



Full wwPDB X-ray Structure Validation Report

Feb 28, 2014 – 12:32 AM GMT

PDB ID : 3PYV
Title : Crystal structure of a complex containing domain 3 of CrPV IGR IRES RNA bound to the 70S ribosome. This file contains the 50S subunit of the second 70S ribosome.
Authors : Zhu, J.; Korostelev, A.; Costantino, D.; Noller, H.F.; Kieft, J.S.
Deposited on : 2010-12-13
Resolution : 3.40 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

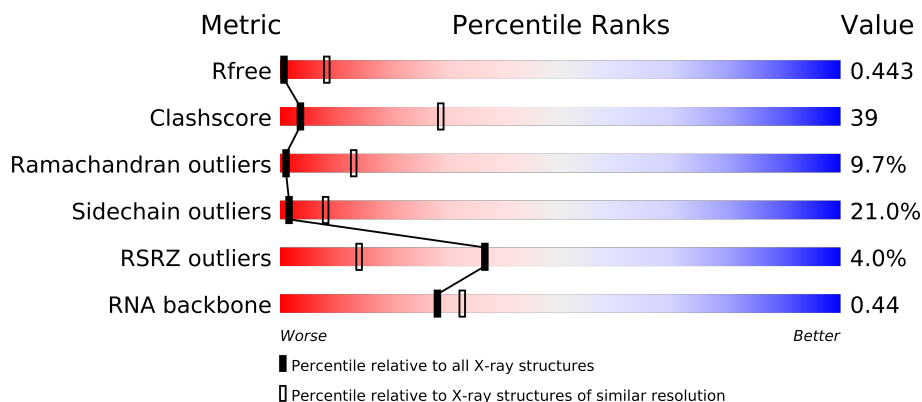
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.15 2013
Xtriage (Phenix) : dev-1323
EDS : stable22639
Percentile statistics : 21963
Refmac : 5.8.0049
CCP4 : 6.3.0 (Settle)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable22683

1 Overall quality at a glance

The reported resolution of this entry is 3.40 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)	Similar resolution (#Entries, resolution range(Å))
R_{free}	66092	1017 (3.52-3.28)
Clashscore	79885	1214 (3.50-3.30)
Ramachandran outliers	78287	1177 (3.50-3.30)
Sidechain outliers	78261	1177 (3.50-3.30)
RSRZ outliers	66119	1017 (3.52-3.28)
RNA backbone	1838	1002 (4.02-2.76)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	A	2879	
2	B	119	
3	C	271	
4	D	204	
5	E	202	
6	F	181	
7	G	159	
8	H	145	
9	I	65	
10	J	137	
11	K	122	
12	L	146	

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Mol	Chain	Length	Quality of chain
13	M	136	
14	N	117	
15	O	98	
16	P	137	
17	Q	116	
18	R	101	
19	S	112	
20	T	92	
21	U	100	
22	V	188	
23	W	76	
24	X	88	
25	Y	62	
26	Z	59	
27	1	30	
28	2	52	
29	3	44	
30	4	48	
31	5	63	

2 Entry composition

There are 31 unique types of molecules in this entry. The entry contains 88276 atoms, of which 0 are hydrogen and 0 are deuterium.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	2760	Total	C	N	O	P	0	0	0
			59442	26456	11114	19113	2759			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1142	U	C	SEE REMARK 999	GB AE017221.1
A	2825	U	G	SEE REMARK 999	GB AE017221.1

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			

- Molecule 3 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	271	Total	C	N	O	S	0	0	0
			2105	1329	416	357	3			

- Molecule 4 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	204	Total	C	N	O	S	0	0	0
			1564	988	299	271	6			

- Molecule 5 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	202	Total	C	N	O	S	0	0	0
			1587	1011	297	276	3			

- Molecule 6 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	181	Total	C	N	O	S	0	0	0
			1475	943	268	260	4			

- Molecule 7 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	159	Total	C	N	O	S	0	0	0
			1223	773	228	221	1			

- Molecule 8 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	145	Total	C	N	O	S	0	0	0
			1133	724	200	208	1			

- Molecule 9 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
9	I	32	Total	C	N	O	0	0	0
			254	157	49	48			

- Molecule 10 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	137	Total	C	N	O	S	0	0	0
			1097	707	205	182	3			

- Molecule 11 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	122	Total	C	N	O	S	0	0	0
			932	587	171	170	4			

- Molecule 12 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			

- Molecule 13 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	136	Total	C	N	O	S	0	0	0
			1079	688	204	182	5			

- Molecule 14 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	117	Total	C	N	O		0	0	0
			960	599	202	159				

- Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	98	Total	C	N	O		0	0	0
			771	486	154	131				

- Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	137	Total	C	N	O	S	0	0	0
			1144	713	234	196	1			

- Molecule 17 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	116	Total	C	N	O	S	0	0	0
			953	601	201	150	1			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	?	-	PHE	DELETION	UNP Q72L76

- Molecule 18 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	R	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 19 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	112	Total	C	N	O	S	0	0	0
			891	560	175	154	2			

- Molecule 20 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	92	Total	C	N	O		0	0	0
			726	471	131	124				

- Molecule 21 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	U	100	Total	C	N	O	S	0	0	0
			776	500	148	124	4			

- Molecule 22 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	V	188	Total	C	N	O	S	0	0	0
			1492	950	265	275	2			

- Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	W	76	Total	C	N	O	S	0	0	0
			605	376	126	102	1			

- Molecule 24 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	X	88	Total	C	N	O		0	0	0
			695	435	141	119				

- Molecule 25 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	Y	62	Total	C	N	O	S	0	0	0
			521	325	102	92	2			

- Molecule 26 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	59	Total	C	N	O	S	0	0	0
			468	298	90	79	1			

- Molecule 27 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	1	30	Total	C	N	O	S	0	0	0
			226	142	36	44	4			

- Molecule 28 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	2	52	Total	C	N	O	S	0	0	0
			405	255	79	66	5			

- Molecule 29 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	3	44	Total	C	N	O	S	0	0	0
			381	235	77	65	4			

- Molecule 30 is a protein called 50S ribosomal protein L34.

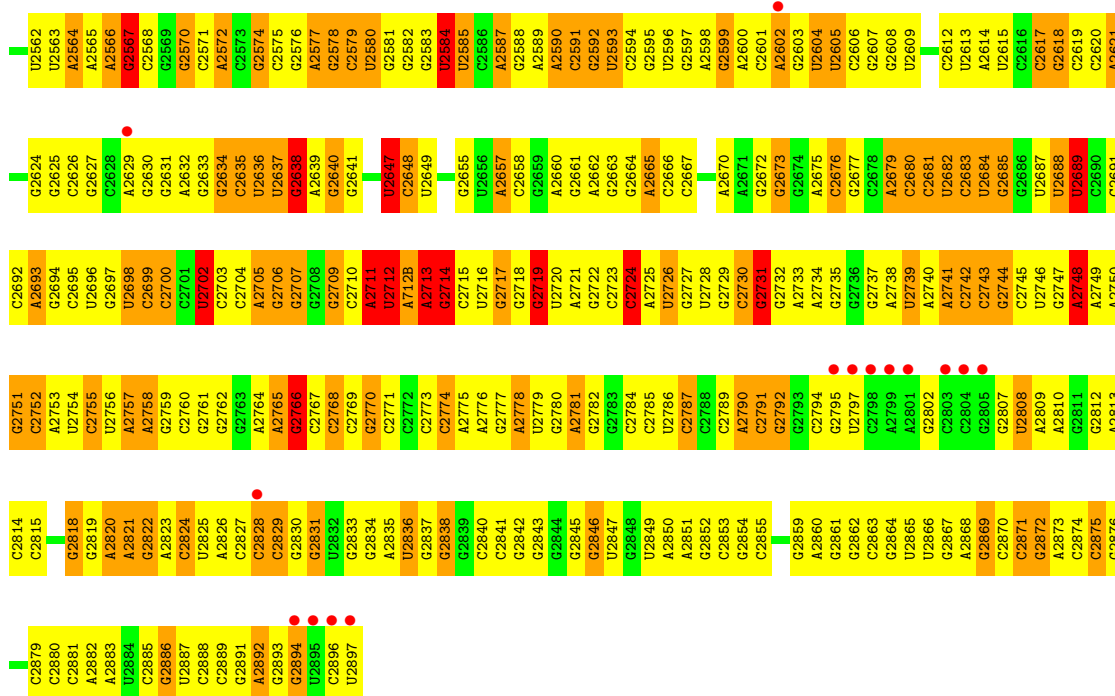
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	4	48	Total	C	N	O	S	0	0	0
			419	257	104	56	2			

- Molecule 31 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	5	63	Total	C	N	O	S	0	0	0
			508	326	101	79	2			

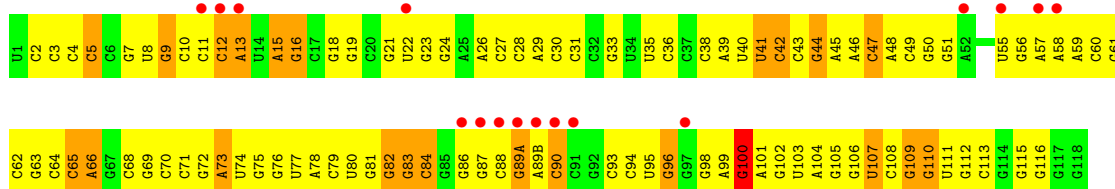
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G1283	A1284	G1285	A1286	U1287	U1288	A1289	C1290	C1291	U1292	C1293	U1294	G1295	G1296	C1297	C1298	U1299	A1301	A1302	G1303	G1304	C1305	C1306	A1307	A1308	G1309	G1310	U1311	U1312	C1313	U1314	C1315	U1316	A1317	C1318	G1319	C1320	A1321	A1322	G1323	G1324	G1325	U1326	C1327	G1328	U1329	C1330	A1331	G1332	C1333	G1334	A1335	U1336	U1337	C1338	C1339	U1340	U1341	A1342
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G1022	U1023	G1024	G1025	U1026	A1027	A1028	G1029	G1030	A1031	A1032	U1033	U1035	G1036	C1041	A1045	A1046	G1047	A1048	C1049	A1050	G1051	C1052	G1053	A1054	G1055	U1056	A	G	G	U	U	U	U	A	C	A	A	C	A	A	C	A	C	C	U	U	U	U	A	A								
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C2498	U2437	A2376	C2313	A2377	C2314	G2252	C	A	C1996	A1932	G1888	C1795	G1726	G1653	G1594
C2499	U2438	A2378	G2315	A2379	G2316	G2253	U	G	G1997	G1933	A1859	C1796	U1727	A1854	G1595
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G2501	C2440	A2380	C2319	U2375	G2320	G2255	U	U	G1999	G1935	G1861	G1798	A1729	C1656	G1598
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U2504	C2443	A2383	G2325	U2378	G2326	U2258	G	G	G2002	G1938	C1870	G1801	U1732	U1659	G1600
G2505	G2444	G2384	A2320	G2385	A2321	G2259	A	A	G2003	G2003	A1871	A1802	G1733	C1660	G1601
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G2512	A2450	G2389	G2325	U2390	G2326	C2264	G	G	C2008	G1946	C1880	G1806	G1738	A1665	G1606
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G2515	A2453	U2394	G2330	C2394	G2331	A2267	A	A	U2011	U1951	G1883	G1814	G1748	A1668	A1609
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G2517	G2455	U2395	G2332	G2396	G2333	G2270	C	C	A2013	A1953	A1885	G1816	G1750	C1670	G1611
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C2519	A2459	U2397	G2333	U2398	G2335	A2272	C	C	A2015	U1955	C1887	G1818	C1755	C1672	G1613
U2520	U2460	G2398	A2334	U2399	G2336	A2273	C	C	U2016	U1956	G1888	U1819	G1756	U1673	A1614
G2521	C2461	C2400	G2335	G2401	A2336	A2274	C	C	U2017	C1957	A1889	A1819	G1757	A1674	C1615
U2522	U2462	U2401	A2337	U2402	G2337	G2275	G	G	G2018	G1958	A1890	U1820	U1757	A1616	G1616
G2523	C2463	C2402	G2338	C2403	G2338	G2276	C	C	A2019	G1959	C1891	U1821	G1758	A1677	G1617
U2524	U2464	U2403	A2339	U2404	G2339	G2277	C	C	A2020	A1960	G1892	G1822	A1759	A1678	A1618
G2525	C2465	C2404	G2340	U2405	G2340	A2278	U	U	C2021	C1961	C1893	G1823	A1760	G1679	G1619
U2526	G2466	U2406	C2342	G2407	G2342	A2279	C	C	U2022	C1962	C1894	G1824	A1761	U1680	G1620
G2527	C2467	U2407	G2343	U2408	G2343	A2280	C	C	G2023	A1963	C1895	A1825	G1762	G1681	U1621
U2528	U2468	U2408	U2344	U2409	G2344	A2281	C	C	G2024	G1964	C1896	G1826	G1763	G1682	G1622
G2529	A2469	G2409	G2345	U2410	G2345	A2282	G	G	C2025	C1965	C1897	C1827	G1764	G1683	G1623
U2530	C2470	U2411	A2346	G2412	G2346	G2283	U	U	G2026	A1966	C1898	G1828	G1765	C1684	G1624
A2531	U2471	G2412	U2347	U2413	G2347	C2284	G	G	C2027	C1967	A1900	A1829	U1766	C1685	C1625
G2532	U2472	G2413	G2350	G2414	G2348	C2285	U	U	U2028	G1968	C1901	C1830	U1767	C1686	G1626
U2533	C2473	G2415	G2351	G2416	G2349	C2286	G	G	G2029	A1969	C1902	G1831	U1768	G1687	G1627
G2534	A2474	G2417	U2352	G2418	G2352	A2287	C	C	A2030	A1970	G1903	C1832	G1769	U1688	G1628
U2535	U2475	G2419	G2353	G2420	G2353	A2288	G	G	C2031	A1971	G1904	U1833	G1770	A1689	U1629
C2536	C2476	U2421	U2354	C2421	G2354	C2289	G	G	G2032	A1972	C1905	U1834	C1771	A1690	G1630
U2537	A2477	G2422	G2355	G2423	G2355	C2290	G	G	G2033	A1973	G1906	G1835	G1772	C1691	C1631
G2538	C2478	U2424	U2356	G2424	G2356	C2291	C	C	U2034	C1974	A1909	C1836	U1773	U1692	G1632
U2539	A2479	G2425	G2357	G2425	G2357	C2292	A	A	G2035	C1975	C1909	C1837	C1774	A1696	G1633
C2540	C2480	G2426	U2358	G2426	G2358	C2293	G	G	C2036	C1976	C1913	G1838	U1775	G1697	A1634
U2541	U2481	C2427	C2359	G2427	G2359	C2294	C	C	G2037	A1977	C1914	G1839	U1776	G1698	G1635
G2542	C2482	U2428	A2360	G2428	G2360	C2295	G	G	U2038	C1978	U1915	G1840	U1777	A1699	C1636
U2543	G2483	G2429	A2361	G2429	G2361	C2296	C	C	C2039	A1979	G1916	U1841	U1778	G1699	C1637
G2544	C2484	U2430	G2362	G2430	G2362	C2297	U	U	U2040	A1981	C1917	G1842	U1779	A1700	G1638
U2545	U2485	G2431	C2363	G2431	G2363	C2298	G	G	A2041	C1982	A1918	G1844	C1781	G1703	U1639
G2546	C2486	U2432	G2364	G2432	G2364	C2299	C	C	C2042	A1983	C1919	G1845	C1782	G1704	C1640
U2547	U2487	G2433	U2365	G2433	G2365	C2300	U	U	G2043	A1984	C1920	G1846	A1783	G1705	A1641
G2548	C2488	U2434	A2366	G2434	G2366	C2301	G	G	C2044	G1985	G1921	G1847	A1784	U1706	G1642
U2549	U2489	G2435	G2367	G2435	G2367	C2302	A	A	C2045	A1986	G1922	A1848	A1785	G1707	G1643
G2550	C2490	U2436	U2368	G2436	G2368	C2303	C	C	U2046	A1987	G1923	G1849	A1786	C1708	G1644
U2551	U2491	G2437	A2369	G2437	G2369	C2304	A	A	G2047	C1988	C1924	G1850	A1787	U1709	G1645
G2552	C2492	U2438	G2370	G2438	G2370	C2305	U	U	G2048	A1989	G1925	U1851	G1788	G1710	C1646
U2553	U2493	G2439	G2371	G2439	G2371	C2306	A	A	G2049	C1990	G1926	G1852	A1789	C1711	G1647
G2554	C2494	U2440	C2372	G2440	G2372	C2307	C	C	A2051	U1991	A1927	A1853	C1790	C1712	C1648
U2555	U2495	G2441	G2373	G2441	G2373	C2308	A	A	G2052	A1992	A1928	A1854	A1791	U1716	G1649
G2556	C2496	U2442	C2374	G2442	G2374	A2311	C	C	G2053	U1993	G1929	G1855	G1792	U1717	G1650
U2557	U2497	G2443	U2375	G2443	G2375		G	G	A2054	C1994	G1930	G1856	C1793	G1718	G1651



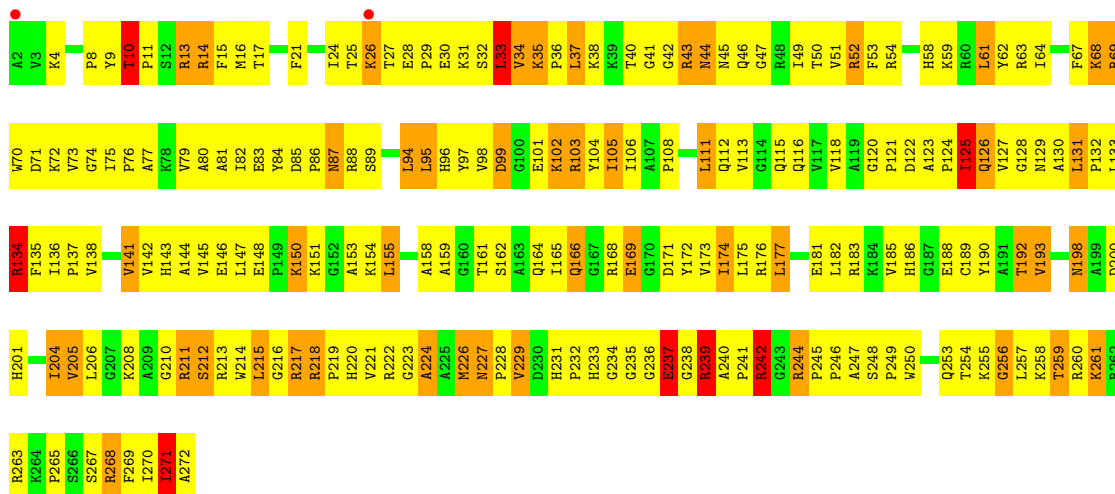
• Molecule 2: 5S ribosomal RNA

Chain B:



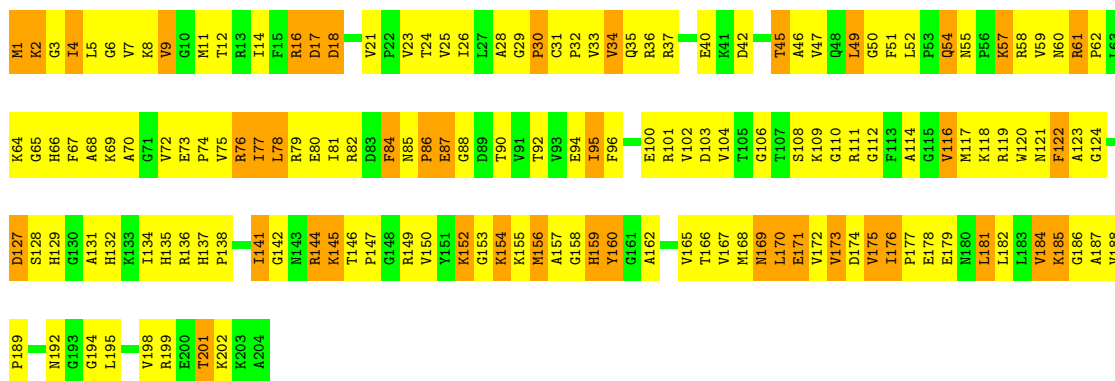
• Molecule 3: 50S ribosomal protein L2

Chain C:



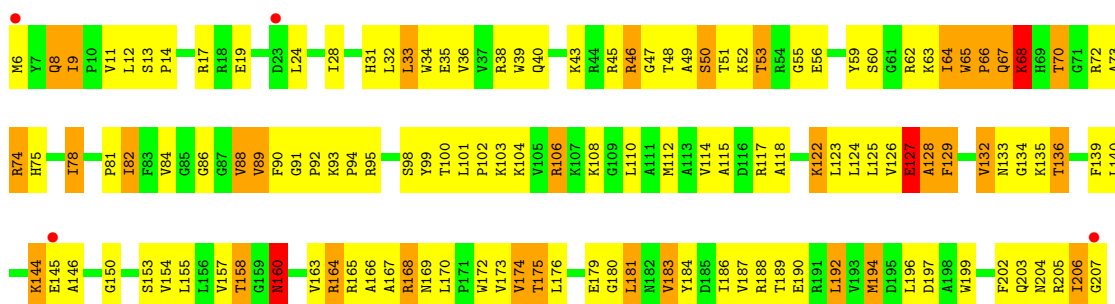
• Molecule 4: 50S ribosomal protein L3

Chain D:



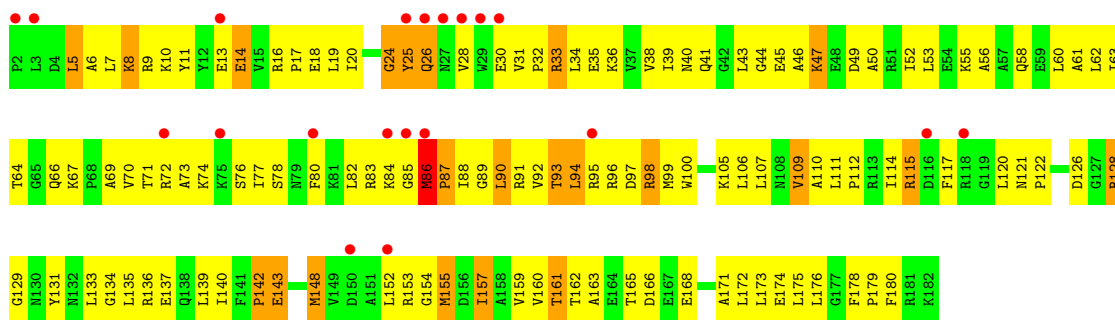
• Molecule 5: 50S ribosomal protein L4

Chain E:



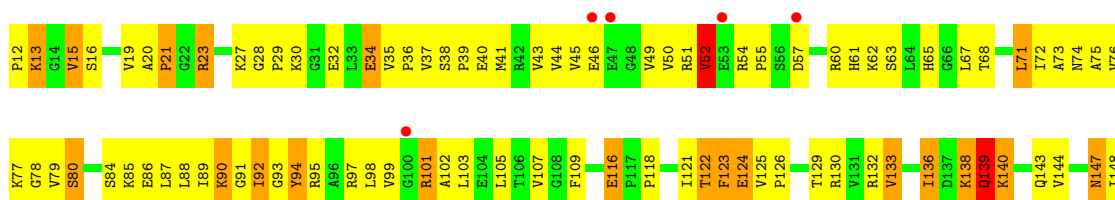
• Molecule 6: 50S ribosomal protein L5

Chain F:



• Molecule 7: 50S ribosomal protein L6

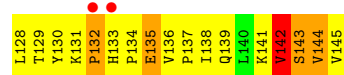
Chain G:





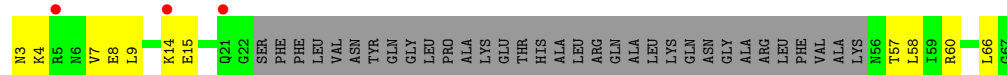
• Molecule 8: 50S ribosomal protein L9

Chain H:



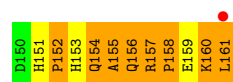
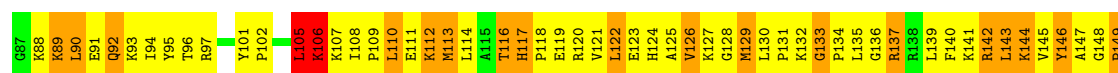
• Molecule 9: 50S ribosomal protein L10

Chain I:



• Molecule 10: 50S ribosomal protein L13

Chain J:



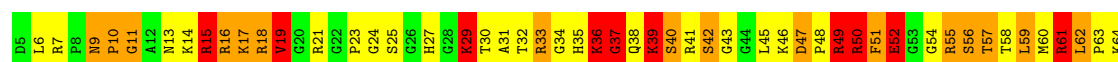
• Molecule 11: 50S ribosomal protein L14

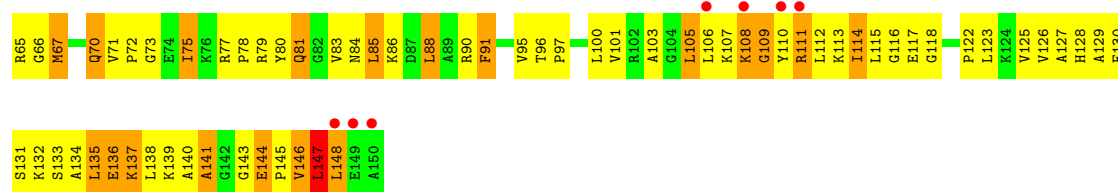
Chain K:



• Molecule 12: 50S ribosomal protein L15

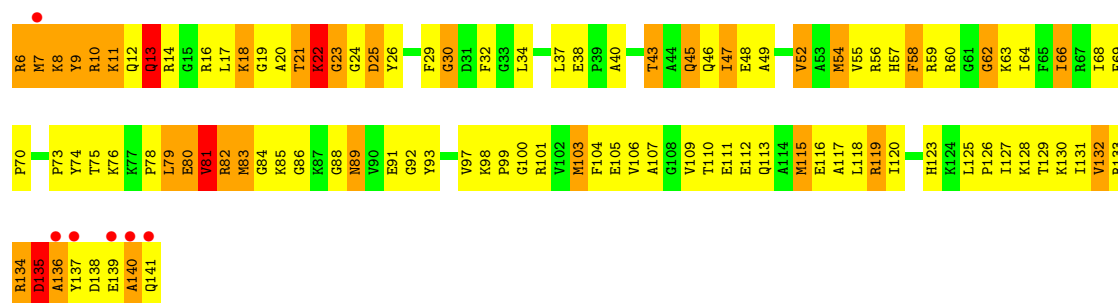
Chain L:





• Molecule 13: 50S ribosomal protein L16

Chain M:



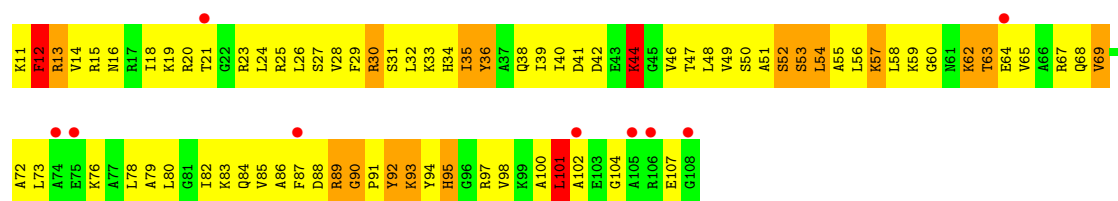
• Molecule 14: 50S ribosomal protein L17

Chain N:



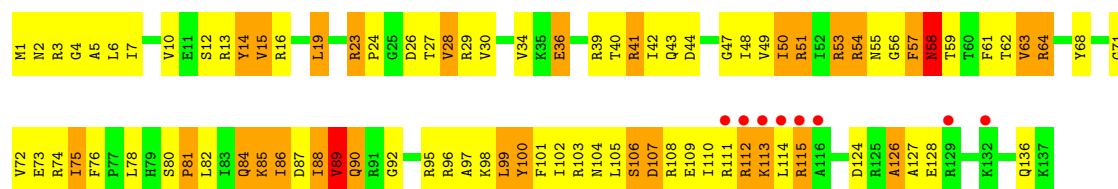
• Molecule 15: 50S ribosomal protein L18

Chain O:



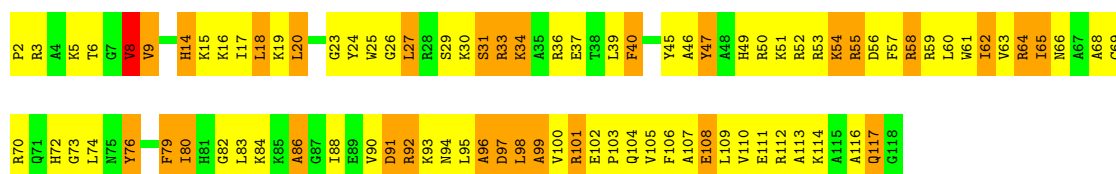
• Molecule 16: 50S ribosomal protein L19

Chain P:



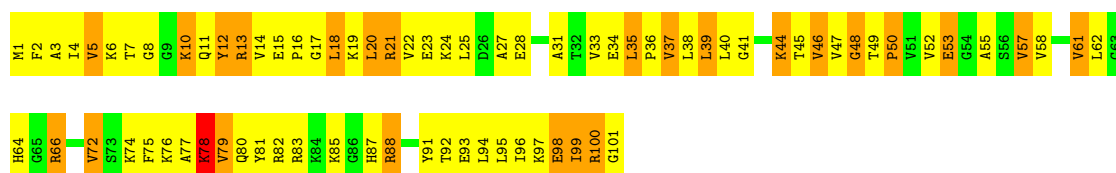
• Molecule 17: 50S ribosomal protein L20

Chain Q:



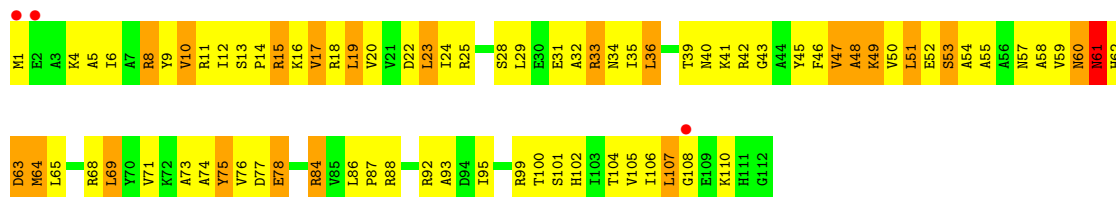
• Molecule 18: 50S ribosomal protein L21

Chain R:



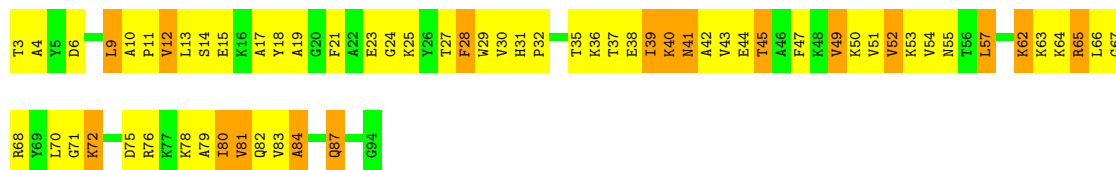
• Molecule 19: 50S ribosomal protein L22

Chain S:



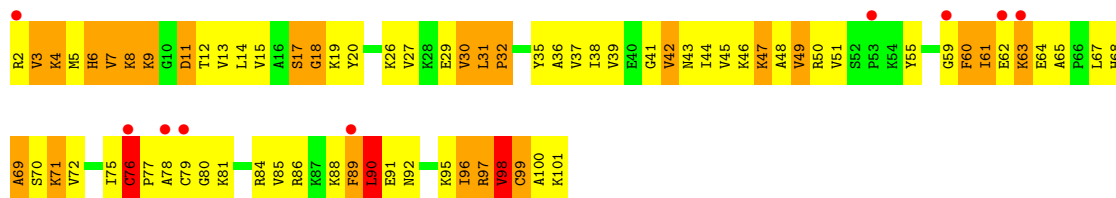
• Molecule 20: 50S ribosomal protein L23

Chain T:



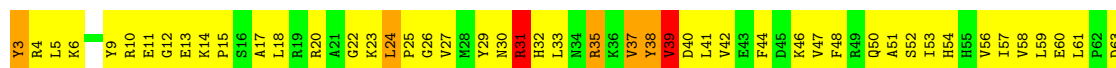
• Molecule 21: 50S ribosomal protein L24

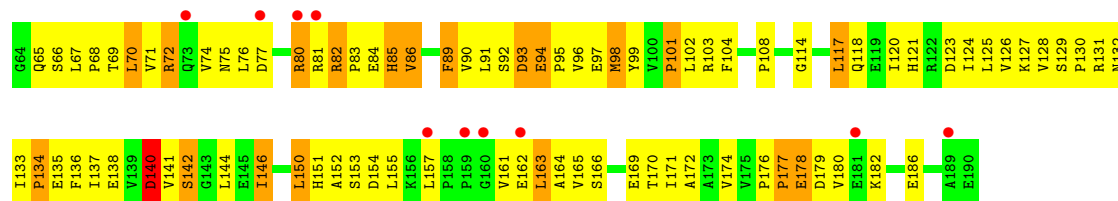
Chain U:



• Molecule 22: 50S ribosomal protein L25

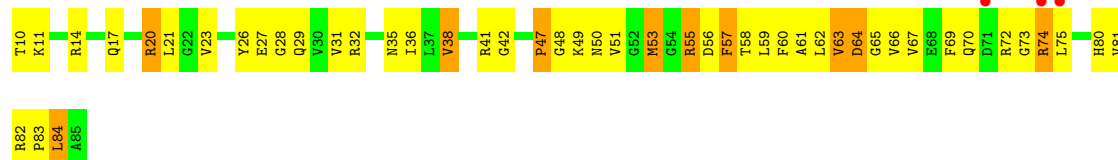
Chain V:





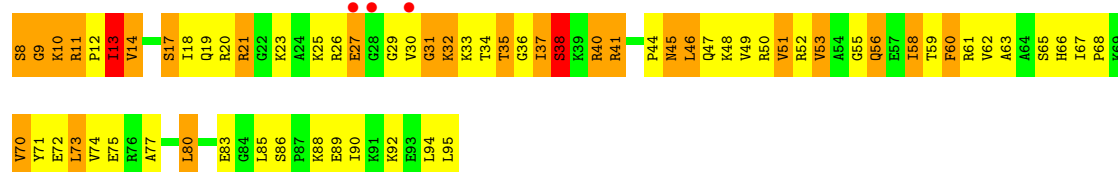
• Molecule 23: 50S ribosomal protein L27

Chain W:



• Molecule 24: 50S ribosomal protein L28

Chain X:



• Molecule 25: 50S ribosomal protein L29

Chain Y:



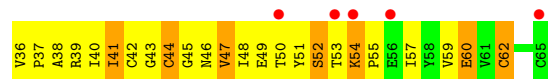
• Molecule 26: 50S ribosomal protein L30

Chain Z:



• Molecule 27: 50S ribosomal protein L31

Chain 1:

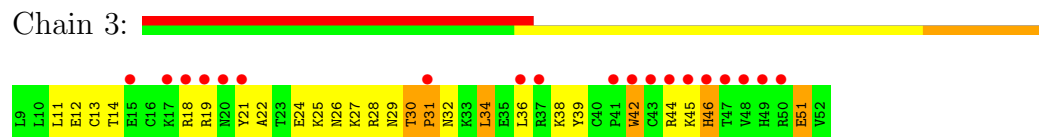


• Molecule 28: 50S ribosomal protein L32

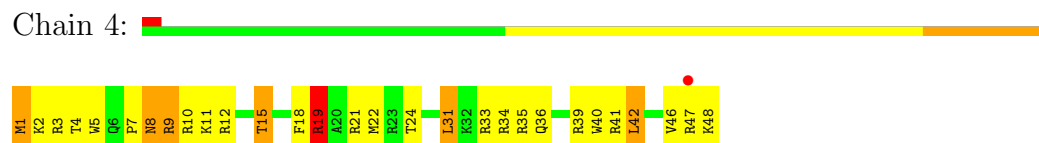
Chain 2:



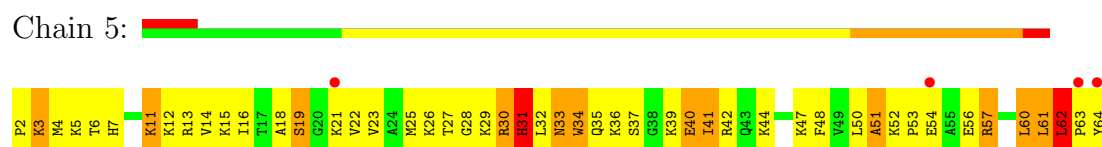
- Molecule 29: 50S ribosomal protein L33



- Molecule 30: 50S ribosomal protein L34



- Molecule 31: 50S ribosomal protein L35



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	210.69Å 451.66Å 614.25Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.52 – 3.40 49.52 – 3.40	Depositor EDS
% Data completeness (in resolution range)	97.5 (49.52-3.40) 97.6 (49.52-3.40)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.28 (at 3.40Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.6.1_357)	Depositor
R, R_{free}	0.228 , 0.266 0.440 , 0.443	Depositor DCC
R_{free} test set	7680 reflections (0.99%)	DCC
Wilson B-factor (Å ²)	86.0	Xtriage
Anisotropy	0.391	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.27 , 54.4	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.27$	Xtriage
Outliers	0 of 775950 reflections	Xtriage
F_o, F_c correlation	0.61	EDS
Total number of atoms	88276	wwPDB-VP
Average B, all atoms (Å ²)	88.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.68% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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	A	1.19	253/66575 (0.4%)	1.59	1756/103930 (1.7%)
2	B	0.59	0/2853	1.04	3/4451 (0.1%)
3	C	0.74	1/2155 (0.0%)	0.91	5/2905 (0.2%)
4	D	0.62	1/1597 (0.1%)	0.81	0/2153
5	E	0.67	0/1622	0.78	0/2194
6	F	0.28	0/1500	0.49	0/2017
7	G	0.44	0/1246	0.64	0/1682
8	H	0.38	0/1148	0.56	0/1552
9	I	0.27	0/252	0.46	0/333
10	J	0.59	0/1124	0.76	0/1515
11	K	0.61	0/942	0.77	0/1268
12	L	0.75	2/1131 (0.2%)	1.03	5/1504 (0.3%)
13	M	0.60	0/1099	0.83	1/1468 (0.1%)
14	N	0.59	0/974	0.83	1/1302 (0.1%)
15	O	0.39	0/779	0.61	0/1036
16	P	0.51	0/1158	0.69	0/1544
17	Q	0.67	0/970	0.81	0/1290
18	R	0.61	0/790	0.74	1/1057 (0.1%)
19	S	0.66	0/902	0.76	0/1209
20	T	0.74	0/740	0.84	0/993
21	U	0.56	0/789	0.76	0/1051
22	V	0.38	0/1524	0.57	0/2068
23	W	0.52	0/613	0.72	0/816
24	X	0.82	0/702	1.04	2/932 (0.2%)
25	Y	0.72	0/523	0.98	3/690 (0.4%)
26	Z	0.50	0/473	0.65	0/634
27	1	0.22	0/229	0.41	0/309
28	2	0.58	0/419	0.79	0/567
29	3	0.27	0/388	0.46	0/518
30	4	0.84	0/427	1.05	1/561 (0.2%)
31	5	0.69	0/516	0.88	1/679 (0.1%)
All	All	1.05	257/96160 (0.3%)	1.42	1779/144228 (1.2%)

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
3	C	0	1
5	E	0	1
12	L	0	5
13	M	0	1
14	N	0	1
17	Q	0	2
All	All	0	11

