HG12	4:D:63:ALA:HB3	1.74	0.67
9:1:40:ILE:HA	20:X:1135:A:C5'	2.25	0.67
13:5:29:ARG:HG3	13:5:29:ARG:NH2	2.08	0.67
20:X:895:G:P	20:X:895:G:H8	2.16	0.67
20:X:1250:A:H4'	20:X:1251:U:H5'	1.75	0.67
20:X:1294:C:O5'	20:X:1294:C:H6	1.78	0.67
30:R:15:HIS:HE2	30:R:30:ARG:HH22	1.42	0.67
33:V:7:ALA:O	47:Y:538:G:O2'	2.13	0.67
36:a:85:GLN:NE2	36:a:86:ILE:O	2.27	0.67
47:Y:1901:C:H1'	47:Y:1902:G:H5'	1.76	0.67
1:C:55:A:H3'	1:C:56:A:H8	1.59	0.67
2:B:177:LEU:H	20:X:1124:C:H41	1.42	0.67
8:H:29:ASN:H	8:H:64:ASP:HA	1.58	0.67
8:H:54:PHE:HB3	8:H:60:LYS:HA	1.75	0.67
20:X:100:A:H5''	20:X:100:A:H8	1.60	0.67
20:X:1237:C:H3'	20:X:1237:C:C6	2.29	0.67
46:h:18:THR:OG1	46:h:52:SER:O	2.12	0.67
1:C:39:G:H5'	1:C:40:C:H5'	1.76	0.67
11:3:120:VAL:HG13	11:3:130:TYR:CD1	2.25	0.67
20:X:108:A:H2'	20:X:108:A:N3	2.10	0.67
23:K:35:VAL:CG2	23:K:147:SER:O	2.42	0.67
27:O:57:LEU:HD22	44:j:49:LEU:HD11	1.75	0.67
1:C:41:C:C5'	46:h:5:ILE:HD12	2.25	0.67
2:B:133:GLN:HE21	2:B:152:VAL:CG2	2.00	0.67
6:G:89:VAL:HB	20:X:1389:C:O2	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:13:ARG:NH1	20:X:834:C:O4'	2.27	0.67
20:X:886:A:H3'	20:X:886:A:N3	2.10	0.67
23:K:6:GLU:O	23:K:10:THR:N	2.28	0.67
23:K:40:VAL:HG21	23:K:47:SER:HA	1.77	0.67
47:Y:2564:U:O5'	47:Y:2564:U:H6	1.78	0.67
4:D:20:ARG:HH11	4:D:20:ARG:HG3	1.58	0.67
6:G:78:ARG:NE	20:X:1390:G:H1'	2.10	0.67
14:6:2:ALA:N	20:X:748:U:H5	1.92	0.67
27:O:6:LEU:HD23	27:O:6:LEU:N	2.10	0.67
45:k:29:ASN:ND2	45:k:31:LYS:HB2	2.08	0.67
20:X:869:C:H3'	20:X:870:A:H8	1.59	0.67
28:P:55:THR:HA	28:P:58:MET:HB2	1.77	0.67
40:f:23:VAL:HG23	40:f:50:VAL:HG21	1.75	0.67
47:Y:1556:G:H2'	47:Y:1556:G:N3	2.09	0.67
9:1:10:LEU:HD22	9:1:21:SER:HB3	1.75	0.67
10:2:93:ARG:HH21	10:2:94:GLU:HG2	1.58	0.67
11:3:8:VAL:HG13	16:8:36:TYR:HB2	1.77	0.67
11:3:128:SER:CB	20:X:510:C:H5''	2.22	0.67
14:6:2:ALA:C	20:X:748:U:OP2	2.37	0.67
23:K:71:LYS:CB	47:Y:2337:A:C1'	2.73	0.67
47:Y:333:C:O5'	47:Y:333:C:H6	1.78	0.67
11:3:53:MET:HG2	11:3:65:TYR:HE2	1.58	0.67
20:X:268:G:H8	20:X:268:G:OP2	1.78	0.67
29:Q:31:GLU:HB3	29:Q:118:ILE:HG12	1.77	0.67
4:D:132:THR:HG23	4:D:134:ILE:H	1.60	0.66
14:6:54:ARG:HE	20:X:736:A:H62	1.42	0.66
2:B:190:THR:HG22	2:B:191:THR:HG23	1.75	0.66
4:D:148:LYS:HZ2	7:F:101:LEU:HD13	1.58	0.66
5:E:9:ILE:HG12	5:E:60:TYR:CZ	2.30	0.66
5:E:10:VAL:HG12	5:E:22:LEU:HD13	1.52	0.66
15:7:32:ARG:NE	20:X:318:G:H1'	2.10	0.66
20:X:1459:C:OP1	20:X:1459:C:H6	1.78	0.66
47:Y:333:C:H2'	47:Y:334:A:H8	1.59	0.66
6:G:40:GLN:NE2	8:H:45:SER:HB3	2.08	0.66
11:3:134:LYS:H	20:X:38:U:P	2.18	0.66
20:X:295:U:H6	20:X:295:U:C5'	2.08	0.66
20:X:838:G:H8	20:X:838:G:C5'	2.06	0.66
20:X:1261:A:N6	20:X:1296:A:C8	2.58	0.66
2:B:34:GLU:O	2:B:38:ILE:HG12	1.95	0.66
4:D:128:LEU:HG	20:X:568:A:H2	1.58	0.66
10:2:42:LEU:HD23	10:2:43:SER:HB3	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:6:50:HIS:ND1	14:6:50:HIS:O	2.27	0.66
18:I:12:ASP:HB2	18:I:15:LEU:HB3	1.77	0.66
23:K:100:LEU:HD11	23:K:130:LEU:H	1.60	0.66
1:C:15:C:H6	1:C:15:C:O5'	1.77	0.66
8:H:42:PRO:HB2	20:X:1301:G:N2	2.09	0.66
10:2:20:VAL:N	10:2:35:THR:O	2.20	0.66
21:e:138:ARG:HD3	47:Y:2024:A:H5''	1.76	0.66
9:1:65:PHE:CD2	13:5:58:LYS:HD2	2.30	0.66
12:4:102:THR:HG21	20:X:1237:C:OP1	1.96	0.66
13:5:22:THR:OG1	13:5:33:VAL:CG1	2.43	0.66
15:7:84:PHE:CE2	20:X:138:A:O5'	2.49	0.66
38:c:55:LYS:HD2	47:Y:418:G:H8	1.58	0.66
12:4:86:TYR:CD1	20:X:1331:C:H4'	2.30	0.66
20:X:1529:G:H2'	20:X:1529:G:N3	2.10	0.66
29:Q:28:GLU:OE2	29:Q:28:GLU:HA	1.94	0.66
47:Y:93:U:OP2	47:Y:93:U:H6	1.78	0.66
47:Y:1627:G:H5''	47:Y:1627:G:H8	1.61	0.66
2:B:18:TRP:CE2	13:5:55:GLY:HA2	2.31	0.66
7:F:22:HIS:O	7:F:66:TYR:OH	2.13	0.66
7:F:110:GLU:HA	20:X:648:A:O2'	1.96	0.66
8:H:81:ILE:HG13	8:H:84:GLY:HA3	1.78	0.66
14:6:65:HIS:HE1	20:X:763:G:H5''	1.61	0.66
20:X:299:C:H6	20:X:299:C:O5'	1.78	0.66
20:X:1003:G:H2'	20:X:1003:G:N3	2.10	0.66
21:e:163:VAL:HG11	47:Y:2646:U:C1'	2.26	0.66
23:K:94:GLU:O	23:K:96:MET:N	2.29	0.66
26:N:25:LEU:HD21	26:N:38:VAL:HG12	1.77	0.66
2:B:134:LYS:O	2:B:138:THR:HG23	1.96	0.66
3:l:58:ARG:HD3	20:X:553:C:P	2.36	0.66
14:6:4:SER:O	14:6:7:ARG:N	2.28	0.66
14:6:13:LYS:O	14:6:16:ARG:NH2	2.29	0.66
20:X:377:C:O5'	20:X:377:C:H6	1.78	0.66
23:K:71:LYS:H	47:Y:2337:A:H2'	1.61	0.66
24:L:110:SER:HB3	47:Y:2680:U:O2'	1.96	0.66
3:l:46:GLU:O	3:l:50:GLN:N	2.27	0.66
9:1:42:LEU:H	9:1:72:ARG:HE	1.43	0.66
12:4:84:SER:N	12:4:89:ILE:CB	2.59	0.66
14:6:28:GLN:HG2	20:X:665:U:H1'	1.78	0.66
35:Z:89:LYS:HG3	47:Y:83:G:N7	2.10	0.66
2:B:20:ALA:HB2	2:B:39:ARG:NH1	2.10	0.65
6:G:26:LEU:HD12	6:G:26:LEU:O	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:111:VAL:CG2	4:D:136:MET:HB3	2.27	0.65
11:3:5:ASN:ND2	20:X:593:G:H1'	2.11	0.65
11:3:53:MET:HG2	11:3:65:TYR:CE2	2.30	0.65
15:7:73:ASN:HD22	20:X:461:C:P	2.19	0.65
19:A:6:SER:OG	20:X:62:G:N7	2.30	0.65
20:X:62:G:H1	20:X:106:G:H1'	1.62	0.65
47:Y:216:A:H8	47:Y:216:A:H5''	1.62	0.65
16:8:68:PRO:HD3	20:X:130:A:N1	2.10	0.65
20:X:987:A:H4'	20:X:991:U:H3	1.62	0.65
36:a:10:GLN:HB3	36:a:42:LYS:HB3	1.77	0.65
1:C:40:C:H3'	46:h:5:ILE:HG21	1.76	0.65
12:4:12:GLU:OE2	20:X:1308:U:H2'	1.96	0.65
18:I:16:MET:O	18:I:20:GLU:HG2	1.96	0.65
20:X:1381:G:H8	20:X:1381:G:C5'	2.03	0.65
27:O:91:VAL:HA	27:O:95:LEU:HD23	1.77	0.65
47:Y:1387:C:H6	47:Y:1387:C:H5'	1.61	0.65
4:D:90:GLY:CA	20:X:874:A:H5''	2.22	0.65
5:E:17:ASP:HA	5:E:20:LYS:HD2	1.79	0.65
5:E:81:LYS:CB	20:X:680:U:H4'	2.26	0.65
7:F:13:ARG:O	7:F:17:ALA:CB	2.44	0.65
12:4:86:TYR:CE1	20:X:1332:U:H5'	2.30	0.65
17:9:37:PHE:HA	17:9:45:LEU:HD11	1.78	0.65
20:X:246:G:H5'	20:X:247:C:H5''	1.79	0.65
25:M:6:MET:HE2	47:Y:582:G:C5'	2.27	0.65
25:M:143:LEU:HD12	25:M:143:LEU:O	1.95	0.65
40:f:13:ILE:CD1	47:Y:1033:G:C5	2.79	0.65
47:Y:412:U:OP2	47:Y:412:U:H6	1.79	0.65
47:Y:1569:G:H3'	47:Y:1570:G:H8	1.60	0.65
4:D:148:LYS:HZ1	7:F:101:LEU:HD13	1.61	0.65
9:1:71:LYS:HD2	20:X:1290:A:H2'	1.78	0.65
10:2:25:SER:HA	10:2:30:THR:HA	1.78	0.65
20:X:162:A:H2'	20:X:162:A:N3	2.11	0.65
20:X:339:G:H5'	20:X:340:G:H5''	1.77	0.65
23:K:39:GLY:HA2	23:K:81:GLU:O	1.96	0.65
4:D:50:THR:O	4:D:52:LYS:N	2.30	0.65
8:H:22:ARG:CB	20:X:1142:A:C2	2.79	0.65
8:H:101:LYS:HD3	8:H:106:LEU:HG	1.79	0.65
21:e:212:ARG:HH11	21:e:212:ARG:HG3	1.62	0.65
34:W:69:GLN:OE1	34:W:69:GLN:N	2.18	0.65
5:E:33:GLU:HB3	5:E:69:ASN:ND2	2.12	0.65
6:G:20:SER:HB3	6:G:23:VAL:HG22	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:57:U:O5'	20:X:57:U:H6	1.80	0.65
20:X:682:G:H8	20:X:682:G:O5'	1.80	0.65
11:3:65:TYR:HB3	11:3:79:TYR:HD1	1.61	0.65
12:4:27:THR:HG22	20:X:1313:U:O4'	1.96	0.65
20:X:735:G:O5'	20:X:735:G:H8	1.80	0.65
20:X:1261:A:N6	20:X:1296:A:H5''	2.12	0.65
39:d:15:GLU:HB2	39:d:19:LYS:NZ	2.12	0.65
2:B:178:ARG:HH12	20:X:1124:C:H2'	1.62	0.65
8:H:10:GLY:HA3	8:H:21:VAL:O	1.96	0.65
11:3:67:ARG:NH2	11:3:75:GLU:OE2	2.30	0.65
47:Y:1510:U:H4'	47:Y:1510:U:OP1	1.96	0.65
1:C:79:C:H42	1:C:92:G:H1	1.43	0.64
2:B:174:LEU:HD21	2:B:200:TRP:NE1	2.13	0.64
6:G:73:LEU:HD22	6:G:73:LEU:N	2.11	0.64
20:X:758:C:O5'	20:X:758:C:H6	1.80	0.64
20:X:1262:A:O2'	20:X:1380:C:O2'	2.14	0.64
28:P:118:LEU:HD12	28:P:131:PHE:CE1	2.32	0.64
47:Y:658:A:H3'	47:Y:659:A:H4'	1.79	0.64
4:D:120:ILE:HG23	4:D:121:THR:H	1.62	0.64
7:F:9:ASP:HA	20:X:886:A:H8	1.61	0.64
20:X:294:A:H8	20:X:294:A:O5'	1.81	0.64
20:X:624:G:H2'	20:X:625:G:H5''	1.77	0.64
20:X:871:G:H8	20:X:871:G:OP2	1.79	0.64
20:X:1211:C:H5''	20:X:1212:A:H2'	1.79	0.64
47:Y:1526:G:H2'	47:Y:1526:G:N3	2.12	0.64
9:1:65:PHE:HD2	13:5:58:LYS:CE	2.09	0.64
12:4:102:THR:CB	20:X:1236:A:O3'	2.45	0.64
20:X:285:C:H3'	20:X:286:A:H8	1.62	0.64
20:X:457:A:P	20:X:457:A:H8	2.21	0.64
20:X:465:U:H2'	20:X:465:U:OP2	1.97	0.64
20:X:834:C:O5'	20:X:834:C:H6	1.80	0.64
42:T:41:LYS:CE	47:Y:2399:G:OP1	2.44	0.64
47:Y:591:A:H4'	47:Y:592:A:H5'	1.78	0.64
47:Y:1507:A:H8	47:Y:1507:A:O5'	1.80	0.64
47:Y:1596:G:H8	47:Y:1596:G:H5''	1.61	0.64
9:1:40:ILE:CG2	20:X:1135:A:H4'	2.27	0.64
10:2:24:ARG:O	10:2:31:ILE:N	2.31	0.64
20:X:1005:C:O5'	20:X:1005:C:H6	1.80	0.64
28:P:123:HIS:ND1	47:Y:2494:C:H4'	2.13	0.64
15:7:3:VAL:HG12	15:7:22:VAL:HG22	1.80	0.64
15:7:19:ARG:HA	15:7:39:THR:HA	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:123:G:O5'	20:X:123:G:H8	1.81	0.64
23:K:5:LYS:HE2	23:K:93:GLY:HA3	1.78	0.64
26:N:88:ARG:HB3	26:N:88:ARG:CZ	2.27	0.64
12:4:90:ARG:HD2	20:X:1331:C:O2'	1.97	0.64
15:7:12:SER:HB2	20:X:632:C:N1	2.13	0.64
20:X:362:G:H8	20:X:362:G:O5'	1.81	0.64
20:X:873:U:H3'	20:X:873:U:H6	1.63	0.64
47:Y:1763:U:H2'	47:Y:1764:A:H5''	1.80	0.64
5:E:33:GLU:HG3	5:E:71:LYS:HE2	1.78	0.64
8:H:22:ARG:CG	20:X:1142:A:C5	2.81	0.64
27:O:76:ILE:HD11	47:Y:681:G:O6	1.98	0.64
33:V:42:ALA:HB2	47:Y:2037:G:H5''	1.80	0.64
17:9:35:LYS:HA	17:9:38:ILE:HB	1.80	0.64
20:X:889:C:H6	20:X:889:C:O5'	1.80	0.64
20:X:950:C:O5'	20:X:950:C:H6	1.80	0.64
41:g:18:THR:HG21	47:Y:2072:C:O2'	1.97	0.64
47:Y:98:U:O5'	47:Y:98:U:H6	1.79	0.64
47:Y:1491:C:H3'	47:Y:1491:C:H6	1.62	0.64
47:Y:1947:C:H2'	47:Y:1948:G:H8	1.60	0.64
1:C:100:A:H4'	1:C:100:A:OP1	1.96	0.64
20:X:1073:G:H8	20:X:1073:G:O5'	1.80	0.64
29:Q:9:THR:HG22	29:Q:12:GLN:HB2	1.80	0.64
47:Y:362:C:H6	47:Y:362:C:OP1	1.81	0.64
47:Y:2695:G:H2'	47:Y:2695:G:N3	2.13	0.64
5:E:11:ARG:NE	5:E:12:PRO:HD3	2.13	0.64
6:G:26:LEU:HD23	6:G:62:PHE:HZ	1.63	0.64
20:X:528:A:OP1	20:X:528:A:H4'	1.98	0.64
47:Y:1865:C:H4'	47:Y:1866:G:H5''	1.79	0.64
2:B:11:ARG:HA	2:B:14:ILE:HD11	1.80	0.63
5:E:9:ILE:HD12	5:E:88:ARG:HB2	1.80	0.63
7:F:94:MET:HE3	7:F:95:PRO:HD2	1.80	0.63
20:X:13:U:H1'	20:X:23:G:H22	1.63	0.63
20:X:743:C:OP2	20:X:743:C:H6	1.81	0.63
20:X:928:A:OP1	20:X:928:A:H4'	1.98	0.63
2:B:120:ALA:HB1	2:B:188:ALA:HB3	1.80	0.63
8:H:117:LYS:HB3	8:H:120:LEU:HD13	1.80	0.63
20:X:793:G:H8	20:X:793:G:OP2	1.80	0.63
20:X:1000:C:H2'	20:X:1001:U:H6	1.63	0.63
45:k:18:LYS:HD3	47:Y:1078:G:OP2	1.98	0.63
47:Y:1934:G:H5''	47:Y:1934:G:H8	1.62	0.63
14:6:4:SER:H	14:6:7:ARG:HD3	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:104:ARG:HG3	26:N:104:ARG:O	1.96	0.63
2:B:43:ASP:HB3	2:B:48:GLU:OE2	1.99	0.63
7:F:34:LYS:HE3	7:F:51:TYR:CD1	2.33	0.63
19:A:10:ARG:HD3	19:A:13:THR:HB	1.81	0.63
20:X:773:G:H8	20:X:773:G:O5'	1.81	0.63
20:X:798:A:H8	20:X:798:A:O5'	1.81	0.63
29:Q:59:ARG:CD	47:Y:1498:U:H5'	2.28	0.63
37:b:79:ARG:NH1	37:b:82:ARG:O	2.30	0.63
47:Y:140:A:H8	47:Y:140:A:OP2	1.81	0.63
8:H:128:GLN:NE2	20:X:1244:G:H5''	2.14	0.63
10:2:28:ASN:ND2	20:X:700:U:O4	2.32	0.63
20:X:261:U:H6	20:X:261:U:O5'	1.81	0.63
20:X:595:G:H8	20:X:595:G:O5'	1.80	0.63
20:X:1253:G:H1	20:X:1313:U:H1'	1.64	0.63
21:e:163:VAL:HG13	47:Y:2646:U:O4'	1.99	0.63
45:k:20:LYS:HE3	47:Y:2783:U:H3'	1.80	0.63
47:Y:911:A:H2'	47:Y:911:A:N3	2.12	0.63
6:G:78:ARG:NH2	20:X:1390:G:O4'	2.32	0.63
6:G:138:ARG:N	6:G:138:ARG:HD2	2.12	0.63
11:3:40:SER:HB3	11:3:43:LYS:HE3	1.81	0.63
17:9:37:PHE:O	17:9:44:ILE:CG2	2.34	0.63
20:X:287:A:H2'	20:X:287:A:N3	2.13	0.63
35:Z:33:VAL:N	35:Z:63:ILE:O	2.29	0.63
47:Y:2355:A:H8	47:Y:2355:A:O5'	1.81	0.63
17:9:46:PRO:HB2	17:9:49:VAL:HG13	1.81	0.63
20:X:136:C:O5'	20:X:136:C:H6	1.82	0.63
20:X:644:U:H3'	20:X:644:U:H6	1.63	0.63
23:K:38:MET:O	23:K:81:GLU:O	2.16	0.63
7:F:128:ILE:HG13	7:F:129:ALA:N	2.14	0.63
13:5:6:MET:HE3	13:5:9:LYS:HD2	1.79	0.63
14:6:60:VAL:HG13	14:6:63:ARG:HH11	1.63	0.63
20:X:320:C:OP2	20:X:320:C:H6	1.82	0.63
35:Z:94:ALA:C	35:Z:96:LYS:H	2.07	0.63
39:d:60:ARG:O	39:d:64:GLN:NE2	2.32	0.63
5:E:46:ARG:C	5:E:57:ASP:HB2	2.19	0.63
8:H:24:VAL:N	8:H:64:ASP:O	2.31	0.63
12:4:66:GLU:HB2	12:4:70:ARG:HB3	1.80	0.63
20:X:347:C:H5	26:N:97:ARG:HD2	1.63	0.63
20:X:1169:C:H1'	20:X:1171:G:H5''	1.81	0.63
8:H:86:ALA:O	8:H:90:LEU:HB2	1.99	0.62
12:4:17:ILE:HA	12:4:30:ALA:HB3	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:5:24:CYS:HB2	13:5:27:CYS:HB2	1.81	0.62
20:X:180:U:H2'	20:X:181:A:H4'	1.80	0.62
6:G:29:LYS:HE3	20:X:1386:A:H1'	1.80	0.62
6:G:38:THR:HG23	20:X:1251:U:C4	2.29	0.62
9:1:40:ILE:HG23	20:X:1135:A:H4'	1.81	0.62
9:1:43:PRO:HB3	20:X:1162:A:O3'	1.99	0.62
10:2:89:PRO:HD3	10:2:115:PRO:HD2	1.80	0.62
14:6:69:TYR:HA	14:6:71:ARG:NH1	2.14	0.62
19:A:18:GLU:O	19:A:22:ILE:HG12	1.99	0.62
20:X:1440:C:O5'	20:X:1440:C:H6	1.82	0.62
29:Q:74:GLU:HA	29:Q:74:GLU:OE2	1.97	0.62
42:T:31:GLU:HG2	42:T:46:ARG:HA	1.80	0.62
47:Y:1882:G:H8	47:Y:1882:G:O5'	1.80	0.62
1:C:108:G:N3	1:C:108:G:H5''	2.13	0.62
2:B:30:SER:HA	2:B:33:HIS:HB3	1.79	0.62
4:D:148:LYS:NZ	7:F:101:LEU:CD1	2.62	0.62
6:G:95:ARG:HH12	20:X:1388:A:P	2.22	0.62
20:X:350:C:O5'	20:X:350:C:H6	1.82	0.62
20:X:878:C:H3'	20:X:879:A:H8	1.64	0.62
47:Y:2340:C:O5'	47:Y:2340:C:H6	1.82	0.62
8:H:81:ILE:HA	8:H:84:GLY:H	1.63	0.62
12:4:102:THR:HB	20:X:1236:A:C3'	2.29	0.62
20:X:630:A:H8	20:X:630:A:O5'	1.82	0.62
20:X:1099:G:H2'	20:X:1099:G:N3	2.12	0.62
21:e:18:GLU:HA	21:e:18:GLU:OE2	1.98	0.62
23:K:20:PHE:HB3	23:K:22:TYR:CE1	2.35	0.62
40:f:10:ARG:HB2	40:f:53:LEU:HD23	1.80	0.62
47:Y:323:C:OP2	47:Y:323:C:H6	1.82	0.62
47:Y:343:A:H2'	47:Y:343:A:N3	2.13	0.62
2:B:13:GLY:N	2:B:16:ARG:O	2.32	0.62
4:D:83:HIS:HD2	7:F:98:LEU:HD22	1.64	0.62
23:K:60:ILE:HB	23:K:85:ILE:HG12	1.80	0.62
24:L:79:VAL:HA	24:L:136:ILE:HG23	1.82	0.62
35:Z:64:HIS:HB3	35:Z:67:ASN:HD21	1.63	0.62
47:Y:573:A:H3'	47:Y:573:A:N3	2.14	0.62
4:D:97:LYS:CD	20:X:7:G:O6	2.48	0.62
7:F:110:GLU:O	7:F:110:GLU:HG3	2.00	0.62
9:1:18:ILE:HD11	9:1:72:ARG:H	1.64	0.62
13:5:47:LEU:HB3	13:5:53:ILE:HG12	1.81	0.62
20:X:860:U:H2'	20:X:862:A:H5''	1.81	0.62
40:f:47:ILE:HD12	40:f:56:VAL:HG11	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:2772:C:H2'	47:Y:2773:U:H6	1.65	0.62
9:1:68:ARG:HG2	9:1:68:ARG:NH1	2.10	0.62
14:6:4:SER:N	14:6:7:ARG:HD3	2.15	0.62
14:6:79:ARG:O	14:6:83:LYS:HG3	2.00	0.62
15:7:61:LEU:CB	15:7:83:LYS:HE3	2.30	0.62
20:X:379:G:O5'	20:X:379:G:H8	1.82	0.62
20:X:677:A:H1'	20:X:746:U:H3	1.64	0.62
20:X:1468:A:H3'	20:X:1469:G:H8	1.63	0.62
21:e:116:ILE:HD12	21:e:211:ILE:HG21	1.81	0.62
22:J:169:ASN:HD22	47:Y:365:A:H5''	1.62	0.62
29:Q:111:GLY:HA3	47:Y:1324:A:N7	2.15	0.62
30:R:90:LYS:HG3	30:R:105:VAL:HG22	1.82	0.62
1:C:40:C:H3'	46:h:5:ILE:CG2	2.29	0.62
2:B:58:ARG:NE	2:B:63:ILE:HB	2.15	0.62
11:3:18:LYS:HD2	11:3:19:SER:N	2.15	0.62
12:4:67:GLY:N	12:4:70:ARG:HG2	2.12	0.62
20:X:728:C:O5'	20:X:728:C:H6	1.83	0.62
47:Y:305:A:N3	47:Y:305:A:H2'	2.14	0.62
47:Y:392:U:H2'	47:Y:393:G:H8	1.62	0.62
11:3:28:PHE:HZ	20:X:1492:A:H5'	1.63	0.62
11:3:65:TYR:HB2	11:3:79:TYR:HA	1.80	0.62
20:X:1110:C:H3'	20:X:1110:C:H6	1.64	0.62
2:B:174:LEU:HG	2:B:181:ILE:HG21	1.82	0.62
8:H:23:LEU:HB3	8:H:63:TYR:HB2	1.81	0.62
14:6:2:ALA:CA	20:X:748:U:OP2	2.48	0.62
20:X:121:A:OP1	20:X:121:A:H3'	1.99	0.62
35:Z:8:ASN:HB3	35:Z:22:LYS:HE2	1.81	0.62
4:D:14:ARG:HH12	4:D:117:LEU:HD11	1.65	0.61
5:E:19:LYS:CD	5:E:59:PHE:CD2	2.83	0.61
9:1:15:HIS:HA	9:1:70:HIS:CE1	2.36	0.61
20:X:677:A:H4'	20:X:677:A:OP1	1.99	0.61
20:X:1536:C:OP2	20:X:1536:C:H6	1.83	0.61
5:E:33:GLU:HB3	5:E:69:ASN:HD21	1.64	0.61
9:1:56:HIS:ND1	20:X:1210:U:C5'	2.61	0.61
46:h:16:ASP:H	46:h:20:ASN:HA	1.65	0.61
4:D:61:LYS:O	4:D:65:GLU:HG3	2.00	0.61
8:H:116:LYS:NZ	20:X:1380:C:C5	2.68	0.61
10:2:125:LYS:CB	20:X:805:C:OP1	2.34	0.61
15:7:9:ARG:CG	15:7:9:ARG:HH11	2.14	0.61
20:X:548:G:H2'	20:X:548:G:N3	2.14	0.61
27:O:10:GLU:OE1	27:O:10:GLU:HA	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:R:40:ILE:O	30:R:58:SER:OG	2.13	0.61
47:Y:721:A:H8	47:Y:2096:G:H21	1.48	0.61
47:Y:750:A:H2'	47:Y:751:A:H8	1.63	0.61
8:H:22:ARG:HB3	8:H:65:VAL:O	2.00	0.61
15:7:26:ARG:HG2	15:7:26:ARG:HH21	1.65	0.61
20:X:795:A:H8	20:X:795:A:OP2	1.83	0.61
5:E:64:ARG:NH2	5:E:94:GLU:OE2	2.33	0.61
11:3:47:CYS:HB2	11:3:90:HIS:N	2.16	0.61
20:X:1431:U:H6	20:X:1431:U:O5'	1.83	0.61
28:P:37:THR:OG1	28:P:128:LYS:O	2.13	0.61
4:D:131:ASN:C	4:D:131:ASN:HD22	2.07	0.61
8:H:14:ARG:NH1	8:H:79:GLN:HB3	2.16	0.61
34:W:43:GLU:O	34:W:43:GLU:HG2	1.99	0.61
47:Y:1479:G:C5'	47:Y:1479:G:H8	2.13	0.61
47:Y:2048:G:H2'	47:Y:2048:G:N3	2.15	0.61
2:B:115:VAL:O	2:B:119:ILE:HG12	2.00	0.61
3:1:82:HIS:HA	3:1:85:ASN:HB2	1.83	0.61
18:I:63:THR:O	18:I:65:ASP:N	2.34	0.61
20:X:1417:U:H4'	20:X:1529:G:H2'	1.82	0.61
26:N:115:VAL:O	26:N:115:VAL:HG12	2.01	0.61
47:Y:830:U:H4'	47:Y:1806:U:H4'	1.82	0.61
5:E:19:LYS:HD2	5:E:59:PHE:CD2	2.34	0.61
14:6:78:TYR:CZ	14:6:82:ILE:HG13	2.35	0.61
20:X:538:G:H5''	20:X:539:U:H5'	1.83	0.61
20:X:813:C:C6	20:X:813:C:H5'	2.36	0.61
20:X:880:U:H4'	20:X:881:U:H2'	1.82	0.61
20:X:1109:C:H4'	20:X:1181:A:H4'	1.82	0.61
29:Q:105:LYS:HA	29:Q:117:VAL:HG23	1.80	0.61
4:D:94:VAL:HG12	4:D:127:SER:HA	1.82	0.61
4:D:148:LYS:HZ1	7:F:101:LEU:CD1	2.13	0.61
16:8:25:VAL:HG23	16:8:48:THR:HG21	1.82	0.61
30:R:30:ARG:HH21	30:R:32:ASN:HD22	1.49	0.61
5:E:48:LEU:HG	5:E:56:LYS:O	2.01	0.61
8:H:83:HIS:HA	8:H:86:ALA:HB3	1.82	0.61
10:2:72:LYS:HZ1	10:2:103:ALA:HB2	1.64	0.61
11:3:21:SER:HB3	11:3:24:LEU:HB3	1.83	0.61
11:3:80:ILE:O	11:3:80:ILE:HG23	2.00	0.61
20:X:181:A:H2'	20:X:181:A:N3	2.14	0.61
20:X:530:C:H3'	20:X:531:A:H8	1.66	0.61
20:X:1261:A:P	20:X:1261:A:H8	2.23	0.61
32:U:4:ILE:O	32:U:4:ILE:HG22	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:U:25:LEU:H	32:U:93:THR:HG21	1.65	0.61
47:Y:1315:C:H2'	47:Y:1316:G:H8	1.65	0.61
1:C:26:C:H6	1:C:26:C:H5''	1.66	0.60
11:3:24:LEU:HB2	11:3:108:TYR:HE1	1.65	0.60
15:7:71:VAL:O	15:7:71:VAL:HG12	2.01	0.60
16:8:13:LYS:HG3	16:8:14:VAL:H	1.66	0.60
20:X:1363:C:O5'	20:X:1363:C:H6	1.83	0.60
30:R:29:PRO:HB2	30:R:44:ILE:HG23	1.83	0.60
34:W:69:GLN:H	34:W:69:GLN:CD	2.07	0.60
2:B:15:ILE:HG13	2:B:16:ARG:N	2.14	0.60
2:B:133:GLN:NE2	2:B:152:VAL:CG2	2.62	0.60
3:l:165:LEU:HA	3:l:174:GLY:O	2.00	0.60
4:D:148:LYS:HD2	4:D:153:VAL:HB	1.82	0.60
8:H:13:ARG:HB2	8:H:18:VAL:HG12	1.83	0.60
11:3:119:GLY:HA3	11:3:131:GLY:HA3	1.83	0.60
33:V:38:LEU:CD1	41:g:27:MET:HG2	2.30	0.60
47:Y:1217:U:H6	47:Y:1217:U:OP2	1.83	0.60
47:Y:1713:A:H2'	47:Y:1713:A:N3	2.16	0.60
2:B:177:LEU:N	20:X:1124:C:H41	1.98	0.60
4:D:86:THR:O	4:D:86:THR:HG22	2.01	0.60
12:4:14:ARG:HB3	12:4:41:ALA:HB1	1.83	0.60
13:5:10:GLN:NE2	13:5:21:TYR:O	2.35	0.60
13:5:14:GLN:HG2	13:5:19:ARG:NH2	2.16	0.60
15:7:73:ASN:ND2	20:X:460:A:H3'	2.16	0.60
20:X:814:C:H6	20:X:814:C:C5'	2.14	0.60
20:X:889:C:H2'	20:X:890:C:H6	1.64	0.60
20:X:1484:U:H6	20:X:1484:U:H5''	1.65	0.60
47:Y:272:C:OP1	47:Y:272:C:H4'	2.01	0.60
2:B:52:SER:HB2	2:B:68:HIS:CE1	2.35	0.60
12:4:95:LEU:N	12:4:96:PRO:HD3	2.17	0.60
18:I:19:VAL:O	18:I:23:GLU:N	2.34	0.60
20:X:426:U:H2'	20:X:427:C:H5'	1.83	0.60
20:X:1379:A:H5''	20:X:1379:A:C8	2.35	0.60
25:M:18:VAL:HG23	25:M:138:PRO:HB2	1.82	0.60
33:V:44:SER:H	33:V:45:PRO:HD2	1.64	0.60
40:f:50:VAL:HG13	40:f:50:VAL:O	2.02	0.60
44:j:28:PHE:HZ	47:Y:2421:C:OP2	1.84	0.60
47:Y:546:A:H8	47:Y:546:A:O5'	1.84	0.60
5:E:20:LYS:HA	5:E:23:VAL:HG12	1.83	0.60
6:G:36:ARG:HG2	20:X:1384:G:H5''	1.81	0.60
7:F:4:THR:HA	20:X:596:G:H4'	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:3:75:GLU:O	11:3:76:ILE:HD13	2.02	0.60
47:Y:2343:U:O5'	47:Y:2343:U:H6	1.84	0.60
47:Y:2685:C:O5'	47:Y:2685:C:H6	1.85	0.60
6:G:74:GLU:OE2	6:G:74:GLU:HA	2.01	0.60
9:1:56:HIS:ND1	20:X:1210:U:H5''	2.09	0.60
10:2:25:SER:HB2	10:2:30:THR:HG23	1.84	0.60
12:4:92:ARG:HA	12:4:92:ARG:HH11	1.67	0.60
20:X:877:G:H5''	20:X:877:G:H8	1.65	0.60
47:Y:319:G:H1'	47:Y:320:U:H5	1.67	0.60
47:Y:2845:G:H8	47:Y:2845:G:O5'	1.83	0.60
9:1:23:GLU:O	9:1:27:GLU:HG3	2.02	0.60
17:9:43:LYS:HB2	17:9:43:LYS:NZ	2.15	0.60
26:N:121:VAL:O	26:N:121:VAL:HG12	2.01	0.60
29:Q:4:ARG:HH11	29:Q:4:ARG:CG	2.14	0.60
47:Y:2685:C:H2'	47:Y:2686:G:H5'	1.84	0.60
1:C:22:G:OP2	1:C:22:G:H8	1.83	0.60
33:V:44:SER:N	33:V:45:PRO:HD2	2.17	0.60
43:i:8:PRO:HB2	47:Y:1346:G:H4'	1.84	0.60
4:D:18:ILE:HG13	4:D:18:ILE:O	2.01	0.60
5:E:3:THR:HB	5:E:94:GLU:H	1.67	0.60
20:X:568:A:H5'	20:X:574:G:H21	1.66	0.60
20:X:610:A:H8	20:X:610:A:H5''	1.67	0.60
20:X:626:C:H6	20:X:626:C:OP2	1.85	0.60
20:X:958:C:OP1	20:X:1317:A:C4'	2.42	0.60
21:e:25:VAL:HG11	21:e:186:VAL:HG21	1.84	0.60
22:J:101:MET:HG2	22:J:102:PRO:CD	2.31	0.60
25:M:40:LYS:NZ	47:Y:1053:A:OP2	2.34	0.60
4:D:88:ARG:NH2	20:X:873:U:OP1	2.33	0.60
4:D:124:LEU:HD13	20:X:7:G:N3	2.17	0.60
9:1:54:ALA:HB1	9:1:58:TYR:HB2	1.83	0.60
17:9:64:ILE:CD1	17:9:73:LEU:HD12	2.32	0.60
20:X:276:U:O5'	20:X:276:U:H6	1.85	0.60
20:X:512:C:H41	20:X:547:A:H62	1.49	0.60
20:X:1271:G:H4'	20:X:1295:C:H4'	1.84	0.60
26:N:35:ILE:HD12	26:N:69:VAL:HG21	1.83	0.60
38:c:38:ILE:HG13	38:c:39:LEU:H	1.65	0.60
1:C:36:C:H6	1:C:36:C:O5'	1.85	0.59
2:B:84:GLU:HA	2:B:87:ARG:HD2	1.83	0.59
4:D:24:VAL:CB	20:X:1409:A:N6	2.49	0.59
7:F:5:ASP:HB3	7:F:8:ALA:HB2	1.82	0.59
7:F:12:THR:O	7:F:15:ARG:HG3	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:753:U:C6	20:X:753:U:C3'	2.85	0.59
29:Q:26:ILE:O	29:Q:26:ILE:HG13	2.01	0.59
30:R:71:GLU:OE1	30:R:74:THR:OG1	2.20	0.59
35:Z:30:LYS:HB2	35:Z:32:ARG:HG3	1.82	0.59
36:a:74:VAL:HA	36:a:91:PHE:HA	1.83	0.59
42:T:25:ASN:ND2	47:Y:2313:A:OP2	2.36	0.59
47:Y:1098:A:N3	47:Y:1098:A:H2'	2.17	0.59
47:Y:1387:C:H6	47:Y:1387:C:C5'	2.16	0.59
1:C:10:U:O5'	37:b:79:ARG:NH2	2.36	0.59
2:B:65:ILE:HB	2:B:100:ILE:HD12	1.83	0.59
4:D:40:GLY:HA3	4:D:117:LEU:HD23	1.84	0.59
4:D:49:GLY:HA3	4:D:63:ALA:HA	1.84	0.59
4:D:161:VAL:C	4:D:163:GLU:H	2.09	0.59
5:E:47:ARG:CB	5:E:57:ASP:OD2	2.50	0.59
12:4:101:LYS:CD	20:X:959:A:H5''	2.26	0.59
14:6:29:ILE:O	14:6:33:THR:HG23	2.03	0.59
20:X:884:G:H2'	20:X:884:G:N3	2.18	0.59
36:a:68:LYS:O	36:a:68:LYS:HG2	2.02	0.59
10:2:97:ILE:HG23	10:2:107:VAL:HG11	1.84	0.59
12:4:102:THR:CG2	20:X:1237:C:P	2.90	0.59
30:R:109:ALA:HA	30:R:113:ARG:HG3	1.83	0.59
4:D:134:ILE:HG23	4:D:134:ILE:O	2.03	0.59
9:1:49:TYR:O	9:1:65:PHE:O	2.20	0.59
14:6:81:LEU:HD23	14:6:84:SER:HB3	1.84	0.59
20:X:654:G:H2'	20:X:654:G:N3	2.17	0.59
20:X:715:U:OP2	20:X:715:U:H6	1.85	0.59
20:X:1198:G:H2'	20:X:1198:G:N3	2.17	0.59
20:X:1407:A:H1'	20:X:1409:A:H1'	1.84	0.59
25:M:6:MET:HE2	47:Y:582:G:H5'	1.84	0.59
35:Z:24:ILE:HG13	35:Z:25:ALA:N	2.15	0.59
47:Y:1490:G:H5''	47:Y:1490:G:N3	2.17	0.59
1:C:75:U:H2'	1:C:76:A:H8	1.66	0.59
6:G:124:ILE:N	6:G:124:ILE:HD12	2.17	0.59
7:F:115:ASP:OD1	7:F:119:ARG:NH2	2.35	0.59
8:H:23:LEU:HA	8:H:64:ASP:O	2.03	0.59
9:1:54:ALA:CB	9:1:58:TYR:HB2	2.32	0.59
11:3:15:LYS:NZ	20:X:895:G:N7	2.49	0.59
21:e:206:LYS:HG3	21:e:206:LYS:O	2.03	0.59
26:N:24:VAL:O	26:N:24:VAL:HG12	2.01	0.59
30:R:30:ARG:HB3	30:R:89:ILE:HG13	1.84	0.59
45:k:2:LYS:HB2	45:k:34:GLN:HG2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:1597:U:H2'	47:Y:1598:U:H6	1.66	0.59
4:D:100:ALA:O	4:D:103:THR:OG1	2.20	0.59
9:1:12:ALA:HB1	9:1:17:VAL:HG23	1.84	0.59
11:3:93:VAL:HG21	11:3:110:ILE:HG23	1.83	0.59
15:7:39:THR:CB	20:X:633:G:H4'	2.33	0.59
20:X:617:A:H2'	20:X:617:A:N3	2.17	0.59
20:X:627:U:H2'	20:X:628:C:H5	1.67	0.59
20:X:654:G:H2'	20:X:655:A:H5'	1.85	0.59
20:X:1530:A:H3'	20:X:1531:A:H8	1.68	0.59
25:M:2:ARG:HG3	47:Y:1039:C:O2'	2.02	0.59
34:W:11:VAL:HG22	34:W:26:THR:HB	1.85	0.59
37:b:58:ASN:ND2	37:b:71:ILE:HD11	2.18	0.59
2:B:194:LYS:HD2	20:X:1216:U:O2'	2.02	0.59
5:E:91:VAL:CG1	20:X:744:U:H4'	2.32	0.59
8:H:10:GLY:N	20:X:1142:A:N6	2.42	0.59
9:1:40:ILE:HA	20:X:1135:A:C4'	2.32	0.59
11:3:5:ASN:ND2	20:X:889:C:C5'	2.47	0.59
20:X:339:G:H5''	20:X:339:G:N3	2.16	0.59
20:X:523:G:N3	20:X:523:G:H2'	2.17	0.59
20:X:843:A:H3'	20:X:844:G:H8	1.66	0.59
25:M:109:MET:HE2	47:Y:1182:G:N3	2.18	0.59
40:f:10:ARG:NH2	40:f:10:ARG:HG2	2.17	0.59
47:Y:2334:G:H3'	47:Y:2335:G:H4'	1.85	0.59
1:C:81:A:C5'	40:f:52:HIS:HE1	2.07	0.59
16:8:26:LEU:HD12	16:8:27:VAL:N	2.18	0.59
27:O:91:VAL:HG22	27:O:123:VAL:HA	1.84	0.59
39:d:56:VAL:HA	39:d:59:GLU:HG3	1.83	0.59
42:T:41:LYS:HE2	47:Y:2399:G:P	2.43	0.59
1:C:39:G:OP1	1:C:39:G:N2	2.36	0.59
2:B:132:VAL:HA	2:B:135:GLN:HB2	1.84	0.59
8:H:22:ARG:HB2	20:X:1142:A:C6	2.37	0.59
12:4:16:VAL:HG22	12:4:31:GLN:HB2	1.84	0.59
18:I:69:HIS:NE2	20:X:1331:C:P	2.74	0.59
20:X:1416:G:H8	20:X:1416:G:OP2	1.86	0.59
24:L:151:VAL:HG13	24:L:152:ARG:H	1.68	0.59
26:N:88:ARG:HH21	26:N:88:ARG:CG	2.15	0.59
30:R:87:LYS:HA	30:R:113:ARG:HA	1.84	0.59
44:j:4:MET:CE	47:Y:635:G:H21	2.16	0.59
47:Y:401:U:O5'	47:Y:401:U:H6	1.86	0.59
1:C:41:C:OP2	46:h:5:ILE:CG2	2.51	0.59
7:F:72:ARG:HB3	7:F:75:THR:HA	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:1:10:LEU:HB2	9:1:72:ARG:O	2.03	0.59
20:X:1364:G:H8	20:X:1364:G:O5'	1.85	0.59
23:K:22:TYR:HB2	23:K:28:VAL:HG22	1.84	0.59
47:Y:384:G:O5'	47:Y:384:G:H8	1.86	0.59
1:C:52:G:H8	1:C:52:G:OP2	1.85	0.58
5:E:11:ARG:CD	5:E:12:PRO:HD3	2.32	0.58
6:G:30:ILE:HD13	6:G:30:ILE:N	2.18	0.58
6:G:131:THR:HG23	6:G:131:THR:O	2.01	0.58
20:X:522:C:C5'	20:X:522:C:C6	2.86	0.58
20:X:676:A:H2'	20:X:676:A:N3	2.18	0.58
27:O:57:LEU:HD22	44:j:49:LEU:CD1	2.32	0.58
47:Y:351:G:H8	47:Y:351:G:O5'	1.86	0.58
6:G:73:LEU:H	6:G:73:LEU:CD2	2.16	0.58
10:2:122:ARG:HD3	20:X:787:C:O2'	2.04	0.58
12:4:17:ILE:O	12:4:27:THR:N	2.34	0.58
15:7:22:VAL:HG13	15:7:22:VAL:O	2.01	0.58
16:8:22:THR:HB	20:X:261:U:H2'	1.85	0.58
16:8:68:PRO:HB3	16:8:73:LYS:O	2.03	0.58
16:8:68:PRO:HB3	16:8:74:ARG:HA	1.85	0.58
20:X:791:C:OP1	20:X:791:C:H4'	2.03	0.58
20:X:1127:U:O5'	20:X:1127:U:H6	1.86	0.58
20:X:1183:C:O5'	20:X:1183:C:H6	1.87	0.58
20:X:1307:C:O5'	20:X:1307:C:H6	1.86	0.58
25:M:94:ARG:O	25:M:94:ARG:HG2	2.02	0.58
2:B:58:ARG:HE	2:B:63:ILE:HB	1.69	0.58
5:E:87:ILE:HG13	5:E:88:ARG:HG3	1.85	0.58
6:G:33:ASP:O	20:X:1361:A:N6	2.36	0.58
11:3:44:ARG:NH1	20:X:370:G:OP1	2.35	0.58
19:A:18:GLU:HG2	19:A:22:ILE:HD13	1.86	0.58
20:X:270:A:H2'	20:X:270:A:N3	2.18	0.58
20:X:1098:U:C5'	20:X:1098:U:C6	2.85	0.58
2:B:148:ILE:HG12	2:B:150:THR:HG23	1.85	0.58
4:D:25:VAL:HG23	4:D:27:GLY:H	1.68	0.58
4:D:131:ASN:O	4:D:131:ASN:ND2	2.31	0.58
5:E:91:VAL:HG13	20:X:744:U:H4'	1.85	0.58
15:7:32:ARG:NE	20:X:318:G:O4'	2.36	0.58
18:I:77:THR:HG22	20:X:1332:U:H3	1.68	0.58
20:X:492:G:H3'	20:X:492:G:OP2	2.03	0.58
20:X:755:U:H6	20:X:755:U:H3'	1.67	0.58
20:X:1301:G:N3	20:X:1301:G:H2'	2.17	0.58
47:Y:2314:A:H8	47:Y:2314:A:O5'	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:37:VAL:HA	5:E:65:VAL:HG12	1.85	0.58
12:4:20:THR:HA	12:4:26:GLY:CA	2.31	0.58
12:4:106:ALA:HB3	20:X:957:G:H8	1.68	0.58
16:8:40:VAL:HG12	20:X:593:G:C5'	2.33	0.58
18:I:6:LYS:HG3	18:I:7:LYS:HG3	1.83	0.58
20:X:110:G:OP1	20:X:110:G:H4'	2.02	0.58
20:X:406:C:H2'	20:X:407:G:H5''	1.86	0.58
23:K:52:ASN:O	23:K:54:VAL:N	2.36	0.58
25:M:2:ARG:HA	25:M:2:ARG:HE	1.67	0.58
34:W:24:LYS:HG2	34:W:81:THR:HB	1.85	0.58
47:Y:1549:C:H3'	47:Y:1549:C:C6	2.38	0.58
47:Y:2220:U:H6	47:Y:2220:U:H5''	1.68	0.58
47:Y:2236:C:H42	47:Y:2242:G:H1	1.52	0.58
20:X:550:U:H3'	20:X:550:U:H6	1.69	0.58
20:X:577:C:H6	20:X:577:C:H5''	1.67	0.58
20:X:985:A:H5'	20:X:1369:U:H1'	1.82	0.58
20:X:1261:A:H61	20:X:1296:A:H5''	1.68	0.58
27:O:54:GLN:OE1	47:Y:2455:G:N2	2.36	0.58
10:2:18:ASN:OD1	10:2:19:GLY:N	2.37	0.58
12:4:16:VAL:HG23	12:4:34:LEU:HD11	1.85	0.58
19:A:20:ARG:NE	20:X:175:C:H4'	2.13	0.58
20:X:241:U:OP2	20:X:241:U:H3'	2.04	0.58
20:X:530:C:O2'	20:X:543:A:O2'	2.07	0.58
20:X:1130:A:H8	20:X:1130:A:O5'	1.87	0.58
20:X:1385:A:H2'	20:X:1385:A:N3	2.18	0.58
2:B:175:HIS:HB3	20:X:1122:A:H61	1.69	0.58
5:E:16:GLU:HB3	5:E:20:LYS:HE3	1.85	0.58
7:F:106:VAL:HG11	7:F:127:ILE:HA	1.85	0.58
14:6:32:LEU:HD22	14:6:59:MET:SD	2.43	0.58
20:X:835:U:N3	20:X:882:A:N6	2.51	0.58
20:X:958:C:H2'	20:X:1336:C:P	2.44	0.58
22:J:19:LEU:N	22:J:19:LEU:HD12	2.18	0.58
47:Y:2499:G:H1'	47:Y:2505:A:H61	1.69	0.58
11:3:14:SER:CA	20:X:570:U:C5	2.78	0.58
11:3:28:PHE:CZ	20:X:1492:A:H5'	2.39	0.58
11:3:44:ARG:NH1	20:X:370:G:H5'	2.18	0.58
11:3:94:LEU:H	11:3:114:ALA:HB1	1.69	0.58
12:4:102:THR:HG21	20:X:1236:A:O3'	2.04	0.58
20:X:301:A:H1'	20:X:316:C:H42	1.68	0.58
20:X:353:C:H41	26:N:115:VAL:C	2.12	0.58
20:X:364:A:O2'	20:X:376:U:O2'	2.21	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1487:G:H5''	20:X:1487:G:H8	1.67	0.58
26:N:25:LEU:HD12	26:N:25:LEU:C	2.29	0.58
27:O:123:VAL:HG21	27:O:136:ILE:HG12	1.86	0.58
30:R:30:ARG:NH2	30:R:32:ASN:HD22	2.01	0.58
36:a:27:VAL:HG12	36:a:43:VAL:HB	1.86	0.58
43:i:2:VAL:N	47:Y:1663:G:HO2'	2.00	0.58
1:C:40:C:H4'	23:K:60:ILE:HG12	1.86	0.58
8:H:83:HIS:NE2	8:H:108:ARG:O	2.37	0.58
20:X:35:C:H2'	20:X:36:G:H8	1.69	0.58
20:X:580:A:H3'	20:X:581:A:H3'	1.85	0.58
20:X:680:U:H2'	20:X:680:U:O2	2.03	0.58
20:X:995:C:H2'	20:X:996:A:H5''	1.84	0.58
20:X:1230:U:H2'	20:X:1231:G:H8	1.68	0.58
35:Z:85:PHE:HB3	35:Z:90:LYS:HA	1.86	0.58
47:Y:1503:U:H4'	47:Y:1504:U:H5'	1.86	0.58
9:1:42:LEU:CD1	20:X:1291:A:N7	2.67	0.57
10:2:52:PHE:HD1	10:2:56:LYS:HE2	1.69	0.57
10:2:82:VAL:HG22	10:2:107:VAL:HA	1.84	0.57
20:X:241:U:H1'	20:X:271:A:H1'	1.85	0.57
20:X:382:A:H61	20:X:398:C:H2'	1.68	0.57
20:X:525:G:H5''	20:X:525:G:C8	2.38	0.57
22:J:45:ARG:HD2	47:Y:489:A:C6	2.39	0.57
23:K:15:ASN:O	23:K:19:LYS:N	2.33	0.57
47:Y:1880:A:H62	47:Y:1915:G:H1'	1.68	0.57
9:1:51:ILE:HG21	13:5:45:ARG:HH12	1.66	0.57
20:X:827:A:H2'	20:X:827:A:N3	2.19	0.57
20:X:1170:U:H5''	20:X:1170:U:O2	2.04	0.57
10:2:29:ASN:H	10:2:57:LYS:CE	2.11	0.57
15:7:72:HIS:HA	15:7:75:LEU:HD12	1.87	0.57
20:X:411:C:H2'	20:X:412:G:H8	1.68	0.57
20:X:545:G:H5'	20:X:545:G:C8	2.38	0.57
20:X:631:C:C5'	20:X:631:C:C6	2.85	0.57
20:X:988:A:H5'	20:X:989:C:H5	1.68	0.57
20:X:1232:G:H5''	20:X:1333:C:H41	1.69	0.57
21:e:186:VAL:HG23	21:e:196:LEU:HB3	1.86	0.57
27:O:134:GLU:OE1	27:O:134:GLU:HA	2.04	0.57
47:Y:2408:C:O5'	47:Y:2408:C:H6	1.88	0.57
47:Y:2917:U:H5''	47:Y:2917:U:O2	2.04	0.57
3:l:136:GLY:N	3:l:177:VAL:O	2.38	0.57
6:G:76:LYS:HB3	20:X:1390:G:H22	1.69	0.57
10:2:72:LYS:NZ	10:2:103:ALA:HB2	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:A:10:ARG:NH2	19:A:14:THR:HB	2.20	0.57
20:X:978:A:H1'	20:X:1209:A:H5''	1.86	0.57
20:X:1453:G:H2'	20:X:1454:A:H5'	1.87	0.57
25:M:43:VAL:HG12	31:S:68:ALA:CB	2.17	0.57
30:R:30:ARG:HH21	30:R:32:ASN:ND2	2.03	0.57
47:Y:896:U:H2'	47:Y:897:A:H8	1.70	0.57
2:B:11:ARG:HD3	2:B:180:ASP:HA	1.86	0.57
7:F:18:ASN:HB2	7:F:66:TYR:CZ	2.39	0.57
7:F:121:ARG:HB3	7:F:123:VAL:HG22	1.86	0.57
20:X:1237:C:C6	20:X:1237:C:C3'	2.85	0.57
20:X:1383:U:O5'	20:X:1383:U:H6	1.86	0.57
47:Y:1028:G:N3	47:Y:1028:G:H2'	2.19	0.57
1:C:40:C:OP2	46:h:5:ILE:HA	2.04	0.57
2:B:94:THR:HG23	2:B:95:ASP:H	1.69	0.57
6:G:95:ARG:HD3	20:X:1389:C:C2	2.39	0.57
16:8:40:VAL:HG12	20:X:593:G:H5'	1.85	0.57
20:X:295:U:H6	20:X:295:U:H5''	1.68	0.57
20:X:1297:U:H6	20:X:1297:U:O5'	1.88	0.57
2:B:36:LEU:O	2:B:40:LYS:HB2	2.05	0.57
2:B:58:ARG:HE	2:B:63:ILE:HD12	1.70	0.57
11:3:2:PRO:HA	20:X:575:G:O6	2.01	0.57
11:3:41:PRO:HB2	11:3:42:GLN:HG2	1.86	0.57
11:3:56:LYS:HE2	11:3:63:ARG:HH12	1.69	0.57
11:3:96:ARG:HB3	11:3:109:HIS:HB2	1.86	0.57
14:6:38:ALA:O	14:6:41:GLU:HG3	2.05	0.57
18:I:5:ILE:CD1	20:X:1325:C:N4	2.67	0.57
20:X:44:C:O2'	20:X:630:A:O2'	2.14	0.57
20:X:245:C:O5'	20:X:245:C:H6	1.87	0.57
20:X:525:G:H5''	20:X:525:G:H8	1.70	0.57
20:X:736:A:P	20:X:736:A:H8	2.28	0.57
47:Y:1574:G:C8	47:Y:1575:A:H1'	2.40	0.57
47:Y:2339:U:H3'	47:Y:2339:U:H6	1.69	0.57
2:B:13:GLY:HA2	2:B:17:ASP:HA	1.87	0.57
6:G:73:LEU:HD22	6:G:73:LEU:H	1.69	0.57
8:H:22:ARG:HG3	20:X:1142:A:N7	2.20	0.57
11:3:84:GLY:HA2	11:3:120:VAL:HG21	1.87	0.57
14:6:21:ASP:CB	20:X:758:C:O4'	2.53	0.57
20:X:107:G:H2'	20:X:337:A:H2	1.69	0.57
24:L:158:LYS:HA	24:L:171:ARG:HH21	1.68	0.57
25:M:15:LYS:H	25:M:53:ASP:HB3	1.70	0.57
34:W:40:MET:HG3	34:W:40:MET:O	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:2599:A:H5'	47:Y:2601:G:H4'	1.86	0.57
20:X:958:C:O2'	20:X:1336:C:OP2	2.22	0.57
1:C:81:A:H5''	40:f:52:HIS:HE1	1.55	0.57
6:G:89:VAL:CB	20:X:1389:C:O2	2.53	0.57
6:G:149:LYS:NZ	10:2:64:GLN:HG2	2.19	0.57
7:F:32:ILE:O	7:F:36:ILE:HG12	2.04	0.57
11:3:29:ASN:HB3	11:3:33:LYS:H	1.70	0.57
12:4:31:GLN:HA	12:4:34:LEU:CD1	2.35	0.57
13:5:41:ARG:NH1	20:X:983:G:O2'	2.37	0.57
21:e:138:ARG:HD3	47:Y:2024:A:C5'	2.35	0.57
33:V:51:LEU:HD12	33:V:51:LEU:C	2.29	0.57
35:Z:94:ALA:O	35:Z:96:LYS:N	2.38	0.57
36:a:83:LYS:HZ2	47:Y:1163:U:P	2.28	0.57
47:Y:337:A:H3'	47:Y:338:G:H8	1.70	0.57
47:Y:691:A:H2'	47:Y:691:A:N3	2.18	0.57
47:Y:1627:G:H8	47:Y:1627:G:C5'	2.18	0.57
47:Y:2827:A:H2	47:Y:2912:A:H62	1.53	0.57
2:B:63:ILE:HD13	2:B:97:LYS:HA	1.87	0.56
7:F:47:LYS:HA	7:F:65:LYS:HE2	1.86	0.56
14:6:56:LEU:O	14:6:60:VAL:HG23	2.05	0.56
17:9:23:ILE:O	17:9:56:TYR:CD2	2.58	0.56
20:X:614:G:H3'	20:X:614:G:N3	2.20	0.56
20:X:1140:C:H3'	20:X:1140:C:OP2	2.04	0.56
20:X:1197:G:H2'	20:X:1198:G:H8	1.70	0.56
7:F:13:ARG:O	7:F:17:ALA:HB3	2.05	0.56
8:H:23:LEU:HB3	8:H:63:TYR:CB	2.34	0.56
8:H:40:TYR:HE2	8:H:69:VAL:CG2	2.16	0.56
18:I:5:ILE:HG13	20:X:1325:C:H42	1.61	0.56
20:X:106:G:H4'	20:X:106:G:OP1	2.03	0.56
20:X:614:G:H3'	20:X:614:G:OP2	2.04	0.56
20:X:952:G:H5''	20:X:952:G:H8	1.69	0.56
23:K:165:GLU:O	23:K:167:ARG:N	2.38	0.56
28:P:26:TYR:O	28:P:67:LYS:NZ	2.37	0.56
43:i:7:GLN:O	47:Y:731:U:O2	2.24	0.56
47:Y:1543:G:H2'	47:Y:1543:G:N3	2.20	0.56
47:Y:1972:G:OP2	47:Y:1972:G:H8	1.88	0.56
1:C:42:G:C8	46:h:1:MET:SD	2.98	0.56
2:B:19:GLU:H	13:5:51:GLY:HA3	1.68	0.56
5:E:3:THR:O	5:E:93:ARG:HA	2.05	0.56
5:E:19:LYS:CG	5:E:59:PHE:CD2	2.88	0.56
12:4:82:GLU:OE2	12:4:88:GLY:O	2.23	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:4:102:THR:H	20:X:1236:A:H4'	1.69	0.56
15:7:12:SER:HB2	20:X:632:C:C2	2.40	0.56
16:8:13:LYS:H	16:8:26:LEU:HB3	1.69	0.56
16:8:22:THR:HA	20:X:262:G:H1'	1.88	0.56
16:8:33:HIS:HD2	16:8:36:TYR:H	1.54	0.56
20:X:46:U:O5'	20:X:46:U:H6	1.89	0.56
20:X:353:C:H5	26:N:116:SER:CA	2.03	0.56
20:X:520:U:H5'	20:X:542:U:H1'	1.87	0.56
20:X:678:A:H2'	20:X:679:G:H5'	1.87	0.56
20:X:1317:A:H2'	20:X:1317:A:N3	2.21	0.56
23:K:6:GLU:O	23:K:10:THR:HG23	2.05	0.56
24:L:106:ASN:ND2	24:L:112:PRO:HG3	2.21	0.56
36:a:51:VAL:HA	36:a:54:GLU:CG	2.33	0.56
44:j:24:ARG:NH1	44:j:44:LEU:HG	2.21	0.56
47:Y:688:A:H8	47:Y:688:A:O5'	1.88	0.56
6:G:42:ILE:HA	6:G:46:ALA:HB3	1.88	0.56
8:H:116:LYS:NZ	20:X:1380:C:H5	2.02	0.56
9:1:65:PHE:CD2	13:5:58:LYS:NZ	2.31	0.56
20:X:650:A:H2'	20:X:650:A:N3	2.20	0.56
20:X:993:A:H4'	20:X:1226:G:H5''	1.86	0.56
22:J:155:VAL:HB	22:J:194:ILE:HG23	1.86	0.56
23:K:20:PHE:HB3	23:K:22:TYR:CD1	2.40	0.56
25:M:54:TYR:N	25:M:54:TYR:CD1	2.73	0.56
42:T:34:LYS:CB	42:T:45:HIS:CD2	2.89	0.56
47:Y:386:C:O5'	47:Y:386:C:H6	1.88	0.56
6:G:95:ARG:HE	20:X:1389:C:C5'	2.19	0.56
8:H:111:ARG:NH2	20:X:1357:A:H2'	2.20	0.56
9:1:15:HIS:CD2	9:1:15:HIS:N	2.73	0.56
9:1:26:VAL:O	9:1:30:LYS:HG2	2.06	0.56
11:3:13:GLN:HG3	11:3:14:SER:O	2.05	0.56
11:3:120:VAL:HG12	11:3:130:TYR:CD1	2.20	0.56
20:X:1076:G:H8	20:X:1076:G:OP1	1.88	0.56
20:X:1324:U:O2	20:X:1324:U:H2'	2.06	0.56
30:R:39:HIS:CD2	30:R:40:ILE:H	2.24	0.56
40:f:5:GLN:HE21	40:f:57:GLU:HG2	1.71	0.56
2:B:22:TRP:CG	2:B:58:ARG:H	2.23	0.56
9:1:35:ASP:H	9:1:78:ASN:HD22	1.52	0.56
10:2:65:MET:O	10:2:65:MET:HG2	2.06	0.56
14:6:40:ASN:HD22	14:6:43:LEU:HD23	1.71	0.56
20:X:435:C:O5'	20:X:435:C:H6	1.88	0.56
20:X:447:U:C6	20:X:447:U:H5'	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1336:C:H3'	20:X:1336:C:H6	1.69	0.56
32:U:20:ILE:HD11	32:U:95:LEU:HD11	1.87	0.56
35:Z:42:LYS:HD2	35:Z:56:ILE:HD11	1.87	0.56
36:a:90:ASP:N	36:a:90:ASP:OD1	2.36	0.56
45:k:7:VAL:O	45:k:8:LYS:HG3	2.06	0.56
5:E:4:TYR:HE2	5:E:70:ASN:HA	1.69	0.56
5:E:11:ARG:HH21	5:E:87:ILE:CG2	2.17	0.56
9:1:18:ILE:HG21	9:1:70:HIS:HB3	1.87	0.56
11:3:101:LYS:HD2	20:X:533:C:OP1	2.05	0.56
14:6:2:ALA:O	20:X:748:U:OP2	2.24	0.56
22:J:54:ARG:NH1	47:Y:719:G:OP2	2.39	0.56
42:T:41:LYS:HD3	42:T:42:TYR:H	1.71	0.56
47:Y:106:A:H2'	47:Y:107:G:H8	1.71	0.56
2:B:137:ILE:HG12	2:B:150:THR:OG1	2.06	0.56
10:2:56:LYS:HB3	10:2:62:ALA:HB2	1.86	0.56
20:X:1213:U:O2	20:X:1213:U:H2'	2.06	0.56
27:O:109:ILE:HG22	27:O:109:ILE:O	2.04	0.56
34:W:35:LYS:HD3	34:W:55:ILE:HG12	1.86	0.56
47:Y:2337:A:H4'	47:Y:2337:A:OP1	2.05	0.56
47:Y:2608:G:N3	47:Y:2608:G:H2'	2.21	0.56
1:C:37:A:C2	46:h:1:MET:C	2.84	0.56
4:D:44:GLY:HA3	4:D:74:VAL:HG12	1.88	0.56
13:5:34:TYR:CE2	20:X:1369:U:OP2	2.58	0.56
14:6:16:ARG:HD2	14:6:27:VAL:HG11	1.88	0.56
20:X:838:G:C8	20:X:838:G:C5'	2.86	0.56
34:W:73:ASN:N	34:W:73:ASN:OD1	2.37	0.56
43:i:38:LYS:HE3	47:Y:515:G:O6	2.06	0.56
47:Y:1597:U:H5''	47:Y:1597:U:H6	1.71	0.56
5:E:47:ARG:HG3	5:E:56:LYS:HB2	1.88	0.56
11:3:93:VAL:HG22	11:3:94:LEU:H	1.71	0.56
11:3:126:GLY:C	11:3:128:SER:H	2.14	0.56
12:4:17:ILE:O	12:4:27:THR:CB	2.54	0.56
12:4:98:ARG:C	12:4:100:GLN:H	2.13	0.56
20:X:730:G:H2'	20:X:730:G:N3	2.20	0.56
20:X:1208:A:H2'	20:X:1209:A:H8	1.71	0.56
20:X:1251:U:O2	20:X:1251:U:H2'	2.06	0.56
25:M:25:THR:O	25:M:25:THR:OG1	2.22	0.56
36:a:8:ILE:O	36:a:41:VAL:HA	2.06	0.56
1:C:15:C:H2'	1:C:16:A:H5'	1.88	0.55
5:E:43:TRP:CG	5:E:44:GLY:H	2.24	0.55
8:H:22:ARG:HD2	20:X:1142:A:C4	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:1:52:ILE:HG13	13:5:41:ARG:HH21	1.71	0.55
12:4:102:THR:HG21	20:X:1237:C:P	2.46	0.55
20:X:704:A:H8	20:X:704:A:O5'	1.89	0.55
21:e:212:ARG:HG3	21:e:212:ARG:NH1	2.21	0.55
35:Z:3:ILE:HD11	35:Z:9:VAL:HG11	1.87	0.55
36:a:32:TYR:N	36:a:92:LEU:HA	2.20	0.55
42:T:25:ASN:HD22	47:Y:2313:A:P	2.27	0.55
47:Y:698:U:H2'	47:Y:698:U:OP2	2.05	0.55
47:Y:2503:A:H2'	47:Y:2503:A:N3	2.20	0.55
1:C:23:U:H6	1:C:23:U:O5'	1.89	0.55
1:C:37:A:N1	46:h:1:MET:C	2.64	0.55
4:D:77:VAL:HG12	4:D:80:THR:HG23	1.88	0.55
14:6:51:HIS:HD2	14:6:54:ARG:NH2	2.02	0.55
15:7:3:VAL:CG1	15:7:22:VAL:HG22	2.35	0.55
15:7:12:SER:HB2	20:X:632:C:C5	2.41	0.55
15:7:38:GLY:HA2	20:X:634:U:OP1	2.06	0.55
19:A:11:VAL:HG13	19:A:12:LYS:HG3	1.89	0.55
20:X:295:U:H5''	20:X:295:U:C6	2.41	0.55
20:X:508:G:H2'	20:X:509:C:H5''	1.87	0.55
20:X:749:G:OP1	20:X:749:G:H4'	2.05	0.55
34:W:5:ASP:OD1	34:W:5:ASP:N	2.38	0.55
42:T:31:GLU:CG	42:T:46:ARG:HA	2.36	0.55
1:C:37:A:N3	46:h:2:LYS:CG	2.55	0.55
1:C:37:A:N1	46:h:1:MET:O	2.40	0.55
20:X:600:U:O2	20:X:600:U:H2'	2.06	0.55
21:e:119:THR:HG23	21:e:179:THR:HG22	1.89	0.55
25:M:33:VAL:HG11	25:M:106:ILE:HD13	1.87	0.55
47:Y:42:G:H2'	47:Y:43:A:H5''	1.88	0.55
47:Y:1387:C:H5'	47:Y:1387:C:C6	2.40	0.55
47:Y:2565:C:H2'	47:Y:2566:C:H6	1.71	0.55
4:D:58:GLU:O	4:D:62:LYS:N	2.36	0.55
5:E:93:ARG:HH21	20:X:745:U:H5	1.52	0.55
8:H:43:PHE:CB	20:X:1302:U:H4'	2.36	0.55
9:1:18:ILE:HG12	9:1:72:ARG:HB2	1.89	0.55
15:7:26:ARG:HG2	15:7:26:ARG:NH2	2.21	0.55
20:X:1517:G:OP2	20:X:1517:G:H2'	2.06	0.55
23:K:32:ASP:HB2	23:K:150:ARG:HA	1.88	0.55
31:S:70:ARG:NH2	47:Y:1056:U:OP2	2.38	0.55
33:V:38:LEU:CD1	41:g:27:MET:CG	2.85	0.55
37:b:58:ASN:HD22	37:b:71:ILE:HD11	1.70	0.55
47:Y:770:G:H8	47:Y:770:G:O5'	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:2636:U:O2	47:Y:2636:U:H2'	2.06	0.55
47:Y:2782:C:H6	47:Y:2782:C:O5'	1.89	0.55
1:C:90:C:H5'	36:a:20:GLN:HE21	1.71	0.55
4:D:107:ALA:N	20:X:9:A:N3	2.49	0.55
4:D:128:LEU:HA	20:X:568:A:C2	2.41	0.55
5:E:30:LEU:HA	5:E:72:ALA:HB1	1.89	0.55
7:F:21:ARG:HH21	7:F:72:ARG:H	1.54	0.55
7:F:113:ILE:HB	7:F:117:GLU:CB	2.37	0.55
20:X:512:C:N4	20:X:547:A:N6	2.54	0.55
20:X:711:G:H8	20:X:711:G:H5''	1.72	0.55
20:X:1283:U:H3'	20:X:1284:C:H4'	1.89	0.55
23:K:60:ILE:HD11	23:K:84:PRO:O	2.06	0.55
30:R:102:HIS:HA	30:R:105:VAL:HB	1.88	0.55
1:C:72:U:O2	1:C:72:U:H2'	2.05	0.55
4:D:94:VAL:HG13	4:D:139:ALA:HB1	1.87	0.55
9:1:51:ILE:CG2	13:5:45:ARG:NH1	2.61	0.55
14:6:63:ARG:HH21	14:6:67:LEU:HD12	1.70	0.55
16:8:71:ALA:CB	20:X:274:G:H5'	2.35	0.55
20:X:1287:G:H2'	20:X:1287:G:N3	2.21	0.55
25:M:1:MET:HB2	47:Y:1039:C:C5	2.42	0.55
47:Y:303:G:H8	47:Y:303:G:H5''	1.71	0.55
47:Y:395:U:H2'	47:Y:395:U:O2	2.07	0.55
47:Y:1549:C:C6	47:Y:1549:C:C3'	2.90	0.55
6:G:10:ARG:O	6:G:10:ARG:HG2	2.06	0.55
6:G:116:MET:N	20:X:1250:A:H3'	2.16	0.55
7:F:120:LYS:HA	7:F:120:LYS:HE3	1.87	0.55
20:X:1253:G:H1'	20:X:1314:C:H4'	1.88	0.55
23:K:20:PHE:CD2	23:K:29:PRO:HD2	2.41	0.55
4:D:24:VAL:CG1	20:X:1409:A:N6	2.70	0.55
7:F:11:LEU:HD22	7:F:79:ARG:NE	2.20	0.55
10:2:79:LEU:O	10:2:105:LEU:HA	2.07	0.55
13:5:22:THR:HG21	13:5:35:ARG:HG2	1.89	0.55
14:6:9:ASN:HA	14:6:12:ILE:HG22	1.88	0.55
20:X:382:A:H2'	20:X:382:A:N3	2.22	0.55
20:X:612:G:H8	20:X:612:G:OP2	1.90	0.55
20:X:893:C:H3'	20:X:893:C:H6	1.72	0.55
1:C:47:C:O5'	1:C:47:C:H6	1.90	0.55
6:G:70:MET:HG3	6:G:96:ARG:HG2	1.89	0.55
8:H:117:LYS:HD2	8:H:120:LEU:HD22	1.89	0.55
9:1:10:LEU:HB2	9:1:72:ARG:C	2.32	0.55
16:8:21:LYS:O	20:X:262:G:O2'	2.24	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:522:C:C6	20:X:522:C:H5''	2.42	0.55
20:X:536:C:H6	20:X:536:C:OP2	1.90	0.55
20:X:668:A:H8	20:X:668:A:O5'	1.90	0.55
20:X:689:A:H5'	20:X:689:A:H8	1.71	0.55
20:X:813:C:OP2	20:X:813:C:H3'	2.07	0.55
20:X:1007:U:O2	20:X:1007:U:H2'	2.07	0.55
36:a:30:VAL:HG22	36:a:40:SER:CB	2.36	0.55
47:Y:296:G:H8	47:Y:296:G:O5'	1.90	0.55
47:Y:769:U:O2	47:Y:769:U:H2'	2.07	0.55
8:H:111:ARG:CZ	20:X:1357:A:H2'	2.37	0.55
20:X:1281:G:H2'	20:X:1282:G:H8	1.72	0.55
35:Z:44:HIS:HB3	47:Y:527:G:OP2	2.06	0.55
39:d:40:THR:CB	47:Y:95:A:H1'	2.37	0.55
44:j:49:LEU:C	44:j:49:LEU:HD12	2.32	0.55
47:Y:92:G:H8	47:Y:92:G:O5'	1.89	0.55
47:Y:1898:C:H42	47:Y:2437:G:H1'	1.71	0.55
47:Y:1989:C:OP2	47:Y:1989:C:H6	1.90	0.55
6:G:61:VAL:O	6:G:61:VAL:HG12	2.06	0.54
11:3:94:LEU:CD2	20:X:35:C:O2'	2.48	0.54
12:4:53:LEU:HA	12:4:56:ILE:HG12	1.90	0.54
20:X:23:G:H8	20:X:23:G:O5'	1.90	0.54
20:X:180:U:O5'	20:X:180:U:H6	1.90	0.54
20:X:877:G:H8	20:X:877:G:C5'	2.21	0.54
21:e:79:LYS:NZ	47:Y:2813:U:OP1	2.37	0.54
45:k:6:SER:O	45:k:8:LYS:NZ	2.39	0.54
47:Y:406:A:H8	47:Y:406:A:OP2	1.90	0.54
47:Y:1511:C:C6	47:Y:1511:C:H5''	2.41	0.54
6:G:78:ARG:CZ	20:X:1390:G:H1'	2.37	0.54
7:F:24:LYS:HG3	7:F:24:LYS:O	2.07	0.54
8:H:126:SER:HB3	8:H:127:PRO:HD2	1.88	0.54
10:2:69:THR:O	10:2:73:SER:OG	2.25	0.54
15:7:5:ILE:HD13	15:7:5:ILE:N	2.21	0.54
20:X:541:A:O2'	20:X:543:A:H5''	2.07	0.54
20:X:1430:G:OP2	20:X:1430:G:H4'	1.97	0.54
23:K:108:LEU:O	23:K:167:ARG:NE	2.39	0.54
28:P:43:THR:O	28:P:43:THR:HG22	2.06	0.54
45:k:32:HIS:CD2	47:Y:2504:C:N4	2.71	0.54
47:Y:1479:G:H8	47:Y:1479:G:H5''	1.72	0.54
6:G:42:ILE:HD12	6:G:46:ALA:HB2	1.89	0.54
10:2:85:THR:O	10:2:85:THR:OG1	2.24	0.54
14:6:5:GLN:HA	14:6:8:LYS:CG	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1351:A:H2'	20:X:1351:A:N3	2.23	0.54
20:X:1531:A:H3'	20:X:1532:G:H8	1.71	0.54
22:J:138:GLU:HA	22:J:141:ASN:HD21	1.73	0.54
36:a:28:PRO:HD2	36:a:88:HIS:N	2.17	0.54
47:Y:608:C:O5'	47:Y:608:C:H6	1.90	0.54
47:Y:1219:G:H3'	47:Y:1219:G:C8	2.42	0.54
1:C:41:C:OP2	46:h:5:ILE:CB	2.56	0.54
8:H:37:VAL:HG12	8:H:50:LEU:HD11	1.88	0.54
9:1:55:VAL:HG12	13:5:42:ILE:HD13	1.89	0.54
12:4:74:ASN:ND2	20:X:1320:G:O4'	2.41	0.54
13:5:42:ILE:HD12	20:X:1214:C:O2	2.07	0.54
18:I:60:VAL:HG12	18:I:61:TYR:H	1.71	0.54
20:X:163:C:H3'	20:X:163:C:H6	1.72	0.54
20:X:1131:G:H22	20:X:1166:U:H4'	1.72	0.54
20:X:1295:C:H5''	20:X:1296:A:H5'	1.89	0.54
47:Y:1511:C:H2'	47:Y:1511:C:O2	2.07	0.54
47:Y:2333:U:H2'	47:Y:2334:G:H4'	1.89	0.54
47:Y:2579:U:O2	47:Y:2579:U:H2'	2.07	0.54
6:G:117:GLU:N	20:X:1251:U:OP1	2.40	0.54
15:7:72:HIS:O	20:X:483:C:OP1	2.26	0.54
16:8:22:THR:CG2	20:X:262:G:N3	2.70	0.54
18:I:39:THR:HA	18:I:40:ILE:HD12	1.88	0.54
20:X:868:G:H8	20:X:868:G:OP2	1.90	0.54
20:X:895:G:P	20:X:895:G:C8	2.99	0.54
20:X:974:A:H5''	20:X:975:A:C2	2.43	0.54
20:X:1001:U:H4'	20:X:1002:U:H5'	1.89	0.54
20:X:1117:A:H8	20:X:1117:A:O5'	1.90	0.54
20:X:1463:U:O2	20:X:1463:U:H2'	2.07	0.54
31:S:25:PHE:CD1	31:S:25:PHE:C	2.86	0.54
31:S:98:ILE:HD11	32:U:4:ILE:HD11	1.89	0.54
35:Z:64:HIS:CD2	47:Y:371:U:H4'	2.42	0.54
47:Y:324:A:H8	47:Y:324:A:O5'	1.90	0.54
47:Y:2236:C:H3'	47:Y:2237:U:H2'	1.89	0.54
2:B:154:GLY:N	2:B:196:GLY:O	2.30	0.54
2:B:191:THR:O	2:B:192:TYR:HD1	1.90	0.54
12:4:19:LEU:HD13	12:4:30:ALA:CB	2.31	0.54
20:X:292:G:H3'	20:X:293:C:C6	2.43	0.54
20:X:688:C:OP2	20:X:688:C:H6	1.90	0.54
20:X:837:A:H2'	20:X:838:G:C8	2.43	0.54
20:X:1256:A:H2'	20:X:1256:A:N3	2.22	0.54
20:X:1442:C:O5'	20:X:1442:C:H6	1.91	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:S:4:VAL:CG1	47:Y:1287:U:H5'	2.37	0.54
47:Y:1878:U:H2'	47:Y:1878:U:O2	2.06	0.54
47:Y:2347:A:H2'	47:Y:2347:A:N3	2.23	0.54
47:Y:2541:U:H2'	47:Y:2542:C:C6	2.43	0.54
47:Y:2565:C:H2'	47:Y:2566:C:C6	2.43	0.54
2:B:33:HIS:ND1	2:B:33:HIS:O	2.40	0.54
4:D:148:LYS:HZ3	4:D:153:VAL:HB	1.72	0.54
6:G:78:ARG:HB2	6:G:87:VAL:HG22	1.89	0.54
7:F:86:ARG:HA	7:F:126:GLU:OE1	2.08	0.54
12:4:98:ARG:HB2	20:X:1318:U:H5''	1.90	0.54
19:A:17:ALA:HB2	20:X:332:G:OP1	2.05	0.54
20:X:212:A:N3	20:X:212:A:H2'	2.22	0.54
20:X:1154:G:H5''	20:X:1155:G:H4'	1.87	0.54
20:X:1160:C:H2'	20:X:1161:U:H5'	1.90	0.54
22:J:108:LEU:HD12	22:J:108:LEU:O	2.07	0.54
27:O:20:GLY:HA2	27:O:28:GLY:HA2	1.90	0.54
28:P:64:VAL:HG12	28:P:106:VAL:HG12	1.90	0.54
47:Y:2731:C:H2'	47:Y:2732:A:C8	2.43	0.54
5:E:90:MET:HE3	17:9:69:HIS:HB3	1.89	0.54
12:4:10:PRO:HB2	12:4:13:LYS:HD2	1.88	0.54
12:4:86:TYR:CE1	20:X:1331:C:O3'	2.60	0.54
15:7:84:PHE:HZ	20:X:138:A:OP1	1.91	0.54
20:X:324:C:C5'	20:X:324:C:H6	2.20	0.54
20:X:828:U:O2	20:X:828:U:O2'	2.18	0.54
20:X:1210:U:H1'	20:X:1214:C:H41	1.73	0.54
27:O:122:THR:HA	27:O:141:GLY:HA3	1.90	0.54
47:Y:349:U:O5'	47:Y:349:U:H6	1.91	0.54
47:Y:361:U:H2'	47:Y:361:U:O2	2.08	0.54
47:Y:498:G:H21	47:Y:503:A:H8	1.54	0.54
47:Y:684:U:H2'	47:Y:685:C:C6	2.43	0.54
47:Y:1378:U:O2	47:Y:1378:U:H2'	2.06	0.54
47:Y:2500:U:H2'	47:Y:2501:U:H5'	1.89	0.54
4:D:88:ARG:HD2	4:D:88:ARG:C	2.33	0.54
7:F:13:ARG:O	7:F:17:ALA:HB2	2.07	0.54
20:X:755:U:H3'	20:X:755:U:C6	2.43	0.54
20:X:975:A:H2'	20:X:975:A:N3	2.22	0.54
24:L:110:SER:CB	47:Y:2680:U:H2'	2.37	0.54
36:a:50:LYS:HA	36:a:52:ILE:HG12	1.89	0.54
47:Y:158:G:H1	47:Y:286:U:H5	1.56	0.54
47:Y:1828:U:O2	47:Y:1828:U:H2'	2.07	0.54
47:Y:2769:G:H22	47:Y:2789:U:H3	1.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:37:A:H2'	46:h:2:LYS:HG2	1.90	0.54
1:C:81:A:H4'	40:f:52:HIS:CE1	2.43	0.54
2:B:86:LEU:HD23	2:B:90:LEU:HD12	1.90	0.54
4:D:37:VAL:HB	4:D:60:ILE:HA	1.89	0.54
6:G:155:ARG:O	20:X:1390:G:H5'	2.08	0.54
7:F:26:GLU:HG3	7:F:60:LEU:O	2.08	0.54
7:F:82:LYS:C	7:F:86:ARG:HH21	2.16	0.54
7:F:104:ALA:HB3	7:F:115:ASP:HB2	1.89	0.54
8:H:20:ARG:NH1	20:X:1141:C:OP1	2.40	0.54
9:1:41:PRO:CG	20:X:1135:A:H5'	2.37	0.54
20:X:251:A:H4'	20:X:251:A:OP1	2.08	0.54
20:X:308:A:H8	20:X:309:G:H1'	1.73	0.54
20:X:1370:C:H6	20:X:1370:C:H3'	1.72	0.54
30:R:30:ARG:CZ	30:R:32:ASN:HD22	2.21	0.54
47:Y:184:C:O2	47:Y:184:C:H2'	2.08	0.54
47:Y:654:C:H2'	47:Y:655:A:C8	2.43	0.54
1:C:107:U:H3'	1:C:107:U:H6	1.73	0.53
4:D:111:VAL:HG11	4:D:140:THR:OG1	2.07	0.53
6:G:50:VAL:HG23	6:G:57:ASP:HA	1.90	0.53
12:4:27:THR:HG21	20:X:1313:U:O4'	2.07	0.53
12:4:102:THR:CG2	20:X:1237:C:OP1	2.56	0.53
12:4:103:LYS:H	20:X:1236:A:C5'	2.21	0.53
20:X:1353:C:H2'	20:X:1353:C:O2	2.08	0.53
44:j:28:PHE:HA	44:j:31:HIS:HE1	1.73	0.53
45:k:7:VAL:HG12	45:k:34:GLN:HB3	1.90	0.53
47:Y:329:A:H5''	47:Y:329:A:C8	2.43	0.53
47:Y:358:G:H2'	47:Y:359:A:C8	2.43	0.53
47:Y:422:G:H2'	47:Y:423:A:C8	2.43	0.53
47:Y:1627:G:H5''	47:Y:1627:G:C8	2.42	0.53
47:Y:2216:U:O2	47:Y:2216:U:H2'	2.07	0.53
47:Y:2799:C:H2'	47:Y:2800:U:C6	2.43	0.53
12:4:101:LYS:HB2	20:X:959:A:OP1	2.09	0.53
18:I:50:ALA:O	18:I:52:TYR:N	2.40	0.53
20:X:573:U:H3'	20:X:574:G:H8	1.73	0.53
21:e:157:ALA:HB2	47:Y:2602:C:H5'	1.89	0.53
39:d:58:ARG:HD3	39:d:58:ARG:C	2.33	0.53
40:f:10:ARG:HG2	40:f:10:ARG:HH21	1.72	0.53
40:f:10:ARG:HH21	40:f:10:ARG:CG	2.21	0.53
47:Y:165:C:H2'	47:Y:166:A:C8	2.43	0.53
47:Y:1329:G:H2'	47:Y:1330:U:C6	2.43	0.53
47:Y:1728:C:H2'	47:Y:1729:C:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:2773:U:H3'	47:Y:2774:G:H8	1.73	0.53
10:2:106:GLU:HG3	10:2:108:THR:OG1	2.09	0.53
12:4:14:ARG:HD3	12:4:41:ALA:HB1	1.90	0.53
14:6:28:GLN:OE1	20:X:664:G:H2'	2.08	0.53
18:I:60:VAL:HG12	18:I:61:TYR:N	2.24	0.53
20:X:13:U:O2	20:X:13:U:H2'	2.07	0.53
20:X:35:C:H2'	20:X:36:G:C8	2.44	0.53
20:X:106:G:H5''	20:X:107:G:C2	2.43	0.53
20:X:736:A:H8	20:X:736:A:OP1	1.90	0.53
20:X:750:G:H8	20:X:750:G:O5'	1.91	0.53
20:X:1126:C:O2	20:X:1126:C:H2'	2.08	0.53
22:J:55:SER:O	22:J:55:SER:OG	2.23	0.53
31:S:15:LYS:HG3	31:S:15:LYS:O	2.08	0.53
47:Y:158:G:H21	47:Y:158:G:P	2.30	0.53
1:C:11:A:OP2	37:b:82:ARG:HD2	2.08	0.53
8:H:22:ARG:CG	20:X:1142:A:C4	2.91	0.53
13:5:22:THR:O	13:5:33:VAL:HG11	2.09	0.53
15:7:10:LEU:HD13	15:7:10:LEU:H	1.74	0.53
16:8:13:LYS:NZ	16:8:58:GLY:HA2	2.23	0.53
16:8:68:PRO:CD	20:X:130:A:C2	2.88	0.53
20:X:21:U:O2'	20:X:926:G:N2	2.42	0.53
20:X:272:C:H3'	20:X:273:G:H8	1.74	0.53
20:X:511:A:C5'	20:X:511:A:H8	2.21	0.53
20:X:1133:U:H5	20:X:1160:C:H5'	1.74	0.53
20:X:1239:C:H2'	20:X:1240:A:C8	2.43	0.53
23:K:54:VAL:HG11	23:K:85:ILE:HD11	1.90	0.53
28:P:123:HIS:CE1	47:Y:2494:C:H4'	2.44	0.53
33:V:11:ARG:HH11	33:V:98:LYS:HD2	1.74	0.53
44:j:28:PHE:CZ	47:Y:2421:C:OP2	2.61	0.53
47:Y:1483:A:H3'	47:Y:1484:G:H8	1.73	0.53
47:Y:1766:C:O2	47:Y:1766:C:H2'	2.08	0.53
47:Y:2355:A:H2'	47:Y:2356:A:C8	2.44	0.53
2:B:90:LEU:HD13	2:B:100:ILE:HG13	1.91	0.53
2:B:131:ARG:O	2:B:135:GLN:HG3	2.09	0.53
4:D:112:ARG:O	4:D:116:GLU:HB2	2.08	0.53
10:2:44:TRP:CE2	20:X:695:A:H5''	2.44	0.53
15:7:73:ASN:ND2	20:X:461:C:P	2.81	0.53
18:I:5:ILE:HG22	18:I:6:LYS:N	2.24	0.53
20:X:230:U:C3'	20:X:230:U:C6	2.91	0.53
20:X:686:U:C3'	20:X:686:U:C6	2.92	0.53
20:X:1078:C:O2	20:X:1078:C:O2'	2.25	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1245:C:H2'	20:X:1246:U:C6	2.44	0.53
24:L:110:SER:O	47:Y:2680:U:O2'	2.26	0.53
47:Y:1167:C:H2'	47:Y:1168:C:C6	2.44	0.53
47:Y:1730:C:O2	47:Y:1730:C:H2'	2.08	0.53
47:Y:1761:G:H1'	47:Y:1762:U:H5'	1.90	0.53
47:Y:1891:U:H2'	47:Y:1892:U:H5'	1.91	0.53
47:Y:2318:U:H2'	47:Y:2319:U:C6	2.44	0.53
3:I:72:PHE:CE1	3:I:82:HIS:HB3	2.44	0.53
11:3:57:LYS:O	11:3:60:SER:OG	2.23	0.53
16:8:27:VAL:HB	16:8:44:LYS:O	2.08	0.53
20:X:140:A:H2'	20:X:141:A:C8	2.44	0.53
20:X:905:A:H2'	20:X:906:C:C6	2.44	0.53
20:X:1093:G:H2'	20:X:1094:A:C8	2.44	0.53
20:X:1305:U:H2'	20:X:1305:U:O2	2.07	0.53
22:J:78:ILE:O	22:J:78:ILE:HG22	2.09	0.53
47:Y:1153:C:H6	47:Y:1153:C:OP2	1.90	0.53
5:E:11:ARG:HH22	5:E:87:ILE:HG21	1.68	0.53
10:2:29:ASN:O	10:2:31:ILE:HG12	2.09	0.53
11:3:42:GLN:O	11:3:43:LYS:HG3	2.08	0.53
20:X:389:A:N3	20:X:389:A:H5''	2.24	0.53
20:X:796:U:H3'	20:X:796:U:H6	1.74	0.53
20:X:835:U:H3	20:X:882:A:H61	1.55	0.53
20:X:952:G:H8	20:X:952:G:C5'	2.22	0.53
20:X:1397:G:H2'	20:X:1398:G:C4	2.43	0.53
20:X:1466:G:OP2	20:X:1466:G:H8	1.92	0.53
20:X:1469:G:H2'	20:X:1470:C:C5	2.43	0.53
25:M:29:LEU:HG	25:M:29:LEU:O	2.08	0.53
28:P:8:LYS:HG3	28:P:9:TYR:CD2	2.44	0.53
47:Y:329:A:H5''	47:Y:329:A:H8	1.73	0.53
47:Y:346:A:H2'	47:Y:347:U:C6	2.44	0.53
47:Y:577:A:H2'	47:Y:577:A:N3	2.23	0.53
47:Y:896:U:H2'	47:Y:897:A:C8	2.43	0.53
47:Y:1752:C:H2'	47:Y:1753:U:C6	2.43	0.53
47:Y:1823:U:H2'	47:Y:1824:C:C6	2.44	0.53
47:Y:2327:A:H2'	47:Y:2328:A:C8	2.44	0.53
6:G:43:LEU:HA	6:G:47:PHE:HB2	1.91	0.53
7:F:81:SER:C	7:F:82:LYS:HD3	2.34	0.53
9:I:55:VAL:HB	20:X:1214:C:N3	2.24	0.53
11:3:137:ASN:CB	20:X:508:G:H3'	2.39	0.53
12:4:103:LYS:H	20:X:1236:A:H5''	1.73	0.53
20:X:409:C:H2'	20:X:410:G:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:560:U:H5''	20:X:561:A:C2	2.44	0.53
23:K:67:VAL:HG13	23:K:70:ALA:HB2	1.89	0.53
24:L:64:ASN:O	24:L:68:THR:HG23	2.08	0.53
44:j:9:GLY:O	44:j:12:LYS:HE3	2.09	0.53
44:j:25:SER:HB3	47:Y:2388:A:OP1	2.07	0.53
47:Y:2129:C:H2'	47:Y:2130:A:H8	1.74	0.53
47:Y:2265:G:H2'	47:Y:2265:G:N3	2.24	0.53
47:Y:2863:G:H2'	47:Y:2864:A:H8	1.73	0.53
1:C:43:A:H2'	1:C:43:A:N3	2.24	0.53
1:C:114:C:O2	1:C:114:C:H2'	2.09	0.53
2:B:51:VAL:O	2:B:113:ARG:NH1	2.41	0.53
15:7:10:LEU:CD1	15:7:10:LEU:N	2.72	0.53
20:X:102:C:H3'	20:X:103:G:C8	2.44	0.53
20:X:481:C:O2	20:X:481:C:H2'	2.08	0.53
22:J:21:ASP:OD1	22:J:21:ASP:N	2.42	0.53
32:U:2:PHE:CD1	32:U:2:PHE:C	2.86	0.53
32:U:24:LYS:HA	32:U:93:THR:HG23	1.90	0.53
42:T:11:GLU:CB	42:T:39:LEU:HD21	2.39	0.53
47:Y:194:A:H2'	47:Y:195:C:C6	2.44	0.53
47:Y:787:U:H2'	47:Y:788:A:H8	1.74	0.53
47:Y:1351:C:O2	47:Y:1351:C:H2'	2.09	0.53
47:Y:2325:A:H62	47:Y:2345:A:H2'	1.73	0.53
4:D:134:ILE:HG21	20:X:19:C:P	2.48	0.53
5:E:46:ARG:C	5:E:57:ASP:CB	2.79	0.53
7:F:69:ASN:O	7:F:71:GLU:HG2	2.09	0.53
8:H:38:ARG:HB2	8:H:47:ILE:CG2	2.37	0.53
9:1:40:ILE:HD12	20:X:1136:G:OP2	2.09	0.53
9:1:40:ILE:HD12	20:X:1136:G:P	2.49	0.53
20:X:69:G:N3	20:X:69:G:C2'	2.72	0.53
20:X:417:U:H3	20:X:441:A:H61	1.56	0.53
20:X:614:G:H1	20:X:642:C:H42	1.56	0.53
20:X:786:U:H2'	20:X:787:C:C6	2.43	0.53
20:X:869:C:O2	20:X:869:C:H2'	2.08	0.53
20:X:890:C:O2	20:X:890:C:H2'	2.08	0.53
20:X:925:A:H3'	20:X:926:G:C8	2.44	0.53
20:X:1238:A:H3'	20:X:1238:A:N3	2.24	0.53
23:K:52:ASN:C	23:K:54:VAL:H	2.17	0.53
23:K:54:VAL:CG1	23:K:85:ILE:HD11	2.39	0.53
30:R:92:ILE:HD13	47:Y:2403:A:N6	2.24	0.53
47:Y:95:A:H2'	47:Y:96:G:C8	2.44	0.53
47:Y:629:A:H62	47:Y:1289:A:H2	1.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:787:U:H2'	47:Y:788:A:C8	2.43	0.53
47:Y:1821:U:H2'	47:Y:1822:C:C6	2.43	0.53
47:Y:2228:C:H2'	47:Y:2229:C:C6	2.44	0.53
1:C:112:G:H5'	30:R:55:GLN:HE22	1.74	0.52
14:6:12:ILE:HD13	20:X:666:G:H4'	1.90	0.52
17:9:64:ILE:HD11	17:9:73:LEU:HD11	1.87	0.52
20:X:613:U:H2'	20:X:638:G:H21	1.74	0.52
20:X:765:U:H2'	20:X:766:G:H4'	1.91	0.52
20:X:1203:C:H3'	20:X:1204:G:C8	2.44	0.52
20:X:1441:C:H2'	20:X:1442:C:C5	2.44	0.52
40:f:16:PRO:HG2	40:f:19:GLN:HG3	1.90	0.52
47:Y:40:U:H2'	47:Y:41:A:C8	2.43	0.52
47:Y:1295:C:O5'	47:Y:1295:C:H6	1.92	0.52
47:Y:2390:U:H2'	47:Y:2391:C:C6	2.44	0.52
47:Y:2580:G:C2	47:Y:2581:U:H1'	2.44	0.52
1:C:30:U:H2'	1:C:31:G:C8	2.44	0.52
1:C:40:C:O3'	46:h:5:ILE:HD12	2.09	0.52
2:B:151:GLN:OE1	2:B:166:GLN:HB3	2.08	0.52
4:D:26:LYS:HD2	20:X:1398:G:C5'	2.39	0.52
11:3:24:LEU:HD22	11:3:108:TYR:CE1	2.44	0.52
11:3:29:ASN:HB3	11:3:33:LYS:N	2.24	0.52
20:X:536:C:O2	20:X:536:C:H2'	2.08	0.52
20:X:1221:C:O2	20:X:1221:C:H2'	2.08	0.52
20:X:1380:C:H2'	20:X:1381:G:C8	2.44	0.52
21:e:79:LYS:NZ	47:Y:2813:U:P	2.82	0.52
29:Q:4:ARG:NH2	47:Y:2717:A:OP1	2.42	0.52
30:R:24:GLY:O	30:R:47:ASP:N	2.42	0.52
47:Y:343:A:N3	47:Y:343:A:C2'	2.73	0.52
47:Y:384:G:H2'	47:Y:385:U:C6	2.45	0.52
47:Y:400:C:H2'	47:Y:401:U:C2	2.44	0.52
47:Y:1747:G:OP1	47:Y:1747:G:H4'	2.09	0.52
47:Y:1858:G:H2'	47:Y:1859:C:C6	2.45	0.52
47:Y:1875:A:C2	47:Y:1876:G:H1'	2.44	0.52
2:B:35:ASP:O	2:B:39:ARG:HB2	2.10	0.52
8:H:24:VAL:HG23	8:H:64:ASP:O	2.10	0.52
9:1:39:PRO:O	20:X:1135:A:H5''	2.09	0.52
17:9:32:GLU:C	17:9:34:LEU:H	2.16	0.52
20:X:23:G:H2'	20:X:24:C:C6	2.44	0.52
20:X:866:C:H2'	20:X:867:U:C5	2.44	0.52
20:X:1077:U:O2	20:X:1077:U:H2'	2.08	0.52
20:X:1124:C:H5''	20:X:1125:C:C5	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1336:C:H3'	20:X:1336:C:C6	2.44	0.52
20:X:1509:G:H2'	20:X:1510:U:H6	1.74	0.52
20:X:1529:G:N3	20:X:1529:G:C2'	2.73	0.52
21:e:191:GLU:OE1	21:e:191:GLU:N	2.42	0.52
30:R:24:GLY:CA	30:R:29:PRO:HA	2.40	0.52
37:b:44:ILE:HG13	47:Y:2381:A:O2'	2.10	0.52
43:i:12:LYS:HE3	47:Y:731:U:H5''	1.91	0.52
47:Y:339:A:H2'	47:Y:340:C:C6	2.44	0.52
47:Y:1314:A:H2'	47:Y:1315:C:C6	2.44	0.52
47:Y:2126:C:O2	47:Y:2126:C:H2'	2.10	0.52
47:Y:2811:U:H2'	47:Y:2812:U:C6	2.44	0.52
47:Y:2919:A:H2'	47:Y:2920:U:H5'	1.90	0.52
1:C:54:U:H4'	1:C:54:U:OP1	2.09	0.52
1:C:75:U:H2'	1:C:76:A:C8	2.43	0.52
1:C:108:G:N3	1:C:108:G:C5'	2.73	0.52
4:D:39:VAL:H	4:D:46:VAL:HG13	1.73	0.52
9:1:65:PHE:CD2	13:5:58:LYS:CE	2.90	0.52
11:3:15:LYS:HG2	11:3:16:ILE:H	1.74	0.52
11:3:24:LEU:HD12	11:3:25:ASN:H	1.75	0.52
17:9:53:SER:HB3	17:9:56:TYR:HB2	1.91	0.52
18:I:38:SER:O	18:I:39:THR:OG1	2.22	0.52
20:X:614:G:N3	20:X:614:G:C2'	2.72	0.52
20:X:776:A:H2'	20:X:777:G:H5'	1.91	0.52
20:X:1371:A:N3	20:X:1371:A:C3'	2.72	0.52
20:X:1443:G:H5'	20:X:1444:A:H5'	1.90	0.52
30:R:6:ASP:HB2	30:R:9:LYS:HG3	1.90	0.52
30:R:35:ARG:HH21	30:R:40:ILE:HB	1.75	0.52
33:V:20:VAL:O	33:V:20:VAL:HG12	2.09	0.52
39:d:36:GLN:OE1	39:d:36:GLN:N	2.43	0.52
47:Y:24:G:H2'	47:Y:25:U:C6	2.45	0.52
47:Y:2212:G:H3'	47:Y:2213:U:H6	1.73	0.52
47:Y:2783:U:O2	47:Y:2783:U:O2'	2.19	0.52
2:B:22:TRP:CH2	2:B:31:LEU:HB3	2.45	0.52
3:l:183:SER:O	3:l:185:LEU:N	2.41	0.52
4:D:77:VAL:HG21	4:D:82:PRO:HB3	1.91	0.52
5:E:2:ARG:HA	5:E:95:ASP:OD1	2.10	0.52
16:8:5:ASN:ND2	20:X:126:G:H5'	2.24	0.52
20:X:61:A:N3	20:X:61:A:C2'	2.73	0.52
20:X:168:G:H2'	20:X:169:C:H4'	1.92	0.52
20:X:179:A:H2'	20:X:180:U:C2	2.44	0.52
20:X:181:A:N3	20:X:181:A:C2'	2.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:439:A:H2'	20:X:439:A:N3	2.25	0.52
23:K:52:ASN:C	23:K:54:VAL:N	2.65	0.52
26:N:88:ARG:HB3	26:N:88:ARG:NH2	2.24	0.52
28:P:74:TYR:CD1	28:P:94:ILE:HD11	2.44	0.52
30:R:71:GLU:O	30:R:75:LYS:HG2	2.10	0.52
32:U:99:LYS:HB3	32:U:99:LYS:HZ3	1.73	0.52
47:Y:398:C:H2'	47:Y:398:C:O2	2.08	0.52
47:Y:465:C:H2'	47:Y:466:C:C6	2.44	0.52
47:Y:530:C:H2'	47:Y:530:C:O2	2.10	0.52
47:Y:575:G:N3	47:Y:575:G:C2'	2.73	0.52
47:Y:1466:G:H21	47:Y:1540:U:H3	1.57	0.52
47:Y:1489:A:H2'	47:Y:1503:U:C5	2.45	0.52
47:Y:1577:G:H21	47:Y:1590:C:H42	1.56	0.52
47:Y:2221:U:O2	47:Y:2221:U:H2'	2.08	0.52
5:E:5:GLU:O	17:9:28:TYR:OH	2.26	0.52
7:F:15:ARG:HB3	7:F:74:ILE:HG12	1.91	0.52
8:H:32:VAL:O	8:H:35:ARG:N	2.35	0.52
8:H:113:LYS:NZ	20:X:1381:G:OP2	2.37	0.52
9:1:30:LYS:HD3	9:1:36:VAL:HG23	1.91	0.52
11:3:10:LYS:HD3	20:X:891:G:H5''	1.92	0.52
14:6:54:ARG:HG2	20:X:736:A:H62	1.75	0.52
20:X:653:G:H2'	20:X:653:G:N3	2.24	0.52
20:X:731:U:O5'	20:X:731:U:H6	1.91	0.52
20:X:873:U:H3'	20:X:873:U:C6	2.43	0.52
20:X:935:G:H5'	20:X:935:G:H8	1.75	0.52
20:X:976:G:H3'	20:X:976:G:N3	2.24	0.52
20:X:984:A:N3	20:X:984:A:H5'	2.24	0.52
47:Y:187:C:H2'	47:Y:187:C:O2	2.09	0.52
47:Y:830:U:H2'	47:Y:831:C:C6	2.44	0.52
47:Y:877:G:H2'	47:Y:878:C:C6	2.44	0.52
47:Y:894:A:H2'	47:Y:895:U:C6	2.45	0.52
47:Y:1715:U:H6	47:Y:1715:U:O5'	1.93	0.52
47:Y:2680:U:H6	47:Y:2680:U:O5'	1.92	0.52
5:E:93:ARG:HB2	5:E:95:ASP:OD1	2.09	0.52
6:G:149:LYS:HD3	10:2:64:GLN:CG	2.40	0.52
14:6:6:GLU:HA	14:6:9:ASN:HD21	1.75	0.52
18:I:11:VAL:HG13	18:I:16:MET:HG3	1.90	0.52
20:X:108:A:N3	20:X:108:A:C2'	2.73	0.52
20:X:295:U:C5'	20:X:295:U:C6	2.92	0.52
20:X:343:C:H2'	20:X:344:A:H8	1.75	0.52
20:X:557:C:O2	20:X:557:C:H2'	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1150:G:N3	20:X:1150:G:C3'	2.73	0.52
20:X:1190:A:H2'	20:X:1191:A:C8	2.45	0.52
20:X:1371:A:N3	20:X:1371:A:C5'	2.73	0.52
23:K:54:VAL:HG12	23:K:85:ILE:CD1	2.40	0.52
29:Q:24:LEU:HG	29:Q:24:LEU:O	2.08	0.52
30:R:5:ILE:HG22	30:R:6:ASP:O	2.10	0.52
47:Y:898:U:O5'	47:Y:898:U:H6	1.92	0.52
47:Y:1489:A:H2'	47:Y:1503:U:H5	1.75	0.52
47:Y:1503:U:O2	47:Y:1503:U:H2'	2.09	0.52
2:B:178:ARG:NH1	20:X:1124:C:C2'	2.62	0.52
7:F:32:ILE:HG22	7:F:36:ILE:HG12	1.91	0.52
16:8:12:GLY:HA3	16:8:26:LEU:O	2.09	0.52
20:X:16:G:H2'	20:X:17:A:H8	1.73	0.52
20:X:421:G:N3	20:X:421:G:C2'	2.73	0.52
20:X:509:C:O2	20:X:552:G:N1	2.43	0.52
20:X:517:A:N3	20:X:517:A:C3'	2.73	0.52
20:X:631:C:H6	20:X:631:C:O5'	1.93	0.52
20:X:652:U:O2	20:X:652:U:H2'	2.10	0.52
20:X:689:A:H2'	20:X:690:U:H4'	1.91	0.52
20:X:1098:U:H5''	20:X:1098:U:C6	2.30	0.52
20:X:1150:G:N3	20:X:1150:G:C2'	2.72	0.52
20:X:1336:C:C6	20:X:1336:C:C3'	2.93	0.52
20:X:1351:A:N3	20:X:1351:A:C2'	2.73	0.52
20:X:1445:A:H2'	20:X:1446:G:C8	2.44	0.52
22:J:32:VAL:HG12	22:J:109:ALA:HB2	1.92	0.52
25:M:73:LYS:O	25:M:73:LYS:HG2	2.09	0.52
30:R:28:LYS:NZ	30:R:86:ASP:HB3	2.25	0.52
47:Y:1574:G:H1'	47:Y:1593:G:H1	1.74	0.52
6:G:115:THR:HG22	20:X:1250:A:O2'	2.10	0.52
9:1:32:SER:HB2	9:1:83:THR:HB	1.91	0.52
12:4:2:ALA:N	12:4:8:ASP:H	2.08	0.52
20:X:241:U:O2	20:X:241:U:H2'	2.09	0.52
20:X:606:U:H6	20:X:606:U:O5'	1.92	0.52
20:X:855:G:H5'	20:X:856:C:C5	2.45	0.52
20:X:973:G:C2'	20:X:973:G:N3	2.73	0.52
20:X:1110:C:C3'	20:X:1110:C:C6	2.92	0.52
20:X:1156:C:C5	20:X:1157:A:H1'	2.45	0.52
20:X:1388:A:N3	20:X:1388:A:C3'	2.73	0.52
25:M:2:ARG:HA	25:M:2:ARG:NE	2.25	0.52
27:O:95:LEU:O	27:O:95:LEU:HG	2.08	0.52
38:c:33:LEU:HD23	38:c:50:SER:HB2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:h:32:SER:HB2	46:h:43:TYR:HA	1.92	0.52
47:Y:323:C:H6	47:Y:323:C:P	2.33	0.52