All (257) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	774	A	N9-C4	-13.87	1.29	1.37
1	A	1332	G	N9-C4	-11.99	1.28	1.38
1	A	1602	U	C4-O4	11.31	1.32	1.23
1	A	2249	U	C4-O4	10.67	1.32	1.23
1	A	1614	A	N9-C4	-10.65	1.31	1.37
1	A	761	A	C5-C4	10.24	1.46	1.38
1	A	71	A	N9-C4	-10.23	1.31	1.37
1	A	676	A	N9-C4	-9.99	1.31	1.37
1	A	2593	U	C4-O4	9.50	1.31	1.23
1	A	761	A	C6-N1	9.44	1.42	1.35
1	A	677	A	N9-C4	-9.09	1.32	1.37
1	A	1671	U	C4-O4	8.93	1.30	1.23
1	A	774	A	N3-C4	-8.90	1.29	1.34
1	A	677	A	N3-C4	-8.81	1.29	1.34
1	A	797	C	N1-C6	-8.37	1.32	1.37
1	A	783	A	N9-C4	-8.32	1.32	1.37
1	A	575	A	N9-C4	-8.06	1.33	1.37
12	L	39	LYS	CB-CG	7.73	1.73	1.52
1	A	1322	A	N3-C4	-7.73	1.30	1.34
1	A	1678	G	N9-C4	-7.70	1.31	1.38
1	A	2028	U	C4-O4	7.49	1.29	1.23
1	A	1829	A	N9-C4	-7.45	1.33	1.37
1	A	945	A	N7-C5	-7.41	1.34	1.39
1	A	265	A	N9-C4	-7.38	1.33	1.37
1	A	2032	G	N7-C5	7.32	1.43	1.39
1	A	761	A	C6-N6	7.30	1.39	1.33
1	A	1614	A	N7-C5	-7.27	1.34	1.39
1	A	748	G	C5-C4	-7.22	1.33	1.38
1	A	1367	A	C6-N1	-7.12	1.30	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	450	G	C6-O6	7.10	1.30	1.24
1	A	678	C	N3-C4	-7.07	1.28	1.33
1	A	211	A	N3-C4	-6.96	1.30	1.34
1	A	1802	A	N3-C4	-6.88	1.30	1.34
1	A	676	A	N3-C4	-6.87	1.30	1.34
1	A	2497	A	N9-C4	-6.85	1.33	1.37
1	A	945	A	C5-C6	-6.81	1.34	1.41
1	A	2518	A	N9-C4	-6.81	1.33	1.37
1	A	761	A	N1-C2	6.79	1.40	1.34
1	A	2506	U	N1-C2	6.78	1.44	1.38
1	A	2028	U	C2-N3	6.76	1.42	1.37
1	A	1783	A	N3-C4	-6.73	1.30	1.34
1	A	450	G	N9-C8	-6.72	1.33	1.37
1	A	742	G	C5-C4	-6.72	1.33	1.38
1	A	752	A	N3-C4	-6.72	1.30	1.34
1	A	2713	A	N9-C4	-6.70	1.33	1.37
1	A	1378	A	N3-C4	-6.68	1.30	1.34
1	A	114(B)	A	N9-C4	-6.68	1.33	1.37
1	A	1308	A	N9-C4	-6.67	1.33	1.37
1	A	774	A	C5-C6	-6.67	1.35	1.41
1	A	2427	C	N1-C6	-6.64	1.33	1.37
1	A	340	A	N3-C4	-6.64	1.30	1.34
1	A	126	A	C5-C4	-6.61	1.34	1.38
1	A	2054	A	N7-C5	-6.56	1.35	1.39
1	A	472	A	N9-C4	-6.55	1.33	1.37
1	A	2061	G	C6-O6	6.55	1.30	1.24
1	A	778	G	N1-C2	-6.55	1.32	1.37
1	A	575	A	N7-C5	-6.54	1.35	1.39
1	A	2242	G	N9-C8	-6.51	1.33	1.37
1	A	570	G	C6-O6	6.46	1.29	1.24
1	A	752	A	C6-N1	-6.45	1.31	1.35
1	A	71	A	N3-C4	-6.43	1.30	1.34
1	A	1609	A	N9-C4	-6.42	1.33	1.37
1	A	1619	G	N3-C4	-6.42	1.30	1.35
1	A	676	A	C5-C4	6.41	1.43	1.38
1	A	676	A	N9-C8	6.40	1.42	1.37
1	A	2430	A	N7-C5	-6.37	1.35	1.39
1	A	1777	U	C2-N3	-6.36	1.33	1.37
1	A	774	A	N7-C5	-6.33	1.35	1.39
1	A	1780	A	N7-C5	-6.32	1.35	1.39
1	A	1978	A	N9-C4	-6.32	1.34	1.37
1	A	2588	G	P-OP2	6.32	1.59	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	116	C	N1-C6	-6.31	1.33	1.37
3	C	239	ARG	CG-CD	6.30	1.67	1.51
1	A	585	G	C6-N1	-6.30	1.35	1.39
1	A	457	A	N9-C4	-6.29	1.34	1.37
1	A	2448	A	N9-C4	-6.28	1.34	1.37
1	A	1899	G	N9-C4	-6.25	1.32	1.38
1	A	678	C	N1-C6	-6.22	1.33	1.37
1	A	2057	A	N3-C4	-6.22	1.31	1.34
1	A	2059	A	N9-C4	-6.21	1.34	1.37
1	A	2432	A	N9-C4	-6.21	1.34	1.37
1	A	1776	G	C6-N1	-6.20	1.35	1.39
1	A	1614	A	N3-C4	-6.19	1.31	1.34
1	A	1783	A	N9-C4	-6.19	1.34	1.37
1	A	1332	G	C2-N3	-6.18	1.27	1.32
1	A	1271	G	N9-C8	-6.17	1.33	1.37
1	A	1770	G	N3-C4	-6.14	1.31	1.35
1	A	2689	U	C2-N3	-6.13	1.33	1.37
1	A	1902	C	N3-C4	-6.12	1.29	1.33
1	A	2058	A	N3-C4	-6.11	1.31	1.34
1	A	1569	A	N3-C4	-6.11	1.31	1.34
1	A	1603	A	N3-C4	-6.10	1.31	1.34
1	A	2717	G	N9-C8	-6.06	1.33	1.37
1	A	2452	C	N1-C6	-6.05	1.33	1.37
1	A	1332	G	N9-C8	6.03	1.42	1.37
1	A	1619	G	C6-N1	-6.03	1.35	1.39
1	A	655	A	N9-C4	6.02	1.41	1.37
1	A	2512	C	N1-C6	-6.02	1.33	1.37
1	A	783	A	N3-C4	-6.01	1.31	1.34
1	A	2591	C	N1-C6	-6.01	1.33	1.37
1	A	1606	G	C6-N1	-6.00	1.35	1.39
1	A	1378	A	N9-C4	-5.98	1.34	1.37
1	A	567	A	P-OP1	5.97	1.59	1.49
1	A	2063	C	N3-C4	-5.96	1.29	1.33
1	A	2242	G	C5-C4	-5.95	1.34	1.38
1	A	2256	G	N3-C4	-5.93	1.31	1.35
1	A	814	C	N1-C6	-5.92	1.33	1.37
1	A	706	A	N9-C4	-5.89	1.34	1.37
1	A	2055	C	N1-C6	-5.89	1.33	1.37
1	A	983	A	N9-C4	-5.88	1.34	1.37
1	A	449	A	C6-N1	-5.87	1.31	1.35
1	A	2032	G	N9-C8	5.85	1.42	1.37
1	A	114(B)	A	N7-C5	-5.85	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	216	A	N7-C5	-5.84	1.35	1.39
1	A	2080	G	C6-N1	-5.81	1.35	1.39
1	A	453	C	N1-C6	-5.79	1.33	1.37
1	A	211	A	N9-C4	-5.76	1.34	1.37
1	A	204	A	N9-C4	-5.75	1.34	1.37
1	A	2577	A	C6-N1	-5.73	1.31	1.35
1	A	2057	A	N9-C4	-5.72	1.34	1.37
1	A	787	U	P-OP1	5.72	1.58	1.49
1	A	698	C	C2-O2	5.71	1.29	1.24
1	A	195	A	N3-C4	-5.71	1.31	1.34
1	A	1619	G	C5-C4	-5.67	1.34	1.38
1	A	782	A	N9-C4	-5.66	1.34	1.37
1	A	782	A	C5-C4	-5.65	1.34	1.38
1	A	2033	A	C6-N1	-5.62	1.31	1.35
1	A	2054	A	C5-C6	-5.62	1.35	1.41
1	A	1802	A	N9-C4	-5.62	1.34	1.37
1	A	241	A	N9-C4	-5.61	1.34	1.37
1	A	766	C	N1-C6	-5.61	1.33	1.37
1	A	1616	A	C5-C6	-5.61	1.36	1.41
1	A	2227	A	N9-C4	-5.58	1.34	1.37
1	A	1777	U	N3-C4	-5.57	1.33	1.38
1	A	2446	G	C5-C4	-5.55	1.34	1.38
1	A	199	A	C5-C4	-5.55	1.34	1.38
1	A	2741	A	N9-C4	-5.54	1.34	1.37
1	A	693	C	N1-C6	-5.53	1.33	1.37
1	A	211	A	C6-N1	-5.53	1.31	1.35
1	A	569	U	N1-C6	-5.53	1.32	1.38
1	A	1201	C	N1-C6	-5.53	1.33	1.37
1	A	2346	A	N3-C4	-5.52	1.31	1.34
1	A	387	U	C4-O4	5.51	1.28	1.23
1	A	2242	G	N7-C5	-5.51	1.35	1.39
1	A	1824	G	N9-C8	-5.50	1.34	1.37
1	A	2070	G	N9-C8	-5.50	1.34	1.37
1	A	2060	A	N3-C4	-5.49	1.31	1.34
1	A	2062	A	C5'-C4'	-5.48	1.44	1.51
1	A	1782	C	N1-C6	-5.47	1.33	1.37
1	A	204	A	C6-N1	-5.46	1.31	1.35
1	A	2054	A	N9-C4	-5.46	1.34	1.37
1	A	1606	G	C5-C4	-5.46	1.34	1.38
1	A	1662	C	N3-C4	-5.46	1.30	1.33
1	A	2085	C	N1-C6	-5.45	1.33	1.37
1	A	1776	G	C6-O6	-5.44	1.19	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1633	G	N7-C5	-5.44	1.35	1.39
1	A	1376	C	C4-C5	-5.43	1.38	1.43
1	A	1775	U	C2-N3	-5.42	1.33	1.37
1	A	1341	U	C2-N3	5.42	1.41	1.37
1	A	2447	G	N3-C4	-5.42	1.31	1.35
1	A	57	C	N1-C6	-5.42	1.33	1.37
1	A	2231	C	N1-C6	-5.41	1.33	1.37
1	A	2587	A	N3-C4	-5.40	1.31	1.34
1	A	2447	G	N9-C4	-5.40	1.33	1.38
1	A	1802	A	N7-C5	-5.40	1.36	1.39
1	A	2432	A	N7-C5	-5.39	1.36	1.39
1	A	195	A	N9-C4	-5.39	1.34	1.37
1	A	1609	A	N3-C4	-5.39	1.31	1.34
1	A	794	G	C6-N1	-5.38	1.35	1.39
1	A	2502	G	N9-C8	-5.38	1.34	1.37
1	A	122	G	N3-C4	-5.37	1.31	1.35
1	A	1616	A	P-O5'	-5.37	1.54	1.59
1	A	454	A	N9-C4	-5.36	1.34	1.37
1	A	330	A	N9-C4	-5.36	1.34	1.37
1	A	2601	C	N1-C6	-5.35	1.33	1.37
1	A	114(B)	A	N3-C4	-5.35	1.31	1.34
1	A	2445	G	C6-N1	-5.34	1.35	1.39
1	A	330	A	C5-C6	-5.33	1.36	1.41
1	A	1786	A	N7-C5	-5.33	1.36	1.39
1	A	786	C	N1-C6	-5.32	1.33	1.37
1	A	2584	U	C4-O4	5.31	1.27	1.23
1	A	2448	A	C5-C6	-5.31	1.36	1.41
1	A	2577	A	N7-C5	-5.31	1.36	1.39
1	A	1331	A	N9-C4	-5.31	1.34	1.37
1	A	1614	A	N1-C2	5.30	1.39	1.34
1	A	798	G	N7-C5	-5.29	1.36	1.39
1	A	2256	G	C5-C4	-5.29	1.34	1.38
1	A	1248	G	C5-C4	-5.29	1.34	1.38
1	A	2577	A	C5-C4	-5.28	1.35	1.38
1	A	777	A	N3-C4	-5.28	1.31	1.34
1	A	1029	A	N9-C4	-5.28	1.34	1.37
4	D	127	ASP	CB-CG	5.27	1.62	1.51
1	A	1674	G	N9-C8	-5.26	1.34	1.37
1	A	2058	A	C5-C4	-5.26	1.35	1.38
1	A	2709	G	N9-C8	-5.26	1.34	1.37
1	A	1332	G	N3-C4	-5.26	1.31	1.35
1	A	2232	U	C4-O4	5.26	1.27	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	457	A	C5-C4	-5.25	1.35	1.38
1	A	473	G	C6-N1	-5.25	1.35	1.39
1	A	1257	C	N1-C6	-5.25	1.33	1.37
1	A	36	G	N3-C4	-5.25	1.31	1.35
1	A	1624	G	C5-C4	-5.25	1.34	1.38
1	A	46	C	N3-C4	-5.24	1.30	1.33
1	A	761	A	C5-C6	-5.24	1.36	1.41
1	A	2257	U	N1-C2	-5.24	1.33	1.38
1	A	1698	A	N9-C4	-5.23	1.34	1.37
1	A	36	G	C6-N1	-5.22	1.35	1.39
1	A	531	C	N1-C6	-5.22	1.34	1.37
1	A	116	C	N3-C4	-5.20	1.30	1.33
1	A	223	A	N9-C8	-5.20	1.33	1.37
1	A	2060	A	C5-C4	-5.20	1.35	1.38
1	A	2084	C	N1-C6	-5.20	1.34	1.37
1	A	2014	A	N9-C4	-5.19	1.34	1.37
1	A	943	U	N1-C2	-5.19	1.33	1.38
1	A	751	A	C6-N1	-5.18	1.31	1.35
1	A	1792	G	N7-C5	-5.18	1.36	1.39
1	A	1815	A	C6-N1	-5.17	1.31	1.35
1	A	2248	C	N1-C6	-5.17	1.34	1.37
1	A	2227	A	N3-C4	-5.17	1.31	1.34
1	A	678	C	N1-C2	-5.16	1.34	1.40
1	A	251	A	N7-C5	-5.16	1.36	1.39
1	A	1616	A	N9-C4	-5.15	1.34	1.37
1	A	2588	G	P-OP1	5.15	1.57	1.49
1	A	2488	A	C5-C4	-5.14	1.35	1.38
1	A	812	C	N1-C6	-5.14	1.34	1.37
1	A	2434	A	N3-C4	-5.13	1.31	1.34
12	L	36	LYS	CD-CE	5.13	1.64	1.51
1	A	2587	A	N9-C4	-5.12	1.34	1.37
1	A	2588	G	C6-N1	-5.12	1.35	1.39
1	A	2505	G	N3-C4	-5.11	1.31	1.35
1	A	2765	A	N7-C5	-5.11	1.36	1.39
1	A	995	C	N1-C6	-5.10	1.34	1.37
1	A	1606	G	N1-C2	-5.10	1.33	1.37
1	A	2588	G	N3-C4	-5.09	1.31	1.35
1	A	1776	G	P-OP2	5.08	1.57	1.49
1	A	799	G	N1-C2	-5.08	1.33	1.37
1	A	805	G	N7-C5	-5.07	1.36	1.39
1	A	2448	A	N3-C4	-5.07	1.31	1.34
1	A	732	C	N1-C6	-5.07	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	769	G	N1-C2	-5.07	1.33	1.37
1	A	784	A	N9-C4	-5.07	1.34	1.37
1	A	2510	C	N1-C6	-5.06	1.34	1.37
1	A	473	G	N3-C4	-5.06	1.31	1.35
1	A	751	A	P-OP1	5.06	1.57	1.49
1	A	1780	A	C5-C6	-5.05	1.36	1.41
1	A	1760	A	C6-N1	-5.05	1.32	1.35
1	A	1780	A	N9-C4	-5.04	1.34	1.37
1	A	2451	A	N3-C4	-5.03	1.31	1.34
1	A	564	C	N3-C4	-5.03	1.30	1.33
1	A	582	G	N9-C8	-5.03	1.34	1.37
1	A	467	G	N9-C4	-5.02	1.33	1.38
1	A	566	U	C2-N3	-5.02	1.34	1.37
1	A	736	C	N1-C6	-5.02	1.34	1.37
1	A	192	C	N1-C6	-5.02	1.34	1.37
1	A	2062	A	P-O5'	-5.01	1.54	1.59
1	A	452	G	N3-C4	-5.00	1.31	1.35
1	A	795	C	N1-C6	-5.00	1.34	1.37

All (1779) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	761	A	N1-C6-N6	30.82	137.09	118.60
1	A	1332	G	N3-C4-N9	-24.42	111.35	126.00
1	A	1332	G	N3-C4-C5	23.85	140.52	128.60
1	A	761	A	C6-C5-N7	-21.62	117.17	132.30
1	A	1602	U	N3-C4-C5	-19.94	102.64	114.60
1	A	761	A	C5-C6-N1	-19.15	108.12	117.70
1	A	676	A	C2-N3-C4	-19.01	101.09	110.60
1	A	761	A	C5-N7-C8	-18.20	94.80	103.90
1	A	761	A	C4-C5-N7	17.34	119.37	110.70
1	A	761	A	N9-C4-C5	-17.20	98.92	105.80
1	A	2028	U	N3-C4-C5	-17.14	104.32	114.60
1	A	1332	G	C2-N3-C4	-16.96	103.42	111.90
1	A	774	A	C2-N3-C4	-16.91	102.14	110.60
1	A	676	A	C5-N7-C8	-15.45	96.17	103.90
1	A	2028	U	C6-N1-C2	-14.94	112.03	121.00
1	A	1999	C	C6-N1-C2	14.72	126.19	120.30
1	A	2028	U	N3-C4-O4	14.44	129.51	119.40
1	A	1678	G	N3-C4-C5	14.37	135.78	128.60
1	A	1962	C	N1-C2-O2	14.20	127.42	118.90
1	A	761	A	C2-N3-C4	-14.19	103.50	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1678	G	N3-C4-N9	-14.08	117.55	126.00
1	A	783	A	C5-N7-C8	-13.85	96.98	103.90
1	A	2505	G	C5-C6-O6	13.63	136.78	128.60
1	A	1671	U	N3-C4-C5	-13.42	106.55	114.60
1	A	2249	U	N3-C4-C5	-13.40	106.56	114.60
1	A	2593	U	N3-C4-C5	-12.93	106.84	114.60
1	A	761	A	C4-C5-C6	12.90	123.45	117.00
1	A	450	G	C5-C6-N1	-12.71	105.15	111.50
1	A	1602	U	N3-C4-O4	12.71	128.29	119.40
1	A	761	A	N7-C8-N9	12.41	120.01	113.80
1	A	1602	U	C6-N1-C2	-12.37	113.58	121.00
1	A	124	G	C8-N9-C4	12.13	111.25	106.40
1	A	945	A	C6-C5-N7	-12.12	123.81	132.30
1	A	676	A	N7-C8-N9	12.10	119.85	113.80
1	A	1332	G	N3-C2-N2	-12.06	111.46	119.90
1	A	2626	C	C6-N1-C2	12.01	125.10	120.30
1	A	1602	U	C4-C5-C6	11.96	126.88	119.70
1	A	2579	C	C6-N1-C2	11.96	125.08	120.30
1	A	774	A	C5-N7-C8	-11.91	97.95	103.90
1	A	1616	A	C5-N7-C8	-11.87	97.97	103.90
1	A	783	A	N7-C8-N9	11.85	119.73	113.80
1	A	2619	C	C6-N1-C2	11.84	125.03	120.30
1	A	2830	G	N1-C6-O6	11.77	126.96	119.90
1	A	57	C	C6-N1-C2	11.74	125.00	120.30
1	A	1332	G	C8-N9-C1'	11.69	142.20	127.00
1	A	1021	A	C2-N3-C4	-11.66	104.77	110.60
1	A	1698	A	C2-N3-C4	-11.64	104.78	110.60
1	A	1614	A	C2-N3-C4	-11.57	104.82	110.60
1	A	676	A	C4-C5-N7	11.44	116.42	110.70
1	A	265	A	C2-N3-C4	-11.39	104.91	110.60
1	A	71	A	C5-N7-C8	-11.30	98.25	103.90
1	A	1899	G	N3-C4-N9	-11.29	119.23	126.00
1	A	570	G	C5-C6-O6	11.21	135.33	128.60
1	A	761	A	C5-C6-N6	-11.15	114.78	123.70
1	A	1671	U	N3-C4-O4	11.13	127.19	119.40
1	A	2648	C	C6-N1-C2	11.12	124.75	120.30
1	A	2571	C	C6-N1-C2	11.04	124.72	120.30
1	A	201	C	C6-N1-C2	11.03	124.71	120.30
1	A	1332	G	C4-N9-C1'	-10.98	112.22	126.50
1	A	2581	G	C5-C6-O6	10.91	135.15	128.60
1	A	570	G	C4-C5-N7	-10.89	106.44	110.80
1	A	450	G	C4-C5-C6	10.88	125.33	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1614	A	C5-C6-N1	-10.84	112.28	117.70
1	A	676	A	N3-C4-C5	10.82	134.38	126.80
1	A	2501	C	C6-N1-C2	10.80	124.62	120.30
1	A	210	C	C6-N1-C2	10.79	124.62	120.30
1	A	2689	U	C5-C4-O4	10.71	132.33	125.90
1	A	1616	A	N1-C6-N6	10.69	125.02	118.60
1	A	1899	G	N3-C4-C5	10.65	133.92	128.60
1	A	2544	G	N1-C6-O6	10.57	126.24	119.90
1	A	208	C	C6-N1-C2	10.56	124.53	120.30
1	A	1786	A	C5-N7-C8	-10.55	98.63	103.90
1	A	2050	C	N1-C2-O2	-10.54	112.58	118.90
1	A	1007	C	C6-N1-C2	10.53	124.51	120.30
1	A	2593	U	N3-C4-O4	10.52	126.76	119.40
1	A	1786	A	N7-C8-N9	10.43	119.01	113.80
1	A	676	A	N1-C2-N3	10.39	134.50	129.30
1	A	2689	U	C2-N1-C1'	-10.37	105.26	117.70
1	A	1999	C	C5-C6-N1	-10.25	115.88	121.00
1	A	1616	A	C4-C5-N7	10.22	115.81	110.70
1	A	1614	A	C4-C5-C6	10.14	122.07	117.00
1	A	2028	U	C4-C5-C6	10.05	125.73	119.70
1	A	945	A	N7-C8-N9	9.98	118.79	113.80
1	A	408	G	C8-N9-C4	9.97	110.39	106.40
1	A	1698	A	N1-C6-N6	9.97	124.58	118.60
1	A	114(B)	A	C2-N3-C4	-9.93	105.64	110.60
1	A	2464	C	C6-N1-C2	9.91	124.27	120.30
1	A	209	C	C6-N1-C2	9.90	124.26	120.30
1	A	210	C	C5-C6-N1	-9.89	116.05	121.00
1	A	2330	G	C8-N9-C4	9.88	110.35	106.40
1	A	461	C	N1-C2-O2	-9.86	112.99	118.90
1	A	330	A	N1-C6-N6	9.86	124.51	118.60
1	A	1790	C	C6-N1-C2	9.85	124.24	120.30
1	A	1614	A	C6-C5-N7	-9.84	125.41	132.30
1	A	265	A	C5-N7-C8	-9.83	98.99	103.90
1	A	2518	A	C5-N7-C8	-9.82	98.99	103.90
1	A	2430	A	C6-C5-N7	-9.79	125.45	132.30
1	A	1791	A	C8-N9-C4	9.78	109.71	105.80
1	A	945	A	C4-N9-C1'	9.75	143.84	126.30
1	A	2502	G	C5-C6-O6	-9.70	122.78	128.60
1	A	2498	C	C6-N1-C2	9.69	124.18	120.30
1	A	71	A	N1-C6-N6	9.69	124.41	118.60
1	A	1572	A	C8-N9-C4	9.68	109.67	105.80
1	A	570	G	C5-C6-N1	-9.65	106.68	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2430	A	N1-C6-N6	9.64	124.39	118.60
1	A	774	A	N1-C6-N6	9.63	124.38	118.60
1	A	809	G	N1-C6-O6	9.61	125.66	119.90
1	A	783	A	C2-N3-C4	-9.59	105.80	110.60
1	A	1618	A	N1-C6-N6	9.59	124.35	118.60
1	A	1648	C	N1-C2-O2	-9.58	113.15	118.90
1	A	141(A)	A	C5-N7-C8	-9.58	99.11	103.90
1	A	2689	U	N3-C4-O4	-9.58	112.69	119.40
1	A	2050	C	C2-N3-C4	-9.55	115.12	119.90
1	A	397	G	C8-N9-C4	9.55	110.22	106.40
1	A	783	A	C4-C5-N7	9.54	115.47	110.70
1	A	2032	G	C5-N7-C8	-9.54	99.53	104.30
1	A	1331	A	C2-N3-C4	-9.51	105.84	110.60
1	A	130	C	N3-C4-C5	9.48	125.69	121.90
1	A	2713	A	N1-C6-N6	9.46	124.28	118.60
1	A	1257	C	C5-C6-N1	-9.46	116.27	121.00
1	A	1899	G	C2-N3-C4	-9.45	107.17	111.90
1	A	330	A	C2-N3-C4	-9.44	105.88	110.60
1	A	2829	C	C6-N1-C2	9.40	124.06	120.30
1	A	1994	C	C6-N1-C2	9.37	124.05	120.30
1	A	586	A	C8-N9-C4	9.29	109.52	105.80
1	A	979	G	C4-C5-N7	9.28	114.51	110.80
1	A	2580	U	C5-C4-O4	9.27	131.46	125.90
1	A	1671	U	C4-C5-C6	9.27	125.26	119.70
1	A	2681	C	C5-C6-N1	-9.23	116.38	121.00
1	A	1257	C	C2-N3-C4	-9.23	115.29	119.90
1	A	2028	U	C5-C6-N1	9.22	127.31	122.70
1	A	784	A	N1-C6-N6	-9.22	113.07	118.60
1	A	678	C	N3-C4-C5	9.20	125.58	121.90
1	A	2648	C	N1-C2-O2	-9.19	113.39	118.90
1	A	397	G	N1-C6-O6	9.18	125.41	119.90
1	A	945	A	C5-N7-C8	-9.18	99.31	103.90
1	A	1264	G	C8-N9-C4	-9.17	102.73	106.40
1	A	2066	C	C6-N1-C2	9.16	123.97	120.30
1	A	133	C	C6-N1-C2	9.16	123.96	120.30
1	A	527	C	N3-C4-N4	-9.15	111.59	118.00
1	A	2448	A	N1-C6-N6	9.14	124.09	118.60
1	A	1616	A	C6-C5-N7	-9.13	125.91	132.30
1	A	1614	A	N1-C6-N6	9.11	124.07	118.60
1	A	1616	A	N7-C8-N9	9.10	118.35	113.80
1	A	130	C	C6-N1-C2	9.09	123.94	120.30
1	A	676	A	C5-C6-N1	-9.09	113.16	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2043	C	C6-N1-C2	9.08	123.93	120.30
1	A	189	G	C8-N9-C4	9.04	110.02	106.40
1	A	2231	C	N1-C2-O2	-9.03	113.48	118.90
1	A	774	A	N1-C2-N3	9.01	133.81	129.30
1	A	1678	G	C4-N9-C1'	-9.01	114.79	126.50
1	A	387	U	N3-C4-C5	-8.99	109.21	114.60
1	A	1698	A	C5-N7-C8	-8.98	99.41	103.90
1	A	1962	C	C2-N1-C1'	8.94	128.63	118.80
1	A	679	C	C2-N3-C4	-8.93	115.44	119.90
1	A	1349	A	N1-C6-N6	8.92	123.95	118.60
1	A	659	C	C6-N1-C2	8.91	123.86	120.30
1	A	2571	C	N3-C4-C5	8.90	125.46	121.90
1	A	774	A	N3-C4-C5	8.87	133.01	126.80
1	A	2578	G	C5-C6-O6	-8.87	123.28	128.60
1	A	568	U	N3-C4-C5	-8.84	109.30	114.60
1	A	783	A	C6-C5-N7	-8.82	126.12	132.30
1	A	1786	A	C6-C5-N7	-8.82	126.12	132.30
1	A	774	A	C4-C5-N7	8.82	115.11	110.70
1	A	2010	G	N1-C6-O6	8.82	125.19	119.90
1	A	1678	G	C8-N9-C1'	8.82	138.47	127.00
1	A	1786	A	C2-N3-C4	-8.81	106.19	110.60
1	A	1979	C	N1-C2-O2	-8.81	113.61	118.90
1	A	1790	C	N3-C4-C5	8.79	125.42	121.90
1	A	678	C	C6-N1-C2	8.78	123.81	120.30
1	A	1605	C	C6-N1-C2	-8.75	116.80	120.30
1	A	2830	G	C5-C6-O6	-8.73	123.36	128.60
1	A	1698	A	C6-C5-N7	-8.73	126.19	132.30
1	A	2502	G	N1-C6-O6	8.73	125.14	119.90
1	A	945	A	N1-C6-N6	8.70	123.82	118.60
1	A	774	A	C6-C5-N7	-8.69	126.22	132.30
1	A	2505	G	N1-C6-O6	-8.69	114.69	119.90
1	A	2581	G	N1-C6-O6	-8.69	114.69	119.90
1	A	1616	A	C2-N3-C4	-8.68	106.26	110.60
1	A	2648	C	C5-C6-N1	-8.67	116.67	121.00
1	A	671	C	N1-C2-O2	-8.66	113.70	118.90
1	A	114(B)	A	C6-C5-N7	-8.66	126.24	132.30
1	A	57	C	N3-C4-C5	8.65	125.36	121.90
1	A	2496	C	C6-N1-C2	8.65	123.76	120.30
1	A	1698	A	C4-C5-N7	8.64	115.02	110.70
1	A	2248	C	C2-N3-C4	-8.64	115.58	119.90
1	A	1678	G	C2-N3-C4	-8.64	107.58	111.90
1	A	265	A	C5-C6-N1	-8.64	113.38	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	945	A	C4-C5-C6	8.63	121.31	117.00
1	A	1602	U	C2-N3-C4	8.62	132.17	127.00
1	A	684	G	C8-N9-C4	-8.60	102.96	106.40
1	A	211	A	C2-N3-C4	-8.59	106.31	110.60
1	A	945	A	C8-N9-C4	-8.59	102.36	105.80
1	A	2689	U	C6-N1-C1'	8.57	133.19	121.20
1	A	2713	A	C5-N7-C8	-8.57	99.62	103.90
1	A	211	A	N1-C2-N3	8.56	133.58	129.30
1	A	377	C	C6-N1-C2	8.56	123.72	120.30
1	A	676	A	C6-C5-N7	-8.55	126.31	132.30
1	A	2647	U	C5-C6-N1	-8.55	118.42	122.70
1	A	2451	A	N9-C4-C5	8.54	109.22	105.80
1	A	140	A	C5-N7-C8	-8.50	99.65	103.90
1	A	570	G	N9-C4-C5	8.49	108.80	105.40
1	A	2688	U	C5-C4-O4	8.49	131.00	125.90
1	A	677	A	C2-N3-C4	-8.48	106.36	110.60
1	A	2010	G	C6-C5-N7	-8.48	125.31	130.40
1	A	194	G	C8-N9-C4	8.48	109.79	106.40
1	A	71	A	C4-C5-N7	8.41	114.91	110.70
1	A	450	G	C4-C5-N7	-8.40	107.44	110.80
1	A	2053	G	N1-C6-O6	8.40	124.94	119.90
1	A	458	G	C2-N3-C4	8.40	116.10	111.90
1	A	2500	U	C5-C6-N1	-8.39	118.50	122.70
1	A	1417	C	C6-N1-C2	8.38	123.65	120.30
1	A	787	U	C5-C6-N1	-8.37	118.52	122.70
1	A	945	A	C4-C5-N7	8.35	114.87	110.70
1	A	2503	A	N1-C2-N3	-8.34	125.13	129.30
1	A	568	U	C4-C5-C6	8.34	124.70	119.70
1	A	937	U	C5-C6-N1	-8.33	118.53	122.70
1	A	1934	C	C6-N1-C2	8.32	123.63	120.30
1	A	761	A	C8-N9-C1'	-8.31	112.74	127.70
1	A	1962	C	C6-N1-C1'	-8.31	110.83	120.80
1	A	2057	A	C2-N3-C4	-8.30	106.45	110.60
1	A	1021	A	C5-N7-C8	-8.30	99.75	103.90
1	A	1010	A	C8-N9-C4	8.29	109.11	105.80
1	A	472	A	C8-N9-C4	8.28	109.11	105.80
1	A	2699	C	C6-N1-C2	8.28	123.61	120.30
1	A	2463	C	C6-N1-C2	8.28	123.61	120.30
1	A	1935	G	C8-N9-C4	8.27	109.71	106.40
1	A	2056	G	C4-C5-N7	8.25	114.10	110.80
1	A	2061	G	C5-C6-N1	-8.23	107.39	111.50
1	A	2417	C	C6-N1-C2	8.22	123.59	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1264	G	N9-C4-C5	8.20	108.68	105.40
1	A	2432	A	C2-N3-C4	-8.19	106.51	110.60
1	A	2706	G	C5-C6-O6	-8.18	123.69	128.60
1	A	676	A	N3-C4-N9	-8.18	120.86	127.40
1	A	1161	C	C6-N1-C2	-8.18	117.03	120.30
1	A	2739	U	C5-C6-N1	-8.17	118.61	122.70
1	A	270(B)	A	C8-N9-C4	8.16	109.06	105.80
1	A	2593	U	C4-C5-C6	8.14	124.59	119.70
1	A	2430	A	C4-C5-C6	8.14	121.07	117.00
1	A	2712	U	N1-C2-N3	8.13	119.78	114.90
1	A	1309	G	C8-N9-C4	8.11	109.64	106.40
1	A	2515	C	C6-N1-C2	8.09	123.54	120.30
1	A	786	C	C5-C6-N1	-8.08	116.96	121.00
1	A	2681	C	N3-C4-N4	-8.08	112.34	118.00
1	A	528	A	C2-N3-C4	-8.07	106.56	110.60
1	A	71	A	C2-N3-C4	-8.07	106.57	110.60
1	A	2510	C	C6-N1-C2	8.07	123.53	120.30
1	A	1783	A	N9-C4-C5	8.06	109.02	105.80
1	A	2626	C	C5-C6-N1	-8.06	116.97	121.00
1	A	114(B)	A	N1-C6-N6	8.05	123.43	118.60
1	A	408	G	N7-C8-N9	-8.05	109.08	113.10
1	A	664	C	C6-N1-C2	8.05	123.52	120.30
1	A	698	C	C6-N1-C2	8.03	123.51	120.30
1	A	2518	A	C4-C5-N7	8.02	114.71	110.70
25	Y	21	LEU	CA-CB-CG	8.02	133.74	115.30
1	A	1022	G	N1-C6-O6	-8.00	115.10	119.90
1	A	1627	G	N1-C6-O6	8.00	124.70	119.90
1	A	840	C	C6-N1-C2	7.98	123.49	120.30
1	A	2505	G	C4-C5-N7	-7.98	107.61	110.80
1	A	465	G	C8-N9-C4	-7.97	103.21	106.40
1	A	1341	U	N3-C4-O4	7.97	124.98	119.40
1	A	1644	C	N1-C2-O2	7.96	123.68	118.90
1	A	1332	G	C5-N7-C8	-7.94	100.33	104.30
1	A	2014	A	C8-N9-C4	7.94	108.97	105.80
1	A	2581	G	N9-C4-C5	7.94	108.58	105.40
1	A	2591	C	C5-C6-N1	-7.93	117.03	121.00
1	A	809	G	C5-C6-O6	-7.93	123.84	128.60
1	A	783	A	C8-N9-C4	-7.90	102.64	105.80
1	A	273(A)	G	C8-N9-C4	7.90	109.56	106.40
1	A	2567	G	N1-C6-O6	7.90	124.64	119.90
1	A	783	A	N1-C6-N6	7.90	123.34	118.60
1	A	107	C	C6-N1-C2	7.88	123.45	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	971	C	N1-C2-O2	-7.88	114.17	118.90
1	A	1989	G	N1-C6-O6	7.88	124.63	119.90
1	A	2451	A	C8-N9-C4	-7.88	102.65	105.80
1	A	736	C	C6-N1-C2	7.87	123.45	120.30
1	A	1007	C	C5-C6-N1	-7.87	117.06	121.00
1	A	2424	C	C6-N1-C2	7.86	123.44	120.30
1	A	2324	C	C5-C6-N1	-7.85	117.07	121.00
1	A	1820	U	C5-C6-N1	-7.85	118.78	122.70
1	A	2713	A	C2-N3-C4	-7.84	106.68	110.60
1	A	2430	A	C2-N3-C4	-7.84	106.68	110.60
1	A	814	C	C6-N1-C2	7.84	123.43	120.30
1	A	1261	C	C6-N1-C2	7.83	123.43	120.30
1	A	2685	G	C5-C6-N1	-7.83	107.59	111.50
1	A	141(A)	A	C4-C5-N7	7.82	114.61	110.70
1	A	761	A	C4-N9-C1'	7.82	140.37	126.30
1	A	1201	C	C6-N1-C2	7.82	123.43	120.30
1	A	945	A	C8-N9-C1'	-7.81	113.64	127.70
1	A	2232	U	C5-C6-N1	-7.81	118.80	122.70
1	A	1600	C	N1-C2-O2	-7.80	114.22	118.90
1	A	2053	G	C5-C6-O6	-7.79	123.92	128.60
1	A	2544	G	C5-C6-O6	-7.79	123.93	128.60
1	A	2244	U	N3-C2-O2	-7.78	116.75	122.20
1	A	2054	A	N1-C6-N6	7.77	123.27	118.60
1	A	1592	C	C6-N1-C2	7.77	123.41	120.30
1	A	2066	C	N3-C4-C5	7.76	125.01	121.90
1	A	530	G	C8-N9-C4	-7.74	103.30	106.40
1	A	601	C	C6-N1-C2	7.74	123.39	120.30
1	A	828	U	C5-C4-O4	7.74	130.54	125.90
1	A	2713	A	C6-C5-N7	-7.72	126.90	132.30
1	A	784	A	N9-C4-C5	7.71	108.89	105.80
1	A	979	G	C5-N7-C8	-7.70	100.45	104.30
1	A	1325	G	C8-N9-C1'	7.70	137.00	127.00
1	A	2061	G	N1-C6-O6	7.69	124.52	119.90
1	A	450	G	N1-C6-O6	7.68	124.51	119.90
1	A	1618	A	C5-C6-N6	-7.68	117.56	123.70
1	A	57	C	C5-C6-N1	-7.68	117.16	121.00
1	A	2571	C	C5-C6-N1	-7.68	117.16	121.00
1	A	2503	A	C5-C6-N1	7.67	121.54	117.70
1	A	1665	A	N1-C6-N6	7.67	123.20	118.60
1	A	2596	U	C2-N1-C1'	-7.65	108.52	117.70
1	A	2010	G	C2-N3-C4	-7.65	108.07	111.90
1	A	2827	C	C5-C6-N1	-7.64	117.18	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	847	U	C2-N1-C1'	-7.64	108.53	117.70
1	A	929	G	N1-C6-O6	7.63	124.48	119.90
1	A	2502	G	N9-C4-C5	-7.62	102.35	105.40
1	A	1786	A	C8-N9-C4	-7.62	102.75	105.80
1	A	2346	A	C2-N3-C4	-7.61	106.79	110.60
1	A	328	U	C5-C6-N1	-7.60	118.90	122.70
1	A	57	C	C2-N3-C4	-7.58	116.11	119.90
24	X	35	THR	N-CA-C	7.58	131.45	111.00
1	A	684	G	N7-C8-N9	7.57	116.89	113.10
1	A	466	A	C2-N3-C4	-7.57	106.81	110.60
1	A	956	G	C8-N9-C4	7.57	109.43	106.40
1	A	979	G	N1-C6-O6	7.57	124.44	119.90
1	A	580	C	C6-N1-C2	7.57	123.33	120.30
1	A	2601	C	C2-N3-C4	-7.57	116.12	119.90
1	A	2591	C	C4-C5-C6	7.56	121.18	117.40
1	A	265	A	N7-C8-N9	7.55	117.58	113.80
1	A	915	C	C6-N1-C2	-7.55	117.28	120.30
1	A	1839	G	N3-C4-N9	-7.54	121.48	126.00
1	A	2614	A	C5-C6-N1	7.54	121.47	117.70
1	A	2510	C	N3-C4-C5	7.54	124.91	121.90
1	A	2248	C	C5-C6-N1	-7.53	117.23	121.00
1	A	114(B)	A	N1-C2-N3	7.53	133.07	129.30
1	A	1031	G	N1-C6-O6	7.53	124.42	119.90
1	A	148	C	C5-C6-N1	-7.52	117.24	121.00
1	A	676	A	C8-N9-C4	-7.52	102.79	105.80
1	A	424	G	C5-C6-O6	-7.52	124.09	128.60
1	A	530	G	N1-C6-O6	-7.51	115.39	119.90
1	A	2065	C	N3-C4-C5	7.51	124.91	121.90
1	A	1352	U	C5-C6-N1	-7.49	118.95	122.70
1	A	141(A)	A	N7-C8-N9	7.48	117.54	113.80
1	A	815	C	N3-C4-C5	7.48	124.89	121.90
1	A	140	A	C4-C5-N7	7.46	114.43	110.70
30	4	19	ARG	NE-CZ-NH2	-7.46	116.57	120.30
1	A	786	C	C6-N1-C2	7.46	123.28	120.30
1	A	2503	A	C2-N3-C4	7.45	114.32	110.60
1	A	1261	C	N1-C2-O2	-7.45	114.43	118.90
1	A	1304	C	C2-N3-C4	-7.45	116.18	119.90
1	A	1349	A	C2-N3-C4	-7.43	106.89	110.60
1	A	1348	G	N1-C6-O6	7.43	124.36	119.90
1	A	2363	C	C6-N1-C2	7.42	123.27	120.30
1	A	595	C	C5-C6-N1	-7.42	117.29	121.00
1	A	736	C	N1-C2-O2	-7.42	114.45	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1215	G	C8-N9-C4	7.41	109.36	106.40
1	A	1786	A	C4-C5-N7	7.41	114.41	110.70
1	A	676	A	N1-C6-N6	7.40	123.04	118.60
1	A	1252	G	C8-N9-C4	7.40	109.36	106.40
1	A	2028	U	C2-N3-C4	7.39	131.44	127.00
1	A	2505	G	N9-C4-C5	7.39	108.36	105.40
1	A	1998	G	C8-N9-C4	7.39	109.36	106.40
1	A	137(B)	G	N1-C6-O6	7.38	124.33	119.90
1	A	2547	U	C5-C6-N1	-7.38	119.01	122.70
1	A	527	C	N3-C4-C5	7.38	124.85	121.90
1	A	298	G	C5-N7-C8	-7.37	100.62	104.30
1	A	513	A	C8-N9-C4	-7.36	102.86	105.80
1	A	1653	G	N1-C6-O6	7.36	124.32	119.90
1	A	141(A)	A	N1-C6-N6	7.34	123.01	118.60
1	A	1325	G	N9-C4-C5	7.34	108.34	105.40
1	A	124	G	N7-C8-N9	-7.34	109.43	113.10
1	A	265	A	N1-C6-N6	7.33	123.00	118.60
1	A	1652	A	N1-C6-N6	7.32	122.99	118.60
1	A	330	A	C6-C5-N7	-7.32	127.18	132.30
1	A	2588	G	N1-C2-N3	7.32	128.29	123.90
1	A	2589	A	C8-N9-C4	7.32	108.73	105.80
1	A	2037	G	N1-C6-O6	-7.31	115.52	119.90
1	A	428	A	C2-N3-C4	-7.30	106.95	110.60
1	A	679	C	N3-C4-C5	7.30	124.82	121.90
1	A	857	C	N1-C2-O2	-7.30	114.52	118.90
1	A	1996	C	N1-C2-O2	-7.30	114.52	118.90
1	A	800	A	N1-C6-N6	-7.30	114.22	118.60
1	A	2055	C	N3-C4-C5	-7.30	118.98	121.90
1	A	2464	C	C5-C6-N1	-7.29	117.35	121.00
1	A	761	A	C6-N1-C2	7.28	122.97	118.60
1	A	1024	G	C8-N9-C4	7.28	109.31	106.40
1	A	1209	G	N1-C6-O6	-7.27	115.54	119.90
1	A	2593	U	C6-N1-C2	-7.27	116.64	121.00
1	A	1663	C	C5-C6-N1	-7.27	117.36	121.00
1	A	1898	U	N3-C4-C5	-7.26	110.24	114.60
1	A	56	A	C2-N3-C4	-7.26	106.97	110.60
1	A	2580	U	N3-C4-C5	-7.25	110.25	114.60
1	A	945	A	C5-C6-N6	-7.25	117.90	123.70
1	A	197	A	N1-C6-N6	7.25	122.95	118.60
1	A	2532	G	C5-C6-O6	-7.24	124.25	128.60
1	A	2712	U	N3-C2-O2	-7.24	117.13	122.20
1	A	961	C	N3-C4-C5	-7.24	119.00	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	756	C	C6-N1-C2	7.23	123.19	120.30
1	A	1332	G	N1-C2-N2	7.23	122.70	116.20
1	A	2249	U	C4-C5-C6	7.22	124.03	119.70
1	A	570	G	C8-N9-C4	-7.22	103.51	106.40
1	A	2648	C	N3-C2-O2	7.22	126.96	121.90
1	A	1645	G	C5-C6-N1	7.22	115.11	111.50
1	A	2689	U	N1-C2-N3	7.22	119.23	114.90
1	A	1367	A	C2-N3-C4	-7.21	106.99	110.60
1	A	2448	A	C5-C6-N6	-7.21	117.93	123.70
1	A	2532	G	N1-C6-O6	7.20	124.22	119.90
1	A	737	C	C6-N1-C2	7.20	123.18	120.30
1	A	774	A	N3-C4-N9	-7.20	121.64	127.40
1	A	2081	C	C5-C6-N1	-7.20	117.40	121.00
1	A	2700	C	C6-N1-C2	7.19	123.18	120.30
1	A	979	G	C5-C6-O6	-7.19	124.29	128.60
1	A	189	G	N9-C4-C5	-7.19	102.53	105.40
1	A	747	U	C5-C6-N1	-7.18	119.11	122.70
1	A	2448	A	C5-N7-C8	-7.18	100.31	103.90
1	A	1614	A	C5-N7-C8	-7.18	100.31	103.90
1	A	83	G	N3-C4-N9	-7.18	121.69	126.00
1	A	1332	G	C4-C5-C6	-7.18	114.50	118.80
1	A	1363	C	C2-N3-C4	-7.17	116.31	119.90
1	A	458	G	N3-C4-C5	-7.17	125.01	128.60
1	A	918	A	N1-C6-N6	7.17	122.90	118.60
1	A	2232	U	C5-C4-O4	7.17	130.20	125.90
1	A	298	G	C4-C5-N7	7.16	113.67	110.80
1	A	1021	A	C4-C5-N7	7.16	114.28	110.70
1	A	2871	C	C6-N1-C2	7.16	123.16	120.30
1	A	397	G	N9-C4-C5	-7.16	102.54	105.40
1	A	2681	C	C5-C4-N4	7.16	125.21	120.20
1	A	2257	U	N3-C2-O2	7.15	127.20	122.20
1	A	265	A	C4-C5-N7	7.15	114.27	110.70
1	A	2553	G	C5-C6-O6	-7.15	124.31	128.60
1	A	444	C	C6-N1-C2	7.14	123.16	120.30
1	A	1902	C	N3-C4-N4	-7.13	113.01	118.00
1	A	1795	C	N1-C2-O2	-7.12	114.63	118.90
1	A	2231	C	C2-N3-C4	-7.12	116.34	119.90
1	A	2553	G	C5-C6-N1	7.11	115.06	111.50
1	A	737	C	N3-C4-C5	7.10	124.74	121.90
1	A	557	U	C5-C6-N1	-7.10	119.15	122.70
1	A	1570	A	C8-N9-C4	7.09	108.64	105.80
1	A	2619	C	N3-C4-C5	7.09	124.74	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	124	G	N9-C4-C5	-7.09	102.56	105.40
1	A	2050	C	C5-C6-N1	-7.09	117.46	121.00
1	A	2032	G	N7-C8-N9	7.07	116.64	113.10
1	A	577	G	C8-N9-C4	7.07	109.23	106.40
1	A	1791	A	N7-C8-N9	-7.07	110.27	113.80
1	A	377	C	C5-C6-N1	-7.06	117.47	121.00
1	A	265	A	C6-C5-N7	-7.05	127.36	132.30
1	A	210	C	C2-N3-C4	-7.05	116.38	119.90
1	A	2515	C	C5-C6-N1	-7.05	117.48	121.00
1	A	2518	A	N7-C8-N9	7.04	117.32	113.80
1	A	1620	G	C8-N9-C4	7.04	109.22	106.40
1	A	1602	U	N1-C2-N3	7.03	119.12	114.90
1	A	1900	A	N1-C6-N6	-7.02	114.39	118.60
1	A	1138	G	N3-C4-N9	7.02	130.21	126.00
1	A	1698	A	N1-C2-N3	7.02	132.81	129.30
13	M	81	VAL	N-CA-C	7.01	129.94	111.00
1	A	678	C	C5-C6-N1	-7.01	117.50	121.00
1	A	847	U	C5-C6-N1	-7.01	119.19	122.70
1	A	2699	C	C5-C6-N1	-7.01	117.50	121.00
1	A	2713	A	C4-C5-N7	7.01	114.21	110.70
1	A	330	A	C5-C6-N1	-7.01	114.20	117.70
1	A	1304	C	N3-C4-C5	7.00	124.70	121.90
1	A	2394	C	C5-C6-N1	-7.00	117.50	121.00
1	A	2500	U	N1-C2-O2	-7.00	117.90	122.80
1	A	270(Y)	G	C5-C6-N1	-7.00	108.00	111.50
1	A	1380	G	C8-N9-C4	7.00	109.20	106.40
1	A	77	C	C6-N1-C2	6.99	123.10	120.30
1	A	734	A	C8-N9-C4	6.99	108.60	105.80
1	A	993	G	N1-C6-O6	-6.98	115.71	119.90
1	A	2260	C	C6-N1-C2	6.97	123.09	120.30
1	A	933	A	C5-N7-C8	-6.97	100.42	103.90
1	A	1615	C	C6-N1-C2	6.96	123.08	120.30
1	A	2579	C	C5-C6-N1	-6.96	117.52	121.00
1	A	1204	A	C2-N3-C4	-6.95	107.12	110.60
1	A	1776	G	C5-C6-N1	6.95	114.98	111.50
1	A	2593	U	N1-C2-O2	-6.95	117.94	122.80
1	A	1341	U	N3-C4-C5	-6.93	110.44	114.60
1	A	2399	G	C8-N9-C4	6.93	109.17	106.40
1	A	1764	G	N1-C6-O6	-6.93	115.74	119.90
1	A	1493	C	C2-N1-C1'	6.92	126.42	118.80
1	A	2028	U	N1-C2-N3	6.91	119.05	114.90
1	A	1309	G	N1-C6-O6	6.91	124.05	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2787	C	C6-N1-C2	-6.91	117.54	120.30
1	A	2430	A	N1-C2-N3	6.91	132.75	129.30
12	L	37	GLY	N-CA-C	6.90	130.35	113.10
1	A	2699	C	C2-N1-C1'	-6.90	111.21	118.80
1	A	746	A	C6-N1-C2	-6.89	114.46	118.60
1	A	2515	C	C2-N3-C4	-6.89	116.45	119.90
1	A	444	C	C5-C6-N1	-6.89	117.56	121.00
1	A	450	G	C4-N9-C1'	6.88	135.45	126.50
1	A	140	A	N7-C8-N9	6.88	117.24	113.80
1	A	2614	A	C6-N1-C2	-6.87	114.48	118.60
1	A	2719	G	C4-C5-N7	6.87	113.55	110.80
1	A	397	G	C2-N3-C4	-6.86	108.47	111.90
1	A	582	G	C8-N9-C4	6.86	109.14	106.40
1	A	1790	C	C2-N1-C1'	-6.86	111.25	118.80
1	A	2049	G	C8-N9-C4	6.86	109.14	106.40
1	A	2447	G	C4-N9-C1'	-6.86	117.59	126.50
1	A	678	C	C2-N3-C4	-6.85	116.47	119.90
1	A	2503	A	C5-C6-N6	-6.85	118.22	123.70
1	A	1614	A	N1-C2-N3	6.85	132.72	129.30
1	A	223	A	C4-C5-C6	6.84	120.42	117.00
1	A	1030	G	C8-N9-C4	6.84	109.13	106.40
1	A	1332	G	C5-C6-N1	-6.84	108.08	111.50
1	A	1962	C	C5-C6-N1	6.83	124.41	121.00
1	A	2451	A	N1-C6-N6	-6.83	114.50	118.60
1	A	2647	U	C6-N1-C2	6.83	125.09	121.00
1	A	1021	A	N3-C4-C5	6.82	131.57	126.80
1	A	1332	G	N9-C4-C5	6.82	108.13	105.40
1	A	2826	A	C2-N3-C4	-6.82	107.19	110.60
1	A	2517	C	C6-N1-C2	6.81	123.02	120.30
1	A	1022	G	C8-N9-C4	-6.80	103.68	106.40
1	A	192	C	C6-N1-C2	6.80	123.02	120.30
1	A	375	C	C6-N1-C2	6.80	123.02	120.30
1	A	1261	C	C5-C6-N1	-6.80	117.60	121.00
1	A	2504	U	C5-C6-N1	-6.80	119.30	122.70
1	A	2520	C	C6-N1-C2	6.80	123.02	120.30
1	A	65	C	N1-C2-O2	-6.80	114.82	118.90
1	A	1349	A	C4-C5-N7	6.80	114.10	110.70
1	A	1201	C	C5-C6-N1	-6.79	117.60	121.00
1	A	697	C	C6-N1-C2	6.79	123.02	120.30
1	A	543	C	C6-N1-C2	6.78	123.01	120.30
1	A	807	U	C2-N1-C1'	-6.78	109.56	117.70
1	A	450	G	C8-N9-C1'	-6.78	118.19	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	704	G	C8-N9-C4	6.78	109.11	106.40
1	A	2588	G	C2-N3-C4	-6.77	108.52	111.90
1	A	530	G	N1-C2-N2	-6.76	110.11	116.20
1	A	71	A	C6-C5-N7	-6.76	127.57	132.30
1	A	1333	C	C6-N1-C2	6.76	123.00	120.30
1	A	58	G	C8-N9-C1'	-6.75	118.22	127.00
1	A	655	A	C8-N9-C4	-6.75	103.10	105.80
1	A	2711	A	C2-N3-C4	-6.74	107.23	110.60
1	A	774	A	C5-C6-N1	-6.73	114.34	117.70
1	A	240	G	C5-C6-O6	6.72	132.63	128.60
1	A	2699	C	C2-N3-C4	-6.72	116.54	119.90
1	A	828	U	N3-C4-O4	-6.72	114.70	119.40
1	A	2434	A	N9-C4-C5	6.72	108.49	105.80
1	A	1651	G	C5-C6-O6	-6.71	124.57	128.60
1	A	2597	G	C8-N9-C4	6.71	109.08	106.40
1	A	2430	A	C5-N7-C8	-6.71	100.55	103.90
1	A	1304	C	C5-C6-N1	-6.70	117.65	121.00
1	A	2699	C	N1-C2-O2	-6.70	114.88	118.90
1	A	2248	C	N3-C4-C5	6.70	124.58	121.90
1	A	1815	A	N1-C2-N3	6.70	132.65	129.30
1	A	2438	U	C5-C6-N1	-6.70	119.35	122.70
1	A	1653	G	C8-N9-C4	6.69	109.08	106.40
1	A	1771	C	N1-C2-O2	-6.69	114.89	118.90
1	A	2065	C	C5-C4-N4	-6.69	115.52	120.20
1	A	1624	G	C8-N9-C4	6.68	109.07	106.40
1	A	18	C	C6-N1-C2	6.68	122.97	120.30
1	A	1788	C	N3-C4-C5	6.68	124.57	121.90
1	A	2227	A	C2-N3-C4	-6.68	107.26	110.60
1	A	1651	G	N1-C6-O6	6.67	123.90	119.90
1	A	2488	A	C5-C6-N1	6.67	121.03	117.70
1	A	2638	G	N1-C6-O6	-6.67	115.90	119.90
1	A	2699	C	N3-C4-C5	6.66	124.57	121.90
1	A	1253	A	C4-C5-C6	-6.66	113.67	117.00
1	A	594	U	C5-C4-O4	6.66	129.90	125.90
1	A	657	U	C5-C6-N1	-6.66	119.37	122.70
1	A	1210	A	C2-N3-C4	-6.65	107.28	110.60
1	A	2383	G	C6-C5-N7	-6.65	126.41	130.40
1	A	129	C	C5-C6-N1	-6.65	117.68	121.00
1	A	1778	U	C5-C6-N1	-6.65	119.38	122.70
1	A	2249	U	C2-N3-C4	6.65	130.99	127.00
1	A	36	G	C4-C5-N7	-6.64	108.14	110.80
1	A	667	U	C4-C5-C6	6.64	123.69	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1962	C	C2-N3-C4	6.64	123.22	119.90
1	A	141(A)	A	C2-N3-C4	-6.64	107.28	110.60
1	A	1572	A	N7-C8-N9	-6.64	110.48	113.80
1	A	2397	G	C8-N9-C4	-6.64	103.75	106.40
1	A	2706	G	N1-C6-O6	6.63	123.88	119.90
1	A	807	U	C6-N1-C1'	6.63	130.48	121.20
1	A	1962	C	N1-C2-N3	-6.62	114.56	119.20
1	A	530	G	N7-C8-N9	6.62	116.41	113.10
1	A	1309	G	C8-N9-C1'	-6.62	118.40	127.00
1	A	1999	C	C2-N1-C1'	-6.62	111.52	118.80
1	A	2514	U	C5-C6-N1	-6.62	119.39	122.70
1	A	1775	U	C5-C6-N1	-6.61	119.40	122.70
1	A	239	U	C5-C6-N1	-6.61	119.40	122.70
1	A	114(B)	A	C4-C5-C6	6.61	120.30	117.00
1	A	2689	U	C5-C6-N1	-6.60	119.40	122.70
1	A	2709	G	C8-N9-C4	6.60	109.04	106.40
1	A	1417	C	C5-C6-N1	-6.59	117.70	121.00
1	A	580	C	N3-C4-C5	6.59	124.54	121.90
1	A	1443	G	N1-C6-O6	6.59	123.85	119.90
1	A	2830	G	C6-C5-N7	-6.59	126.45	130.40
1	A	2346	A	N1-C2-N3	6.58	132.59	129.30
1	A	2271	G	N3-C4-N9	6.57	129.94	126.00
1	A	2591	C	C6-N1-C2	6.57	122.93	120.30
1	A	2233	U	C2-N3-C4	-6.57	123.06	127.00
1	A	2715	C	N3-C4-C5	6.57	124.53	121.90