47:Y:1955:A:O5'	47:Y:1955:A:H8	1.93	0.52
11:3:96:ARG:HG2	20:X:560:U:OP1	2.10	0.52
14:6:3:ILE:O	14:6:8:LYS:HE2	2.09	0.52
16:8:74:ARG:NH1	20:X:243:C:H5''	2.25	0.52
17:9:48:ARG:NH1	17:9:48:ARG:HG3	2.24	0.52
20:X:280:C:H2'	20:X:281:A:C8	2.44	0.52
20:X:387:C:H6	20:X:387:C:O5'	1.93	0.52
20:X:535:G:N3	20:X:535:G:C2'	2.73	0.52
20:X:1471:U:O5'	20:X:1471:U:H6	1.93	0.52
36:a:56:GLY:O	36:a:57:ARG:HD2	2.10	0.52
47:Y:278:A:C5	47:Y:279:A:H1'	2.44	0.52
47:Y:1526:G:N3	47:Y:1526:G:C2'	2.72	0.52
1:C:57:G:H3'	1:C:58:G:C8	2.45	0.51
4:D:32:ARG:HB2	4:D:54:GLN:HG2	1.92	0.51
6:G:73:LEU:N	6:G:73:LEU:CD2	2.73	0.51
7:F:10:MET:HB3	7:F:27:LEU:HD23	1.92	0.51
8:H:37:VAL:CG1	8:H:50:LEU:HD11	2.40	0.51
16:8:11:VAL:HA	16:8:62:LYS:HA	1.92	0.51
17:9:26:ILE:HB	17:9:60:LEU:HG	1.93	0.51
20:X:366:U:H2'	20:X:367:A:C8	2.45	0.51
20:X:530:C:O2	20:X:530:C:H2'	2.09	0.51
20:X:564:C:H6	20:X:564:C:H5''	1.74	0.51
20:X:790:A:C5	20:X:791:C:H1'	2.44	0.51
20:X:813:C:O2	20:X:813:C:H2'	2.08	0.51
20:X:985:A:O4'	20:X:1369:U:H4'	2.09	0.51
21:e:216:LYS:HB3	21:e:216:LYS:NZ	2.25	0.51
22:J:187:THR:HG23	27:O:3:LEU:HG	1.91	0.51
27:O:143:HIS:CD2	27:O:143:HIS:H	2.26	0.51
34:W:45:ILE:HG22	34:W:46:PHE:CD1	2.45	0.51
35:Z:9:VAL:HG12	35:Z:70:LEU:HD23	1.92	0.51
47:Y:422:G:H2'	47:Y:423:A:H8	1.75	0.51
47:Y:841:C:H2'	47:Y:842:U:C6	2.45	0.51
47:Y:1240:U:H2'	47:Y:1241:A:C8	2.44	0.51
4:D:134:ILE:CB	20:X:19:C:OP1	2.58	0.51
6:G:28:ASN:OD1	20:X:1385:A:H4'	2.10	0.51
8:H:95:GLU:HG3	8:H:96:TYR:HD1	1.75	0.51
12:4:16:VAL:HG13	20:X:1313:U:O4	2.09	0.51
20:X:7:G:H1'	20:X:306:A:C5	2.44	0.51
20:X:343:C:H2'	20:X:344:A:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:443:U:H5''	20:X:443:U:H6	1.76	0.51
20:X:787:C:H5''	20:X:787:C:C6	2.43	0.51
20:X:1112:C:H3'	20:X:1112:C:H6	1.75	0.51
20:X:1392:U:O2	20:X:1392:U:H3'	2.10	0.51
23:K:119:LYS:HA	23:K:149:VAL:HG22	1.91	0.51
24:L:22:ASN:HA	24:L:43:PHE:CE1	2.45	0.51
29:Q:48:ILE:HD12	29:Q:99:GLY:HA3	1.93	0.51
32:U:77:LYS:HB3	32:U:80:LYS:HB2	1.91	0.51
36:a:43:VAL:HG11	36:a:48:PHE:CZ	2.45	0.51
41:g:25:PRO:HG2	41:g:27:MET:HG3	1.91	0.51
44:j:5:LYS:NZ	47:Y:257:G:N7	2.58	0.51
47:Y:878:C:H2'	47:Y:879:U:C6	2.45	0.51
47:Y:1160:C:H2'	47:Y:1161:A:C8	2.46	0.51
47:Y:1888:U:H3'	47:Y:1889:G:H8	1.76	0.51
4:D:128:LEU:HA	20:X:568:A:H2	1.75	0.51
6:G:89:VAL:HG11	20:X:1389:C:H1'	1.93	0.51
8:H:22:ARG:CB	20:X:1142:A:C6	2.93	0.51
11:3:8:VAL:HG11	16:8:33:HIS:NE2	2.26	0.51
11:3:50:VAL:O	11:3:66:ALA:HA	2.10	0.51
20:X:107:G:H2'	20:X:337:A:C2	2.44	0.51
20:X:207:G:H2'	20:X:208:U:C4	2.46	0.51
20:X:670:A:H2'	20:X:671:A:C8	2.46	0.51
20:X:806:U:H3'	20:X:807:G:H8	1.75	0.51
20:X:871:G:H2'	20:X:872:C:C6	2.46	0.51
27:O:76:ILE:HD11	47:Y:681:G:C6	2.46	0.51
30:R:58:SER:HB3	30:R:76:VAL:HG21	1.93	0.51
33:V:17:VAL:O	33:V:17:VAL:HG22	2.10	0.51
47:Y:227:G:H2'	47:Y:228:A:C8	2.44	0.51
47:Y:1161:A:H2'	47:Y:1162:C:C6	2.45	0.51
47:Y:1437:U:H2'	47:Y:1438:G:C8	2.46	0.51
47:Y:1491:C:C6	47:Y:1491:C:C3'	2.93	0.51
47:Y:1630:A:N3	47:Y:1630:A:C2'	2.73	0.51
47:Y:2319:U:H2'	47:Y:2320:C:H6	1.75	0.51
47:Y:2619:G:H2'	47:Y:2620:U:C6	2.45	0.51
1:C:81:A:C4'	40:f:52:HIS:CE1	2.93	0.51
2:B:37:LYS:HE2	13:5:26:ARG:HD2	1.91	0.51
4:D:111:VAL:HA	4:D:114:VAL:HG22	1.92	0.51
6:G:31:MET:HE1	20:X:1384:G:O3'	2.10	0.51
7:F:120:LYS:HE3	7:F:120:LYS:CA	2.41	0.51
9:1:12:ALA:HB1	9:1:17:VAL:CG2	2.41	0.51
10:2:32:VAL:O	10:2:45:SER:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:4:75:LEU:HD22	12:4:79:ARG:NH1	2.26	0.51
14:6:16:ARG:HB3	14:6:27:VAL:HB	1.93	0.51
15:7:9:ARG:CG	15:7:9:ARG:NH1	2.73	0.51
20:X:140:A:H8	20:X:140:A:H3'	1.75	0.51
20:X:329:A:H5''	20:X:1446:G:H4'	1.92	0.51
20:X:366:U:H2'	20:X:367:A:H8	1.75	0.51
20:X:382:A:N3	20:X:382:A:C2'	2.73	0.51
20:X:601:U:H6	20:X:601:U:H5''	1.74	0.51
20:X:686:U:H3'	20:X:686:U:C6	2.43	0.51
20:X:1396:G:H2'	20:X:1396:G:N3	2.24	0.51
20:X:1444:A:N3	20:X:1444:A:C2'	2.73	0.51
22:J:80:ALA:HB3	22:J:83:TRP:CD1	2.46	0.51
27:O:64:ARG:HB2	47:Y:2443:C:OP1	2.10	0.51
30:R:90:LYS:HG2	30:R:113:ARG:HH21	1.74	0.51
47:Y:323:C:O2	47:Y:323:C:H2'	2.10	0.51
47:Y:828:A:N3	47:Y:828:A:H2'	2.25	0.51
47:Y:1882:G:H2'	47:Y:1883:A:C8	2.45	0.51
47:Y:1946:A:N3	47:Y:1946:A:C2'	2.72	0.51
47:Y:2347:A:N3	47:Y:2347:A:C2'	2.73	0.51
1:C:20:A:H2'	1:C:21:G:C8	2.46	0.51
1:C:45:C:O5'	1:C:45:C:H6	1.93	0.51
1:C:87:G:N3	1:C:87:G:C2'	2.73	0.51
11:3:120:VAL:CG1	11:3:130:TYR:CE1	2.92	0.51
16:8:9:VAL:O	16:8:11:VAL:HG13	2.10	0.51
20:X:181:A:H3'	20:X:182:A:H5''	1.91	0.51
20:X:356:G:H3'	20:X:357:A:H4'	1.92	0.51
20:X:395:U:H3'	20:X:395:U:H6	1.75	0.51
20:X:843:A:H3'	20:X:844:G:C8	2.45	0.51
20:X:962:U:H3'	20:X:962:U:H6	1.74	0.51
20:X:1003:G:N3	20:X:1003:G:C2'	2.72	0.51
20:X:1498:G:H2'	20:X:1499:G:C8	2.45	0.51
21:e:36:LEU:HB2	21:e:50:GLN:HB3	1.92	0.51
31:S:4:VAL:CG1	47:Y:1287:U:C5'	2.89	0.51
33:V:8:ARG:HD2	47:Y:539:G:OP1	2.10	0.51
44:j:59:LYS:HD2	47:Y:245:G:H5'	1.92	0.51
2:B:78:LYS:O	2:B:80:GLY:N	2.43	0.51
4:D:16:VAL:HB	4:D:36:LEU:HD21	1.92	0.51
5:E:11:ARG:NE	5:E:12:PRO:CD	2.74	0.51
6:G:37:GLY:HA2	6:G:40:GLN:HB2	1.91	0.51
6:G:76:LYS:HB3	20:X:1390:G:N2	2.25	0.51
12:4:53:LEU:O	12:4:57:ARG:HB3	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:6:54:ARG:CG	20:X:736:A:H62	2.23	0.51
14:6:70:LEU:HG	14:6:73:LYS:HG3	1.93	0.51
18:I:51:VAL:HG11	18:I:72:GLY:HA3	1.91	0.51
20:X:943:G:N2	20:X:943:G:OP2	2.44	0.51
20:X:1237:C:H2'	20:X:1238:A:H5''	1.92	0.51
39:d:54:LYS:HD2	47:Y:72:U:C6	2.46	0.51
47:Y:294:G:N3	47:Y:294:G:H2'	2.25	0.51
47:Y:322:A:N3	47:Y:322:A:C2'	2.73	0.51
47:Y:1315:C:H2'	47:Y:1316:G:C8	2.43	0.51
47:Y:1478:A:H3'	47:Y:1479:G:C8	2.46	0.51
47:Y:1898:C:H1'	47:Y:1899:U:H5''	1.90	0.51
5:E:13:ASN:ND2	5:E:55:PHE:CE2	2.79	0.51
6:G:78:ARG:CZ	20:X:1390:G:C1'	2.88	0.51
14:6:28:GLN:OE1	20:X:665:U:N1	2.44	0.51
20:X:168:G:C5	20:X:169:C:H1'	2.46	0.51
20:X:283:G:H4'	20:X:284:G:H5'	1.92	0.51
20:X:512:C:H41	20:X:547:A:N6	2.08	0.51
20:X:634:U:O2	20:X:634:U:H2'	2.11	0.51
20:X:940:C:H5'	20:X:940:C:H6	1.76	0.51
20:X:989:C:H2'	20:X:990:C:C6	2.46	0.51
20:X:1128:U:O5'	20:X:1128:U:H6	1.94	0.51
20:X:1261:A:H8	20:X:1261:A:O5'	1.93	0.51
21:e:216:LYS:HB3	21:e:216:LYS:HZ3	1.75	0.51
22:J:202:VAL:HA	22:J:205:VAL:HG22	1.92	0.51
26:N:63:VAL:HG22	26:N:106:LEU:HD21	1.93	0.51
47:Y:920:A:H8	47:Y:920:A:O5'	1.93	0.51
47:Y:1442:C:H2'	47:Y:1443:A:C8	2.46	0.51
47:Y:1476:G:H2'	47:Y:1477:U:C6	2.45	0.51
47:Y:2249:G:H2'	47:Y:2250:A:C8	2.45	0.51
47:Y:2730:C:H3'	47:Y:2731:C:H5''	1.93	0.51
6:G:96:ARG:HH21	6:G:96:ARG:C	2.18	0.51
15:7:12:SER:HA	20:X:631:C:C4	2.46	0.51
16:8:23:ILE:CB	16:8:49:HIS:HA	2.41	0.51
16:8:70:SER:O	20:X:273:G:H4'	2.11	0.51
20:X:211:A:N3	20:X:211:A:C3'	2.73	0.51
20:X:230:U:H6	20:X:230:U:C3'	2.24	0.51
20:X:533:C:O2	20:X:533:C:H2'	2.10	0.51
20:X:746:U:H3'	20:X:746:U:H6	1.76	0.51
20:X:1084:G:H2'	20:X:1085:U:C6	2.45	0.51
20:X:1305:U:H5''	20:X:1306:U:C6	2.45	0.51
20:X:1418:C:H1'	47:Y:1946:A:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1477:U:H2'	20:X:1478:C:C6	2.45	0.51
24:L:63:THR:O	47:Y:2784:A:H2	1.94	0.51
30:R:91:GLU:OE1	30:R:93:VAL:HG23	2.11	0.51
47:Y:232:U:H2'	47:Y:233:U:H5'	1.93	0.51
47:Y:339:A:H3'	47:Y:339:A:C8	2.46	0.51
47:Y:388:A:H3'	47:Y:388:A:OP2	2.10	0.51
47:Y:721:A:HO2'	47:Y:2469:C:HO2'	1.59	0.51
47:Y:752:G:H2'	47:Y:752:G:N3	2.24	0.51
47:Y:1498:U:P	47:Y:1498:U:H2'	2.51	0.51
47:Y:1768:C:H2'	47:Y:1769:C:C6	2.46	0.51
47:Y:2212:G:H3'	47:Y:2213:U:C6	2.46	0.51
47:Y:2336:A:N3	47:Y:2336:A:H5''	2.26	0.51
47:Y:2863:G:H2'	47:Y:2864:A:C8	2.46	0.51
1:C:97:A:H3'	1:C:98:G:H8	1.75	0.51
2:B:23:TYR:CD1	9:1:11:LYS:HD3	2.46	0.51
6:G:26:LEU:HD23	6:G:62:PHE:CZ	2.45	0.51
7:F:13:ARG:NH2	20:X:834:C:O2'	2.43	0.51
10:2:113:VAL:HG23	10:2:113:VAL:O	2.11	0.51
12:4:80:LEU:HG	12:4:81:MET:SD	2.51	0.51
14:6:65:HIS:CE1	20:X:763:G:H5''	2.44	0.51
20:X:347:C:C5	26:N:97:ARG:HD2	2.45	0.51
20:X:501:U:O5'	20:X:501:U:H6	1.94	0.51
20:X:892:C:C5'	20:X:892:C:H6	2.23	0.51
20:X:920:C:H3'	20:X:921:U:H6	1.76	0.51
21:e:209:VAL:HG12	21:e:209:VAL:O	2.11	0.51
47:Y:63:U:O2	47:Y:63:U:O2'	2.26	0.51
47:Y:721:A:O2'	47:Y:2469:C:O2'	2.27	0.51
47:Y:1442:C:H2'	47:Y:1443:A:H8	1.75	0.51
47:Y:1720:A:O5'	47:Y:1720:A:H8	1.94	0.51
47:Y:2212:G:H5''	47:Y:2213:U:H5	1.76	0.51
2:B:21:LYS:HE2	2:B:57:GLU:HG3	1.92	0.51
7:F:15:ARG:HE	7:F:76:GLY:HA2	1.75	0.51
7:F:21:ARG:HD2	7:F:21:ARG:N	2.26	0.51
13:5:35:ARG:O	13:5:38:LYS:N	2.43	0.51
17:9:27:ASP:OD1	17:9:29:LYS:HG2	2.10	0.51
18:I:15:LEU:O	18:I:19:VAL:HG23	2.10	0.51
20:X:158:G:H8	20:X:158:G:O5'	1.93	0.51
20:X:566:G:H2'	20:X:567:A:C2	2.46	0.51
20:X:1105:A:N3	20:X:1105:A:C3'	2.73	0.51
20:X:1160:C:H2'	20:X:1160:C:O2	2.10	0.51
20:X:1379:A:C8	20:X:1379:A:C5'	2.94	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:K:60:ILE:HB	23:K:85:ILE:HG23	1.92	0.51
27:O:57:LEU:CD2	44:j:49:LEU:CD1	2.87	0.51
47:Y:2509:A:H2'	47:Y:2510:C:C6	2.46	0.51
47:Y:2770:U:H2'	47:Y:2771:G:C8	2.46	0.51
47:Y:2829:A:H2'	47:Y:2830:A:C8	2.46	0.51
1:C:1:U:O5'	1:C:1:U:H6	1.94	0.50
1:C:34:C:H3'	1:C:34:C:H6	1.76	0.50
2:B:36:LEU:HD11	13:5:26:ARG:CD	2.41	0.50
6:G:135:VAL:O	6:G:135:VAL:HG22	2.11	0.50
7:F:109:SER:HB3	20:X:607:C:O4'	2.11	0.50
8:H:12:GLY:HA3	8:H:83:HIS:HB2	1.93	0.50
8:H:22:ARG:CA	20:X:1142:A:C6	2.94	0.50
8:H:78:ALA:C	8:H:80:ALA:H	2.18	0.50
8:H:120:LEU:HD12	8:H:120:LEU:H	1.75	0.50
11:3:42:GLN:NE2	20:X:35:C:C1'	2.74	0.50
11:3:73:ASN:HB2	20:X:1493:U:OP1	2.10	0.50
12:4:55:ARG:O	12:4:59:VAL:HG23	2.11	0.50
14:6:33:THR:O	14:6:36:ILE:HB	2.11	0.50
20:X:375:U:O2	20:X:375:U:O2'	2.28	0.50
20:X:445:U:O5'	20:X:445:U:H6	1.94	0.50
20:X:636:G:N3	20:X:636:G:C2'	2.73	0.50
20:X:642:C:O2	20:X:642:C:H2'	2.10	0.50
20:X:1382:G:H5''	20:X:1383:U:H5	1.75	0.50
20:X:1459:C:O2	20:X:1459:C:H2'	2.11	0.50
20:X:1472:A:N3	20:X:1472:A:H2'	2.27	0.50
47:Y:327:G:N3	47:Y:327:G:C2'	2.74	0.50
47:Y:348:C:H2'	47:Y:349:U:C6	2.46	0.50
47:Y:2237:U:H1'	47:Y:2239:A:H5''	1.93	0.50
1:C:101:G:C2	1:C:102:A:H1'	2.46	0.50
2:B:34:GLU:HB2	2:B:96:LYS:HZ2	1.75	0.50
2:B:80:GLY:O	2:B:84:GLU:HG2	2.11	0.50
2:B:97:LYS:C	2:B:100:ILE:HD11	2.36	0.50
4:D:59:ALA:HA	4:D:62:LYS:HB2	1.92	0.50
5:E:6:VAL:HG12	5:E:65:VAL:CG2	2.40	0.50
6:G:36:ARG:HG2	20:X:1384:G:C5'	2.42	0.50
6:G:40:GLN:NE2	8:H:45:SER:CB	2.74	0.50
7:F:17:ALA:HB1	7:F:25:LEU:HD13	1.89	0.50
10:2:100:LEU:O	10:2:105:LEU:HB2	2.10	0.50
16:8:70:SER:N	20:X:273:G:H4'	2.26	0.50
17:9:48:ARG:HG3	17:9:48:ARG:HH11	1.76	0.50
20:X:144:C:H41	20:X:210:A:H5''	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:585:G:H2'	20:X:586:C:C2	2.45	0.50
20:X:625:G:H3'	20:X:626:C:H6	1.77	0.50
20:X:873:U:C6	20:X:873:U:C3'	2.94	0.50
20:X:1543:A:N3	20:X:1543:A:C3'	2.73	0.50
35:Z:95:LYS:NZ	47:Y:343:A:OP2	2.41	0.50
47:Y:1357:G:C2'	47:Y:1357:G:N3	2.74	0.50
47:Y:1425:G:H2'	47:Y:1426:G:C8	2.46	0.50
47:Y:1877:G:C2	47:Y:1878:U:H1'	2.46	0.50
47:Y:2531:U:H2'	47:Y:2532:G:H5'	1.93	0.50
4:D:103:THR:HG21	4:D:123:ILE:O	2.11	0.50
9:1:43:PRO:CG	20:X:1162:A:O2'	2.59	0.50
11:3:25:ASN:CG	11:3:39:ASN:HA	2.36	0.50
15:7:24:ASP:OD1	15:7:24:ASP:N	2.40	0.50
19:A:6:SER:HB2	20:X:62:G:O6	2.12	0.50
20:X:14:U:C5	20:X:21:U:O4	2.64	0.50
20:X:212:A:H1'	20:X:228:A:H1'	1.93	0.50
20:X:625:G:H3'	20:X:626:C:C6	2.47	0.50
20:X:755:U:C6	20:X:755:U:C3'	2.94	0.50
20:X:941:C:H2'	20:X:942:C:C4	2.46	0.50
20:X:1291:A:H8	20:X:1291:A:OP1	1.93	0.50
23:K:51:ASP:O	23:K:54:VAL:CG2	2.60	0.50
24:L:4:VAL:HG12	47:Y:2778:G:H1'	1.93	0.50
24:L:105:LEU:HD13	24:L:162:ILE:HG13	1.94	0.50
41:g:40:HIS:CD2	47:Y:2904:U:H5	2.29	0.50
47:Y:76:C:O2	47:Y:76:C:H2'	2.11	0.50
47:Y:1866:G:H2'	47:Y:1867:G:H5'	1.93	0.50
47:Y:1947:C:H2'	47:Y:1948:G:C8	2.45	0.50
47:Y:2321:C:H2'	47:Y:2322:C:H6	1.75	0.50
47:Y:2902:A:H2'	47:Y:2903:A:H5''	1.93	0.50
2:B:174:LEU:HD21	2:B:200:TRP:CD1	2.46	0.50
2:B:177:LEU:HB3	20:X:1124:C:H5	1.76	0.50
5:E:19:LYS:HG3	5:E:59:PHE:HD2	1.74	0.50
6:G:66:ILE:HD13	6:G:101:LEU:HD21	1.93	0.50
8:H:66:LEU:HD23	20:X:1142:A:C4'	2.41	0.50
9:1:19:ASP:O	9:1:23:GLU:HG2	2.12	0.50
18:I:40:ILE:HG23	18:I:44:PHE:CZ	2.46	0.50
19:A:69:ASN:HB2	20:X:270:A:H4'	1.94	0.50
20:X:979:A:H8	20:X:979:A:H5''	1.76	0.50
20:X:1484:U:H2'	20:X:1485:G:C8	2.46	0.50
26:N:21:THR:HA	26:N:41:CYS:HB3	1.93	0.50
28:P:18:THR:O	28:P:98:LYS:NZ	2.33	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:S:18:ILE:HD11	31:S:32:TYR:HA	1.92	0.50
35:Z:25:ALA:HB3	35:Z:34:VAL:HG11	1.93	0.50
47:Y:901:G:H2'	47:Y:902:A:C8	2.46	0.50
47:Y:2398:G:H21	47:Y:2398:G:P	2.32	0.50
7:F:14:VAL:HG13	7:F:64:LEU:HD22	1.93	0.50
9:1:39:PRO:O	9:1:40:ILE:HD13	2.12	0.50
11:3:2:PRO:C	20:X:575:G:O6	2.55	0.50
20:X:589:G:H8	20:X:589:G:OP2	1.95	0.50
20:X:616:A:H2'	20:X:616:A:N3	2.27	0.50
20:X:636:G:H3'	20:X:637:A:C2	2.46	0.50
20:X:984:A:C5'	20:X:984:A:N3	2.75	0.50
21:e:163:VAL:HG11	47:Y:2646:U:H1'	1.92	0.50
26:N:77:ILE:HG23	26:N:77:ILE:O	2.11	0.50
42:T:34:LYS:HB3	42:T:45:HIS:NE2	2.26	0.50
42:T:41:LYS:HA	42:T:41:LYS:HE3	1.92	0.50
47:Y:272:C:O2	47:Y:272:C:H2'	2.12	0.50
47:Y:322:A:C2	47:Y:474:A:H1'	2.46	0.50
2:B:141:MET:HG2	2:B:148:ILE:H	1.75	0.50
2:B:152:VAL:O	2:B:165:GLU:O	2.30	0.50
2:B:178:ARG:NH2	20:X:1124:C:H2'	2.26	0.50
4:D:41:ASP:OD2	4:D:45:ARG:NH2	2.44	0.50
4:D:45:ARG:HB2	4:D:71:LEU:HB3	1.93	0.50
8:H:101:LYS:HE2	8:H:108:ARG:NH2	2.26	0.50
8:H:126:SER:HB3	8:H:127:PRO:CD	2.41	0.50
9:1:56:HIS:CE1	20:X:1210:U:H5'	2.38	0.50
9:1:58:TYR:OH	20:X:1209:A:O4'	2.28	0.50
9:1:59:LYS:C	9:1:61:SER:H	2.20	0.50
11:3:9:ARG:HH12	16:8:40:VAL:HG11	1.76	0.50
11:3:120:VAL:HG13	11:3:130:TYR:CE1	2.47	0.50
12:4:12:GLU:CD	20:X:1308:U:H2'	2.36	0.50
13:5:8:ALA:O	13:5:12:LYS:CB	2.59	0.50
20:X:64:C:H2'	20:X:65:G:H8	1.77	0.50
20:X:267:G:N3	20:X:267:G:H2'	2.26	0.50
20:X:451:U:C3'	20:X:451:U:C6	2.95	0.50
20:X:936:G:O5'	20:X:936:G:H8	1.94	0.50
20:X:1082:U:H2'	20:X:1082:U:O2	2.11	0.50
20:X:1281:G:H2'	20:X:1282:G:C8	2.46	0.50
20:X:1323:G:H2'	20:X:1323:G:N3	2.27	0.50
28:P:74:TYR:HB3	28:P:94:ILE:CG1	2.41	0.50
47:Y:161:A:H3'	47:Y:162:A:C2	2.47	0.50
47:Y:169:G:H2'	47:Y:170:C:H5'	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:254:A:H8	47:Y:254:A:O5'	1.94	0.50
47:Y:2129:C:H2'	47:Y:2130:A:C8	2.47	0.50
1:C:49:G:OP2	30:R:67:ALA:N	2.45	0.50
7:F:40:LEU:HD23	7:F:45:PHE:CD2	2.47	0.50
9:1:41:PRO:O	20:X:1135:A:O4'	2.29	0.50
10:2:31:ILE:CD1	20:X:697:C:P	3.00	0.50
14:6:28:GLN:OE1	20:X:665:U:C6	2.65	0.50
20:X:327:G:H2'	20:X:328:A:H5'	1.93	0.50
20:X:451:U:C6	20:X:451:U:H3'	2.47	0.50
20:X:580:A:H1'	20:X:926:G:H1'	1.94	0.50
20:X:594:C:H2'	20:X:594:C:O2	2.12	0.50
20:X:742:A:H5'	20:X:743:C:C5	2.46	0.50
20:X:889:C:H2'	20:X:890:C:C6	2.46	0.50
20:X:961:G:H2'	20:X:961:G:N3	2.24	0.50
20:X:1305:U:H5''	20:X:1306:U:H6	1.76	0.50
23:K:122:PHE:O	23:K:146:VAL:HB	2.11	0.50
27:O:38:GLN:HG3	27:O:38:GLN:O	2.10	0.50
2:B:8:ILE:HG12	2:B:183:TYR:H	1.76	0.50
4:D:83:HIS:NE2	4:D:85:ILE:HD11	2.26	0.50
11:3:48:THR:HG21	11:3:69:ARG:HB2	1.94	0.50
12:4:102:THR:HG22	20:X:1237:C:P	2.51	0.50
20:X:418:G:H8	20:X:418:G:O5'	1.94	0.50
20:X:511:A:N3	20:X:518:A:C2	2.80	0.50
20:X:787:C:C5'	20:X:787:C:C6	2.85	0.50
20:X:974:A:H5''	20:X:975:A:H2	1.77	0.50
20:X:1088:C:H2'	20:X:1089:G:C8	2.46	0.50
20:X:1123:A:H8	20:X:1123:A:H3'	1.76	0.50
42:T:35:TYR:HD1	42:T:35:TYR:O	1.95	0.50
47:Y:364:A:OP2	47:Y:364:A:H4'	2.11	0.50
47:Y:689:A:H3'	47:Y:691:A:H62	1.77	0.50
47:Y:2687:A:H2	47:Y:2687:A:OP1	1.95	0.50
2:B:38:ILE:HA	2:B:41:PHE:HB2	1.94	0.50
4:D:74:VAL:O	4:D:76:ARG:HG3	2.12	0.50
7:F:9:ASP:HB3	20:X:832:U:C6	2.47	0.50
8:H:66:LEU:HD21	20:X:1142:A:H4'	1.93	0.50
11:3:15:LYS:NZ	20:X:895:G:C5	2.80	0.50
12:4:85:SER:HA	18:I:73:GLU:O	2.11	0.50
12:4:110:LYS:C	12:4:110:LYS:HD3	2.37	0.50
13:5:22:THR:C	13:5:33:VAL:HG11	2.37	0.50
14:6:45:THR:OG1	14:6:46:HIS:N	2.45	0.50
20:X:318:G:N3	20:X:318:G:C2'	2.73	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:490:A:H2'	20:X:491:C:C4	2.47	0.50
20:X:507:A:C6	20:X:508:G:H1'	2.46	0.50
20:X:643:A:N3	20:X:643:A:C2'	2.75	0.50
20:X:696:G:N3	20:X:712:A:N6	2.60	0.50
20:X:929:A:H2'	20:X:930:U:C6	2.47	0.50
20:X:955:G:N3	20:X:955:G:C2'	2.73	0.50
20:X:1430:G:N3	20:X:1494:G:N2	2.60	0.50
41:g:18:THR:CG2	47:Y:2072:C:O2'	2.59	0.50
47:Y:643:G:H2'	47:Y:644:C:C6	2.47	0.50
47:Y:2584:G:H2'	47:Y:2585:C:C6	2.47	0.50
1:C:87:G:H2'	1:C:87:G:OP1	2.12	0.49
8:H:120:LEU:N	8:H:120:LEU:CD1	2.73	0.49
10:2:24:ARG:NH1	20:X:697:C:O3'	2.43	0.49
14:6:69:TYR:CE2	20:X:762:C:H4'	2.47	0.49
20:X:685:U:H2'	20:X:686:U:C4	2.47	0.49
20:X:1085:U:H2'	20:X:1086:G:H4'	1.94	0.49
20:X:1110:C:H2'	20:X:1111:G:C4	2.47	0.49
20:X:1433:U:O5'	20:X:1433:U:H6	1.95	0.49
20:X:1458:A:H3'	20:X:1459:C:C5	2.47	0.49
24:L:109:TYR:C	24:L:111:HIS:H	2.19	0.49
28:P:55:THR:O	28:P:59:LYS:N	2.45	0.49
31:S:61:TRP:CZ2	31:S:93:LYS:HB2	2.47	0.49
36:a:63:LEU:HB3	36:a:65:VAL:HG22	1.94	0.49
42:T:30:ILE:HD12	42:T:31:GLU:H	1.77	0.49
45:k:11:CYS:HB3	45:k:32:HIS:CD2	2.46	0.49
47:Y:161:A:H2	47:Y:2235:A:H2'	1.77	0.49
47:Y:366:G:N3	47:Y:366:G:H5'	2.27	0.49
47:Y:2433:C:O2	47:Y:2433:C:O2'	2.27	0.49
47:Y:2779:C:H2'	47:Y:2779:C:O2	2.12	0.49
1:C:40:C:P	46:h:5:ILE:HG22	2.52	0.49
3:l:75:ALA:HB3	3:l:82:HIS:NE2	2.26	0.49
4:D:38:VAL:HG23	4:D:46:VAL:HG11	1.94	0.49
5:E:43:TRP:H	5:E:61:ASN:HA	1.76	0.49
6:G:41:ARG:O	6:G:41:ARG:HG2	2.11	0.49
7:F:34:LYS:HE3	7:F:51:TYR:CE1	2.47	0.49
8:H:22:ARG:CD	20:X:1142:A:N9	2.58	0.49
8:H:68:ASN:CG	20:X:1141:C:H3'	2.38	0.49
18:I:46:GLY:HA2	18:I:62:VAL:HG21	1.94	0.49
20:X:207:G:H2'	20:X:208:U:C5	2.46	0.49
20:X:333:A:N3	20:X:333:A:C2'	2.75	0.49
20:X:614:G:N3	20:X:614:G:H2'	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1135:A:H3'	20:X:1136:G:H5''	1.93	0.49
20:X:1297:U:H3'	20:X:1297:U:OP2	2.12	0.49
20:X:1419:A:H8	20:X:1419:A:O5'	1.95	0.49
21:e:142:SER:OG	47:Y:1719:C:O2	2.29	0.49
37:b:44:ILE:HG23	37:b:66:THR:HG23	1.94	0.49
38:c:36:VAL:O	38:c:46:LYS:HA	2.12	0.49
47:Y:1529:U:H6	47:Y:1529:U:H3'	1.76	0.49
47:Y:2660:A:H2'	47:Y:2661:A:C8	2.47	0.49
47:Y:2725:U:H2'	47:Y:2726:C:C6	2.46	0.49
6:G:95:ARG:NE	20:X:1389:C:O4'	2.45	0.49
7:F:15:ARG:HG2	7:F:77:LEU:HB3	1.94	0.49
11:3:33:LYS:HG2	20:X:1491:A:H4'	1.94	0.49
11:3:94:LEU:CD2	20:X:35:C:H1'	2.40	0.49
13:5:6:MET:O	13:5:23:ARG:NH1	2.42	0.49
20:X:679:G:H4'	20:X:680:U:H5'	1.94	0.49
20:X:752:C:H2'	20:X:753:U:C5	2.47	0.49
20:X:1458:A:H3'	20:X:1459:C:C6	2.47	0.49
47:Y:918:G:H2'	47:Y:919:G:C8	2.46	0.49
47:Y:1088:C:O2	47:Y:1088:C:H2'	2.10	0.49
47:Y:1161:A:H2'	47:Y:1162:C:H6	1.77	0.49
1:C:32:U:O5'	1:C:32:U:H6	1.94	0.49
2:B:58:ARG:HG3	2:B:63:ILE:HB	1.94	0.49
5:E:43:TRP:CD1	5:E:44:GLY:H	2.29	0.49
9:1:65:PHE:CE1	13:5:56:VAL:HG11	2.47	0.49
11:3:15:LYS:HG2	11:3:16:ILE:N	2.28	0.49
11:3:39:ASN:CB	20:X:562:U:OP1	2.60	0.49
16:8:67:ARG:CA	20:X:130:A:C2	2.65	0.49
20:X:58:G:H3'	20:X:59:C:C6	2.47	0.49
20:X:309:G:H2'	20:X:310:G:C8	2.48	0.49
28:P:123:HIS:ND1	47:Y:2494:C:C4'	2.75	0.49
31:S:3:ARG:HB2	47:Y:1286:G:C5	2.47	0.49
41:g:16:ARG:HA	47:Y:2073:G:OP1	2.12	0.49
47:Y:2228:C:H2'	47:Y:2229:C:H6	1.76	0.49
47:Y:2581:U:O2	47:Y:2581:U:H2'	2.12	0.49
47:Y:2896:A:H2'	47:Y:2897:A:C8	2.46	0.49
1:C:60:C:H6	1:C:60:C:C5'	2.25	0.49
3:l:85:ASN:O	3:l:89:LEU:N	2.46	0.49
7:F:82:LYS:HG2	20:X:887:C:O4'	2.11	0.49
8:H:52:GLN:O	8:H:56:VAL:HG22	2.12	0.49
15:7:9:ARG:HH11	15:7:9:ARG:HG3	1.78	0.49
20:X:123:G:H2'	20:X:124:U:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:408:C:H2'	20:X:409:C:C6	2.48	0.49
20:X:448:U:H3'	20:X:448:U:O2	2.12	0.49
20:X:772:C:O5'	20:X:772:C:H6	1.94	0.49
20:X:965:U:H2'	20:X:966:U:C4	2.46	0.49
20:X:966:U:H5	20:X:970:U:C5	2.27	0.49
20:X:1262:A:H3'	20:X:1263:A:C8	2.47	0.49
22:J:19:LEU:N	22:J:19:LEU:CD1	2.75	0.49
24:L:19:PHE:HB2	24:L:43:PHE:CD2	2.48	0.49
30:R:72:LEU:O	30:R:76:VAL:HG12	2.12	0.49
47:Y:290:U:H3'	47:Y:291:G:H5''	1.93	0.49
47:Y:1179:C:N4	47:Y:1182:G:N7	2.60	0.49
47:Y:1356:G:N3	47:Y:1357:G:N2	2.60	0.49
47:Y:2120:G:N3	47:Y:2225:A:N6	2.60	0.49
1:C:37:A:H2'	46:h:2:LYS:CG	2.43	0.49
1:C:40:C:C3'	46:h:5:ILE:CG2	2.83	0.49
4:D:154:ALA:HA	4:D:157:ARG:HB3	1.93	0.49
7:F:47:LYS:N	7:F:63:PHE:O	2.38	0.49
8:H:37:VAL:HG11	8:H:51:ASN:HD21	1.77	0.49
15:7:3:VAL:CG1	15:7:22:VAL:CG2	2.91	0.49
18:I:47:HIS:H	18:I:62:VAL:HG21	1.76	0.49
20:X:149:A:H2'	20:X:150:U:C6	2.48	0.49
20:X:461:C:H2'	20:X:462:A:C8	2.47	0.49
20:X:504:G:N3	20:X:504:G:C2'	2.74	0.49
20:X:569:U:H2'	20:X:569:U:O2	2.11	0.49
20:X:952:G:H5''	20:X:952:G:C8	2.47	0.49
20:X:1537:G:H2'	20:X:1538:G:C8	2.48	0.49
21:e:118:VAL:HG23	21:e:183:LEU:HD12	1.95	0.49
24:L:66:GLY:O	47:Y:2774:G:O3'	2.30	0.49
25:M:143:LEU:HD12	25:M:143:LEU:C	2.36	0.49
30:R:92:ILE:HG13	30:R:92:ILE:O	2.12	0.49
31:S:4:VAL:HG13	31:S:4:VAL:O	2.13	0.49
35:Z:4:LYS:CB	35:Z:92:ARG:HH22	2.26	0.49
35:Z:11:VAL:HG12	35:Z:68:VAL:HG23	1.95	0.49
39:d:15:GLU:HB2	39:d:19:LYS:HZ1	1.78	0.49
47:Y:1013:U:H2'	47:Y:1014:U:C6	2.48	0.49
47:Y:1898:C:N4	47:Y:2436:G:N3	2.60	0.49
6:G:78:ARG:HD3	20:X:1390:G:N3	2.28	0.49
6:G:149:LYS:CD	10:2:64:GLN:HG2	2.42	0.49
6:G:150:ALA:O	10:2:61:PHE:HB3	2.12	0.49
11:3:61:ALA:HB3	20:X:529:G:N7	2.28	0.49
18:I:18:LYS:O	18:I:22:GLN:HB2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:I:18:LYS:O	18:I:22:GLN:CB	2.60	0.49
20:X:26:C:H6	20:X:26:C:H5''	1.77	0.49
20:X:542:U:O2	20:X:542:U:H3'	2.12	0.49
20:X:1370:C:C3'	20:X:1370:C:C6	2.95	0.49
20:X:1530:A:H3'	20:X:1531:A:C8	2.47	0.49
23:K:34:ILE:HD12	23:K:34:ILE:H	1.75	0.49
28:P:36:ALA:HB2	28:P:103:LEU:HD11	1.93	0.49
30:R:24:GLY:HA3	30:R:29:PRO:HA	1.95	0.49
38:c:38:ILE:HG13	38:c:39:LEU:N	2.27	0.49
41:g:24:VAL:HG12	41:g:25:PRO:CD	2.33	0.49
47:Y:2050:A:H2'	47:Y:2051:C:C6	2.47	0.49
1:C:16:A:H2'	1:C:17:A:H5''	1.95	0.49
5:E:47:ARG:CA	5:E:57:ASP:CB	2.35	0.49
5:E:88:ARG:HB3	5:E:90:MET:HE1	1.94	0.49
13:5:39:LEU:HB2	13:5:44:PHE:HD2	1.76	0.49
20:X:132:C:H2'	20:X:133:U:C6	2.47	0.49
20:X:153:C:H3'	20:X:154:U:H4'	1.94	0.49
20:X:446:G:H1'	20:X:447:U:H2'	1.95	0.49
20:X:511:A:H8	20:X:511:A:H5''	1.78	0.49
20:X:643:A:N3	20:X:643:A:C3'	2.73	0.49
20:X:1341:U:H3'	20:X:1341:U:H6	1.76	0.49
22:J:101:MET:CG	22:J:102:PRO:CD	2.90	0.49
45:k:6:SER:C	45:k:8:LYS:HZ3	2.20	0.49
47:Y:1423:C:H2'	47:Y:1424:A:C8	2.47	0.49
47:Y:1548:U:C6	47:Y:1548:U:H3'	2.48	0.49
1:C:27:A:H2'	1:C:28:C:C6	2.48	0.49
1:C:67:G:H2'	1:C:68:A:C8	2.47	0.49
2:B:146:LYS:HB2	2:B:202:TYR:CD2	2.43	0.49
2:B:195:LEU:O	20:X:1069:G:O2'	2.31	0.49
5:E:6:VAL:HG13	5:E:6:VAL:O	2.13	0.49
8:H:13:ARG:NE	20:X:1160:C:C4	2.80	0.49
13:5:34:TYR:HE2	20:X:1369:U:P	2.29	0.49
14:6:44:ARG:O	14:6:47:LYS:HB3	2.12	0.49
20:X:65:G:N3	20:X:65:G:C2'	2.73	0.49
20:X:127:A:H8	20:X:127:A:H5'	1.78	0.49
20:X:507:A:C5	20:X:508:G:H1'	2.48	0.49
20:X:832:U:O2	20:X:832:U:H3'	2.13	0.49
20:X:1118:G:OP1	20:X:1118:G:H4'	2.13	0.49
20:X:1531:A:H3'	20:X:1532:G:C8	2.47	0.49
22:J:169:ASN:ND2	47:Y:365:A:H5''	2.28	0.49
27:O:110:LYS:NZ	47:Y:681:G:N7	2.58	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:S:25:PHE:CE1	47:Y:2048:G:C2	3.00	0.49
47:Y:168:A:N3	47:Y:168:A:C5'	2.73	0.49
47:Y:1499:U:H2'	47:Y:1500:G:C8	2.48	0.49
2:B:138:THR:O	2:B:142:LYS:N	2.46	0.49
3:l:45:SER:OG	3:l:46:GLU:N	2.46	0.49
4:D:134:ILE:HG21	20:X:19:C:H5''	0.54	0.49
5:E:4:TYR:O	5:E:6:VAL:N	2.46	0.49
6:G:25:LYS:O	6:G:25:LYS:HG3	2.12	0.49
7:F:79:ARG:HD2	7:F:128:ILE:HD12	1.94	0.49
12:4:23:TYR:CE1	20:X:1342:G:OP1	2.66	0.49
18:I:5:ILE:HD11	20:X:1325:C:N4	2.28	0.49
19:A:10:ARG:HG2	20:X:107:G:C2	2.48	0.49
20:X:272:C:O2	20:X:272:C:H2'	2.12	0.49
20:X:644:U:C3'	20:X:644:U:C6	2.96	0.49
20:X:968:A:N3	20:X:968:A:C2'	2.73	0.49
20:X:1404:U:H3'	20:X:1404:U:H6	1.78	0.49
24:L:72:LEU:O	24:L:76:VAL:HG13	2.12	0.49
42:T:17:TYR:OH	47:Y:2374:C:O2'	2.21	0.49
44:j:49:LEU:HD12	44:j:49:LEU:O	2.12	0.49
47:Y:1462:G:H2'	47:Y:1463:A:H5'	1.94	0.49
47:Y:1470:G:H8	47:Y:1470:G:O5'	1.96	0.49
47:Y:1569:G:H3'	47:Y:1570:G:C8	2.46	0.49
47:Y:1882:G:H2'	47:Y:1883:A:H8	1.78	0.49
47:Y:1934:G:H8	47:Y:1934:G:C5'	2.26	0.49
47:Y:2457:A:H2'	47:Y:2457:A:N3	2.28	0.49
2:B:141:MET:HG2	2:B:148:ILE:HG22	1.95	0.48
2:B:177:LEU:HD12	20:X:1199:A:H2	1.78	0.48
5:E:41:LYS:HB2	5:E:62:ILE:HB	1.95	0.48
5:E:48:LEU:HB2	17:9:71:ALA:O	2.13	0.48
7:F:10:MET:SD	7:F:27:LEU:HG	2.53	0.48
8:H:66:LEU:CD2	20:X:1142:A:C4'	2.91	0.48
9:1:49:TYR:OH	13:5:34:TYR:HB2	2.13	0.48
11:3:83:ILE:HD11	20:X:528:A:H2'	1.95	0.48
14:6:54:ARG:NE	20:X:736:A:N6	2.42	0.48
20:X:21:U:O2	20:X:927:G:N2	2.43	0.48
20:X:210:A:H4'	20:X:211:A:C6	2.48	0.48
20:X:943:G:N3	20:X:943:G:C3'	2.76	0.48
20:X:965:U:H3'	20:X:965:U:H6	1.77	0.48
20:X:1161:U:O5'	20:X:1161:U:H6	1.96	0.48
20:X:1377:C:O5'	20:X:1377:C:H6	1.95	0.48
20:X:1405:A:N7	20:X:1513:C:H1'	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1437:A:N3	20:X:1438:C:N4	2.60	0.48
21:e:163:VAL:HG13	47:Y:2646:U:H4'	1.94	0.48
22:J:39:LEU:HD12	22:J:99:TYR:CE2	2.48	0.48
29:Q:102:ARG:NH1	47:Y:2902:A:OP1	2.46	0.48
31:S:61:TRP:CE2	31:S:93:LYS:HB2	2.48	0.48
40:f:13:ILE:CD1	47:Y:1033:G:C6	2.96	0.48
47:Y:1219:G:C8	47:Y:1219:G:C3'	2.96	0.48
47:Y:1520:A:H3'	47:Y:1521:A:N3	2.28	0.48
47:Y:2237:U:H6	47:Y:2239:A:H5''	1.77	0.48
47:Y:2336:A:H4'	47:Y:2336:A:OP2	2.13	0.48
47:Y:2506:U:H2'	47:Y:2507:C:C6	2.45	0.48
1:C:46:A:H2'	1:C:47:C:C6	2.48	0.48
4:D:94:VAL:HA	4:D:127:SER:HA	1.96	0.48
4:D:154:ALA:HB1	4:D:159:LYS:C	2.38	0.48
5:E:9:ILE:HG12	5:E:60:TYR:CE1	2.48	0.48
5:E:11:ARG:NH2	5:E:87:ILE:CG2	2.65	0.48
6:G:30:ILE:HD12	6:G:105:VAL:HB	1.94	0.48
7:F:90:LYS:CD	7:F:92:SER:HB2	2.43	0.48
9:1:65:PHE:CE2	13:5:58:LYS:CD	2.96	0.48
10:2:24:ARG:HG3	10:2:88:GLY:HA3	1.94	0.48
10:2:52:PHE:CD1	10:2:56:LYS:HE2	2.48	0.48
11:3:12:ARG:HD2	20:X:571:A:H2	1.79	0.48
18:I:5:ILE:CD1	20:X:1325:C:H42	2.25	0.48
20:X:24:C:H6	20:X:24:C:H5''	1.78	0.48
20:X:405:A:N3	20:X:405:A:C2'	2.75	0.48
20:X:878:C:H1'	20:X:883:A:H2	1.78	0.48
20:X:1460:C:N4	20:X:1465:A:N7	2.60	0.48
20:X:1527:C:O2	20:X:1527:C:H2'	2.12	0.48
23:K:67:VAL:HG23	47:Y:2339:U:OP1	2.13	0.48
26:N:24:VAL:HG22	26:N:39:ILE:HG22	1.94	0.48
27:O:125:ALA:HB3	27:O:128:PHE:HE1	1.77	0.48
37:b:35:ASP:HA	37:b:75:VAL:HG23	1.95	0.48
47:Y:1875:A:H2'	47:Y:1875:A:N3	2.28	0.48
47:Y:2257:G:H2'	47:Y:2258:U:C6	2.48	0.48
47:Y:2435:U:H2'	47:Y:2436:G:C8	2.47	0.48
47:Y:2679:U:H2'	47:Y:2680:U:C6	2.48	0.48
47:Y:2818:A:H8	47:Y:2818:A:H5''	1.77	0.48
1:C:57:G:H5''	1:C:58:G:N7	2.29	0.48
1:C:58:G:H2'	1:C:59:U:C6	2.48	0.48
2:B:23:TYR:HA	9:1:13:TYR:HH	1.73	0.48
6:G:78:ARG:NE	20:X:1390:G:C1'	2.75	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:47:LYS:HG2	7:F:65:LYS:NZ	2.29	0.48
7:F:47:LYS:HD3	7:F:63:PHE:C	2.38	0.48
11:3:74:ILE:HG23	11:3:76:ILE:HD11	1.95	0.48
13:5:36:LYS:HE2	13:5:37:PHE:HE1	1.78	0.48
17:9:67:SER:O	17:9:71:ALA:N	2.39	0.48
20:X:16:G:H2'	20:X:17:A:C8	2.48	0.48
20:X:179:A:N6	20:X:209:G:N7	2.61	0.48
20:X:246:G:N3	20:X:246:G:C2'	2.76	0.48
20:X:256:C:H6	20:X:256:C:H3'	1.77	0.48
20:X:719:G:H4'	20:X:720:A:N7	2.29	0.48
20:X:821:U:H3'	20:X:821:U:C6	2.48	0.48
20:X:860:U:H6	20:X:862:A:H5''	1.78	0.48
20:X:897:G:H3'	20:X:898:G:C8	2.48	0.48
20:X:898:G:H2'	20:X:899:A:H5'	1.94	0.48
20:X:932:G:H8	20:X:932:G:O5'	1.96	0.48
20:X:956:A:O3'	20:X:1344:A:O2'	2.31	0.48
22:J:108:LEU:HD12	22:J:108:LEU:C	2.39	0.48
23:K:70:ALA:HB1	23:K:75:ALA:CB	2.41	0.48
25:M:43:VAL:CG1	31:S:68:ALA:CB	2.81	0.48
44:j:4:MET:HE2	47:Y:635:G:H21	1.78	0.48
47:Y:897:A:H2'	47:Y:898:U:C6	2.49	0.48
47:Y:1459:A:C2	47:Y:1632:A:H2'	2.48	0.48
4:D:70:ASP:C	4:D:71:LEU:HD12	2.38	0.48
6:G:28:ASN:HB2	20:X:1385:A:O2'	2.14	0.48
6:G:36:ARG:CG	20:X:1384:G:H5''	2.43	0.48
7:F:39:ILE:HB	7:F:105:LEU:HG	1.95	0.48
8:H:22:ARG:CA	20:X:1142:A:N1	2.76	0.48
11:3:8:VAL:HG11	16:8:33:HIS:CD2	2.49	0.48
11:3:79:TYR:HB2	11:3:103:LEU:HD23	1.95	0.48
12:4:17:ILE:CB	12:4:27:THR:C	2.86	0.48
13:5:41:ARG:NH1	20:X:1213:U:N3	2.60	0.48
17:9:38:ILE:HD11	17:9:73:LEU:HD13	1.95	0.48
18:I:13:GLU:O	18:I:17:LYS:HB2	2.13	0.48
19:A:29:ARG:HG2	20:X:1470:C:H5'	1.95	0.48
19:A:79:MET:SD	19:A:79:MET:C	2.97	0.48
20:X:228:A:H2'	20:X:229:C:C6	2.49	0.48
20:X:332:G:H21	20:X:335:A:H8	1.59	0.48
20:X:631:C:H5''	20:X:631:C:C6	2.48	0.48
20:X:736:A:H2'	20:X:737:A:C8	2.48	0.48
20:X:1361:A:C2'	20:X:1361:A:N3	2.76	0.48
30:R:35:ARG:NH2	30:R:40:ILE:HB	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:T:19:THR:HG21	47:Y:2313:A:H61	1.78	0.48
47:Y:1548:U:H3'	47:Y:1548:U:H6	1.77	0.48
47:Y:2692:A:H2'	47:Y:2694:C:N4	2.28	0.48
1:C:70:G:H2'	1:C:100:A:H61	1.78	0.48
2:B:50:SER:HA	2:B:114:LEU:HB3	1.95	0.48
2:B:149:LYS:HG3	2:B:200:TRP:HB2	1.95	0.48
3:I:82:HIS:CE1	3:I:85:ASN:HB3	2.48	0.48
5:E:80:ALA:HB3	5:E:89:TYR:CD2	2.48	0.48
5:E:82:ILE:HG13	5:E:83:SER:H	1.77	0.48
6:G:95:ARG:HH21	20:X:1389:C:P	2.37	0.48
8:H:6:VAL:HA	8:H:25:PRO:HD3	1.95	0.48
11:3:6:GLN:HA	11:3:9:ARG:CG	2.43	0.48
11:3:73:ASN:O	20:X:1493:U:OP1	2.32	0.48
14:6:27:VAL:HA	14:6:30:ALA:HB3	1.95	0.48
14:6:54:ARG:O	14:6:58:LYS:HG3	2.13	0.48
20:X:44:C:H2'	20:X:45:G:C8	2.48	0.48
20:X:100:A:H2'	20:X:101:G:C4	2.48	0.48
20:X:168:G:O5'	20:X:168:G:H8	1.97	0.48
20:X:364:A:H3'	20:X:365:G:H8	1.78	0.48
20:X:644:U:H3'	20:X:644:U:C6	2.47	0.48
20:X:824:A:H8	20:X:824:A:H3'	1.78	0.48
20:X:910:A:H2'	20:X:911:A:C8	2.47	0.48
20:X:1141:C:N4	20:X:1153:G:N7	2.61	0.48
20:X:1187:A:N3	20:X:1187:A:C3'	2.73	0.48
20:X:1261:A:H8	20:X:1261:A:OP2	1.95	0.48
20:X:1382:G:H3'	20:X:1383:U:C5	2.48	0.48
20:X:1501:G:C2	20:X:1502:U:H1'	2.48	0.48
24:L:109:TYR:CE2	47:Y:2694:C:H1'	2.49	0.48
47:Y:362:C:H42	47:Y:366:G:H1	1.61	0.48
47:Y:1491:C:H3'	47:Y:1491:C:C6	2.46	0.48
47:Y:1548:U:C6	47:Y:1548:U:C3'	2.96	0.48
8:H:52:GLN:C	8:H:54:PHE:N	2.71	0.48
10:2:24:ARG:HB3	10:2:31:ILE:HB	1.95	0.48
10:2:31:ILE:HG22	10:2:33:THR:OG1	2.14	0.48
12:4:103:LYS:O	20:X:1236:A:OP1	2.32	0.48
13:5:22:THR:OG1	13:5:33:VAL:HG11	2.13	0.48
14:6:12:ILE:CD1	20:X:666:G:H4'	2.44	0.48
18:I:39:THR:HG22	18:I:40:ILE:H	1.78	0.48
18:I:69:HIS:HE1	20:X:1331:C:OP1	1.91	0.48
20:X:530:C:H3'	20:X:531:A:C8	2.46	0.48
20:X:731:U:H3'	20:X:732:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:821:U:C6	20:X:821:U:C3'	2.96	0.48
20:X:1229:U:H6	20:X:1229:U:H5''	1.79	0.48
20:X:1361:A:N3	20:X:1361:A:H2'	2.29	0.48
23:K:12:VAL:HB	23:K:16:LEU:HD12	1.96	0.48
23:K:51:ASP:O	23:K:54:VAL:HG22	2.14	0.48
23:K:64:LYS:HB3	23:K:78:ARG:O	2.13	0.48
23:K:87:ALA:HB1	23:K:92:ARG:CB	2.43	0.48
47:Y:318:A:N3	47:Y:318:A:C2'	2.73	0.48
2:B:175:HIS:HB3	20:X:1122:A:N6	2.29	0.48
4:D:134:ILE:HD13	20:X:18:U:O2'	2.13	0.48
6:G:95:ARG:HD3	20:X:1389:C:N1	2.29	0.48
6:G:96:ARG:O	6:G:96:ARG:NH2	2.44	0.48
12:4:16:VAL:HG21	12:4:31:GLN:CG	2.36	0.48
20:X:134:A:N3	20:X:134:A:H2'	2.29	0.48
20:X:524:U:H3'	20:X:524:U:O2	2.13	0.48
20:X:609:G:H1'	20:X:610:A:C8	2.49	0.48
20:X:720:A:H8	20:X:720:A:O5'	1.97	0.48
20:X:733:G:H2'	20:X:734:C:H5	1.79	0.48
20:X:1204:G:H2'	20:X:1205:U:C6	2.48	0.48
22:J:45:ARG:HD2	47:Y:489:A:C5	2.49	0.48
36:a:21:LEU:C	36:a:26:LYS:HZ3	2.16	0.48
39:d:13:GLU:OE1	39:d:13:GLU:HA	2.14	0.48
47:Y:103:U:O5'	47:Y:103:U:H6	1.97	0.48
47:Y:260:A:H2'	47:Y:261:C:H5'	1.95	0.48
47:Y:1157:U:H3'	47:Y:1157:U:H6	1.79	0.48
47:Y:1522:G:H2'	47:Y:1523:G:C8	2.48	0.48
47:Y:1619:A:H2'	47:Y:1620:G:C8	2.47	0.48
47:Y:2559:G:H2'	47:Y:2560:U:C6	2.48	0.48
47:Y:2812:U:H2'	47:Y:2813:U:C6	2.49	0.48
2:B:8:ILE:CG2	13:5:50:LYS:HB2	2.40	0.48
3:l:69:ARG:HH21	3:l:199:SER:HA	1.79	0.48
4:D:92:GLY:HA2	4:D:130:SER:HB3	1.94	0.48
8:H:22:ARG:HA	20:X:1142:A:C6	2.49	0.48
13:5:14:GLN:HG2	13:5:19:ARG:CZ	2.44	0.48
20:X:230:U:H3'	20:X:230:U:C6	2.44	0.48
20:X:451:U:H3'	20:X:451:U:H6	1.79	0.48
20:X:675:G:H4'	20:X:675:G:OP1	2.14	0.48
20:X:762:C:H3'	20:X:762:C:O2	2.14	0.48
20:X:945:A:H5''	20:X:947:A:N7	2.29	0.48
20:X:958:C:O2'	20:X:1336:C:P	2.71	0.48
20:X:1186:G:H2'	20:X:1187:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1326:U:O2	20:X:1326:U:H3'	2.14	0.48
23:K:54:VAL:HG12	23:K:85:ILE:HD13	1.95	0.48
28:P:43:THR:C	28:P:45:ARG:H	2.20	0.48
30:R:77:GLY:O	30:R:107:ALA:HB3	2.14	0.48
30:R:86:ASP:CG	30:R:87:LYS:H	2.22	0.48
34:W:64:ARG:NE	47:Y:1373:U:OP2	2.46	0.48
47:Y:639:U:H2'	47:Y:640:G:C8	2.49	0.48
47:Y:2225:A:N7	47:Y:2252:A:N6	2.60	0.48
47:Y:2772:C:H2'	47:Y:2773:U:C6	2.48	0.48
1:C:11:A:H4'	1:C:13:A:C8	2.49	0.48
9:1:15:HIS:CD2	9:1:15:HIS:H	2.31	0.48
9:1:41:PRO:HA	9:1:72:ARG:NE	2.29	0.48
20:X:483:C:H2'	20:X:484:A:C8	2.49	0.48
20:X:754:G:P	20:X:754:G:C8	3.07	0.48
20:X:968:A:C8	20:X:996:A:H4'	2.49	0.48
22:J:88:ILE:HD12	47:Y:1286:G:N2	2.28	0.48
43:i:42:VAL:HG23	43:i:42:VAL:O	2.13	0.48
47:Y:978:A:H2'	47:Y:979:C:C6	2.49	0.48
47:Y:1065:A:H3'	47:Y:1065:A:H8	1.78	0.48
47:Y:1065:A:H62	47:Y:1185:U:H3	1.61	0.48
47:Y:1219:G:H3'	47:Y:1219:G:H8	1.78	0.48
47:Y:1936:C:H6	47:Y:1936:C:H5''	1.79	0.48
2:B:20:ALA:O	13:5:54:PRO:HB3	2.13	0.48
2:B:198:LYS:HD3	2:B:200:TRP:HZ3	1.79	0.48
5:E:36:GLU:OE1	5:E:66:LYS:HB3	2.14	0.48
8:H:49:ASP:HA	8:H:52:GLN:HG2	1.96	0.48
14:6:12:ILE:O	14:6:27:VAL:HG21	2.14	0.48
19:A:67:HIS:O	19:A:71:ALA:HB2	2.14	0.48
20:X:122:C:OP2	20:X:122:C:H6	1.96	0.48
20:X:162:A:N3	20:X:162:A:C2'	2.77	0.48
20:X:246:G:N3	20:X:246:G:H3'	2.29	0.48
20:X:1109:C:OP2	20:X:1109:C:H6	1.97	0.48
20:X:1385:A:N3	20:X:1385:A:C2'	2.76	0.48
22:J:152:VAL:CG2	22:J:173:VAL:HG22	2.43	0.48
23:K:5:LYS:HA	23:K:8:PHE:CD2	2.42	0.48
24:L:67:THR:O	24:L:71:LEU:HG	2.14	0.48
37:b:44:ILE:HD13	37:b:66:THR:CG2	2.44	0.48
37:b:47:ARG:NH2	47:Y:2382:C:O2	2.47	0.48
45:k:4:ARG:HD2	47:Y:2493:C:OP1	2.14	0.48
47:Y:333:C:H2'	47:Y:334:A:C8	2.45	0.48
47:Y:665:G:H4'	47:Y:666:A:H5''	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:948:U:H2'	47:Y:949:C:C5	2.49	0.48
47:Y:1075:G:H2'	47:Y:1076:A:C8	2.48	0.48
47:Y:2329:U:H3	47:Y:2341:A:H61	1.61	0.48
2:B:78:LYS:C	2:B:80:GLY:H	2.22	0.47
2:B:173:PRO:HG2	2:B:181:ILE:HD11	1.95	0.47
3:l:51:LEU:HD12	3:l:51:LEU:HA	1.63	0.47
8:H:100:LEU:C	8:H:106:LEU:HD23	2.39	0.47
10:2:127:ARG:CD	20:X:701:G:OP1	2.53	0.47
11:3:83:ILE:CD1	20:X:528:A:H2'	2.44	0.47
18:I:5:ILE:CG1	20:X:1325:C:H42	2.22	0.47
18:I:6:LYS:HG3	18:I:7:LYS:H	1.78	0.47
19:A:47:ASN:C	19:A:49:LEU:H	2.22	0.47
20:X:971:U:H3'	20:X:971:U:O2	2.13	0.47
20:X:1260:C:O2	20:X:1260:C:H2'	2.14	0.47
20:X:1382:G:H5''	20:X:1383:U:C5	2.48	0.47
20:X:1444:A:N6	20:X:1481:A:N1	2.61	0.47
25:M:29:LEU:HD23	25:M:29:LEU:C	2.39	0.47
47:Y:232:U:C6	47:Y:233:U:H4'	2.49	0.47
47:Y:321:U:O2	47:Y:321:U:H2'	2.14	0.47
47:Y:703:A:H2'	47:Y:704:U:C6	2.48	0.47
47:Y:2442:G:H2'	47:Y:2443:C:C6	2.49	0.47
47:Y:2762:G:H2'	47:Y:2763:G:H8	1.79	0.47
2:B:13:GLY:HA2	2:B:18:TRP:H	1.79	0.47
2:B:22:TRP:HE1	2:B:56:ILE:HB	1.78	0.47
2:B:28:PHE:O	2:B:32:LEU:HD13	2.14	0.47
7:F:69:ASN:ND2	7:F:71:GLU:HB2	2.29	0.47
7:F:94:MET:HE3	7:F:95:PRO:CD	2.43	0.47
10:2:127:ARG:NH2	20:X:701:G:H1'	2.29	0.47
20:X:300:G:H2'	20:X:301:A:H5'	1.96	0.47
20:X:401:A:N3	20:X:401:A:C3'	2.77	0.47
20:X:532:G:N3	20:X:532:G:C2'	2.75	0.47
20:X:1105:A:N3	20:X:1105:A:C2'	2.77	0.47
20:X:1296:A:H3'	20:X:1296:A:OP2	2.14	0.47
20:X:1474:C:O5'	20:X:1474:C:H6	1.96	0.47
22:J:64:PRO:HB2	22:J:65:TRP:CE3	2.49	0.47
23:K:22:TYR:HB2	23:K:28:VAL:CG2	2.43	0.47
24:L:158:LYS:HA	24:L:171:ARG:NH2	2.29	0.47
47:Y:861:C:H2'	47:Y:862:C:C6	2.49	0.47
47:Y:1068:G:H5''	47:Y:1069:G:H2'	1.95	0.47
47:Y:2713:G:H2'	47:Y:2714:U:C6	2.48	0.47
1:C:60:C:H6	1:C:60:C:O5'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:85:LYS:HA	2:B:88:ASN:HB3	1.95	0.47
5:E:92:ILE:CD1	17:9:66:ARG:HD3	2.44	0.47
6:G:78:ARG:HD2	20:X:1392:U:H5	1.80	0.47
17:9:41:ARG:O	17:9:74:PRO:HG2	2.15	0.47
20:X:37:C:H2'	20:X:38:U:C6	2.49	0.47
20:X:558:G:C2	20:X:559:U:H1'	2.50	0.47
20:X:687:C:O2	20:X:687:C:H2'	2.12	0.47
20:X:1071:U:H3'	20:X:1071:U:O2	2.15	0.47
20:X:1323:G:N3	20:X:1323:G:C2'	2.78	0.47
20:X:1361:A:H5'	20:X:1362:U:C6	2.49	0.47
20:X:1376:G:H3'	20:X:1377:C:C6	2.49	0.47
20:X:1419:A:H8	20:X:1419:A:P	2.37	0.47
25:M:87:SER:O	25:M:87:SER:OG	2.16	0.47
27:O:128:PHE:CE2	27:O:143:HIS:HB2	2.49	0.47
30:R:31:LEU:HA	30:R:43:GLN:O	2.14	0.47
32:U:18:GLN:HG3	32:U:18:GLN:O	2.13	0.47
47:Y:108:A:H2'	47:Y:109:G:C8	2.49	0.47
47:Y:365:A:H1'	47:Y:383:A:C8	2.49	0.47
47:Y:379:C:O2	47:Y:379:C:H2'	2.13	0.47
47:Y:2812:U:H2'	47:Y:2813:U:H6	1.79	0.47
1:C:86:C:O2	1:C:86:C:H3'	2.14	0.47
5:E:17:ASP:OD1	5:E:18:ALA:N	2.48	0.47
5:E:50:TYR:CE2	17:9:75:TYR:HB2	2.50	0.47
8:H:7:GLU:CB	8:H:23:LEU:HB2	2.43	0.47
12:4:87:ARG:HH12	12:4:98:ARG:HD2	1.79	0.47
13:5:18:VAL:HG21	20:X:1371:A:C5	2.49	0.47
20:X:116:G:N2	20:X:322:C:H1'	2.30	0.47
20:X:693:G:H2'	20:X:694:U:C6	2.49	0.47
20:X:811:G:H2'	20:X:812:U:H6	1.79	0.47
20:X:860:U:H2'	20:X:862:A:C5'	2.45	0.47
20:X:1006:A:H2'	20:X:1007:U:H6	1.79	0.47
20:X:1349:G:H5''	20:X:1351:A:H62	1.79	0.47
20:X:1414:C:H2'	20:X:1415:C:C5	2.49	0.47
20:X:1425:C:N4	20:X:1426:G:N3	2.62	0.47
21:e:158:SER:HB2	47:Y:2599:A:C8	2.50	0.47
27:O:61:LEU:O	44:j:12:LYS:HD3	2.15	0.47
33:V:44:SER:N	33:V:45:PRO:CD	2.77	0.47
41:g:29:GLU:HG2	41:g:36:TYR:CE1	2.49	0.47
47:Y:394:U:H3'	47:Y:395:U:H4'	1.97	0.47
47:Y:566:U:H2'	47:Y:567:G:C8	2.49	0.47
47:Y:1160:C:H2'	47:Y:1161:A:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:1386:U:H2'	47:Y:1387:C:H5''	1.96	0.47
47:Y:1961:C:O2	47:Y:1961:C:H2'	2.14	0.47
47:Y:2224:U:H2'	47:Y:2225:A:H5''	1.96	0.47
1:C:9:C:H2'	1:C:13:A:N6	2.29	0.47
4:D:39:VAL:CG2	4:D:47:GLY:H	2.27	0.47
11:3:2:PRO:HA	20:X:575:G:N1	2.23	0.47
11:3:57:LYS:HB2	11:3:58:PRO:HD3	1.97	0.47
12:4:31:GLN:HA	12:4:34:LEU:HD13	1.95	0.47
20:X:14:U:H5	20:X:21:U:O4	1.96	0.47
20:X:21:U:OP2	20:X:21:U:H6	1.97	0.47
20:X:211:A:N3	20:X:211:A:C2'	2.78	0.47
20:X:271:A:H2'	20:X:271:A:N3	2.29	0.47
20:X:299:C:H2'	20:X:313:G:H22	1.79	0.47
20:X:353:C:H3'	20:X:353:C:O2	2.15	0.47
20:X:621:C:H3'	20:X:621:C:H6	1.80	0.47
20:X:651:C:H6	20:X:651:C:P	2.38	0.47
20:X:736:A:H8	20:X:736:A:O5'	1.96	0.47
20:X:966:U:C3'	20:X:966:U:C6	2.98	0.47
20:X:1123:A:H3'	20:X:1123:A:C8	2.49	0.47
20:X:1132:C:H6	20:X:1132:C:O5'	1.97	0.47
20:X:1370:C:H3'	20:X:1370:C:C6	2.48	0.47
21:e:20:GLY:O	26:N:73:ASP:HA	2.15	0.47
23:K:40:VAL:HG12	23:K:41:GLY:N	2.29	0.47
40:f:12:VAL:HG22	40:f:20:ARG:HG3	1.96	0.47
47:Y:360:A:H4'	47:Y:360:A:OP1	2.14	0.47
47:Y:2501:U:O2	47:Y:2501:U:H2'	2.14	0.47
47:Y:2668:A:H2'	47:Y:2669:G:H8	1.80	0.47
5:E:50:TYR:HE2	17:9:75:TYR:HB2	1.79	0.47
6:G:95:ARG:NH2	20:X:1388:A:O5'	2.47	0.47
10:2:31:ILE:HG13	20:X:697:C:P	2.55	0.47
11:3:96:ARG:HB3	11:3:109:HIS:CB	2.44	0.47
15:7:40:TYR:CZ	15:7:74:ILE:HG12	2.50	0.47
20:X:20:C:H1'	20:X:874:A:C2	2.48	0.47
20:X:115:A:N3	20:X:115:A:C2'	2.75	0.47
20:X:260:U:H2'	20:X:261:U:C6	2.49	0.47
20:X:289:G:H4'	20:X:290:A:H5'	1.96	0.47
20:X:588:C:H3'	20:X:589:G:C8	2.50	0.47
20:X:1244:G:H2'	20:X:1245:C:C6	2.49	0.47
20:X:1335:A:H2'	20:X:1336:C:C2	2.50	0.47
20:X:1506:G:H8	20:X:1506:G:OP1	1.98	0.47
22:J:116:PHE:CD1	22:J:116:PHE:C	2.93	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:O:32:GLY:HA2	47:Y:1229:G:OP1	2.15	0.47
27:O:120:LYS:HA	27:O:139:LYS:CB	2.44	0.47
28:P:73:PRO:HB3	28:P:93:TRP:CZ3	2.49	0.47
31:S:47:PHE:C	31:S:47:PHE:CD1	2.92	0.47
40:f:13:ILE:HD11	47:Y:1033:G:C6	2.49	0.47
47:Y:110:A:H2'	47:Y:111:U:C6	2.49	0.47
47:Y:483:C:H2'	47:Y:484:U:C6	2.49	0.47
47:Y:916:U:H2'	47:Y:917:U:C6	2.50	0.47
47:Y:1330:U:H2'	47:Y:1331:C:C6	2.50	0.47
47:Y:1333:A:H2'	47:Y:1334:C:C6	2.49	0.47
47:Y:1516:C:H2'	47:Y:1517:A:C8	2.49	0.47
47:Y:2550:G:H2'	47:Y:2551:G:C8	2.49	0.47
2:B:23:TYR:CE1	9:1:11:LYS:HD3	2.50	0.47
2:B:58:ARG:NH2	2:B:96:LYS:HA	2.20	0.47
2:B:123:LEU:O	2:B:129:PHE:HB3	2.15	0.47
7:F:94:MET:SD	7:F:127:ILE:HD12	2.54	0.47
8:H:56:VAL:HG21	8:H:105:LEU:HB2	1.97	0.47
9:1:12:ALA:CB	9:1:17:VAL:HG23	2.45	0.47
10:2:34:ILE:O	10:2:42:LEU:HD22	2.14	0.47
11:3:25:ASN:OD1	11:3:39:ASN:HA	2.15	0.47
12:4:30:ALA:O	12:4:34:LEU:HD12	2.14	0.47
12:4:99:GLY:C	12:4:101:LYS:H	2.22	0.47
14:6:51:HIS:CD2	14:6:54:ARG:HH22	2.24	0.47
15:7:71:VAL:HG13	15:7:74:ILE:HD12	1.97	0.47
15:7:76:SER:N	20:X:483:C:OP1	2.47	0.47
19:A:12:LYS:O	19:A:16:LYS:HE3	2.14	0.47
20:X:458:G:H2'	20:X:459:A:C8	2.50	0.47
20:X:648:A:N3	20:X:648:A:C3'	2.76	0.47
20:X:660:U:O5'	20:X:660:U:H6	1.98	0.47
20:X:733:G:H2'	20:X:734:C:C5	2.49	0.47
20:X:958:C:C2'	20:X:1336:C:P	3.03	0.47
20:X:997:A:N6	20:X:1227:A:H61	2.12	0.47
20:X:1066:C:H5'	20:X:1066:C:H6	1.78	0.47
20:X:1069:G:H3'	20:X:1070:G:H8	1.79	0.47
20:X:1209:A:H2'	20:X:1210:U:C5	2.49	0.47
20:X:1264:G:C5	20:X:1265:G:H1'	2.49	0.47
20:X:1452:G:N3	20:X:1452:G:C3'	2.73	0.47
20:X:1532:G:H2'	20:X:1533:G:C8	2.50	0.47
21:e:182:ASN:CG	47:Y:2758:G:OP1	2.57	0.47
23:K:6:GLU:C	23:K:10:THR:HG23	2.39	0.47
26:N:66:LYS:HB2	26:N:66:LYS:HE3	1.66	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:R:33:VAL:HG12	30:R:42:ALA:HA	1.96	0.47
36:a:29:ALA:HB3	36:a:41:VAL:HG23	1.96	0.47
42:T:9:CYS:O	42:T:9:CYS:SG	2.73	0.47
42:T:19:THR:CG2	47:Y:2313:A:H61	2.28	0.47
47:Y:1607:A:H2'	47:Y:1608:C:C6	2.50	0.47
47:Y:1973:U:O5'	47:Y:1973:U:H6	1.98	0.47
47:Y:2361:U:C2'	47:Y:2362:A:H4'	2.45	0.47
47:Y:2730:C:H2'	47:Y:2731:C:C5	2.49	0.47
47:Y:2783:U:H1'	47:Y:2784:A:H8	1.80	0.47
1:C:42:G:N7	46:h:1:MET:SD	2.88	0.47
2:B:4:LYS:HD2	2:B:174:LEU:HD13	1.97	0.47
4:D:81:THR:HG22	4:D:82:PRO:HD2	1.96	0.47
4:D:86:THR:CG2	4:D:128:LEU:HD13	2.45	0.47
4:D:132:THR:CG2	4:D:135:ASN:HB2	2.42	0.47
6:G:18:HIS:CE1	6:G:59:LEU:HD22	2.49	0.47
8:H:53:PRO:HB2	8:H:85:ILE:HD13	1.97	0.47
12:4:92:ARG:HA	12:4:92:ARG:HD2	1.53	0.47
20:X:18:U:H2'	20:X:19:C:H5'	1.97	0.47
20:X:292:G:H3'	20:X:293:C:H6	1.78	0.47
20:X:364:A:H3'	20:X:365:G:C8	2.49	0.47
20:X:517:A:N3	20:X:517:A:H5''	2.29	0.47
20:X:529:G:H2'	20:X:529:G:N3	2.30	0.47
20:X:757:A:H8	20:X:757:A:O5'	1.98	0.47
20:X:1169:C:O2	20:X:1169:C:O2'	2.32	0.47
23:K:4:LEU:O	23:K:8:PHE:N	2.43	0.47
23:K:22:TYR:HD2	23:K:27:GLU:C	2.23	0.47
25:M:1:MET:HE1	47:Y:581:A:OP1	2.10	0.47
47:Y:6:A:H2'	47:Y:7:G:C8	2.49	0.47
47:Y:623:C:H2'	47:Y:624:C:C6	2.50	0.47
47:Y:861:C:H2'	47:Y:862:C:H6	1.79	0.47
47:Y:1423:C:H4'	47:Y:1513:A:H4'	1.96	0.47
47:Y:1500:G:OP2	47:Y:1500:G:H8	1.98	0.47
47:Y:1507:A:H2'	47:Y:1508:C:H6	1.79	0.47
47:Y:2237:U:C6	47:Y:2239:A:H5''	2.50	0.47
47:Y:2268:A:H2'	47:Y:2269:G:C8	2.50	0.47
1:C:114:C:H6	1:C:114:C:OP2	1.98	0.47
2:B:22:TRP:O	9:1:13:TYR:HE2	1.98	0.47
2:B:119:ILE:O	2:B:123:LEU:HD22	2.14	0.47
3:l:121:VAL:C	3:l:123:GLY:H	2.23	0.47
7:F:37:ALA:HB3	7:F:49:VAL:HG11	1.97	0.47
7:F:66:TYR:HA	7:F:73:VAL:HG21	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:106:VAL:HG23	7:F:128:ILE:HG21	1.91	0.47
12:4:91:HIS:HA	12:4:96:PRO:HG2	1.97	0.47
13:5:13:LYS:NZ	13:5:15:LYS:HA	2.30	0.47
13:5:47:LEU:HD23	13:5:52:GLN:NE2	2.20	0.47
17:9:65:LYS:HG2	20:X:728:C:N4	2.30	0.47
20:X:140:A:H3'	20:X:140:A:C8	2.50	0.47
20:X:708:G:H2'	20:X:708:G:N3	2.30	0.47
20:X:1066:C:P	20:X:1066:C:H3'	2.55	0.47
20:X:1381:G:C8	20:X:1381:G:C5'	2.86	0.47
23:K:99:PHE:O	23:K:102:LYS:HG3	2.15	0.47
38:c:40:VAL:HG12	38:c:45:LYS:NZ	2.30	0.47
47:Y:185:A:C2'	47:Y:186:C:H5'	2.45	0.47
47:Y:950:A:C2	47:Y:951:G:H1'	2.50	0.47
47:Y:1482:U:C3'	47:Y:1482:U:C6	2.97	0.47
47:Y:2730:C:O2'	47:Y:2730:C:O2	2.33	0.47
2:B:38:ILE:HG21	2:B:96:LYS:HG3	1.97	0.47
3:l:68:PHE:C	3:l:70:ASN:H	2.23	0.47
7:F:37:ALA:HB1	7:F:46:ILE:HD13	1.96	0.47
9:1:41:PRO:HA	9:1:72:ARG:HE	1.80	0.47
9:1:65:PHE:CD2	13:5:58:LYS:CD	2.98	0.47
11:3:9:ARG:HH22	16:8:40:VAL:HG11	1.80	0.47
12:4:27:THR:HG21	20:X:1313:U:C4'	2.45	0.47
20:X:294:A:H2'	20:X:295:U:C6	2.50	0.47
20:X:361:A:H2'	20:X:361:A:N3	2.30	0.47
20:X:644:U:H2'	20:X:645:U:C2	2.50	0.47
20:X:845:G:H4'	20:X:845:G:OP1	2.14	0.47
20:X:1407:A:C1'	20:X:1409:A:H1'	2.44	0.47
20:X:1438:C:O2	20:X:1438:C:H3'	2.15	0.47
20:X:1534:U:H2'	20:X:1535:G:C8	2.50	0.47
22:J:66:LYS:HB2	22:J:66:LYS:HE3	1.62	0.47
22:J:165:LEU:HD13	47:Y:364:A:N3	2.30	0.47
23:K:16:LEU:O	23:K:28:VAL:HG12	2.15	0.47
47:Y:153:G:H1'	47:Y:177:G:N2	2.30	0.47
47:Y:1465:G:N3	47:Y:1465:G:H2'	2.29	0.47
47:Y:1830:A:H3'	47:Y:1831:A:H8	1.79	0.47
47:Y:1912:A:H5''	47:Y:1913:U:H5	1.80	0.47
1:C:78:C:H2'	1:C:79:C:C6	2.50	0.46
6:G:117:GLU:HB3	20:X:1251:U:OP2	2.11	0.46
7:F:15:ARG:HD3	7:F:16:ASN:HD21	1.80	0.46
7:F:69:ASN:HD22	7:F:71:GLU:HB2	1.80	0.46
10:2:88:GLY:H	10:2:115:PRO:CD	2.27	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:5:13:LYS:HD2	13:5:13:LYS:HA	1.55	0.46
18:I:40:ILE:HG23	18:I:44:PHE:CE1	2.50	0.46
20:X:14:U:H4'	20:X:15:U:H5'	1.96	0.46
20:X:67:G:H1'	20:X:173:U:C4	2.49	0.46
20:X:260:U:H6	20:X:260:U:O5'	1.98	0.46
20:X:1110:C:H3'	20:X:1110:C:C6	2.46	0.46
20:X:1147:U:H3'	20:X:1147:U:H6	1.79	0.46
20:X:1351:A:N3	20:X:1351:A:H3'	2.30	0.46
21:e:108:ASP:OD1	21:e:108:ASP:N	2.49	0.46
21:e:154:VAL:HG23	21:e:154:VAL:O	2.15	0.46
26:N:68:GLY:HA3	26:N:78:LYS:HE2	1.98	0.46
47:Y:1194:U:O2	47:Y:1194:U:H2'	2.15	0.46
47:Y:1461:C:H6	47:Y:1461:C:C5'	2.27	0.46
47:Y:1522:G:H4'	47:Y:1607:A:H1'	1.97	0.46
47:Y:2052:C:H2'	47:Y:2053:U:C6	2.49	0.46
5:E:93:ARG:NH2	20:X:745:U:H5	2.13	0.46
7:F:16:ASN:ND2	20:X:885:C:H1'	2.31	0.46
10:2:26:THR:O	10:2:27:PHE:C	2.57	0.46
15:7:84:PHE:CD2	20:X:138:A:H4'	2.50	0.46
18:I:47:HIS:H	18:I:62:VAL:CG2	2.29	0.46
18:I:50:ALA:HA	18:I:58:VAL:H	1.80	0.46
20:X:246:G:N3	20:X:246:G:H2'	2.29	0.46
20:X:371:A:H2'	20:X:372:A:C8	2.50	0.46
20:X:973:G:N3	20:X:973:G:H2'	2.29	0.46
20:X:1261:A:H2'	20:X:1262:A:H8	1.80	0.46
20:X:1487:G:C2'	20:X:1488:A:H5'	2.46	0.46
20:X:1514:A:H8	20:X:1514:A:OP1	1.98	0.46
21:e:96:VAL:HG22	21:e:96:VAL:O	2.16	0.46
30:R:40:ILE:HG13	30:R:41:TYR:N	2.30	0.46
35:Z:9:VAL:O	35:Z:20:GLU:HA	2.14	0.46
44:j:25:SER:O	44:j:26:ARG:HB2	2.15	0.46
47:Y:2778:G:H3'	47:Y:2779:C:C5	2.51	0.46
4:D:26:LYS:HD2	20:X:1398:G:H5'	1.97	0.46
7:F:5:ASP:HB2	20:X:887:C:O2	2.15	0.46
10:2:88:GLY:H	10:2:115:PRO:HD2	1.79	0.46
16:8:61:VAL:HA	16:8:80:ILE:HA	1.97	0.46
20:X:140:A:C8	20:X:140:A:C3'	2.98	0.46
20:X:521:A:H2'	20:X:522:C:C5	2.50	0.46
20:X:525:G:N2	20:X:538:G:OP1	2.48	0.46
20:X:565:G:H3'	20:X:566:G:C8	2.45	0.46
20:X:869:C:H3'	20:X:870:A:C8	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1166:U:H3'	20:X:1166:U:H6	1.80	0.46
20:X:1358:G:H4'	20:X:1359:U:C6	2.50	0.46
22:J:155:VAL:CB	22:J:194:ILE:HG23	2.45	0.46
28:P:35:GLN:HG3	28:P:102:ILE:HD13	1.96	0.46
28:P:133:LYS:HG2	28:P:133:LYS:O	2.15	0.46
30:R:30:ARG:CZ	30:R:91:GLU:HG3	2.45	0.46
47:Y:2790:G:OP1	47:Y:2790:G:H4'	2.15	0.46
2:B:149:LYS:HG2	2:B:172:VAL:HB	1.96	0.46
7:F:90:LYS:HD2	7:F:92:SER:HB2	1.98	0.46
11:3:48:THR:HG21	11:3:69:ARG:HE	1.80	0.46
15:7:13:LYS:HB3	15:7:14:ARG:H	1.54	0.46
15:7:84:PHE:CE2	20:X:138:A:H4'	2.50	0.46
16:8:13:LYS:HG3	16:8:14:VAL:N	2.30	0.46
20:X:320:C:H2'	20:X:321:A:N7	2.30	0.46
20:X:721:G:H5''	20:X:723:A:N1	2.30	0.46
20:X:819:C:H1'	20:X:910:A:H61	1.80	0.46
25:M:122:LYS:HB2	25:M:122:LYS:HE2	1.75	0.46
34:W:55:ILE:HD12	34:W:76:ARG:NH1	2.31	0.46
35:Z:41:MET:O	35:Z:43:LYS:N	2.44	0.46
39:d:17:GLN:O	39:d:20:SER:OG	2.30	0.46
47:Y:277:C:H3'	47:Y:277:C:O2	2.14	0.46
47:Y:639:U:H2'	47:Y:640:G:H8	1.80	0.46
47:Y:1479:G:C5'	47:Y:1479:G:C8	2.97	0.46
47:Y:1852:G:H2'	47:Y:1853:C:C6	2.51	0.46
47:Y:1888:U:H3'	47:Y:1889:G:C8	2.50	0.46
47:Y:2225:A:H2'	47:Y:2226:A:H5'	1.96	0.46
2:B:53:HIS:CE1	2:B:68:HIS:CE1	3.03	0.46
2:B:123:LEU:HB2	2:B:129:PHE:HB2	1.96	0.46
7:F:19:MET:HB3	20:X:871:G:H4'	1.96	0.46
11:3:28:PHE:HE1	11:3:33:LYS:O	1.98	0.46
20:X:229:C:C6	20:X:229:C:C5'	2.85	0.46
20:X:246:G:OP1	20:X:246:G:H4'	2.15	0.46
20:X:355:G:H21	20:X:356:G:H1'	1.81	0.46
20:X:1160:C:H5''	20:X:1161:U:C5	2.50	0.46
20:X:1393:C:H2'	20:X:1394:C:H5'	1.98	0.46
20:X:1409:A:OP2	20:X:1409:A:H8	1.97	0.46
20:X:1447:C:O5'	20:X:1447:C:H6	1.99	0.46
24:L:83:TYR:O	24:L:138:LYS:HD3	2.15	0.46
28:P:68:ILE:HD13	28:P:68:ILE:HA	1.85	0.46
31:S:4:VAL:HG11	47:Y:1287:U:C4'	2.45	0.46
36:a:79:PHE:HA	36:a:86:ILE:HD12	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:a:83:LYS:NZ	47:Y:1163:U:P	2.89	0.46
42:T:41:LYS:HD3	42:T:42:TYR:N	2.31	0.46
47:Y:1870:C:H2'	47:Y:1871:U:C6	2.51	0.46
47:Y:2767:A:H2'	47:Y:2768:A:C8	2.51	0.46
5:E:45:LYS:HB2	5:E:59:PHE:CE1	2.50	0.46
6:G:20:SER:HB3	6:G:23:VAL:CG2	2.45	0.46
8:H:95:GLU:HG3	8:H:96:TYR:CD1	2.51	0.46
12:4:107:ARG:HE	12:4:111:GLY:HA3	1.80	0.46
20:X:308:A:C8	20:X:309:G:H1'	2.51	0.46
20:X:368:G:O5'	20:X:368:G:H8	1.99	0.46
20:X:398:C:H6	20:X:398:C:C5'	2.28	0.46
20:X:671:A:H2'	20:X:672:G:C4	2.50	0.46
20:X:1310:A:C4	20:X:1312:U:H1'	2.51	0.46
20:X:1373:C:O2	20:X:1373:C:H3'	2.15	0.46
20:X:1484:U:H6	20:X:1484:U:C5'	2.28	0.46
44:j:58:VAL:HG21	47:Y:636:A:O2'	2.15	0.46
47:Y:1001:A:C2	47:Y:1003:A:H1'	2.50	0.46
47:Y:1680:U:H2'	47:Y:1681:U:C6	2.50	0.46
47:Y:1728:C:H2'	47:Y:1729:C:H6	1.79	0.46
47:Y:2317:G:H2'	47:Y:2318:U:C6	2.50	0.46
1:C:51:A:H3'	1:C:51:A:OP2	2.15	0.46
4:D:37:VAL:HG21	4:D:60:ILE:HG23	1.97	0.46
5:E:4:TYR:CE2	5:E:70:ASN:HA	2.49	0.46
5:E:11:ARG:HD2	5:E:12:PRO:HD3	1.97	0.46
5:E:16:GLU:HA	5:E:19:LYS:HD3	1.98	0.46
5:E:32:THR:O	5:E:33:GLU:HB2	2.16	0.46
6:G:115:THR:HA	20:X:1250:A:C2'	2.45	0.46
9:1:56:HIS:ND1	20:X:1210:U:H5'	2.30	0.46
10:2:84:VAL:HG12	10:2:109:ALA:O	2.15	0.46
11:3:28:PHE:HB3	11:3:71:SER:HB2	1.98	0.46
13:5:34:TYR:O	13:5:38:LYS:N	2.49	0.46
14:6:9:ASN:HA	14:6:12:ILE:CG2	2.45	0.46
15:7:32:ARG:HD3	20:X:318:G:C1'	2.35	0.46
19:A:13:THR:HA	19:A:16:LYS:HG2	1.97	0.46
20:X:546:U:H2'	20:X:547:A:C8	2.50	0.46
20:X:573:U:H3'	20:X:574:G:C8	2.49	0.46
20:X:734:C:O2	20:X:734:C:H2'	2.16	0.46
20:X:877:G:H1'	20:X:883:A:H61	1.79	0.46
20:X:898:G:OP2	20:X:898:G:H8	1.99	0.46
20:X:1154:G:H5''	20:X:1155:G:C4'	2.46	0.46
22:J:155:VAL:HG21	22:J:194:ILE:HG12	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:L:171:ARG:HD2	24:L:171:ARG:HA	1.68	0.46
27:O:122:THR:HA	27:O:141:GLY:CA	2.46	0.46
31:S:31:LEU:HB2	31:S:34:VAL:CG2	2.45	0.46
34:W:62:LYS:HA	34:W:62:LYS:HD2	1.54	0.46
47:Y:271:C:O2	47:Y:271:C:H2'	2.16	0.46
47:Y:362:C:H2'	47:Y:363:A:H5'	1.97	0.46
1:C:10:U:OP1	37:b:79:ARG:HD3	2.16	0.46
1:C:62:U:H3'	1:C:62:U:H6	1.80	0.46
3:l:8:ASN:O	3:l:10:LYS:N	2.49	0.46
5:E:91:VAL:O	20:X:744:U:O5'	2.33	0.46
8:H:31:THR:O	8:H:31:THR:OG1	2.30	0.46
12:4:23:TYR:CD2	12:4:71:ARG:HG3	2.50	0.46
20:X:62:G:N1	20:X:106:G:H1'	2.30	0.46
20:X:146:G:H2'	20:X:147:G:N3	2.30	0.46
20:X:966:U:H6	20:X:966:U:H3'	1.81	0.46
20:X:985:A:O4'	20:X:1369:U:C4'	2.63	0.46
20:X:1000:C:H2'	20:X:1001:U:C6	2.46	0.46
21:e:78:LYS:HE2	21:e:78:LYS:HB2	1.44	0.46
23:K:22:TYR:CD2	23:K:27:GLU:HG3	2.51	0.46
30:R:77:GLY:O	30:R:108:LEU:N	2.49	0.46
31:S:4:VAL:HG12	47:Y:1287:U:H5'	1.98	0.46
32:U:77:LYS:HD3	32:U:77:LYS:HA	1.54	0.46
47:Y:1357:G:H2'	47:Y:1357:G:O5'	2.16	0.46
47:Y:1469:G:H2'	47:Y:1470:G:C8	2.51	0.46
47:Y:1990:C:O2	47:Y:1990:C:H2'	2.16	0.46
2:B:68:HIS:CD2	2:B:68:HIS:H	2.34	0.46
7:F:7:ILE:HG21	7:F:36:ILE:HG13	1.98	0.46
9:1:57:LYS:CB	20:X:982:C:H2'	2.46	0.46
10:2:82:VAL:CG2	10:2:108:THR:H	2.25	0.46
11:3:49:ARG:HG2	11:3:50:VAL:H	1.81	0.46
11:3:83:ILE:CD1	20:X:529:G:H4'	2.45	0.46
11:3:83:ILE:HD12	20:X:529:G:H4'	1.98	0.46
11:3:126:GLY:C	11:3:128:SER:N	2.73	0.46
12:4:84:SER:HB3	12:4:90:ARG:HH21	1.79	0.46
16:8:35:LEU:C	16:8:36:TYR:HD1	2.24	0.46
20:X:163:C:C3'	20:X:163:C:C6	2.99	0.46
20:X:792:A:C2'	20:X:793:G:H5'	2.46	0.46
20:X:873:U:H2'	20:X:874:A:H2'	1.98	0.46
20:X:1169:C:C1'	20:X:1171:G:H5''	2.46	0.46
20:X:1263:A:H8	20:X:1263:A:O5'	1.99	0.46
20:X:1361:A:H5'	20:X:1362:U:H6	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:k:14:CYS:HB3	45:k:25:VAL:HG11	1.97	0.46
47:Y:702:U:H2'	47:Y:703:A:C8	2.50	0.46
47:Y:2316:G:H2'	47:Y:2317:G:C8	2.51	0.46
47:Y:2354:A:H2'	47:Y:2355:A:C8	2.51	0.46
2:B:36:LEU:CD1	13:5:26:ARG:HD3	2.46	0.46
4:D:58:GLU:HA	4:D:61:LYS:HG2	1.97	0.46
7:F:86:ARG:NH1	7:F:126:GLU:OE2	2.49	0.46
10:2:87:LYS:HG2	10:2:113:VAL:O	2.16	0.46
10:2:125:LYS:HD3	20:X:804:C:OP1	2.16	0.46
14:6:12:ILE:HG23	14:6:13:LYS:NZ	2.30	0.46
20:X:152:A:N3	20:X:152:A:C2'	2.75	0.46
20:X:502:C:OP1	20:X:502:C:H4'	2.16	0.46
20:X:509:C:H4'	20:X:557:C:HO2'	1.77	0.46
20:X:683:A:H3'	20:X:684:A:H5'	1.98	0.46
20:X:824:A:H3'	20:X:824:A:C8	2.51	0.46
20:X:878:C:H3'	20:X:879:A:C8	2.47	0.46
20:X:945:A:H3'	20:X:946:C:H5''	1.98	0.46
20:X:1057:C:N4	20:X:1222:U:H1'	2.31	0.46
20:X:1367:G:H8	20:X:1367:G:OP2	1.99	0.46
21:e:118:VAL:CG2	21:e:183:LEU:HD12	2.46	0.46
47:Y:828:A:N3	47:Y:828:A:C2'	2.78	0.46
47:Y:1466:G:H3'	47:Y:1467:G:H8	1.81	0.46
47:Y:1632:A:H3'	47:Y:1633:A:C4'	2.45	0.46
47:Y:2245:G:H8	47:Y:2245:G:O5'	1.99	0.46
47:Y:2705:U:H2'	47:Y:2706:A:C8	2.51	0.46
2:B:35:ASP:OD1	2:B:38:ILE:HD11	2.16	0.45
3:l:58:ARG:CD	20:X:553:C:OP1	2.42	0.45
4:D:80:THR:HA	4:D:120:ILE:HG13	1.98	0.45
6:G:115:THR:HA	20:X:1250:A:O2'	2.17	0.45
13:5:22:THR:OG1	13:5:33:VAL:HG13	2.14	0.45
20:X:259:G:N3	20:X:259:G:C2'	2.78	0.45
20:X:784:G:C4	20:X:784:G:OP2	2.70	0.45
20:X:951:G:H2'	20:X:951:G:N3	2.31	0.45
20:X:1055:G:N3	20:X:1055:G:C2'	2.72	0.45
20:X:1188:G:H3'	20:X:1188:G:N3	2.31	0.45
20:X:1315:G:H22	20:X:1343:A:H3'	1.81	0.45
37:b:33:ARG:HG2	37:b:33:ARG:HH11	1.81	0.45
38:c:35:LYS:HA	38:c:47:VAL:O	2.16	0.45
47:Y:1322:G:H8	47:Y:1322:G:O5'	1.98	0.45
47:Y:2319:U:H2'	47:Y:2320:C:C6	2.50	0.45
47:Y:2493:C:H2'	47:Y:2494:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:2792:A:N3	47:Y:2792:A:C2'	2.75	0.45
1:C:55:A:N3	23:K:27:GLU:HB2	2.30	0.45
6:G:30:ILE:HD11	6:G:104:LEU:HB3	1.97	0.45
11:3:10:LYS:CE	20:X:891:G:H5''	2.46	0.45
14:6:60:VAL:CG1	14:6:63:ARG:HH11	2.28	0.45
15:7:10:LEU:HD13	15:7:11:GLY:H	1.81	0.45
20:X:133:U:H3'	20:X:236:A:H61	1.80	0.45
20:X:773:G:N1	20:X:820:G:H2'	2.31	0.45
20:X:833:G:H8	20:X:833:G:H5''	1.82	0.45
20:X:935:G:H2'	20:X:937:G:C8	2.51	0.45
20:X:1337:U:H2'	20:X:1338:A:C8	2.51	0.45
20:X:1406:C:H3'	20:X:1407:A:C8	2.51	0.45
33:V:6:VAL:HG22	33:V:104:THR:HG23	1.98	0.45
42:T:41:LYS:CE	47:Y:2399:G:P	3.04	0.45
47:Y:2437:G:H3'	47:Y:2438:A:H8	1.81	0.45
4:D:93:SER:HB2	4:D:128:LEU:HD22	1.97	0.45
11:3:41:PRO:HG2	20:X:371:A:C6	2.51	0.45
11:3:56:LYS:CE	11:3:63:ARG:HH12	2.28	0.45
12:4:11:ARG:O	12:4:13:LYS:HG2	2.16	0.45
12:4:17:ILE:C	12:4:19:LEU:H	2.25	0.45
12:4:110:LYS:O	12:4:112:PRO:HD3	2.17	0.45
13:5:9:LYS:HZ3	13:5:21:TYR:HE1	1.63	0.45
20:X:18:U:N3	20:X:1092:A:N3	2.60	0.45
20:X:67:G:H2'	20:X:67:G:N3	2.31	0.45
20:X:422:A:H1'	20:X:423:A:H5''	1.98	0.45
20:X:562:U:H3'	20:X:562:U:H6	1.82	0.45
20:X:574:G:H8	20:X:574:G:O5'	1.99	0.45
20:X:628:C:O5'	20:X:628:C:H6	1.99	0.45
20:X:783:G:OP2	20:X:783:G:H3'	2.17	0.45
20:X:834:C:N4	20:X:882:A:H5''	2.31	0.45
20:X:1084:G:H2'	20:X:1085:U:H6	1.82	0.45
20:X:1086:G:N3	20:X:1086:G:C2'	2.73	0.45
22:J:50:ALA:HB2	22:J:94:PRO:HD3	1.98	0.45
24:L:106:ASN:HD21	24:L:112:PRO:HG3	1.81	0.45
33:V:60:HIS:ND1	33:V:60:HIS:C	2.73	0.45
45:k:8:LYS:HG2	47:Y:1076:A:OP1	2.17	0.45
47:Y:7:G:H2'	47:Y:8:U:H6	1.81	0.45
47:Y:1713:A:N3	47:Y:1713:A:C2'	2.79	0.45
47:Y:1761:G:C1'	47:Y:1762:U:H5'	2.46	0.45
1:C:49:G:C2'	1:C:50:A:H5'	2.47	0.45
6:G:71:PRO:HG3	6:G:138:ARG:HH21	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:40:LEU:HD11	7:F:103:ILE:HG21	1.99	0.45
9:1:73:LEU:HD13	9:1:73:LEU:HA	1.79	0.45
10:2:56:LYS:HA	10:2:59:THR:OG1	2.16	0.45
12:4:98:ARG:C	12:4:100:GLN:N	2.75	0.45
15:7:10:LEU:HD13	15:7:10:LEU:N	2.32	0.45
16:8:17:ASP:OD2	16:8:23:ILE:HA	2.15	0.45
20:X:495:A:H2'	20:X:495:A:N3	2.31	0.45
20:X:778:C:H2'	20:X:817:G:H1	1.81	0.45
20:X:1273:A:H2'	20:X:1274:A:H5'	1.98	0.45
24:L:5:GLY:HA2	24:L:65:HIS:CE1	2.51	0.45
27:O:54:GLN:OE1	47:Y:2455:G:C2	2.69	0.45
30:R:87:LYS:CA	30:R:113:ARG:HA	2.46	0.45
43:i:23:MET:HE2	47:Y:117:A:OP1	2.16	0.45
47:Y:332:A:H2'	47:Y:333:C:C6	2.52	0.45
47:Y:623:C:O5'	47:Y:623:C:H6	1.98	0.45
47:Y:2402:G:N2	47:Y:2404:A:H3'	2.32	0.45
1:C:32:U:C6	46:h:1:MET:SD	3.10	0.45
1:C:64:A:H61	1:C:105:G:H5'	1.81	0.45
7:F:13:ARG:HH22	20:X:834:C:H4'	1.81	0.45
9:1:40:ILE:C	20:X:1135:A:H4'	2.41	0.45
10:2:34:ILE:HG12	10:2:100:LEU:HD11	1.98	0.45
19:A:79:MET:CE	20:X:184:A:H4'	2.46	0.45
20:X:116:G:H21	20:X:322:C:H1'	1.82	0.45
20:X:255:G:H21	20:X:285:C:H42	1.64	0.45
20:X:647:G:O5'	20:X:647:G:H8	2.00	0.45
20:X:772:C:H2'	20:X:773:G:C8	2.51	0.45
20:X:1051:A:N7	20:X:1053:G:N1	2.60	0.45
20:X:1107:U:H2'	20:X:1108:C:H4'	1.99	0.45
20:X:1208:A:C2'	20:X:1209:A:H5'	2.46	0.45
20:X:1361:A:N3	20:X:1361:A:H3'	2.31	0.45
22:J:129:PHE:CD1	22:J:129:PHE:C	2.95	0.45
24:L:3:ARG:O	47:Y:2778:G:C4	2.70	0.45
24:L:70:ALA:HB1	47:Y:2774:G:C5'	2.46	0.45
27:O:39:LYS:HB3	27:O:39:LYS:HE2	1.53	0.45
28:P:73:PRO:HB3	28:P:93:TRP:CE3	2.51	0.45
37:b:34:ALA:HB2	47:Y:967:C:O2'	2.17	0.45
37:b:77:PHE:O	37:b:78:GLU:HG3	2.16	0.45
42:T:41:LYS:CE	47:Y:2398:G:O3'	2.64	0.45
47:Y:325:A:H2'	47:Y:326:A:C8	2.51	0.45
47:Y:420:A:H3'	47:Y:421:C:H6	1.81	0.45
47:Y:1540:U:H6	47:Y:1540:U:OP2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:2235:A:H8	47:Y:2235:A:O5'	1.98	0.45
2:B:13:GLY:CA	2:B:17:ASP:HA	2.46	0.45
2:B:36:LEU:HD11	13:5:26:ARG:HD3	1.98	0.45
2:B:94:THR:HG23	2:B:95:ASP:N	2.31	0.45
2:B:187:GLU:N	2:B:187:GLU:OE1	2.50	0.45
7:F:6:PRO:C	7:F:7:ILE:HG13	2.41	0.45
7:F:9:ASP:O	7:F:13:ARG:HG2	2.17	0.45
10:2:82:VAL:HG22	10:2:108:THR:N	2.27	0.45
18:I:50:ALA:HB1	18:I:57:HIS:HB2	1.98	0.45
20:X:453:G:H2'	20:X:453:G:N3	2.32	0.45
20:X:612:G:H1'	20:X:643:A:C6	2.52	0.45
20:X:697:C:H4'	20:X:714:A:H5'	1.99	0.45
20:X:773:G:H8	20:X:773:G:P	2.40	0.45
20:X:821:U:H2'	20:X:822:A:H5''	1.98	0.45
20:X:1000:C:H3'	20:X:1000:C:H6	1.82	0.45
20:X:1203:C:H3'	20:X:1204:G:H8	1.80	0.45
24:L:158:LYS:HD3	47:Y:2685:C:O2'	2.16	0.45
26:N:104:ARG:HG3	26:N:104:ARG:NH1	2.27	0.45
45:k:20:LYS:CE	47:Y:2783:U:H3'	2.45	0.45
47:Y:405:G:H8	47:Y:405:G:OP2	1.98	0.45
47:Y:1619:A:H2'	47:Y:1620:G:H8	1.82	0.45
47:Y:1958:U:H2'	47:Y:1959:A:C8	2.51	0.45
47:Y:2121:A:H2'	47:Y:2122:A:C8	2.52	0.45
47:Y:2321:C:H2'	47:Y:2322:C:C6	2.51	0.45
47:Y:2326:G:H8	47:Y:2326:G:O5'	2.00	0.45
4:D:97:LYS:HG2	4:D:98:PRO:HD2	1.99	0.45
5:E:11:ARG:HG2	5:E:85:ASP:OD1	2.16	0.45
7:F:82:LYS:HE2	7:F:82:LYS:HB2	1.77	0.45
14:6:26:GLU:HG2	14:6:81:LEU:HD11	1.99	0.45
18:I:9:PRO:O	18:I:10:PHE:HB2	2.16	0.45
18:I:52:TYR:HB3	18:I:58:VAL:CG2	2.47	0.45
20:X:782:G:H5''	20:X:782:G:H8	1.81	0.45
20:X:804:C:O2	20:X:804:C:H2'	2.15	0.45
21:e:52:GLY:HA3	21:e:85:LYS:HG3	1.98	0.45
35:Z:65:VAL:O	35:Z:65:VAL:HG22	2.17	0.45
45:k:14:CYS:HA	45:k:27:CYS:CB	2.46	0.45
47:Y:713:A:H2'	47:Y:715:A:H62	1.81	0.45
47:Y:1507:A:H2'	47:Y:1508:C:C6	2.52	0.45
47:Y:1603:U:H6	47:Y:1603:U:O5'	1.98	0.45
47:Y:1639:G:C2'	47:Y:1640:U:H5'	2.47	0.45
47:Y:2339:U:C3'	47:Y:2339:U:C6	3.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:2701:G:H2'	47:Y:2702:A:C8	2.51	0.45
1:C:84:U:O5'	1:C:84:U:H6	2.00	0.45
2:B:18:TRP:CD2	13:5:55:GLY:HA2	2.51	0.45
2:B:130:ARG:O	2:B:134:LYS:HG2	2.17	0.45
6:G:36:ARG:HD2	6:G:36:ARG:HA	1.50	0.45
6:G:99:LEU:CD1	20:X:949:G:OP1	2.60	0.45
6:G:124:ILE:N	6:G:124:ILE:CD1	2.79	0.45
8:H:22:ARG:NH1	8:H:24:VAL:HG22	2.31	0.45
9:1:43:PRO:HG3	20:X:1162:A:O2'	2.16	0.45
20:X:64:C:N4	20:X:101:G:N7	2.65	0.45
20:X:158:G:O5'	20:X:158:G:C8	2.70	0.45
20:X:347:C:H2'	20:X:348:U:C5	2.51	0.45
20:X:582:A:H3'	20:X:582:A:H8	1.82	0.45
20:X:685:U:H6	20:X:685:U:O5'	2.00	0.45
20:X:754:G:C8	20:X:754:G:OP2	2.70	0.45
20:X:758:C:H5	20:X:758:C:OP2	2.00	0.45
20:X:772:C:C5	20:X:772:C:OP2	2.70	0.45
20:X:1002:U:H2'	20:X:1053:G:H2'	1.99	0.45
20:X:1215:A:C8	20:X:1215:A:OP2	2.70	0.45
22:J:131:PHE:CD1	22:J:131:PHE:N	2.85	0.45
23:K:94:GLU:C	23:K:96:MET:N	2.62	0.45
28:P:28:THR:HG23	28:P:29:PHE:N	2.31	0.45
33:V:11:ARG:NH1	33:V:98:LYS:HD2	2.31	0.45
33:V:41:LYS:HA	33:V:41:LYS:HD2	1.45	0.45
42:T:3:VAL:CG2	42:T:23:LYS:HD3	2.47	0.45
47:Y:400:C:OP2	47:Y:400:C:C6	2.70	0.45
47:Y:948:U:H2'	47:Y:949:C:C6	2.51	0.45
47:Y:1205:U:H2'	47:Y:1206:G:C8	2.51	0.45
47:Y:1690:A:N3	47:Y:1691:G:N1	2.60	0.45
47:Y:1918:G:O2'	47:Y:2262:G:O3'	2.35	0.45
47:Y:1932:C:O2	47:Y:1932:C:H3'	2.17	0.45
47:Y:2339:U:OP2	47:Y:2339:U:C2	2.70	0.45
47:Y:2563:G:H2'	47:Y:2564:U:C6	2.52	0.45
1:C:48:A:H8	1:C:48:A:O5'	2.00	0.45