1	A	66	C	C6-N1-C2	6.56	122.92	120.30
1	A	458	G	C5-C6-N1	6.56	114.78	111.50
1	A	71	A	N7-C8-N9	6.56	117.08	113.80
1	A	1644	C	N3-C2-O2	-6.56	117.31	121.90
1	A	937	U	C6-N1-C2	6.55	124.93	121.00
1	A	397	G	C5-C6-O6	-6.54	124.68	128.60
1	A	2330	G	N9-C4-C5	-6.54	102.78	105.40
1	A	2072	G	N3-C4-C5	6.54	131.87	128.60
1	A	112	U	C5-C6-N1	-6.53	119.43	122.70
1	A	667	U	C5-C6-N1	-6.53	119.44	122.70
1	A	2007	C	C5-C6-N1	-6.53	117.74	121.00
1	A	2394	C	C6-N1-C2	6.52	122.91	120.30
1	A	1996	C	C6-N1-C2	6.51	122.91	120.30
1	A	933	A	C6-C5-N7	-6.51	127.74	132.30
1	A	1783	A	C8-N9-C4	-6.51	103.20	105.80
1	A	1027	A	C8-N9-C4	6.51	108.40	105.80
1	A	114(B)	A	C5-N7-C8	-6.50	100.65	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1798	U	N3-C4-C5	6.50	118.50	114.60
1	A	768	G	N3-C4-N9	6.49	129.89	126.00
1	A	2249	U	N3-C4-O4	6.49	123.94	119.40
1	A	2553	G	N9-C4-C5	-6.49	102.80	105.40
1	A	935	C	C6-N1-C2	6.48	122.89	120.30
1	A	795	C	N1-C2-O2	-6.48	115.01	118.90
1	A	1322	A	N9-C4-C5	6.48	108.39	105.80
1	A	1935	G	N3-C4-C5	6.47	131.84	128.60
1	A	2231	C	C5-C6-N1	-6.47	117.77	121.00
1	A	204	A	C2-N3-C4	-6.46	107.37	110.60
1	A	765	G	C8-N9-C4	6.46	108.99	106.40
1	A	736	C	N3-C2-O2	6.46	126.42	121.90
1	A	1323	U	N3-C4-C5	-6.46	110.72	114.60
1	A	2432	A	C5-N7-C8	-6.46	100.67	103.90
1	A	330	A	C4-C5-N7	6.46	113.93	110.70
1	A	1674	G	C8-N9-C4	6.46	108.98	106.40
1	A	2688	U	N3-C2-O2	-6.45	117.68	122.20
1	A	2581	G	N3-C4-N9	-6.45	122.13	126.00
1	A	815	C	C6-N1-C2	6.45	122.88	120.30
1	A	1786	A	N1-C6-N6	6.44	122.47	118.60
1	A	802	A	C8-N9-C1'	-6.43	116.12	127.70
1	A	1444	G	C8-N9-C4	6.43	108.97	106.40
1	A	1310	G	N1-C6-O6	6.43	123.76	119.90
1	A	811	U	C5-C6-N1	-6.42	119.49	122.70
1	A	2685	G	N1-C6-O6	6.42	123.75	119.90
1	A	1348	G	C5-C6-O6	-6.42	124.75	128.60
1	A	434	U	N3-C2-O2	6.42	126.69	122.20
1	A	1355	G	C5-C6-N1	6.42	114.71	111.50
1	A	2206	C	N3-C4-N4	-6.42	113.51	118.00
1	A	1257	C	C4-C5-C6	6.42	120.61	117.40
1	A	1493	C	C5-C6-N1	6.42	124.21	121.00
1	A	2386	C	C5-C6-N1	-6.41	117.79	121.00
1	A	1309	G	N9-C4-C5	-6.41	102.83	105.40
1	A	2197	U	C6-N1-C2	6.41	124.85	121.00
1	A	1190	G	C5-C6-O6	-6.41	124.75	128.60
1	A	1315	C	C6-N1-C2	-6.41	117.74	120.30
1	A	1258	C	C5-C6-N1	-6.41	117.80	121.00
1	A	1342	A	N1-C6-N6	6.40	122.44	118.60
1	A	1021	A	N7-C8-N9	6.40	117.00	113.80
1	A	1824	G	C6-N1-C2	-6.39	121.27	125.10
1	A	1022	G	N9-C4-C5	6.39	107.95	105.40
1	A	2618	G	N1-C2-N3	6.38	127.73	123.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1322	A	N1-C2-N3	6.38	132.49	129.30
1	A	1655	A	C8-N9-C4	6.38	108.35	105.80
1	A	265	A	N3-C4-C5	6.38	131.26	126.80
1	A	1342	A	C5-C6-N6	-6.38	118.60	123.70
1	A	2502	G	N3-C4-N9	6.38	129.83	126.00
1	A	1779	U	C6-N1-C2	6.38	124.83	121.00
1	A	294	A	C8-N9-C4	6.37	108.35	105.80
1	A	2397	G	N7-C8-N9	6.37	116.29	113.10
1	A	586	A	N7-C8-N9	-6.37	110.61	113.80
1	A	330	A	C5-N7-C8	-6.37	100.72	103.90
1	A	2010	G	N1-C2-N3	6.37	127.72	123.90
1	A	1786	A	C5-C6-N1	-6.36	114.52	117.70
1	A	1998	G	N7-C8-N9	-6.36	109.92	113.10
1	A	1996	C	N3-C2-O2	6.36	126.35	121.90
1	A	2706	G	C4-C5-N7	6.36	113.34	110.80
1	A	2502	G	C6-C5-N7	-6.36	126.59	130.40
3	C	177	LEU	CA-CB-CG	-6.36	100.68	115.30
1	A	2454	G	C8-N9-C4	6.35	108.94	106.40
1	A	584	C	N3-C4-C5	6.34	124.44	121.90
1	A	1351	C	C5-C6-N1	-6.34	117.83	121.00
1	A	1633	G	C6-C5-N7	-6.34	126.60	130.40
1	A	746	A	N1-C2-N3	6.34	132.47	129.30
1	A	1144	G	C4-C5-N7	6.33	113.33	110.80
1	A	2518	A	C2-N3-C4	-6.33	107.43	110.60
1	A	657	U	N3-C2-O2	-6.33	117.77	122.20
1	A	2087	G	C8-N9-C4	6.33	108.93	106.40
1	A	2465	C	N3-C4-C5	6.33	124.43	121.90
1	A	2688	U	N3-C4-O4	-6.33	114.97	119.40
1	A	2719	G	N3-C4-N9	6.33	129.80	126.00
1	A	1200	C	N1-C2-O2	-6.33	115.10	118.90
1	A	2507	C	C5-C6-N1	-6.33	117.84	121.00
1	A	2448	A	C4-C5-N7	6.33	113.86	110.70
1	A	2250	G	C8-N9-C4	-6.32	103.87	106.40
1	A	2043	C	C5-C6-N1	-6.32	117.84	121.00
1	A	2332	U	C5-C6-N1	-6.32	119.54	122.70
1	A	784	A	C5-C6-N6	6.31	128.75	123.70
1	A	1021	A	C5-C6-N1	-6.31	114.54	117.70
1	A	2374	C	C6-N1-C2	6.31	122.83	120.30
1	A	768	G	C8-N9-C4	6.31	108.92	106.40
1	A	1302	A	N9-C4-C5	6.30	108.32	105.80
1	A	2638	G	N9-C4-C5	6.29	107.92	105.40
1	A	2538	C	C5-C6-N1	-6.29	117.86	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1834	U	C2-N1-C1'	6.28	125.24	117.70
1	A	2010	G	C4-C5-N7	6.28	113.31	110.80
1	A	2056	G	N9-C4-C5	-6.28	102.89	105.40
1	A	2206	C	N3-C4-C5	6.28	124.41	121.90
1	A	2227	A	C5-C6-N1	-6.28	114.56	117.70
1	A	2080	G	N1-C2-N3	6.28	127.67	123.90
1	A	798	G	N1-C2-N3	6.27	127.66	123.90
1	A	774	A	N7-C8-N9	6.27	116.94	113.80
1	A	1832	C	C2-N3-C4	-6.27	116.77	119.90
1	A	748	G	C5-C6-N1	6.27	114.63	111.50
1	A	2091	U	C5-C6-N1	-6.27	119.57	122.70
1	A	1802	A	N1-C2-N3	6.27	132.43	129.30
1	A	2427	C	N3-C4-C5	-6.26	119.39	121.90
1	A	750	A	C5-N7-C8	-6.26	100.77	103.90
1	A	2462	U	C6-N1-C2	6.26	124.76	121.00
1	A	2066	C	C2-N3-C4	-6.26	116.77	119.90
1	A	2447	G	C8-N9-C1'	6.26	135.14	127.00
1	A	2501	C	N3-C4-C5	6.26	124.40	121.90
1	A	2638	G	C5-C6-O6	6.26	132.35	128.60
1	A	2061	G	C4-C5-C6	6.25	122.55	118.80
1	A	283	A	N1-C6-N6	-6.25	114.85	118.60
1	A	1983	C	C6-N1-C2	6.25	122.80	120.30
1	A	798	G	C6-N1-C2	-6.24	121.35	125.10
1	A	98	G	N1-C6-O6	6.24	123.64	119.90
1	A	1824	G	C5-C6-N1	6.24	114.62	111.50
1	A	1773	A	N1-C6-N6	6.24	122.34	118.60
31	5	62	LEU	CA-CB-CG	-6.24	100.96	115.30
1	A	250	G	C8-N9-C4	-6.23	103.91	106.40
1	A	976	C	C6-N1-C2	6.23	122.79	120.30
1	A	826	U	C5-C6-N1	-6.23	119.59	122.70
1	A	1201	C	N1-C2-O2	-6.22	115.17	118.90
1	A	1367	A	N7-C8-N9	-6.22	110.69	113.80
1	A	1299	G	N9-C4-C5	-6.21	102.91	105.40
1	A	1366	A	C2-N3-C4	-6.21	107.49	110.60
1	A	2489	G	N1-C6-O6	6.21	123.63	119.90
1	A	2822	G	C8-N9-C4	6.21	108.89	106.40
1	A	640	C	C6-N1-C2	6.21	122.78	120.30
1	A	1304	C	C6-N1-C2	6.20	122.78	120.30
1	A	328	U	C4-C5-C6	6.20	123.42	119.70
1	A	2559	C	C2-N3-C4	-6.20	116.80	119.90
1	A	1480	G	N1-C6-O6	6.20	123.62	119.90
1	A	1698	A	N9-C4-C5	-6.20	103.32	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	704	G	N1-C6-O6	6.19	123.61	119.90
1	A	965	C	C6-N1-C2	-6.19	117.82	120.30
1	A	1253	A	C5-N7-C8	-6.19	100.81	103.90
1	A	662	G	C8-N9-C4	6.19	108.88	106.40
1	A	450	G	C5-N7-C8	6.18	107.39	104.30
1	A	686	G	C5-C6-O6	-6.18	124.89	128.60
1	A	466	A	N1-C2-N3	6.18	132.39	129.30
1	A	794	G	N1-C2-N3	6.18	127.61	123.90
1	A	1341	U	N3-C2-O2	6.18	126.52	122.20
1	A	768	G	N1-C2-N3	6.17	127.61	123.90
1	A	1770	G	N1-C2-N3	6.17	127.61	123.90
1	A	2542	A	N7-C8-N9	-6.17	110.71	113.80
1	A	2571	C	C2-N3-C4	-6.17	116.81	119.90
1	A	1403	C	C5-C6-N1	-6.17	117.92	121.00
1	A	141(A)	A	C6-C5-N7	-6.17	127.98	132.30
1	A	58	G	C4-N9-C1'	6.16	134.51	126.50
1	A	180	G	C8-N9-C4	6.16	108.86	106.40
1	A	1802	A	N9-C4-C5	6.16	108.27	105.80
1	A	2043	C	C2-N3-C4	-6.16	116.82	119.90
1	A	2712	U	C2-N3-C4	-6.16	123.30	127.00
1	A	94	G	N3-C4-N9	6.16	129.69	126.00
1	A	273(C)	C	C5-C6-N1	-6.16	117.92	121.00
1	A	933	A	N7-C8-N9	6.16	116.88	113.80
1	A	72	U	N3-C2-O2	-6.16	117.89	122.20
1	A	777	A	N1-C2-N3	6.15	132.38	129.30
1	A	2724	C	N1-C2-O2	-6.15	115.21	118.90
1	A	971	C	N3-C2-O2	6.15	126.20	121.90
1	A	2517	C	C5-C6-N1	-6.15	117.93	121.00
1	A	273(A)	G	N7-C8-N9	-6.15	110.03	113.10
1	A	1183	G	N1-C6-O6	6.14	123.59	119.90
1	A	83	G	N3-C4-C5	6.14	131.67	128.60
1	A	132	G	C8-N9-C4	6.14	108.86	106.40
1	A	1138	G	N3-C4-C5	-6.14	125.53	128.60
1	A	2550	G	C8-N9-C4	6.14	108.86	106.40
1	A	512	G	C8-N9-C1'	6.14	134.98	127.00
1	A	1331	A	N1-C2-N3	6.14	132.37	129.30
1	A	2345	G	C4-C5-N7	-6.14	108.35	110.80
1	A	2510	C	C2-N3-C4	-6.13	116.84	119.90
1	A	444	C	C2-N3-C4	-6.12	116.84	119.90
1	A	933	A	C4-C5-N7	6.12	113.76	110.70
1	A	1898	U	C5-C4-O4	6.12	129.57	125.90
1	A	2044	C	N3-C4-C5	6.12	124.35	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	458	G	N3-C4-N9	6.12	129.67	126.00
1	A	752	A	N1-C2-N3	6.12	132.36	129.30
1	A	947	G	C8-N9-C4	6.12	108.85	106.40
1	A	1031	G	C2-N3-C4	-6.12	108.84	111.90
1	A	582	G	N7-C8-N9	-6.11	110.04	113.10
1	A	994	C	C4-C5-C6	6.11	120.45	117.40
1	A	2070	G	N1-C2-N3	6.11	127.56	123.90
1	A	2719	G	C4-N9-C1'	6.11	134.44	126.50
1	A	1663	C	C6-N1-C2	6.11	122.74	120.30
1	A	1790	C	C5-C6-N1	-6.10	117.95	121.00
1	A	2838	G	C5-C6-O6	-6.10	124.94	128.60
1	A	2463	C	N1-C2-O2	-6.10	115.24	118.90
1	A	2675	A	C8-N9-C4	6.10	108.24	105.80
1	A	86	C	C6-N1-C2	6.10	122.74	120.30
1	A	1392	A	N1-C6-N6	-6.10	114.94	118.60
1	A	1790	C	C2-N3-C4	-6.10	116.85	119.90
1	A	564	C	C6-N1-C2	-6.10	117.86	120.30
1	A	801	G	N9-C4-C5	6.10	107.84	105.40
1	A	1022	G	N3-C4-C5	-6.10	125.55	128.60
1	A	1830	C	C6-N1-C2	6.09	122.74	120.30
1	A	2249	U	C6-N1-C2	-6.09	117.35	121.00
1	A	1400	G	N3-C4-N9	6.08	129.65	126.00
2	B	83	G	N1-C6-O6	6.08	123.55	119.90
1	A	1331	A	C5-C6-N1	-6.08	114.66	117.70
1	A	126	A	N1-C6-N6	6.08	122.25	118.60
1	A	1655	A	C2-N3-C4	-6.08	107.56	110.60
1	A	1902	C	C5-C4-N4	6.08	124.45	120.20
1	A	1258	C	C6-N1-C2	6.07	122.73	120.30
1	A	2503	A	C4-C5-C6	-6.07	113.96	117.00
1	A	2426	A	C5-N7-C8	-6.07	100.86	103.90
1	A	2080	G	C6-N1-C2	-6.07	121.46	125.10
1	A	141(A)	A	C8-N9-C4	-6.07	103.37	105.80
1	A	1937	A	C2-N3-C4	-6.07	107.57	110.60
1	A	216	A	C5-N7-C8	-6.06	100.87	103.90
1	A	270(A)	A	C2-N3-C4	-6.06	107.57	110.60
1	A	60	G	P-O3'-C3'	6.06	126.98	119.70
1	A	296	C	C6-N1-C2	6.06	122.72	120.30
1	A	1286	A	N1-C2-N3	6.06	132.33	129.30
1	A	2436	G	N1-C6-O6	6.06	123.53	119.90
1	A	296	C	C5-C6-N1	-6.06	117.97	121.00
1	A	2440	C	C5-C4-N4	6.06	124.44	120.20
1	A	133	C	C5-C6-N1	-6.05	117.97	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	794	G	N1-C6-O6	-6.05	116.27	119.90
1	A	104	U	C5-C6-N1	-6.05	119.67	122.70
1	A	224	G	C8-N9-C4	6.05	108.82	106.40
1	A	198	C	N3-C4-C5	6.05	124.32	121.90
1	A	783	A	C5-C6-N1	-6.05	114.67	117.70
1	A	2681	C	C2-N1-C1'	-6.05	112.15	118.80
1	A	2456	C	N3-C4-C5	6.04	124.32	121.90
1	A	482	A	N1-C6-N6	6.04	122.22	118.60
1	A	528	A	N1-C2-N3	6.04	132.32	129.30
1	A	2584	U	N3-C4-O4	6.04	123.63	119.40
1	A	2058	A	C8-N9-C4	6.04	108.21	105.80
1	A	1360	A	C8-N9-C4	-6.03	103.39	105.80
1	A	1782	C	C6-N1-C2	6.03	122.71	120.30
1	A	1161	C	C5-C6-N1	6.03	124.01	121.00
1	A	1707	G	C2-N3-C4	-6.03	108.89	111.90
1	A	1843	C	N3-C4-C5	6.03	124.31	121.90
1	A	2033	A	N1-C2-N3	6.02	132.31	129.30
1	A	204	A	N7-C8-N9	-6.02	110.79	113.80
1	A	2681	C	C2-N3-C4	-6.02	116.89	119.90
1	A	2719	G	C8-N9-C1'	-6.02	119.17	127.00
1	A	247	G	C8-N9-C4	6.02	108.81	106.40
1	A	1528	A	C8-N9-C4	-6.02	103.39	105.80
1	A	2056	G	C5-N7-C8	-6.02	101.29	104.30
1	A	2595	G	C5-C6-N1	6.02	114.51	111.50
1	A	667	U	N1-C2-N3	6.01	118.51	114.90
1	A	1778	U	C2-N3-C4	-6.01	123.39	127.00
1	A	747	U	C2-N3-C4	-6.01	123.39	127.00
1	A	1614	A	N7-C8-N9	6.01	116.81	113.80
1	A	86	C	C5-C6-N1	-6.01	118.00	121.00
1	A	1903	G	N1-C6-O6	-6.00	116.30	119.90
1	A	2713	A	C5-C6-N6	-6.00	118.90	123.70
1	A	1032	A	C8-N9-C4	6.00	108.20	105.80
1	A	2601	C	C5-C6-N1	-6.00	118.00	121.00
1	A	2283	C	N1-C2-O2	-6.00	115.30	118.90
1	A	138	G	C8-N9-C4	-6.00	104.00	106.40
1	A	2240	C	C6-N1-C2	6.00	122.70	120.30
1	A	1367	A	C8-N9-C4	6.00	108.20	105.80
1	A	2249	U	C5-C4-O4	6.00	129.50	125.90
1	A	472	A	N7-C8-N9	-6.00	110.80	113.80
1	A	2711	A	C8-N9-C4	6.00	108.20	105.80
1	A	31	C	C5-C4-N4	-5.99	116.00	120.20
1	A	434	U	N1-C2-O2	-5.99	118.61	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2283	C	N3-C2-O2	5.99	126.09	121.90
1	A	1204	A	C5-N7-C8	-5.99	100.91	103.90
1	A	1963	U	N1-C2-O2	5.99	126.99	122.80
1	A	1815	A	N9-C4-C5	5.99	108.20	105.80
1	A	225	A	C2-N3-C4	-5.99	107.61	110.60
1	A	1325	G	C5-C6-N1	5.99	114.49	111.50
1	A	109	G	C8-N9-C4	5.99	108.79	106.40
1	A	197	A	C5-N7-C8	-5.99	100.91	103.90
1	A	2770	G	C4-C5-N7	-5.99	108.41	110.80
1	A	189	G	C8-N9-C1'	-5.98	119.22	127.00
1	A	945	A	O4'-C1'-N9	5.98	112.99	108.20
1	A	1825	A	C6-N1-C2	-5.98	115.01	118.60
1	A	1977	A	C2-N3-C4	-5.98	107.61	110.60
1	A	537	C	C6-N1-C2	5.98	122.69	120.30
1	A	746	A	C4-C5-C6	5.98	119.99	117.00
1	A	2596	U	C5-C6-N1	-5.98	119.71	122.70
1	A	1617	C	N1-C2-O2	-5.97	115.31	118.90
1	A	26	G	C8-N9-C4	5.97	108.79	106.40
1	A	2430	A	N7-C8-N9	5.97	116.78	113.80
1	A	2590	A	N1-C2-N3	5.97	132.28	129.30
1	A	72	U	C2-N3-C4	-5.96	123.42	127.00
1	A	584	C	C2-N3-C4	-5.96	116.92	119.90
1	A	1841	U	N3-C4-O4	5.96	123.58	119.40
1	A	529	A	C5-C6-N6	-5.96	118.93	123.70
1	A	2605	U	C5-C4-O4	5.96	129.48	125.90
1	A	2875	C	C6-N1-C2	5.96	122.69	120.30
1	A	840	C	C5-C6-N1	-5.96	118.02	121.00
1	A	322	A	N1-C6-N6	-5.96	115.03	118.60
1	A	532	A	N1-C6-N6	-5.96	115.03	118.60
1	A	1699	G	C4-C5-N7	-5.96	108.42	110.80
1	A	2014	A	N1-C6-N6	5.96	122.17	118.60
1	A	270(Z)	G	C5-C6-O6	5.96	132.17	128.60
1	A	1210	A	N7-C8-N9	5.95	116.78	113.80
1	A	1616	A	C8-N9-C4	-5.95	103.42	105.80
1	A	2567	G	C5-C6-O6	-5.95	125.03	128.60
1	A	2762	G	C6-C5-N7	-5.95	126.83	130.40
1	A	1261	C	N3-C2-O2	5.95	126.06	121.90
1	A	2061	G	C8-N9-C1'	-5.95	119.27	127.00
1	A	2521	C	C6-N1-C2	5.95	122.68	120.30
25	Y	21	LEU	CB-CG-CD1	5.95	121.11	111.00
1	A	2532	G	C6-C5-N7	-5.95	126.83	130.40
1	A	933	A	C2-N3-C4	-5.94	107.63	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2442	C	C5-C6-N1	-5.94	118.03	121.00
1	A	2505	G	C5-C6-N1	-5.94	108.53	111.50
1	A	273(C)	C	C6-N1-C2	5.94	122.68	120.30
1	A	1820	U	C6-N1-C2	5.94	124.56	121.00
1	A	677	A	C8-N9-C4	5.94	108.17	105.80
1	A	1385	G	C4-N9-C1'	-5.94	118.78	126.50
1	A	1827	C	C2-N3-C4	-5.94	116.93	119.90
1	A	2454	G	N7-C8-N9	-5.94	110.13	113.10
1	A	2550	G	N1-C6-O6	5.94	123.46	119.90
1	A	2597	G	N7-C8-N9	-5.94	110.13	113.10
1	A	1989	G	C5-C6-O6	-5.93	125.04	128.60
1	A	2006	C	C5-C6-N1	-5.93	118.04	121.00
1	A	2233	U	N3-C4-C5	5.93	118.16	114.60
1	A	734	A	N1-C6-N6	5.92	122.16	118.60
1	A	2327	A	C8-N9-C4	5.92	108.17	105.80
1	A	1126	A	C8-N9-C4	5.92	108.17	105.80
1	A	1679	U	N1-C2-O2	-5.92	118.65	122.80
1	A	2578	G	N1-C6-O6	5.92	123.45	119.90
1	A	187	G	N3-C4-N9	5.91	129.55	126.00
1	A	2518	A	N3-C4-C5	5.91	130.94	126.80
1	A	187	G	C8-N9-C1'	-5.91	119.32	127.00
1	A	2057	A	N1-C2-N3	5.91	132.25	129.30
1	A	723	G	C5-C6-N1	-5.91	108.55	111.50
1	A	1395	A	N1-C2-N3	-5.91	126.35	129.30
1	A	543	C	C5-C6-N1	-5.90	118.05	121.00
1	A	570	G	C5-N7-C8	5.90	107.25	104.30
1	A	2050	C	N1-C2-N3	5.90	123.33	119.20
1	A	298	G	N1-C6-O6	5.90	123.44	119.90
1	A	693	C	C4-C5-C6	5.89	120.34	117.40
1	A	1325	G	C4-N9-C1'	-5.89	118.84	126.50
1	A	2232	U	C4-C5-C6	5.88	123.23	119.70
1	A	2510	C	C5-C6-N1	-5.88	118.06	121.00
1	A	1783	A	C6-N1-C2	-5.88	115.07	118.60
1	A	1266	G	C8-N9-C4	5.88	108.75	106.40
1	A	1335	U	C5-C6-N1	-5.88	119.76	122.70
1	A	808	G	C6-N1-C2	-5.87	121.58	125.10
1	A	841	A	C6-N1-C2	-5.87	115.08	118.60
1	A	2549	G	N1-C2-N3	5.87	127.42	123.90
1	A	263	C	C6-N1-C2	5.87	122.65	120.30
1	A	2587	A	C8-N9-C4	5.87	108.15	105.80
1	A	2506	U	N3-C2-O2	-5.87	118.09	122.20
1	A	940	G	N3-C4-C5	-5.87	125.67	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	298	G	C5-C6-O6	-5.86	125.08	128.60
1	A	760	G	C8-N9-C4	5.86	108.75	106.40
1	A	1264	G	C5-C6-O6	5.86	132.12	128.60
1	A	1589	C	C6-N1-C2	-5.86	117.95	120.30
1	A	2033	A	C2-N3-C4	-5.86	107.67	110.60
1	A	2324	C	C2-N3-C4	-5.86	116.97	119.90
1	A	2497	A	C2-N3-C4	-5.86	107.67	110.60
1	A	40	C	C5-C6-N1	-5.86	118.07	121.00
1	A	224	G	N3-C4-C5	5.86	131.53	128.60
1	A	2550	G	C5-C6-O6	-5.86	125.08	128.60
1	A	2278	A	C8-N9-C4	-5.86	103.46	105.80
1	A	2392	A	C8-N9-C4	-5.85	103.46	105.80
1	A	2581	G	C4-C5-N7	-5.85	108.46	110.80
1	A	1031	G	C4-C5-N7	5.85	113.14	110.80
1	A	1125	G	N3-C4-C5	5.85	131.52	128.60
1	A	1252	G	N7-C8-N9	-5.84	110.18	113.10
1	A	1780	A	C2-N3-C4	-5.84	107.68	110.60
1	A	2427	C	C4-C5-C6	5.84	120.32	117.40
1	A	71	A	N3-C4-C5	5.84	130.89	126.80
1	A	213	A	C8-N9-C4	5.84	108.14	105.80
1	A	1215	G	N7-C8-N9	-5.84	110.18	113.10
1	A	949	C	C6-N1-C2	5.84	122.64	120.30
1	A	1349	A	C5-N7-C8	-5.84	100.98	103.90
1	A	377	C	C2-N1-C1'	-5.84	112.38	118.80
1	A	1302	A	N1-C6-N6	-5.84	115.10	118.60
1	A	204	A	N1-C6-N6	-5.83	115.10	118.60
1	A	2447	G	N3-C4-N9	-5.83	122.50	126.00
1	A	2553	G	C4-C5-N7	5.83	113.13	110.80
1	A	752	A	N1-C6-N6	-5.83	115.10	118.60
1	A	1286	A	N9-C4-C5	5.83	108.13	105.80
1	A	1402	C	C6-N1-C2	-5.83	117.97	120.30
1	A	1898	U	C6-N1-C1'	5.83	129.37	121.20
1	A	333	G	C4-N9-C1'	5.83	134.08	126.50
1	A	1258	C	C2-N3-C4	-5.83	116.98	119.90
1	A	1297	C	N1-C2-O2	-5.83	115.40	118.90
1	A	1602	U	C5-C6-N1	5.82	125.61	122.70
1	A	2063	C	C5-C4-N4	5.82	124.28	120.20
1	A	658	C	C5-C6-N1	-5.82	118.09	121.00
1	A	2004	G	C6-C5-N7	-5.82	126.91	130.40
1	A	731	C	C6-N1-C2	5.82	122.63	120.30
1	A	2086	U	C5-C4-O4	5.82	129.39	125.90
1	A	681	G	C8-N9-C1'	-5.82	119.44	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	847	U	C6-N1-C1'	5.82	129.34	121.20
1	A	676	A	O4'-C1'-N9	5.81	112.85	108.20
1	A	1349	A	C6-C5-N7	-5.81	128.23	132.30
1	A	2593	U	N1-C2-N3	5.81	118.39	114.90
1	A	1031	G	C6-C5-N7	-5.81	126.92	130.40
1	A	1258	C	N3-C4-C5	5.81	124.22	121.90
1	A	1306	C	N3-C4-C5	5.81	124.22	121.90
1	A	2244	U	N1-C2-O2	5.81	126.87	122.80
1	A	244	A	C5-C6-N1	5.80	120.60	117.70
1	A	784	A	C8-N9-C1'	5.80	138.14	127.70
1	A	1190	G	C4-C5-N7	5.80	113.12	110.80
1	A	570	G	C4-C5-C6	5.79	122.28	118.80
1	A	2532	G	C8-N9-C1'	-5.79	119.47	127.00
1	A	61	G	C8-N9-C4	5.79	108.72	106.40
1	A	407	G	C8-N9-C1'	-5.79	119.47	127.00
1	A	768	G	C8-N9-C1'	-5.79	119.47	127.00
1	A	1698	A	C5-C6-N1	-5.79	114.80	117.70
1	A	2056	G	C5-C6-O6	-5.79	125.12	128.60
1	A	1804	C	C2-N3-C4	-5.79	117.01	119.90
1	A	787	U	C2-N3-C4	-5.78	123.53	127.00
1	A	1396	U	C5-C6-N1	-5.78	119.81	122.70
1	A	2436	G	C5-C6-N1	-5.78	108.61	111.50
1	A	2248	C	C6-N1-C2	5.77	122.61	120.30
1	A	39	C	N1-C2-O2	-5.77	115.44	118.90
1	A	126	A	C5-C6-N6	-5.77	119.08	123.70
1	A	129	C	C6-N1-C2	5.77	122.61	120.30
1	A	240	G	C5-C6-N1	-5.77	108.62	111.50
1	A	803	U	C4-C5-C6	5.77	123.16	119.70
1	A	1209	G	C5-C6-O6	5.77	132.06	128.60
1	A	2638	G	C8-N9-C4	-5.77	104.09	106.40
1	A	1315	C	N1-C2-N3	5.77	123.24	119.20
12	L	61	ARG	NE-CZ-NH1	5.77	123.18	120.30
1	A	661	C	C5-C6-N1	-5.77	118.12	121.00
1	A	782	A	C8-N9-C4	5.77	108.11	105.80
1	A	2272	U	C5-C6-N1	5.77	125.58	122.70
1	A	2714	G	C4-N9-C1'	5.76	133.99	126.50
1	A	1156	A	C5-N7-C8	-5.76	101.02	103.90
1	A	333	G	C8-N9-C1'	-5.76	119.51	127.00
1	A	1764	G	C5-C6-N1	5.75	114.38	111.50
1	A	2043	C	N3-C4-C5	5.75	124.20	121.90
1	A	1627	G	C5-C6-N1	-5.75	108.63	111.50
1	A	530	G	N3-C2-N2	5.75	123.92	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2614	A	C5-C6-N6	-5.75	119.10	123.70
1	A	1379	A	N1-C6-N6	5.75	122.05	118.60
1	A	263	C	C5-C6-N1	-5.74	118.13	121.00
1	A	2719	G	N9-C4-C5	-5.74	103.10	105.40
1	A	1021	A	N1-C6-N6	5.74	122.05	118.60
1	A	2501	C	C5-C6-N1	-5.74	118.13	121.00
1	A	2625	G	N1-C2-N3	5.74	127.34	123.90
1	A	2500	U	C4-C5-C6	5.74	123.14	119.70
1	A	1403	C	N1-C2-N3	5.74	123.22	119.20
1	A	1680	U	C6-N1-C2	-5.74	117.56	121.00
1	A	1901	A	C5-C6-N1	5.74	120.57	117.70
1	A	2072	G	C2-N3-C4	-5.74	109.03	111.90
1	A	244	A	C4-C5-C6	-5.74	114.13	117.00
1	A	769	G	C5-C6-N1	5.73	114.37	111.50
1	A	756	C	C5-C6-N1	-5.73	118.13	121.00
1	A	802	A	C6-N1-C2	-5.73	115.16	118.60
1	A	980	A	C2-N3-C4	-5.73	107.73	110.60
1	A	1253	A	N1-C2-N3	-5.73	126.44	129.30
1	A	1368	G	C6-N1-C2	-5.73	121.66	125.10
1	A	1325	G	C8-N9-C4	-5.72	104.11	106.40
1	A	2084	C	C5-C6-N1	-5.72	118.14	121.00
1	A	2502	G	C8-N9-C4	5.72	108.69	106.40
1	A	1210	A	C6-C5-N7	-5.72	128.29	132.30
1	A	816	C	C5-C4-N4	-5.72	116.20	120.20
1	A	979	G	N3-C4-C5	5.72	131.46	128.60
1	A	1210	A	C5-N7-C8	-5.72	101.04	103.90
1	A	1765	C	N1-C2-O2	-5.72	115.47	118.90
1	A	1798	U	C2-N3-C4	-5.72	123.57	127.00
1	A	2442	C	C6-N1-C2	5.72	122.59	120.30
1	A	2503	A	C4-C5-N7	5.71	113.56	110.70
1	A	1123	C	C6-N1-C2	5.71	122.58	120.30
1	A	424	G	N1-C6-O6	5.71	123.32	119.90
1	A	1901	A	N1-C6-N6	-5.71	115.18	118.60
1	A	580	C	C5-C6-N1	-5.70	118.15	121.00
1	A	2640	G	C8-N9-C4	5.70	108.68	106.40
1	A	2066	C	C5-C6-N1	-5.70	118.15	121.00
1	A	2463	C	N3-C2-O2	5.70	125.89	121.90
1	A	2553	G	C8-N9-C4	5.70	108.68	106.40
1	A	2059	A	C8-N9-C4	5.70	108.08	105.80
3	C	242	ARG	N-CA-C	-5.70	95.62	111.00
1	A	2443	C	N3-C4-C5	5.69	124.18	121.90
1	A	2515	C	N3-C4-C5	5.69	124.18	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	197	A	C6-C5-N7	-5.69	128.32	132.30
1	A	374	A	C2-N3-C4	-5.69	107.75	110.60
1	A	407	G	C4-N9-C1'	5.69	133.90	126.50
1	A	2518	A	N1-C6-N6	5.69	122.01	118.60
1	A	1819	A	N1-C2-N3	5.69	132.14	129.30
1	A	1839	G	N3-C4-C5	5.69	131.44	128.60
1	A	2048	G	N1-C6-O6	-5.69	116.49	119.90
1	A	2292	C	C6-N1-C2	5.68	122.57	120.30
1	A	568	U	C5-C4-O4	5.68	129.31	125.90
1	A	1310	G	C5-C6-O6	-5.68	125.19	128.60
1	A	1555	G	C8-N9-C1'	-5.68	119.61	127.00
1	A	2742	C	C5-C6-N1	-5.68	118.16	121.00
1	A	1499	C	C6-N1-C2	5.68	122.57	120.30
1	A	2084	C	C6-N1-C2	5.68	122.57	120.30
1	A	61	G	N7-C8-N9	-5.67	110.26	113.10
1	A	794	G	C2-N3-C4	-5.67	109.06	111.90
1	A	2544	G	C6-C5-N7	-5.67	127.00	130.40
1	A	2506	U	C2-N1-C1'	5.67	124.51	117.70
1	A	146	G	C5-C6-O6	-5.67	125.20	128.60
1	A	1241	A	C5-C6-N1	-5.67	114.86	117.70
1	A	1333	C	C6-N1-C1'	-5.67	114.00	120.80
1	A	794	G	N1-C2-N2	-5.67	111.10	116.20
1	A	837	C	C6-N1-C2	-5.67	118.03	120.30
1	A	1815	A	N1-C6-N6	-5.67	115.20	118.60
1	A	1970	A	C6-N1-C2	-5.67	115.20	118.60
1	A	2592	G	N3-C4-C5	-5.67	125.77	128.60
1	A	848	G	C8-N9-C4	5.66	108.67	106.40
1	A	2744	G	N3-C4-C5	5.66	131.43	128.60
1	A	2054	A	C2-N3-C4	-5.66	107.77	110.60
1	A	497	A	N1-C6-N6	5.66	122.00	118.60
1	A	1633	G	C8-N9-C4	-5.66	104.14	106.40
1	A	2440	C	C2-N1-C1'	-5.66	112.58	118.80
1	A	1123	C	C5-C6-N1	-5.66	118.17	121.00
1	A	1323	U	N1-C2-O2	-5.66	118.84	122.80
1	A	529	A	N1-C6-N6	5.66	121.99	118.60
1	A	2057	A	C8-N9-C4	5.66	108.06	105.80
1	A	2253	G	C4-N9-C1'	5.66	133.85	126.50
1	A	194	G	N9-C4-C5	-5.65	103.14	105.40
1	A	589	C	C5-C6-N1	-5.65	118.17	121.00
1	A	1131	G	C8-N9-C4	5.65	108.66	106.40
1	A	272	G	C4-N9-C1'	-5.65	119.16	126.50
1	A	994	C	N1-C2-N3	5.65	123.15	119.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1994	C	C5-C6-N1	-5.65	118.17	121.00
1	A	1128	A	N1-C6-N6	-5.65	115.21	118.60
1	A	1271	G	C8-N9-C4	5.65	108.66	106.40
1	A	2520	C	C5-C6-N1	-5.65	118.18	121.00
1	A	684	G	C5-N7-C8	-5.65	101.48	104.30
1	A	2510	C	C5-C4-N4	-5.64	116.25	120.20
1	A	1617	C	C6-N1-C2	5.64	122.56	120.30
1	A	729	G	C4-C5-N7	5.64	113.06	110.80
1	A	1620	G	N7-C8-N9	-5.64	110.28	113.10
1	A	1999	C	N3-C4-C5	5.64	124.16	121.90
1	A	801	G	N1-C6-O6	-5.64	116.52	119.90
1	A	1264	G	C4-C5-N7	-5.64	108.55	110.80
1	A	253	C	N3-C4-C5	-5.63	119.65	121.90
1	A	2346	A	C5-C6-N1	-5.63	114.88	117.70
1	A	2540	C	C5-C6-N1	-5.63	118.18	121.00
1	A	1980	G	N1-C2-N3	5.63	127.28	123.90
1	A	2324	C	C2-N1-C1'	-5.63	112.61	118.80
1	A	77	C	N3-C4-C5	5.63	124.15	121.90
1	A	1678	G	C4-C5-C6	-5.63	115.42	118.80
1	A	2869	G	C8-N9-C4	-5.63	104.15	106.40
1	A	2589	A	N7-C8-N9	-5.62	110.99	113.80
1	A	30	G	C8-N9-C4	5.62	108.65	106.40
1	A	1304	C	N1-C2-O2	-5.62	115.53	118.90
1	A	116	C	C5-C6-N1	-5.62	118.19	121.00
1	A	1302	A	C5-C6-N6	5.62	128.19	123.70
1	A	197	A	C4-C5-N7	5.61	113.51	110.70
1	A	836	G	N3-C4-C5	5.61	131.41	128.60
1	A	961	C	C4-C5-C6	5.61	120.20	117.40
1	A	1674	G	C8-N9-C1'	-5.61	119.71	127.00
1	A	1801	G	C5-C6-O6	-5.61	125.23	128.60
1	A	1287	A	C5-N7-C8	-5.61	101.10	103.90
1	A	188	G	C6-C5-N7	-5.61	127.04	130.40
1	A	580	C	C2-N3-C4	-5.61	117.10	119.90
1	A	1323	U	N3-C4-O4	5.61	123.32	119.40
1	A	1444	G	N7-C8-N9	-5.60	110.30	113.10
1	A	2719	G	C6-C5-N7	-5.60	127.04	130.40
1	A	210	C	N3-C4-C5	5.60	124.14	121.90
1	A	1271	G	N3-C4-N9	5.60	129.36	126.00
1	A	2634	G	C8-N9-C4	5.60	108.64	106.40
1	A	2675	A	N7-C8-N9	-5.60	111.00	113.80
1	A	845	G	C4-N9-C1'	5.60	133.78	126.50
1	A	248	G	C8-N9-C4	5.59	108.64	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2056	G	C6-C5-N7	-5.59	127.04	130.40
1	A	2456	C	C6-N1-C2	5.59	122.54	120.30
1	A	148	C	C4-C5-C6	5.59	120.20	117.40
1	A	322	A	N9-C4-C5	5.59	108.04	105.80
1	A	340	A	N1-C2-N3	5.59	132.09	129.30
1	A	1901	A	C6-N1-C2	-5.59	115.25	118.60
1	A	71	A	C5-C6-N1	-5.59	114.91	117.70
1	A	1570	A	N7-C8-N9	-5.59	111.01	113.80
1	A	1821	A	C8-N9-C4	5.59	108.03	105.80
1	A	2009	G	C4-C5-N7	-5.59	108.57	110.80
1	A	70	G	C8-N9-C4	-5.58	104.17	106.40
1	A	657	U	N1-C2-O2	5.58	126.71	122.80
1	A	1325	G	N1-C6-O6	-5.58	116.55	119.90
1	A	2233	U	C5-C6-N1	-5.58	119.91	122.70
1	A	127	A	C5-C6-N1	5.58	120.49	117.70
1	A	2496	C	C5-C6-N1	-5.58	118.21	121.00
1	A	815	C	C2-N3-C4	-5.58	117.11	119.90
1	A	1826	G	N7-C8-N9	-5.58	110.31	113.10
1	A	2206	C	C6-N1-C2	5.58	122.53	120.30
14	N	65	LEU	CA-CB-CG	-5.58	102.47	115.30
1	A	1603	A	C8-N9-C4	-5.58	103.57	105.80
1	A	1613	G	N3-C2-N2	5.58	123.80	119.90
1	A	1804	C	N1-C2-N3	5.58	123.10	119.20
1	A	843	G	N1-C6-O6	5.57	123.24	119.90
1	A	1022	G	C5-C6-O6	5.57	131.94	128.60
1	A	1332	G	N1-C6-O6	5.57	123.24	119.90
1	A	2053	G	C4-C5-N7	5.57	113.03	110.80
25	Y	60	LEU	CA-CB-CG	-5.57	102.48	115.30
1	A	1770	G	N1-C6-O6	5.57	123.24	119.90
1	A	2507	C	C2-N3-C4	-5.57	117.11	119.90
1	A	535	C	N1-C2-O2	-5.57	115.56	118.90