9:1:43:PRO:HD3	20:X:1162:A:O2'	2.17	0.45
12:4:100:GLN:OE1	20:X:1333:C:OP2	2.33	0.45
17:9:32:GLU:C	17:9:34:LEU:N	2.73	0.45
20:X:21:U:OP2	20:X:21:U:C6	2.70	0.45
20:X:64:C:H2'	20:X:65:G:C8	2.52	0.45
20:X:147:G:N2	20:X:176:C:H2'	2.31	0.45
20:X:176:C:H6	20:X:176:C:H5''	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:237:U:C6	20:X:237:U:O5'	2.70	0.45
20:X:546:U:OP2	20:X:546:U:C6	2.70	0.45
20:X:550:U:C3'	20:X:550:U:C6	3.00	0.45
20:X:581:A:N3	20:X:581:A:C2'	2.74	0.45
20:X:629:A:H8	20:X:629:A:O5'	2.00	0.45
20:X:660:U:C5	20:X:660:U:OP2	2.70	0.45
20:X:673:A:C8	20:X:673:A:OP1	2.70	0.45
20:X:732:G:C8	20:X:732:G:O5'	2.70	0.45
20:X:763:G:H5''	20:X:763:G:H8	1.82	0.45
20:X:916:G:OP2	20:X:916:G:C8	2.70	0.45
20:X:1298:A:C8	20:X:1365:U:H5'	2.51	0.45
20:X:1336:C:C6	20:X:1336:C:O5'	2.70	0.45
20:X:1445:A:H3'	20:X:1445:A:P	2.57	0.45
20:X:1471:U:O5'	20:X:1471:U:C6	2.70	0.45
20:X:1517:G:OP2	20:X:1517:G:H3'	2.16	0.45
21:e:34:VAL:HA	21:e:104:GLU:HA	1.99	0.45
24:L:19:PHE:HB2	24:L:43:PHE:CE2	2.52	0.45
37:b:12:LYS:HG3	37:b:12:LYS:O	2.17	0.45
41:g:30:CYS:SG	41:g:48:SER:N	2.87	0.45
42:T:35:TYR:O	42:T:35:TYR:CD1	2.70	0.45
47:Y:601:G:H2'	47:Y:602:G:H8	1.81	0.45
47:Y:960:C:O2	47:Y:960:C:H2'	2.16	0.45
47:Y:1205:U:H2'	47:Y:1206:G:H8	1.81	0.45
47:Y:1270:U:H2'	47:Y:1271:G:H8	1.81	0.45
47:Y:1561:G:O5'	47:Y:1561:G:C8	2.70	0.45
47:Y:1793:C:H2'	47:Y:1794:C:C6	2.51	0.45
47:Y:2824:G:H3'	47:Y:2824:G:H8	1.81	0.45
4:D:95:PHE:N	4:D:126:LYS:O	2.36	0.45
5:E:8:TYR:CZ	5:E:10:VAL:HG22	2.52	0.45
5:E:36:GLU:HG3	5:E:66:LYS:H	1.81	0.45
6:G:9:LYS:HE3	6:G:9:LYS:HB3	1.54	0.45
7:F:13:ARG:CZ	20:X:834:C:H4'	2.47	0.45
10:2:56:LYS:HB3	10:2:62:ALA:CB	2.47	0.45
11:3:38:LEU:CD2	11:3:40:SER:HB2	2.47	0.45
12:4:98:ARG:O	12:4:100:GLN:N	2.50	0.45
18:I:34:TRP:CD1	18:I:34:TRP:O	2.70	0.45
18:I:67:VAL:HG11	46:h:68:ASP:HA	1.98	0.45
20:X:61:A:H5'	20:X:110:G:H21	1.81	0.45
20:X:137:U:OP2	20:X:137:U:H6	2.00	0.45
20:X:237:U:C5	20:X:237:U:OP2	2.70	0.45
20:X:269:U:H3'	20:X:269:U:H6	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:271:A:C8	20:X:271:A:OP2	2.70	0.45
20:X:510:C:C6	20:X:510:C:OP2	2.70	0.45
20:X:590:U:H1'	20:X:768:U:C2	2.52	0.45
20:X:685:U:O5'	20:X:685:U:C6	2.70	0.45
20:X:784:G:OP2	20:X:784:G:C8	2.70	0.45
20:X:800:A:OP2	20:X:800:A:C2	2.70	0.45
20:X:870:A:C8	20:X:870:A:OP2	2.70	0.45
20:X:877:G:C8	20:X:877:G:OP2	2.70	0.45
20:X:1075:C:H2'	20:X:1076:G:N7	2.32	0.45
20:X:1075:C:OP2	20:X:1075:C:C6	2.70	0.45
20:X:1115:C:C5	20:X:1116:G:H1'	2.51	0.45
20:X:1138:U:H3'	20:X:1139:G:N2	2.31	0.45
21:e:87:PHE:CD1	21:e:208:LEU:HD22	2.51	0.45
38:c:54:LEU:HD13	38:c:58:LYS:HE2	1.99	0.45
45:k:9:PRO:HB3	45:k:14:CYS:O	2.17	0.45
47:Y:261:C:H2'	47:Y:262:G:C8	2.51	0.45
47:Y:307:A:H61	47:Y:408:U:H3	1.64	0.45
47:Y:860:U:H2'	47:Y:861:C:C6	2.52	0.45
47:Y:1409:U:H2'	47:Y:1410:A:C8	2.52	0.45
47:Y:1625:U:H2'	47:Y:1626:A:H8	1.81	0.45
47:Y:1627:G:C8	47:Y:1627:G:OP2	2.70	0.45
47:Y:1936:C:C3'	47:Y:1936:C:C6	3.00	0.45
47:Y:2220:U:H6	47:Y:2220:U:C5'	2.30	0.45
47:Y:2243:U:OP2	47:Y:2243:U:C5	2.70	0.45
47:Y:2617:A:H2'	47:Y:2618:C:C6	2.51	0.45
47:Y:2810:A:H2'	47:Y:2811:U:C6	2.52	0.45
47:Y:2824:G:H2'	47:Y:2825:U:C6	2.52	0.45
1:C:68:A:H2'	1:C:69:C:C6	2.51	0.44
2:B:15:ILE:HD11	2:B:180:ASP:HB2	2.00	0.44
4:D:72:VAL:CG1	4:D:145:GLN:HE22	2.29	0.44
4:D:154:ALA:C	4:D:158:GLY:H	2.24	0.44
6:G:56:ARG:HG2	6:G:61:VAL:HG21	1.99	0.44
7:F:11:LEU:O	7:F:14:VAL:HG23	2.16	0.44
9:1:56:HIS:CE1	20:X:1210:U:O5'	2.70	0.44
15:7:10:LEU:H	20:X:632:C:H5''	1.82	0.44
17:9:65:LYS:CG	20:X:742:A:O2'	2.65	0.44
20:X:12:G:H8	20:X:12:G:O5'	1.99	0.44
20:X:159:G:C8	20:X:159:G:O5'	2.71	0.44
20:X:242:C:H2'	20:X:243:C:H6	1.82	0.44
20:X:279:C:H2'	20:X:280:C:C6	2.52	0.44
20:X:552:G:H8	20:X:552:G:O5'	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:668:A:O5'	20:X:668:A:C8	2.70	0.44
20:X:743:C:H2'	20:X:745:U:C2	2.52	0.44
20:X:754:G:C8	20:X:754:G:OP1	2.70	0.44
20:X:757:A:O5'	20:X:757:A:C8	2.70	0.44
20:X:1122:A:H3'	20:X:1122:A:N3	2.32	0.44
20:X:1244:G:OP1	20:X:1244:G:C8	2.70	0.44
20:X:1422:C:H6	20:X:1422:C:H5''	1.81	0.44
20:X:1487:G:C8	20:X:1487:G:OP2	2.70	0.44
22:J:129:PHE:CD1	22:J:129:PHE:O	2.70	0.44
23:K:67:VAL:CG1	23:K:75:ALA:HA	2.44	0.44
26:N:113:LYS:HD3	26:N:113:LYS:HA	1.37	0.44
27:O:30:THR:HG23	27:O:33:ARG:H	1.82	0.44
39:d:7:ARG:NH1	47:Y:101:G:OP1	2.50	0.44
40:f:10:ARG:CB	40:f:53:LEU:HD23	2.45	0.44
47:Y:331:G:OP2	47:Y:331:G:C2	2.70	0.44
47:Y:637:U:H2'	47:Y:638:U:C6	2.52	0.44
47:Y:1357:G:N3	47:Y:1357:G:H2'	2.31	0.44
47:Y:1482:U:C6	47:Y:1482:U:H3'	2.52	0.44
47:Y:1599:G:H3'	47:Y:1600:A:C8	2.53	0.44
47:Y:2340:C:C5	47:Y:2340:C:OP2	2.70	0.44
2:B:149:LYS:CE	2:B:172:VAL:HB	2.45	0.44
2:B:194:LYS:NZ	20:X:1216:U:OP1	2.50	0.44
4:D:89:TYR:CG	4:D:89:TYR:O	2.70	0.44
5:E:13:ASN:CG	5:E:55:PHE:CE2	2.96	0.44
5:E:16:GLU:O	5:E:19:LYS:HB2	2.16	0.44
5:E:81:LYS:HA	20:X:680:U:H4'	1.99	0.44
6:G:117:GLU:H	20:X:1251:U:P	2.40	0.44
13:5:31:HIS:CE1	20:X:984:A:C5'	3.00	0.44
13:5:61:TRP:O	13:5:61:TRP:CE3	2.70	0.44
20:X:349:C:H2'	20:X:350:C:C5	2.53	0.44
20:X:362:G:H8	20:X:362:G:P	2.39	0.44
20:X:378:C:C5	20:X:378:C:OP2	2.70	0.44
20:X:584:C:H5'	20:X:826:G:N2	2.33	0.44
20:X:701:G:N3	20:X:701:G:C2'	2.74	0.44
20:X:966:U:C6	20:X:966:U:H3'	2.53	0.44
20:X:1096:G:C8	20:X:1096:G:O5'	2.70	0.44
20:X:1117:A:O5'	20:X:1117:A:C8	2.70	0.44
20:X:1390:G:C8	20:X:1390:G:OP2	2.70	0.44
20:X:1410:C:OP2	20:X:1410:C:H6	2.00	0.44
20:X:1490:A:C8	20:X:1490:A:OP2	2.70	0.44
24:L:95:ARG:O	24:L:104:ILE:HG23	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:P:34:LEU:HB2	28:P:118:LEU:HD13	1.99	0.44
30:R:24:GLY:H	30:R:30:ARG:HG2	1.82	0.44
32:U:3:ALA:CB	32:U:100:ILE:HD11	2.43	0.44
47:Y:405:G:OP2	47:Y:405:G:C8	2.70	0.44
47:Y:1623:U:H2'	47:Y:1624:C:N3	2.33	0.44
47:Y:1996:A:OP1	47:Y:1996:A:H4'	2.17	0.44
47:Y:2243:U:C3'	47:Y:2243:U:C6	3.01	0.44
47:Y:2432:G:H3'	47:Y:2438:A:H61	1.82	0.44
47:Y:2613:C:H2'	47:Y:2614:A:C8	2.53	0.44
2:B:23:TYR:CD1	2:B:24:ALA:N	2.85	0.44
6:G:72:VAL:HA	6:G:91:VAL:HG11	2.00	0.44
6:G:90:GLU:OE2	6:G:90:GLU:HA	2.13	0.44
7:F:104:ALA:H	7:F:115:ASP:HB2	1.81	0.44
11:3:77:ASN:C	11:3:106:VAL:HG12	2.42	0.44
20:X:102:C:H3'	20:X:103:G:H8	1.82	0.44
20:X:331:U:OP2	20:X:331:U:C6	2.70	0.44
20:X:491:C:H3'	20:X:492:G:H5'	2.00	0.44
20:X:574:G:C8	20:X:574:G:OP1	2.70	0.44
20:X:772:C:O5'	20:X:772:C:C6	2.70	0.44
20:X:904:G:OP2	20:X:904:G:C8	2.70	0.44
20:X:927:G:C8	20:X:927:G:O5'	2.70	0.44
20:X:956:A:C2	20:X:1247:A:H1'	2.51	0.44
20:X:1069:G:N3	20:X:1069:G:H2'	2.33	0.44
20:X:1086:G:H5''	20:X:1087:U:H5	1.81	0.44
20:X:1166:U:C3'	20:X:1166:U:C6	3.00	0.44
20:X:1387:U:O5'	20:X:1387:U:C6	2.70	0.44
20:X:1436:A:C5	20:X:1436:A:OP2	2.70	0.44
21:e:110:PHE:N	21:e:110:PHE:CD1	2.85	0.44
33:V:13:ALA:HB3	33:V:16:LYS:HD2	1.99	0.44
47:Y:679:G:H2'	47:Y:680:C:C6	2.52	0.44
47:Y:771:G:C8	47:Y:771:G:OP2	2.70	0.44
47:Y:1065:A:H3'	47:Y:1065:A:C8	2.52	0.44
47:Y:2082:C:H2'	47:Y:2531:U:H4'	1.99	0.44
2:B:55:GLU:HG2	2:B:56:ILE:N	2.32	0.44
4:D:37:VAL:CG2	4:D:60:ILE:HG23	2.48	0.44
4:D:83:HIS:HE1	4:D:147:LEU:HA	1.82	0.44
4:D:83:HIS:HB3	7:F:101:LEU:HG	1.98	0.44
5:E:88:ARG:HG3	5:E:88:ARG:HH21	1.82	0.44
8:H:46:LEU:HD12	8:H:49:ASP:HB2	2.00	0.44
9:1:18:ILE:HG12	9:1:72:ARG:HG3	2.00	0.44
16:8:46:TYR:CD2	16:8:63:ILE:HD12	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:119:A:C8	20:X:119:A:OP2	2.70	0.44
20:X:149:A:C8	20:X:149:A:O5'	2.70	0.44
20:X:168:G:C3'	20:X:169:C:H4'	2.48	0.44
20:X:248:U:OP2	20:X:248:U:C6	2.70	0.44
20:X:277:U:H6	20:X:277:U:C5'	2.26	0.44
20:X:299:C:H2'	20:X:313:G:N2	2.32	0.44
20:X:489:G:OP1	20:X:489:G:C2	2.70	0.44
20:X:513:G:C8	20:X:513:G:OP1	2.70	0.44
20:X:643:A:C2	20:X:643:A:OP2	2.70	0.44
20:X:672:G:C8	20:X:672:G:OP2	2.70	0.44
20:X:729:A:C8	20:X:729:A:OP1	2.71	0.44
20:X:736:A:OP1	20:X:736:A:C8	2.70	0.44
20:X:765:U:C5	20:X:765:U:OP2	2.70	0.44
20:X:782:G:H5''	20:X:782:G:C8	2.53	0.44
20:X:953:U:O2	20:X:953:U:O2'	2.32	0.44
20:X:958:C:OP1	20:X:1317:A:O3'	2.35	0.44
20:X:1131:G:N2	20:X:1166:U:H4'	2.32	0.44
20:X:1150:G:N3	20:X:1150:G:H2'	2.32	0.44
20:X:1205:U:H2'	20:X:1206:C:H5'	1.98	0.44
20:X:1492:A:H2'	20:X:1493:U:C4'	2.48	0.44
21:e:138:ARG:CG	21:e:138:ARG:HH11	2.30	0.44
24:L:69:ARG:O	24:L:72:LEU:HG	2.17	0.44
25:M:5:PHE:CD2	31:S:100:ILE:HD13	2.53	0.44
34:W:11:VAL:CG2	34:W:26:THR:HB	2.46	0.44
39:d:15:GLU:O	39:d:18:ILE:HB	2.17	0.44
43:i:7:GLN:OE1	43:i:7:GLN:HA	2.16	0.44
47:Y:199:A:N3	47:Y:199:A:C2'	2.78	0.44
47:Y:891:A:H1'	47:Y:892:U:C5	2.53	0.44
47:Y:1465:G:OP2	47:Y:1465:G:C8	2.70	0.44
47:Y:1770:C:H2'	47:Y:1771:A:C2	2.53	0.44
47:Y:2339:U:OP1	47:Y:2339:U:C6	2.70	0.44
1:C:71:A:H2'	1:C:71:A:N3	2.32	0.44
6:G:33:ASP:HB2	20:X:1361:A:C5	2.51	0.44
7:F:11:LEU:HD22	7:F:79:ARG:HB2	2.00	0.44
11:3:130:TYR:CD1	11:3:130:TYR:O	2.70	0.44
20:X:138:A:H2'	20:X:139:U:H4'	1.99	0.44
20:X:144:C:N4	20:X:210:A:H5''	2.32	0.44
20:X:180:U:H2'	20:X:181:A:C4'	2.48	0.44
20:X:238:G:H8	20:X:238:G:O5'	2.01	0.44
20:X:394:C:C5	20:X:394:C:OP2	2.70	0.44
20:X:512:C:C5	20:X:547:A:N6	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:566:G:H2'	20:X:567:A:H2	1.83	0.44
20:X:645:U:OP2	20:X:645:U:C6	2.71	0.44
20:X:649:A:H4'	20:X:650:A:H5'	1.98	0.44
20:X:781:G:OP2	20:X:781:G:C8	2.70	0.44
20:X:873:U:C5	20:X:873:U:OP2	2.70	0.44
20:X:1261:A:O5'	20:X:1261:A:C8	2.70	0.44
20:X:1261:A:OP2	20:X:1261:A:C8	2.70	0.44
20:X:1394:C:O5'	20:X:1394:C:H6	2.00	0.44
20:X:1410:C:OP2	20:X:1410:C:C6	2.70	0.44
20:X:1482:G:H2'	20:X:1483:G:H5'	1.99	0.44
22:J:200:LYS:HE2	22:J:200:LYS:HB2	1.62	0.44
34:W:11:VAL:HG23	34:W:11:VAL:O	2.16	0.44
42:T:44:LEU:HD12	42:T:44:LEU:HA	1.83	0.44
47:Y:657:U:H5''	47:Y:659:A:C8	2.52	0.44
47:Y:750:A:H2'	47:Y:751:A:C8	2.47	0.44
47:Y:1590:C:H3'	47:Y:1591:G:N2	2.33	0.44
47:Y:1597:U:OP2	47:Y:1597:U:C6	2.71	0.44
1:C:23:U:C5	1:C:23:U:OP2	2.70	0.44
6:G:63:GLU:OE1	6:G:63:GLU:HA	2.17	0.44
6:G:149:LYS:HE3	6:G:149:LYS:HB3	1.75	0.44
8:H:95:GLU:H	8:H:95:GLU:HG2	1.63	0.44
12:4:102:THR:HG22	20:X:1236:A:O3'	2.15	0.44
13:5:36:LYS:HE2	13:5:37:PHE:CE1	2.53	0.44
15:7:65:ALA:H	20:X:137:U:H4'	1.82	0.44
20:X:143:A:H5''	20:X:144:C:C5	2.52	0.44
20:X:230:U:C6	20:X:230:U:OP2	2.70	0.44
20:X:696:G:C8	20:X:696:G:OP2	2.70	0.44
20:X:765:U:H1'	20:X:889:C:H1'	2.00	0.44
20:X:816:C:OP2	20:X:816:C:C6	2.71	0.44
20:X:888:U:C6	20:X:888:U:OP2	2.71	0.44
20:X:967:U:H4'	20:X:969:A:H62	1.82	0.44
20:X:979:A:OP1	20:X:979:A:C8	2.70	0.44
20:X:991:U:C6	20:X:991:U:C5'	2.86	0.44
20:X:997:A:C8	20:X:997:A:O5'	2.70	0.44
20:X:1083:C:OP2	20:X:1083:C:C6	2.71	0.44
20:X:1115:C:C6	20:X:1116:G:H1'	2.53	0.44
20:X:1134:U:OP2	20:X:1134:U:C6	2.70	0.44
20:X:1161:U:H6	20:X:1161:U:H3'	1.83	0.44
20:X:1331:C:H2'	20:X:1332:U:C5	2.52	0.44
20:X:1331:C:H2'	20:X:1332:U:C6	2.53	0.44
20:X:1374:A:H1'	20:X:1375:U:H2'	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1476:G:H2'	20:X:1477:U:H5'	2.00	0.44
26:N:64:ARG:HB2	26:N:79:PHE:CZ	2.52	0.44
28:P:46:GLN:OE1	28:P:46:GLN:N	2.48	0.44
33:V:5:ALA:HB3	33:V:54:ALA:HB2	1.99	0.44
40:f:52:HIS:O	40:f:52:HIS:CD2	2.70	0.44
47:Y:160:G:C8	47:Y:160:G:O5'	2.70	0.44
47:Y:1500:G:C8	47:Y:1500:G:OP2	2.70	0.44
47:Y:1540:U:OP2	47:Y:1540:U:C6	2.70	0.44
47:Y:1996:A:HO2'	47:Y:1999:G:HO2'	1.62	0.44
47:Y:2768:A:H62	47:Y:2790:G:H21	1.66	0.44
1:C:37:A:H8	1:C:37:A:O5'	2.01	0.44
1:C:81:A:H5'	40:f:52:HIS:CE1	2.45	0.44
1:C:102:A:H2'	1:C:103:A:H5'	1.99	0.44
4:D:134:ILE:CG2	20:X:19:C:P	3.04	0.44
5:E:11:ARG:HD2	5:E:11:ARG:HA	1.36	0.44
7:F:40:LEU:HD12	7:F:40:LEU:HA	1.81	0.44
9:1:9:ARG:HA	9:1:73:LEU:CD1	2.48	0.44
15:7:32:ARG:HE	20:X:318:G:C1'	2.30	0.44
18:I:52:TYR:HB3	18:I:58:VAL:HG23	1.99	0.44
20:X:18:U:N3	20:X:1092:A:H1'	2.33	0.44
20:X:43:G:N2	20:X:629:A:H2'	2.33	0.44
20:X:69:G:N7	20:X:151:A:N6	2.62	0.44
20:X:122:C:OP2	20:X:122:C:C6	2.70	0.44
20:X:353:C:N4	26:N:115:VAL:C	2.75	0.44
20:X:404:A:C8	20:X:404:A:O5'	2.70	0.44
20:X:487:U:C6	20:X:487:U:OP2	2.70	0.44
20:X:513:G:C8	20:X:513:G:C5'	2.99	0.44
20:X:544:C:O2	20:X:544:C:H2'	2.17	0.44
20:X:688:C:O2	20:X:688:C:H2'	2.17	0.44
20:X:773:G:C8	20:X:773:G:OP2	2.70	0.44
20:X:792:A:C8	20:X:792:A:OP2	2.70	0.44
20:X:807:G:C2'	20:X:808:G:H5'	2.48	0.44
20:X:816:C:OP2	20:X:816:C:C5	2.70	0.44
20:X:870:A:H8	20:X:870:A:OP2	2.01	0.44
20:X:1370:C:C6	20:X:1370:C:O5'	2.70	0.44
22:J:154:VAL:HG23	22:J:175:VAL:HG23	2.00	0.44
37:b:22:ARG:NH1	47:Y:2306:G:N7	2.60	0.44
39:d:15:GLU:HB2	39:d:19:LYS:HZ3	1.80	0.44
47:Y:342:A:C8	47:Y:342:A:O5'	2.70	0.44
47:Y:452:G:H2'	47:Y:452:G:N3	2.33	0.44
47:Y:922:G:C4	47:Y:922:G:OP2	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:1219:G:C8	47:Y:1219:G:O5'	2.71	0.44
47:Y:1658:A:P	47:Y:1658:A:H8	2.41	0.44
47:Y:2498:A:O5'	47:Y:2498:A:H8	2.01	0.44
47:Y:2659:A:H2'	47:Y:2660:A:C8	2.53	0.44
1:C:12:U:O2	1:C:12:U:O2'	2.31	0.44
1:C:53:U:OP2	1:C:53:U:C6	2.70	0.44
1:C:114:C:OP2	1:C:114:C:C6	2.71	0.44
4:D:74:VAL:HB	4:D:144:LEU:HD22	1.99	0.44
7:F:18:ASN:HB2	7:F:66:TYR:OH	2.17	0.44
7:F:108:THR:HB	7:F:113:ILE:HG12	1.99	0.44
8:H:52:GLN:O	8:H:55:ASP:N	2.51	0.44
8:H:90:LEU:HD12	8:H:96:TYR:CB	2.34	0.44
9:1:43:PRO:HB3	20:X:1162:A:O2'	2.17	0.44
12:4:107:ARG:HG3	12:4:107:ARG:O	2.17	0.44
19:A:10:ARG:CD	19:A:13:THR:HB	2.47	0.44
20:X:482:A:OP1	20:X:482:A:C8	2.70	0.44
20:X:513:G:H5'	20:X:518:A:H2'	2.00	0.44
20:X:589:G:OP2	20:X:589:G:C8	2.70	0.44
20:X:621:C:OP1	20:X:621:C:H4'	2.17	0.44
20:X:868:G:OP2	20:X:868:G:C8	2.70	0.44
20:X:916:G:C8	20:X:916:G:O5'	2.70	0.44
20:X:1077:U:H5	20:X:1201:G:H5'	1.83	0.44
20:X:1226:G:C8	20:X:1226:G:O5'	2.70	0.44
20:X:1240:A:H2'	20:X:1241:C:C6	2.53	0.44
20:X:1291:A:C8	20:X:1291:A:O5'	2.70	0.44
20:X:1407:A:C8	20:X:1407:A:OP2	2.70	0.44
20:X:1515:A:H8	20:X:1543:A:H1'	1.83	0.44
20:X:1527:C:OP1	20:X:1527:C:H4'	2.18	0.44
21:e:14:GLN:CD	21:e:22:LEU:HD11	2.43	0.44
21:e:79:LYS:HZ2	47:Y:2813:U:P	2.41	0.44
27:O:21:ARG:O	47:Y:857:C:H5'	2.18	0.44
27:O:87:ASP:HA	27:O:119:LYS:NZ	2.33	0.44
27:O:111:ILE:HD12	27:O:128:PHE:CD1	2.53	0.44
30:R:31:LEU:HB3	30:R:44:ILE:HD13	2.00	0.44
33:V:1:MET:HG3	33:V:62:TYR:CD2	2.52	0.44
47:Y:2326:G:O5'	47:Y:2326:G:C8	2.70	0.44
47:Y:2500:U:H3'	47:Y:2500:U:H6	1.82	0.44
1:C:97:A:H3'	1:C:98:G:C8	2.53	0.44
3:l:166:ASN:N	3:l:174:GLY:HA3	2.32	0.44
4:D:106:ILE:HA	20:X:9:A:N3	2.32	0.44
7:F:9:ASP:HB2	20:X:833:G:C2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:109:SER:CB	20:X:607:C:O4'	2.65	0.44
8:H:22:ARG:HG2	8:H:23:LEU:H	1.82	0.44
8:H:117:LYS:H	8:H:123:ALA:HA	1.82	0.44
11:3:47:CYS:CB	11:3:90:HIS:H	2.29	0.44
20:X:173:U:H5''	20:X:174:A:N7	2.33	0.44
20:X:567:A:C2	20:X:567:A:OP1	2.70	0.44
20:X:644:U:H2'	20:X:645:U:N1	2.32	0.44
20:X:800:A:OP2	20:X:800:A:H2	2.01	0.44
20:X:860:U:C6	20:X:862:A:H5''	2.52	0.44
20:X:911:A:H3'	20:X:912:G:C4'	2.47	0.44
20:X:936:G:O5'	20:X:936:G:C8	2.70	0.44
20:X:1005:C:OP2	20:X:1005:C:C6	2.71	0.44
20:X:1060:G:OP2	20:X:1060:G:C8	2.70	0.44
20:X:1387:U:C5	20:X:1387:U:OP2	2.71	0.44
20:X:1419:A:O5'	20:X:1419:A:C8	2.71	0.44
20:X:1513:C:C5	20:X:1513:C:OP2	2.70	0.44
23:K:74:ILE:CB	47:Y:2338:A:C5'	2.96	0.44
47:Y:102:A:OP2	47:Y:102:A:C2	2.71	0.44
47:Y:137:G:C8	47:Y:137:G:OP2	2.70	0.44
47:Y:519:G:C2'	47:Y:520:G:H5'	2.48	0.44
47:Y:1074:G:C2'	47:Y:1075:G:H5'	2.48	0.44
47:Y:1380:G:H2'	47:Y:1380:G:N3	2.32	0.44
47:Y:1884:G:C8	47:Y:1884:G:OP2	2.71	0.44
47:Y:2243:U:C6	47:Y:2243:U:O5'	2.70	0.44
47:Y:2553:G:H2'	47:Y:2554:C:H5'	1.99	0.44
47:Y:2773:U:H3'	47:Y:2774:G:C8	2.52	0.44
47:Y:2844:U:O5'	47:Y:2844:U:H6	2.01	0.44
1:C:61:U:C3'	1:C:61:U:C6	3.01	0.43
4:D:151:GLU:HA	4:D:161:VAL:HG21	2.00	0.43
5:E:93:ARG:NH2	20:X:745:U:C5	2.86	0.43
6:G:94:GLU:HA	6:G:98:THR:HG23	1.98	0.43
7:F:39:ILE:C	7:F:105:LEU:HD21	2.42	0.43
16:8:25:VAL:HG23	16:8:48:THR:CG2	2.48	0.43
18:I:39:THR:HG22	18:I:40:ILE:N	2.33	0.43
20:X:25:U:OP2	20:X:25:U:C6	2.70	0.43
20:X:517:A:OP2	20:X:517:A:C2	2.71	0.43
20:X:546:U:OP2	20:X:546:U:C5	2.70	0.43
20:X:765:U:O5'	20:X:765:U:C6	2.70	0.43
20:X:868:G:N2	20:X:879:A:H3'	2.32	0.43
20:X:873:U:H6	20:X:873:U:C3'	2.29	0.43
20:X:1351:A:OP2	20:X:1351:A:C8	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1488:A:C2'	20:X:1489:C:H5'	2.48	0.43
23:K:6:GLU:O	23:K:9:ASN:N	2.45	0.43
23:K:71:LYS:CB	47:Y:2337:A:C2'	2.95	0.43
24:L:158:LYS:CE	47:Y:2686:G:OP1	2.60	0.43
25:M:136:GLN:HA	25:M:136:GLN:HE21	1.83	0.43
47:Y:3:U:H2'	47:Y:4:U:H6	1.83	0.43
47:Y:66:C:H2'	47:Y:67:G:C8	2.51	0.43
47:Y:330:C:H2'	47:Y:331:G:C4	2.53	0.43
47:Y:335:U:O2	47:Y:335:U:H2'	2.17	0.43
47:Y:454:G:H2'	47:Y:455:A:H8	1.81	0.43
47:Y:1167:C:H2'	47:Y:1168:C:H6	1.81	0.43
47:Y:1609:U:H2'	47:Y:1610:G:C8	2.53	0.43
47:Y:1618:A:H2'	47:Y:1619:A:C8	2.53	0.43
47:Y:1875:A:N3	47:Y:1876:G:H1'	2.33	0.43
47:Y:1969:C:H5''	47:Y:1970:U:H2'	1.99	0.43
47:Y:2099:G:H2'	47:Y:2100:C:C6	2.53	0.43
47:Y:2286:G:H2'	47:Y:2287:C:C6	2.53	0.43
47:Y:2506:U:C5	47:Y:2506:U:OP2	2.70	0.43
47:Y:2668:A:H2'	47:Y:2669:G:C8	2.53	0.43
47:Y:2687:A:OP1	47:Y:2687:A:C2	2.70	0.43
5:E:89:TYR:CE2	20:X:680:U:H1'	2.53	0.43
8:H:22:ARG:CD	20:X:1142:A:H1'	2.46	0.43
8:H:124:ARG:HD2	8:H:124:ARG:N	2.33	0.43
11:3:33:LYS:HD2	20:X:1491:A:O3'	2.18	0.43
11:3:39:ASN:CG	20:X:562:U:OP1	2.60	0.43
12:4:18:SER:OG	20:X:1313:U:C6	2.67	0.43
16:8:13:LYS:O	16:8:26:LEU:N	2.39	0.43
20:X:138:A:H2'	20:X:139:U:C4'	2.49	0.43
20:X:232:A:H3'	20:X:233:U:H5''	2.00	0.43
20:X:592:G:H2'	20:X:593:G:C8	2.53	0.43
20:X:616:A:H2'	20:X:617:A:H8	1.83	0.43
20:X:801:U:O2	20:X:801:U:O2'	2.28	0.43
20:X:985:A:OP1	20:X:985:A:C8	2.71	0.43
20:X:1109:C:OP2	20:X:1109:C:C6	2.70	0.43
20:X:1127:U:C5	20:X:1127:U:OP2	2.70	0.43
20:X:1278:C:OP1	20:X:1278:C:C6	2.70	0.43
20:X:1297:U:O5'	20:X:1297:U:C6	2.70	0.43
20:X:1415:C:H6	20:X:1415:C:H5'	1.83	0.43
20:X:1491:A:H2'	20:X:1492:A:C8	2.53	0.43
22:J:136:THR:HG21	47:Y:363:A:H2'	2.01	0.43
25:M:1:MET:CB	47:Y:1039:C:C5	3.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:97:ARG:NE	26:N:99:PHE:CE1	2.65	0.43
47:Y:347:U:C2'	47:Y:348:C:H5'	2.48	0.43
47:Y:1880:A:N6	47:Y:1915:G:H1'	2.33	0.43
47:Y:1932:C:H2'	47:Y:1957:G:C8	2.54	0.43
47:Y:1947:C:OP2	47:Y:1947:C:C6	2.70	0.43
47:Y:2506:U:OP2	47:Y:2506:U:C6	2.71	0.43
47:Y:2682:G:H4'	47:Y:2682:G:OP1	2.18	0.43
2:B:22:TRP:CD1	2:B:58:ARG:H	2.36	0.43
2:B:52:SER:HA	2:B:113:ARG:HG3	2.00	0.43
2:B:112:ALA:HB1	2:B:199:VAL:HG11	1.99	0.43
4:D:72:VAL:HG12	4:D:73:VAL:N	2.33	0.43
4:D:124:LEU:HD13	20:X:7:G:C4	2.53	0.43
6:G:94:GLU:HA	6:G:98:THR:CG2	2.48	0.43
7:F:62:LEU:HD12	7:F:62:LEU:HA	1.84	0.43
7:F:86:ARG:HB3	7:F:88:TYR:CE2	2.52	0.43
13:5:32:SER:H	20:X:985:A:HO2'	1.54	0.43
17:9:23:ILE:HG23	17:9:24:THR:O	2.18	0.43
17:9:45:LEU:H	17:9:45:LEU:HG	1.41	0.43
19:A:34:ASN:OD1	19:A:34:ASN:N	2.51	0.43
20:X:134:A:C8	20:X:134:A:O5'	2.70	0.43
20:X:330:C:OP2	20:X:330:C:H6	2.00	0.43
20:X:373:U:H3'	20:X:373:U:O2	2.18	0.43
20:X:445:U:O5'	20:X:445:U:C6	2.70	0.43
20:X:551:G:H2'	20:X:552:G:C8	2.54	0.43
20:X:614:G:OP2	20:X:614:G:C2	2.71	0.43
20:X:745:U:OP2	20:X:745:U:C6	2.70	0.43
20:X:760:G:OP2	20:X:760:G:C8	2.70	0.43
20:X:807:G:H2'	20:X:808:G:H5'	2.00	0.43
20:X:1128:U:O5'	20:X:1128:U:C6	2.70	0.43
20:X:1234:C:H6	20:X:1234:C:C5'	2.32	0.43
20:X:1287:G:N2	20:X:1293:C:H2'	2.34	0.43
20:X:1303:U:O5'	20:X:1303:U:H6	2.02	0.43
20:X:1437:A:H2'	20:X:1438:C:C2	2.54	0.43
27:O:3:LEU:HD23	27:O:3:LEU:HA	1.77	0.43
30:R:26:ALA:HB2	30:R:46:ASP:HB2	2.00	0.43
31:S:38:GLN:NE2	31:S:38:GLN:HA	2.32	0.43
32:U:27:VAL:HG21	32:U:62:VAL:HG21	2.00	0.43
34:W:39:LYS:HG2	34:W:50:VAL:HG21	2.01	0.43
35:Z:83:TYR:CD2	35:Z:90:LYS:HE2	2.53	0.43
45:k:18:LYS:CD	47:Y:1078:G:OP2	2.64	0.43
47:Y:9:U:C5'	47:Y:9:U:H6	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:1488:A:H2'	47:Y:1489:A:H4'	2.00	0.43
47:Y:1982:U:C2	47:Y:2579:U:H1'	2.53	0.43
47:Y:2545:A:H2'	47:Y:2545:A:N3	2.33	0.43
2:B:152:VAL:CB	2:B:156:LEU:HD21	2.45	0.43
5:E:5:GLU:HB3	5:E:92:ILE:HG22	1.99	0.43
9:1:12:ALA:N	9:1:70:HIS:O	2.45	0.43
9:1:55:VAL:HA	13:5:42:ILE:HD11	2.01	0.43
13:5:34:TYR:CD2	20:X:1369:U:OP2	2.70	0.43
15:7:12:SER:H	20:X:631:C:H3'	1.84	0.43
20:X:327:G:H4'	20:X:1480:A:C2	2.53	0.43
20:X:553:C:OP2	20:X:553:C:C6	2.72	0.43
20:X:612:G:OP2	20:X:612:G:C8	2.70	0.43
20:X:736:A:O5'	20:X:736:A:C8	2.70	0.43
20:X:1059:G:H2'	20:X:1060:G:C8	2.54	0.43
20:X:1196:G:C5	20:X:1197:G:H1'	2.53	0.43
20:X:1285:A:H2'	20:X:1286:A:C8	2.54	0.43
20:X:1336:C:H2'	20:X:1337:U:C4'	2.48	0.43
20:X:1458:A:OP2	20:X:1458:A:C2	2.70	0.43
24:L:111:HIS:CD2	47:Y:2695:G:H1'	2.54	0.43
27:O:66:PHE:HE2	27:O:68:ASN:HB2	1.83	0.43
27:O:91:VAL:CG2	27:O:123:VAL:HA	2.47	0.43
36:a:78:GLN:NE2	36:a:88:HIS:HD2	2.16	0.43
47:Y:229:A:H2'	47:Y:229:A:N3	2.34	0.43
47:Y:305:A:H3'	47:Y:306:C:C6	2.53	0.43
47:Y:400:C:OP2	47:Y:400:C:H6	2.01	0.43
47:Y:903:G:N3	47:Y:2295:A:H2'	2.32	0.43
47:Y:1343:U:H6	47:Y:1343:U:H5''	1.83	0.43
47:Y:2225:A:C2'	47:Y:2226:A:H5'	2.49	0.43
47:Y:2333:U:H5	47:Y:2334:G:H21	1.66	0.43
47:Y:2437:G:H3'	47:Y:2438:A:C8	2.53	0.43
47:Y:2653:C:O5'	47:Y:2653:C:H6	2.02	0.43
47:Y:2684:A:H2'	47:Y:2685:C:C6	2.54	0.43
1:C:74:G:H22	1:C:97:A:H61	1.65	0.43
11:3:5:ASN:HD22	20:X:889:C:H5'	1.71	0.43
15:7:84:PHE:HE2	20:X:138:A:O5'	2.01	0.43
20:X:248:U:OP2	20:X:248:U:H6	2.01	0.43
20:X:352:A:C2	20:X:352:A:OP1	2.71	0.43
20:X:590:U:H1'	20:X:768:U:C4	2.53	0.43
20:X:731:U:O5'	20:X:731:U:C6	2.70	0.43
20:X:960:U:O2	20:X:960:U:H2'	2.17	0.43
20:X:1098:U:C6	20:X:1098:U:C4'	3.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:e:189:ASP:HB3	21:e:194:VAL:HG22	2.00	0.43
21:e:193:LYS:HE2	21:e:193:LYS:HB2	1.71	0.43
23:K:34:ILE:N	23:K:34:ILE:CD1	2.74	0.43
27:O:66:PHE:CE2	27:O:68:ASN:HB2	2.54	0.43
34:W:56:MET:HE2	34:W:56:MET:HB3	1.86	0.43
47:Y:216:A:H5''	47:Y:216:A:C8	2.48	0.43
47:Y:1338:U:H5	47:Y:1670:A:H2	1.67	0.43
47:Y:1481:A:H2'	47:Y:1482:U:H5''	2.01	0.43
47:Y:1498:U:O2	47:Y:1498:U:O2'	2.32	0.43
47:Y:2348:G:H3'	47:Y:2348:G:N3	2.33	0.43
47:Y:2824:G:H2'	47:Y:2825:U:C5	2.53	0.43
3:l:50:GLN:HA	3:l:53:GLU:CD	2.44	0.43
4:D:83:HIS:CD2	7:F:98:LEU:HD22	2.50	0.43
5:E:91:VAL:HG22	5:E:92:ILE:N	2.34	0.43
6:G:35:LYS:HD2	6:G:38:THR:HG21	2.01	0.43
11:3:44:ARG:NH2	20:X:370:G:OP1	2.52	0.43
20:X:57:U:C5	20:X:57:U:OP2	2.71	0.43
20:X:157:G:H2'	20:X:158:G:C8	2.53	0.43
20:X:250:C:O5'	20:X:250:C:H6	2.01	0.43
20:X:334:G:OP2	20:X:334:G:C8	2.70	0.43
20:X:338:C:O2	20:X:338:C:H2'	2.19	0.43
20:X:382:A:N3	20:X:382:A:H3'	2.34	0.43
20:X:574:G:C8	20:X:574:G:O5'	2.72	0.43
20:X:588:C:O2	20:X:588:C:H2'	2.18	0.43
20:X:704:A:O5'	20:X:704:A:C8	2.70	0.43
20:X:727:C:H5	20:X:728:C:H41	1.67	0.43
20:X:928:A:H2'	20:X:929:A:C8	2.54	0.43
20:X:970:U:H4'	20:X:971:U:C5'	2.48	0.43
20:X:1208:A:H2'	20:X:1209:A:C8	2.53	0.43
20:X:1230:U:H2'	20:X:1231:G:C8	2.52	0.43
20:X:1246:U:O5'	20:X:1246:U:H6	2.02	0.43
24:L:3:ARG:O	47:Y:2778:G:N3	2.52	0.43
25:M:45:TYR:CD1	25:M:45:TYR:O	2.71	0.43
41:g:3:VAL:HG12	47:Y:2042:A:N3	2.32	0.43
47:Y:46:C:O2	47:Y:46:C:H3'	2.18	0.43
47:Y:305:A:H5''	47:Y:306:C:H5	1.84	0.43
47:Y:324:A:O5'	47:Y:324:A:C8	2.71	0.43
47:Y:2243:U:C6	47:Y:2243:U:H3'	2.54	0.43
2:B:38:ILE:HD13	2:B:96:LYS:CD	2.48	0.43
3:l:86:PHE:C	3:l:89:LEU:H	2.27	0.43
4:D:39:VAL:O	4:D:39:VAL:HG23	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:6:3:ILE:HG22	14:6:7:ARG:NH1	2.32	0.43
18:I:78:ARG:HB2	18:I:79:THR:H	1.70	0.43
19:A:17:ALA:HB1	20:X:332:G:P	2.54	0.43
20:X:117:U:C5	20:X:296:A:H2'	2.54	0.43
20:X:330:C:OP2	20:X:330:C:C6	2.70	0.43
20:X:614:G:N3	20:X:614:G:C3'	2.81	0.43
20:X:688:C:OP2	20:X:688:C:C6	2.71	0.43
20:X:758:C:OP2	20:X:758:C:C5	2.72	0.43
20:X:821:U:H3'	20:X:821:U:H6	1.83	0.43
20:X:890:C:N3	20:X:891:G:H1'	2.33	0.43
20:X:920:C:H3'	20:X:921:U:C6	2.54	0.43
30:R:22:LEU:HD11	30:R:30:ARG:HD2	2.00	0.43
34:W:55:ILE:HG22	34:W:78:ALA:HB2	2.01	0.43
37:b:13:LYS:HE3	37:b:13:LYS:HB2	1.66	0.43
47:Y:43:A:H5''	47:Y:43:A:N3	2.34	0.43
47:Y:239:C:H2'	47:Y:240:C:C6	2.53	0.43
47:Y:1158:G:H2'	47:Y:1159:A:C8	2.53	0.43
47:Y:2274:A:H2'	47:Y:2275:C:C6	2.53	0.43
47:Y:2342:U:OP2	47:Y:2342:U:C6	2.70	0.43
2:B:4:LYS:HE3	2:B:4:LYS:HB2	1.85	0.43
2:B:33:HIS:O	2:B:33:HIS:CG	2.71	0.43
4:D:141:ILE:O	4:D:145:GLN:HG2	2.18	0.43
6:G:7:VAL:HB	20:X:1388:A:C6	2.54	0.43
6:G:100:GLY:HA2	6:G:103:TRP:CZ3	2.54	0.43
7:F:27:LEU:HD22	7:F:62:LEU:HD22	2.00	0.43
7:F:121:ARG:HA	7:F:121:ARG:HD2	1.46	0.43
10:2:31:ILE:CD1	20:X:697:C:OP2	2.62	0.43
10:2:85:THR:HG22	10:2:111:ARG:NE	2.28	0.43
14:6:51:HIS:CD2	14:6:54:ARG:NH2	2.85	0.43
15:7:82:LYS:CE	20:X:482:A:OP1	2.67	0.43
16:8:14:VAL:HG21	16:8:55:ALA:C	2.43	0.43
20:X:289:G:H4'	20:X:289:G:OP1	2.19	0.43
20:X:581:A:C8	20:X:895:G:H5'	2.54	0.43
20:X:880:U:C5'	20:X:881:U:H2'	2.49	0.43
20:X:1136:G:C2	20:X:1157:A:H5''	2.54	0.43
20:X:1301:G:C5	20:X:1383:U:H5'	2.53	0.43
23:K:20:PHE:HD2	23:K:29:PRO:HD2	1.81	0.43
23:K:102:LYS:C	23:K:104:ILE:H	2.27	0.43
26:N:64:ARG:HB2	26:N:79:PHE:CE2	2.53	0.43
42:T:41:LYS:NZ	47:Y:2399:G:P	2.92	0.43
43:i:19:PHE:CD1	43:i:19:PHE:O	2.70	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:2369:C:H6	47:Y:2369:C:H5''	1.84	0.43
47:Y:2688:G:OP2	47:Y:2688:G:C8	2.72	0.43
47:Y:2761:C:O2	47:Y:2761:C:H2'	2.18	0.43
1:C:11:A:H5''	1:C:13:A:C5	2.54	0.43
1:C:23:U:O5'	1:C:23:U:C6	2.71	0.43
1:C:32:U:O5'	1:C:32:U:C6	2.72	0.43
4:D:66:ALA:O	4:D:69:LYS:HG3	2.19	0.43
4:D:148:LYS:NZ	4:D:153:VAL:HB	2.33	0.43
5:E:87:ILE:HG13	5:E:88:ARG:HH21	1.82	0.43
10:2:21:ALA:HB3	10:2:84:VAL:HG23	2.01	0.43
15:7:12:SER:HA	20:X:631:C:N3	2.34	0.43
20:X:147:G:C8	20:X:147:G:O5'	2.71	0.43
20:X:509:C:O2	20:X:552:G:C2	2.72	0.43
20:X:702:A:H1'	20:X:795:A:H4'	2.01	0.43
20:X:987:A:C2	20:X:1235:U:H5''	2.53	0.43
20:X:1005:C:H6	20:X:1005:C:P	2.42	0.43
20:X:1176:U:H2'	20:X:1178:A:N1	2.34	0.43
20:X:1269:G:H2'	20:X:1270:C:C6	2.54	0.43
20:X:1362:U:H2'	20:X:1363:C:C2	2.54	0.43
22:J:183:VAL:O	22:J:183:VAL:HG12	2.18	0.43
24:L:44:LYS:HZ3	24:L:52:VAL:HA	1.83	0.43
26:N:88:ARG:CG	26:N:88:ARG:NH2	2.74	0.43
42:T:42:TYR:HH	47:Y:2398:G:H8	1.66	0.43
47:Y:95:A:H5''	47:Y:95:A:H8	1.84	0.43
47:Y:1403:C:O5'	47:Y:1403:C:H6	2.01	0.43
47:Y:1443:A:H2'	47:Y:1444:C:C6	2.54	0.43
3:l:166:ASN:H	3:l:174:GLY:HA3	1.83	0.43
4:D:135:ASN:HD22	4:D:135:ASN:HA	1.48	0.43
8:H:130:SER:CB	20:X:1242:G:HO2'	2.18	0.43
10:2:82:VAL:CG2	10:2:107:VAL:HA	2.48	0.43
12:4:16:VAL:HG22	12:4:31:GLN:CA	2.49	0.43
18:I:52:TYR:CB	18:I:58:VAL:HG21	2.48	0.43
20:X:140:A:C8	20:X:140:A:O5'	2.72	0.43
20:X:435:C:O5'	20:X:435:C:C6	2.70	0.43
20:X:631:C:C6	20:X:631:C:C4'	3.02	0.43
20:X:970:U:H4'	20:X:971:U:H5''	2.01	0.43
20:X:1005:C:C6	20:X:1005:C:P	3.12	0.43
20:X:1123:A:C8	20:X:1123:A:C3'	3.02	0.43
20:X:1228:U:H2'	20:X:1229:U:C2	2.54	0.43
23:K:71:LYS:H	47:Y:2337:A:C2'	2.29	0.43
24:L:74:ASN:CB	47:Y:2774:G:OP1	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Q:59:ARG:HD3	47:Y:1498:U:O5'	2.18	0.43
30:R:14:ARG:HB3	30:R:93:VAL:HG13	2.01	0.43
33:V:1:MET:HE3	33:V:1:MET:HB3	1.88	0.43
36:a:48:PHE:C	36:a:50:LYS:H	2.26	0.43
37:b:76:LYS:HD2	37:b:76:LYS:HA	1.79	0.43
45:k:33:LYS:HZ3	47:Y:2554:C:H5''	1.82	0.43
47:Y:367:A:H62	47:Y:381:G:H21	1.67	0.43
47:Y:378:C:O5'	47:Y:378:C:H6	2.02	0.43
47:Y:1153:C:OP2	47:Y:1153:C:C6	2.70	0.43
47:Y:1568:U:H1'	47:Y:1570:G:C6	2.54	0.43
47:Y:2676:U:H2'	47:Y:2677:C:C6	2.53	0.43
47:Y:2817:A:H1'	47:Y:2818:A:C8	2.54	0.43
1:C:47:C:H2'	1:C:48:A:C8	2.53	0.42
1:C:107:U:C3'	1:C:107:U:C6	3.02	0.42
2:B:19:GLU:HB2	13:5:50:LYS:O	2.19	0.42
2:B:134:LYS:HA	2:B:137:ILE:HB	2.00	0.42
5:E:7:MET:SD	5:E:8:TYR:N	2.91	0.42
6:G:7:VAL:HG13	6:G:10:ARG:HH11	1.83	0.42
9:1:41:PRO:CA	9:1:72:ARG:HE	2.32	0.42
14:6:67:LEU:HD22	14:6:82:ILE:HD11	2.01	0.42
17:9:66:ARG:O	17:9:69:HIS:HB2	2.19	0.42
19:A:9:LYS:NZ	20:X:103:G:N7	2.67	0.42
20:X:166:U:H3'	20:X:167:A:C8	2.45	0.42
20:X:247:C:H3'	20:X:247:C:H6	1.83	0.42
20:X:409:C:H2'	20:X:410:G:H8	1.82	0.42
20:X:1163:A:P	20:X:1163:A:O4'	2.77	0.42
21:e:141:MET:HE3	21:e:141:MET:HB3	1.88	0.42
24:L:19:PHE:HD2	24:L:43:PHE:CD2	2.37	0.42
30:R:9:LYS:H	30:R:9:LYS:HG2	1.67	0.42
30:R:101:TYR:O	30:R:105:VAL:HG23	2.19	0.42
31:S:4:VAL:CG1	47:Y:1287:U:H4'	2.49	0.42
36:a:29:ALA:HA	36:a:89:ILE:O	2.18	0.42
41:g:10:LYS:HD3	47:Y:562:C:OP2	2.19	0.42
47:Y:5:A:H2'	47:Y:6:A:C8	2.54	0.42
47:Y:160:G:C8	47:Y:160:G:OP2	2.72	0.42
47:Y:2316:G:H2'	47:Y:2317:G:H8	1.84	0.42
47:Y:2793:G:H2'	47:Y:2793:G:N3	2.34	0.42
1:C:43:A:C8	1:C:43:A:O5'	2.72	0.42
2:B:51:VAL:HG12	2:B:113:ARG:NH1	2.34	0.42
3:l:69:ARG:O	3:l:72:PHE:HB3	2.19	0.42
5:E:81:LYS:CG	20:X:680:U:C4'	2.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:46:ILE:HA	7:F:65:LYS:H	1.84	0.42
7:F:66:TYR:HA	7:F:73:VAL:CG2	2.48	0.42
8:H:120:LEU:HD23	8:H:126:SER:OG	2.19	0.42
10:2:127:ARG:CZ	20:X:701:G:OP1	2.67	0.42
19:A:35:ALA:O	19:A:39:VAL:N	2.52	0.42
20:X:180:U:O5'	20:X:180:U:C6	2.70	0.42
20:X:378:C:OP2	20:X:378:C:C6	2.72	0.42
20:X:512:C:N4	20:X:547:A:H62	2.10	0.42
20:X:722:G:H2'	20:X:723:A:H5'	2.02	0.42
20:X:733:G:H8	20:X:733:G:O5'	2.01	0.42
20:X:787:C:C6	20:X:787:C:C4'	3.02	0.42
20:X:897:G:H22	20:X:921:U:H1'	1.84	0.42
20:X:932:G:O5'	20:X:932:G:C8	2.72	0.42
20:X:1005:C:H2'	20:X:1006:A:C8	2.54	0.42
20:X:1404:U:C3'	20:X:1404:U:C6	3.02	0.42
21:e:83:ALA:HB1	21:e:84:PRO:HD2	2.01	0.42
23:K:35:VAL:HA	23:K:86:GLY:CA	2.41	0.42
40:f:15:ARG:CB	40:f:16:PRO:HD2	2.49	0.42
47:Y:698:U:OP2	47:Y:698:U:C6	2.72	0.42
47:Y:770:G:O5'	47:Y:770:G:C8	2.70	0.42
47:Y:825:G:H2'	47:Y:827:A:N7	2.34	0.42
1:C:78:C:H2'	1:C:79:C:C5	2.54	0.42
2:B:112:ALA:HB2	2:B:201:ILE:HG23	2.01	0.42
2:B:137:ILE:CG1	2:B:150:THR:OG1	2.66	0.42
5:E:8:TYR:HB3	5:E:76:PHE:CE1	2.53	0.42
5:E:81:LYS:HE3	20:X:679:G:O3'	2.19	0.42
6:G:16:PRO:HB2	6:G:17:ILE:H	1.62	0.42
6:G:43:LEU:O	6:G:43:LEU:HD23	2.20	0.42
11:3:9:ARG:NH1	16:8:40:VAL:HG11	2.33	0.42
11:3:42:GLN:NE2	20:X:35:C:H1'	2.34	0.42
11:3:75:GLU:C	11:3:76:ILE:HD13	2.45	0.42
11:3:128:SER:HB2	20:X:510:C:H5'	1.99	0.42
13:5:2:ALA:N	13:5:6:MET:HG2	2.34	0.42
13:5:31:HIS:CE1	20:X:984:A:H5'	2.54	0.42
20:X:23:G:HO2'	20:X:923:A:H61	1.64	0.42
20:X:34:A:H2'	20:X:35:C:C6	2.54	0.42
20:X:285:C:H3'	20:X:286:A:C8	2.47	0.42
20:X:511:A:C5'	20:X:511:A:C8	3.02	0.42
20:X:515:C:H41	20:X:518:A:H61	1.66	0.42
20:X:893:C:C3'	20:X:893:C:C6	3.02	0.42
20:X:1076:G:OP1	20:X:1076:G:C8	2.70	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1487:G:H2'	20:X:1488:A:H5'	2.01	0.42
22:J:147:GLU:H	22:J:147:GLU:HG3	1.60	0.42
24:L:73:ASN:O	24:L:77:GLN:HG2	2.19	0.42
27:O:19:VAL:HG22	27:O:31:SER:HB3	2.02	0.42
27:O:66:PHE:CD1	27:O:66:PHE:N	2.83	0.42
31:S:4:VAL:CG1	47:Y:1287:U:C4'	2.97	0.42
37:b:17:SER:HB2	47:Y:2282:G:H21	1.84	0.42
39:d:54:LYS:HD2	47:Y:72:U:H6	1.83	0.42
39:d:62:ILE:CD1	47:Y:110:A:H5''	2.49	0.42
47:Y:17:G:H2'	47:Y:18:C:C6	2.55	0.42
47:Y:1477:U:O5'	47:Y:1477:U:H6	2.03	0.42
47:Y:2762:G:H2'	47:Y:2763:G:C8	2.53	0.42
47:Y:2766:U:O2	47:Y:2766:U:H2'	2.18	0.42
47:Y:2917:U:O2	47:Y:2917:U:H3'	2.19	0.42
47:Y:2919:A:OP1	47:Y:2919:A:H4'	2.19	0.42
1:C:29:C:C6	1:C:29:C:OP2	2.72	0.42
1:C:42:G:H1'	46:h:2:LYS:HZ2	1.80	0.42
2:B:42:ILE:HB	2:B:51:VAL:HG21	2.01	0.42
3:l:54:LYS:N	3:l:54:LYS:HD2	2.34	0.42
3:l:99:TYR:HA	3:l:110:ALA:HB1	2.00	0.42
5:E:90:MET:HG2	17:9:69:HIS:HB3	2.01	0.42
11:3:9:ARG:HH12	16:8:40:VAL:HG21	1.84	0.42
11:3:67:ARG:HH21	11:3:75:GLU:CD	2.26	0.42
14:6:79:ARG:HG3	14:6:83:LYS:HE3	2.02	0.42
17:9:75:TYR:HD2	20:X:726:A:C2	2.17	0.42
19:A:79:MET:HE2	20:X:184:A:H4'	2.01	0.42
20:X:584:C:H5'	20:X:826:G:H22	1.84	0.42
20:X:676:A:H3'	20:X:677:A:H5''	2.02	0.42
20:X:790:A:N7	20:X:791:C:H1'	2.34	0.42
20:X:877:G:H5''	20:X:877:G:C8	2.50	0.42
20:X:1130:A:C6	20:X:1131:G:H1'	2.54	0.42
21:e:61:LYS:HD3	21:e:68:TYR:CD2	2.54	0.42
23:K:61:THR:OG1	46:h:5:ILE:O	2.36	0.42
27:O:62:PRO:HB3	47:Y:2420:U:H5''	2.00	0.42
42:T:41:LYS:CE	42:T:41:LYS:HA	2.48	0.42
47:Y:392:U:H2'	47:Y:393:G:C8	2.49	0.42
47:Y:1009:C:H6	47:Y:1009:C:H5''	1.85	0.42
47:Y:1881:A:H3'	47:Y:1882:G:C8	2.54	0.42
47:Y:1947:C:O5'	47:Y:1947:C:H6	2.02	0.42
47:Y:1972:G:OP2	47:Y:1972:G:C8	2.70	0.42
47:Y:2332:U:H3'	47:Y:2333:U:C5'	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:2339:U:H3'	47:Y:2339:U:C6	2.52	0.42
47:Y:2424:G:H1	47:Y:2446:U:H3	1.66	0.42
47:Y:2499:G:H1'	47:Y:2505:A:N6	2.34	0.42
1:C:21:G:H2'	1:C:22:G:C8	2.54	0.42
6:G:42:ILE:HD12	6:G:46:ALA:CB	2.50	0.42
6:G:149:LYS:HD3	10:2:64:GLN:HB2	2.02	0.42
8:H:50:LEU:HB2	8:H:81:ILE:HG21	2.02	0.42
9:1:56:HIS:CG	20:X:1210:U:H5''	2.51	0.42
13:5:50:LYS:HE2	13:5:50:LYS:HB3	1.75	0.42
14:6:3:ILE:HG13	14:6:8:LYS:HD3	2.01	0.42
16:8:70:SER:H	20:X:273:G:H4'	1.84	0.42
19:A:14:THR:HG23	19:A:15:GLU:HG2	2.00	0.42
20:X:179:A:H2'	20:X:180:U:N1	2.35	0.42
20:X:700:U:H5'	20:X:805:C:H4'	1.99	0.42
20:X:944:C:H4'	20:X:948:A:H61	1.82	0.42
20:X:1414:C:H2'	20:X:1415:C:C6	2.54	0.42
20:X:1473:G:H2'	20:X:1474:C:C6	2.55	0.42
20:X:1509:G:C2'	20:X:1510:U:H5'	2.50	0.42
20:X:1519:A:H2'	20:X:1520:G:C8	2.45	0.42
27:O:64:ARG:CB	47:Y:2443:C:OP1	2.67	0.42
38:c:43:LYS:O	38:c:45:LYS:HG3	2.19	0.42
47:Y:7:G:H2'	47:Y:8:U:C6	2.55	0.42
47:Y:294:G:H3'	47:Y:295:G:H8	1.83	0.42
47:Y:339:A:C8	47:Y:339:A:C3'	3.03	0.42
47:Y:2730:C:O2	47:Y:2730:C:C2'	2.68	0.42
6:G:96:ARG:HG2	6:G:96:ARG:HH21	1.84	0.42
8:H:6:VAL:N	8:H:25:PRO:HB3	2.34	0.42
8:H:121:LYS:HA	8:H:121:LYS:HD3	1.59	0.42
10:2:112:ASP:OD1	10:2:112:ASP:N	2.51	0.42
11:3:65:TYR:CB	11:3:79:TYR:HA	2.48	0.42
13:5:31:HIS:HE1	20:X:986:G:H4'	1.84	0.42
14:6:39:VAL:CG2	20:X:748:U:H4'	2.32	0.42
20:X:32:G:H5''	20:X:314:A:C2	2.54	0.42
20:X:184:A:H1'	20:X:206:A:C4	2.55	0.42
20:X:379:G:H21	20:X:380:C:H41	1.66	0.42
20:X:522:C:H6	20:X:522:C:O5'	2.02	0.42
20:X:536:C:OP2	20:X:536:C:C6	2.71	0.42
20:X:618:G:H2'	20:X:635:G:N1	2.34	0.42
20:X:973:G:H2'	20:X:974:A:N3	2.35	0.42
20:X:1057:C:H2'	20:X:1058:A:H5''	2.00	0.42
20:X:1086:G:H3'	20:X:1087:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1383:U:O5'	20:X:1383:U:C6	2.70	0.42
20:X:1484:U:C2'	20:X:1485:G:H5'	2.50	0.42
20:X:1531:A:H2'	20:X:1532:G:H5'	2.01	0.42
29:Q:112:ASP:HB2	29:Q:113:GLY:H	1.63	0.42
33:V:69:LEU:HD12	33:V:69:LEU:HA	1.81	0.42
35:Z:84:LYS:HE2	35:Z:93:ILE:CG2	2.40	0.42
36:a:27:VAL:HG13	36:a:28:PRO:O	2.20	0.42
40:f:4:LEU:HD11	40:f:44:ARG:HH11	1.84	0.42
43:i:9:ASN:HB3	43:i:12:LYS:HB3	2.02	0.42
47:Y:1270:U:H2'	47:Y:1271:G:C8	2.55	0.42
47:Y:1912:A:C2	47:Y:2129:C:H5'	2.55	0.42
2:B:19:GLU:OE1	2:B:53:HIS:HB2	2.19	0.42
2:B:53:HIS:CE1	2:B:68:HIS:HE1	2.38	0.42
4:D:62:LYS:HE3	4:D:62:LYS:HB3	1.91	0.42
6:G:29:LYS:HE2	20:X:1386:A:H1'	1.98	0.42
7:F:11:LEU:HB2	7:F:79:ARG:NH2	2.26	0.42
9:1:25:ILE:HG21	9:1:74:ILE:HG21	2.01	0.42
11:3:10:LYS:HD3	20:X:891:G:C5'	2.49	0.42
12:4:91:HIS:NE2	12:4:98:ARG:HG3	2.35	0.42
12:4:102:THR:N	20:X:1236:A:H4'	2.35	0.42
14:6:62:ARG:HA	14:6:62:ARG:HD2	1.63	0.42
20:X:100:A:H2'	20:X:101:G:N3	2.34	0.42
20:X:1116:G:H2'	20:X:1117:A:C8	2.53	0.42
23:K:34:ILE:H	23:K:87:ALA:HB3	1.85	0.42
23:K:114:PHE:HB3	23:K:120:LYS:HD2	2.02	0.42
25:M:93:LEU:HD12	25:M:93:LEU:O	2.20	0.42
34:W:48:VAL:CG2	34:W:85:GLY:HA3	2.49	0.42
36:a:34:TYR:C	36:a:36:THR:H	2.28	0.42
47:Y:259:A:H2'	47:Y:260:A:C8	2.55	0.42
47:Y:294:G:H3'	47:Y:295:G:C8	2.55	0.42
47:Y:909:G:H2'	47:Y:910:C:C6	2.54	0.42
47:Y:913:U:H2'	47:Y:914:G:C8	2.54	0.42
47:Y:1443:A:H2'	47:Y:1444:C:H6	1.84	0.42
47:Y:1599:G:H3'	47:Y:1600:A:H8	1.85	0.42
47:Y:1627:G:C5'	47:Y:1627:G:C8	3.00	0.42
47:Y:1989:C:OP2	47:Y:1989:C:C6	2.70	0.42
1:C:55:A:C2	1:C:56:A:H1'	2.55	0.42
4:D:42:LYS:HB2	4:D:42:LYS:HE3	1.68	0.42
4:D:128:LEU:CA	20:X:568:A:H2	2.32	0.42
7:F:13:ARG:NH2	20:X:834:C:H4'	2.33	0.42
7:F:72:ARG:HD2	7:F:75:THR:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:96:LYS:NZ	7:F:119:ARG:HE	2.18	0.42
9:1:9:ARG:O	9:1:10:LEU:HD23	2.18	0.42
14:6:2:ALA:HB2	20:X:748:U:C5	2.55	0.42
14:6:9:ASN:O	14:6:13:LYS:HG2	2.19	0.42
20:X:262:G:H2'	20:X:263:G:C8	2.54	0.42
20:X:283:G:H4'	20:X:284:G:C5'	2.50	0.42
22:J:181:LEU:HD23	22:J:181:LEU:HA	1.87	0.42
31:S:84:LYS:O	31:S:84:LYS:HG2	2.18	0.42
41:g:32:ASN:HD22	41:g:32:ASN:HA	1.68	0.42
47:Y:454:G:H2'	47:Y:455:A:C8	2.54	0.42
47:Y:1462:G:H21	47:Y:1627:G:H1	1.68	0.42
47:Y:2787:C:H2'	47:Y:2788:A:C8	2.55	0.42
2:B:99:HIS:O	2:B:99:HIS:CG	2.70	0.42
2:B:146:LYS:CB	2:B:202:TYR:HD2	2.31	0.42
2:B:193:GLY:C	2:B:194:LYS:HG3	2.43	0.42
4:D:70:ASP:O	4:D:71:LEU:HD12	2.20	0.42
5:E:92:ILE:HD11	17:9:66:ARG:HD3	2.01	0.42
6:G:86:GLN:H	6:G:86:GLN:HG2	1.64	0.42
10:2:82:VAL:HB	10:2:84:VAL:HB	2.01	0.42
10:2:86:VAL:O	10:2:114:THR:HG22	2.20	0.42
10:2:97:ILE:HG23	10:2:107:VAL:HG21	2.00	0.42
14:6:7:ARG:O	14:6:11:ILE:HG23	2.20	0.42
14:6:65:HIS:HA	14:6:68:ASN:HD21	1.85	0.42
20:X:329:A:H5''	20:X:1446:G:C5'	2.50	0.42
20:X:353:C:N4	26:N:115:VAL:O	2.53	0.42
20:X:511:A:H5''	20:X:511:A:C8	2.54	0.42
20:X:590:U:H3'	20:X:591:A:C8	2.55	0.42
20:X:621:C:H3'	20:X:621:C:C6	2.55	0.42
20:X:679:G:H4'	20:X:680:U:C5'	2.49	0.42
20:X:771:G:H2'	20:X:772:C:C2	2.55	0.42
20:X:862:A:H2'	20:X:863:G:C8	2.55	0.42
20:X:1301:G:C8	20:X:1383:U:H4'	2.55	0.42
21:e:70:ASN:HB2	21:e:72:PRO:HD2	2.02	0.42
30:R:89:ILE:HG22	47:Y:2405:A:H1'	2.01	0.42
34:W:51:ALA:HB2	34:W:83:LYS:HG2	2.01	0.42
36:a:20:GLN:HA	36:a:23:LYS:NZ	2.34	0.42
40:f:47:ILE:CD1	40:f:56:VAL:HG11	2.48	0.42
43:i:19:PHE:CE1	43:i:23:MET:HG3	2.54	0.42
47:Y:114:C:H2'	47:Y:115:C:H6	1.85	0.42
47:Y:362:C:O4'	47:Y:362:C:P	2.78	0.42
47:Y:724:C:H2'	47:Y:725:A:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:1214:C:C2	47:Y:1215:U:H1'	2.55	0.42
47:Y:1446:U:H3	47:Y:1637:A:H2	1.68	0.42
47:Y:2432:G:H21	47:Y:2439:A:H62	1.67	0.42
47:Y:2505:A:C2'	47:Y:2506:U:H5'	2.50	0.42
1:C:103:A:C2	1:C:104:C:H1'	2.55	0.42
2:B:19:GLU:HB2	13:5:51:GLY:HA3	2.00	0.42
4:D:132:THR:OG1	4:D:133:PRO:HD2	2.20	0.42
6:G:28:ASN:HA	6:G:31:MET:HB2	2.01	0.42
7:F:13:ARG:HD2	20:X:833:G:H21	1.85	0.42
7:F:20:VAL:O	7:F:20:VAL:HG13	2.19	0.42
8:H:32:VAL:HB	8:H:69:VAL:HG13	2.01	0.42
8:H:54:PHE:CD1	8:H:60:LYS:HA	2.55	0.42
9:1:40:ILE:HG23	20:X:1135:A:C4'	2.50	0.42
19:A:71:ALA:HA	19:A:74:ILE:HG12	2.01	0.42
20:X:491:C:H3'	20:X:491:C:H6	1.85	0.42
20:X:606:U:O5'	20:X:606:U:C6	2.70	0.42
20:X:610:A:H3'	20:X:611:U:C6	2.55	0.42
20:X:856:C:O5'	20:X:856:C:C6	2.73	0.42
20:X:1374:A:OP2	20:X:1374:A:H4'	2.20	0.42
22:J:202:VAL:HA	22:J:205:VAL:CG2	2.50	0.42
23:K:54:VAL:CG1	23:K:85:ILE:CD1	2.98	0.42
26:N:112:MET:HE3	26:N:112:MET:HB3	1.86	0.42
34:W:82:LEU:H	34:W:82:LEU:HG	1.57	0.42
47:Y:268:A:P	47:Y:268:A:O4'	2.78	0.42
47:Y:619:U:H2'	47:Y:620:G:C8	2.55	0.42
47:Y:1482:U:H3'	47:Y:1482:U:H6	1.85	0.42
47:Y:1540:U:H6	47:Y:1540:U:H5''	1.85	0.42
47:Y:1700:C:O5'	47:Y:1700:C:H6	2.03	0.42
47:Y:1972:G:C8	47:Y:1972:G:P	3.13	0.42
47:Y:2120:G:N7	47:Y:2252:A:H2'	2.35	0.42
47:Y:2879:G:H8	47:Y:2879:G:O5'	2.02	0.42
47:Y:2917:U:H2'	47:Y:2918:A:C8	2.55	0.42
2:B:35:ASP:HA	2:B:38:ILE:CG1	2.50	0.41
2:B:42:ILE:CG2	2:B:46:LEU:HD12	2.51	0.41
2:B:112:ALA:HB2	2:B:201:ILE:CG2	2.50	0.41
2:B:186:ALA:HB3	2:B:197:VAL:HB	2.02	0.41
6:G:101:LEU:HD13	6:G:101:LEU:HA	1.75	0.41
7:F:30:SER:N	7:F:33:LYS:HB3	2.35	0.41
7:F:46:ILE:HG22	7:F:48:ASN:N	2.35	0.41
7:F:97:VAL:HG13	7:F:130:TYR:HB3	2.02	0.41
11:3:10:LYS:HE3	20:X:891:G:H5''	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:5:51:GLY:O	13:5:53:ILE:N	2.53	0.41
20:X:588:C:OP2	20:X:588:C:C6	2.72	0.41
20:X:631:C:H6	20:X:631:C:H5''	1.77	0.41
20:X:818:C:H2'	20:X:819:C:C4'	2.50	0.41
20:X:1195:G:H8	20:X:1195:G:OP1	2.03	0.41
20:X:1204:G:H8	20:X:1204:G:OP2	2.02	0.41
20:X:1377:C:H2'	20:X:1378:U:C6	2.55	0.41
20:X:1412:G:H3'	20:X:1413:C:C5	2.55	0.41
25:M:24:GLN:OE1	25:M:24:GLN:HA	2.20	0.41
27:O:29:LYS:O	47:Y:855:U:C2	2.73	0.41
47:Y:532:C:H2'	47:Y:533:C:C6	2.55	0.41
47:Y:769:U:H5''	47:Y:769:U:C6	2.55	0.41
47:Y:1933:G:H5'	47:Y:1956:G:C8	2.55	0.41
47:Y:1945:A:N3	47:Y:1946:A:N6	2.68	0.41
2:B:128:SER:O	2:B:131:ARG:N	2.49	0.41
2:B:152:VAL:HA	2:B:197:VAL:HG13	2.01	0.41
2:B:198:LYS:HD3	2:B:200:TRP:CZ3	2.54	0.41
3:l:53:GLU:HB2	3:l:54:LYS:HD2	2.02	0.41
4:D:134:ILE:HB	20:X:19:C:OP1	2.18	0.41
14:6:22:THR:O	20:X:757:A:H2	2.03	0.41
14:6:57:LEU:HD12	14:6:60:VAL:HB	2.01	0.41
16:8:27:VAL:HG21	16:8:46:TYR:CD1	2.55	0.41
18:I:62:VAL:HG13	18:I:63:THR:N	2.36	0.41
20:X:115:A:H5''	20:X:116:G:C6	2.54	0.41
20:X:324:C:H6	20:X:324:C:H5'	1.85	0.41
20:X:689:A:H2'	20:X:690:U:C4'	2.49	0.41
20:X:1112:C:C3'	20:X:1112:C:C6	3.02	0.41
20:X:1486:G:H3'	20:X:1486:G:H8	1.85	0.41
23:K:7:LYS:O	23:K:7:LYS:NZ	2.32	0.41
27:O:91:VAL:HA	27:O:95:LEU:CD2	2.45	0.41
28:P:74:TYR:CD1	28:P:92:GLY:HA3	2.38	0.41
29:Q:6:LEU:HD22	29:Q:13:ARG:NH2	2.35	0.41
36:a:63:LEU:HD23	36:a:63:LEU:HA	1.82	0.41
37:b:14:GLY:HA3	47:Y:2281:C:O2	2.21	0.41
38:c:58:LYS:HB2	38:c:58:LYS:HE3	1.88	0.41
39:d:44:ARG:O	39:d:48:LYS:HG3	2.20	0.41
43:i:26:LYS:HE2	43:i:26:LYS:HB2	1.73	0.41
47:Y:971:U:O2	47:Y:971:U:H2'	2.20	0.41
47:Y:1084:U:H2'	47:Y:1085:U:C2	2.55	0.41
47:Y:2317:G:H8	47:Y:2317:G:O5'	2.03	0.41
1:C:102:A:C2'	1:C:103:A:H5'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:21:LYS:HB2	2:B:56:ILE:O	2.20	0.41
5:E:88:ARG:HB3	5:E:90:MET:CE	2.50	0.41
7:F:65:LYS:HA	7:F:65:LYS:HD3	1.71	0.41
8:H:54:PHE:O	8:H:57:THR:HB	2.20	0.41
12:4:17:ILE:CB	12:4:27:THR:O	2.68	0.41
12:4:33:ILE:O	12:4:35:GLU:N	2.53	0.41
20:X:343:C:C3'	20:X:343:C:C6	3.02	0.41
20:X:571:A:N3	20:X:571:A:C2'	2.77	0.41
20:X:748:U:H2'	20:X:749:G:C8	2.55	0.41
20:X:775:A:H1'	20:X:1537:G:H5'	2.02	0.41
20:X:1001:U:H4'	20:X:1002:U:C5'	2.50	0.41
20:X:1068:U:H2'	20:X:1069:G:H5''	2.03	0.41
20:X:1069:G:H3'	20:X:1070:G:C8	2.54	0.41
20:X:1109:C:O2'	20:X:1180:A:O3'	2.38	0.41
20:X:1161:U:C3'	20:X:1161:U:C6	3.03	0.41
20:X:1172:C:O5'	20:X:1172:C:H6	2.04	0.41
20:X:1183:C:O5'	20:X:1183:C:C6	2.70	0.41
20:X:1404:U:H3'	20:X:1404:U:C6	2.55	0.41
20:X:1486:G:H3'	20:X:1486:G:C8	2.54	0.41
27:O:39:LYS:HG3	47:Y:877:G:OP1	2.20	0.41
28:P:43:THR:O	28:P:45:ARG:N	2.38	0.41
38:c:55:LYS:HA	38:c:55:LYS:HD3	1.75	0.41
44:j:60:GLN:O	44:j:61:LEU:C	2.63	0.41
47:Y:632:U:H2'	47:Y:633:A:C8	2.55	0.41
47:Y:1217:U:H6	47:Y:1217:U:P	2.43	0.41
47:Y:1617:A:H2'	47:Y:1618:A:C8	2.55	0.41
47:Y:1957:G:N2	47:Y:1995:G:H2'	2.36	0.41
47:Y:2251:G:O5'	47:Y:2251:G:H8	2.04	0.41
47:Y:2729:G:N3	47:Y:2729:G:C2'	2.72	0.41
2:B:22:TRP:HB3	2:B:58:ARG:H	1.84	0.41
7:F:93:GLU:OE2	7:F:93:GLU:N	2.52	0.41
8:H:49:ASP:C	8:H:51:ASN:N	2.78	0.41
8:H:106:LEU:HD12	8:H:107:THR:HG22	2.02	0.41
10:2:35:THR:HA	10:2:42:LEU:HB3	2.02	0.41
11:3:134:LYS:N	20:X:38:U:OP2	2.52	0.41
16:8:36:TYR:CE1	20:X:572:U:OP2	2.73	0.41
20:X:693:G:OP1	20:X:693:G:H4'	2.20	0.41
20:X:805:C:C5	20:X:805:C:OP2	2.73	0.41
20:X:870:A:N6	20:X:879:A:C4	2.87	0.41
20:X:985:A:H5''	20:X:1369:U:O2	2.20	0.41
20:X:991:U:C6	20:X:991:U:C4'	3.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1176:U:H1'	20:X:1177:G:N7	2.35	0.41
20:X:1332:U:O5'	20:X:1332:U:H6	2.03	0.41
20:X:1484:U:OP2	20:X:1484:U:C6	2.73	0.41
22:J:169:ASN:ND2	47:Y:365:A:H3'	2.35	0.41
24:L:65:HIS:CD2	24:L:69:ARG:HG3	2.56	0.41
25:M:9:GLU:OE2	25:M:9:GLU:HA	2.20	0.41
29:Q:77:THR:HB	29:Q:78:THR:H	1.62	0.41
36:a:15:ARG:C	36:a:17:ASP:H	2.28	0.41
45:k:6:SER:OG	45:k:8:LYS:NZ	2.37	0.41
47:Y:2053:U:O5'	47:Y:2053:U:H6	2.04	0.41
47:Y:2344:C:C4	47:Y:2345:A:H1'	2.55	0.41
47:Y:2400:U:H2'	47:Y:2401:C:H5'	2.02	0.41
3:l:60:LEU:HG	3:l:61:TYR:CD2	2.55	0.41
4:D:153:VAL:O	4:D:157:ARG:HB3	2.20	0.41
6:G:70:MET:SD	6:G:70:MET:O	2.79	0.41
14:6:2:ALA:HA	20:X:748:U:O5'	2.20	0.41
18:I:50:ALA:CB	18:I:57:HIS:HB2	2.50	0.41
19:A:28:MET:HA	19:A:31:ALA:HB3	2.03	0.41
20:X:278:A:C8	20:X:278:A:O5'	2.74	0.41
20:X:380:C:H42	20:X:399:G:H1'	1.85	0.41
20:X:616:A:H2'	20:X:617:A:C8	2.56	0.41
20:X:621:C:C6	20:X:621:C:C3'	3.03	0.41
20:X:673:A:OP1	20:X:673:A:H8	2.04	0.41
20:X:808:G:C8	20:X:808:G:OP2	2.73	0.41
20:X:997:A:H3'	20:X:997:A:H8	1.84	0.41
30:R:96:ARG:O	30:R:100:LEU:N	2.42	0.41
32:U:24:LYS:HE2	32:U:24:LYS:HB3	1.90	0.41
36:a:30:VAL:CG2	36:a:40:SER:HB2	2.41	0.41
47:Y:77:U:O5'	47:Y:77:U:H6	2.04	0.41
47:Y:230:A:O4'	47:Y:230:A:P	2.78	0.41
47:Y:1159:A:C2'	47:Y:1160:C:H5'	2.50	0.41
47:Y:1241:A:H2'	47:Y:1242:A:C8	2.56	0.41
47:Y:1951:C:O2	47:Y:1951:C:H2'	2.19	0.41
1:C:61:U:C6	1:C:61:U:H3'	2.55	0.41
4:D:128:LEU:HD23	4:D:128:LEU:C	2.45	0.41
4:D:134:ILE:HG21	20:X:19:C:O5'	2.04	0.41
5:E:53:ASN:OD1	20:X:719:G:P	2.78	0.41
6:G:107:TYR:CZ	6:G:134:ALA:HA	2.55	0.41
8:H:68:ASN:HD22	20:X:1141:C:C5'	2.34	0.41
9:1:49:TYR:OH	13:5:34:TYR:CB	2.69	0.41
11:3:5:ASN:C	11:3:7:LEU:H	2.29	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:3:24:LEU:HD22	11:3:108:TYR:CD1	2.55	0.41
11:3:103:LEU:HA	11:3:104:PRO:HD3	1.88	0.41
15:7:13:LYS:O	15:7:17:PHE:CE2	2.74	0.41
19:A:79:MET:SD	19:A:79:MET:O	2.79	0.41
20:X:23:G:O5'	20:X:23:G:C8	2.70	0.41
20:X:155:U:H2'	20:X:156:C:C6	2.56	0.41
20:X:303:C:C5	20:X:303:C:OP2	2.74	0.41
20:X:394:C:O5'	20:X:394:C:H6	2.04	0.41
20:X:610:A:H3'	20:X:611:U:H6	1.86	0.41
20:X:689:A:C5	20:X:690:U:H1'	2.55	0.41
20:X:794:G:H8	20:X:794:G:O5'	2.04	0.41
20:X:965:U:C3'	20:X:965:U:C6	3.04	0.41
20:X:1092:A:H4'	20:X:1092:A:OP1	2.20	0.41
20:X:1137:U:H1'	20:X:1155:G:C2	2.55	0.41
20:X:1239:C:H2'	20:X:1240:A:N7	2.36	0.41
20:X:1419:A:C8	20:X:1419:A:OP2	2.74	0.41
20:X:1500:G:C2'	20:X:1501:G:H5'	2.51	0.41
20:X:1516:G:H4'	20:X:1517:G:C2	2.56	0.41
24:L:151:VAL:HG13	24:L:152:ARG:N	2.34	0.41
29:Q:9:THR:HG22	29:Q:12:GLN:CB	2.48	0.41
29:Q:59:ARG:HD3	47:Y:1498:U:C5'	2.50	0.41
31:S:80:MET:HE1	31:S:95:LEU:HD12	2.03	0.41
33:V:38:LEU:HD12	41:g:27:MET:HG3	2.01	0.41
40:f:10:ARG:NH2	40:f:10:ARG:CG	2.79	0.41
41:g:37:LYS:NZ	47:Y:2904:U:H3	2.19	0.41
47:Y:1240:U:H2'	47:Y:1241:A:H8	1.86	0.41
47:Y:1632:A:H3'	47:Y:1633:A:H4'	2.02	0.41
47:Y:1726:A:C2	47:Y:1784:U:H1'	2.56	0.41
47:Y:1936:C:C6	47:Y:1936:C:H3'	2.55	0.41
47:Y:1992:C:H3'	47:Y:1993:A:H2'	2.02	0.41
47:Y:2348:G:N3	47:Y:2348:G:C2'	2.83	0.41
47:Y:2896:A:H2'	47:Y:2897:A:H8	1.86	0.41
5:E:3:THR:HA	5:E:66:LYS:CG	2.43	0.41
5:E:62:ILE:HD12	17:9:29:LYS:CE	2.51	0.41
9:1:42:LEU:HD12	20:X:1291:A:N7	2.36	0.41
15:7:84:PHE:N	15:7:84:PHE:CD1	2.89	0.41
17:9:65:LYS:HG3	20:X:742:A:O2'	2.21	0.41
18:I:36:ARG:HG3	18:I:51:VAL:CG1	2.50	0.41
20:X:293:C:H2'	20:X:294:A:N7	2.36	0.41
20:X:353:C:C5	26:N:116:SER:CA	2.90	0.41
20:X:952:G:C5'	20:X:952:G:C8	3.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1257:A:H5''	20:X:1258:U:C6	2.56	0.41
20:X:1364:G:H2'	20:X:1381:G:H22	1.85	0.41
20:X:1486:G:C8	20:X:1486:G:C3'	3.04	0.41
24:L:5:GLY:O	24:L:65:HIS:HE1	2.04	0.41
24:L:98:MET:HA	24:L:103:LEU:HA	2.03	0.41
24:L:111:HIS:ND1	24:L:111:HIS:O	2.54	0.41
25:M:33:VAL:CG1	25:M:106:ILE:HD13	2.51	0.41
27:O:84:LYS:HE3	27:O:84:LYS:HB3	1.53	0.41
28:P:58:MET:O	28:P:58:MET:HE3	2.19	0.41
36:a:43:VAL:HG12	36:a:44:ASP:N	2.36	0.41
37:b:53:ILE:O	37:b:67:LEU:CD1	2.62	0.41
43:i:40:ARG:NH1	47:Y:514:G:N7	2.64	0.41
47:Y:160:G:C8	47:Y:160:G:P	3.13	0.41
47:Y:810:A:H2'	47:Y:811:C:C6	2.56	0.41
47:Y:920:A:O5'	47:Y:920:A:C8	2.73	0.41
47:Y:971:U:H6	47:Y:971:U:OP1	2.04	0.41
47:Y:2119:U:H4'	47:Y:2120:G:H5''	2.03	0.41
47:Y:2681:A:H61	47:Y:2692:A:H3'	1.85	0.41
1:C:23:U:OP2	1:C:23:U:C6	2.74	0.41
1:C:40:C:C4'	23:K:60:ILE:HG12	2.49	0.41
2:B:58:ARG:HH21	2:B:63:ILE:CD1	2.34	0.41
2:B:175:HIS:CB	20:X:1122:A:H61	2.33	0.41
3:l:116:HIS:CB	20:X:445:U:H5''	2.51	0.41
4:D:44:GLY:HA3	4:D:74:VAL:CG1	2.49	0.41
4:D:83:HIS:CE1	4:D:146:ASN:O	2.74	0.41
5:E:5:GLU:C	5:E:91:VAL:HG23	2.46	0.41
6:G:18:HIS:CD2	6:G:23:VAL:HG11	2.56	0.41
9:1:29:ALA:O	9:1:83:THR:HG21	2.21	0.41
9:1:35:ASP:N	9:1:78:ASN:HD22	2.18	0.41
12:4:16:VAL:HG21	12:4:31:GLN:CD	2.46	0.41
20:X:160:A:C8	20:X:352:A:H2'	2.56	0.41
20:X:237:U:O5'	20:X:237:U:H6	2.04	0.41
20:X:301:A:O5'	20:X:301:A:H8	2.04	0.41
20:X:753:U:H6	20:X:753:U:C3'	2.20	0.41
20:X:997:A:C8	20:X:997:A:C3'	3.03	0.41
20:X:1308:U:O2	20:X:1308:U:O2'	2.35	0.41
20:X:1404:U:C6	20:X:1404:U:O5'	2.74	0.41
20:X:1468:A:H3'	20:X:1469:G:C8	2.50	0.41
20:X:1470:C:O2	20:X:1470:C:H2'	2.19	0.41
26:N:28:SER:OG	47:Y:2593:A:N1	2.48	0.41
26:N:104:ARG:NH1	26:N:104:ARG:CG	2.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:O:32:GLY:HA2	47:Y:1229:G:H5'	2.03	0.41
32:U:14:VAL:HA	32:U:18:GLN:HE21	1.86	0.41
47:Y:414:C:C2'	47:Y:415:U:H5'	2.51	0.41
47:Y:593:U:O2	47:Y:593:U:H3'	2.21	0.41
47:Y:624:C:H2'	47:Y:625:G:C8	2.56	0.41
47:Y:1492:G:H1'	47:Y:1574:G:H22	1.85	0.41
47:Y:2789:U:O2	47:Y:2789:U:H2'	2.20	0.41
47:Y:2824:G:H3'	47:Y:2824:G:C8	2.56	0.41
1:C:96:G:H4'	1:C:96:G:OP1	2.19	0.41
2:B:23:TYR:HD1	2:B:24:ALA:N	2.19	0.41
2:B:23:TYR:CE2	9:1:11:LYS:HB2	2.55	0.41
2:B:149:LYS:HG2	2:B:172:VAL:CB	2.50	0.41
3:I:72:PHE:CD1	3:I:82:HIS:HB3	2.55	0.41
4:D:33:PHE:CD2	4:D:56:VAL:HG13	2.56	0.41
5:E:13:ASN:OD1	5:E:55:PHE:CE2	2.73	0.41
5:E:45:LYS:HE2	5:E:59:PHE:CE1	2.56	0.41
6:G:4:LYS:HB2	6:G:5:GLY:H	1.64	0.41
6:G:35:LYS:NZ	6:G:38:THR:HG21	2.35	0.41
7:F:108:THR:CA	7:F:124:GLY:HA2	2.48	0.41
8:H:50:LEU:HB2	8:H:81:ILE:CG2	2.51	0.41
9:1:15:HIS:HB3	9:1:70:HIS:CE1	2.56	0.41
9:1:40:ILE:HG23	20:X:1135:A:C3'	2.49	0.41
11:3:12:ARG:HG3	11:3:13:GLN:O	2.21	0.41
11:3:47:CYS:SG	11:3:68:VAL:HG12	2.61	0.41
16:8:35:LEU:C	16:8:36:TYR:CD1	2.99	0.41
16:8:68:PRO:CB	16:8:74:ARG:HA	2.50	0.41
17:9:68:ARG:HH12	20:X:727:C:H1'	1.86	0.41
18:I:32:LYS:HB3	18:I:32:LYS:HE2	1.73	0.41
20:X:124:U:H2'	20:X:125:G:C8	2.56	0.41
20:X:131:C:H2'	20:X:132:C:C6	2.56	0.41
20:X:231:U:H2'	20:X:232:A:H8	1.86	0.41
20:X:377:C:H42	20:X:401:A:H1'	1.86	0.41
20:X:398:C:C6	20:X:398:C:H5''	2.55	0.41
20:X:439:A:H3'	20:X:440:A:N3	2.35	0.41
20:X:643:A:N3	20:X:643:A:H2'	2.36	0.41
20:X:746:U:C3'	20:X:746:U:C6	3.03	0.41
20:X:803:C:H2'	20:X:804:C:H5'	2.03	0.41
20:X:813:C:H3'	20:X:813:C:P	2.61	0.41
20:X:893:C:C2'	20:X:894:U:H5'	2.51	0.41
20:X:907:C:H3'	20:X:908:G:H8	1.86	0.41
20:X:962:U:C3'	20:X:962:U:C6	3.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1336:C:H6	20:X:1336:C:C3'	2.31	0.41
20:X:1422:C:H2'	20:X:1423:C:C6	2.56	0.41
20:X:1437:A:H3'	20:X:1437:A:H8	1.85	0.41
20:X:1492:A:H2'	20:X:1493:U:H4'	2.02	0.41
25:M:136:GLN:HA	25:M:136:GLN:NE2	2.36	0.41
27:O:19:VAL:CG2	27:O:31:SER:HB3	2.50	0.41
28:P:116:GLU:HG3	28:P:119:ARG:HE	1.85	0.41
29:Q:72:LEU:HD13	29:Q:72:LEU:HA	1.90	0.41
30:R:24:GLY:O	30:R:47:ASP:HB2	2.21	0.41
30:R:28:LYS:HD3	30:R:88:GLY:HA2	2.02	0.41
35:Z:82:GLY:HA2	47:Y:341:G:OP1	2.21	0.41
36:a:48:PHE:HA	36:a:51:VAL:HG23	2.03	0.41
47:Y:339:A:H2'	47:Y:340:C:N1	2.36	0.41
47:Y:346:A:H2'	47:Y:347:U:H6	1.86	0.41
47:Y:459:C:H6	47:Y:459:C:O5'	2.04	0.41
47:Y:573:A:N3	47:Y:573:A:C3'	2.83	0.41
47:Y:752:G:N3	47:Y:753:U:H5'	2.36	0.41
47:Y:1513:A:H2'	47:Y:1513:A:N3	2.35	0.41
47:Y:1891:U:C2'	47:Y:1892:U:H5'	2.50	0.41
47:Y:1954:A:H2'	47:Y:1955:A:C8	2.56	0.41
47:Y:2696:G:C8	47:Y:2696:G:OP2	2.73	0.41
47:Y:2696:G:OP2	47:Y:2696:G:H8	2.04	0.41
47:Y:2775:A:H2'	47:Y:2776:A:C8	2.56	0.41
1:C:101:G:H1'	36:a:32:TYR:CD1	2.56	0.41
2:B:7:PRO:HB2	2:B:181:ILE:O	2.20	0.41
2:B:39:ARG:HG3	2:B:56:ILE:HG23	2.02	0.41
5:E:47:ARG:HA	5:E:57:ASP:CG	2.33	0.41
6:G:52:GLN:H	6:G:52:GLN:HG2	1.63	0.41
6:G:69:ILE:HD13	6:G:103:TRP:CD1	2.56	0.41
6:G:95:ARG:CD	20:X:1389:C:O4'	2.68	0.41
7:F:74:ILE:HA	7:F:132:TRP:C	2.46	0.41
7:F:108:THR:CG2	7:F:113:ILE:HG12	2.51	0.41
11:3:46:VAL:HA	11:3:91:SER:O	2.20	0.41
12:4:16:VAL:CG2	12:4:31:GLN:CD	2.94	0.41
12:4:16:VAL:HG13	12:4:31:GLN:OE1	2.21	0.41
20:X:36:G:C2'	20:X:37:C:H5'	2.51	0.41
20:X:251:A:C2	20:X:253:U:H3'	2.56	0.41
20:X:256:C:C3'	20:X:256:C:C6	3.04	0.41
20:X:507:A:N3	20:X:507:A:C5'	2.73	0.41
20:X:829:G:H2'	20:X:830:A:C8	2.56	0.41
20:X:925:A:P	20:X:925:A:O4'	2.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:X:1161:U:O5'	20:X:1161:U:C6	2.74	0.41
20:X:1166:U:H3'	20:X:1166:U:C6	2.56	0.41
20:X:1469:G:H2'	20:X:1470:C:H5	1.85	0.41
21:e:144:GLY:HA2	47:Y:788:A:OP1	2.21	0.41
23:K:91:LEU:C	23:K:93:GLY:H	2.29	0.41
24:L:157:TYR:CZ	47:Y:2558:A:H5'	2.54	0.41
27:O:21:ARG:HD3	27:O:21:ARG:HA	1.81	0.41
30:R:25:THR:C	30:R:27:GLU:H	2.29	0.41
35:Z:89:LYS:HG2	35:Z:90:LYS:H	1.85	0.41
35:Z:93:ILE:O	35:Z:93:ILE:HG13	2.21	0.41
37:b:51:THR:HG22	47:Y:2363:A:H61	1.85	0.41
41:g:27:MET:HB3	41:g:36:TYR:CZ	2.56	0.41
41:g:28:THR:HG21	41:g:39:SER:HA	2.03	0.41
42:T:22:ASN:HB3	42:T:25:ASN:HB2	2.02	0.41
47:Y:704:U:H2'	47:Y:705:U:C6	2.55	0.41
47:Y:1065:A:C8	47:Y:1065:A:C3'	3.03	0.41
47:Y:1764:A:N3	47:Y:1764:A:H2'	2.35	0.41
47:Y:2050:A:H2'	47:Y:2051:C:H6	1.85	0.41
47:Y:2500:U:C3'	47:Y:2500:U:C6	3.04	0.41
1:C:53:U:OP2	1:C:53:U:C5	2.74	0.40
3:l:51:LEU:HD21	20:X:551:G:H1'	2.02	0.40
6:G:42:ILE:HA	6:G:42:ILE:HD12	1.76	0.40
6:G:96:ARG:HG2	6:G:96:ARG:NH2	2.36	0.40
11:3:93:VAL:HA	11:3:114:ALA:O	2.20	0.40
14:6:36:ILE:HA	14:6:39:VAL:HG12	2.03	0.40
18:I:65:ASP:O	18:I:67:VAL:HG13	2.21	0.40
20:X:237:U:H2'	20:X:238:G:N9	2.36	0.40
20:X:283:G:N7	47:Y:756:A:O2'	2.51	0.40
20:X:547:A:H2'	20:X:548:G:N7	2.36	0.40
20:X:608:U:H6	20:X:608:U:C5'	2.35	0.40
20:X:701:G:H5''	20:X:702:A:C8	2.57	0.40
20:X:781:G:H5''	20:X:781:G:C8	2.45	0.40
20:X:847:G:C4	20:X:848:G:H1'	2.56	0.40
20:X:985:A:H5''	20:X:1369:U:H1'	1.95	0.40
20:X:1501:G:N3	20:X:1502:U:H1'	2.36	0.40
20:X:1503:G:N3	20:X:1503:G:C2'	2.83	0.40
23:K:120:LYS:N	23:K:148:LYS:O	2.52	0.40
28:P:28:THR:O	28:P:30:GLY:N	2.55	0.40
29:Q:17:LEU:HD23	29:Q:17:LEU:HA	1.89	0.40
42:T:9:CYS:HB3	42:T:36:CYS:HB3	1.71	0.40
47:Y:167:U:C6	47:Y:167:U:O5'	2.74	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:768:A:H2'	47:Y:769:U:H5''	2.03	0.40
47:Y:1638:G:P	47:Y:1638:G:O4'	2.79	0.40
47:Y:2314:A:O5'	47:Y:2314:A:C8	2.70	0.40
47:Y:2574:U:H2'	47:Y:2575:G:C8	2.56	0.40
2:B:22:TRP:CB	2:B:58:ARG:H	2.35	0.40
4:D:148:LYS:HB3	4:D:148:LYS:HE3	1.85	0.40
5:E:49:ALA:CB	17:9:74:PRO:HA	2.50	0.40
6:G:70:MET:HB3	6:G:70:MET:HE3	1.77	0.40
9:1:42:LEU:N	9:1:72:ARG:HE	2.14	0.40
10:2:21:ALA:HA	10:2:34:ILE:HA	2.03	0.40
10:2:111:ARG:HB2	10:2:113:VAL:HG22	2.03	0.40
14:6:12:ILE:HB	14:6:31:VAL:HG21	2.03	0.40
14:6:41:GLU:HB2	14:6:45:THR:HG23	2.03	0.40
18:I:69:HIS:CE1	20:X:1331:C:P	3.14	0.40
19:A:35:ALA:O	19:A:39:VAL:HG23	2.21	0.40
20:X:264:U:H3'	20:X:264:U:H6	1.87	0.40
20:X:397:A:H3'	20:X:398:C:C6	2.57	0.40
20:X:545:G:C2'	20:X:546:U:H5'	2.51	0.40
20:X:755:U:H2'	20:X:756:A:C4'	2.51	0.40
20:X:891:G:H2'	20:X:892:C:C2	2.56	0.40
20:X:1103:U:O2	20:X:1103:U:H2'	2.20	0.40
20:X:1320:G:H1	20:X:1339:C:N4	2.18	0.40
20:X:1466:G:OP2	20:X:1466:G:C8	2.71	0.40
21:e:188:VAL:O	21:e:188:VAL:HG12	2.21	0.40
22:J:110:LEU:HB3	22:J:206:LEU:HD21	2.04	0.40
25:M:69:LYS:HB3	25:M:69:LYS:HE3	1.80	0.40
28:P:54:MET:HA	28:P:120:LEU:HD22	2.04	0.40
34:W:69:GLN:N	34:W:69:GLN:CD	2.75	0.40
45:k:15:LYS:C	45:k:25:VAL:HG13	2.46	0.40
47:Y:137:G:H2'	47:Y:138:U:C2	2.56	0.40
47:Y:750:A:C4	47:Y:772:A:H1'	2.56	0.40
47:Y:1932:C:H4'	47:Y:1956:G:H1'	2.03	0.40
47:Y:2098:A:H2'	47:Y:2099:G:C8	2.57	0.40
1:C:107:U:H3'	1:C:107:U:C6	2.55	0.40
2:B:107:LYS:HD2	2:B:107:LYS:HA	1.86	0.40
7:F:27:LEU:HA	7:F:28:PRO:HD3	1.88	0.40
8:H:51:ASN:OD1	8:H:85:ILE:HD11	2.21	0.40
8:H:53:PRO:HB2	8:H:85:ILE:HB	2.04	0.40
8:H:96:TYR:HA	8:H:100:LEU:CD2	2.49	0.40
11:3:112:ARG:O	20:X:36:G:H1'	2.22	0.40
12:4:68:ASP:OD1	12:4:68:ASP:N	2.53	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:8:13:LYS:HZ2	16:8:58:GLY:HA2	1.85	0.40
16:8:22:THR:HG22	20:X:262:G:H1'	2.03	0.40
20:X:15:U:H6	20:X:15:U:H3'	1.86	0.40
20:X:398:C:C5'	20:X:398:C:C6	3.04	0.40
20:X:765:U:H2'	20:X:766:G:C4'	2.52	0.40
20:X:1121:C:O2	20:X:1121:C:H2'	2.21	0.40
20:X:1434:G:C2	20:X:1435:U:H1'	2.56	0.40
23:K:46:ASN:O	23:K:50:LEU:HB2	2.21	0.40
24:L:161:GLY:O	24:L:162:ILE:HD13	2.22	0.40
31:S:18:ILE:HD11	31:S:32:TYR:CA	2.51	0.40
33:V:34:ALA:CB	41:g:36:TYR:CE2	2.95	0.40
36:a:78:GLN:CD	36:a:88:HIS:O	2.64	0.40
47:Y:394:U:H5	47:Y:395:U:H1'	1.87	0.40
47:Y:413:C:O2	47:Y:413:C:H2'	2.20	0.40
47:Y:435:A:H2'	47:Y:436:A:H5'	2.03	0.40
47:Y:968:A:H2'	47:Y:969:A:H4'	2.02	0.40
47:Y:1482:U:H2'	47:Y:1483:A:C8	2.56	0.40
47:Y:1529:U:OP2	47:Y:1529:U:C6	2.74	0.40
47:Y:1949:G:OP2	47:Y:1949:G:H8	2.05	0.40
47:Y:2035:C:H2'	47:Y:2036:G:H8	1.86	0.40
47:Y:2533:U:H6	47:Y:2533:U:O5'	2.03	0.40
47:Y:2611:U:O2	47:Y:2611:U:H2'	2.21	0.40
47:Y:2833:U:H2'	47:Y:2834:C:H6	1.86	0.40
4:D:24:VAL:HG21	20:X:1409:A:N7	2.36	0.40
5:E:11:ARG:HD3	5:E:85:ASP:HA	2.02	0.40
6:G:75:VAL:O	6:G:75:VAL:HG23	2.21	0.40
8:H:46:LEU:HD12	8:H:46:LEU:HA	1.79	0.40
10:2:74:ALA:C	10:2:76:GLU:H	2.29	0.40
17:9:34:LEU:CD1	17:9:60:LEU:HD23	2.51	0.40
20:X:103:G:H8	20:X:103:G:OP2	2.05	0.40
20:X:168:G:C2'	20:X:169:C:H4'	2.52	0.40
20:X:177:G:H3'	20:X:178:G:H8	1.85	0.40
20:X:245:C:O5'	20:X:245:C:C6	2.70	0.40
20:X:907:C:H3'	20:X:908:G:C8	2.56	0.40
20:X:1064:U:O2	20:X:1064:U:O2'	2.38	0.40
20:X:1087:U:C6	20:X:1087:U:C3'	3.04	0.40
20:X:1291:A:H8	20:X:1291:A:P	2.45	0.40
20:X:1491:A:H2'	20:X:1492:A:C5	2.57	0.40
22:J:154:VAL:CG2	22:J:175:VAL:HG23	2.52	0.40
24:L:157:TYR:O	24:L:171:ARG:NE	2.42	0.40
26:N:21:THR:HB	26:N:39:ILE:HD13	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:68:GLY:CA	26:N:78:LYS:HE2	2.51	0.40
30:R:109:ALA:HA	30:R:113:ARG:CG	2.49	0.40
43:i:16:VAL:HG22	43:i:17:HIS:CD2	2.56	0.40
43:i:19:PHE:CD1	43:i:19:PHE:C	3.00	0.40
47:Y:407:G:H8	47:Y:407:G:H5''	1.86	0.40
47:Y:1897:U:H4'	47:Y:1898:C:H5'	2.04	0.40
47:Y:1976:G:H3'	47:Y:1977:G:C8	2.57	0.40
47:Y:2035:C:H2'	47:Y:2036:G:C8	2.57	0.40
47:Y:2127:G:H2'	47:Y:2128:G:C8	2.55	0.40
47:Y:2218:G:C8	47:Y:2218:G:H5''	2.57	0.40
47:Y:2778:G:OP2	47:Y:2778:G:C2	2.75	0.40
1:C:37:A:C2	46:h:2:LYS:CG	3.02	0.40
1:C:38:U:C5	46:h:2:LYS:HB2	2.55	0.40
1:C:72:U:O2	1:C:72:U:C2'	2.70	0.40
2:B:22:TRP:C	9:l:13:TYR:HE2	2.29	0.40
2:B:172:VAL:HG11	2:B:200:TRP:O	2.22	0.40
3:l:82:HIS:ND1	3:l:85:ASN:HB3	2.37	0.40
4:D:20:ARG:HG3	4:D:20:ARG:NH1	2.32	0.40
5:E:11:ARG:HB2	5:E:85:ASP:OD1	2.21	0.40
7:F:109:SER:HA	20:X:650:A:N1	2.37	0.40
8:H:28:GLY:HA2	8:H:63:TYR:C	2.46	0.40
8:H:68:ASN:HD22	20:X:1141:C:H5''	1.86	0.40
8:H:116:LYS:HG3	20:X:1380:C:C5	2.56	0.40
10:2:72:LYS:HA	10:2:72:LYS:HD3	1.76	0.40
10:2:81:THR:HG22	10:2:82:VAL:N	2.37	0.40
11:3:4:ILE:HA	11:3:7:LEU:HB2	2.02	0.40
11:3:9:ARG:NH2	16:8:40:VAL:HG11	2.37	0.40
11:3:84:GLY:HA3	11:3:120:VAL:HG11	2.02	0.40
14:6:3:ILE:HG13	14:6:8:LYS:CE	2.52	0.40
20:X:610:A:H5''	20:X:610:A:C8	2.52	0.40
20:X:765:U:C6	20:X:765:U:C3'	3.05	0.40
20:X:795:A:OP2	20:X:795:A:C8	2.70	0.40
20:X:958:C:P	20:X:1317:A:O2'	2.80	0.40
20:X:997:A:C8	20:X:997:A:H3'	2.57	0.40
20:X:1210:U:H1'	20:X:1214:C:N4	2.34	0.40
21:e:23:ILE:CG2	21:e:198:LYS:HG3	2.52	0.40
22:J:116:PHE:CD1	22:J:116:PHE:O	2.74	0.40
29:Q:59:ARG:CD	47:Y:1498:U:C5'	3.00	0.40
33:V:60:HIS:C	33:V:60:HIS:HD1	2.28	0.40
33:V:69:LEU:HG	33:V:107:VAL:CG1	2.51	0.40
39:d:58:ARG:NH2	39:d:61:GLU:HB2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:h:18:THR:C	46:h:20:ASN:H	2.29	0.40
47:Y:1529:U:C6	47:Y:1529:U:C3'	3.05	0.40
47:Y:1636:U:O2	47:Y:1636:U:O2'	2.31	0.40
47:Y:2051:C:H2'	47:Y:2052:C:C6	2.57	0.40
47:Y:2727:G:H2'	47:Y:2728:U:H5'	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	200/202 (99%)	155 (78%)	43 (22%)	2 (1%)	13	40
3	l	196/198 (99%)	128 (65%)	68 (35%)	0	100	100
4	D	154/156 (99%)	118 (77%)	35 (23%)	1 (1%)	22	52
5	E	93/95 (98%)	66 (71%)	23 (25%)	4 (4%)	2	11
6	G	153/155 (99%)	105 (69%)	39 (26%)	9 (6%)	1	7
7	F	128/130 (98%)	89 (70%)	36 (28%)	3 (2%)	5	22
8	H	125/127 (98%)	88 (70%)	33 (26%)	4 (3%)	3	17
9	1	78/80 (98%)	63 (81%)	12 (15%)	3 (4%)	2	14
10	2	112/114 (98%)	78 (70%)	33 (30%)	1 (1%)	14	43
11	3	134/136 (98%)	92 (69%)	40 (30%)	2 (2%)	8	31
12	4	111/113 (98%)	79 (71%)	29 (26%)	3 (3%)	4	19
13	5	58/60 (97%)	39 (67%)	18 (31%)	1 (2%)	7	29
14	6	86/88 (98%)	64 (74%)	22 (26%)	0	100	100
15	7	81/83 (98%)	55 (68%)	18 (22%)	8 (10%)	0	2
16	8	78/80 (98%)	51 (65%)	27 (35%)	0	100	100
17	9	54/56 (96%)	41 (76%)	12 (22%)	1 (2%)	6	26