1	A	1898	U	C2-N1-C1'	-5.57	111.02	117.70
1	A	2488	A	C6-N1-C2	-5.57	115.26	118.60
1	A	2279	G	N1-C6-O6	-5.57	116.56	119.90
1	A	2698	U	C5-C6-N1	-5.57	119.92	122.70
2	B	84	C	C6-N1-C2	-5.57	118.07	120.30
1	A	1496	A	N7-C8-N9	5.56	116.58	113.80
1	A	1692	U	N3-C4-O4	-5.56	115.51	119.40
1	A	826	U	C6-N1-C2	5.56	124.33	121.00
1	A	2506	U	N1-C2-O2	5.56	126.69	122.80
1	A	2239	G	C2-N3-C4	-5.56	109.12	111.90
1	A	2430	A	C4-C5-N7	5.56	113.48	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2010	G	C5-C6-O6	-5.55	125.27	128.60
1	A	85	G	C8-N9-C4	5.55	108.62	106.40
1	A	1191	G	C4-C5-N7	-5.55	108.58	110.80
1	A	1665	A	C6-C5-N7	-5.55	128.41	132.30
1	A	2542	A	C8-N9-C4	5.55	108.02	105.80
1	A	194	G	N7-C8-N9	-5.55	110.33	113.10
1	A	2417	C	C5-C6-N1	-5.55	118.22	121.00
1	A	2235	G	C4-C5-N7	5.55	113.02	110.80
1	A	2827	C	C6-N1-C2	5.55	122.52	120.30
1	A	340	A	C2-N3-C4	-5.55	107.83	110.60
1	A	1962	C	N3-C2-O2	-5.54	118.02	121.90
1	A	73	A	N1-C6-N6	-5.54	115.28	118.60
1	A	1287	A	N1-C6-N6	5.54	121.92	118.60
1	A	111	A	C2-N3-C4	-5.54	107.83	110.60
1	A	933	A	N1-C6-N6	5.54	121.92	118.60
1	A	239	U	C2-N1-C1'	-5.54	111.06	117.70
1	A	1232	G	N1-C6-O6	5.54	123.22	119.90
1	A	2081	C	C6-N1-C2	5.53	122.51	120.30
1	A	2426	A	N7-C8-N9	5.53	116.57	113.80
1	A	2441	C	N1-C2-O2	-5.53	115.58	118.90
1	A	2075	U	C6-N1-C2	5.53	124.32	121.00
1	A	114(B)	A	C4-C5-N7	5.52	113.46	110.70
1	A	2257	U	N1-C2-O2	-5.52	118.93	122.80
1	A	2042	A	N1-C6-N6	5.52	121.91	118.60
1	A	216	A	C4-C5-N7	5.52	113.46	110.70
1	A	799	G	C5-C6-N1	5.51	114.26	111.50
1	A	1855	G	C8-N9-C4	5.51	108.61	106.40
1	A	2544	G	N9-C4-C5	-5.51	103.19	105.40
1	A	2431	U	C5-C6-N1	-5.51	119.94	122.70
1	A	1791	A	N9-C4-C5	-5.51	103.60	105.80
1	A	513	A	N7-C8-N9	5.51	116.56	113.80
1	A	825	C	C4-C5-C6	5.51	120.16	117.40
1	A	1496	A	C4-N9-C1'	5.51	136.22	126.30
1	A	1960	A	C8-N9-C4	5.51	108.00	105.80
1	A	2521	C	C5-C6-N1	-5.51	118.25	121.00
1	A	409	C	C6-N1-C2	5.50	122.50	120.30
1	A	1983	C	C5-C6-N1	-5.50	118.25	121.00
1	A	2635	C	C5-C6-N1	-5.50	118.25	121.00
1	A	1670	C	N1-C2-O2	-5.50	115.60	118.90
1	A	1622	G	N1-C2-N3	5.50	127.20	123.90
1	A	2022	U	C5-C4-O4	-5.50	122.60	125.90
1	A	2702	U	C5-C6-N1	-5.50	119.95	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2044	C	C6-N1-C2	5.49	122.50	120.30
1	A	148	C	C2-N3-C4	-5.49	117.15	119.90
1	A	737	C	C5-C4-N4	-5.49	116.36	120.20
1	A	734	A	N9-C4-C5	-5.49	103.60	105.80
1	A	1832	C	C5-C6-N1	-5.49	118.26	121.00
1	A	1295	C	C5-C6-N1	-5.48	118.26	121.00
1	A	388	G	C6-C5-N7	5.48	133.69	130.40
1	A	1157	G	N1-C6-O6	5.48	123.19	119.90
1	A	1704	G	C8-N9-C4	5.48	108.59	106.40
1	A	1782	C	N1-C2-O2	5.48	122.19	118.90
1	A	513	A	N1-C2-N3	5.47	132.04	129.30
1	A	114(B)	A	C5-C6-N1	-5.47	114.96	117.70
1	A	1683	C	N1-C2-O2	-5.47	115.61	118.90
1	A	2085	C	C5-C6-N1	-5.47	118.26	121.00
1	A	2358	G	C8-N9-C4	-5.47	104.21	106.40
1	A	1830	C	C5-C4-N4	-5.47	116.37	120.20
1	A	784	A	N3-C4-N9	-5.47	123.02	127.40
1	A	1657	C	N1-C2-O2	-5.47	115.62	118.90
1	A	2676	C	N1-C2-O2	-5.47	115.62	118.90
1	A	512	G	N3-C4-N9	-5.46	122.72	126.00
1	A	2007	C	C2-N3-C4	-5.46	117.17	119.90
1	A	681	G	C8-N9-C4	5.46	108.58	106.40
1	A	2254	C	N1-C2-O2	-5.46	115.62	118.90
1	A	1368	G	C5-C6-N1	5.46	114.23	111.50
1	A	1604	C	N3-C4-N4	5.46	121.82	118.00
1	A	802	A	N1-C2-N3	5.46	132.03	129.30
1	A	261	G	N1-C6-O6	5.45	123.17	119.90
1	A	1669	A	C8-N9-C4	-5.45	103.62	105.80
1	A	1839	G	N3-C2-N2	-5.45	116.08	119.90
1	A	333	G	N1-C6-O6	5.45	123.17	119.90
1	A	1294	U	N3-C2-O2	-5.45	118.39	122.20
1	A	1325	G	C6-C5-N7	5.45	133.67	130.40
1	A	749	C	N3-C4-C5	5.45	124.08	121.90
1	A	1982	C	N1-C2-O2	-5.45	115.63	118.90
1	A	249	C	C6-N1-C2	5.45	122.48	120.30
1	A	1902	C	C5-C6-N1	-5.45	118.28	121.00
1	A	2000	G	N1-C6-O6	-5.44	116.63	119.90
1	A	2061	G	C6-C5-N7	-5.44	127.13	130.40
1	A	466	A	C8-N9-C4	5.44	107.98	105.80
1	A	1624	G	C6-N1-C2	-5.44	121.83	125.10
1	A	1964	G	N3-C4-N9	5.44	129.26	126.00
1	A	915	C	C5-C6-N1	5.44	123.72	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	512	G	C4-N9-C1'	-5.43	119.44	126.50
1	A	2448	A	C6-C5-N7	-5.43	128.50	132.30
1	A	2648	C	C2-N1-C1'	-5.43	112.82	118.80
1	A	2766	G	C4-N9-C1'	5.43	133.57	126.50
1	A	1332	G	C6-C5-N7	5.43	133.66	130.40
1	A	1689	A	N1-C6-N6	-5.43	115.34	118.60
1	A	387	U	N3-C4-O4	5.43	123.20	119.40
1	A	979	G	N7-C8-N9	5.43	115.81	113.10
1	A	2253	G	C6-C5-N7	-5.43	127.14	130.40
1	A	2544	G	C4-C5-N7	5.43	112.97	110.80
1	A	116	C	N1-C2-O2	-5.43	115.64	118.90
1	A	2498	C	N1-C2-O2	-5.42	115.65	118.90
1	A	694	U	N1-C2-O2	5.42	126.59	122.80
1	A	1213	A	C8-N9-C4	5.42	107.97	105.80
1	A	1323	U	C4-C5-C6	5.42	122.95	119.70
1	A	1302	A	C4-C5-N7	-5.42	107.99	110.70
1	A	2544	G	C8-N9-C4	5.42	108.57	106.40
1	A	286	C	C6-N1-C2	5.41	122.47	120.30
1	A	1403	C	C2-N3-C4	-5.41	117.19	119.90
1	A	1572	A	N9-C4-C5	-5.41	103.64	105.80
1	A	444	C	C2-N1-C1'	-5.41	112.85	118.80
1	A	1842	G	C8-N9-C4	5.41	108.56	106.40
1	A	258	G	N1-C6-O6	5.41	123.14	119.90
1	A	936	C	C5-C6-N1	-5.41	118.30	121.00
1	A	130	C	C2-N3-C4	-5.41	117.20	119.90
1	A	2590	A	C2-N3-C4	-5.41	107.90	110.60
1	A	968	G	C8-N9-C4	5.40	108.56	106.40
1	A	271(B)	C	C6-N1-C2	5.40	122.46	120.30
1	A	461	C	N3-C2-O2	5.40	125.68	121.90
1	A	793	A	C8-N9-C4	-5.40	103.64	105.80
1	A	2619	C	C2-N1-C1'	-5.40	112.86	118.80
1	A	204	A	C8-N9-C4	5.40	107.96	105.80
1	A	729	G	C4-N9-C1'	5.40	133.52	126.50
1	A	2383	G	C4-N9-C1'	5.39	133.51	126.50
1	A	1204	A	N7-C8-N9	5.39	116.50	113.80
1	A	2392	A	N7-C8-N9	5.39	116.50	113.80
1	A	2519	U	C5-C6-N1	-5.39	120.00	122.70
1	A	2841	C	C6-N1-C2	5.39	122.46	120.30
1	A	976	C	C5-C6-N1	-5.39	118.31	121.00
1	A	1646	C	C6-N1-C2	5.39	122.45	120.30
1	A	2846	G	C4-C5-N7	5.39	112.95	110.80
1	A	312	G	C8-N9-C4	5.39	108.56	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1521	G	C8-N9-C4	-5.39	104.25	106.40
1	A	1802	A	C4-C5-C6	5.39	119.69	117.00
1	A	2253	G	C8-N9-C1'	-5.39	120.00	127.00
1	A	211	A	N7-C8-N9	-5.38	111.11	113.80
1	A	814	C	C5-C6-N1	-5.38	118.31	121.00
1	A	993	G	C6-C5-N7	5.38	133.63	130.40
1	A	1801	G	C4-C5-N7	5.38	112.95	110.80
1	A	375	C	C5-C6-N1	-5.38	118.31	121.00
1	A	1309	G	N7-C8-N9	-5.38	110.41	113.10
1	A	1423	G	C8-N9-C4	5.38	108.55	106.40
1	A	1662	C	N1-C2-N3	5.38	122.97	119.20
1	A	1792	G	N9-C4-C5	5.38	107.55	105.40
1	A	1600	C	N3-C2-O2	5.38	125.66	121.90
1	A	1698	A	N7-C8-N9	5.37	116.49	113.80
1	A	2592	G	C6-N1-C2	-5.37	121.88	125.10
1	A	1164	G	C8-N9-C1'	-5.37	120.02	127.00
1	A	55	G	C6-N1-C2	-5.37	121.88	125.10
1	A	681	G	N7-C8-N9	-5.37	110.42	113.10
1	A	798	G	C5-C6-O6	-5.37	125.38	128.60
3	C	46	GLN	N-CA-C	-5.37	96.50	111.00
1	A	1980	G	N1-C2-N2	-5.37	111.37	116.20
1	A	138	G	N7-C8-N9	5.37	115.78	113.10
1	A	704	G	C5-C6-O6	-5.36	125.38	128.60
1	A	298	G	N7-C8-N9	5.36	115.78	113.10
1	A	1555	G	C4-N9-C1'	5.36	133.47	126.50
1	A	2824	C	N1-C2-O2	-5.36	115.68	118.90
1	A	1268	A	N1-C2-N3	5.36	131.98	129.30
1	A	2713	A	N1-C2-N3	5.36	131.98	129.30
1	A	489	G	C8-N9-C4	-5.36	104.26	106.40
1	A	1429	G	C5-C6-O6	5.36	131.81	128.60
1	A	2219	G	C8-N9-C4	5.36	108.54	106.40
1	A	2743	C	N1-C2-O2	-5.36	115.69	118.90
1	A	841	A	C5-C6-N1	5.35	120.38	117.70
1	A	2082	A	C5-C6-N6	-5.35	119.42	123.70
1	A	83	G	C6-N1-C2	5.35	128.31	125.10
1	A	2010	G	C5-N7-C8	-5.35	101.62	104.30
1	A	586	A	N9-C4-C5	-5.35	103.66	105.80
1	A	1802	A	C6-N1-C2	-5.35	115.39	118.60
1	A	661	C	C2-N3-C4	-5.35	117.22	119.90
1	A	133	C	C2-N3-C4	-5.35	117.23	119.90
1	A	729	G	C6-C5-N7	-5.34	127.19	130.40
1	A	2748	A	C8-N9-C4	-5.34	103.66	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	967	C	C5-C6-N1	-5.34	118.33	121.00
1	A	2208	U	N3-C2-O2	5.34	125.94	122.20
1	A	2324	C	N3-C4-N4	-5.34	114.26	118.00
1	A	322	A	C8-N9-C4	-5.34	103.67	105.80
1	A	827	U	C6-N1-C2	5.34	124.20	121.00
1	A	2514	U	C6-N1-C2	5.34	124.20	121.00
1	A	2707	G	C8-N9-C4	5.34	108.53	106.40
1	A	179	G	N1-C6-O6	5.33	123.10	119.90
1	A	2081	C	C2-N3-C4	-5.33	117.23	119.90
1	A	2075	U	C5-C6-N1	-5.33	120.03	122.70
1	A	2826	A	N1-C2-N3	5.33	131.97	129.30
1	A	2007	C	C6-N1-C2	5.33	122.43	120.30
24	X	29	GLY	N-CA-C	-5.33	99.78	113.10
1	A	459	U	C5-C6-N1	-5.33	120.04	122.70
1	A	1317	A	C8-N9-C4	5.33	107.93	105.80
1	A	727	A	N1-C6-N6	5.32	121.79	118.60
1	A	1700	A	N1-C6-N6	5.32	121.80	118.60
1	A	1348	G	C4-C5-N7	5.32	112.93	110.80
1	A	1606	G	C5-C6-N1	5.32	114.16	111.50
1	A	1790	C	N3-C4-N4	-5.32	114.28	118.00
1	A	2232	U	N3-C4-C5	-5.32	111.41	114.60
1	A	2519	U	C6-N1-C2	5.32	124.19	121.00
1	A	151	C	C6-N1-C2	5.32	122.43	120.30
1	A	707	G	C8-N9-C4	5.32	108.53	106.40
1	A	2419	U	C5-C4-O4	5.32	129.09	125.90
1	A	1286	A	N1-C6-N6	-5.32	115.41	118.60
1	A	2005	A	C5-C6-N1	-5.32	115.04	117.70
1	A	2433	A	C5-N7-C8	-5.32	101.24	103.90
1	A	2227	A	N3-C4-N9	-5.32	123.15	127.40
1	A	1843	C	C2-N3-C4	-5.31	117.24	119.90
1	A	2397	G	C6-C5-N7	-5.31	127.21	130.40
1	A	2762	G	N1-C6-O6	5.31	123.09	119.90
12	L	54	GLY	N-CA-C	-5.31	99.82	113.10
1	A	958	U	C2-N1-C1'	5.31	124.08	117.70
1	A	1327	C	N3-C4-C5	-5.31	119.78	121.90
1	A	408	G	N3-C4-C5	5.31	131.25	128.60
1	A	197	A	C5-C6-N6	-5.31	119.45	123.70
1	A	300	A	N1-C6-N6	5.31	121.78	118.60
1	A	1164	G	C4-N9-C1'	5.31	133.40	126.50
1	A	2828	C	C6-N1-C2	5.30	122.42	120.30
1	A	138	G	C5-C6-N1	5.30	114.15	111.50
1	A	115	C	C2-N3-C4	-5.30	117.25	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2271	G	C8-N9-C1'	-5.30	120.11	127.00
1	A	1802	A	C8-N9-C4	-5.30	103.68	105.80
1	A	1400	G	N3-C4-C5	-5.30	125.95	128.60
1	A	1613	G	N1-C2-N2	-5.30	111.43	116.20
1	A	2250	G	N9-C4-C5	5.30	107.52	105.40
1	A	811	U	C2-N1-C1'	-5.29	111.35	117.70
1	A	180	G	N9-C4-C5	-5.29	103.28	105.40
1	A	334	C	N1-C2-O2	-5.29	115.72	118.90
1	A	1268	A	C6-N1-C2	-5.29	115.42	118.60
1	A	2399	G	N7-C8-N9	-5.29	110.45	113.10
1	A	783	A	N3-C4-C5	5.29	130.50	126.80
1	A	1835	G	C5-C6-N1	5.29	114.14	111.50
1	A	210	C	C2-N1-C1'	-5.29	112.98	118.80
1	A	178	G	C8-N9-C4	5.29	108.52	106.40
1	A	2280	G	C5-C6-N1	5.29	114.14	111.50
1	A	72	U	N1-C2-N3	5.28	118.07	114.90
1	A	1524	G	N3-C4-C5	-5.28	125.96	128.60
1	A	2440	C	N3-C4-C5	-5.28	119.79	121.90
1	A	450	G	C6-C5-N7	-5.28	127.23	130.40
1	A	687	C	N3-C4-C5	5.28	124.01	121.90
1	A	1602	U	C5-C4-O4	5.28	129.07	125.90
1	A	2524	G	N7-C8-N9	-5.28	110.46	113.10
1	A	2626	C	C2-N1-C1'	-5.28	112.99	118.80
1	A	2762	G	C4-C5-N7	5.28	112.91	110.80
1	A	270(B)	A	N7-C8-N9	-5.28	111.16	113.80
1	A	2685	G	C4-C5-C6	5.28	121.97	118.80
1	A	798	G	C6-C5-N7	-5.28	127.23	130.40
1	A	802	A	C8-N9-C4	5.28	107.91	105.80
1	A	2713	A	N7-C8-N9	5.28	116.44	113.80
1	A	1385	G	C8-N9-C1'	5.27	133.86	127.00
1	A	2252	G	C8-N9-C4	5.27	108.51	106.40
1	A	2578	G	C8-N9-C4	5.27	108.51	106.40
1	A	1349	A	C5-C6-N6	-5.27	119.48	123.70
1	A	2383	G	C8-N9-C1'	-5.27	120.15	127.00
1	A	2432	A	C4-C5-N7	5.27	113.33	110.70
1	A	214	G	C4-N9-C1'	-5.27	119.65	126.50
1	A	2276	G	C5-C6-O6	-5.27	125.44	128.60
1	A	2564	A	N1-C6-N6	5.27	121.76	118.60
3	C	52	ARG	NE-CZ-NH1	-5.27	117.67	120.30
1	A	861	A	N7-C8-N9	5.27	116.43	113.80
1	A	945	A	C1'-O4'-C4'	-5.27	105.69	109.90
1	A	2555	U	C2-N1-C1'	-5.27	111.38	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2092	U	N1-C2-N3	5.26	118.06	114.90
1	A	2271	G	N3-C2-N2	5.26	123.58	119.90
1	A	2524	G	C8-N9-C4	5.26	108.51	106.40
1	A	677	A	N1-C2-N3	5.26	131.93	129.30
1	A	2035	G	C4-C5-N7	-5.26	108.69	110.80
1	A	138	G	N3-C4-C5	-5.26	125.97	128.60
1	A	1182	A	C8-N9-C4	-5.26	103.70	105.80
1	A	340	A	C5-C6-N1	-5.26	115.07	117.70
1	A	777	A	N1-C6-N6	-5.26	115.44	118.60
1	A	1261	C	C2-N1-C1'	-5.26	113.02	118.80
1	A	1282	U	C6-N1-C2	-5.25	117.85	121.00
1	A	1008	C	C6-N1-C2	5.25	122.40	120.30
1	A	1322	A	C6-N1-C2	-5.25	115.45	118.60
1	A	2570	G	C2-N3-C4	-5.25	109.27	111.90
1	A	114	U	C2-N1-C1'	5.25	124.00	117.70
1	A	2251	G	C6-N1-C2	-5.25	121.95	125.10
1	A	2624	G	C8-N9-C4	5.25	108.50	106.40
1	A	2055	C	C4-C5-C6	5.25	120.03	117.40
1	A	1663	C	C2-N3-C4	-5.25	117.28	119.90
1	A	704	G	N9-C4-C5	-5.25	103.30	105.40
1	A	746	A	C8-N9-C4	-5.25	103.70	105.80
1	A	1190	G	N1-C6-O6	5.25	123.05	119.90
1	A	1658	C	N3-C4-C5	5.25	124.00	121.90
1	A	1306	C	C6-N1-C2	5.25	122.40	120.30
1	A	49	A	N1-C2-N3	-5.24	126.68	129.30
1	A	1271	G	C8-N9-C1'	-5.24	120.18	127.00
1	A	2789	C	C6-N1-C2	5.24	122.40	120.30
1	A	2391	G	C4-C5-N7	-5.24	108.70	110.80
1	A	2574	G	N3-C4-N9	5.24	129.14	126.00
1	A	929	G	C6-C5-N7	-5.24	127.26	130.40
1	A	1655	A	N9-C4-C5	-5.24	103.70	105.80
1	A	2053	G	C6-C5-N7	-5.24	127.26	130.40
1	A	1345	C	C2-N3-C4	-5.24	117.28	119.90
1	A	2378	A	C8-N9-C4	5.24	107.89	105.80
1	A	2439	A	P-O3'-C3'	5.23	125.98	119.70
1	A	56	A	N1-C2-N3	5.23	131.92	129.30
1	A	1898	U	C4-C5-C6	5.23	122.84	119.70
1	A	1905	C	C6-N1-C2	5.23	122.39	120.30
1	A	1977	A	C8-N9-C4	5.23	107.89	105.80
1	A	2504	U	C5-C4-O4	5.23	129.04	125.90
1	A	845	G	C8-N9-C1'	-5.23	120.20	127.00
1	A	2250	G	N1-C6-O6	-5.23	116.76	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2581	G	C6-C5-N7	5.23	133.54	130.40
1	A	1318	C	N3-C4-C5	5.23	123.99	121.90
1	A	2049	G	C5-C6-O6	-5.23	125.47	128.60
1	A	258	G	C5-C6-N1	-5.22	108.89	111.50
1	A	1671	U	C6-N1-C2	-5.22	117.87	121.00
1	A	993	G	N9-C4-C5	5.22	107.49	105.40
1	A	698	C	C2-N1-C1'	-5.22	113.06	118.80
1	A	727	A	C5-N7-C8	-5.22	101.29	103.90
1	A	2247	A	N1-C2-N3	5.22	131.91	129.30
1	A	1842	G	C8-N9-C1'	-5.22	120.22	127.00
1	A	2014	A	N9-C4-C5	-5.22	103.71	105.80
1	A	131	G	C5-C6-N1	5.22	114.11	111.50
1	A	810	U	N3-C2-O2	-5.22	118.55	122.20
1	A	1021	A	C6-C5-N7	-5.22	128.65	132.30
1	A	1617	C	N3-C2-O2	5.22	125.55	121.90
1	A	1496	A	C8-N9-C4	-5.21	103.71	105.80
1	A	1677	A	C4-C5-C6	5.21	119.61	117.00
1	A	1783	A	N1-C6-N6	-5.21	115.47	118.60
1	A	729	G	C5-N7-C8	-5.21	101.69	104.30
1	A	2427	C	N1-C2-O2	-5.21	115.77	118.90
1	A	1589	C	N3-C4-C5	-5.21	119.81	121.90
1	A	945	A	C6-N1-C2	-5.21	115.47	118.60
1	A	2088	G	N1-C2-N3	5.21	127.03	123.90
1	A	2438	U	C2-N3-C4	-5.21	123.87	127.00
1	A	40	C	C2-N3-C4	-5.21	117.30	119.90
1	A	2239	G	N1-C2-N3	5.21	127.02	123.90
1	A	1624	G	N7-C8-N9	-5.20	110.50	113.10
1	A	1699	G	N9-C4-C5	5.20	107.48	105.40
1	A	140	A	N1-C6-N6	5.20	121.72	118.60
1	A	1398	C	N3-C4-C5	-5.20	119.82	121.90
1	A	2377	A	C8-N9-C4	5.20	107.88	105.80
1	A	2434	A	C8-N9-C4	-5.20	103.72	105.80
2	B	100	G	C8-N9-C4	5.20	108.48	106.40
1	A	74	A	C8-N9-C4	-5.20	103.72	105.80
1	A	332	A	N1-C2-N3	5.20	131.90	129.30
1	A	1443	G	C5-C6-O6	-5.20	125.48	128.60
1	A	1605	C	C5-C6-N1	5.20	123.60	121.00
1	A	1030	G	N7-C8-N9	-5.20	110.50	113.10
1	A	2717	G	N3-C4-C5	-5.20	126.00	128.60
1	A	1330	C	N3-C2-O2	5.19	125.54	121.90
1	A	2498	C	N3-C2-O2	5.19	125.54	121.90
1	A	2774	C	C6-N1-C2	5.19	122.38	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	83	G	C5-C6-O6	5.19	131.72	128.60
1	A	211	A	C5-C6-N6	5.19	127.85	123.70
1	A	678	C	N3-C4-N4	-5.19	114.36	118.00
1	A	1241	A	C2-N3-C4	-5.19	108.00	110.60
1	A	2197	U	C5-C6-N1	-5.19	120.10	122.70
1	A	247	G	N9-C4-C5	-5.19	103.32	105.40
1	A	270(Z)	G	N3-C4-N9	-5.19	122.89	126.00
1	A	1632	A	N1-C6-N6	5.19	121.72	118.60
1	A	422	A	N1-C6-N6	-5.19	115.49	118.60
1	A	443	A	N9-C4-C5	5.19	107.88	105.80
1	A	647	G	C8-N9-C4	-5.19	104.33	106.40
1	A	1558	A	C2-N3-C4	-5.19	108.01	110.60
1	A	2522	U	C5-C6-N1	-5.19	120.11	122.70
1	A	2670	A	C8-N9-C4	5.19	107.88	105.80
1	A	69	C	C4-C5-C6	5.19	119.99	117.40
1	A	70	G	N3-C4-C5	-5.18	126.01	128.60
1	A	397	G	N3-C4-C5	5.18	131.19	128.60
1	A	2032	G	N3-C4-N9	-5.18	122.89	126.00
1	A	2876	G	C8-N9-C4	5.18	108.47	106.40
1	A	2070	G	C5-N7-C8	5.18	106.89	104.30
1	A	74	A	N1-C6-N6	-5.18	115.49	118.60
1	A	473	G	N1-C2-N3	5.18	127.01	123.90
1	A	2093	G	N1-C6-O6	5.18	123.01	119.90
1	A	2547	U	C2-N3-C4	-5.18	123.89	127.00
1	A	455	C	N3-C4-C5	5.18	123.97	121.90
1	A	1926	U	C2-N1-C1'	-5.18	111.49	117.70
1	A	1671	U	N1-C2-O2	-5.17	119.18	122.80
1	A	1963	U	N3-C2-O2	-5.17	118.58	122.20
1	A	1604	C	C5-C4-N4	-5.17	116.58	120.20
1	A	1827	C	C5-C6-N1	-5.17	118.41	121.00
1	A	116	C	C4-C5-C6	5.17	119.98	117.40
1	A	1971	A	N9-C4-C5	-5.17	103.73	105.80
1	A	1603	A	N7-C8-N9	5.17	116.38	113.80
1	A	271	G	C2-N3-C4	-5.17	109.32	111.90
1	A	861	A	C8-N9-C4	-5.16	103.73	105.80
1	A	1138	G	C8-N9-C1'	-5.16	120.29	127.00
1	A	2253	G	N1-C6-O6	5.16	123.00	119.90
1	A	2578	G	C4-C5-N7	5.16	112.86	110.80
1	A	1622	G	C2-N3-C4	-5.16	109.32	111.90
1	A	734	A	C2-N3-C4	-5.16	108.02	110.60
1	A	1321	A	C2-N3-C4	-5.16	108.02	110.60
1	A	1555	G	N3-C4-N9	5.16	129.10	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2017	U	N1-C2-N3	5.16	118.00	114.90
1	A	520	G	N3-C4-N9	5.16	129.09	126.00
1	A	819	A	C5-N7-C8	-5.16	101.32	103.90
1	A	809	G	C6-C5-N7	-5.16	127.31	130.40
1	A	2846	G	N1-C6-O6	5.16	122.99	119.90
1	A	908	C	N1-C2-O2	-5.16	115.81	118.90
1	A	1770	G	C6-C5-N7	-5.16	127.31	130.40
1	A	2532	G	N9-C4-C5	-5.16	103.34	105.40
1	A	1996	C	C5-C6-N1	-5.15	118.42	121.00
1	A	1395	A	C5-C6-N1	5.15	120.28	117.70
1	A	302	C	C2-N1-C1'	-5.15	113.14	118.80
12	L	61	ARG	NE-CZ-NH2	-5.15	117.73	120.30
1	A	1616	A	C5-C6-N6	-5.14	119.58	123.70
1	A	2419	U	C2-N1-C1'	-5.14	111.53	117.70
1	A	2605	U	N1-C2-N3	5.14	117.99	114.90
1	A	2724	C	N3-C4-C5	5.14	123.96	121.90
1	A	1815	A	C4-C5-N7	-5.14	108.13	110.70
1	A	2505	G	N3-C4-N9	-5.14	122.92	126.00
1	A	2766	G	C8-N9-C4	-5.14	104.34	106.40
1	A	114(B)	A	N7-C8-N9	5.14	116.37	113.80
1	A	2078	C	N3-C4-C5	5.14	123.95	121.90
1	A	750	A	C5-C6-N6	-5.14	119.59	123.70
1	A	1005	C	N3-C4-C5	5.14	123.95	121.90
1	A	1024	G	N9-C4-C5	-5.14	103.34	105.40
1	A	1573	G	C8-N9-C4	5.14	108.45	106.40
1	A	2626	C	N3-C4-C5	5.14	123.95	121.90
1	A	588	U	N3-C4-C5	-5.13	111.52	114.60
18	R	18	LEU	CA-CB-CG	5.13	127.11	115.30
1	A	681	G	N1-C2-N3	5.13	126.98	123.90
1	A	62	C	C5-C6-N1	-5.13	118.43	121.00
1	A	104	U	C2-N1-C1'	-5.13	111.54	117.70
1	A	2564	A	C5-N7-C8	-5.13	101.33	103.90
1	A	1363	C	N1-C2-N3	5.13	122.79	119.20
1	A	2345	G	C5-C6-N1	-5.13	108.94	111.50
1	A	1673	U	C5-C4-O4	-5.13	122.82	125.90
1	A	561	G	C8-N9-C4	5.12	108.45	106.40
1	A	2762	G	C5-C6-O6	-5.12	125.53	128.60
1	A	1666	G	N3-C4-N9	-5.12	122.93	126.00
1	A	2445	G	C2-N3-C4	-5.12	109.34	111.90
1	A	2502	G	C4-C5-N7	5.12	112.85	110.80
1	A	2680	C	C6-N1-C2	5.12	122.35	120.30
1	A	2078	C	C5-C4-N4	-5.12	116.61	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2244	U	C2-N1-C1'	5.12	123.85	117.70
1	A	2330	G	N3-C4-C5	5.12	131.16	128.60
1	A	934	G	N1-C6-O6	5.12	122.97	119.90
1	A	802	A	C4-N9-C1'	5.12	135.51	126.30
1	A	1788	C	C2-N3-C4	-5.12	117.34	119.90
1	A	1235	G	C8-N9-C1'	-5.12	120.35	127.00
1	A	2627	G	C4-C5-N7	5.12	112.85	110.80
1	A	97	C	C5-C6-N1	-5.11	118.44	121.00
1	A	150	C	N3-C4-C5	5.11	123.94	121.90
1	A	773	U	N1-C2-N3	5.11	117.97	114.90
1	A	2054	A	C6-C5-N7	-5.11	128.72	132.30
1	A	2681	C	C4-C5-C6	5.11	119.96	117.40
1	A	336	C	C4-C5-C6	5.11	119.96	117.40
1	A	2392	A	C2-N3-C4	-5.11	108.05	110.60
1	A	2600	A	C8-N9-C4	5.11	107.84	105.80
1	A	428	A	N1-C2-N3	5.11	131.85	129.30
1	A	768	G	C5-N7-C8	5.11	106.85	104.30
1	A	1603	A	N1-C2-N3	5.11	131.85	129.30
1	A	2681	C	C6-N1-C2	5.11	122.34	120.30
1	A	1710	C	C6-N1-C2	5.11	122.34	120.30
1	A	1899	G	C5-C6-N1	-5.11	108.95	111.50
1	A	1960	A	N7-C8-N9	-5.11	111.25	113.80
1	A	2036	C	N3-C4-N4	5.11	121.57	118.00
1	A	845	G	C6-C5-N7	-5.10	127.34	130.40
1	A	2048	G	C5-C6-N1	5.10	114.05	111.50
1	A	2539	C	C5-C6-N1	-5.10	118.45	121.00
1	A	2673	G	C6-C5-N7	-5.10	127.34	130.40
1	A	207	A	C6-N1-C2	-5.10	115.54	118.60
1	A	65	C	N3-C2-O2	5.10	125.47	121.90
1	A	120	U	C6-N1-C2	5.10	124.06	121.00
1	A	203	C	C5-C6-N1	-5.10	118.45	121.00
1	A	1611	C	C5-C4-N4	-5.10	116.63	120.20
1	A	2086	U	N3-C2-O2	-5.10	118.63	122.20
1	A	2232	U	C2-N1-C1'	-5.10	111.58	117.70
1	A	190	A	C6-N1-C2	-5.10	115.54	118.60
1	A	332	A	N9-C4-C5	5.10	107.84	105.80
1	A	452	G	C5-C6-O6	-5.10	125.54	128.60
1	A	746	A	N9-C4-C5	5.10	107.84	105.80
1	A	2742	C	C6-N1-C2	5.10	122.34	120.30
1	A	655	A	N7-C8-N9	5.10	116.35	113.80
1	A	1341	U	C2-N3-C4	5.09	130.06	127.00
1	A	98	G	C4-C5-N7	5.09	112.84	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2580	U	C6-N1-C1'	5.09	128.33	121.20
1	A	140	A	C6-C5-N7	-5.09	128.74	132.30
1	A	465	G	C6-C5-N7	-5.09	127.34	130.40
1	A	640	C	N3-C4-C5	5.09	123.94	121.90
1	A	211	A	C8-N9-C4	5.09	107.83	105.80
1	A	595	C	C2-N3-C4	-5.09	117.36	119.90
1	A	1817	G	C2-N3-C4	-5.09	109.36	111.90
1	A	135	G	N1-C6-O6	5.09	122.95	119.90
1	A	677	A	N7-C8-N9	-5.09	111.26	113.80
1	A	784	A	C4-N9-C1'	-5.09	117.14	126.30
1	A	2006	C	C4-C5-C6	5.09	119.94	117.40
1	A	2462	U	C5-C4-O4	-5.09	122.85	125.90
1	A	294	A	N9-C4-C5	-5.08	103.77	105.80
1	A	795	C	C6-N1-C2	5.08	122.33	120.30
1	A	847	U	N1-C2-N3	5.08	117.95	114.90
1	A	2619	C	N3-C2-O2	5.08	125.46	121.90
1	A	458	G	N3-C2-N2	5.08	123.46	119.90
1	A	566	U	C5-C6-N1	-5.08	120.16	122.70
1	A	98	G	C6-C5-N7	-5.08	127.35	130.40
1	A	1904	G	N1-C6-O6	-5.08	116.85	119.90
1	A	2497	A	N3-C4-C5	5.08	130.35	126.80
3	C	215	LEU	CA-CB-CG	-5.08	103.62	115.30
1	A	1672	C	N3-C4-N4	5.08	121.55	118.00
1	A	2724	C	C2-N3-C4	-5.08	117.36	119.90
1	A	532	A	C5-N7-C8	5.08	106.44	103.90
1	A	789	A	N1-C6-N6	5.08	121.64	118.60
1	A	1378	A	N9-C4-C5	5.08	107.83	105.80
1	A	1571	A	C8-N9-C4	5.08	107.83	105.80
1	A	2238	G	C6-C5-N7	-5.08	127.36	130.40
1	A	1825	A	C5-C6-N1	5.07	120.24	117.70
1	A	867	C	N3-C4-C5	-5.07	119.87	121.90
1	A	240	G	C4-C5-N7	-5.07	108.77	110.80
1	A	509	C	C5-C6-N1	-5.07	118.47	121.00
1	A	1592	C	C5-C6-N1	-5.07	118.46	121.00
1	A	2698	U	C4-C5-C6	5.07	122.74	119.70
12	L	50	ARG	NE-CZ-NH2	-5.07	117.77	120.30
1	A	1128	A	C5-C6-N1	5.07	120.23	117.70
1	A	1128	A	C2-N3-C4	5.07	113.13	110.60
1	A	2715	C	C6-N1-C2	5.07	122.33	120.30
1	A	366(B)	C	N1-C2-O2	-5.07	115.86	118.90
1	A	748	G	N7-C8-N9	-5.07	110.57	113.10
1	A	1024	G	C8-N9-C1'	-5.07	120.42	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	797	C	C4-C5-C6	5.06	119.93	117.40
1	A	1286	A	C5-C6-N6	5.06	127.75	123.70
1	A	500	G	C8-N9-C4	5.06	108.42	106.40
1	A	582	G	N1-C2-N3	5.06	126.94	123.90
1	A	1225	G	N3-C2-N2	5.06	123.44	119.90
1	A	1825	A	N1-C2-N3	5.06	131.83	129.30
1	A	2435	A	C5-N7-C8	-5.06	101.37	103.90
1	A	771	G	C5-C6-O6	-5.06	125.56	128.60
1	A	2087	G	N1-C6-O6	5.06	122.94	119.90
1	A	201	C	C5-C6-N1	-5.06	118.47	121.00
1	A	600	G	C8-N9-C4	5.06	108.42	106.40
1	A	956	G	C2-N3-C4	-5.06	109.37	111.90
1	A	1631	A	N1-C2-N3	5.06	131.83	129.30
1	A	2233	U	N1-C2-O2	-5.06	119.26	122.80
1	A	2876	G	N9-C4-C5	-5.06	103.38	105.40
1	A	263	C	N3-C4-C5	5.05	123.92	121.90
1	A	2026	C	N1-C2-O2	-5.05	115.87	118.90
1	A	771	G	C4-C5-N7	5.05	112.82	110.80
1	A	1686	C	N1-C2-O2	-5.05	115.87	118.90
1	A	1496	A	C6-C5-N7	-5.05	128.77	132.30
1	A	1677	A	N9-C4-C5	5.05	107.82	105.80
1	A	1951	U	C5-C6-N1	-5.05	120.18	122.70
1	A	1634	A	C8-N9-C4	5.05	107.82	105.80
1	A	1687	G	C5-C6-N1	-5.05	108.98	111.50
1	A	1658	C	C6-N1-C1'	-5.04	114.75	120.80
1	A	2497	A	N3-C4-N9	-5.04	123.36	127.40
1	A	334	C	C3'-C2'-C1'	5.04	105.53	101.50
1	A	1368	G	N1-C6-O6	-5.04	116.87	119.90
1	A	389	G	C8-N9-C4	5.04	108.42	106.40
1	A	337	C	C2-N1-C1'	-5.04	113.26	118.80
1	A	441	U	C6-N1-C2	5.04	124.02	121.00
1	A	2572	A	N1-C6-N6	5.04	121.62	118.60
1	A	2448	A	C2-N3-C4	-5.04	108.08	110.60
1	A	1203	G	C4-C5-N7	-5.04	108.79	110.80
1	A	1351	C	C6-N1-C2	5.04	122.31	120.30
1	A	1633	G	C5-C6-N1	-5.04	108.98	111.50
1	A	1644	C	C2-N1-C1'	5.04	124.34	118.80
1	A	2323	G	C8-N9-C4	5.04	108.41	106.40
1	A	2327	A	N1-C6-N6	5.04	121.62	118.60
1	A	681	G	N3-C4-N9	5.03	129.02	126.00
1	A	1122	G	C4-N9-C1'	-5.03	119.96	126.50
1	A	686	G	N1-C6-O6	5.03	122.92	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	31	C	N3-C4-C5	5.03	123.91	121.90
1	A	202	U	C5-C4-O4	-5.03	122.88	125.90
1	A	1022	G	N1-C2-N3	5.03	126.92	123.90
1	A	2490	G	N9-C4-C5	-5.03	103.39	105.40
1	A	1653	G	C8-N9-C1'	-5.03	120.46	127.00
1	A	809	G	N1-C2-N3	5.03	126.92	123.90
1	A	1365	A	C5-N7-C8	-5.03	101.39	103.90
1	A	1499	C	C2-N1-C1'	-5.03	113.27	118.80
1	A	2731	G	C5-C6-N1	5.03	114.01	111.50
1	A	1661	G	C5-C6-N1	5.03	114.01	111.50
1	A	855	G	C8-N9-C4	-5.02	104.39	106.40
1	A	1299	G	C8-N9-C4	5.02	108.41	106.40
1	A	671	C	N3-C4-N4	5.02	121.52	118.00
1	A	1022	G	C4-C5-N7	-5.02	108.79	110.80
1	A	450	G	N3-C4-C5	-5.02	126.09	128.60
1	A	727	A	C8-N9-C4	-5.02	103.79	105.80
1	A	2333	A	C8-N9-C4	5.02	107.81	105.80
1	A	473	G	C8-N9-C4	5.02	108.41	106.40
1	A	1493	C	C6-N1-C1'	-5.02	114.78	120.80
1	A	1792	G	C8-N9-C4	-5.02	104.39	106.40
1	A	1375	C	C5-C4-N4	-5.02	116.69	120.20
1	A	803	U	N1-C2-N3	5.01	117.91	114.90
1	A	968	G	N9-C4-C5	-5.01	103.39	105.40
1	A	1185	C	N3-C4-C5	5.01	123.91	121.90
1	A	2330	G	N7-C8-N9	-5.01	110.59	113.10
1	A	530	G	C5-C6-O6	5.01	131.61	128.60
1	A	728	G	N1-C2-N3	5.01	126.91	123.90
1	A	1652	A	C5-C6-N6	-5.01	119.69	123.70
1	A	2374	C	C5-C6-N1	-5.01	118.50	121.00
1	A	1397	U	N1-C2-O2	5.01	126.30	122.80
1	A	1429	G	N1-C2-N3	5.01	126.90	123.90
1	A	1677	A	C8-N9-C4	-5.01	103.80	105.80
1	A	1928	A	C8-N9-C4	5.01	107.80	105.80
1	A	2447	G	N1-C2-N3	5.01	126.90	123.90
1	A	961	C	N3-C2-O2	-5.00	118.40	121.90
1	A	337	C	C6-N1-C2	5.00	122.30	120.30
1	A	2831	G	N3-C4-N9	-5.00	123.00	126.00

There are no chirality outliers.

All (11) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	C	237	GLU	Peptide
5	E	47	GLY	Peptide
12	L	29	LYS	Peptide
12	L	37	GLY	Peptide
12	L	39	LYS	Peptide
12	L	52	GLU	Peptide
12	L	9	ASN	Peptide
13	M	7	MET	Peptide
14	N	11	ASN	Peptide
17	Q	33	ARG	Peptide
17	Q	91	ASP	Peptide

5.2 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 hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	59442	0	29966	2583	0
2	B	2551	0	1295	148	0
3	C	2105	0	2182	345	0
4	D	1564	0	1629	224	0
5	E	1587	0	1632	155	0
6	F	1475	0	1537	150	0
7	G	1223	0	1282	121	0
8	H	1133	0	1220	133	0
9	I	254	0	275	8	0
10	J	1097	0	1168	158	0
11	K	932	0	994	95	0
12	L	1114	0	1187	279	0
13	M	1079	0	1127	172	0
14	N	960	0	1021	142	0
15	O	771	0	832	100	0
16	P	1144	0	1211	122	0
17	Q	953	0	1013	155	0
18	R	779	0	852	128	0
19	S	891	0	951	110	0
20	T	726	0	778	92	0
21	U	776	0	870	139	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	V	1492	0	1513	171	0
23	W	605	0	628	63	0
24	X	695	0	764	106	0
25	Y	521	0	575	81	0
26	Z	468	0	523	46	0
27	1	226	0	225	24	0
28	2	405	0	420	64	0
29	3	381	0	391	26	0
30	4	419	0	467	48	0
31	5	508	0	576	110	0
All	All	88276	0	59104	5676	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 39.

All (5676) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:59:LEU:HA	12:L:61:ARG:NE	1.55	1.20
12:L:57:THR:HG23	12:L:59:LEU:HD22	1.22	1.20
30:4:8:ASN:HD22	30:4:8:ASN:C	1.42	1.18
25:Y:2:LYS:HE2	25:Y:2:LYS:H	1.02	1.15
12:L:114:ILE:H	12:L:114:ILE:HD12	1.11	1.15
1:A:2015:A:H1'	28:2:2:ALA:HA	1.30	1.14
1:A:2439:A:H5'	1:A:2439:A:C8	1.83	1.13
25:Y:2:LYS:N	25:Y:2:LYS:HE2	1.63	1.12
13:M:81:VAL:O	13:M:82:ARG:HG2	1.49	1.11
4:D:101:ARG:HD3	4:D:169:ASN:HD21	1.13	1.11
14:N:12:ARG:HG2	14:N:16:HIS:CD2	1.84	1.11
1:A:1541:U:H3'	1:A:1542:G:H3'	1.13	1.11
23:W:23:VAL:HA	23:W:38:VAL:HG22	1.28	1.11
21:U:7:VAL:HG12	21:U:8:LYS:HG3	1.20	1.10
16:P:51:ARG:HG3	16:P:51:ARG:HH11	1.08	1.09
1:A:1174:A:H3'	1:A:1175:U:H5''	1.24	1.09
6:F:60:LEU:HD11	6:F:92:VAL:HG11	1.33	1.09
1:A:2781:A:H5''	1:A:2782:G:H5'	1.15	1.09
12:L:128:HIS:HA	12:L:147:LEU:HB3	1.15	1.09
4:D:201:THR:HG22	4:D:202:LYS:H	1.07	1.08
16:P:54:ARG:HG3	16:P:54:ARG:HH11	1.14	1.07
1:A:807:U:OP2	12:L:39:LYS:HG3	1.55	1.06
1:A:2389:G:H5''	1:A:2390:U:H5'	1.20	1.06
5:E:67:GLN:HG3	5:E:67:GLN:O	1.54	1.06
12:L:62:LEU:H	12:L:62:LEU:HD22	1.19	1.05

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:63:LYS:HD2	20:T:72:LYS:HA	1.05	1.05
12:L:33:ARG:H	12:L:36:LYS:HE2	1.21	1.05
4:D:201:THR:O	4:D:202:LYS:HD3	1.57	1.04
1:A:2272:U:H5''	1:A:2272:U:H6	1.20	1.04
1:A:1899:G:H22	1:A:1902:C:N4	1.54	1.04
1:A:2186:G:H2'	1:A:2187:G:H8	1.18	1.04
3:C:10:THR:HG23	3:C:13:ARG:HB3	1.36	1.03
1:A:2502:G:H5'	1:A:2503:A:H5''	1.34	1.03
12:L:33:ARG:HE	12:L:36:LYS:HD3	1.23	1.02
12:L:33:ARG:N	12:L:36:LYS:HE2	1.73	1.02
7:G:101:ARG:H	7:G:101:ARG:NE	1.57	1.01
20:T:50:LYS:H	20:T:87:GLN:HE22	1.07	1.01
1:A:1658:C:OP1	4:D:132:HIS:ND1	1.94	1.01
10:J:157:ARG:H	10:J:158:PRO:HD3	1.20	1.01
14:N:38:VAL:HB	14:N:39:PRO:HD3	1.42	1.01
1:A:1264:G:H5'	28:2:11:THR:HG21	1.42	1.01
5:E:164:ARG:HG2	5:E:164:ARG:HH11	1.22	1.00
25:Y:14:ARG:HA	25:Y:17:SER:HB2	1.41	1.00
30:4:9:ARG:HE	30:4:48:LYS:HB2	1.22	1.00
17:Q:88:ILE:HB	17:Q:90:VAL:HG12	1.42	1.00
13:M:75:THR:HA	13:M:88:GLY:HA2	1.43	0.99
3:C:33:LEU:O	3:C:35:LYS:N	1.93	0.99
10:J:157:ARG:H	10:J:158:PRO:CD	1.72	0.99
1:A:1614:A:H62	19:S:93:ALA:HB2	1.25	0.99
1:A:860:U:H5	1:A:917:A:N7	1.59	0.99
12:L:40:SER:O	12:L:41:ARG:HD3	1.62	0.99
10:J:154:GLN:HE21	10:J:155:ALA:HB3	1.27	0.98
6:F:84:LYS:HG3	6:F:85:GLY:H	1.24	0.98
1:A:1021:A:H62	1:A:1141:U:H3	1.03	0.98
16:P:24:PRO:HA	16:P:49:VAL:HG13	1.45	0.98
28:2:20:ARG:HA	28:2:23:HIS:HD2	1.28	0.98
19:S:12:ILE:HD13	19:S:17:VAL:HG13	1.44	0.98
12:L:64:LYS:O	12:L:66:GLY:N	1.94	0.98
31:5:30:ARG:O	31:5:31:HIS:HB3	1.61	0.98
4:D:201:THR:HG22	4:D:202:LYS:N	1.80	0.97
1:A:2729:G:H1'	4:D:187:ALA:HB2	1.44	0.97
6:F:128:ARG:HE	6:F:129:GLY:H	1.12	0.97
15:O:11:LYS:HG2	15:O:12:PHE:H	1.25	0.97
3:C:155:LEU:HD23	3:C:177:LEU:HD21	1.46	0.97
1:A:2579:C:O3'	4:D:131:ALA:HB2	1.65	0.97
1:A:676:A:H8	1:A:2069:G:H21	1.11	0.96
20:T:84:ALA:HB3	20:T:87:GLN:HE21	1.27	0.96

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:603:A:H61	1:A:655:A:C4'	1.77	0.96
1:A:1541:U:C3'	1:A:1542:G:H3'	1.93	0.96
10:J:38:LEU:HD23	10:J:157:ARG:HG3	1.45	0.96
30:4:19:ARG:HH11	30:4:19:ARG:HG3	1.27	0.96
18:R:2:PHE:CE2	18:R:13:ARG:HD3	2.01	0.96
1:A:1813:G:H1'	3:C:50:THR:HG21	1.47	0.96
12:L:57:THR:CG2	12:L:59:LEU:HD22	1.94	0.96
13:M:75:THR:HA	13:M:88:GLY:CA	1.96	0.95
1:A:1541:U:H3'	1:A:1542:G:C3'	1.95	0.95
25:Y:6:VAL:HG12	25:Y:10:LEU:HD11	1.48	0.95
3:C:106:ILE:H	3:C:106:ILE:HD12	1.30	0.95
20:T:11:PRO:HA	20:T:28:PHE:HB3	1.48	0.95
8:H:83:ALA:HB2	8:H:123:LEU:HD12	1.47	0.94
3:C:158:ALA:HB3	3:C:161:THR:HG21	1.47	0.94
1:A:2712:U:H1'	1:A:712(B):A:C8	2.00	0.94
1:A:1544:C:OP1	1:A:1544:C:H6	1.49	0.94
21:U:14:LEU:HD23	21:U:15:VAL:N	1.83	0.94
12:L:62:LEU:HD22	12:L:62:LEU:N	1.80	0.94
7:G:101:ARG:HE	7:G:101:ARG:N	1.66	0.94
1:A:973:A:OP2	18:R:78:LYS:NZ	2.00	0.94
30:4:8:ASN:ND2	30:4:8:ASN:C	2.18	0.94
12:L:38:GLN:HG3	12:L:39:LYS:H	1.33	0.94
12:L:114:ILE:HD11	12:L:127:ALA:HB3	1.49	0.93
6:F:38:VAL:HG22	6:F:93:THR:HG23	1.49	0.93
30:4:11:LYS:O	30:4:15:THR:HG23	1.69	0.93
6:F:5:LEU:HD21	27:1:50:THR:HG23	1.51	0.93
17:Q:92:ARG:HG2	18:R:11:GLN:NE2	1.84	0.93
1:A:252:G:OP2	12:L:50:ARG:NH2	2.02	0.93
27:1:59:VAL:HG12	27:1:60:GLU:H	1.34	0.93
1:A:547:A:H2'	1:A:548:A:C8	2.03	0.93
1:A:919:G:H5'	2:B:81:G:H1'	1.49	0.93
20:T:63:LYS:HD2	20:T:72:LYS:CA	1.97	0.92
13:M:74:TYR:HD2	13:M:91:GLU:HB2	1.35	0.92
10:J:105:LEU:HD12	10:J:106:LYS:H	1.34	0.92
1:A:1826:G:H4'	3:C:242:ARG:HE	1.32	0.92
1:A:1287:A:N7	14:N:107:ASP:HB3	1.84	0.92
1:A:1899:G:H22	1:A:1902:C:H41	1.05	0.92
1:A:1170:G:H1	1:A:1179:C:H42	1.17	0.92
22:V:48:PHE:HA	22:V:51:ALA:HB3	1.51	0.92
1:A:94:G:H21	25:Y:47:ASN:ND2	1.67	0.92
4:D:132:HIS:CD2	4:D:135:HIS:NE2	2.37	0.92
5:E:9:ILE:HD11	5:E:125:LEU:HG	1.48	0.92

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1021:A:H8	1:A:1021:A:H3'	1.34	0.92
1:A:330:A:HO2'	1:A:331:A:H8	1.16	0.92
1:A:860:U:O2'	1:A:861:A:H5'	1.69	0.92
1:A:2210:G:N2	1:A:2211:G:H5'	1.85	0.92
3:C:31:LYS:O	3:C:35:LYS:HB2	1.70	0.91
1:A:2068:U:H3	1:A:2430:A:H2	0.93	0.91
1:A:2392:A:H2	1:A:2424:C:H42	1.17	0.91
1:A:2267:A:H5''	1:A:2268:A:H5'	1.51	0.91
1:A:363(A):G:H2'	1:A:363(B):A:H8	1.33	0.91
1:A:1405:U:H2'	1:A:1406:U:H6	1.32	0.91
1:A:1405:U:H2'	1:A:1406:U:C6	2.05	0.91
1:A:662:G:OP1	12:L:18:ARG:HD2	1.71	0.91
25:Y:2:LYS:H	25:Y:2:LYS:CE	1.84	0.91
4:D:101:ARG:HD3	4:D:169:ASN:ND2	1.85	0.91
1:A:197:A:H5'	1:A:197:A:H8	1.34	0.91
12:L:35:HIS:O	12:L:36:LYS:HB2	1.69	0.91
18:R:39:LEU:HD12	18:R:47:VAL:HG11	1.51	0.91
6:F:76:SER:HB3	6:F:82:LEU:HB3	1.52	0.91
5:E:64:ILE:O	5:E:64:ILE:HD12	1.71	0.90
20:T:63:LYS:CD	20:T:72:LYS:HA	2.00	0.90
18:R:38:LEU:O	18:R:39:LEU:HD13	1.71	0.90
4:D:36:ARG:HD3	4:D:85:ASN:HD21	1.32	0.90
31:5:33:ASN:HD22	31:5:34:TRP:H	1.15	0.90
1:A:1771:C:HO2'	1:A:1786:A:H8	0.98	0.90
4:D:49:LEU:HD22	4:D:49:LEU:H	1.36	0.90
23:W:23:VAL:HA	23:W:38:VAL:CG2	2.02	0.90
1:A:1264:G:H5'	28:2:11:THR:CG2	2.01	0.90
17:Q:55:ARG:HA	17:Q:58:ARG:HD2	1.52	0.90
25:Y:35:LEU:HD12	25:Y:53:LEU:HD12	1.51	0.90
1:A:2185:C:H2'	1:A:2186:G:C8	2.07	0.90
17:Q:91:ASP:OD1	17:Q:96:ALA:HB2	1.72	0.90
12:L:59:LEU:HA	12:L:61:ARG:CD	2.01	0.90
3:C:96:HIS:CD2	3:C:102:LYS:HD3	2.06	0.90
14:N:10:LEU:HB3	14:N:17:ARG:NE	1.87	0.90
21:U:29:GLU:HB3	21:U:38:ILE:HB	1.53	0.90
1:A:2887:U:H2'	1:A:2888:C:H6	1.35	0.90
8:H:56:LYS:HA	8:H:59:ALA:HB3	1.53	0.90
15:O:69:VAL:O	15:O:72:ALA:HB3	1.70	0.89
15:O:11:LYS:HG2	15:O:12:PHE:N	1.87	0.89
4:D:5:LEU:HB2	4:D:51:PHE:HD2	1.37	0.89
1:A:810:U:H3	12:L:36:LYS:HZ1	1.18	0.89
1:A:1286:A:O2'	1:A:1288:U:OP2	1.89	0.89

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:79:C:H2'	2:B:80:U:O4'	1.72	0.89
1:A:2542:A:N3	1:A:2542:A:H5''	1.87	0.89
1:A:2439:A:H8	1:A:2439:A:C5'	1.85	0.89
1:A:94:G:H21	25:Y:47:ASN:HD22	1.19	0.89
17:Q:92:ARG:NH2	18:R:11:GLN:H	1.70	0.89
12:L:114:ILE:HD13	12:L:130:PHE:CD1	2.08	0.88
3:C:87:ASN:H	3:C:87:ASN:HD22	1.16	0.88
7:G:68:THR:O	7:G:72:ILE:HG12	1.71	0.88
1:A:2439:A:C8	1:A:2439:A:C5'	2.56	0.88
1:A:1437:C:H2'	1:A:1438:U:H6	1.37	0.88
19:S:4:LYS:HA	19:S:106:ILE:HG22	1.55	0.88
1:A:2439:A:H5'	1:A:2439:A:H8	1.34	0.88
3:C:67:PHE:CE2	3:C:106:ILE:HD11	2.07	0.88
12:L:33:ARG:HB3	12:L:36:LYS:HG3	1.54	0.88
1:A:2186:G:H2'	1:A:2187:G:C8	2.07	0.88
3:C:231:HIS:HD2	3:C:249:PRO:HA	1.37	0.88
13:M:74:TYR:CD2	13:M:91:GLU:HB2	2.08	0.88
26:Z:40:THR:HG23	26:Z:43:ILE:HG12	1.56	0.88
15:O:24:LEU:HD12	15:O:84:GLN:HB3	1.56	0.88
19:S:13:SER:HB3	19:S:16:LYS:HD3	1.54	0.88
24:X:13:ILE:HG12	24:X:63:ALA:HB2	1.55	0.88
31:5:33:ASN:HD22	31:5:34:TRP:N	1.70	0.87
18:R:35:LEU:HB2	18:R:57:VAL:HG13	1.55	0.87
1:A:1899:G:N2	1:A:1902:C:H41	1.71	0.87
31:5:32:LEU:HD23	31:5:33:ASN:H	1.37	0.87
15:O:24:LEU:O	15:O:86:ALA:HB3	1.73	0.87
14:N:55:ALA:HA	14:N:80:PHE:CE1	2.09	0.87
12:L:59:LEU:CA	12:L:61:ARG:NE	2.37	0.87
1:A:1021:A:H3'	1:A:1021:A:C8	2.08	0.87
1:A:2681:C:H5	1:A:2725:A:H62	0.91	0.87
21:U:81:LYS:HD3	21:U:97:ARG:H	1.39	0.87
15:O:89:ARG:HG3	15:O:94:TYR:HB2	1.57	0.87
8:H:77:LEU:O	8:H:143:SER:HB3	1.75	0.87
1:A:84:A:H5''	21:U:9:LYS:HD2	1.55	0.87
1:A:2267:A:H5''	1:A:2268:A:C5'	2.05	0.86
1:A:2068:U:N3	1:A:2430:A:H2	1.72	0.86
1:A:1209:G:H21	1:A:1210:A:H62	1.21	0.86
28:2:25:LEU:HD12	28:2:25:LEU:H	1.40	0.86
14:N:51:LEU:HD23	14:N:66:VAL:HG22	1.57	0.86
13:M:58:PHE:HD1	13:M:58:PHE:O	1.59	0.86
3:C:172:TYR:CD1	3:C:186:HIS:HA	2.10	0.86
6:F:34:LEU:HD23	6:F:161:THR:HG23	1.55	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:120:TRP:CD2	4:D:155:LYS:HD3	2.11	0.86
1:A:1587:A:H2'	1:A:1588:C:C6	2.11	0.86
30:4:19:ARG:CG	30:4:19:ARG:HH11	1.87	0.86
24:X:13:ILE:HB	24:X:62:VAL:HG23	1.57	0.86
30:4:8:ASN:HD22	30:4:9:ARG:N	1.73	0.86
1:A:603:A:H61	1:A:655:A:H4'	1.41	0.86
22:V:132:ASN:O	22:V:134:PRO:HD3	1.75	0.86
18:R:66:ARG:HD2	18:R:88:ARG:CZ	2.06	0.86
20:T:71:GLY:O	20:T:72:LYS:HG3	1.74	0.86
12:L:59:LEU:HA	12:L:61:ARG:HE	1.35	0.85
2:B:66:A:N6	2:B:107:U:H2'	1.90	0.85
19:S:29:LEU:HD21	19:S:33:ARG:HE	1.41	0.85
1:A:2219:G:H2'	1:A:2224:G:H5'	1.57	0.85
15:O:51:ALA:HB1	15:O:72:ALA:HB1	1.58	0.85
13:M:47:ILE:HG22	13:M:48:GLU:N	1.91	0.85
21:U:17:SER:HA	21:U:71:LYS:HD2	1.57	0.85
2:B:80:U:H2'	2:B:81:G:H21	1.39	0.85
1:A:2219:G:C2'	1:A:2224:G:H5'	2.06	0.85
1:A:2272:U:C6	1:A:2272:U:H5''	2.11	0.85
19:S:75:TYR:CE2	19:S:104:THR:HB	2.11	0.85
13:M:81:VAL:O	13:M:82:ARG:CG	2.25	0.85
16:P:56:GLY:O	16:P:59:THR:HG22	1.76	0.85
1:A:1343:G:H5'	1:A:1343:G:C8	2.11	0.85
7:G:44:VAL:HG12	7:G:45:VAL:H	1.42	0.85
1:A:141(A):A:H8	1:A:1595:G:H21	1.20	0.85
23:W:42:GLY:HA2	23:W:57:PHE:CD2	2.11	0.85
7:G:19:VAL:HG12	7:G:20:ALA:H	1.42	0.85
1:A:2502:G:H5'	1:A:2503:A:C5'	2.07	0.84
28:2:20:ARG:HA	28:2:23:HIS:CD2	2.11	0.84
12:L:16:ARG:C	12:L:16:ARG:HE	1.79	0.84
7:G:148:ILE:O	7:G:151:ILE:HG12	1.77	0.84
18:R:27:ALA:HB3	18:R:61:VAL:HG11	1.59	0.84
4:D:31:CYS:HB3	4:D:49:LEU:HB3	1.56	0.84
1:A:322:A:H3'	5:E:169:ASN:ND2	1.91	0.84
1:A:1156:A:C8	17:Q:51:LYS:HD2	2.12	0.84
12:L:33:ARG:HB3	12:L:36:LYS:CD	2.07	0.84
24:X:27:GLU:HB2	24:X:33:LYS:HA	1.59	0.84
10:J:142:ARG:HH11	10:J:142:ARG:HG3	1.42	0.84
20:T:9:LEU:HB2	20:T:29:TRP:O	1.77	0.84
17:Q:91:ASP:CG	17:Q:96:ALA:HB2	1.98	0.84
20:T:35:THR:O	20:T:39:ILE:HG12	1.77	0.84
8:H:113:ARG:HB2	8:H:130:TYR:CZ	2.12	0.84

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2307:G:H2'	1:A:2308:G:H5'	1.59	0.84
31:5:34:TRP:CG	31:5:35:GLN:N	2.40	0.84
7:G:46:GLU:HG3	7:G:51:ARG:NE	1.91	0.84
1:A:1495:A:H5''	1:A:1496:A:OP2	1.78	0.84
24:X:73:LEU:HD11	24:X:94:LEU:HB3	1.57	0.84
10:J:53:ILE:HG23	10:J:75:VAL:HG11	1.60	0.84
1:A:2577:A:H5''	1:A:2578:G:H5'	1.60	0.84
13:M:75:THR:CA	13:M:88:GLY:HA2	2.08	0.84
19:S:9:TYR:H	19:S:102:HIS:HD2	1.23	0.84
1:A:322:A:H3'	5:E:169:ASN:HD21	1.41	0.83
17:Q:83:LEU:HG	17:Q:88:ILE:HD11	1.59	0.83
21:U:81:LYS:CD	21:U:97:ARG:HB3	2.08	0.83
12:L:114:ILE:N	12:L:114:ILE:HD12	1.92	0.83
1:A:1401:G:H2'	1:A:1402:C:H6	1.43	0.83
7:G:84:SER:HA	7:G:133:VAL:O	1.77	0.83
1:A:96:G:H4'	25:Y:48:HIS:CE1	2.12	0.83
1:A:2391:G:OP1	31:5:32:LEU:HB2	1.79	0.83
4:D:201:THR:CG2	4:D:202:LYS:H	1.91	0.83
21:U:8:LYS:H	21:U:8:LYS:HZ2	1.24	0.83
10:J:85:VAL:HG22	10:J:89:LYS:HG3	1.59	0.83
1:A:2015:A:C1'	28:2:2:ALA:HA	2.07	0.83
16:P:53:ARG:HH11	16:P:53:ARG:HG2	1.42	0.83
1:A:2781:A:C5'	1:A:2782:G:H5'	2.04	0.83
8:H:100:ALA:HA	8:H:103:ARG:HB2	1.61	0.83
5:E:167:ALA:HB1	5:E:173:VAL:HG11	1.60	0.83
13:M:6:ARG:O	13:M:7:MET:HG3	1.79	0.83
1:A:1019:U:H3	1:A:114(B):A:N6	1.77	0.83
1:A:2787:C:H1'	4:D:62:PRO:HB3	1.60	0.83
8:H:92:VAL:HG23	8:H:96:ASP:HB2	1.60	0.83
1:A:1510:A:H2'	1:A:1511:A:C8	2.14	0.83
1:A:848:G:H2'	1:A:849:A:C8	2.14	0.83
1:A:2598:A:OP1	3:C:235:GLY:HA3	1.79	0.83
1:A:674:G:H1'	5:E:74:ARG:HD3	1.59	0.82
25:Y:9:GLN:O	25:Y:12:GLU:HB3	1.78	0.82
1:A:1055:G:H2'	1:A:1056:G:C8	2.14	0.82
17:Q:82:GLY:HA3	17:Q:113:ALA:HB1	1.62	0.82
13:M:68:ILE:HD13	13:M:103:MET:HG2	1.60	0.82
1:A:2327:A:H2'	1:A:2328:A:C8	2.14	0.82
30:4:12:ARG:HG3	30:4:12:ARG:HH11	1.43	0.82
3:C:166:GLN:HE21	3:C:166:GLN:CA	1.93	0.82
30:4:8:ASN:HD21	30:4:11:LYS:H	1.27	0.82
10:J:93:LYS:HE3	10:J:95:TYR:HE1	1.45	0.82