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
18	I	76/78 (97%)	47 (62%)	27 (36%)	2 (3%)	4	20
19	A	76/78 (97%)	64 (84%)	12 (16%)	0	100	100
21	e	213/215 (99%)	173 (81%)	37 (17%)	3 (1%)	9	32
22	J	203/205 (99%)	175 (86%)	26 (13%)	2 (1%)	13	40
23	K	163/165 (99%)	112 (69%)	46 (28%)	5 (3%)	3	17
24	L	172/174 (99%)	115 (67%)	57 (33%)	0	100	100
25	M	143/145 (99%)	123 (86%)	15 (10%)	5 (4%)	3	15
26	N	120/122 (98%)	99 (82%)	18 (15%)	3 (2%)	4	20
27	O	143/145 (99%)	111 (78%)	30 (21%)	2 (1%)	9	32
28	P	134/136 (98%)	115 (86%)	17 (13%)	2 (2%)	8	31
29	Q	117/119 (98%)	97 (83%)	14 (12%)	6 (5%)	1	9
30	R	111/113 (98%)	80 (72%)	31 (28%)	0	100	100
31	S	114/116 (98%)	108 (95%)	4 (4%)	2 (2%)	7	27
32	U	100/102 (98%)	73 (73%)	24 (24%)	3 (3%)	3	18
33	V	110/112 (98%)	95 (86%)	15 (14%)	0	100	100
34	W	87/89 (98%)	70 (80%)	13 (15%)	4 (5%)	2	11
35	Z	101/103 (98%)	74 (73%)	27 (27%)	0	100	100
36	a	91/93 (98%)	69 (76%)	22 (24%)	0	100	100
37	b	80/82 (98%)	68 (85%)	10 (12%)	2 (2%)	4	20
38	c	47/49 (96%)	38 (81%)	9 (19%)	0	100	100
39	d	60/62 (97%)	49 (82%)	11 (18%)	0	100	100
40	f	55/57 (96%)	52 (94%)	3 (6%)	0	100	100
41	g	45/47 (96%)	38 (84%)	6 (13%)	1 (2%)	5	23
42	T	45/47 (96%)	41 (91%)	3 (7%)	1 (2%)	5	23
43	i	41/43 (95%)	36 (88%)	5 (12%)	0	100	100
44	j	58/60 (97%)	43 (74%)	15 (26%)	0	100	100
45	k	35/37 (95%)	24 (69%)	11 (31%)	0	100	100
46	h	72/74 (97%)	40 (56%)	30 (42%)	2 (3%)	4	19
All	All	4653/4741 (98%)	3540 (76%)	1026 (22%)	87 (2%)	9	26

All (87) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	E	12	PRO
15	7	13	LYS
21	e	19	ASN
23	K	95	ARG
28	P	78	PRO
29	Q	69	VAL
46	h	5	ILE
2	B	129	PHE
5	E	5	GLU
6	G	16	PRO
6	G	31	MET
6	G	69	ILE
7	F	72	ARG
8	H	44	GLU
8	H	45	SER
8	H	46	LEU
12	4	27	THR
12	4	99	GLY
15	7	54	GLU
18	I	55	ARG
21	e	105	VAL
23	K	89	VAL
25	M	26	LEU
25	M	142	GLU
28	P	44	SER
29	Q	81	ALA
31	S	9	VAL
32	U	8	GLY
46	h	7	PRO
4	D	162	GLU
5	E	14	ILE
6	G	82	GLY
6	G	114	LYS
15	7	14	ARG
25	M	11	ASN
27	O	29	LYS
27	O	70	ASN
29	Q	28	GLU
31	S	102	ASP
34	W	4	ARG
41	g	33	CYS
5	E	71	LYS
6	G	104	LEU

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Mol	Chain	Res	Type
6	G	127	ALA
7	F	92	SER
7	F	121	ARG
8	H	123	ALA
9	1	16	ARG
9	1	60	ASP
15	7	45	ALA
15	7	49	GLU
17	9	53	SER
18	I	56	LYS
23	K	53	ALA
26	N	90	ASP
29	Q	92	ARG
34	W	63	LYS
37	b	65	ASP
37	b	66	THR
42	T	39	LEU
6	G	8	PRO
11	3	127	ARG
11	3	135	PRO
15	7	11	GLY
15	7	64	GLY
22	J	134	PRO
25	M	82	PRO
25	M	128	GLY
32	U	46	VAL
32	U	78	ARG
34	W	62	LYS
34	W	84	GLU
2	B	18	TRP
23	K	138	PHE
29	Q	27	SER
29	Q	87	GLY
23	K	36	VAL
26	N	48	PRO
21	e	107	VAL
22	J	15	GLY
9	1	43	PRO
15	7	16	PRO
6	G	91	VAL
12	4	96	PRO
13	5	28	GLY