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:528:A:H8	1:A:528:A:H3'	1.44	0.82
11:K:113:LYS:O	11:K:117:LEU:HD12	1.79	0.82
11:K:77:ILE:HD13	16:P:74:ARG:HG3	1.62	0.82
11:K:99:PHE:HD1	11:K:99:PHE:N	1.77	0.82
1:A:2808:U:H2'	1:A:2809:A:H5'	1.59	0.82
12:L:33:ARG:HB3	12:L:36:LYS:CG	2.10	0.82
24:X:11:ARG:HB3	24:X:12:PRO:CD	2.10	0.82
5:E:8:GLN:CD	5:E:8:GLN:H	1.82	0.82
5:E:101:LEU:HD12	5:E:102:PRO:HD2	1.60	0.82
3:C:21:PHE:HB3	3:C:24:ILE:HD12	1.59	0.82
1:A:2377:A:H2'	1:A:2378:A:C8	2.15	0.81
1:A:2306:C:H3'	1:A:2307:G:H8	1.45	0.81
18:R:34:GLU:O	18:R:36:PRO:HD3	1.80	0.81
31:5:28:GLY:O	31:5:32:LEU:HD21	1.80	0.81
1:A:2393:A:H5''	12:L:62:LEU:HD12	1.60	0.81
26:Z:43:ILE:N	26:Z:43:ILE:HD13	1.94	0.81
18:R:24:LYS:HA	18:R:92:THR:HG23	1.61	0.81
1:A:1529:A:H62	1:A:1542:G:N2	1.78	0.81
1:A:1544:C:C6	1:A:1544:C:OP1	2.33	0.81
1:A:1174:A:C3'	1:A:1175:U:H5''	2.10	0.81
1:A:996:A:H4'	17:Q:92:ARG:NH1	1.95	0.81
1:A:860:U:C5	1:A:917:A:N7	2.48	0.81
1:A:242:G:H5''	31:5:63:PRO:HG2	1.61	0.81
1:A:2887:U:H2'	1:A:2888:C:C6	2.15	0.81
24:X:27:GLU:CD	24:X:33:LYS:HE3	2.01	0.81
1:A:1401:G:H2'	1:A:1402:C:C6	2.15	0.81
15:O:104:GLY:HA2	15:O:107:GLU:HG2	1.63	0.81
1:A:1858:G:H1'	1:A:1884:A:N6	1.96	0.81
11:K:35:VAL:HG23	11:K:65:THR:HG23	1.60	0.81
20:T:53:LYS:HB3	20:T:82:GLN:HB3	1.62	0.81
1:A:330:A:O2'	1:A:331:A:H8	1.62	0.81
23:W:42:GLY:HA2	23:W:57:PHE:CE2	2.15	0.81
16:P:51:ARG:CG	16:P:51:ARG:HH11	1.93	0.81
4:D:111:ARG:HD2	4:D:160:TYR:HE1	1.41	0.81
20:T:41:ASN:O	20:T:45:THR:HG23	1.81	0.81
1:A:1418:G:H8	1:A:1418:G:O5'	1.63	0.81
19:S:40:ASN:O	19:S:41:LYS:HG2	1.81	0.81
3:C:27:THR:HG23	3:C:27:THR:O	1.79	0.81
1:A:810:U:H3	12:L:36:LYS:NZ	1.79	0.81
17:Q:83:LEU:HD12	17:Q:113:ALA:HB2	1.61	0.81
6:F:128:ARG:NE	6:F:129:GLY:H	1.78	0.81
31:5:62:LEU:HB3	31:5:63:PRO:HD3	1.61	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:125:LEU:HD22	22:V:164:ALA:HB3	1.63	0.80
1:A:1210:A:H8	1:A:1210:A:C5'	1.94	0.80
14:N:63:ARG:HB2	14:N:63:ARG:HH11	1.46	0.80
1:A:2306:C:H3'	1:A:2307:G:C8	2.16	0.80
1:A:875:G:H4'	22:V:170:THR:HG21	1.63	0.80
16:P:62:THR:HG22	16:P:75:ILE:HG13	1.64	0.80
1:A:804:A:H5''	1:A:805:G:OP1	1.80	0.80
1:A:744:G:OP1	4:D:132:HIS:HB3	1.81	0.80
1:A:529:A:H62	1:A:2041:U:H3	1.27	0.80
10:J:118:PRO:O	10:J:121:VAL:HG22	1.81	0.80
12:L:16:ARG:HH21	12:L:17:LYS:HA	1.46	0.80
1:A:329:G:OP2	21:U:71:LYS:HE3	1.82	0.80
17:Q:92:ARG:HB2	17:Q:92:ARG:HH11	1.44	0.80
12:L:147:LEU:HD13	12:L:148:LEU:O	1.81	0.80
17:Q:92:ARG:CD	17:Q:94:ASN:HB3	2.12	0.80
1:A:363(A):G:H2'	1:A:363(B):A:C8	2.17	0.80
1:A:528:A:H2	1:A:2043:C:C5'	1.95	0.80
8:H:133:HIS:CD2	8:H:135:GLU:HG2	2.16	0.80
31:5:57:ARG:NH1	31:5:57:ARG:HB2	1.96	0.80
1:A:1658:C:OP1	4:D:132:HIS:O	2.00	0.80
5:E:89:VAL:HG12	5:E:90:PHE:N	1.97	0.80
25:Y:46:GLN:HB2	25:Y:49:LYS:NZ	1.96	0.80
5:E:103:LYS:HA	5:E:106:ARG:HG3	1.62	0.80
1:A:910:A:C5	13:M:13:GLN:OE1	2.34	0.80
11:K:101:PRO:O	11:K:102:VAL:HG13	1.82	0.80
1:A:2777:G:H5''	1:A:2778:A:H5'	1.64	0.80
1:A:197:A:H5'	1:A:197:A:C8	2.17	0.80
1:A:1110:G:HO2'	1:A:1111:A:H8	0.81	0.80
2:B:11:C:H3'	2:B:12:C:H6	1.46	0.80
1:A:557:U:H2'	1:A:558:G:H8	1.46	0.79
11:K:119:PRO:HB2	16:P:68:TYR:CE1	2.18	0.79
25:Y:17:SER:HB3	25:Y:18:PRO:HD3	1.63	0.79
1:A:1110:G:O2'	1:A:1111:A:H8	1.64	0.79
1:A:752:A:H3'	30:4:1:MET:HE3	1.65	0.79
1:A:1952:A:C5	11:K:22:ILE:HD11	2.18	0.79
18:R:39:LEU:HB3	18:R:47:VAL:HG21	1.65	0.79
3:C:70:TRP:HZ3	3:C:146:GLU:OE1	1.65	0.79
1:A:1487:G:H2'	1:A:1488:G:H8	1.45	0.79
1:A:605:C:H1'	1:A:657:U:O2'	1.82	0.79
23:W:36:ILE:HD12	23:W:58:THR:HG21	1.63	0.79
22:V:69:THR:HG22	22:V:90:VAL:HA	1.63	0.79
1:A:2208:U:O2'	1:A:2209:C:H5'	1.82	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:31:SER:HB3	15:O:34:HIS:HB2	1.64	0.79
1:A:2790:A:H2'	1:A:2791:C:H5''	1.61	0.79
19:S:29:LEU:CD2	19:S:33:ARG:HE	1.94	0.79
11:K:90:GLN:O	11:K:91:LEU:HB2	1.83	0.79
12:L:132:LYS:H	12:L:132:LYS:HD3	1.48	0.79
1:A:1437:C:H2'	1:A:1438:U:C6	2.18	0.79
24:X:13:ILE:HG12	24:X:63:ALA:CB	2.13	0.79
20:T:84:ALA:HB3	20:T:87:GLN:NE2	1.97	0.79
6:F:39:ILE:HG12	6:F:157:ILE:HG22	1.64	0.79
16:P:51:ARG:HG3	16:P:51:ARG:NH1	1.88	0.79
1:A:1373:A:H2'	1:A:1374:G:O4'	1.82	0.79
17:Q:91:ASP:OD2	17:Q:96:ALA:HB2	1.81	0.78
16:P:54:ARG:CG	16:P:54:ARG:HH11	1.94	0.78
18:R:100:ARG:HG3	18:R:100:ARG:O	1.81	0.78
24:X:19:GLN:HG3	24:X:41:ARG:HE	1.47	0.78
21:U:17:SER:CA	21:U:71:LYS:HD2	2.13	0.78
10:J:63:PRO:O	17:Q:64:ARG:HD2	1.81	0.78
1:A:528:A:C8	1:A:528:A:H3'	2.19	0.78
1:A:1046:A:H3'	1:A:1047:G:H5''	1.66	0.78
5:E:157:VAL:HB	5:E:194:MET:HB3	1.65	0.78
1:A:106:C:H1'	21:U:2:ARG:HE	1.49	0.78
1:A:1658:C:OP1	4:D:132:HIS:CE1	2.36	0.78
20:T:57:LEU:CD1	20:T:78:LYS:HB2	2.14	0.78
1:A:971:C:H2'	1:A:972:G:H5'	1.65	0.78
28:2:41:PRO:HG2	28:2:44:THR:HG21	1.65	0.78
1:A:661:C:H4'	12:L:18:ARG:HG2	1.64	0.78
20:T:24:GLY:HA3	20:T:82:GLN:HE22	1.48	0.78
3:C:8:PRO:HB3	3:C:14:ARG:HB2	1.65	0.78
12:L:33:ARG:HB3	12:L:36:LYS:HD3	1.66	0.78
4:D:51:PHE:CD1	4:D:52:LEU:HD12	2.18	0.78
3:C:87:ASN:N	3:C:87:ASN:HD22	1.79	0.78
21:U:2:ARG:HG2	21:U:3:VAL:HG23	1.66	0.78
1:A:2875:C:H4'	16:P:5:ALA:HB2	1.66	0.78
14:N:38:VAL:HB	14:N:39:PRO:CD	2.14	0.78
1:A:389:G:N1	12:L:71:VAL:HG23	1.99	0.77
7:G:30:LYS:HE2	7:G:80:SER:O	1.84	0.77
12:L:114:ILE:HD13	12:L:130:PHE:CE1	2.20	0.77
14:N:11:ASN:OD1	14:N:12:ARG:N	2.17	0.77
20:T:49:VAL:HG21	20:T:83:VAL:HG12	1.65	0.77
1:A:1021:A:N6	1:A:1141:U:H3	1.82	0.77
3:C:125:ILE:O	3:C:125:ILE:HG22	1.84	0.77
3:C:106:ILE:N	3:C:106:ILE:HD12	1.98	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:28:GLU:HB3	3:C:29:PRO:HD3	1.67	0.77
12:L:97:PRO:HD3	12:L:126:VAL:HG12	1.66	0.77
3:C:33:LEU:O	3:C:36:PRO:HD2	1.84	0.77
12:L:16:ARG:O	12:L:16:ARG:NE	2.17	0.77
14:N:2:ARG:C	14:N:4:LEU:H	1.87	0.77
10:J:81:ASP:CG	10:J:147:ALA:HB1	2.04	0.77
5:E:164:ARG:HG3	5:E:175:THR:OG1	1.84	0.77
1:A:2687:U:C4	1:A:2688:U:C5	2.73	0.77
11:K:99:PHE:CD1	11:K:99:PHE:N	2.50	0.77
1:A:2286:A:H4'	1:A:2287:A:O4'	1.85	0.77
7:G:88:LEU:HB3	7:G:90:LYS:HD3	1.67	0.77
1:A:2562:U:H1'	11:K:23:ARG:HH11	1.49	0.77
1:A:2531:A:H5'	7:G:157:TYR:CZ	2.19	0.77
30:4:11:LYS:HD2	30:4:15:THR:CG2	2.14	0.77
1:A:114(B):A:H4'	10:J:48:ARG:HH22	1.48	0.77
10:J:38:LEU:CD2	10:J:157:ARG:HG3	2.15	0.77
4:D:77:ILE:HD13	4:D:195:LEU:HD12	1.65	0.77
11:K:98:VAL:HG11	11:K:114:ILE:HG23	1.66	0.77
3:C:10:THR:HG23	3:C:13:ARG:CB	2.13	0.77
7:G:101:ARG:H	7:G:101:ARG:HE	0.81	0.77
1:A:323:G:H5'	5:E:169:ASN:HD21	1.48	0.77
1:A:7:G:H1	1:A:2896:C:H42	1.31	0.77
21:U:7:VAL:HG12	21:U:8:LYS:CG	2.07	0.77
20:T:31:HIS:ND1	20:T:32:PRO:HD2	2.00	0.77
3:C:25:THR:CG2	3:C:82:ILE:H	1.98	0.77
31:5:52:LYS:H	31:5:53:PRO:HD2	1.50	0.77
31:5:62:LEU:HB3	31:5:63:PRO:CD	2.15	0.77
10:J:105:LEU:CD1	10:J:106:LYS:H	1.98	0.77
12:L:7:ARG:O	12:L:10:PRO:HD3	1.85	0.77
2:B:78:A:C2	2:B:99:A:C4	2.73	0.77
21:U:44:ILE:HG22	21:U:45:VAL:H	1.48	0.76
1:A:71:A:H2	20:T:31:HIS:CE1	2.03	0.76
8:H:5:LEU:HD23	8:H:5:LEU:H	1.50	0.76
5:E:203:GLN:HA	5:E:206:ILE:O	1.85	0.76
1:A:1520:U:H2'	1:A:1521:G:O4'	1.84	0.76
1:A:733:G:N7	1:A:761:A:C6	2.53	0.76
1:A:270(H):C:H2'	1:A:270(I):C:H6	1.49	0.76
5:E:34:TRP:HB2	12:L:10:PRO:O	1.86	0.76
1:A:226:G:N2	1:A:228:A:H62	1.83	0.76
12:L:33:ARG:HG2	12:L:34:GLY:N	2.00	0.76
3:C:87:ASN:ND2	3:C:87:ASN:N	2.32	0.76
1:A:911:A:H2'	13:M:9:TYR:OH	1.83	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:960:A:H5''	1:A:961:C:OP2	1.85	0.76
6:F:128:ARG:HE	6:F:129:GLY:N	1.84	0.76
12:L:16:ARG:NH1	12:L:18:ARG:HG3	2.01	0.76
14:N:97:VAL:HA	14:N:113:LEU:O	1.85	0.76
1:A:1614:A:H62	19:S:93:ALA:CB	1.98	0.76
3:C:233:HIS:CE1	3:C:247:ALA:H	2.03	0.76
4:D:54:GLN:HG2	4:D:76:ARG:HG3	1.66	0.76
18:R:25:LEU:H	18:R:92:THR:HG21	1.47	0.76
1:A:286:C:H2'	1:A:287:C:H6	1.48	0.76
21:U:15:VAL:HG22	21:U:72:VAL:HG12	1.66	0.76
12:L:50:ARG:HD2	12:L:51:PHE:N	2.01	0.76
1:A:780:G:H21	1:A:783:A:H62	1.34	0.76
7:G:85:LYS:HD3	7:G:86:GLU:OE2	1.85	0.76
1:A:256:A:C2'	1:A:257:A:H5'	2.16	0.76
1:A:760:G:C2'	1:A:761:A:H5'	2.16	0.76
10:J:27:TYR:CD2	17:Q:100:VAL:HG11	2.21	0.76
1:A:1379:A:H4'	1:A:1380:G:OP2	1.86	0.76
21:U:50:ARG:HD3	21:U:51:VAL:H	1.50	0.76
6:F:77:ILE:HG22	6:F:80:PHE:H	1.50	0.76
1:A:2786:U:H4'	4:D:65:GLY:O	1.85	0.76
12:L:57:THR:HG23	12:L:59:LEU:CD2	2.12	0.75
16:P:100:TYR:HB3	16:P:103:ARG:NH1	2.01	0.75
1:A:1045:A:H5''	1:A:1047:G:O4'	1.86	0.75
1:A:966:G:H2'	1:A:967:C:H6	1.49	0.75
1:A:1778:U:H2'	1:A:1784:A:N6	2.01	0.75
6:F:114:ILE:HB	6:F:117:PHE:HB2	1.67	0.75
22:V:136:PHE:C	22:V:137:ILE:HD12	2.05	0.75
1:A:2593:U:H2'	1:A:2594:C:C6	2.21	0.75
1:A:857:C:H4'	23:W:23:VAL:HG21	1.68	0.75
21:U:76:CYS:HB3	21:U:77:PRO:HD2	1.68	0.75
4:D:117:MET:CE	4:D:124:GLY:HA3	2.17	0.75
5:E:132:VAL:HG23	5:E:133:ASN:H	1.51	0.75
30:4:8:ASN:ND2	30:4:11:LYS:H	1.85	0.75
2:B:8:U:H5''	15:O:15:ARG:HH22	1.51	0.75
6:F:41:GLN:HB3	6:F:43:LEU:HD13	1.67	0.75
1:A:547:A:H2'	1:A:548:A:H8	1.48	0.75
2:B:66:A:H61	2:B:107:U:H2'	1.50	0.75
1:A:1475:G:N2	1:A:1519:G:C4	2.54	0.75
3:C:242:ARG:HG2	3:C:242:ARG:HH11	1.51	0.75
2:B:15:A:H5'	2:B:16:G:C8	2.22	0.75
24:X:46:LEU:HD21	24:X:61:ARG:HE	1.52	0.75
21:U:81:LYS:HD3	21:U:97:ARG:N	2.01	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:133:LEU:C	3:C:135:PHE:H	1.89	0.75
1:A:773:U:H4'	3:C:47:GLY:HA3	1.69	0.75
1:A:861:A:H2'	1:A:862:G:H5'	1.68	0.75
1:A:2210:G:H3'	1:A:2210:G:N3	2.02	0.75
3:C:87:ASN:ND2	3:C:87:ASN:H	1.84	0.75
1:A:1132:A:O2'	1:A:1133:U:H5'	1.86	0.75
7:G:95:ARG:HH22	7:G:97:ARG:NH2	1.83	0.75
18:R:20:LEU:HD23	18:R:94:LEU:HB2	1.69	0.75
6:F:109:VAL:HG11	6:F:142:PRO:HG3	1.66	0.75
3:C:131:LEU:HA	3:C:190:TYR:CE2	2.22	0.75
1:A:2015:A:H1'	28:2:2:ALA:CA	2.14	0.75
21:U:27:VAL:HG23	21:U:27:VAL:O	1.85	0.75
18:R:40:LEU:HD23	18:R:47:VAL:HG23	1.67	0.75
8:H:83:ALA:CB	8:H:123:LEU:HD12	2.16	0.75
1:A:2688:U:H3'	1:A:2688:U:O2	1.86	0.75
1:A:1541:U:H5''	1:A:1543:A:P	2.27	0.75
4:D:111:ARG:HA	14:N:2:ARG:HD3	1.68	0.75
3:C:132:PRO:HG3	3:C:190:TYR:CE1	2.22	0.75
1:A:1543:A:H3'	1:A:1543:A:H8	1.51	0.74
1:A:917:A:H5'	1:A:918:A:OP2	1.87	0.74
25:Y:6:VAL:O	25:Y:10:LEU:HG	1.86	0.74
13:M:66:ILE:HG22	13:M:104:PHE:CD2	2.22	0.74
21:U:47:LYS:HA	21:U:60:PHE:CE2	2.21	0.74
2:B:18:G:H1	2:B:65:C:H42	1.35	0.74
21:U:8:LYS:HD2	21:U:13:VAL:HG21	1.69	0.74
1:A:1596:A:C2'	1:A:1597:A:H5'	2.17	0.74
4:D:5:LEU:N	4:D:5:LEU:HD23	2.02	0.74
1:A:257:A:H2'	1:A:258:G:O5'	1.87	0.74
16:P:26:ASP:HB2	16:P:90:GLN:O	1.87	0.74
18:R:40:LEU:H	18:R:47:VAL:HG22	1.51	0.74
15:O:15:ARG:O	15:O:19:LYS:HG3	1.87	0.74
1:A:662:G:P	12:L:18:ARG:HD2	2.27	0.74
10:J:38:LEU:HD12	10:J:39:ILE:N	2.02	0.74
20:T:28:PHE:N	20:T:28:PHE:CD1	2.55	0.74
1:A:1209:G:H21	1:A:1210:A:N6	1.85	0.74
1:A:1331:A:HO2'	1:A:1332:G:H8	1.36	0.74
1:A:388:G:OP1	24:X:33:LYS:HB3	1.86	0.74
1:A:333:G:C6	1:A:334:C:N4	2.55	0.74
1:A:737:C:C2'	1:A:738:G:H5'	2.18	0.74
1:A:1188:U:O2'	1:A:1189:A:H5'	1.87	0.74
3:C:238:GLY:O	3:C:239:ARG:C	2.26	0.74
24:X:31:GLY:O	24:X:32:LYS:HB2	1.87	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:179:ASP:OD1	22:V:180:VAL:HG13	1.87	0.74
18:R:13:ARG:HD2	18:R:13:ARG:C	2.08	0.74
25:Y:28:LYS:HE3	25:Y:56:GLN:HE22	1.50	0.74
1:A:17:G:H4'	17:Q:25:TRP:CH2	2.22	0.74
28:2:40:LYS:NZ	28:2:49:CYS:HB3	2.03	0.74
1:A:1434:A:H61	1:A:1558:A:N6	1.83	0.74
18:R:91:TYR:O	18:R:91:TYR:CG	2.39	0.74
1:A:2846:G:H2'	1:A:2847:U:H6	1.53	0.74
1:A:1566:A:OP1	3:C:211:ARG:NH1	2.21	0.74
1:A:1614:A:N6	19:S:87:PRO:HA	2.02	0.74
1:A:1019:U:H3	1:A:114(B):A:H62	1.35	0.74
1:A:1639:U:C2'	1:A:1640:C:H5''	2.18	0.74
3:C:79:VAL:HG21	3:C:111:LEU:HD11	1.70	0.74
1:A:1799:G:H8	3:C:181:GLU:OE1	1.69	0.74
1:A:2681:C:H5	1:A:2725:A:N6	1.76	0.74
1:A:2219:G:H2'	1:A:2224:G:C5'	2.18	0.74
8:H:66:GLU:HG2	8:H:67:ARG:NH2	2.02	0.74
5:E:164:ARG:HG2	5:E:164:ARG:NH1	1.98	0.74
12:L:47:ASP:OD1	12:L:49:ARG:HG2	1.88	0.74
10:J:154:GLN:NE2	10:J:155:ALA:HB3	2.03	0.74
1:A:1826:G:OP1	3:C:233:HIS:HD2	1.71	0.74
1:A:1404:C:O2	1:A:1404:C:H2'	1.87	0.74
3:C:176:ARG:HG2	3:C:176:ARG:HH11	1.52	0.74
2:B:49:C:OP1	15:O:97:ARG:HG3	1.87	0.74
14:N:54:LEU:HD22	14:N:66:VAL:HG23	1.70	0.73
6:F:36:LYS:HB3	6:F:160:VAL:HB	1.70	0.73
2:B:21:G:H1	2:B:62:C:H42	1.36	0.73
1:A:140:A:H8	1:A:1408:C:HO2'	1.36	0.73
1:A:2784:C:H1'	4:D:37:ARG:HH12	1.53	0.73
12:L:38:GLN:CG	12:L:39:LYS:H	2.00	0.73
1:A:2389:G:H5''	1:A:2390:U:C5'	2.12	0.73
13:M:54:MET:HG2	13:M:64:ILE:HD13	1.70	0.73
3:C:223:GLY:HA3	3:C:231:HIS:CE1	2.23	0.73
13:M:58:PHE:CD1	13:M:58:PHE:O	2.41	0.73
1:A:1495:A:N3	1:A:1496:A:C2	2.56	0.73
4:D:167:VAL:HG22	4:D:170:LEU:HD21	1.71	0.73
13:M:141:GLN:H	22:V:53:ILE:HB	1.52	0.73
1:A:1210:A:H8	1:A:1210:A:H5''	1.51	0.73
7:G:92:ILE:HG22	7:G:93:GLY:N	2.01	0.73
13:M:20:ALA:HB1	13:M:99:PRO:O	1.89	0.73
1:A:2101:G:H2'	1:A:2102:U:H5'	1.70	0.73
5:E:183:VAL:O	5:E:187:VAL:HG23	1.87	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1358:G:O2'	1:A:1359:A:H5''	1.89	0.73
22:V:58:VAL:HA	22:V:67:LEU:O	1.88	0.73
5:E:101:LEU:HD12	5:E:102:PRO:CD	2.18	0.73
21:U:42:VAL:HG12	21:U:65:ALA:HB3	1.71	0.73
1:A:1963:U:O2	1:A:1963:U:H2'	1.87	0.73
12:L:49:ARG:CG	12:L:50:ARG:H	2.02	0.73
1:A:2210:G:H21	1:A:2211:G:C5'	2.02	0.73
24:X:11:ARG:HH11	24:X:11:ARG:HG3	1.54	0.73
13:M:76:LYS:N	13:M:88:GLY:HA2	2.04	0.73
3:C:31:LYS:HG3	3:C:33:LEU:HG	1.71	0.73
3:C:233:HIS:HE1	3:C:247:ALA:H	1.37	0.73
4:D:111:ARG:HA	14:N:2:ARG:HH11	1.53	0.73
1:A:2658:C:H4'	7:G:158:HIS:CE1	2.24	0.73
12:L:33:ARG:HE	12:L:36:LYS:CD	2.00	0.72
2:B:70:C:H2'	2:B:71:C:H6	1.54	0.72
24:X:11:ARG:HB2	24:X:13:ILE:HG22	1.71	0.72
24:X:27:GLU:CB	24:X:33:LYS:HG3	2.19	0.72
19:S:9:TYR:H	19:S:102:HIS:CD2	2.07	0.72
3:C:30:GLU:HG3	3:C:63:ARG:CZ	2.18	0.72
1:A:540:G:H2'	1:A:541:C:H6	1.54	0.72
18:R:64:HIS:CD2	18:R:92:THR:HG22	2.23	0.72
24:X:40:ARG:HG2	24:X:41:ARG:N	2.04	0.72
12:L:114:ILE:HD11	12:L:127:ALA:CB	2.18	0.72
25:Y:1:MET:SD	25:Y:5:GLU:HG2	2.29	0.72
2:B:82:G:O2'	2:B:83:G:H5'	1.89	0.72
24:X:46:LEU:CD2	24:X:61:ARG:HE	2.03	0.72
1:A:966:G:C4	1:A:967:C:C5	2.76	0.72
1:A:277:C:H3'	1:A:278:A:H5''	1.71	0.72
22:V:13:GLU:HB3	22:V:18:LEU:HD11	1.71	0.72
18:R:38:LEU:O	18:R:52:VAL:HG12	1.89	0.72
25:Y:31:GLU:O	25:Y:35:LEU:HB2	1.89	0.72
4:D:120:TRP:CE3	4:D:155:LYS:HD3	2.23	0.72
5:E:50:SER:HA	5:E:92:PRO:O	1.90	0.72
3:C:228:PRO:HD3	3:C:234:GLY:O	1.89	0.72
1:A:2415:G:H1'	12:L:67:MET:HE1	1.71	0.72
21:U:13:VAL:HG11	21:U:72:VAL:HB	1.72	0.72
18:R:13:ARG:HD2	18:R:14:VAL:N	2.03	0.72
4:D:5:LEU:HB2	4:D:51:PHE:CD2	2.23	0.72
5:E:117:ARG:HD2	5:E:190:GLU:O	1.89	0.72
3:C:76:PRO:HB3	3:C:116:GLN:HE21	1.54	0.72
16:P:1:MET:C	16:P:3:ARG:H	1.91	0.72
17:Q:5:LYS:HG2	17:Q:6:THR:N	2.03	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:38:LEU:HD23	10:J:157:ARG:CG	2.19	0.72
3:C:106:ILE:H	3:C:106:ILE:CD1	2.03	0.72
17:Q:114:LYS:O	17:Q:117:GLN:HB2	1.90	0.72
1:A:2009:G:C2'	1:A:2010:G:H5'	2.19	0.72
24:X:10:LYS:O	24:X:11:ARG:HG2	1.88	0.72
7:G:144:VAL:O	7:G:148:ILE:HG12	1.89	0.72
1:A:774:A:H2	1:A:787:U:HO2'	1.37	0.72
1:A:534:U:O2'	17:Q:49:HIS:CD2	2.42	0.72
1:A:301:G:C4	1:A:302:C:C5	2.77	0.72
1:A:2285:C:H2'	1:A:2286:A:H5''	1.71	0.72
1:A:1019:U:H2'	1:A:1020:A:H8	1.55	0.72
1:A:2787:C:C1'	4:D:62:PRO:HB3	2.18	0.72
30:4:12:ARG:HG3	30:4:12:ARG:NH1	2.04	0.72
11:K:2:ILE:HG12	11:K:8:LEU:HD11	1.72	0.72
1:A:1396:U:O2	1:A:1396:U:H2'	1.88	0.72
21:U:81:LYS:NZ	21:U:98:VAL:HG12	2.05	0.72
1:A:1388:G:H2'	1:A:1389:G:H8	1.55	0.72
18:R:27:ALA:CB	18:R:61:VAL:HG11	2.20	0.71
13:M:120:ILE:O	13:M:123:HIS:HB2	1.90	0.71
31:5:30:ARG:O	31:5:31:HIS:CB	2.37	0.71
4:D:11:MET:HB2	4:D:23:VAL:O	1.89	0.71
1:A:2781:A:H5''	1:A:2782:G:C5'	2.09	0.71
15:O:87:PHE:CE1	15:O:102:ALA:HB2	2.25	0.71
8:H:79:ILE:HG22	8:H:81:VAL:HG23	1.72	0.71
1:A:2443:C:O2'	1:A:2444:G:H5'	1.89	0.71
1:A:1541:U:O3'	1:A:1543:A:OP1	2.07	0.71
2:B:15:A:H5'	2:B:16:G:H8	1.54	0.71
1:A:773:U:C4'	3:C:47:GLY:HA3	2.20	0.71
1:A:2639:A:H2'	1:A:2640:G:H5'	1.72	0.71
22:V:23:LYS:HB3	22:V:38:TYR:HD1	1.54	0.71
6:F:84:LYS:HG3	6:F:85:GLY:N	2.04	0.71
11:K:19:ILE:H	11:K:19:ILE:HD13	1.54	0.71
12:L:16:ARG:NH2	12:L:18:ARG:H	1.89	0.71
1:A:2305:A:H5''	6:F:134:GLY:HA3	1.73	0.71
12:L:101:VAL:HB	12:L:106:LEU:HB3	1.71	0.71
1:A:1543:A:H3'	1:A:1543:A:C8	2.26	0.71
6:F:5:LEU:CD2	6:F:6:ALA:H	2.03	0.71
5:E:9:ILE:HD11	5:E:125:LEU:CG	2.21	0.71
1:A:256:A:O2'	1:A:257:A:H5'	1.90	0.71
3:C:121:PRO:HB3	3:C:135:PHE:CE2	2.25	0.71
1:A:2469:A:H2	1:A:2481:G:H21	1.39	0.71
1:A:1966:A:H4'	1:A:1967:C:OP1	1.91	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:39:VAL:HG21	22:V:44:PHE:HB2	1.71	0.71
1:A:1817:G:OP1	3:C:88:ARG:NH2	2.21	0.71
16:P:53:ARG:HG2	16:P:53:ARG:NH1	2.01	0.71
24:X:37:ILE:HG23	24:X:38:SER:N	2.06	0.71
12:L:49:ARG:HG3	12:L:50:ARG:H	1.54	0.71
1:A:1329:U:H5''	1:A:1330:C:H5	1.56	0.71
21:U:81:LYS:HZ3	21:U:98:VAL:N	1.88	0.71
1:A:357:A:H2'	1:A:358:U:H6	1.54	0.71
6:F:50:ALA:O	6:F:53:LEU:HB3	1.91	0.71
1:A:580:C:H2'	1:A:581:C:H6	1.55	0.71
12:L:146:VAL:HG13	12:L:147:LEU:HD12	1.73	0.71
6:F:25:TYR:CD1	6:F:30:GLU:HB3	2.25	0.71
4:D:108:SER:O	4:D:162:ALA:HA	1.90	0.71
1:A:1270:C:H5''	1:A:1271:G:O5'	1.91	0.71
25:Y:6:VAL:HG12	25:Y:10:LEU:CD1	2.20	0.71
8:H:62:LYS:HB2	8:H:133:HIS:CE1	2.25	0.71
7:G:95:ARG:HH22	7:G:97:ARG:HH21	1.36	0.71
1:A:404:C:H4'	1:A:405:U:H5'	1.73	0.71
1:A:1679:U:C2'	1:A:1680:U:H5'	2.20	0.71
21:U:8:LYS:HZ3	21:U:8:LYS:C	1.93	0.70
18:R:5:VAL:CG1	18:R:14:VAL:HG21	2.20	0.70
1:A:2768:C:C4	1:A:2769:C:C5	2.79	0.70
14:N:57:ARG:HG2	14:N:58:GLY:H	1.56	0.70
3:C:125:ILE:CG2	3:C:125:ILE:O	2.39	0.70
13:M:23:GLY:HA3	13:M:98:LYS:HB2	1.73	0.70
4:D:46:ALA:HB2	4:D:82:ARG:HA	1.73	0.70
1:A:1290:C:H2'	1:A:1291:C:H6	1.56	0.70
1:A:1546:A:N7	1:A:154(B):C:O2	2.24	0.70
1:A:861:A:C2'	1:A:862:G:H5'	2.20	0.70
8:H:68:LEU:O	8:H:138:ILE:HD13	1.91	0.70
1:A:588:U:H2'	1:A:589:C:C6	2.26	0.70
1:A:733:G:N7	1:A:761:A:N6	2.39	0.70
1:A:784:A:H5'	1:A:785:G:OP1	1.90	0.70
1:A:249:C:O2	31:5:12:LYS:HE3	1.91	0.70
19:S:22:ASP:HA	19:S:25:ARG:HH12	1.56	0.70
1:A:910:A:H62	13:M:12:GLN:HA	1.56	0.70
8:H:5:LEU:N	8:H:5:LEU:HD23	2.05	0.70
1:A:2402:C:H5'	1:A:2403:C:OP2	1.90	0.70
15:O:38:GLN:HB3	15:O:47:THR:HG21	1.73	0.70
21:U:2:ARG:O	21:U:4:LYS:N	2.23	0.70
3:C:132:PRO:HD3	3:C:190:TYR:CZ	2.27	0.70
1:A:1728:G:H8	1:A:1728:G:O5'	1.74	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:18:C:O3'	17:Q:23:GLY:HA2	1.90	0.70
1:A:2747:G:O6	1:A:2755:C:H5''	1.91	0.70
5:E:205:ARG:O	5:E:206:ILE:HG23	1.92	0.70
7:G:55:PRO:HG2	7:G:61:HIS:CE1	2.27	0.70
1:A:125:G:H4'	1:A:126:A:OP2	1.90	0.70
18:R:98:GLU:HG2	18:R:100:ARG:HD3	1.74	0.70
1:A:2661:G:O2'	1:A:2662:A:H5'	1.91	0.70
1:A:1170:G:H1	1:A:1179:C:N4	1.90	0.70
18:R:2:PHE:HE2	18:R:13:ARG:HD3	1.56	0.70
12:L:45:LEU:HD23	12:L:46:LYS:N	2.07	0.70
12:L:18:ARG:NH1	12:L:18:ARG:HB3	2.07	0.70
7:G:19:VAL:HG12	7:G:20:ALA:N	2.05	0.70
16:P:89:VAL:O	16:P:90:GLN:HB2	1.90	0.70
7:G:27:LYS:HG2	7:G:32:GLU:HG3	1.74	0.70
22:V:30:ASN:O	22:V:32:HIS:N	2.25	0.70
1:A:2353:G:H5''	23:W:32:ARG:NH2	2.07	0.70
23:W:49:LYS:HB2	23:W:80:HIS:HB3	1.74	0.70
1:A:1411:C:H2'	1:A:1412:A:H8	1.55	0.70
8:H:2:LYS:HG3	8:H:39:ALA:HB3	1.72	0.70
7:G:77:LYS:HA	7:G:80:SER:HB2	1.72	0.70
31:5:22:VAL:HB	31:5:54:GLU:HG3	1.74	0.70
3:C:70:TRP:C	3:C:70:TRP:CD1	2.64	0.70
6:F:41:GLN:HG2	6:F:155:MET:HB3	1.74	0.70
1:A:1046:A:N3	9:I:4:LYS:HD3	2.07	0.70
1:A:2346:A:H5''	1:A:2383:G:H1'	1.72	0.70
17:Q:98:LEU:O	17:Q:100:VAL:N	2.25	0.70
1:A:1309:G:H3'	30:4:9:ARG:NH1	2.07	0.69
23:W:53:MET:HB2	23:W:59:LEU:HD23	1.73	0.69
22:V:22:GLY:O	22:V:41:LEU:HB2	1.91	0.69
1:A:1871:A:H2'	1:A:1872:A:C8	2.27	0.69
1:A:987:G:H2'	1:A:988:A:H5'	1.74	0.69
10:J:160:LYS:HE3	10:J:161:LEU:H	1.55	0.69
4:D:101:ARG:HH21	4:D:171:GLU:HB3	1.57	0.69
24:X:86:SER:O	24:X:90:ILE:HG12	1.93	0.69
5:E:199:TRP:O	5:E:203:GLN:HG2	1.92	0.69
4:D:37:ARG:O	4:D:45:THR:HA	1.92	0.69
3:C:77:ALA:HB2	3:C:97:TYR:HA	1.74	0.69
1:A:1679:U:H2'	1:A:1680:U:H5'	1.72	0.69
29:3:42:TRP:HA	29:3:42:TRP:CE3	2.27	0.69
10:J:57:LEU:O	10:J:72:GLY:HA3	1.92	0.69
1:A:863:A:OP1	13:M:21:THR:HB	1.93	0.69
5:E:67:GLN:CG	5:E:67:GLN:O	2.32	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:94:GLU:CD	22:V:94:GLU:H	1.94	0.69
25:Y:9:GLN:C	25:Y:12:GLU:HB3	2.12	0.69
5:E:89:VAL:HG12	5:E:90:PHE:H	1.57	0.69
1:A:737:C:H2'	1:A:738:G:H5'	1.73	0.69
4:D:4:ILE:HG12	4:D:28:ALA:HB1	1.73	0.69
6:F:7:LEU:HD23	6:F:10:LYS:HD2	1.75	0.69
1:A:1746:G:C2	1:A:1747:G:C8	2.80	0.69
1:A:2092:U:C5	1:A:2226:C:OP2	2.45	0.69
4:D:2:LYS:HE2	4:D:95:ILE:O	1.93	0.69
14:N:7:GLY:O	14:N:8:ARG:HB3	1.93	0.69
1:A:1248:G:OP1	17:Q:2:PRO:HD2	1.92	0.69
1:A:1348:G:H2'	1:A:1349:A:H5''	1.75	0.69
1:A:924:C:H2'	1:A:925:C:H6	1.57	0.69
12:L:59:LEU:CA	12:L:61:ARG:HE	2.01	0.69
12:L:62:LEU:O	12:L:62:LEU:HD23	1.92	0.69
1:A:603:A:N6	1:A:655:A:H4'	2.07	0.69
21:U:78:ALA:HB3	21:U:81:LYS:HE3	1.74	0.69
1:A:105:C:H2'	1:A:106:C:H6	1.58	0.69
1:A:2815:C:O2'	28:2:43:HIS:HD2	1.75	0.69
3:C:72:LYS:HD2	3:C:75:ILE:HD12	1.74	0.69
11:K:31:LYS:HB3	11:K:32:TYR:CE1	2.27	0.69
1:A:2850:A:OP2	1:A:2866:U:H5	1.76	0.69
1:A:1754:C:OP1	16:P:96:ARG:NH1	2.23	0.69
1:A:65:C:H2'	1:A:66:C:C6	2.27	0.69
12:L:138:LEU:HD11	12:L:144:GLU:HB3	1.75	0.69
30:4:9:ARG:NE	30:4:48:LYS:HB2	2.03	0.69
22:V:30:ASN:OD1	22:V:33:LEU:HB3	1.92	0.69
20:T:57:LEU:HD11	20:T:78:LYS:HB2	1.74	0.69
1:A:9:U:C4	1:A:2629:A:C6	2.80	0.69
1:A:273(G):C:H2'	1:A:274:G:H5''	1.74	0.69
31:5:32:LEU:HD23	31:5:33:ASN:N	2.08	0.69
25:Y:1:MET:CE	25:Y:5:GLU:HG2	2.22	0.69
17:Q:79:PHE:CD1	17:Q:79:PHE:C	2.66	0.69
1:A:1812:A:C2'	1:A:1813:G:H5'	2.23	0.69
10:J:77:VAL:HB	10:J:145:VAL:HG22	1.74	0.69
21:U:8:LYS:N	21:U:8:LYS:HZ2	1.91	0.69
1:A:1264:G:C5'	28:2:11:THR:HG21	2.22	0.69
1:A:2712:U:H1'	1:A:712(B):A:H8	1.57	0.69
18:R:79:VAL:HG13	18:R:79:VAL:O	1.91	0.69
1:A:1332:G:N2	1:A:1610:A:C8	2.61	0.69
3:C:231:HIS:CD2	3:C:249:PRO:HA	2.26	0.69
21:U:81:LYS:HD3	21:U:97:ARG:HB3	1.74	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1343:G:H8	1:A:1343:G:H5'	1.56	0.69
23:W:56:ASP:O	23:W:57:PHE:HB2	1.92	0.69
7:G:140:LYS:O	7:G:144:VAL:HG23	1.93	0.69
3:C:25:THR:HG21	3:C:81:ALA:CA	2.23	0.69
1:A:987:G:C2'	1:A:988:A:H5'	2.22	0.69
1:A:1024:G:H8	1:A:1024:G:O5'	1.76	0.69
1:A:1276:A:H1'	14:N:16:HIS:HE1	1.58	0.68
1:A:609(B):G:N2	1:A:619:G:H1'	2.07	0.68
6:F:174:GLU:HG2	6:F:180:PHE:CE1	2.28	0.68
21:U:6:HIS:HD2	21:U:35:TYR:CE1	2.11	0.68
1:A:630:G:N2	1:A:632:A:H3'	2.09	0.68
10:J:157:ARG:N	10:J:158:PRO:CD	2.52	0.68
1:A:330:A:H2	1:A:1210:A:H2'	1.58	0.68
5:E:31:HIS:ND1	12:L:13:ASN:HB2	2.08	0.68
1:A:580:C:H2'	1:A:581:C:C6	2.29	0.68
1:A:993:G:C5	1:A:994:C:H5	2.11	0.68
6:F:5:LEU:HD23	6:F:6:ALA:H	1.59	0.68
1:A:330:A:C2	1:A:1210:A:H2'	2.29	0.68
1:A:481:G:C4	1:A:507:A:C2	2.81	0.68
1:A:2009:G:H2'	1:A:2010:G:H5'	1.74	0.68
3:C:257:LEU:HD23	3:C:257:LEU:C	2.13	0.68
16:P:74:ARG:HD3	16:P:76:PHE:CE2	2.28	0.68
17:Q:88:ILE:HD12	17:Q:90:VAL:CG1	2.23	0.68
13:M:76:LYS:H	13:M:88:GLY:HA2	1.56	0.68
1:A:1386:C:OP2	1:A:1396:U:H5	1.77	0.68
1:A:813:U:H2'	1:A:814:C:C6	2.28	0.68
25:Y:1:MET:HE1	25:Y:5:GLU:HG2	1.74	0.68
1:A:2438:U:O3'	1:A:2439:A:H3'	1.94	0.68
16:P:51:ARG:HD3	16:P:62:THR:HG23	1.75	0.68
18:R:6:LYS:HG3	18:R:11:GLN:HG2	1.76	0.68
3:C:166:GLN:HE21	3:C:166:GLN:HA	1.59	0.68
14:N:99:LYS:H	14:N:99:LYS:CD	2.04	0.68
4:D:9:VAL:HG13	4:D:25:VAL:O	1.92	0.68
1:A:300:A:OP1	21:U:84:ARG:NH2	2.26	0.68
25:Y:2:LYS:HA	25:Y:5:GLU:OE2	1.94	0.68
1:A:84:A:C5'	21:U:9:LYS:HD2	2.24	0.68
12:L:38:GLN:HG3	12:L:39:LYS:N	2.07	0.68
6:F:8:LYS:HD3	6:F:9:ARG:HG3	1.74	0.68
1:A:547:A:C6	1:A:548:A:C6	2.81	0.68
1:A:2210:G:H21	1:A:2211:G:H5'	1.54	0.68
1:A:1607:C:H4'	1:A:1608:A:O5'	1.94	0.68
14:N:55:ALA:HA	14:N:80:PHE:HE1	1.56	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:30:LYS:HB2	7:G:79:VAL:HA	1.75	0.68
1:A:2433:A:H5''	1:A:2434:A:P	2.34	0.68
29:3:30:THR:HG22	29:3:31:PRO:HD2	1.75	0.68
1:A:1537:C:H2'	1:A:1538:G:O4'	1.94	0.68
12:L:85:LEU:HA	12:L:88:LEU:HB2	1.74	0.68
20:T:30:VAL:HG12	20:T:31:HIS:N	2.09	0.68
1:A:1536:A:H5''	1:A:1537:C:OP2	1.94	0.68
1:A:1862:G:H2'	1:A:1863:G:H8	1.59	0.68
3:C:201:HIS:O	3:C:204:ILE:HG13	1.93	0.68
1:A:1528:A:C2	1:A:1529:A:C2	2.81	0.68
20:T:63:LYS:HZ1	20:T:72:LYS:HB3	1.58	0.68
1:A:1019:U:N3	1:A:114(B):A:N6	2.42	0.68
1:A:999:U:H5''	1:A:1154:G:O6	1.94	0.68
10:J:101:TYR:HB3	10:J:102:PRO:HD2	1.75	0.68
1:A:2093:G:H1	1:A:2196:C:H42	1.39	0.68
17:Q:92:ARG:HH11	17:Q:92:ARG:CB	2.06	0.68
1:A:918:A:N3	2:B:80:U:O2'	2.26	0.68
17:Q:57:PHE:O	17:Q:58:ARG:C	2.32	0.68
14:N:2:ARG:O	14:N:4:LEU:N	2.27	0.68
12:L:35:HIS:O	12:L:36:LYS:CB	2.41	0.68
16:P:24:PRO:HA	16:P:49:VAL:CG1	2.23	0.68
22:V:29:TYR:HA	22:V:33:LEU:O	1.94	0.68
1:A:760:G:H2'	1:A:761:A:H5'	1.76	0.68
1:A:1476:C:H6	1:A:1476:C:H3'	1.59	0.68
16:P:86:ILE:O	16:P:86:ILE:HG12	1.94	0.68
1:A:2871:C:H5''	1:A:2872:G:OP1	1.94	0.68
1:A:2335:A:O2'	1:A:2336:A:H5''	1.94	0.67
4:D:30:PRO:O	4:D:32:PRO:HD3	1.94	0.67
10:J:80:ALA:O	10:J:82:LYS:N	2.27	0.67
1:A:1021:A:C3'	1:A:1021:A:C8	2.76	0.67
1:A:227:A:H5'	1:A:228:A:C2	2.29	0.67
12:L:16:ARG:CZ	12:L:18:ARG:H	2.07	0.67
1:A:528:A:H2	1:A:2043:C:H5'	1.58	0.67
1:A:1669:A:O3'	1:A:2549:G:H5'	1.94	0.67
1:A:971:C:C2'	1:A:972:G:H5'	2.24	0.67
1:A:229:A:H5'	1:A:230:U:H5'	1.76	0.67
1:A:1007:C:O2'	10:J:131:PRO:HA	1.93	0.67
1:A:628:G:H2'	1:A:629:G:H8	1.58	0.67
21:U:13:VAL:CG1	21:U:72:VAL:HB	2.24	0.67
1:A:242:G:C5'	31:5:63:PRO:HG2	2.25	0.67
14:N:4:LEU:O	14:N:6:SER:N	2.27	0.67
20:T:52:VAL:HG23	20:T:82:GLN:O	1.94	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2277:G:H5''	13:M:85:LYS:HB2	1.74	0.67
1:A:380:U:C2	24:X:20:ARG:NH2	2.61	0.67
1:A:357:A:H2'	1:A:358:U:C6	2.30	0.67
1:A:314:A:O2'	1:A:315:G:H5'	1.94	0.67
1:A:565:C:H2'	1:A:566:U:O5'	1.95	0.67
7:G:102:ALA:HB2	7:G:116:GLU:HA	1.75	0.67
1:A:941:A:H4'	12:L:35:HIS:CE1	2.28	0.67
1:A:2631:G:N3	1:A:2810:A:H2	1.91	0.67
1:A:826:U:H4'	12:L:55:ARG:HB2	1.76	0.67
1:A:116:C:H2'	1:A:117:G:C8	2.29	0.67
1:A:729:G:OP2	3:C:13:ARG:NH1	2.26	0.67
8:H:111:PRO:HG2	8:H:112:LYS:HE2	1.77	0.67
1:A:94:G:N2	25:Y:47:ASN:ND2	2.41	0.67
1:A:1596:A:H2'	1:A:1597:A:H5'	1.76	0.67
1:A:588:U:H1'	5:E:90:PHE:CD1	2.30	0.67
13:M:134:ARG:O	13:M:136:ALA:N	2.28	0.67
1:A:1909:C:C2	1:A:1922:G:N2	2.63	0.67
17:Q:108:GLU:HG3	18:R:44:LYS:HG2	1.76	0.67
1:A:1021:A:H2'	1:A:1023:U:H5'	1.76	0.67
15:O:12:PHE:HE1	15:O:16:ASN:HD21	1.43	0.67
4:D:84:PHE:CZ	4:D:86:PRO:HG3	2.30	0.67
20:T:29:TRP:CZ3	20:T:78:LYS:HG3	2.29	0.67
23:W:72:ARG:HB3	23:W:75:LEU:HD12	1.77	0.67
1:A:1593:G:H2'	1:A:1594:G:C8	2.30	0.67
3:C:95:LEU:HD12	3:C:95:LEU:O	1.95	0.67
12:L:112:LEU:HD23	12:L:113:LYS:N	2.09	0.67
21:U:17:SER:OG	21:U:18:GLY:N	2.27	0.67
12:L:33:ARG:H	12:L:36:LYS:CE	2.03	0.67
2:B:83:G:H5''	26:Z:52:HIS:CE1	2.29	0.67
1:A:2723:C:O3'	14:N:2:ARG:NH2	2.27	0.67
3:C:231:HIS:CD2	3:C:232:PRO:HD2	2.30	0.67
17:Q:5:LYS:HG2	17:Q:6:THR:H	1.58	0.67
13:M:116:GLU:OE1	13:M:116:GLU:HA	1.94	0.67
1:A:1946:U:H2'	1:A:1947:C:H6	1.59	0.67
21:U:63:LYS:HG3	21:U:64:GLU:H	1.58	0.67
31:5:57:ARG:NE	31:5:57:ARG:HA	2.10	0.67
1:A:2415:G:H4'	12:L:66:GLY:CA	2.24	0.67
1:A:637:A:OP2	12:L:115:LEU:HB2	1.94	0.67
18:R:28:GLU:OE1	18:R:31:ALA:HB2	1.95	0.67
1:A:2599:G:C8	3:C:237:GLU:HG3	2.30	0.67
15:O:34:HIS:CE1	15:O:54:LEU:HB3	2.29	0.67
13:M:60:ARG:H	22:V:179:ASP:CG	1.99	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1683:C:H42	1:A:1705:G:H1	1.41	0.67
1:A:2322:A:H3'	1:A:2323:G:H8	1.60	0.67
1:A:1310:G:OP2	30:4:9:ARG:NH1	2.28	0.67
10:J:127:LYS:HB2	10:J:140:PHE:CE1	2.30	0.67
1:A:1786:A:H4'	1:A:1787:A:OP2	1.94	0.67
3:C:134:ARG:HD3	3:C:135:PHE:CE1	2.30	0.67
3:C:77:ALA:CB	3:C:97:TYR:HA	2.25	0.67
7:G:98:LEU:HD12	7:G:99:VAL:N	2.09	0.67
13:M:43:THR:OG1	13:M:45:GLN:HG2	1.95	0.67
11:K:103:ALA:HB1	11:K:105:GLU:OE1	1.95	0.66
1:A:971:C:H2'	1:A:972:G:C5'	2.24	0.66
1:A:389:G:H1	12:L:71:VAL:H	1.43	0.66
21:U:76:CYS:SG	21:U:77:PRO:HD3	2.35	0.66
2:B:75:G:H21	22:V:85:HIS:HE1	1.40	0.66
19:S:4:LYS:HD3	19:S:6:ILE:HD11	1.77	0.66
3:C:166:GLN:NE2	3:C:166:GLN:HA	2.10	0.66
12:L:91:PHE:N	12:L:91:PHE:CD1	2.63	0.66
12:L:91:PHE:HD1	12:L:91:PHE:N	1.93	0.66
17:Q:79:PHE:HD1	17:Q:79:PHE:C	1.98	0.66
1:A:1606:G:H5''	1:A:1607:C:OP1	1.95	0.66
1:A:1495:A:N3	1:A:1495:A:H2'	2.08	0.66
13:M:8:LYS:HG3	13:M:9:TYR:H	1.59	0.66
2:B:11:C:H3'	2:B:12:C:C6	2.30	0.66
18:R:91:TYR:CD2	18:R:91:TYR:O	2.48	0.66
1:A:1386:C:H2'	1:A:1387:C:H6	1.61	0.66
1:A:814:C:H41	12:L:27:HIS:CD2	2.13	0.66
1:A:2036:C:H6	1:A:2036:C:H5'	1.58	0.66
1:A:1828:G:OP2	3:C:239:ARG:NH1	2.28	0.66
1:A:855:G:H5''	1:A:856:C:OP2	1.95	0.66
1:A:2294:C:H2'	1:A:2295:C:C6	2.30	0.66
3:C:155:LEU:CD2	3:C:177:LEU:HD21	2.23	0.66
1:A:1331:A:O2'	1:A:1332:G:H8	1.78	0.66
24:X:45:ASN:HD21	24:X:47:GLN:HE21	1.41	0.66
17:Q:18:LEU:HD11	17:Q:31:SER:H	1.60	0.66
18:R:38:LEU:HD23	18:R:39:LEU:N	2.11	0.66
6:F:70:VAL:HG12	6:F:90:LEU:HD22	1.77	0.66
27:1:50:THR:HG22	27:1:51:TYR:H	1.60	0.66
1:A:628:G:H2'	1:A:629:G:C8	2.31	0.66
4:D:170:LEU:N	4:D:170:LEU:HD23	2.09	0.66
24:X:62:VAL:HG22	24:X:63:ALA:N	2.11	0.66
23:W:36:ILE:HG23	23:W:58:THR:HG23	1.76	0.66
7:G:94:TYR:HD1	7:G:94:TYR:H	1.44	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:912:C:H2'	1:A:912:C:O2	1.96	0.66
1:A:1411:C:H2'	1:A:1412:A:C8	2.30	0.66
29:3:42:TRP:HA	29:3:42:TRP:HE3	1.60	0.66
12:L:75:ILE:HD12	12:L:75:ILE:H	1.61	0.66
10:J:114:LEU:HA	10:J:118:PRO:HB3	1.77	0.66
1:A:603:A:C2	1:A:655:A:N3	2.64	0.66
1:A:1813:G:C1'	3:C:50:THR:HG21	2.24	0.66
20:T:51:VAL:HG11	20:T:81:VAL:HG12	1.76	0.66
22:V:132:ASN:C	22:V:134:PRO:HD3	2.16	0.66
22:V:134:PRO:O	22:V:136:PHE:N	2.28	0.66
3:C:134:ARG:HG3	3:C:135:PHE:CD1	2.31	0.66
1:A:582:G:OP1	17:Q:14:HIS:HD2	1.78	0.66
10:J:160:LYS:HE3	10:J:161:LEU:N	2.10	0.66
1:A:1794:U:H2'	1:A:1795:C:H6	1.59	0.66
10:J:148:GLY:HA3	10:J:149:PRO:O	1.96	0.66
1:A:651:G:OP1	31:5:19:SER:HB3	1.96	0.66
1:A:2051:A:H4'	4:D:141:ILE:HG23	1.78	0.66
1:A:2846:G:H2'	1:A:2847:U:C6	2.31	0.66
17:Q:90:VAL:HG13	17:Q:91:ASP:H	1.61	0.66
8:H:102:SER:HA	8:H:107:ILE:O	1.95	0.66
1:A:1210:A:C8	1:A:1210:A:C5'	2.79	0.66
1:A:2724:C:OP1	4:D:118:LYS:HE3	1.96	0.66
4:D:120:TRP:CD1	4:D:155:LYS:HB3	2.31	0.66
1:A:1156:A:H4'	1:A:1157:G:OP2	1.96	0.66
1:A:2190:G:H2'	1:A:2191:G:H8	1.60	0.66
22:V:53:ILE:HG22	22:V:71:VAL:O	1.96	0.66
10:J:86:THR:O	10:J:89:LYS:HG2	1.95	0.65
15:O:38:GLN:HB3	15:O:47:THR:CG2	2.26	0.65
1:A:558:G:OP1	10:J:134:PRO:HD2	1.94	0.65
12:L:14:LYS:O	12:L:15:ARG:HB2	1.95	0.65
1:A:1726:G:H2'	1:A:1727:U:C6	2.31	0.65
2:B:30:C:H2'	2:B:31:C:H5'	1.78	0.65
17:Q:79:PHE:O	17:Q:83:LEU:HD13	1.96	0.65
1:A:1493:C:C4	1:A:2210:G:O2'	2.49	0.65
14:N:2:ARG:C	14:N:4:LEU:N	2.47	0.65
1:A:1893:C:C5	1:A:1894:C:C5	2.84	0.65
1:A:2740:A:H2'	1:A:2741:A:C8	2.32	0.65
19:S:65:LEU:HB2	19:S:68:ARG:HE	1.60	0.65
1:A:2773:C:OP1	4:D:166:THR:OG1	2.14	0.65
1:A:942:G:H5'	12:L:35:HIS:HB3	1.78	0.65
25:Y:28:LYS:HE3	25:Y:56:GLN:NE2	2.11	0.65
1:A:335:C:H2'	1:A:336:C:H6	1.61	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:46:ARG:HG2	5:E:46:ARG:HH11	1.61	0.65
5:E:127:GLU:O	5:E:129:PHE:N	2.28	0.65
1:A:795:C:H2'	1:A:796:C:H6	1.60	0.65
16:P:74:ARG:HD3	16:P:76:PHE:CZ	2.31	0.65
2:B:104:A:O4'	22:V:29:TYR:HE1	1.80	0.65
3:C:79:VAL:HG12	3:C:113:VAL:HA	1.77	0.65
1:A:924:C:H2'	1:A:925:C:C6	2.31	0.65
17:Q:30:LYS:O	17:Q:31:SER:CB	2.45	0.65
1:A:184:C:H2'	1:A:185:U:H6	1.60	0.65
1:A:2840:C:H4'	14:N:53:HIS:CD2	2.31	0.65
30:4:11:LYS:HD2	30:4:15:THR:HG21	1.77	0.65
1:A:2780:G:H4'	1:A:2781:A:OP2	1.96	0.65
3:C:70:TRP:CH2	3:C:150:LYS:HA	2.31	0.65
3:C:172:TYR:HD1	3:C:185:VAL:O	1.80	0.65
1:A:2219:G:O2'	1:A:2224:G:H5'	1.96	0.65
3:C:166:GLN:N	3:C:166:GLN:HE21	1.94	0.65
1:A:2056:G:N2	28:2:4:HIS:O	2.30	0.65
1:A:461:C:O2'	1:A:462:C:H5'	1.96	0.65
5:E:13:SER:OG	5:E:14:PRO:HD2	1.96	0.65
12:L:33:ARG:HG2	12:L:34:GLY:H	1.60	0.65
31:5:11:LYS:O	31:5:11:LYS:HE2	1.96	0.65
1:A:1141:U:H6	10:J:86:THR:OG1	1.80	0.65
1:A:140:A:H8	1:A:1408:C:O2'	1.79	0.65
21:U:30:VAL:HG23	21:U:37:VAL:HG12	1.79	0.65
23:W:35:ASN:HD22	23:W:35:ASN:H	1.44	0.65
1:A:1899:G:N2	1:A:1902:C:C5	2.65	0.65
1:A:528:A:C2	1:A:2043:C:C5'	2.80	0.65
1:A:226:G:N2	1:A:228:A:N6	2.45	0.65
1:A:17:G:H4'	17:Q:25:TRP:CZ3	2.32	0.65
1:A:222:A:H5''	1:A:421:U:OP1	1.97	0.65
1:A:992:C:O3'	18:R:72:VAL:HG11	1.96	0.65
18:R:47:VAL:O	18:R:49:THR:O	2.14	0.65
20:T:30:VAL:HG11	20:T:39:ILE:CD1	2.26	0.65
1:A:322:A:OP2	5:E:169:ASN:HB2	1.97	0.65
5:E:31:HIS:CG	12:L:13:ASN:HB2	2.32	0.65
1:A:277:C:H5'	1:A:278:A:OP2	1.96	0.65
13:M:32:PHE:HZ	13:M:111:GLU:HG2	1.60	0.65
2:B:31:C:O2	2:B:31:C:H2'	1.97	0.65
22:V:5:LEU:HG	22:V:47:VAL:HG21	1.79	0.65
22:V:5:LEU:HD23	22:V:6:LYS:N	2.11	0.65
5:E:39:TRP:O	5:E:43:LYS:HG2	1.96	0.65
2:B:2:C:H2'	2:B:3:C:C6	2.32	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:Y:2:LYS:HA	25:Y:5:GLU:CD	2.17	0.65
18:R:41:GLY:HA3	18:R:45:THR:OG1	1.97	0.65
1:A:1141:U:OP2	10:J:86:THR:HG23	1.97	0.65
15:O:89:ARG:O	15:O:90:GLY:O	2.14	0.65
22:V:51:ALA:HB1	22:V:57:ILE:HD11	1.77	0.65
3:C:186:HIS:CD2	3:C:188:GLU:H	2.15	0.65
1:A:1973:G:H2'	1:A:1974:C:H6	1.62	0.65
1:A:1710:C:O2'	1:A:1711:C:H5'	1.97	0.65
31:5:50:LEU:O	31:5:51:ALA:CB	2.44	0.65
6:F:161:THR:HG21	6:F:172:LEU:HD23	1.79	0.65
19:S:73:ALA:O	19:S:106:ILE:HG12	1.97	0.65
1:A:557:U:H2'	1:A:558:G:C8	2.31	0.65
15:O:36:TYR:N	15:O:36:TYR:CD1	2.65	0.65
16:P:27:THR:CG2	16:P:90:GLN:HB3	2.27	0.65