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Mol	Chain	Res	Type
10	2	115	PRO
26	N	26	GLY

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	
2	B	151/164 (92%)	142 (94%)	9 (6%)	16	42
3	I	23/174 (13%)	23 (100%)	0	100	100
4	D	120/122 (98%)	115 (96%)	5 (4%)	25	54
5	E	82/83 (99%)	75 (92%)	7 (8%)	8	30
6	G	115/131 (88%)	70 (61%)	45 (39%)	0	0
7	F	107/111 (96%)	98 (92%)	9 (8%)	9	30
8	H	96/105 (91%)	90 (94%)	6 (6%)	15	41
9	1	67/73 (92%)	58 (87%)	9 (13%)	3	13
10	2	85/90 (94%)	81 (95%)	4 (5%)	22	50
11	3	95/118 (80%)	94 (99%)	1 (1%)	70	83
12	4	75/97 (77%)	68 (91%)	7 (9%)	7	26
13	5	51/52 (98%)	44 (86%)	7 (14%)	3	12
14	6	74/80 (92%)	74 (100%)	0	100	100
15	7	36/70 (51%)	21 (58%)	15 (42%)	0	0
16	8	35/75 (47%)	35 (100%)	0	100	100
17	9	49/50 (98%)	35 (71%)	14 (29%)	0	1
18	I	45/69 (65%)	43 (96%)	2 (4%)	24	52
19	A	37/65 (57%)	36 (97%)	1 (3%)	40	65
21	e	158/173 (91%)	126 (80%)	32 (20%)	1	4
22	J	154/168 (92%)	122 (79%)	32 (21%)	1	4
23	K	67/146 (46%)	59 (88%)	8 (12%)	4	16
24	L	61/152 (40%)	60 (98%)	1 (2%)	58	77

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	M	117/123 (95%)	95 (81%)	22 (19%)	1	5
26	N	100/100 (100%)	83 (83%)	17 (17%)	1	7
27	O	91/111 (82%)	63 (69%)	28 (31%)	0	0
28	P	101/113 (89%)	95 (94%)	6 (6%)	16	42
29	Q	90/100 (90%)	70 (78%)	20 (22%)	1	3
30	R	63/90 (70%)	61 (97%)	2 (3%)	34	61
31	S	96/96 (100%)	81 (84%)	15 (16%)	2	9
32	U	68/86 (79%)	49 (72%)	19 (28%)	0	1
33	V	84/91 (92%)	63 (75%)	21 (25%)	0	1
34	W	72/80 (90%)	53 (74%)	19 (26%)	0	1
35	Z	71/88 (81%)	71 (100%)	0	100	100
36	a	58/82 (71%)	58 (100%)	0	100	100
37	b	61/64 (95%)	58 (95%)	3 (5%)	21	49
38	c	38/41 (93%)	37 (97%)	1 (3%)	41	66
39	d	52/57 (91%)	51 (98%)	1 (2%)	52	73
40	f	50/51 (98%)	38 (76%)	12 (24%)	0	2
41	g	35/43 (81%)	28 (80%)	7 (20%)	1	4
42	T	42/45 (93%)	28 (67%)	14 (33%)	0	0
43	i	39/39 (100%)	32 (82%)	7 (18%)	1	6
44	j	44/52 (85%)	42 (96%)	2 (4%)	23	51
45	k	29/35 (83%)	29 (100%)	0	100	100
46	h	23/66 (35%)	20 (87%)	3 (13%)	3	14
All	All	3207/4021 (80%)	2774 (86%)	433 (14%)	5	13

All (433) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	39	ARG
2	B	42	ILE
2	B	46	LEU
2	B	51	VAL
2	B	67	ILE
2	B	151	GLN
2	B	197	VAL

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Mol	Chain	Res	Type
2	B	198	LYS
2	B	203	ARG
4	D	93	SER
4	D	131	ASN
4	D	134	ILE
4	D	135	ASN
4	D	141	ILE
5	E	10	VAL
5	E	11	ARG
5	E	13	ASN
5	E	14	ILE
5	E	57	ASP
5	E	68	ASP
5	E	71	LYS
6	G	4	LYS
6	G	9	LYS
6	G	15	ASP
6	G	17	ILE
6	G	21	LYS
6	G	22	LEU
6	G	24	THR
6	G	25	LYS
6	G	27	ILE
6	G	28	ASN
6	G	30	ILE
6	G	31	MET
6	G	36	ARG
6	G	38	THR
6	G	40	GLN
6	G	42	ILE
6	G	45	SER
6	G	47	PHE
6	G	48	ASP
6	G	49	LEU
6	G	54	SER
6	G	56	ARG
6	G	59	LEU
6	G	67	ASN
6	G	69	ILE
6	G	70	MET
6	G	74	GLU
6	G	84	ASN

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Mol	Chain	Res	Type
6	G	86	GLN
6	G	90	GLU
6	G	91	VAL
6	G	96	ARG
6	G	97	THR
6	G	99	LEU
6	G	101	LEU
6	G	105	VAL
6	G	109	ARG
6	G	117	GLU
6	G	123	GLU
6	G	124	ILE
6	G	125	LEU
6	G	126	ASP
6	G	148	ASN
6	G	149	LYS
6	G	151	PHE
7	F	15	ARG
7	F	19	MET
7	F	99	ASN
7	F	101	LEU
7	F	106	VAL
7	F	108	THR
7	F	120	LYS
7	F	121	ARG
7	F	132	TRP
8	H	45	SER
8	H	46	LEU
8	H	47	ILE
8	H	49	ASP
8	H	120	LEU
8	H	121	LYS
9	1	15	HIS
9	1	16	ARG
9	1	46	LYS
9	1	51	ILE
9	1	52	ILE
9	1	53	ARG
9	1	60	ASP
9	1	68	ARG
9	1	73	LEU
10	2	15	ASN

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Mol	Chain	Res	Type
10	2	59	THR
10	2	64	GLN
10	2	95	SER
11	3	128	SER
12	4	29	THR
12	4	32	LYS
12	4	33	ILE
12	4	87	ARG
12	4	90	ARG
12	4	92	ARG
12	4	102	THR
13	5	4	THR
13	5	6	MET
13	5	24	CYS
13	5	26	ARG
13	5	29	ARG
13	5	38	LYS
13	5	60	SER
15	7	3	VAL
15	7	4	LYS
15	7	5	ILE
15	7	9	ARG
15	7	10	LEU
15	7	13	LYS
15	7	15	ASN
15	7	20	ILE
15	7	24	ASP
15	7	29	ARG
15	7	32	ARG
15	7	75	LEU
15	7	77	LYS
15	7	80	ILE
15	7	83	LYS
17	9	34	LEU
17	9	36	ARG
17	9	37	PHE
17	9	38	ILE
17	9	43	LYS
17	9	44	ILE
17	9	45	LEU
17	9	48	ARG
17	9	49	VAL

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Mol	Chain	Res	Type
17	9	52	THR
17	9	53	SER
17	9	55	LYS
17	9	60	LEU
17	9	64	ILE
18	I	55	ARG
18	I	81	LYS
19	A	80	THR
21	e	2	THR
21	e	5	ILE
21	e	12	MET
21	e	23	ILE
21	e	32	GLU
21	e	39	LYS
21	e	41	VAL
21	e	54	GLU
21	e	55	ASP
21	e	60	LYS
21	e	70	ASN
21	e	76	HIS
21	e	78	LYS
21	e	85	LYS
21	e	93	ASN
21	e	105	VAL
21	e	107	VAL
21	e	108	ASP
21	e	109	THR
21	e	131	ILE
21	e	138	ARG
21	e	158	SER
21	e	165	LYS
21	e	173	MET
21	e	176	ASN
21	e	177	THR
21	e	180	VAL
21	e	183	LEU
21	e	186	VAL
21	e	205	LYS
21	e	209	VAL
21	e	216	LYS
22	J	6	VAL
22	J	8	LYS

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Mol	Chain	Res	Type
22	J	10	ASP
22	J	21	ASP
22	J	23	VAL
22	J	29	ASN
22	J	41	ARG
22	J	45	ARG
22	J	54	ARG
22	J	58	SER
22	J	66	LYS
22	J	70	THR
22	J	100	LYS
22	J	108	LEU
22	J	111	ARG
22	J	117	LYS
22	J	123	LEU
22	J	126	VAL
22	J	127	ASP
22	J	137	LYS
22	J	142	VAL
22	J	150	LYS
22	J	164	GLU
22	J	177	THR
22	J	179	GLN
22	J	186	ILE
22	J	187	THR
22	J	192	LEU
22	J	193	VAL
22	J	194	ILE
22	J	200	LYS
22	J	201	LYS
23	K	34	ILE
23	K	35	VAL
23	K	54	VAL
23	K	55	GLU
23	K	60	ILE
23	K	63	GLN
23	K	85	ILE
23	K	88	LYS
24	L	175	LYS
25	M	1	MET
25	M	12	ILE
25	M	19	ILE

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Mol	Chain	Res	Type
25	M	25	THR
25	M	29	LEU
25	M	32	GLU
25	M	45	TYR
25	M	49	VAL
25	M	51	THR
25	M	53	ASP
25	M	54	TYR
25	M	58	ILE
25	M	62	LYS
25	M	64	GLU
25	M	65	PHE
25	M	69	LYS
25	M	85	ILE
25	M	93	LEU
25	M	95	ARG
25	M	112	SER
25	M	123	LEU
25	M	130	GLU
26	N	7	ARG
26	N	14	SER
26	N	21	THR
26	N	23	LYS
26	N	31	LYS
26	N	34	ASN
26	N	39	ILE
26	N	42	THR
26	N	62	ILE
26	N	64	ARG
26	N	66	LYS
26	N	67	SER
26	N	71	ARG
26	N	77	ILE
26	N	112	MET
26	N	113	LYS
26	N	117	LEU
27	O	14	LYS
27	O	17	ASN
27	O	19	VAL
27	O	23	VAL
27	O	30	THR
27	O	31	SER

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Mol	Chain	Res	Type
27	O	33	ARG
27	O	35	HIS
27	O	38	GLN
27	O	39	LYS
27	O	59	ARG
27	O	60	ARG
27	O	66	PHE
27	O	69	ILE
27	O	79	LEU
27	O	84	LYS
27	O	89	THR
27	O	90	GLU
27	O	95	LEU
27	O	96	LEU
27	O	109	ILE
27	O	116	SER
27	O	119	LYS
27	O	121	LEU
27	O	126	HIS
27	O	127	LYS
27	O	128	PHE
27	O	134	GLU
28	P	2	LEU
28	P	3	LEU
28	P	68	ILE
28	P	75	THR
28	P	77	LYS
28	P	94	ILE
29	Q	4	ARG
29	Q	8	ARG
29	Q	11	ASP
29	Q	25	ILE
29	Q	40	VAL
29	Q	41	ARG
29	Q	43	VAL
29	Q	48	ILE
29	Q	49	THR
29	Q	64	LYS
29	Q	72	LEU
29	Q	77	THR
29	Q	84	LYS
29	Q	85	LEU

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Mol	Chain	Res	Type
29	Q	88	GLU
29	Q	112	ASP
29	Q	116	SER
29	Q	117	VAL
29	Q	118	ILE
29	Q	122	VAL
30	R	22	LEU
30	R	89	ILE
31	S	16	LYS
31	S	20	LEU
31	S	22	LYS
31	S	25	PHE
31	S	33	LYS
31	S	34	VAL
31	S	38	GLN
31	S	40	MET
31	S	41	LYS
31	S	70	ARG
31	S	90	ILE
31	S	93	LYS
31	S	97	GLU
31	S	115	ASP
31	S	117	LEU
32	U	5	ILE
32	U	6	GLU
32	U	12	ILE
32	U	24	LYS
32	U	26	ASP
32	U	32	THR
32	U	37	LYS
32	U	64	LYS
32	U	65	GLN
32	U	67	ARG
32	U	70	LYS
32	U	71	ILE
32	U	73	VAL
32	U	75	THR
32	U	77	LYS
32	U	79	ARG
32	U	80	LYS
32	U	99	LYS
32	U	100	ILE

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Mol	Chain	Res	Type
33	V	1	MET
33	V	2	GLU
33	V	9	THR
33	V	11	ARG
33	V	12	ILE
33	V	19	LEU
33	V	33	ILE
33	V	37	LYS
33	V	41	LYS
33	V	51	LEU
33	V	60	HIS
33	V	69	LEU
33	V	71	VAL
33	V	83	LYS
33	V	86	ARG
33	V	90	GLN
33	V	92	ARG
33	V	99	ARG
33	V	103	ILE
33	V	107	VAL
33	V	111	LYS
34	W	2	GLU
34	W	5	ASP
34	W	6	ILE
34	W	9	ARG
34	W	26	THR
34	W	33	VAL
34	W	42	VAL
34	W	45	ILE
34	W	48	VAL
34	W	61	LYS
34	W	62	LYS
34	W	64	ARG
34	W	65	MET
34	W	68	TYR
34	W	73	ASN
34	W	75	ARG
34	W	77	LYS
34	W	82	LEU
34	W	83	LYS
37	b	44	ILE
37	b	47	ARG

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Mol	Chain	Res	Type
37	b	48	GLN
38	c	60	THR
39	d	66	LYS
40	f	6	ILE
40	f	10	ARG
40	f	11	SER
40	f	13	ILE
40	f	15	ARG
40	f	20	ARG
40	f	23	VAL
40	f	24	GLU
40	f	29	LYS
40	f	38	GLU
40	f	51	LYS
40	f	53	LEU
41	g	6	ARG
41	g	10	LYS
41	g	22	ILE
41	g	23	SER
41	g	32	ASN
41	g	36	TYR
41	g	37	LYS
42	T	4	ASN
42	T	6	THR
42	T	9	CYS
42	T	10	THR
42	T	15	ARG
42	T	19	THR
42	T	21	LYS
42	T	30	ILE
42	T	31	GLU
42	T	33	LYS
42	T	34	LYS
42	T	36	CYS
42	T	39	LEU
42	T	41	LYS
43	i	2	VAL
43	i	15	LYS
43	i	21	LYS
43	i	30	LYS
43	i	31	VAL
43	i	38	LYS

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Mol	Chain	Res	Type
43	i	41	LYS
44	j	44	LEU
44	j	61	LEU
46	h	3	GLN
46	h	5	ILE
46	h	6	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (67) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	68	HIS
2	B	185	HIS
3	l	67	GLN
4	D	83	HIS
4	D	135	ASN
4	D	145	GLN
6	G	84	ASN
6	G	86	GLN
6	G	122	ASN
8	H	68	ASN
9	1	78	ASN
11	3	5	ASN
11	3	73	ASN
11	3	109	HIS
13	5	52	GLN
14	6	9	ASN
14	6	46	HIS
14	6	68	ASN
15	7	15	ASN
15	7	73	ASN
16	8	5	ASN
21	e	33	ASN
21	e	134	HIS
22	J	141	ASN
22	J	179	GLN
23	K	63	GLN
24	L	65	HIS
24	L	73	ASN
24	L	111	HIS
25	M	3	GLN
25	M	11	ASN
25	M	136	GLN

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Mol	Chain	Res	Type
25	M	137	GLN
25	M	140	ASN
26	N	4	GLN
26	N	82	ASN
27	O	38	GLN
27	O	54	GLN
27	O	68	ASN
27	O	104	ASN
27	O	143	HIS
28	P	25	ASN
29	Q	79	GLN
30	R	32	ASN
31	S	29	HIS
31	S	44	GLN
32	U	18	GLN
32	U	65	GLN
32	U	101	ASN
34	W	47	ASN
35	Z	67	ASN
36	a	85	GLN
36	a	88	HIS
37	b	20	ASN
37	b	58	ASN
39	d	64	GLN
40	f	5	GLN
40	f	40	ASN
40	f	52	HIS
41	g	19	HIS
41	g	32	ASN
42	T	22	ASN
42	T	25	ASN
42	T	40	ASN
45	k	29	ASN
45	k	32	HIS
46	h	3	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	C	113/114 (99%)	55 (48%)	2 (1%)
20	X	1401/1415 (99%)	1036 (73%)	80 (5%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
47	Y	2703/2720 (99%)	954 (35%)	36 (1%)
All	All	4217/4249 (99%)	2045 (48%)	118 (2%)

All (2045) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	C	3	U
1	C	4	G
1	C	7	G
1	C	10	U
1	C	11	A
1	C	13	A
1	C	14	G
1	C	16	A
1	C	17	A
1	C	18	G
1	C	21	G
1	C	22	G
1	C	24	C
1	C	25	A
1	C	27	A
1	C	28	C
1	C	30	U
1	C	31	G
1	C	33	U
1	C	35	C
1	C	37	A
1	C	39	G
1	C	40	C
1	C	41	C
1	C	42	G
1	C	43	A
1	C	44	A
1	C	50	A
1	C	51	A
1	C	52	G
1	C	53	U
1	C	54	U
1	C	55	A
1	C	57	G
1	C	58	G
1	C	60	C

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Mol	Chain	Res	Type
1	C	61	U
1	C	63	U
1	C	64	A
1	C	67	G
1	C	69	C
1	C	70	G
1	C	79	C
1	C	86	C
1	C	87	G
1	C	88	U
1	C	95	A
1	C	100	A
1	C	102	A
1	C	103	A
1	C	105	G
1	C	106	U
1	C	107	U
1	C	113	G
1	C	114	C
20	X	6	U
20	X	7	G
20	X	9	A
20	X	10	G
20	X	14	U
20	X	15	U
20	X	16	G
20	X	17	A
20	X	20	C
20	X	22	G
20	X	23	G
20	X	25	U
20	X	26	C
20	X	27	A
20	X	28	G
20	X	29	G
20	X	30	A
20	X	32	G
20	X	33	A
20	X	34	A
20	X	35	C
20	X	36	G
20	X	37	C

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Mol	Chain	Res	Type
20	X	38	U
20	X	39	G
20	X	40	G
20	X	41	C
20	X	43	G
20	X	44	C
20	X	47	G
20	X	48	C
20	X	49	C
20	X	50	U
20	X	51	A
20	X	52	A
20	X	53	U
20	X	54	A
20	X	56	A
20	X	60	A
20	X	61	A
20	X	63	U
20	X	66	A
20	X	67	G
20	X	68	C
20	X	69	G
20	X	70	A
20	X	71	A
20	X	72	C
20	X	98	U
20	X	99	U
20	X	100	A
20	X	101	G
20	X	102	C
20	X	103	G
20	X	105	C
20	X	106	G
20	X	107	G
20	X	108	A
20	X	109	C
20	X	110	G
20	X	111	G
20	X	113	U
20	X	115	A
20	X	116	G
20	X	118	A

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Mol	Chain	Res	Type
20	X	119	A
20	X	120	C
20	X	121	A
20	X	122	C
20	X	123	G
20	X	124	U
20	X	125	G
20	X	127	A
20	X	128	U
20	X	129	A
20	X	130	A
20	X	131	C
20	X	132	C
20	X	134	A
20	X	136	C
20	X	137	U
20	X	139	U
20	X	140	A
20	X	141	A
20	X	142	G
20	X	144	C
20	X	146	G
20	X	147	G
20	X	148	G
20	X	151	A
20	X	153	C
20	X	154	U
20	X	155	U
20	X	156	C
20	X	158	G
20	X	160	A
20	X	162	A
20	X	164	C
20	X	168	G
20	X	169	C
20	X	170	U
20	X	173	U
20	X	174	A
20	X	176	C
20	X	177	G
20	X	178	G
20	X	179	A

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Mol	Chain	Res	Type
20	X	181	A
20	X	182	A
20	X	183	U
20	X	184	A
20	X	185	U
20	X	207	G
20	X	208	U
20	X	209	G
20	X	210	A
20	X	211	A
20	X	212	A
20	X	213	G
20	X	214	A
20	X	229	C
20	X	230	U
20	X	231	U
20	X	233	U
20	X	234	A
20	X	235	G
20	X	236	A
20	X	237	U
20	X	239	G
20	X	240	A
20	X	241	U
20	X	242	C
20	X	246	G
20	X	247	C
20	X	248	U
20	X	251	A
20	X	252	U
20	X	253	U
20	X	254	A
20	X	255	G
20	X	256	C
20	X	257	U
20	X	258	A
20	X	259	G
20	X	260	U
20	X	262	G
20	X	263	G
20	X	267	G
20	X	268	G

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Mol	Chain	Res	Type
20	X	269	U
20	X	271	A
20	X	272	C
20	X	273	G
20	X	274	G
20	X	275	C
20	X	276	U
20	X	277	U
20	X	278	A
20	X	280	C
20	X	281	A
20	X	282	A
20	X	283	G
20	X	284	G
20	X	285	C
20	X	286	A
20	X	287	A
20	X	288	C
20	X	289	G
20	X	290	A
20	X	291	U
20	X	292	G
20	X	293	C
20	X	294	A
20	X	295	U
20	X	296	A
20	X	297	G
20	X	299	C
20	X	300	G
20	X	301	A
20	X	303	C
20	X	305	G
20	X	306	A
20	X	309	G
20	X	310	G
20	X	311	G
20	X	313	G
20	X	315	U
20	X	316	C
20	X	317	G
20	X	318	G
20	X	319	C

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Mol	Chain	Res	Type
20	X	320	C
20	X	323	A
20	X	324	C
20	X	327	G
20	X	328	A
20	X	329	A
20	X	330	C
20	X	331	U
20	X	332	G
20	X	333	A
20	X	334	G
20	X	335	A
20	X	336	C
20	X	337	A
20	X	338	C
20	X	339	G
20	X	340	G
20	X	343	C
20	X	347	C
20	X	348	U
20	X	349	C
20	X	352	A
20	X	353	C
20	X	354	G
20	X	355	G
20	X	357	A
20	X	358	G
20	X	359	G
20	X	360	C
20	X	361	A
20	X	362	G
20	X	363	C
20	X	364	A
20	X	365	G
20	X	368	G
20	X	370	G
20	X	371	A
20	X	374	C
20	X	375	U
20	X	376	U
20	X	378	C
20	X	380	C

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Mol	Chain	Res	Type
20	X	381	A
20	X	383	U
20	X	385	G
20	X	388	G
20	X	389	A
20	X	390	A
20	X	392	G
20	X	395	U
20	X	396	G
20	X	397	A
20	X	399	G
20	X	402	G
20	X	403	C
20	X	404	A
20	X	405	A
20	X	406	C
20	X	407	G
20	X	410	G
20	X	411	C
20	X	413	U
20	X	414	G
20	X	415	A
20	X	416	G
20	X	417	U
20	X	419	A
20	X	420	U
20	X	421	G
20	X	422	A
20	X	423	A
20	X	424	G
20	X	425	G
20	X	426	U
20	X	427	C
20	X	435	C
20	X	436	G
20	X	437	U
20	X	438	A
20	X	439	A
20	X	440	A
20	X	441	A
20	X	444	C
20	X	445	U

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Mol	Chain	Res	Type
20	X	446	G
20	X	447	U
20	X	448	U
20	X	450	U
20	X	451	U
20	X	452	A
20	X	453	G
20	X	454	G
20	X	455	G
20	X	458	G
20	X	459	A
20	X	460	A
20	X	461	C
20	X	463	U
20	X	464	A
20	X	465	U
20	X	466	G
20	X	467	U
20	X	484	A
20	X	485	U
20	X	486	C
20	X	487	U
20	X	488	U
20	X	489	G
20	X	490	A
20	X	492	G
20	X	495	A
20	X	496	C
20	X	497	C
20	X	498	U
20	X	499	A
20	X	500	A
20	X	503	A
20	X	505	A
20	X	506	A
20	X	507	A
20	X	509	C
20	X	510	C
20	X	511	A
20	X	512	C
20	X	513	G
20	X	514	G

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Mol	Chain	Res	Type
20	X	516	U
20	X	517	A
20	X	518	A
20	X	519	C
20	X	521	A
20	X	522	C
20	X	523	G
20	X	524	U
20	X	525	G
20	X	526	C
20	X	528	A
20	X	529	G
20	X	531	A
20	X	532	G
20	X	533	C
20	X	534	C
20	X	536	C
20	X	537	G
20	X	538	G
20	X	539	U
20	X	540	A
20	X	541	A
20	X	542	U
20	X	543	A
20	X	545	G
20	X	546	U
20	X	547	A
20	X	548	G
20	X	550	U
20	X	551	G
20	X	552	G
20	X	553	C
20	X	554	A
20	X	555	A
20	X	558	G
20	X	561	A
20	X	562	U
20	X	565	G
20	X	566	G
20	X	568	A
20	X	569	U
20	X	570	U

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Mol	Chain	Res	Type
20	X	571	A
20	X	572	U
20	X	573	U
20	X	575	G
20	X	576	G
20	X	578	G
20	X	579	U
20	X	580	A
20	X	581	A
20	X	584	C
20	X	585	G
20	X	586	C
20	X	587	G
20	X	588	C
20	X	589	G
20	X	590	U
20	X	592	G
20	X	593	G
20	X	595	G
20	X	596	G
20	X	597	U
20	X	600	U
20	X	601	U
20	X	602	U
20	X	603	A
20	X	606	U
20	X	607	C
20	X	608	U
20	X	610	A
20	X	612	G
20	X	613	U
20	X	614	G
20	X	616	A
20	X	617	A
20	X	618	G
20	X	619	C
20	X	620	C
20	X	621	C
20	X	625	G
20	X	626	C
20	X	627	U
20	X	628	C

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Mol	Chain	Res	Type
20	X	630	A
20	X	631	C
20	X	632	C
20	X	635	G
20	X	636	G
20	X	637	A
20	X	638	G
20	X	639	G
20	X	640	G
20	X	641	U
20	X	642	C
20	X	643	A
20	X	644	U
20	X	645	U
20	X	647	G
20	X	650	A
20	X	651	C
20	X	652	U
20	X	653	G
20	X	654	G
20	X	655	A
20	X	656	A
20	X	657	A
20	X	659	C
20	X	661	U
20	X	662	G
20	X	663	A
20	X	666	G
20	X	667	C
20	X	668	A
20	X	669	G
20	X	670	A
20	X	671	A
20	X	672	G
20	X	673	A
20	X	674	G
20	X	675	G
20	X	676	A
20	X	677	A
20	X	678	A
20	X	679	G
20	X	680	U

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Mol	Chain	Res	Type
20	X	681	G
20	X	682	G
20	X	684	A
20	X	685	U
20	X	686	U
20	X	688	C
20	X	689	A
20	X	690	U
20	X	691	G
20	X	692	U
20	X	693	G
20	X	695	A
20	X	696	G
20	X	697	C
20	X	698	G
20	X	701	G
20	X	702	A
20	X	703	A
20	X	704	A
20	X	705	U
20	X	707	C
20	X	709	C
20	X	712	A
20	X	713	G
20	X	715	U
20	X	716	A
20	X	718	G
20	X	719	G
20	X	720	A
20	X	722	G
20	X	726	A
20	X	727	C
20	X	728	C
20	X	729	A
20	X	731	U
20	X	732	G
20	X	733	G
20	X	737	A
20	X	739	G
20	X	741	G
20	X	742	A
20	X	743	C

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Mol	Chain	Res	Type
20	X	744	U
20	X	745	U
20	X	747	C
20	X	749	G
20	X	752	C
20	X	754	G
20	X	755	U
20	X	756	A
20	X	757	A
20	X	759	U
20	X	760	G
20	X	761	A
20	X	762	C
20	X	763	G
20	X	766	G
20	X	767	A
20	X	768	U
20	X	769	G
20	X	771	G
20	X	773	G
20	X	774	A
20	X	776	A
20	X	777	G
20	X	778	C
20	X	779	G
20	X	780	U
20	X	781	G
20	X	782	G
20	X	783	G
20	X	784	G
20	X	785	A
20	X	786	U
20	X	788	A
20	X	789	A
20	X	791	C
20	X	792	A
20	X	793	G
20	X	795	A
20	X	796	U
20	X	798	A
20	X	799	G
20	X	801	U

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Mol	Chain	Res	Type
20	X	802	A
20	X	803	C
20	X	804	C
20	X	805	C
20	X	806	U
20	X	807	G
20	X	808	G
20	X	809	U
20	X	810	A
20	X	813	C
20	X	814	C
20	X	815	A
20	X	816	C
20	X	817	G
20	X	819	C
20	X	820	G
20	X	821	U
20	X	822	A
20	X	823	A
20	X	824	A
20	X	825	C
20	X	826	G
20	X	827	A
20	X	828	U
20	X	829	G
20	X	832	U
20	X	833	G
20	X	835	U
20	X	836	A
20	X	839	U
20	X	840	G
20	X	841	U
20	X	843	A
20	X	844	G
20	X	845	G
20	X	847	G
20	X	848	G
20	X	856	C
20	X	857	C
20	X	858	C
20	X	859	C
20	X	861	U

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Mol	Chain	Res	Type
20	X	862	A
20	X	863	G
20	X	865	G
20	X	866	C
20	X	869	C
20	X	870	A
20	X	871	G
20	X	872	C
20	X	873	U
20	X	874	A
20	X	875	A
20	X	878	C
20	X	879	A
20	X	880	U
20	X	881	U
20	X	882	A
20	X	883	A
20	X	885	C
20	X	887	C
20	X	888	U
20	X	890	C
20	X	891	G
20	X	892	C
20	X	893	C
20	X	894	U
20	X	895	G
20	X	896	G
20	X	897	G
20	X	898	G
20	X	900	G
20	X	901	U
20	X	903	C
20	X	904	G
20	X	912	G
20	X	913	G
20	X	914	U
20	X	916	G
20	X	917	A
20	X	918	A
20	X	922	C
20	X	923	A
20	X	924	A

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Mol	Chain	Res	Type
20	X	925	A
20	X	926	G
20	X	927	G
20	X	928	A
20	X	932	G
20	X	933	A
20	X	935	G
20	X	936	G
20	X	937	G
20	X	938	G
20	X	940	C
20	X	941	C
20	X	944	C
20	X	945	A
20	X	946	C
20	X	947	A
20	X	948	A
20	X	951	G
20	X	952	G
20	X	953	U
20	X	954	G
20	X	956	A
20	X	958	C
20	X	959	A
20	X	961	G
20	X	962	U
20	X	964	G
20	X	966	U
20	X	967	U
20	X	968	A
20	X	969	A
20	X	970	U
20	X	971	U
20	X	972	C
20	X	974	A
20	X	975	A
20	X	977	C
20	X	978	A
20	X	979	A
20	X	980	C
20	X	981	G
20	X	982	C

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Mol	Chain	Res	Type
20	X	983	G
20	X	984	A
20	X	985	A
20	X	986	G
20	X	987	A
20	X	988	A
20	X	989	C
20	X	990	C
20	X	991	U
20	X	992	U
20	X	993	A
20	X	994	C
20	X	996	A
20	X	997	A
20	X	998	A
20	X	1000	C
20	X	1002	U
20	X	1003	G
20	X	1004	A
20	X	1006	A
20	X	1007	U
20	X	1049	C
20	X	1050	A
20	X	1052	A
20	X	1053	G
20	X	1054	U
20	X	1056	A
20	X	1057	C
20	X	1058	A
20	X	1060	G
20	X	1061	U
20	X	1064	U
20	X	1065	G
20	X	1066	C
20	X	1067	A
20	X	1069	G
20	X	1070	G
20	X	1071	U
20	X	1073	G
20	X	1074	U
20	X	1075	C
20	X	1076	G

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Mol	Chain	Res	Type
20	X	1077	U
20	X	1078	C
20	X	1079	A
20	X	1080	G
20	X	1082	U
20	X	1084	G
20	X	1086	G
20	X	1087	U
20	X	1088	C
20	X	1090	U
20	X	1091	G
20	X	1092	A
20	X	1093	G
20	X	1095	U
20	X	1098	U
20	X	1099	G
20	X	1100	G
20	X	1101	G
20	X	1102	U
20	X	1103	U
20	X	1104	A
20	X	1105	A
20	X	1106	G
20	X	1107	U
20	X	1108	C
20	X	1109	C
20	X	1110	C
20	X	1112	C
20	X	1113	A
20	X	1114	A
20	X	1116	G
20	X	1117	A
20	X	1118	G
20	X	1120	G
20	X	1122	A
20	X	1123	A
20	X	1124	C
20	X	1125	C
20	X	1126	C
20	X	1127	U
20	X	1130	A
20	X	1131	G

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Mol	Chain	Res	Type
20	X	1132	C
20	X	1133	U
20	X	1134	U
20	X	1136	G
20	X	1137	U
20	X	1138	U
20	X	1139	G
20	X	1140	C
20	X	1141	C
20	X	1142	A
20	X	1144	C
20	X	1145	A
20	X	1146	U
20	X	1147	U
20	X	1148	A
20	X	1149	A
20	X	1150	G
20	X	1151	U
20	X	1152	U
20	X	1154	G
20	X	1155	G
20	X	1156	C
20	X	1157	A
20	X	1158	C
20	X	1159	U
20	X	1160	C
20	X	1161	U
20	X	1162	A
20	X	1163	A
20	X	1164	G
20	X	1165	U
20	X	1166	U
20	X	1167	G
20	X	1168	A
20	X	1169	C
20	X	1171	G
20	X	1172	C
20	X	1173	C
20	X	1174	G
20	X	1175	G
20	X	1176	U
20	X	1177	G

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Mol	Chain	Res	Type
20	X	1178	A
20	X	1179	C
20	X	1180	A
20	X	1181	A
20	X	1182	A
20	X	1183	C
20	X	1185	G
20	X	1186	G
20	X	1188	G
20	X	1189	G
20	X	1191	A
20	X	1192	G
20	X	1193	G
20	X	1194	U
20	X	1195	G
20	X	1196	G
20	X	1201	G
20	X	1202	A
20	X	1203	C
20	X	1207	A
20	X	1209	A
20	X	1210	U
20	X	1211	C
20	X	1212	A
20	X	1213	U
20	X	1214	C
20	X	1215	A
20	X	1216	U
20	X	1221	C
20	X	1222	U
20	X	1223	U
20	X	1224	A
20	X	1225	U
20	X	1227	A
20	X	1228	U
20	X	1229	U
20	X	1230	U
20	X	1232	G
20	X	1233	G
20	X	1234	C
20	X	1235	U
20	X	1236	A

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Mol	Chain	Res	Type
20	X	1237	C
20	X	1238	A
20	X	1240	A
20	X	1243	U
20	X	1244	G
20	X	1247	A
20	X	1248	C
20	X	1249	A
20	X	1251	U
20	X	1252	G
20	X	1253	G
20	X	1254	A
20	X	1255	C
20	X	1256	A
20	X	1258	U
20	X	1259	A
20	X	1260	C
20	X	1261	A
20	X	1264	G
20	X	1265	G
20	X	1266	G
20	X	1268	A
20	X	1269	G
20	X	1271	G
20	X	1272	A
20	X	1273	A
20	X	1277	G
20	X	1278	C
20	X	1280	A
20	X	1281	G
20	X	1284	C
20	X	1285	A
20	X	1287	G
20	X	1288	C
20	X	1291	A
20	X	1292	U
20	X	1293	C
20	X	1295	C
20	X	1296	A
20	X	1297	U
20	X	1298	A
20	X	1299	A

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Mol	Chain	Res	Type
20	X	1301	G
20	X	1302	U
20	X	1303	U
20	X	1304	G
20	X	1306	U
20	X	1308	U
20	X	1309	C
20	X	1310	A
20	X	1311	G
20	X	1313	U
20	X	1314	C
20	X	1316	G
20	X	1317	A
20	X	1318	U
20	X	1319	U
20	X	1320	G
20	X	1321	U
20	X	1322	A
20	X	1323	G
20	X	1324	U
20	X	1325	C
20	X	1326	U
20	X	1328	C
20	X	1329	A
20	X	1330	A
20	X	1331	C
20	X	1333	C
20	X	1334	G
20	X	1335	A
20	X	1338	A
20	X	1339	C
20	X	1341	U
20	X	1342	G
20	X	1343	A
20	X	1345	G
20	X	1347	U
20	X	1348	G
20	X	1349	G
20	X	1350	A
20	X	1351	A
20	X	1354	G
20	X	1355	C

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Mol	Chain	Res	Type
20	X	1356	U
20	X	1357	A
20	X	1358	G
20	X	1359	U
20	X	1360	A
20	X	1361	A
20	X	1362	U
20	X	1364	G
20	X	1365	U
20	X	1366	A
20	X	1367	G
20	X	1369	U
20	X	1371	A
20	X	1372	G
20	X	1373	C
20	X	1374	A
20	X	1375	U
20	X	1376	G
20	X	1378	U
20	X	1379	A
20	X	1380	C
20	X	1381	G
20	X	1382	G
20	X	1383	U
20	X	1385	A
20	X	1387	U
20	X	1388	A
20	X	1389	C
20	X	1390	G
20	X	1392	U
20	X	1393	C
20	X	1396	G
20	X	1397	G
20	X	1398	G
20	X	1399	U
20	X	1400	C
20	X	1401	U
20	X	1402	U
20	X	1405	A
20	X	1407	A
20	X	1408	C
20	X	1409	A

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Mol	Chain	Res	Type
20	X	1410	C
20	X	1411	C
20	X	1412	G
20	X	1413	C
20	X	1414	C
20	X	1415	C
20	X	1417	U
20	X	1418	C
20	X	1420	C
20	X	1424	A
20	X	1426	G
20	X	1427	A
20	X	1428	G
20	X	1432	U
20	X	1433	U
20	X	1437	A
20	X	1438	C
20	X	1439	A
20	X	1440	C
20	X	1441	C
20	X	1443	G
20	X	1444	A
20	X	1445	A
20	X	1446	G
20	X	1448	C
20	X	1449	G
20	X	1451	U
20	X	1452	G
20	X	1453	G
20	X	1454	A
20	X	1455	G
20	X	1456	U
20	X	1457	A
20	X	1459	C
20	X	1460	C
20	X	1461	U
20	X	1462	U
20	X	1463	U
20	X	1464	U
20	X	1465	A
20	X	1466	G
20	X	1467	G

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Mol	Chain	Res	Type
20	X	1473	G
20	X	1475	C
20	X	1476	G
20	X	1477	U
20	X	1478	C
20	X	1480	A
20	X	1482	G
20	X	1483	G
20	X	1485	G
20	X	1486	G
20	X	1487	G
20	X	1488	A
20	X	1489	C
20	X	1490	A
20	X	1491	A
20	X	1492	A
20	X	1493	U
20	X	1494	G
20	X	1500	G
20	X	1501	G
20	X	1504	A
20	X	1508	C
20	X	1510	U
20	X	1511	A
20	X	1512	A
20	X	1513	C
20	X	1514	A
20	X	1515	A
20	X	1516	G
20	X	1517	G
20	X	1518	U
20	X	1519	A
20	X	1523	G
20	X	1525	A
20	X	1526	U
20	X	1527	C
20	X	1528	G
20	X	1530	A
20	X	1531	A
20	X	1532	G
20	X	1534	U
20	X	1535	G

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Mol	Chain	Res	Type
20	X	1536	C
20	X	1538	G
20	X	1539	C
20	X	1541	G
20	X	1542	G
47	Y	11	U
47	Y	12	U
47	Y	14	A
47	Y	26	G
47	Y	34	U
47	Y	35	G
47	Y	43	A
47	Y	45	G
47	Y	49	A
47	Y	54	G
47	Y	57	C
47	Y	58	G
47	Y	61	A
47	Y	64	A
47	Y	71	A
47	Y	74	U
47	Y	75	G
47	Y	80	G
47	Y	84	A
47	Y	86	C
47	Y	90	A
47	Y	91	A
47	Y	92	G
47	Y	93	U
47	Y	94	A
47	Y	98	U
47	Y	99	U
47	Y	100	U
47	Y	101	G
47	Y	102	A
47	Y	103	U
47	Y	104	C
47	Y	117	A
47	Y	119	U
47	Y	120	G
47	Y	133	A
47	Y	134	U

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Mol	Chain	Res	Type
47	Y	136	A
47	Y	137	G
47	Y	140	A
47	Y	141	U
47	Y	146	U
47	Y	149	U
47	Y	151	U
47	Y	153	G
47	Y	156	A
47	Y	157	U
47	Y	158	G
47	Y	160	G
47	Y	162	A
47	Y	164	A
47	Y	165	C
47	Y	166	A
47	Y	168	A
47	Y	169	G
47	Y	170	C
47	Y	172	U
47	Y	173	A
47	Y	175	C
47	Y	176	A
47	Y	177	G
47	Y	180	G
47	Y	183	A
47	Y	184	C
47	Y	185	A
47	Y	186	C
47	Y	188	C
47	Y	196	U
47	Y	199	A
47	Y	202	A
47	Y	204	C
47	Y	207	A
47	Y	216	A
47	Y	217	G
47	Y	218	G
47	Y	219	A
47	Y	224	A
47	Y	225	A
47	Y	226	A

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Mol	Chain	Res	Type
47	Y	228	A
47	Y	229	A
47	Y	230	A
47	Y	232	U
47	Y	233	U
47	Y	235	G
47	Y	251	G
47	Y	254	A
47	Y	255	G
47	Y	260	A
47	Y	267	G
47	Y	268	A
47	Y	270	C
47	Y	271	C
47	Y	272	C
47	Y	274	A
47	Y	275	A
47	Y	276	C
47	Y	279	A
47	Y	280	C
47	Y	281	A
47	Y	282	A
47	Y	283	G
47	Y	284	C
47	Y	285	U
47	Y	286	U
47	Y	287	G
47	Y	288	C
47	Y	289	U
47	Y	290	U
47	Y	291	G
47	Y	293	U
47	Y	295	G
47	Y	298	U
47	Y	299	U
47	Y	300	G
47	Y	301	U
47	Y	302	A
47	Y	304	G
47	Y	305	A
47	Y	309	U
47	Y	310	C

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Mol	Chain	Res	Type
47	Y	312	A
47	Y	318	A
47	Y	319	G
47	Y	320	U
47	Y	321	U
47	Y	322	A
47	Y	323	C
47	Y	324	A
47	Y	325	A
47	Y	328	G
47	Y	329	A
47	Y	330	C
47	Y	331	G
47	Y	333	C
47	Y	334	A
47	Y	335	U
47	Y	336	U
47	Y	337	A
47	Y	338	G
47	Y	339	A
47	Y	340	C
47	Y	342	A
47	Y	343	A
47	Y	344	U
47	Y	347	U
47	Y	348	C
47	Y	353	A
47	Y	355	G
47	Y	360	A
47	Y	361	U
47	Y	362	C
47	Y	363	A
47	Y	364	A
47	Y	365	A
47	Y	366	G
47	Y	372	A
47	Y	373	A
47	Y	374	U
47	Y	375	A
47	Y	376	A
47	Y	377	U
47	Y	384	G

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Mol	Chain	Res	Type
47	Y	385	U
47	Y	387	G
47	Y	388	A
47	Y	389	A
47	Y	390	A
47	Y	391	A
47	Y	392	U
47	Y	394	U
47	Y	395	U
47	Y	398	C
47	Y	400	C
47	Y	402	C
47	Y	403	U
47	Y	404	U
47	Y	405	G
47	Y	406	A
47	Y	407	G
47	Y	408	U
47	Y	410	G
47	Y	412	U
47	Y	413	C
47	Y	415	U
47	Y	417	A
47	Y	421	C
47	Y	432	G
47	Y	433	U
47	Y	434	G
47	Y	435	A
47	Y	444	C
47	Y	447	A
47	Y	449	U
47	Y	450	C
47	Y	451	U
47	Y	452	G
47	Y	453	G
47	Y	457	G
47	Y	458	A
47	Y	463	C
47	Y	481	C
47	Y	486	G
47	Y	489	A
47	Y	490	C

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Mol	Chain	Res	Type
47	Y	497	U
47	Y	502	C
47	Y	503	A
47	Y	504	G
47	Y	513	G
47	Y	518	A
47	Y	519	G
47	Y	520	G
47	Y	521	U
47	Y	526	A
47	Y	527	G
47	Y	535	G
47	Y	539	G
47	Y	546	A
47	Y	548	A
47	Y	549	U
47	Y	550	A
47	Y	552	A
47	Y	553	A
47	Y	554	C
47	Y	558	A
47	Y	567	G
47	Y	575	G
47	Y	576	U
47	Y	577	A
47	Y	592	A
47	Y	593	U
47	Y	594	G
47	Y	606	G
47	Y	608	C
47	Y	616	G
47	Y	618	A
47	Y	621	A
47	Y	622	A
47	Y	629	A
47	Y	630	G
47	Y	644	C
47	Y	646	A
47	Y	647	G
47	Y	649	U
47	Y	653	G
47	Y	656	G

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Mol	Chain	Res	Type
47	Y	657	U
47	Y	658	A
47	Y	659	A
47	Y	660	A
47	Y	661	U
47	Y	663	U
47	Y	666	A
47	Y	668	C
47	Y	672	A
47	Y	673	G
47	Y	679	G
47	Y	682	A
47	Y	687	G
47	Y	688	A
47	Y	689	A
47	Y	690	U
47	Y	691	A
47	Y	692	G
47	Y	698	U
47	Y	699	U
47	Y	700	A
47	Y	720	A
47	Y	722	A
47	Y	731	U
47	Y	734	A
47	Y	745	G
47	Y	749	G
47	Y	750	A
47	Y	752	G
47	Y	753	U
47	Y	754	U
47	Y	755	C
47	Y	756	A
47	Y	757	G
47	Y	766	G
47	Y	767	A
47	Y	768	A
47	Y	769	U
47	Y	770	G
47	Y	771	G
47	Y	772	A
47	Y	775	A

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Mol	Chain	Res	Type
47	Y	779	A
47	Y	791	U
47	Y	792	U
47	Y	802	G
47	Y	809	A
47	Y	813	G
47	Y	820	G
47	Y	821	C
47	Y	822	G
47	Y	824	A
47	Y	827	A
47	Y	829	U
47	Y	834	A
47	Y	836	C
47	Y	837	G
47	Y	850	G
47	Y	852	U
47	Y	857	C
47	Y	864	A
47	Y	872	U
47	Y	873	U
47	Y	875	G
47	Y	879	U
47	Y	882	C
47	Y	888	G
47	Y	889	U
47	Y	891	A
47	Y	892	U
47	Y	904	G
47	Y	911	A
47	Y	917	U
47	Y	918	G
47	Y	919	G
47	Y	920	A
47	Y	922	G
47	Y	923	A
47	Y	924	G
47	Y	943	C
47	Y	944	G
47	Y	945	A
47	Y	946	A
47	Y	948	U

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Mol	Chain	Res	Type
47	Y	949	C
47	Y	951	G
47	Y	955	A
47	Y	956	A
47	Y	957	C
47	Y	959	C
47	Y	960	C
47	Y	969	A
47	Y	970	U
47	Y	971	U
47	Y	972	A
47	Y	977	A
47	Y	982	G
47	Y	985	A
47	Y	988	C
47	Y	989	A
47	Y	990	G
47	Y	1001	A
47	Y	1002	U
47	Y	1003	A
47	Y	1005	G
47	Y	1018	A
47	Y	1021	G
47	Y	1024	A
47	Y	1025	A
47	Y	1026	C
47	Y	1027	A
47	Y	1030	C
47	Y	1032	A
47	Y	1033	G
47	Y	1036	C
47	Y	1040	A
47	Y	1056	U
47	Y	1057	A
47	Y	1066	G
47	Y	1067	U
47	Y	1069	G
47	Y	1070	A
47	Y	1071	A
47	Y	1074	G
47	Y	1075	G
47	Y	1077	U

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Mol	Chain	Res	Type
47	Y	1078	G
47	Y	1080	G
47	Y	1082	C
47	Y	1084	U
47	Y	1085	U
47	Y	1087	C
47	Y	1088	C
47	Y	1094	A
47	Y	1095	A
47	Y	1096	C
47	Y	1097	U
47	Y	1098	A
47	Y	1099	G
47	Y	1155	A
47	Y	1156	G
47	Y	1157	U
47	Y	1158	G
47	Y	1159	A
47	Y	1160	C
47	Y	1161	A
47	Y	1163	U
47	Y	1164	G
47	Y	1165	C
47	Y	1170	A
47	Y	1174	U
47	Y	1176	U
47	Y	1177	A
47	Y	1178	C
47	Y	1179	C
47	Y	1183	G
47	Y	1185	U
47	Y	1186	A
47	Y	1192	A
47	Y	1193	U
47	Y	1194	U
47	Y	1195	A
47	Y	1207	G
47	Y	1212	U
47	Y	1214	C
47	Y	1215	U
47	Y	1219	G
47	Y	1220	A

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Mol	Chain	Res	Type
47	Y	1221	C
47	Y	1222	A
47	Y	1225	G
47	Y	1228	A
47	Y	1245	G
47	Y	1275	A
47	Y	1276	G
47	Y	1285	A
47	Y	1286	G
47	Y	1291	A
47	Y	1293	U
47	Y	1294	G
47	Y	1300	G
47	Y	1309	G
47	Y	1310	A
47	Y	1311	A
47	Y	1312	A
47	Y	1321	A
47	Y	1323	A
47	Y	1328	C
47	Y	1337	A
47	Y	1338	U
47	Y	1349	U
47	Y	1350	U
47	Y	1358	A
47	Y	1361	G
47	Y	1362	C
47	Y	1378	U
47	Y	1379	A
47	Y	1382	C
47	Y	1384	G
47	Y	1387	C
47	Y	1389	U
47	Y	1396	A
47	Y	1402	A
47	Y	1403	C
47	Y	1405	G
47	Y	1409	U
47	Y	1416	U
47	Y	1417	G
47	Y	1421	A
47	Y	1422	A

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Mol	Chain	Res	Type
47	Y	1423	C
47	Y	1424	A
47	Y	1427	U
47	Y	1429	G
47	Y	1432	A
47	Y	1433	U
47	Y	1440	A
47	Y	1445	C
47	Y	1447	A
47	Y	1448	U
47	Y	1449	A
47	Y	1460	U
47	Y	1462	G
47	Y	1463	A
47	Y	1464	U
47	Y	1465	G
47	Y	1466	G
47	Y	1468	G
47	Y	1471	A
47	Y	1472	C
47	Y	1479	G
47	Y	1480	G
47	Y	1481	A
47	Y	1482	U
47	Y	1483	A
47	Y	1489	A
47	Y	1490	G
47	Y	1491	C
47	Y	1499	U
47	Y	1501	G
47	Y	1502	A
47	Y	1503	U
47	Y	1504	U
47	Y	1505	G
47	Y	1506	C
47	Y	1507	A
47	Y	1509	G
47	Y	1510	U
47	Y	1511	C
47	Y	1512	U
47	Y	1515	G
47	Y	1516	C

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Mol	Chain	Res	Type
47	Y	1517	A
47	Y	1518	G
47	Y	1519	U
47	Y	1520	A
47	Y	1525	U
47	Y	1527	A
47	Y	1528	G
47	Y	1529	U
47	Y	1540	U
47	Y	1541	C
47	Y	1542	C
47	Y	1543	G
47	Y	1544	G
47	Y	1545	U
47	Y	1546	A
47	Y	1547	C
47	Y	1548	U
47	Y	1549	C
47	Y	1550	G
47	Y	1557	C
47	Y	1558	U
47	Y	1559	G
47	Y	1560	A
47	Y	1561	G
47	Y	1563	U
47	Y	1564	G
47	Y	1565	U
47	Y	1566	G
47	Y	1567	A
47	Y	1568	U
47	Y	1569	G
47	Y	1570	G
47	Y	1571	G
47	Y	1572	G
47	Y	1574	G
47	Y	1575	A
47	Y	1577	G
47	Y	1579	C
47	Y	1591	G
47	Y	1592	A
47	Y	1593	G
47	Y	1594	U

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Mol	Chain	Res	Type
47	Y	1595	C
47	Y	1597	U
47	Y	1600	A
47	Y	1601	U
47	Y	1602	U
47	Y	1603	U
47	Y	1604	C
47	Y	1605	A
47	Y	1606	C
47	Y	1607	A
47	Y	1609	U
47	Y	1613	G
47	Y	1615	G
47	Y	1616	A
47	Y	1623	U
47	Y	1624	C
47	Y	1626	A
47	Y	1628	A
47	Y	1629	U
47	Y	1630	A
47	Y	1631	G
47	Y	1632	A
47	Y	1633	A
47	Y	1634	A
47	Y	1635	A
47	Y	1636	U
47	Y	1637	A
47	Y	1638	G
47	Y	1640	U
47	Y	1641	G
47	Y	1651	C
47	Y	1652	A
47	Y	1653	A
47	Y	1654	A
47	Y	1661	C
47	Y	1678	A
47	Y	1683	U
47	Y	1690	A
47	Y	1692	C
47	Y	1703	U
47	Y	1713	A
47	Y	1718	G

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Mol	Chain	Res	Type
47	Y	1738	C
47	Y	1740	G
47	Y	1747	G
47	Y	1755	U
47	Y	1758	A
47	Y	1759	G
47	Y	1760	G
47	Y	1761	G
47	Y	1762	U
47	Y	1764	A
47	Y	1765	A
47	Y	1766	C
47	Y	1767	G
47	Y	1768	C
47	Y	1769	C
47	Y	1770	C
47	Y	1772	G
47	Y	1777	G
47	Y	1784	U
47	Y	1785	G
47	Y	1789	A
47	Y	1790	G
47	Y	1791	G
47	Y	1800	A
47	Y	1811	A
47	Y	1813	A
47	Y	1814	A
47	Y	1825	U
47	Y	1827	C
47	Y	1828	U
47	Y	1829	A
47	Y	1843	U
47	Y	1845	U
47	Y	1846	A
47	Y	1856	A
47	Y	1857	C
47	Y	1860	C
47	Y	1866	G
47	Y	1875	A
47	Y	1876	G
47	Y	1877	G
47	Y	1878	U

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Mol	Chain	Res	Type
47	Y	1879	U
47	Y	1880	A
47	Y	1884	G
47	Y	1885	G
47	Y	1886	A
47	Y	1887	G
47	Y	1888	U
47	Y	1892	U
47	Y	1893	A
47	Y	1895	C
47	Y	1896	U
47	Y	1897	U
47	Y	1898	C
47	Y	1899	U
47	Y	1900	G
47	Y	1901	C
47	Y	1902	G
47	Y	1903	A
47	Y	1904	A
47	Y	1909	C
47	Y	1910	G
47	Y	1911	A
47	Y	1912	A
47	Y	1913	U
47	Y	1915	G
47	Y	1916	A
47	Y	1922	C
47	Y	1923	A
47	Y	1927	A
47	Y	1931	G
47	Y	1933	G
47	Y	1934	G
47	Y	1936	C
47	Y	1937	G
47	Y	1947	C
47	Y	1948	G
47	Y	1949	G
47	Y	1954	A
47	Y	1955	A
47	Y	1956	G
47	Y	1961	C
47	Y	1964	A

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Mol	Chain	Res	Type
47	Y	1965	A
47	Y	1970	U
47	Y	1972	G
47	Y	1975	G
47	Y	1977	G
47	Y	1982	U
47	Y	1987	A
47	Y	1989	C
47	Y	1990	C
47	Y	1991	G
47	Y	1992	C
47	Y	1993	A
47	Y	1994	C
47	Y	1997	A
47	Y	1998	A
47	Y	1999	G
47	Y	2004	A
47	Y	2009	U
47	Y	2013	G
47	Y	2018	U
47	Y	2020	U
47	Y	2024	A
47	Y	2034	U
47	Y	2036	G
47	Y	2046	U
47	Y	2048	G
47	Y	2050	A
47	Y	2053	U
47	Y	2054	G
47	Y	2058	A
47	Y	2059	G
47	Y	2060	A
47	Y	2068	U
47	Y	2070	C
47	Y	2072	C
47	Y	2079	G
47	Y	2082	C
47	Y	2083	G
47	Y	2084	G
47	Y	2087	A
47	Y	2088	G
47	Y	2089	A

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Mol	Chain	Res	Type
47	Y	2096	G
47	Y	2103	U
47	Y	2104	A
47	Y	2120	G
47	Y	2122	A
47	Y	2127	G
47	Y	2128	G
47	Y	2131	C
47	Y	2133	G
47	Y	2135	U
47	Y	2209	G
47	Y	2211	U
47	Y	2214	G
47	Y	2215	U
47	Y	2216	U
47	Y	2218	G
47	Y	2219	C
47	Y	2220	U
47	Y	2221	U
47	Y	2222	U
47	Y	2226	A
47	Y	2231	C
47	Y	2232	A
47	Y	2233	C
47	Y	2234	C
47	Y	2237	U
47	Y	2238	U
47	Y	2239	A
47	Y	2242	G
47	Y	2243	U
47	Y	2244	G
47	Y	2247	G
47	Y	2252	A
47	Y	2255	G
47	Y	2263	C
47	Y	2265	G
47	Y	2266	G
47	Y	2267	C
47	Y	2295	A
47	Y	2306	G
47	Y	2310	C
47	Y	2314	A

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Mol	Chain	Res	Type
47	Y	2315	A
47	Y	2316	G
47	Y	2324	C
47	Y	2326	G
47	Y	2327	A
47	Y	2329	U
47	Y	2330	G
47	Y	2331	G
47	Y	2332	U
47	Y	2333	U
47	Y	2334	G
47	Y	2335	G
47	Y	2336	A
47	Y	2337	A
47	Y	2338	A
47	Y	2339	U
47	Y	2341	A
47	Y	2342	U
47	Y	2345	A
47	Y	2346	U
47	Y	2347	A
47	Y	2349	A
47	Y	2352	G
47	Y	2354	A
47	Y	2361	U
47	Y	2362	A
47	Y	2370	U
47	Y	2372	G
47	Y	2374	C
47	Y	2375	U
47	Y	2377	C
47	Y	2388	A
47	Y	2394	G
47	Y	2399	G
47	Y	2401	C
47	Y	2410	G
47	Y	2412	C
47	Y	2417	U
47	Y	2419	A
47	Y	2424	G
47	Y	2426	G
47	Y	2427	G

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Mol	Chain	Res	Type
47	Y	2428	U
47	Y	2429	U
47	Y	2431	C
47	Y	2432	G
47	Y	2433	C
47	Y	2434	A
47	Y	2435	U
47	Y	2438	A
47	Y	2441	G
47	Y	2445	A
47	Y	2446	U
47	Y	2450	U
47	Y	2451	C
47	Y	2452	A
47	Y	2456	G
47	Y	2457	A
47	Y	2458	U
47	Y	2459	A
47	Y	2460	A
47	Y	2462	A
47	Y	2466	A
47	Y	2467	C
47	Y	2468	C
47	Y	2472	G
47	Y	2474	G
47	Y	2475	A
47	Y	2477	A
47	Y	2487	U
47	Y	2492	C
47	Y	2495	A
47	Y	2496	A
47	Y	2498	A
47	Y	2500	U
47	Y	2502	C
47	Y	2503	A
47	Y	2505	A
47	Y	2506	U
47	Y	2509	A
47	Y	2519	U
47	Y	2521	G
47	Y	2522	G
47	Y	2525	C

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Mol	Chain	Res	Type
47	Y	2526	C
47	Y	2527	U
47	Y	2529	G
47	Y	2530	A
47	Y	2532	G
47	Y	2545	A
47	Y	2547	C
47	Y	2552	G
47	Y	2553	G
47	Y	2559	G
47	Y	2560	U
47	Y	2564	U
47	Y	2580	G
47	Y	2583	C
47	Y	2587	C
47	Y	2593	A
47	Y	2594	G
47	Y	2596	G
47	Y	2598	U
47	Y	2599	A
47	Y	2600	C
47	Y	2605	G
47	Y	2611	U
47	Y	2612	U
47	Y	2613	C
47	Y	2623	U
47	Y	2626	G
47	Y	2629	A
47	Y	2630	G
47	Y	2633	C
47	Y	2636	U
47	Y	2637	C
47	Y	2640	U
47	Y	2642	U
47	Y	2651	G
47	Y	2656	A
47	Y	2657	G
47	Y	2666	A
47	Y	2673	C
47	Y	2678	C
47	Y	2679	U
47	Y	2680	U

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Mol	Chain	Res	Type
47	Y	2681	A
47	Y	2682	G
47	Y	2683	U
47	Y	2685	C
47	Y	2688	G
47	Y	2690	G
47	Y	2691	G
47	Y	2692	A
47	Y	2693	C
47	Y	2694	C
47	Y	2695	G
47	Y	2696	G
47	Y	2700	G
47	Y	2712	G
47	Y	2716	U
47	Y	2729	G
47	Y	2730	C
47	Y	2731	C
47	Y	2740	A
47	Y	2741	G
47	Y	2747	U
47	Y	2753	U
47	Y	2759	G
47	Y	2760	A
47	Y	2761	C
47	Y	2762	G
47	Y	2764	G
47	Y	2765	A
47	Y	2766	U
47	Y	2769	G
47	Y	2770	U
47	Y	2771	G
47	Y	2774	G
47	Y	2776	A
47	Y	2777	A
47	Y	2778	G
47	Y	2780	A
47	Y	2781	U
47	Y	2783	U
47	Y	2784	A
47	Y	2786	G
47	Y	2788	A

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Mol	Chain	Res	Type
47	Y	2790	G
47	Y	2791	A
47	Y	2792	A
47	Y	2794	C
47	Y	2803	A
47	Y	2804	G
47	Y	2805	A
47	Y	2806	U
47	Y	2807	G
47	Y	2823	G
47	Y	2824	G
47	Y	2825	U
47	Y	2827	A
47	Y	2828	U
47	Y	2833	U
47	Y	2840	A
47	Y	2844	U
47	Y	2845	G
47	Y	2846	A
47	Y	2855	A
47	Y	2857	A
47	Y	2874	A
47	Y	2875	U
47	Y	2876	G
47	Y	2887	G
47	Y	2892	G
47	Y	2900	C
47	Y	2903	A
47	Y	2906	G
47	Y	2912	A
47	Y	2913	G
47	Y	2914	A
47	Y	2918	A
47	Y	2919	A
47	Y	2920	U

All (118) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	C	40	C
1	C	87	G
20	X	37	C

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Mol	Chain	Res	Type
20	X	42	G
20	X	49	C
20	X	70	A
20	X	107	G
20	X	118	A
20	X	139	U
20	X	162	A
20	X	207	G
20	X	229	C
20	X	283	G
20	X	284	G
20	X	309	G
20	X	335	A
20	X	342	C
20	X	361	A
20	X	380	C
20	X	409	C
20	X	422	A
20	X	497	C
20	X	513	G
20	X	531	A
20	X	551	G
20	X	584	C
20	X	585	G
20	X	589	G
20	X	625	G
20	X	626	C
20	X	631	C
20	X	655	A
20	X	667	C
20	X	669	G
20	X	678	A
20	X	679	G
20	X	684	A
20	X	692	U
20	X	695	A
20	X	726	A
20	X	732	G
20	X	761	A
20	X	813	C
20	X	824	A
20	X	828	U

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Mol	Chain	Res	Type
20	X	838	G
20	X	856	C
20	X	860	U
20	X	874	A
20	X	877	G
20	X	880	U
20	X	884	G
20	X	889	C
20	X	895	G
20	X	924	A
20	X	926	G
20	X	927	G
20	X	936	G
20	X	970	U
20	X	991	U
20	X	992	U
20	X	1076	G
20	X	1078	C
20	X	1098	U
20	X	1126	C
20	X	1137	U
20	X	1163	A
20	X	1171	G
20	X	1265	G
20	X	1268	A
20	X	1296	A
20	X	1298	A
20	X	1335	A
20	X	1379	A
20	X	1387	U
20	X	1388	A
20	X	1389	C
20	X	1392	U
20	X	1416	G
20	X	1507	U
20	X	1510	U
20	X	1513	C
47	Y	267	G
47	Y	285	U
47	Y	289	U
47	Y	309	U
47	Y	329	A

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Mol	Chain	Res	Type
47	Y	333	C
47	Y	339	A
47	Y	342	A
47	Y	343	A
47	Y	384	G
47	Y	548	A
47	Y	756	A
47	Y	767	A
47	Y	769	U
47	Y	821	C
47	Y	835	U
47	Y	872	U
47	Y	1463	A
47	Y	1465	G
47	Y	1480	G
47	Y	1511	C
47	Y	1515	G
47	Y	1526	G
47	Y	1560	A
47	Y	1593	G
47	Y	1623	U
47	Y	1637	A
47	Y	1845	U
47	Y	1885	G
47	Y	1897	U
47	Y	1898	C
47	Y	1933	G
47	Y	1934	G
47	Y	2338	A
47	Y	2769	G
47	Y	2780	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
47	Y	16
20	X	11

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Y	1492:G	O3'	1498:U	P	29.74
1	Y	2135:U	O3'	2208:A	P	19.22
1	Y	1530:A	O3'	1539:A	P	17.34
1	Y	1550:G	O3'	1555:G	P	16.75
1	X	215:C	O3'	228:A	P	16.72
1	X	72:C	O3'	97:G	P	16.23
1	X	467:U	O3'	481:C	P	15.57
1	Y	1099:G	O3'	1150:A	P	15.47
1	X	428:U	O3'	433:A	P	14.86
1	Y	757:G	O3'	765:U	P	13.39
1	Y	1579:C	O3'	1590:C	P	13.25
1	X	185:U	O3'	206:A	P	12.66
1	X	1008:C	O3'	1048:A	P	12.51
1	X	1494:G	O3'	1498:G	P	12.05
1	Y	925:G	O3'	942:C	P	11.65
1	Y	1088:C	O3'	1092:A	P	9.46
1	Y	1215:U	O3'	1217:U	P	8.57
1	Y	1449:A	O3'	1459:A	P	8.55
1	Y	1938:U	O3'	1945:A	P	8.02
1	X	455:G	O3'	457:A	P	7.96
1	Y	2239:A	O3'	2241:C	P	7.96
1	Y	312:A	O3'	317:G	P	7.93
1	Y	2820:U	O3'	2822:C	P	7.51
1	Y	1485:G	O3'	1487:G	P	7.45

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	X	1428:G	O3'	1430:G	P	6.97
1	X	709:C	O3'	711:G	P	6.66
1	X	1288:C	O3'	1290:A	P	4.93

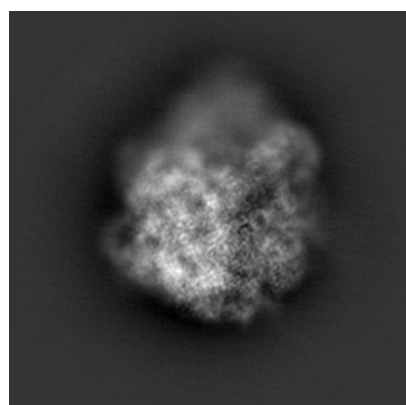
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-11902. These allow visual inspection of the internal detail of the map and identification of artifacts.

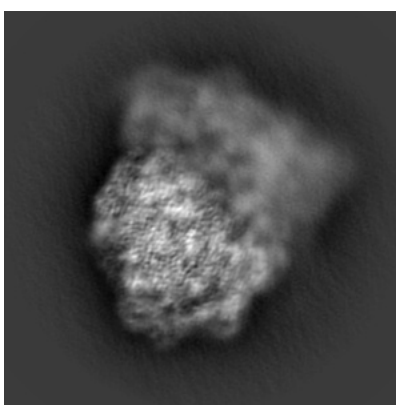
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

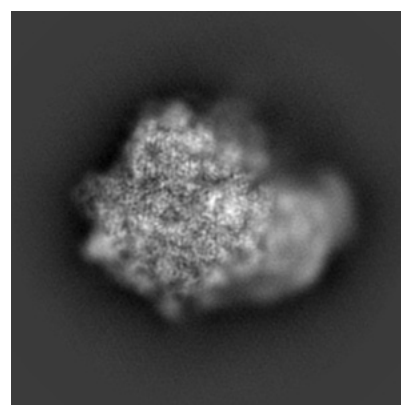
6.1.1 Primary map



X



Y

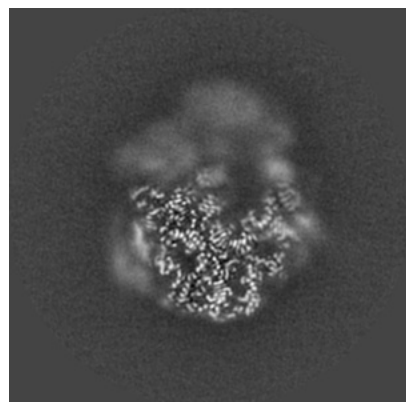


Z

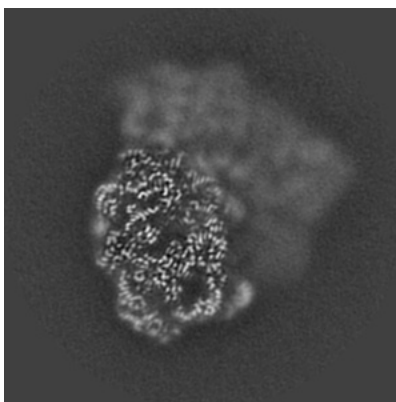
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

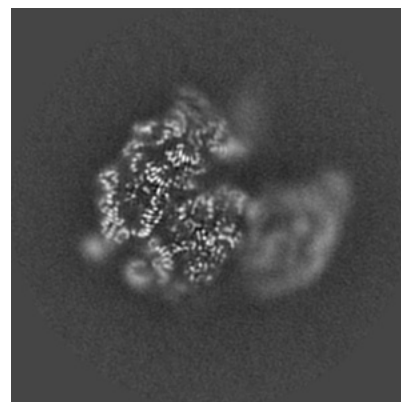
6.2.1 Primary map



X Index: 210



Y Index: 210

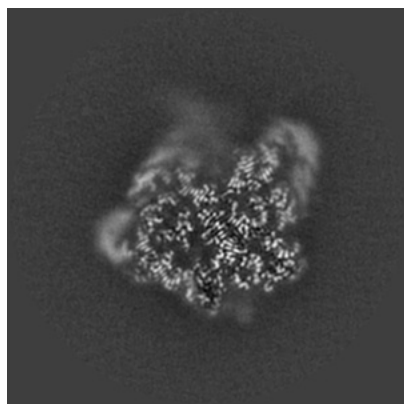


Z Index: 210

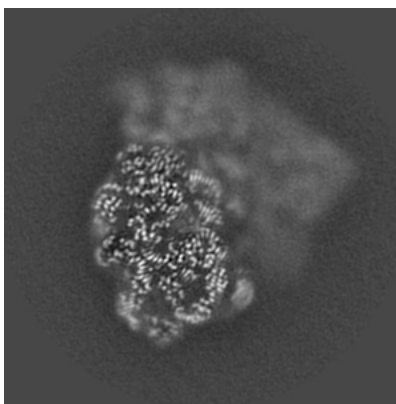
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

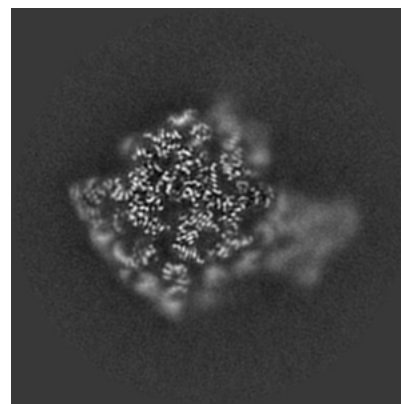
6.3.1 Primary map



X Index: 167



Y Index: 214



Z Index: 167

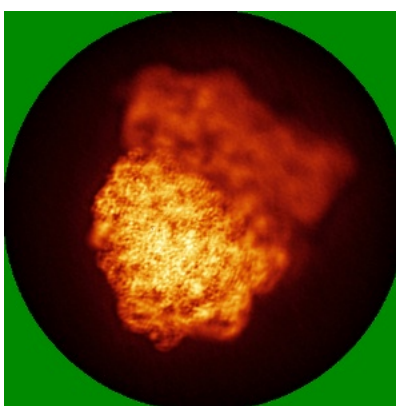
The images above show the largest variance slices of the map in three orthogonal directions.

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

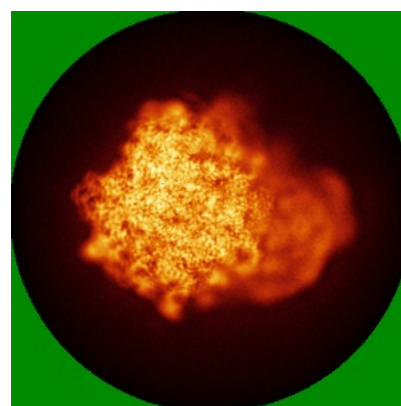
6.4.1 Primary map



X



Y

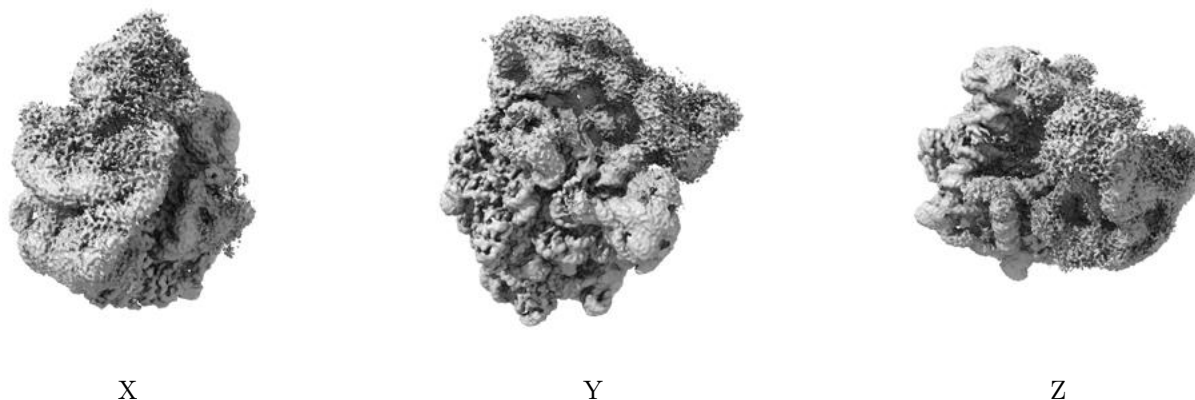


Z

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 0.0052. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

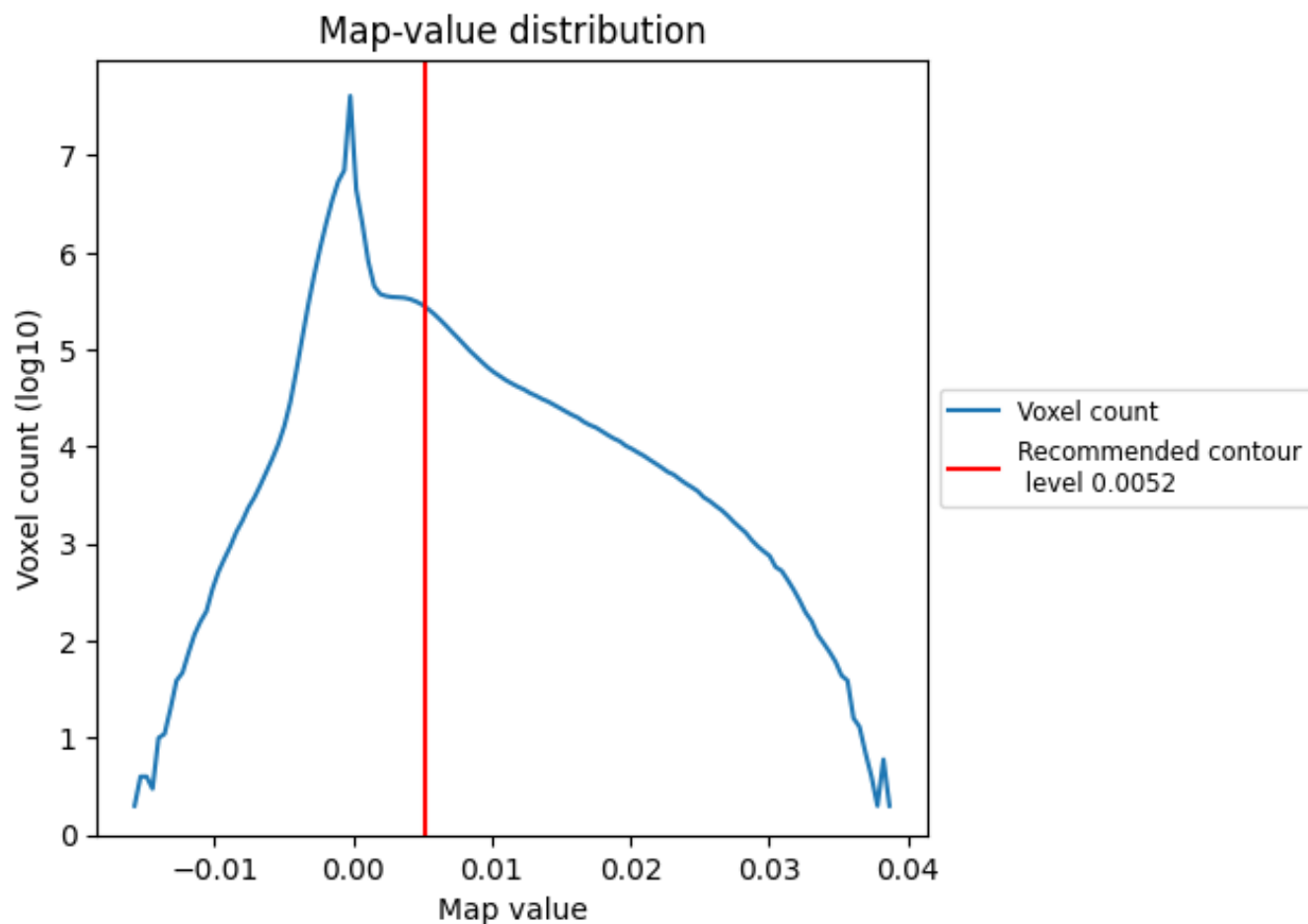
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

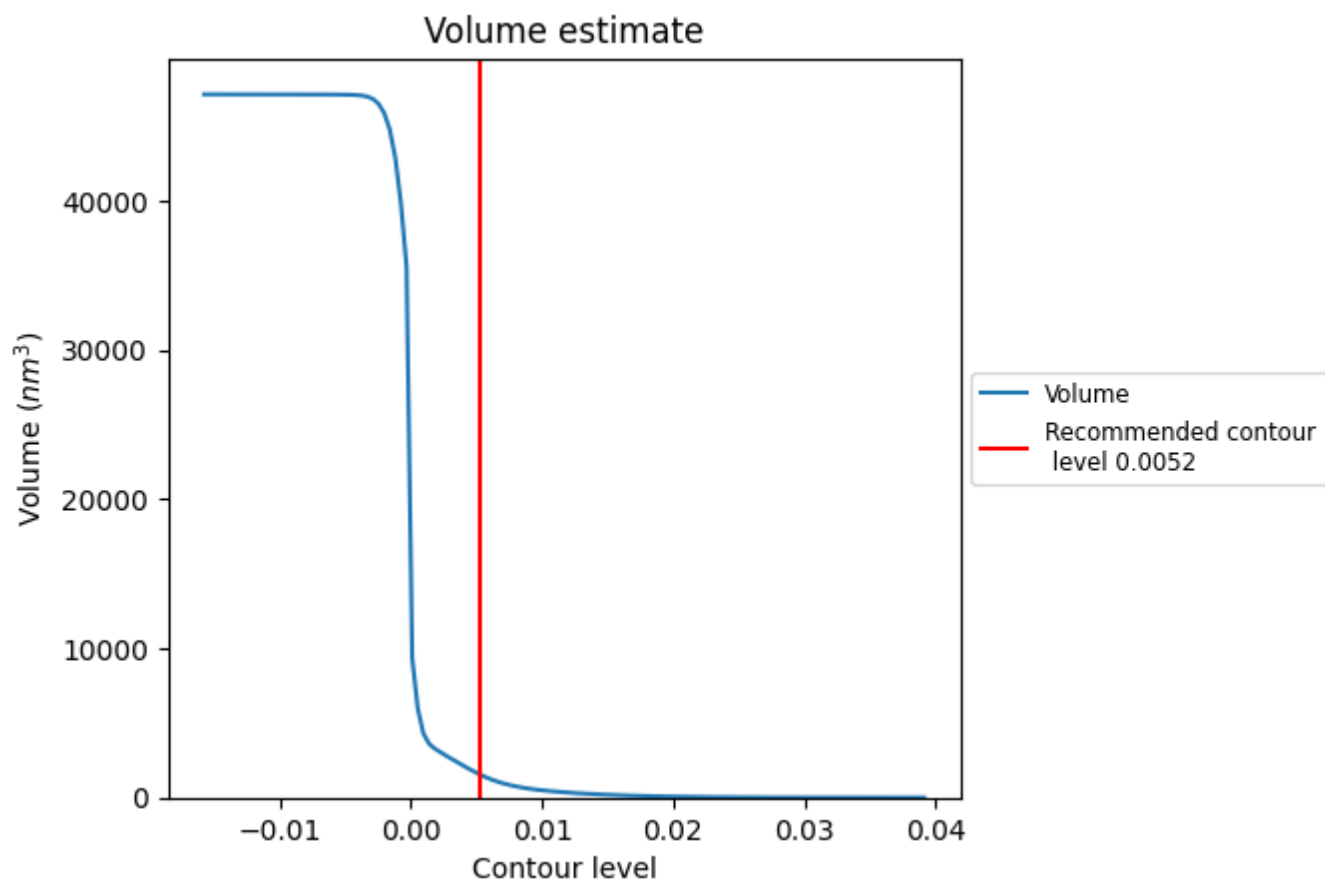
This section contains the results of statistical analysis of the map.

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.

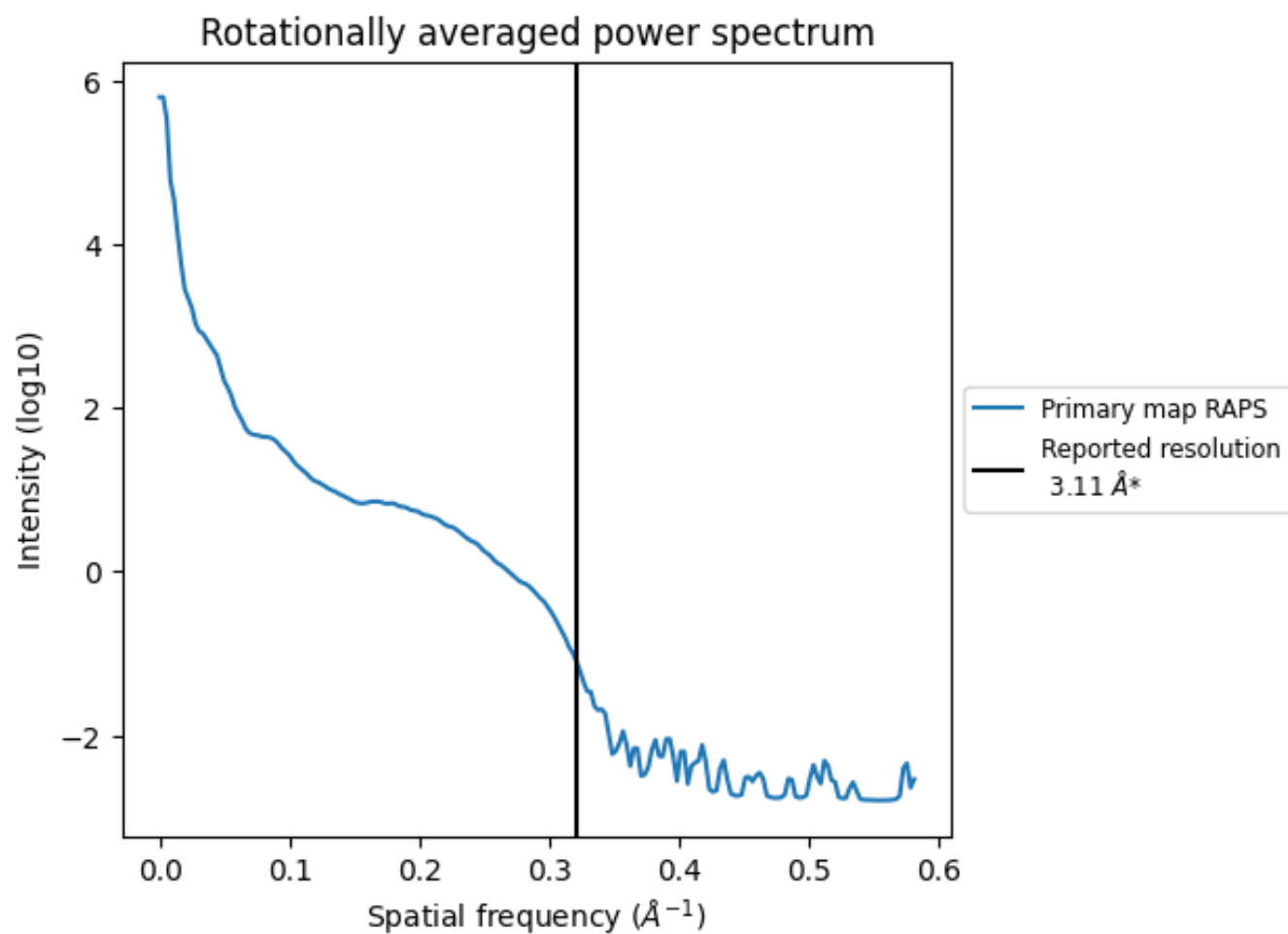
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1571 nm³; this corresponds to an approximate mass of 1419 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 0.322 $\text{\AA}^{-1}$

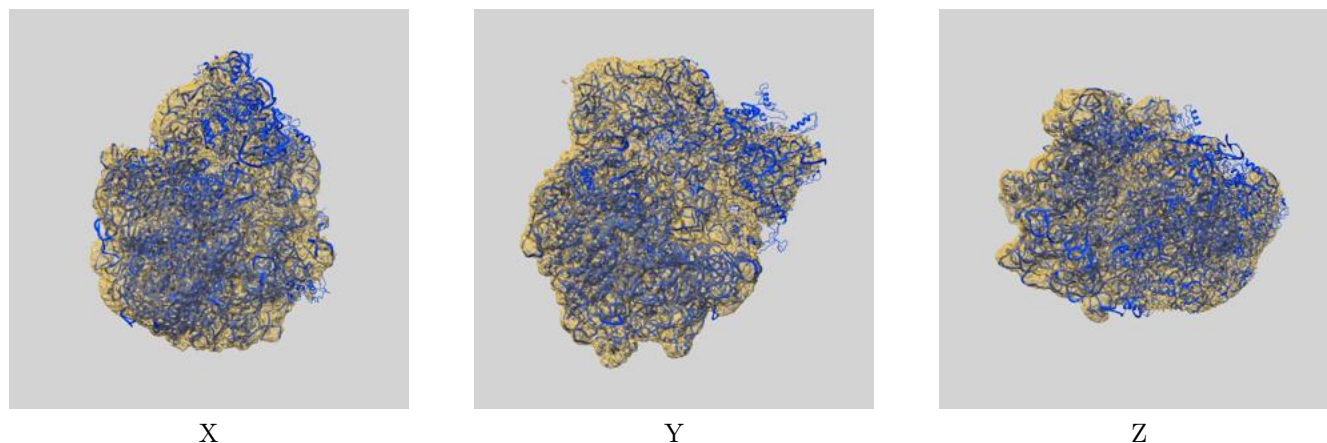
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

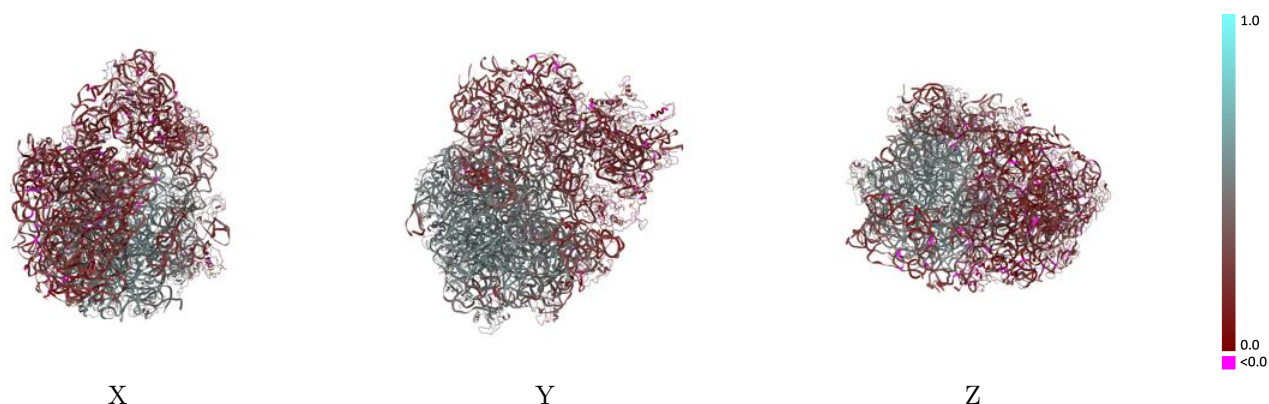
This section contains information regarding the fit between EMDB map EMD-11902 and PDB model 7ASO. Per-residue inclusion information can be found in section 3 on page 12.

9.1 Map-model overlay [i](#)



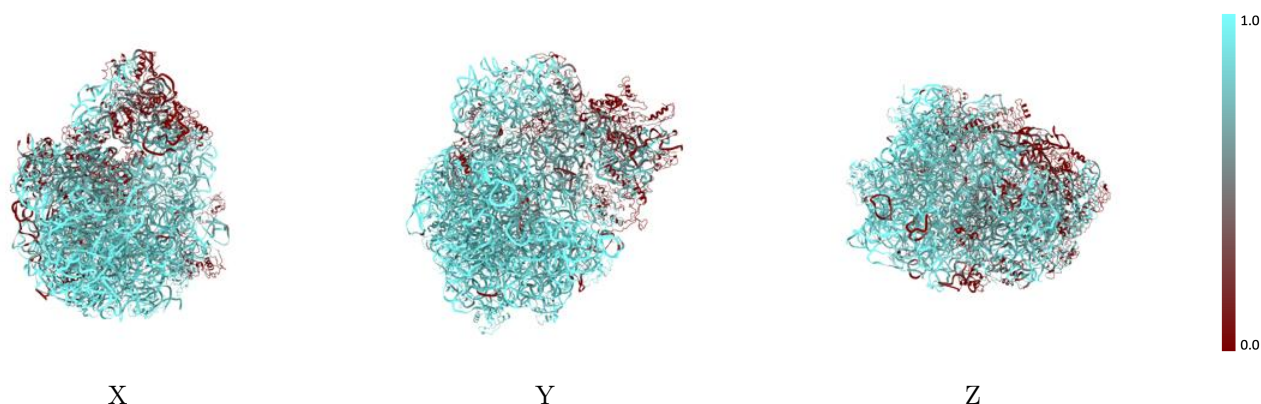
The images above show the 3D surface view of the map at the recommended contour level 0.0052 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



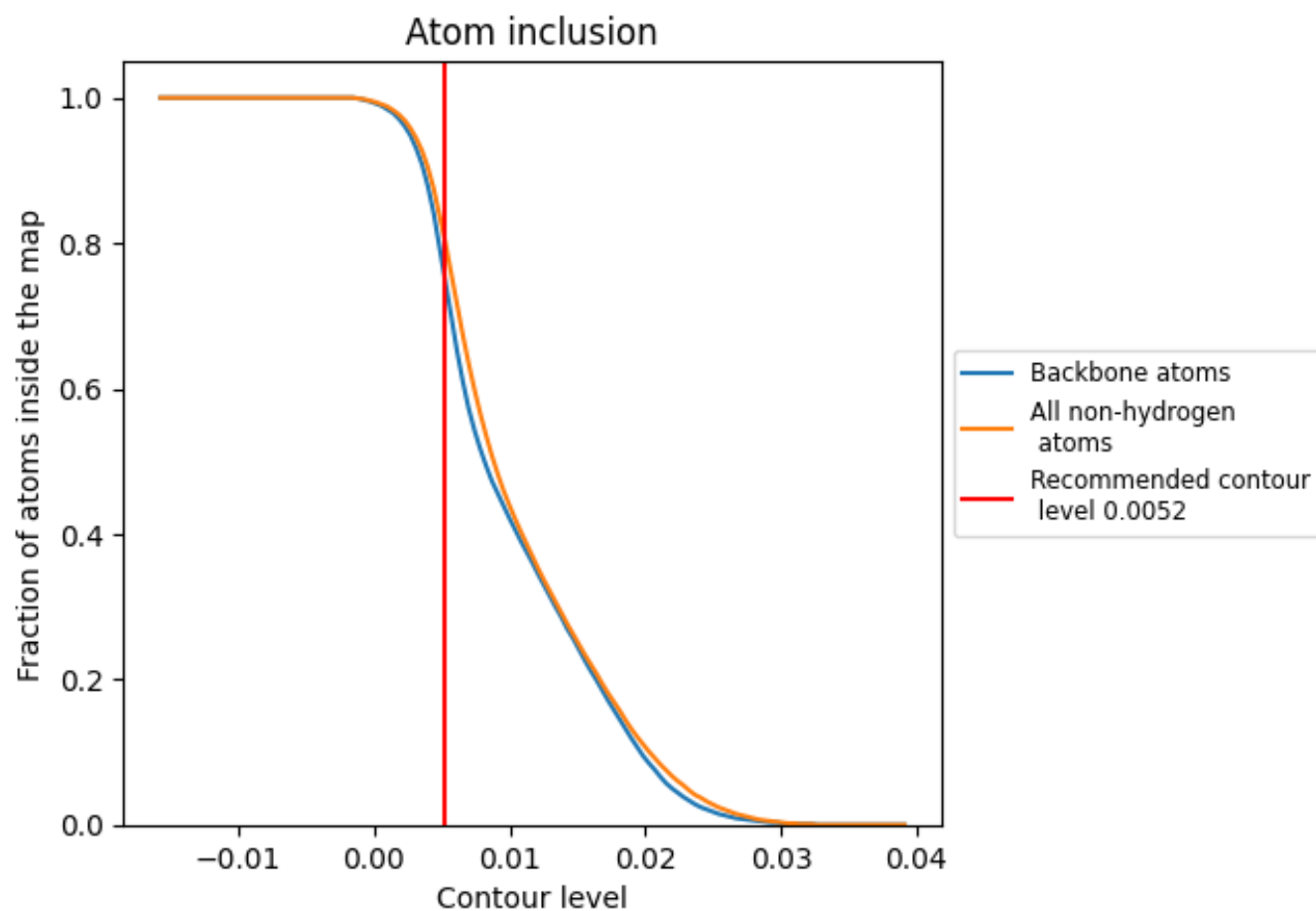
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0052).

9.4 Atom inclusion [i](#)



At the recommended contour level, 75% of all backbone atoms, 80% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.0052) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8050	 0.3580
1	 0.1170	 0.1950
2	 0.0890	 0.2510
3	 0.1020	 0.2140
4	 0.3150	 0.2170
5	 0.1370	 0.2110
6	 0.3920	 0.2180
7	 0.4750	 0.1430
8	 0.4380	 0.2580
9	 0.3450	 0.2210
A	 0.2720	 0.2000
B	 0.0890	 0.2520
C	 0.9440	 0.2810
D	 0.2920	 0.2540
E	 0.2540	 0.1940
F	 0.4140	 0.2310
G	 0.4520	 0.1910
H	 0.2700	 0.2470
I	 0.1680	 0.2250
J	 0.9080	 0.4850
K	 0.6090	 0.2410
L	 0.2190	 0.2550
M	 0.9100	 0.5130
N	 0.8490	 0.5230
O	 0.9040	 0.4810
P	 0.8370	 0.4750
Q	 0.9000	 0.5110
R	 0.8640	 0.3240
S	 0.9280	 0.5410
T	 0.4280	 0.3970
U	 0.9350	 0.5160
V	 0.8930	 0.5300
W	 0.8630	 0.4550
X	 0.8040	 0.1890
Y	 0.9410	 0.4510



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Chain	Atom inclusion	Q-score
Z	 0.7720	 0.4180
a	 0.3600	 0.3440
b	 0.8510	 0.5050
c	 0.7330	 0.4770
d	 0.8350	 0.3850
e	 0.9370	 0.5280
f	 0.9140	 0.5110
g	 0.8630	 0.4480
h	 0.0520	 0.2470
i	 0.9100	 0.5490
j	 0.8880	 0.5200
k	 0.5260	 0.3340
l	 0.2660	 0.2720