1:A:2637:U:H5''	4:D:82:ARG:NH2	2.11	0.65
1:A:1857:G:N2	1:A:1886:C:N4	2.45	0.65
17:Q:83:LEU:HD12	17:Q:113:ALA:CB	2.27	0.64
1:A:380:U:O2'	24:X:20:ARG:HB3	1.97	0.64
8:H:66:GLU:HG2	8:H:67:ARG:CZ	2.27	0.64
6:F:36:LYS:HD3	6:F:160:VAL:HG21	1.79	0.64
5:E:117:ARG:NH2	5:E:187:VAL:HA	2.12	0.64
1:A:2364:C:C2'	1:A:2365:G:H5'	2.27	0.64
3:C:80:ALA:HB3	3:C:94:LEU:HD13	1.78	0.64
1:A:1268:A:H2'	1:A:1269:A:O5'	1.97	0.64
1:A:626:U:O2	12:L:105:LEU:HB3	1.97	0.64
4:D:16:ARG:O	4:D:18:ASP:N	2.29	0.64
12:L:109:GLY:O	12:L:111:ARG:N	2.30	0.64
1:A:2262:U:H2'	1:A:2263:C:H6	1.62	0.64
3:C:35:LYS:HE2	3:C:103:ARG:HA	1.79	0.64
15:O:51:ALA:HB1	15:O:72:ALA:CB	2.26	0.64
1:A:2758:A:C4	7:G:67:LEU:HD21	2.32	0.64
1:A:847:U:OP2	1:A:929:G:O6	2.15	0.64
1:A:2892:A:H2'	1:A:2893:G:H5'	1.79	0.64
3:C:25:THR:HG21	3:C:81:ALA:HA	1.77	0.64
1:A:2209:C:O2	1:A:2216:G:C2	2.51	0.64
12:L:95:VAL:HG23	12:L:125:VAL:HG23	1.79	0.64
12:L:62:LEU:CD2	31:5:25:MET:HB2	2.27	0.64
1:A:2275:C:H6	1:A:2275:C:H5'	1.62	0.64
31:5:11:LYS:HD2	31:5:64:TYR:CZ	2.33	0.64
4:D:1:MET:HB3	4:D:84:PHE:HB2	1.79	0.64
1:A:1654:A:OP1	14:N:2:ARG:N	2.30	0.64
1:A:2593:U:H2'	1:A:2594:C:H6	1.60	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:5:22:VAL:HG12	31:5:50:LEU:HD12	1.79	0.64
31:5:23:VAL:CG1	31:5:47:LYS:HB3	2.27	0.64
1:A:960:A:H61	13:M:82:ARG:NH2	1.96	0.64
8:H:82:ARG:C	8:H:89:TYR:HB2	2.18	0.64
6:F:71:THR:HG22	6:F:89:GLY:O	1.98	0.64
4:D:52:LEU:O	4:D:76:ARG:N	2.31	0.64
2:B:13:A:C8	23:W:74:ARG:NH2	2.65	0.64
14:N:100:LEU:HD21	14:N:113:LEU:HB2	1.80	0.64
2:B:21:G:H1	2:B:62:C:N4	1.94	0.64
1:A:2820:A:O4'	14:N:5:LYS:HG3	1.97	0.64
1:A:2365:G:H4'	23:W:60:PHE:CZ	2.33	0.64
14:N:85:PRO:O	14:N:87:TYR:N	2.30	0.64
1:A:2212:A:H1'	1:A:2215:G:C4	2.33	0.64
10:J:53:ILE:O	10:J:57:LEU:HD22	1.96	0.64
6:F:84:LYS:O	6:F:86:MET:HG3	1.96	0.64
24:X:11:ARG:HB3	24:X:12:PRO:HD2	1.80	0.64
1:A:1510:A:H2'	1:A:1511:A:H8	1.61	0.64
13:M:22:LYS:O	13:M:22:LYS:HD3	1.98	0.64
7:G:54:ARG:HB3	7:G:65:HIS:CD2	2.32	0.64
1:A:1006:C:H1'	10:J:129:MET:HB3	1.79	0.64
1:A:2036:C:C6	1:A:2036:C:H5'	2.32	0.64
28:2:4:HIS:HB3	28:2:5:PRO:HD3	1.79	0.64
1:A:2828:C:O2'	1:A:2829:C:H5'	1.98	0.64
1:A:176:G:C2'	1:A:177:G:H5'	2.27	0.64
1:A:492:A:H2'	1:A:493:G:O4'	1.96	0.64
16:P:57:PHE:O	16:P:59:THR:N	2.31	0.64
3:C:182:LEU:H	3:C:272:ALA:HB3	1.62	0.64
3:C:242:ARG:HG2	3:C:242:ARG:NH1	2.11	0.64
1:A:1475:G:N2	1:A:1519:G:C5	2.66	0.64
1:A:1187:G:H5''	18:R:81:TYR:CE2	2.33	0.64
10:J:69:VAL:HG13	10:J:71:MET:HG3	1.79	0.64
1:A:2655:G:N2	1:A:2664:G:C5	2.66	0.64
29:3:38:LYS:HG2	29:3:39:TYR:H	1.63	0.64
1:A:83:G:H1	1:A:102:G:HO2'	0.66	0.64
20:T:63:LYS:NZ	20:T:72:LYS:HB3	2.13	0.64
10:J:157:ARG:HG2	10:J:157:ARG:O	1.96	0.64
4:D:59:VAL:HG12	4:D:59:VAL:O	1.98	0.64
3:C:172:TYR:HD1	3:C:186:HIS:HA	1.60	0.64
1:A:2401:U:H2'	1:A:2402:C:H5''	1.80	0.64
15:O:12:PHE:O	15:O:15:ARG:HG3	1.97	0.64
8:H:92:VAL:CG2	8:H:97:ILE:HG12	2.27	0.64
1:A:1786:A:H1'	1:A:1938:A:N6	2.13	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:85:ASP:OD2	3:C:86:PRO:HD2	1.98	0.64
14:N:50:HIS:O	14:N:54:LEU:HB2	1.97	0.64
24:X:27:GLU:CG	24:X:33:LYS:HG3	2.28	0.64
1:A:2785:C:H2'	1:A:2786:U:O4'	1.98	0.64
1:A:65:C:H2'	1:A:66:C:H6	1.60	0.64
7:G:98:LEU:HD12	7:G:99:VAL:H	1.62	0.64
18:R:7:THR:HG23	18:R:22:VAL:HG11	1.79	0.64
4:D:21:VAL:HG12	4:D:23:VAL:HG13	1.80	0.64
14:N:38:VAL:CB	14:N:39:PRO:HD3	2.24	0.64
1:A:2723:C:H4'	14:N:2:ARG:NH2	2.12	0.64
1:A:2842:G:H1	1:A:2875:C:H42	1.43	0.64
18:R:21:ARG:CZ	18:R:91:TYR:CE1	2.81	0.64
3:C:260:ARG:O	3:C:261:LYS:O	2.15	0.64
22:V:72:ARG:HG2	22:V:89:PHE:HB2	1.80	0.63
4:D:26:ILE:N	4:D:26:ILE:HD13	2.14	0.63
1:A:2365:G:O6	31:5:39:LYS:HE3	1.98	0.63
5:E:53:THR:HG23	5:E:56:GLU:OE1	1.98	0.63
1:A:1870:C:H2'	1:A:1870:C:O2	1.97	0.63
1:A:1546:A:C8	1:A:154(B):C:O2	2.51	0.63
3:C:33:LEU:HD23	3:C:33:LEU:N	2.13	0.63
1:A:2335:A:C8	1:A:2337:G:C5	2.86	0.63
12:L:18:ARG:HB3	12:L:18:ARG:CZ	2.27	0.63
14:N:9:LYS:HE2	14:N:43:GLU:OE2	1.98	0.63
1:A:226:G:H21	1:A:228:A:H62	1.46	0.63
1:A:966:G:C6	1:A:967:C:N4	2.67	0.63
1:A:1856:G:N2	1:A:1886:C:O2	2.32	0.63
1:A:1162:G:C2'	1:A:1163:G:H5'	2.28	0.63
1:A:1218:C:O2'	1:A:1219:G:H5'	1.98	0.63
1:A:903:C:H2'	1:A:904:C:H6	1.64	0.63
7:G:109:PHE:CE2	7:G:152:ARG:NH1	2.66	0.63
16:P:42:ILE:HD12	16:P:42:ILE:O	1.98	0.63
31:5:60:LEU:O	31:5:62:LEU:HB2	1.99	0.63
1:A:114(B):A:H4'	10:J:48:ARG:NH2	2.13	0.63
1:A:603:A:N6	1:A:655:A:C4'	2.58	0.63
25:Y:35:LEU:CD1	25:Y:53:LEU:HD12	2.28	0.63
1:A:1152:C:H5''	17:Q:80:ILE:HG22	1.80	0.63
1:A:966:G:H2'	1:A:967:C:C6	2.32	0.63
7:G:54:ARG:HB3	7:G:65:HIS:HD2	1.62	0.63
1:A:571:A:C8	1:A:2030:A:N6	2.66	0.63
16:P:48:ILE:H	16:P:48:ILE:HD12	1.62	0.63
1:A:1541:U:O2	1:A:1541:U:H2'	1.97	0.63
7:G:23:ARG:N	7:G:23:ARG:HD3	2.14	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:101:LEU:O	5:E:106:ARG:NH1	2.24	0.63
1:A:954:G:H5''	13:M:13:GLN:CG	2.28	0.63
1:A:828:U:H3'	1:A:828:U:O2	1.96	0.63
23:W:23:VAL:HB	23:W:26:TYR:CE2	2.34	0.63
3:C:143:HIS:HD2	3:C:144:ALA:CB	2.11	0.63
3:C:267:SER:O	3:C:269:PHE:N	2.32	0.63
5:E:155:LEU:HD12	5:E:174:VAL:HB	1.80	0.63
11:K:87:ILE:HG13	11:K:91:LEU:HD12	1.79	0.63
22:V:37:VAL:HG23	22:V:38:TYR:N	2.13	0.63
13:M:43:THR:HG23	13:M:46:GLN:OE1	1.97	0.63
22:V:104:PHE:HB3	22:V:141:VAL:HG11	1.79	0.63
1:A:990:A:H5''	1:A:991:C:P	2.38	0.63
12:L:62:LEU:CD2	12:L:62:LEU:N	2.52	0.63
18:R:40:LEU:C	18:R:45:THR:HB	2.18	0.63
15:O:33:LYS:O	15:O:54:LEU:HG	1.98	0.63
17:Q:62:ILE:O	17:Q:63:VAL:C	2.37	0.63
28:2:40:LYS:HZ1	28:2:49:CYS:HB3	1.64	0.63
1:A:185:U:H2'	1:A:186:G:C8	2.33	0.63
10:J:94:ILE:CG2	10:J:107:LYS:HB3	2.28	0.63
11:K:11:ALA:HB3	11:K:85:VAL:HG23	1.80	0.63
17:Q:92:ARG:CG	18:R:11:GLN:NE2	2.57	0.63
6:F:86:MET:H	6:F:87:PRO:CD	2.11	0.63
3:C:244:ARG:HB2	3:C:245:PRO:CD	2.29	0.63
14:N:67:LEU:HD22	14:N:76:VAL:HG11	1.81	0.63
1:A:296:C:O2'	1:A:297:C:H5'	1.99	0.63
4:D:176:ILE:O	4:D:176:ILE:HG22	1.96	0.63
14:N:44:LEU:O	14:N:44:LEU:HD13	1.99	0.63
6:F:55:LYS:HD2	6:F:58:GLN:HE21	1.63	0.63
13:M:80:GLU:HA	13:M:80:GLU:OE2	1.98	0.63
12:L:61:ARG:C	12:L:62:LEU:HD13	2.18	0.63
1:A:1139:G:OP1	10:J:125:ALA:HB2	1.99	0.63
17:Q:92:ARG:HD3	17:Q:94:ASN:HB3	1.79	0.63
1:A:1022:G:H8	10:J:92:GLN:HE22	1.45	0.63
13:M:48:GLU:O	13:M:52:VAL:HG12	1.99	0.63
1:A:2531:A:H5'	7:G:157:TYR:CE1	2.34	0.63
1:A:336:C:H2'	1:A:336:C:O2	1.98	0.63
1:A:2485:G:H5''	13:M:46:GLN:HE21	1.64	0.63
7:G:168:PRO:O	7:G:170:ARG:HG3	1.97	0.63
1:A:628:G:H5''	31:5:18:ALA:CB	2.29	0.63
31:5:51:ALA:H	31:5:54:GLU:HB2	1.63	0.63
31:5:50:LEU:O	31:5:51:ALA:HB2	1.99	0.63
12:L:58:THR:C	12:L:61:ARG:HE	2.02	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2846:G:C5	1:A:2847:U:C5	2.86	0.63
12:L:49:ARG:CG	12:L:50:ARG:N	2.59	0.63
1:A:2808:U:C2'	1:A:2809:A:H5'	2.29	0.63
1:A:1010:A:H1'	1:A:1153:C:H1'	1.81	0.63
16:P:89:VAL:HG22	16:P:89:VAL:O	1.98	0.63
16:P:90:GLN:NE2	16:P:90:GLN:HA	2.13	0.63
1:A:2476:A:C2	1:A:2477:C:C6	2.87	0.63
6:F:174:GLU:HG2	6:F:180:PHE:CD1	2.34	0.63
1:A:1162:G:H2'	1:A:1163:G:H5'	1.81	0.63
1:A:1165:U:H2'	1:A:1166:C:C6	2.34	0.63
10:J:94:ILE:HG21	10:J:107:LYS:HB3	1.81	0.63
1:A:270(J):G:HO2'	1:A:270(K):G:H8	1.44	0.63
12:L:128:HIS:CA	12:L:147:LEU:HB3	2.10	0.62
1:A:1900:A:N1	1:A:1970:A:C6	2.68	0.62
3:C:267:SER:O	3:C:270:ILE:HG13	1.99	0.62
1:A:2378:A:O2'	15:O:21:THR:HG21	1.99	0.62
24:X:13:ILE:HD12	24:X:13:ILE:C	2.19	0.62
8:H:15:VAL:O	8:H:17:GLN:N	2.32	0.62
1:A:1434:A:H61	1:A:1558:A:H62	1.46	0.62
1:A:628:G:H5''	31:5:18:ALA:HB2	1.82	0.62
1:A:2185:C:H2'	1:A:2186:G:H8	1.63	0.62
18:R:40:LEU:H	18:R:47:VAL:CG2	2.10	0.62
3:C:145:VAL:HG12	3:C:146:GLU:O	1.99	0.62
8:H:79:ILE:HB	8:H:144:VAL:HA	1.81	0.62
8:H:88:ILE:CG2	8:H:90:GLY:H	2.12	0.62
7:G:43:VAL:HG12	7:G:52:VAL:HG22	1.81	0.62
24:X:32:LYS:HG2	24:X:33:LYS:H	1.64	0.62
1:A:1486:A:N6	1:A:1504:C:H42	1.97	0.62
11:K:102:VAL:HG23	11:K:121:VAL:HA	1.80	0.62
1:A:270(I):C:O2	1:A:270(I):C:H2'	1.97	0.62
3:C:40:THR:HG22	3:C:41:GLY:N	2.14	0.62
13:M:69:PHE:CD1	13:M:70:PRO:HD2	2.33	0.62
5:E:66:PRO:HB3	5:E:68:LYS:NZ	2.15	0.62
1:A:1899:G:N2	1:A:1902:C:N4	2.35	0.62
18:R:55:ALA:HA	18:R:101:GLY:O	1.99	0.62
2:B:16:G:C6	2:B:69:G:C2	2.87	0.62
10:J:142:ARG:NH1	10:J:142:ARG:HG3	2.07	0.62
1:A:2329:G:H2'	1:A:2330:G:C8	2.34	0.62
1:A:1592:C:H2'	1:A:1593:G:H8	1.64	0.62
1:A:1051:G:C6	1:A:1052:C:N3	2.67	0.62
12:L:140:ALA:O	12:L:141:ALA:HB2	1.99	0.62
10:J:143:LEU:C	10:J:143:LEU:HD13	2.18	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:158:ALA:O	3:C:161:THR:HG23	2.00	0.62
4:D:111:ARG:HD2	4:D:160:TYR:CE1	2.31	0.62
21:U:89:PHE:H	21:U:90:LEU:HD23	1.64	0.62
16:P:84:GLN:HE21	16:P:84:GLN:HA	1.64	0.62
1:A:1449:G:H2'	1:A:1450:C:C6	2.35	0.62
11:K:80:ASP:OD2	16:P:71:GLY:HA3	1.99	0.62
12:L:58:THR:O	12:L:61:ARG:NE	2.29	0.62
10:J:113:MET:O	10:J:116:THR:O	2.17	0.62
3:C:108:PRO:HB3	3:C:143:HIS:CE1	2.34	0.62
21:U:76:CYS:HB3	21:U:77:PRO:CD	2.29	0.62
1:A:991:C:C5	1:A:1185:C:C4	2.88	0.62
1:A:2718:G:H2'	1:A:2719:G:H8	1.64	0.62
6:F:129:GLY:HA3	6:F:163:ALA:HB3	1.80	0.62
15:O:90:GLY:O	15:O:92:TYR:N	2.33	0.62
1:A:7:G:H2'	1:A:8:A:C8	2.34	0.62
7:G:89:ILE:HG22	7:G:89:ILE:O	1.99	0.62
1:A:1018:C:N3	1:A:1019:U:C5	2.68	0.62
1:A:1142:U:H5''	1:A:114(B):A:H5'	1.80	0.62
4:D:36:ARG:HD3	4:D:85:ASN:ND2	2.10	0.62
1:A:1586:A:N6	1:A:1587:A:C2	2.68	0.62
1:A:556:G:H2'	1:A:557:U:C6	2.34	0.62
1:A:2273:A:O2'	1:A:2274:A:H5'	2.00	0.62
1:A:978:G:C2'	1:A:979:G:H5'	2.30	0.62
2:B:93:C:H2'	2:B:94:C:H6	1.64	0.62
31:5:33:ASN:HA	31:5:36:LYS:HD3	1.81	0.62
1:A:2729:G:H1'	4:D:187:ALA:CB	2.26	0.62
3:C:155:LEU:HD23	3:C:177:LEU:CD2	2.26	0.62
30:4:19:ARG:NH1	30:4:19:ARG:HG3	2.03	0.62
1:A:1858:G:O2'	1:A:1859:A:H8	1.82	0.62
1:A:244:A:C2	1:A:255:A:C4	2.88	0.62
18:R:21:ARG:CZ	18:R:91:TYR:HE1	2.12	0.62
1:A:245:G:H2'	1:A:246:C:H6	1.63	0.62
3:C:142:VAL:HG23	3:C:193:VAL:HA	1.82	0.62
8:H:88:ILE:HG22	8:H:90:GLY:H	1.65	0.62
2:B:45:A:H1'	6:F:95:ARG:NH2	2.15	0.62
14:N:54:LEU:HD23	14:N:62:ALA:HB1	1.81	0.62
1:A:1343:G:C5'	1:A:1343:G:H8	2.13	0.62
18:R:20:LEU:O	18:R:20:LEU:HD23	2.00	0.62
12:L:59:LEU:HA	12:L:61:ARG:HD2	1.79	0.62
14:N:11:ASN:O	14:N:12:ARG:HB2	1.98	0.62
20:T:49:VAL:HG23	20:T:50:LYS:N	2.15	0.62
8:H:88:ILE:HG12	8:H:123:LEU:HA	1.81	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1153:C:H5'	17:Q:76:TYR:HE2	1.65	0.62
1:A:1558:A:H1'	1:A:1559:G:OP2	2.00	0.62
5:E:108:LYS:O	5:E:112:MET:HG3	2.00	0.62
1:A:573:G:O2'	1:A:574:C:H3'	1.99	0.62
8:H:88:ILE:HD11	8:H:123:LEU:HG	1.82	0.61
1:A:1487:G:N3	1:A:1488:G:C8	2.68	0.61
18:R:58:VAL:HG12	18:R:97:LYS:HB2	1.82	0.61
1:A:356:G:H2'	1:A:357:A:H8	1.64	0.61
1:A:188:G:H2'	1:A:189:G:H5'	1.81	0.61
1:A:2705:A:H2	14:N:64:ARG:NH1	1.98	0.61
1:A:310:A:OP1	21:U:18:GLY:HA2	1.99	0.61
1:A:860:U:HO2'	1:A:861:A:H5'	1.65	0.61
1:A:2542:A:OP1	1:A:2542:A:H4'	1.97	0.61
18:R:66:ARG:HD2	18:R:88:ARG:NH1	2.15	0.61
7:G:144:VAL:HA	7:G:147:ASN:HB2	1.82	0.61
1:A:1046:A:H3'	1:A:1047:G:C5'	2.30	0.61
7:G:73:ALA:O	7:G:77:LYS:HG2	2.00	0.61
1:A:2531:A:C5'	7:G:157:TYR:CZ	2.83	0.61
1:A:1389:G:H2'	1:A:1390:U:C6	2.35	0.61
22:V:39:VAL:HG23	22:V:40:ASP:N	2.14	0.61
13:M:43:THR:HG23	13:M:46:GLN:CD	2.20	0.61
17:Q:15:LYS:O	17:Q:19:LYS:HG3	1.99	0.61
22:V:127:LYS:HD3	22:V:162:GLU:OE1	1.99	0.61
23:W:23:VAL:HB	23:W:26:TYR:HE2	1.65	0.61
16:P:64:ARG:HD2	16:P:73:GLU:OE2	1.99	0.61
12:L:32:THR:HG21	12:L:37:GLY:HA2	1.82	0.61
2:B:103:U:O2'	22:V:72:ARG:HG3	2.00	0.61
4:D:47:VAL:HG21	4:D:86:PRO:HD3	1.81	0.61
10:J:74:PHE:CE1	10:J:142:ARG:HD2	2.35	0.61
15:O:41:ASP:OD2	15:O:44:LYS:HD3	2.01	0.61
12:L:48:PRO:O	12:L:49:ARG:O	2.18	0.61
15:O:11:LYS:O	15:O:12:PHE:HB3	2.00	0.61
26:Z:43:ILE:N	26:Z:43:ILE:CD1	2.63	0.61
1:A:2746:U:H2'	1:A:2747:G:O5'	2.01	0.61
13:M:119:ARG:HG2	13:M:120:ILE:HD13	1.81	0.61
1:A:991:C:C5	1:A:1185:C:N4	2.69	0.61
1:A:2233:U:H2'	1:A:2234:G:C8	2.35	0.61
21:U:8:LYS:H	21:U:8:LYS:NZ	1.98	0.61
18:R:5:VAL:HG21	18:R:35:LEU:HG	1.83	0.61
2:B:66:A:C5	2:B:108:C:C5	2.88	0.61
1:A:910:A:C6	1:A:911:A:C6	2.88	0.61
1:A:979:G:H3'	1:A:980:A:H5''	1.83	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:121:HIS:HB3	22:V:123:ASP:O	1.99	0.61
1:A:2461:C:H2'	1:A:2461:C:O2	2.01	0.61
1:A:2774:C:H2'	1:A:2775:A:O4'	2.00	0.61
5:E:11:VAL:O	5:E:12:LEU:HD12	2.00	0.61
12:L:62:LEU:HD23	31:5:25:MET:HB2	1.82	0.61
1:A:2727:G:C4	1:A:2728:U:C5	2.89	0.61
3:C:25:THR:CG2	3:C:82:ILE:N	2.64	0.61
3:C:25:THR:HG22	3:C:82:ILE:O	2.00	0.61
1:A:105:C:H2'	1:A:106:C:C6	2.35	0.61
1:A:2100:G:N2	1:A:2101:G:H1'	2.15	0.61
1:A:302:C:H2'	1:A:303:U:C6	2.36	0.61
22:V:108:PRO:HA	22:V:142:SER:O	2.01	0.61
1:A:1164:G:C6	1:A:1165:U:C4	2.88	0.61
1:A:484:C:H2'	1:A:485:C:C6	2.36	0.61
31:5:57:ARG:HH11	31:5:57:ARG:HB2	1.65	0.61
11:K:76:ALA:HB3	16:P:75:ILE:HB	1.83	0.61
12:L:33:ARG:O	12:L:35:HIS:O	2.17	0.61
3:C:31:LYS:O	3:C:35:LYS:CB	2.47	0.61
12:L:45:LEU:HD23	12:L:46:LYS:H	1.66	0.61
1:A:114(B):A:C4	1:A:1144:G:C8	2.88	0.61
24:X:46:LEU:HD23	24:X:46:LEU:C	2.21	0.61
21:U:81:LYS:NZ	21:U:97:ARG:HD3	2.15	0.61
1:A:483:A:H4'	21:U:49:VAL:HG23	1.82	0.61
22:V:180:VAL:C	22:V:182:LYS:H	2.03	0.61
1:A:2101:G:C2'	1:A:2102:U:H5'	2.29	0.61
3:C:30:GLU:HG3	3:C:63:ARG:NH2	2.14	0.61
1:A:2639:A:C2'	1:A:2640:G:H5'	2.30	0.61
14:N:52:ILE:HG21	14:N:94:TYR:CG	2.35	0.61
1:A:2392:A:OP2	31:5:31:HIS:CE1	2.54	0.61
1:A:1657:C:H2'	1:A:1658:C:H6	1.63	0.61
15:O:12:PHE:C	15:O:12:PHE:CD1	2.74	0.61
4:D:2:LYS:HD3	4:D:95:ILE:HB	1.83	0.61
1:A:2723:C:C2'	1:A:2724:C:O5'	2.48	0.61
17:Q:98:LEU:O	17:Q:101:ARG:O	2.19	0.61
3:C:133:LEU:C	3:C:135:PHE:N	2.54	0.61
1:A:115:C:C2'	1:A:116:C:H5'	2.31	0.61
29:3:38:LYS:HD3	29:3:46:HIS:ND1	2.16	0.61
1:A:1430:C:H2'	1:A:1431:U:C6	2.36	0.61
1:A:1216:G:OP1	17:Q:8:VAL:HG12	2.00	0.61
1:A:2853:C:H2'	1:A:2854:G:H8	1.64	0.61
1:A:2416:C:H2'	1:A:2417:C:H6	1.66	0.61
12:L:126:VAL:HA	12:L:145:PRO:HG2	1.82	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:994:C:O2'	1:A:996:A:OP1	2.19	0.61
20:T:28:PHE:HD1	20:T:28:PHE:N	1.99	0.61
1:A:2712:U:O2'	1:A:712(B):A:H5''	2.00	0.61
6:F:105:LYS:NZ	27:1:52:SER:HB2	2.16	0.61
2:B:103:U:O2'	2:B:104:A:H5'	2.00	0.61
1:A:1495:A:C5'	1:A:1496:A:OP2	2.48	0.61
3:C:136:ILE:HG23	3:C:137:PRO:HD2	1.83	0.61
1:A:865:C:H4'	1:A:866:A:N7	2.15	0.61
3:C:75:ILE:O	3:C:118:VAL:HG23	2.01	0.61
1:A:2432:A:H5''	1:A:2433:A:OP2	2.01	0.61
15:O:93:LYS:NZ	15:O:93:LYS:HB2	2.15	0.61
1:A:1916:A:H2'	1:A:1917:U:O4'	2.01	0.61
2:B:56:G:H4'	2:B:57:A:C8	2.36	0.61
17:Q:88:ILE:HG13	17:Q:88:ILE:O	2.01	0.61
17:Q:95:LEU:HD13	18:R:4:ILE:HG23	1.83	0.61
14:N:9:LYS:C	14:N:10:LEU:HG	2.21	0.61
1:A:528:A:C8	1:A:528:A:C3'	2.83	0.61
7:G:94:TYR:OH	7:G:160:LYS:HD3	2.00	0.61
3:C:133:LEU:O	3:C:135:PHE:N	2.33	0.61
1:A:2637:U:H5''	4:D:82:ARG:HH21	1.66	0.61
10:J:80:ALA:O	10:J:83:ILE:CG1	2.49	0.61
1:A:639:U:H2'	1:A:640:C:C6	2.35	0.61
8:H:87:LYS:HA	8:H:122:GLU:HA	1.83	0.61
4:D:158:GLY:O	4:D:159:HIS:C	2.39	0.61
8:H:118:LYS:HG2	8:H:119:PRO:N	2.16	0.61
1:A:83:G:N1	1:A:102:G:O2'	1.96	0.60
1:A:1178:C:O2'	1:A:1179:C:H5'	2.00	0.60
3:C:35:LYS:CE	3:C:103:ARG:HA	2.31	0.60
10:J:93:LYS:CE	10:J:95:TYR:HE1	2.14	0.60
2:B:7:G:H5''	15:O:29:PHE:CE2	2.35	0.60
15:O:72:ALA:O	15:O:76:LYS:HG3	2.01	0.60
19:S:29:LEU:O	19:S:33:ARG:HD2	2.01	0.60
1:A:1503:U:C2	1:A:1504:C:C5	2.89	0.60
1:A:686:G:O6	30:4:12:ARG:HG3	2.01	0.60
3:C:25:THR:O	3:C:25:THR:HG23	2.01	0.60
1:A:379:G:H1	24:X:20:ARG:HH22	1.47	0.60
16:P:1:MET:C	16:P:3:ARG:N	2.54	0.60
1:A:184:C:H2'	1:A:185:U:C6	2.36	0.60
1:A:1451:C:N3	1:A:1459:G:O6	2.34	0.60
12:L:46:LYS:HG2	12:L:52:GLU:OE1	2.01	0.60
19:S:36:LEU:HD12	19:S:48:ALA:HA	1.83	0.60
1:A:257:A:C2'	1:A:258:G:O5'	2.48	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:132:PRO:O	3:C:136:ILE:HD12	2.01	0.60
22:V:41:LEU:HD21	22:V:83:PRO:HG2	1.83	0.60
1:A:2485:G:C5'	13:M:46:GLN:HE21	2.14	0.60
1:A:692:C:O2'	1:A:693:C:H5'	2.01	0.60
1:A:2739:U:O2	1:A:2739:U:H2'	1.99	0.60
1:A:1543:A:H5'	1:A:1544:C:O5'	2.01	0.60
1:A:2847:U:OP1	16:P:98:LYS:HD3	2.01	0.60
10:J:88:LYS:O	10:J:89:LYS:C	2.40	0.60
3:C:70:TRP:CZ3	3:C:146:GLU:OE1	2.51	0.60
10:J:81:ASP:OD2	10:J:147:ALA:HB1	2.01	0.60
1:A:9:U:N3	1:A:2629:A:N6	2.49	0.60
18:R:22:VAL:HG12	18:R:23:GLU:N	2.15	0.60
1:A:1547:C:H2'	1:A:1548:C:H6	1.67	0.60
2:B:81:G:C6	2:B:82:G:C5	2.89	0.60
8:H:88:ILE:HG12	8:H:123:LEU:CA	2.31	0.60
14:N:4:LEU:O	14:N:4:LEU:HD23	2.01	0.60
15:O:36:TYR:HD1	15:O:36:TYR:N	1.99	0.60
1:A:380:U:O2	1:A:381:G:C8	2.53	0.60
1:A:389:G:H22	12:L:72:PRO:HD3	1.66	0.60
1:A:461:C:C2'	1:A:462:C:H5'	2.31	0.60
11:K:25:LEU:HB2	11:K:38:VAL:O	2.00	0.60
5:E:110:LEU:HD11	5:E:181:LEU:HD13	1.84	0.60
3:C:226:MET:C	3:C:227:ASN:HD22	2.05	0.60
1:A:270(Q):C:HO2'	1:A:270(R):C:H6	1.48	0.60
1:A:643:A:C2	1:A:644:A:C4	2.90	0.60
29:3:34:LEU:O	29:3:34:LEU:HD22	2.01	0.60
24:X:30:VAL:HG12	24:X:30:VAL:O	2.01	0.60
1:A:1159:U:H2'	1:A:1160:G:H8	1.67	0.60
8:H:109:ILE:N	8:H:109:ILE:HD13	2.16	0.60
24:X:45:ASN:HD22	24:X:46:LEU:N	1.99	0.60
1:A:2577:A:H5''	1:A:2578:G:C5'	2.32	0.60
16:P:26:ASP:HB3	16:P:92:GLY:H	1.67	0.60
1:A:1433:U:O2'	1:A:1434:A:H5'	2.02	0.60
24:X:23:LYS:O	24:X:23:LYS:HG3	2.01	0.60
1:A:1794:U:H2'	1:A:1795:C:C6	2.35	0.60
22:V:120:ILE:HD13	22:V:120:ILE:N	2.16	0.60
22:V:177:PRO:O	22:V:178:GLU:HB3	2.01	0.60
4:D:11:MET:HE3	4:D:24:THR:HB	1.84	0.60
16:P:54:ARG:HG3	16:P:54:ARG:NH1	1.95	0.60
8:H:92:VAL:O	8:H:120:ILE:HD12	2.01	0.60
25:Y:60:LEU:C	25:Y:62:THR:H	2.04	0.60
22:V:24:LEU:CD1	22:V:85:HIS:HA	2.32	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:356:G:H2'	1:A:357:A:C8	2.35	0.60
1:A:1946:U:H2'	1:A:1947:C:C6	2.37	0.60
1:A:1268:A:C2'	1:A:1269:A:O5'	2.50	0.60
1:A:2852:G:O2'	1:A:2853:C:H5'	2.01	0.60
1:A:1169:G:H1	1:A:1180:C:H42	1.49	0.60
1:A:631:A:H2'	1:A:632:A:O4'	2.01	0.60
6:F:76:SER:HB2	6:F:83:ARG:C	2.21	0.60
1:A:1141:U:H6	10:J:86:THR:HG1	1.45	0.60
1:A:1208:C:C4	1:A:1209:G:N7	2.70	0.60
1:A:2681:C:C5	1:A:2725:A:N6	2.58	0.60
1:A:1343:G:C5'	1:A:1343:G:C8	2.82	0.60
3:C:237:GLU:OE2	3:C:237:GLU:O	2.18	0.60
1:A:954:G:C5	1:A:955:C:C5	2.89	0.60
14:N:99:LYS:HA	14:N:112:ALA:CB	2.32	0.60
1:A:286:C:H2'	1:A:287:C:C6	2.34	0.60
1:A:1778:U:H2'	1:A:1784:A:H62	1.66	0.60
4:D:117:MET:HE2	4:D:124:GLY:HA3	1.81	0.60
4:D:32:PRO:HA	4:D:90:THR:HG22	1.82	0.60
5:E:53:THR:N	5:E:56:GLU:OE1	2.35	0.60
4:D:181:LEU:HD21	16:P:7:ILE:CG2	2.30	0.60
1:A:886:C:O2'	1:A:887:A:H4'	2.01	0.60
1:A:1981:A:H5''	1:A:1982:C:OP2	2.01	0.60
31:5:26:LYS:HA	31:5:48:PHE:HE2	1.66	0.60
31:5:14:VAL:CG1	31:5:22:VAL:HG13	2.32	0.60
12:L:111:ARG:HG3	12:L:128:HIS:CB	2.32	0.60
12:L:80:TYR:CD1	12:L:111:ARG:HB3	2.37	0.60
1:A:747:U:C4	28:2:2:ALA:N	2.70	0.60
10:J:38:LEU:HD12	10:J:39:ILE:H	1.65	0.60
1:A:861:A:H2'	1:A:862:G:C5'	2.32	0.60
6:F:32:PRO:HB2	6:F:172:LEU:HD22	1.83	0.60
1:A:226:G:H21	1:A:228:A:N6	1.98	0.60
1:A:225:A:N6	1:A:226:G:N1	2.50	0.60
22:V:24:LEU:CB	22:V:41:LEU:HG	2.32	0.60
1:A:2879:C:H4'	1:A:2880:C:OP1	2.02	0.60
14:N:52:ILE:CD1	14:N:79:LEU:HD21	2.32	0.60
17:Q:34:LYS:HE3	17:Q:34:LYS:HA	1.83	0.60
1:A:1996:C:H4'	1:A:1997:G:OP1	2.02	0.60
19:S:59:VAL:HG12	19:S:60:ASN:OD1	2.02	0.60
23:W:72:ARG:CZ	23:W:75:LEU:HD13	2.32	0.60
10:J:65:TRP:O	17:Q:64:ARG:NH1	2.35	0.60
1:A:241:A:H5'	1:A:243:U:H1'	1.83	0.60
1:A:2655:G:N2	1:A:2664:G:C4	2.69	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:150:GLY:HA2	5:E:172:TRP:CD2	2.37	0.60
6:F:94:LEU:HD12	6:F:99:MET:HA	1.83	0.60
4:D:106:GLY:HA3	4:D:189:PRO:HB2	1.84	0.60
4:D:11:MET:CB	4:D:24:THR:HA	2.32	0.60
1:A:1141:U:OP2	10:J:86:THR:CG2	2.50	0.60
15:O:14:VAL:HG12	15:O:18:ILE:HD11	1.84	0.60
30:4:19:ARG:NH1	30:4:19:ARG:HB3	2.17	0.60
8:H:130:TYR:O	8:H:132:PRO:HD3	2.01	0.60
2:B:50:G:C5	2:B:51:G:C8	2.89	0.60
25:Y:46:GLN:HB2	25:Y:49:LYS:HZ1	1.64	0.60
1:A:528:A:C2	1:A:2043:C:H4'	2.36	0.60
1:A:2277:G:H5''	13:M:85:LYS:CB	2.32	0.60
7:G:86:GLU:HG2	7:G:86:GLU:O	2.01	0.60
1:A:828:U:O2	1:A:828:U:C2'	2.49	0.60
1:A:415:A:H2'	1:A:416:C:H6	1.66	0.60
1:A:2394:C:OP1	12:L:63:PRO:HD2	2.02	0.60
16:P:23:ARG:HH11	16:P:23:ARG:CG	2.15	0.60
26:Z:52:HIS:H	26:Z:52:HIS:CD2	2.18	0.59
7:G:67:LEU:O	7:G:71:LEU:HD23	2.01	0.59
1:A:2346:A:H5''	1:A:2383:G:C1'	2.32	0.59
16:P:26:ASP:HB3	16:P:92:GLY:N	2.17	0.59
1:A:229:A:H5'	1:A:230:U:C5'	2.31	0.59
1:A:796:C:H2'	1:A:797:C:C6	2.37	0.59
1:A:2347:C:OP1	29:3:39:TYR:HE1	1.84	0.59
4:D:100:GLU:O	4:D:172:VAL:HG23	2.02	0.59
1:A:1773:A:H2'	1:A:1774:C:H5'	1.84	0.59
1:A:496:G:H1'	19:S:61:ASN:HD21	1.67	0.59
16:P:64:ARG:HA	16:P:72:VAL:O	2.02	0.59
1:A:1657:C:H2'	1:A:1658:C:C6	2.37	0.59
3:C:71:ASP:OD2	3:C:103:ARG:NH2	2.35	0.59
1:A:142:G:H1'	20:T:37:THR:HG21	1.84	0.59
8:H:123:LEU:HD23	8:H:124:GLY:N	2.17	0.59
4:D:50:GLY:HA2	4:D:78:LEU:HB3	1.84	0.59
24:X:11:ARG:HH12	24:X:61:ARG:H	1.50	0.59
7:G:52:VAL:O	7:G:52:VAL:HG12	2.02	0.59
1:A:282:A:C5	1:A:359:A:C2	2.90	0.59
22:V:25:PRO:O	22:V:85:HIS:HB2	2.02	0.59
1:A:2401:U:C2'	1:A:2402:C:H5''	2.32	0.59
1:A:2436:G:C5	1:A:2437:U:C5	2.90	0.59
1:A:1149:G:H2'	1:A:1150:C:C6	2.36	0.59
11:K:14:THR:HG22	11:K:52:VAL:HB	1.83	0.59
1:A:49:A:H4'	1:A:50:U:H5''	1.84	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:4:8:ASN:ND2	30:4:9:ARG:N	2.46	0.59
1:A:2272:U:C5'	1:A:2272:U:H6	2.07	0.59
10:J:157:ARG:N	10:J:158:PRO:HD3	2.05	0.59
1:A:1639:U:H2'	1:A:1640:C:H5''	1.83	0.59
2:B:45:A:N3	2:B:45:A:H2'	2.17	0.59
1:A:661:C:O3'	12:L:18:ARG:HG2	2.03	0.59
21:U:29:GLU:HA	21:U:29:GLU:OE2	2.03	0.59
13:M:37:LEU:HG	13:M:128:LYS:O	2.02	0.59
23:W:50:ASN:C	23:W:62:LEU:HB2	2.22	0.59
1:A:565:C:C2'	1:A:566:U:O5'	2.51	0.59
1:A:828:U:O2	1:A:828:U:C3'	2.51	0.59
28:2:36:CYS:SG	28:2:37:LYS:N	2.75	0.59
1:A:1514:U:H2'	1:A:1515:C:H6	1.66	0.59
3:C:218:ARG:HB3	3:C:219:PRO:HD2	1.83	0.59
5:E:158:THR:HG23	5:E:160:ASN:N	2.17	0.59
12:L:59:LEU:HD23	12:L:59:LEU:O	2.03	0.59
12:L:84:ASN:HA	12:L:115:LEU:O	2.02	0.59
1:A:1448:G:N3	1:A:1529:A:H2	1.99	0.59
1:A:1971:A:N3	3:C:240:ALA:HA	2.17	0.59
24:X:12:PRO:O	24:X:14:VAL:HG23	2.03	0.59
1:A:1495:A:C2	1:A:1496:A:C2	2.91	0.59
1:A:528:A:C2	1:A:2042:A:H2'	2.37	0.59
21:U:20:TYR:CE1	21:U:42:VAL:HA	2.38	0.59
1:A:534:U:O2'	17:Q:49:HIS:HD2	1.81	0.59
1:A:1396:U:O2	1:A:1396:U:C2'	2.50	0.59
4:D:46:ALA:CB	4:D:82:ARG:HA	2.32	0.59
5:E:181:LEU:HD21	5:E:186:ILE:HD11	1.83	0.59
1:A:2889:C:H2'	1:A:2891:G:C8	2.37	0.59
17:Q:92:ARG:NH2	18:R:11:GLN:N	2.48	0.59
13:M:47:ILE:CG2	13:M:48:GLU:N	2.61	0.59
22:V:13:GLU:HB3	22:V:18:LEU:CD1	2.33	0.59
1:A:1973:G:H2'	1:A:1974:C:C6	2.37	0.59
23:W:14:ARG:HB2	23:W:14:ARG:CZ	2.32	0.59
25:Y:13:ALA:O	25:Y:17:SER:OG	2.05	0.59
3:C:108:PRO:HG3	3:C:143:HIS:CE1	2.38	0.59
1:A:819:A:OP2	1:A:1187:G:N2	2.24	0.59
1:A:2565:A:H5''	1:A:2566:A:OP2	2.03	0.59
23:W:35:ASN:N	23:W:35:ASN:HD22	2.01	0.59
11:K:26:LYS:O	11:K:27:GLY:O	2.21	0.59
1:A:1526:G:C6	1:A:1527:G:C2	2.91	0.59
1:A:2836:U:C4	1:A:2883:A:N6	2.69	0.59
1:A:270(M):U:H3'	1:A:270(N):U:H5''	1.85	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:191:A:H2'	1:A:192:C:C6	2.38	0.59
1:A:2317:C:H2'	1:A:2318:G:H5'	1.85	0.59
17:Q:102:GLU:HG3	18:R:2:PHE:CD1	2.38	0.59
25:Y:6:VAL:CG1	25:Y:10:LEU:HD11	2.28	0.59
6:F:43:LEU:O	6:F:88:ILE:HG23	2.02	0.59
4:D:57:LYS:HG3	4:D:58:ARG:H	1.68	0.59
3:C:24:ILE:CD1	3:C:84:TYR:HB2	2.32	0.59
1:A:753:C:OP1	30:4:1:MET:HE3	2.02	0.59
1:A:2036:C:H6	1:A:2036:C:C5'	2.16	0.59
1:A:2716:U:O2'	1:A:2717:G:H5'	2.02	0.59
16:P:64:ARG:HD2	16:P:73:GLU:HG2	1.85	0.59
1:A:993:G:C4	1:A:994:C:H5	2.20	0.59
6:F:128:ARG:NH2	6:F:161:THR:O	2.34	0.59
1:A:71:A:C2	20:T:31:HIS:CE1	2.89	0.59
8:H:68:LEU:C	8:H:138:ILE:HD13	2.23	0.59
3:C:96:HIS:HD2	3:C:102:LYS:HD3	1.63	0.59
26:Z:40:THR:HG23	26:Z:43:ILE:CG1	2.31	0.59
22:V:102:LEU:HD21	22:V:124:ILE:CD1	2.33	0.59
1:A:61:G:H5'	25:Y:50:ILE:HG21	1.85	0.59
5:E:36:VAL:O	5:E:40:GLN:HG3	2.03	0.59
18:R:22:VAL:CG1	18:R:23:GLU:N	2.64	0.59
1:A:1901:A:N3	1:A:1901:A:H2'	2.16	0.59
1:A:958:U:OP2	13:M:14:ARG:NH1	2.36	0.59
1:A:727:A:C2	3:C:9:TYR:CD2	2.90	0.59
17:Q:92:ARG:HD2	17:Q:95:LEU:HG	1.85	0.59
10:J:89:LYS:O	10:J:90:LEU:C	2.41	0.59
1:A:1288:U:C2	1:A:1327:C:O2	2.55	0.59
6:F:7:LEU:HA	6:F:10:LYS:HB2	1.85	0.59
13:M:134:ARG:NE	13:M:134:ARG:HA	2.18	0.59
1:A:1833:U:C2'	1:A:1834:U:H5'	2.33	0.59
3:C:43:ARG:HB2	3:C:49:ILE:HA	1.83	0.59
1:A:84:A:H2	1:A:98:G:N3	2.01	0.59
1:A:1019:U:O2'	1:A:1021:A:C2	2.55	0.59
19:S:24:ILE:HG21	19:S:36:LEU:HD21	1.84	0.59
1:A:1105:U:O2'	1:A:1106:G:H5'	2.03	0.59
1:A:185:U:H2'	1:A:186:G:H8	1.68	0.59
13:M:62:GLY:O	22:V:178:GLU:HG2	2.02	0.59
10:J:146:TYR:N	10:J:146:TYR:CD1	2.70	0.59
18:R:1:MET:H2	18:R:16:PRO:HD3	1.67	0.59
5:E:59:TYR:HB3	5:E:78:ILE:HD12	1.84	0.59
6:F:143:GLU:H	6:F:143:GLU:CD	2.05	0.59
4:D:132:HIS:CG	4:D:135:HIS:NE2	2.70	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:90:LEU:O	10:J:111:GLU:HG3	2.02	0.58
1:A:2730:C:O2'	1:A:2731:G:H5'	2.02	0.58
8:H:82:ARG:HB3	8:H:89:TYR:CD1	2.38	0.58
1:A:1771:C:H1'	1:A:1786:A:C8	2.38	0.58
21:U:29:GLU:CB	21:U:38:ILE:HB	2.31	0.58
1:A:2808:U:H2'	1:A:2809:A:C5'	2.32	0.58
1:A:2058:A:N6	1:A:2059:A:N6	2.51	0.58
31:5:57:ARG:CA	31:5:57:ARG:CZ	2.81	0.58
5:E:65:TRP:CZ3	5:E:72:ARG:HB3	2.39	0.58
6:F:84:LYS:CG	6:F:85:GLY:H	2.07	0.58
1:A:1266:G:O5'	19:S:15:ARG:NH2	2.36	0.58
1:A:2787:C:H1'	4:D:62:PRO:CB	2.33	0.58
14:N:57:ARG:HD2	14:N:59:ASP:OD2	2.03	0.58
1:A:2287:A:O2'	1:A:2288:A:O5'	2.20	0.58
1:A:1746:G:C2	1:A:1747:G:N7	2.71	0.58
17:Q:30:LYS:O	17:Q:31:SER:HB3	2.03	0.58
1:A:903:C:H2'	1:A:904:C:C6	2.38	0.58
1:A:207:A:H2'	1:A:208:C:O4'	2.02	0.58
7:G:13:LYS:O	7:G:15:VAL:HG13	2.03	0.58
22:V:11:GLU:HG3	22:V:12:GLY:N	2.18	0.58
12:L:61:ARG:CD	31:5:13:ARG:HD2	2.32	0.58
4:D:132:HIS:HA	4:D:135:HIS:CE1	2.38	0.58
1:A:1158:C:C2'	1:A:1159:U:H5'	2.33	0.58
18:R:39:LEU:CB	18:R:47:VAL:HG21	2.32	0.58
2:B:81:G:C5	2:B:82:G:C8	2.91	0.58
14:N:107:ASP:OD2	14:N:107:ASP:C	2.40	0.58
1:A:2755:C:O2'	1:A:2756:U:H2'	2.03	0.58
1:A:270(H):C:H2'	1:A:270(I):C:C6	2.36	0.58
1:A:1389:G:O2'	1:A:1390:U:H5'	2.04	0.58
1:A:1793:C:H2'	1:A:1794:U:C6	2.39	0.58
1:A:706:A:H2'	1:A:707:G:O4'	2.03	0.58
22:V:9:TYR:CZ	22:V:61:LEU:HD13	2.37	0.58
16:P:124:ASP:O	16:P:128:GLU:HB2	2.03	0.58
16:P:80:SER:C	16:P:82:LEU:H	2.06	0.58
12:L:81:GLN:HG2	12:L:106:LEU:HD22	1.85	0.58
1:A:1158:C:O2'	1:A:1159:U:H5'	2.03	0.58
12:L:49:ARG:HG3	31:5:60:LEU:HD21	1.84	0.58
1:A:2698:U:H2'	1:A:2699:C:C6	2.38	0.58
6:F:88:ILE:HD11	6:F:90:LEU:CD2	2.33	0.58
1:A:661:C:C4'	12:L:18:ARG:HG2	2.32	0.58
4:D:111:ARG:CD	4:D:160:TYR:HE1	2.14	0.58
1:A:952:G:OP1	13:M:16:ARG:NH2	2.33	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:226:G:C2	1:A:228:A:N6	2.72	0.58
1:A:1478:G:C2	1:A:1479:G:C8	2.92	0.58
2:B:48:A:H4'	15:O:95:HIS:CD2	2.38	0.58
12:L:136:GLU:O	12:L:137:LYS:C	2.42	0.58
1:A:2320:A:N3	1:A:2320:A:H2'	2.19	0.58
4:D:6:GLY:HA2	4:D:51:PHE:HE2	1.69	0.58
26:Z:43:ILE:H	26:Z:43:ILE:HD13	1.64	0.58
23:W:70:GLN:OE1	23:W:72:ARG:HD3	2.03	0.58
2:B:78:A:C2	2:B:99:A:C5	2.91	0.58
1:A:640:C:H2'	1:A:641:C:C6	2.37	0.58
31:5:29:LYS:HB3	31:5:29:LYS:NZ	2.19	0.58
16:P:29:ARG:HD2	16:P:44:ASP:OD2	2.03	0.58
1:A:819:A:C4	1:A:1189:A:C2	2.91	0.58
4:D:6:GLY:HA2	4:D:51:PHE:CE2	2.37	0.58
4:D:51:PHE:HB3	4:D:77:ILE:HD12	1.84	0.58
24:X:11:ARG:HH12	24:X:61:ARG:N	2.01	0.58
1:A:2758:A:C5	7:G:67:LEU:HD21	2.38	0.58
1:A:1055:G:H2'	1:A:1056:G:H8	1.63	0.58
1:A:558:G:P	10:J:134:PRO:HD2	2.44	0.58
3:C:25:THR:HG21	3:C:82:ILE:H	1.68	0.58
3:C:25:THR:O	3:C:27:THR:HB	2.04	0.58
21:U:59:GLY:HA3	21:U:61:ILE:HG12	1.84	0.58
1:A:2709:G:C2'	1:A:2710:C:H5'	2.34	0.58
1:A:530:G:C5	1:A:2022:U:H5''	2.39	0.58
13:M:40:ALA:HB2	13:M:127:ILE:HD12	1.85	0.58
1:A:46:C:H42	1:A:179:G:H1	1.52	0.58
1:A:399:G:H2'	1:A:400:G:H5'	1.85	0.58
4:D:24:THR:HB	4:D:186:GLY:HA2	1.85	0.58
17:Q:69:CYS:CB	17:Q:79:PHE:HD2	2.17	0.58
28:2:20:ARG:CA	28:2:23:HIS:HD2	2.10	0.58
6:F:105:LYS:HZ3	27:1:52:SER:HB2	1.69	0.58
1:A:2723:C:H2'	1:A:2724:C:O5'	2.03	0.58
1:A:953:A:OP2	13:M:16:ARG:NH2	2.36	0.58
1:A:997:G:O2'	1:A:998:C:H5'	2.04	0.58
7:G:86:GLU:HG2	7:G:164:TYR:O	2.04	0.58
16:P:88:ILE:HD12	16:P:89:VAL:H	1.67	0.58
2:B:111:U:O2	2:B:112:G:C8	2.56	0.58
4:D:175:VAL:O	4:D:177:PRO:HD3	2.03	0.58
20:T:40:LYS:O	20:T:42:ALA:N	2.36	0.58
1:A:851:U:O2	1:A:928:G:C2	2.57	0.58
1:A:2604:U:O2	1:A:2604:U:H2'	2.02	0.58
20:T:44:GLU:OE2	20:T:50:LYS:HG2	2.04	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:Y:14:ARG:HA	25:Y:17:SER:CB	2.25	0.58
2:B:84:C:O2	2:B:84:C:H2'	2.02	0.58
4:D:54:GLN:OE1	4:D:55:ASN:N	2.36	0.58
21:U:81:LYS:CG	21:U:97:ARG:HB3	2.34	0.58
22:V:137:ILE:N	22:V:137:ILE:HD12	2.18	0.58
1:A:2815:C:O2'	28:2:43:HIS:CD2	2.56	0.58
1:A:773:U:H5'	3:C:47:GLY:HA3	1.85	0.58
23:W:28:GLY:HA2	23:W:66:VAL:CG1	2.34	0.58
1:A:1711:C:O2'	1:A:1712:C:H5'	2.03	0.58
1:A:1429:G:H2'	1:A:1430:C:C6	2.39	0.58
1:A:1403:C:H5''	1:A:1471:A:H1'	1.85	0.58
27:1:38:ALA:HA	27:1:55:PRO:HA	1.85	0.58
2:B:113:C:O2'	15:O:46:VAL:HG13	2.04	0.58
12:L:50:ARG:HG3	31:5:7:HIS:CD2	2.38	0.58
1:A:126:A:O5'	30:4:19:ARG:HG2	2.03	0.58
20:T:35:THR:HG22	20:T:36:LYS:H	1.69	0.58
18:R:77:ALA:O	18:R:79:VAL:N	2.37	0.58
3:C:172:TYR:HD1	3:C:185:VAL:C	2.06	0.58
19:S:29:LEU:HD21	19:S:33:ARG:NE	2.15	0.58
1:A:848:G:O6	1:A:929:G:H2'	2.04	0.58
1:A:952:G:P	13:M:16:ARG:HH22	2.26	0.58
17:Q:61:TRP:O	17:Q:64:ARG:N	2.37	0.58
1:A:2842:G:H1	1:A:2875:C:N4	2.02	0.58
1:A:2284:C:H1'	1:A:2325:G:C2	2.39	0.58
10:J:101:TYR:HB3	10:J:102:PRO:CD	2.33	0.58
14:N:44:LEU:C	14:N:44:LEU:HD13	2.23	0.58
10:J:127:LYS:HB2	10:J:140:PHE:HE1	1.68	0.58
12:L:33:ARG:CB	12:L:36:LYS:HD3	2.33	0.58
12:L:41:ARG:NH2	12:L:45:LEU:HD12	2.19	0.58
1:A:142:G:H1'	20:T:37:THR:CG2	2.34	0.58
4:D:57:LYS:HG3	4:D:58:ARG:N	2.19	0.58
1:A:1332:G:N2	1:A:1609:A:O2'	2.36	0.58
13:M:8:LYS:CG	13:M:9:TYR:H	2.16	0.58
24:X:19:GLN:CG	24:X:41:ARG:HE	2.17	0.58
3:C:227:ASN:HD22	3:C:227:ASN:N	2.02	0.58
1:A:2317:C:H2'	1:A:2318:G:C5'	2.34	0.58
17:Q:65:ILE:O	17:Q:68:ALA:N	2.34	0.58
1:A:553:U:C2'	1:A:554:U:H5'	2.34	0.58
31:5:31:HIS:C	31:5:33:ASN:N	2.49	0.57
5:E:66:PRO:HB3	5:E:68:LYS:HZ3	1.68	0.57
12:L:50:ARG:HB2	31:5:60:LEU:HD11	1.86	0.57
1:A:1487:G:C4	1:A:1488:G:C8	2.91	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:2:ARG:C	21:U:4:LYS:H	2.07	0.57
1:A:1218:C:C2'	1:A:1219:G:H5'	2.34	0.57
1:A:2371:G:O2'	29:3:45:LYS:HB3	2.04	0.57
1:A:880:G:H2'	1:A:881:G:C8	2.39	0.57
24:X:53:VAL:HG22	24:X:74:VAL:HG13	1.85	0.57
6:F:148:MET:HA	6:F:148:MET:HE3	1.86	0.57
10:J:118:PRO:HD2	10:J:119:GLU:OE1	2.04	0.57
1:A:2780:G:OP2	10:J:141:LYS:HD3	2.03	0.57
1:A:2261:C:O2'	1:A:2262:U:H5'	2.04	0.57
6:F:32:PRO:CB	6:F:172:LEU:HD22	2.34	0.57
15:O:39:ILE:HG13	15:O:73:LEU:HD13	1.85	0.57
1:A:2747:G:C6	1:A:2754:U:C5	2.91	0.57
21:U:76:CYS:CB	21:U:77:PRO:CD	2.81	0.57
1:A:1414:G:H2'	1:A:1415:U:H6	1.69	0.57
12:L:105:LEU:HD12	12:L:105:LEU:H	1.69	0.57
1:A:571:A:H4'	1:A:572:A:OP1	2.03	0.57
1:A:871:U:H4'	13:M:69:PHE:CE2	2.38	0.57
1:A:511:U:C5	1:A:512:G:C5	2.92	0.57
19:S:45:TYR:HD2	19:S:46:PHE:CD1	2.22	0.57
1:A:781:A:H2	1:A:1776:G:N3	2.02	0.57
22:V:17:ALA:HA	22:V:20:ARG:NH1	2.19	0.57
1:A:1543:A:C8	1:A:1545:A:O4'	2.57	0.57
10:J:141:LYS:O	10:J:144:LYS:HE3	2.04	0.57
3:C:11:PRO:O	3:C:13:ARG:N	2.37	0.57
12:L:52:GLU:HA	12:L:52:GLU:OE1	2.04	0.57
1:A:1104:C:O2'	1:A:1105:U:H5'	2.04	0.57
18:R:64:HIS:CD2	18:R:92:THR:CG2	2.86	0.57
11:K:24:VAL:HB	11:K:33:ALA:HB2	1.84	0.57
1:A:1516:U:H2'	1:A:1517:G:C8	2.39	0.57
21:U:42:VAL:HG23	21:U:67:LEU:HD11	1.87	0.57
1:A:582:G:OP1	17:Q:14:HIS:CD2	2.58	0.57
10:J:80:ALA:O	10:J:83:ILE:HG12	2.04	0.57
4:D:181:LEU:HD13	4:D:181:LEU:N	2.18	0.57
1:A:2572:A:H62	4:D:145:LYS:HG3	1.69	0.57
13:M:78:PRO:O	13:M:79:LEU:HB2	2.04	0.57
21:U:14:LEU:HD23	21:U:15:VAL:C	2.24	0.57
21:U:8:LYS:NZ	21:U:8:LYS:CA	2.68	0.57
10:J:143:LEU:O	10:J:144:LYS:HD2	2.04	0.57
12:L:32:THR:HG21	12:L:37:GLY:H	1.67	0.57
20:T:43:VAL:HG23	20:T:47:PHE:CD1	2.39	0.57
6:F:9:ARG:HD3	6:F:13:GLU:OE1	2.04	0.57
1:A:1439:A:C2	1:A:1553:A:C5	2.93	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2563:U:H4'	11:K:28:SER:HA	1.85	0.57
1:A:784:A:C5	3:C:229:VAL:HG21	2.40	0.57
1:A:739:G:H4'	1:A:740:U:OP1	2.05	0.57
1:A:1386:C:OP2	1:A:1396:U:C5	2.58	0.57
4:D:4:ILE:CG1	4:D:28:ALA:HB1	2.34	0.57
1:A:1893:C:C6	1:A:1894:C:C5	2.92	0.57
19:S:55:ALA:O	19:S:58:ALA:HB3	2.05	0.57
4:D:7:VAL:HA	4:D:194:GLY:O	2.04	0.57
1:A:812:C:H5'	12:L:25:SER:O	2.03	0.57
1:A:914:C:H5	1:A:915:C:C6	2.21	0.57
1:A:328:U:H4'	21:U:68:HIS:ND1	2.20	0.57
16:P:51:ARG:O	16:P:61:PHE:HA	2.05	0.57
1:A:807:U:OP2	12:L:39:LYS:CG	2.42	0.57
1:A:729:G:C8	3:C:208:LYS:HD3	2.39	0.57
2:B:33:G:C2	2:B:50:G:C2	2.93	0.57
14:N:63:ARG:HB2	14:N:63:ARG:NH1	2.17	0.57
1:A:997:G:C2'	1:A:998:C:H5'	2.34	0.57
7:G:94:TYR:CZ	7:G:160:LYS:HD3	2.40	0.57
1:A:2531:A:H4'	7:G:157:TYR:CD2	2.38	0.57
3:C:76:PRO:CB	3:C:116:GLN:HE21	2.17	0.57
1:A:1538:G:H2'	1:A:1539:G:C8	2.40	0.57
1:A:2093:G:H1	1:A:2196:C:N4	2.03	0.57
1:A:24:G:O2'	19:S:77:ASP:HB3	2.04	0.57
1:A:1797:C:O2'	3:C:259:THR:HG23	2.04	0.57
1:A:2393:A:H5'	12:L:60:MET:O	2.04	0.57
1:A:1171:G:H2'	1:A:1173:G:O4'	2.05	0.57
1:A:919:G:N2	1:A:2269:A:OP2	2.38	0.57
1:A:1826:G:H4'	3:C:242:ARG:NE	2.13	0.57
3:C:238:GLY:O	3:C:239:ARG:O	2.22	0.57
14:N:63:ARG:HA	14:N:80:PHE:CE2	2.39	0.57
7:G:20:ALA:HB3	7:G:23:ARG:O	2.04	0.57
1:A:1568:G:P	3:C:63:ARG:HH22	2.27	0.57
1:A:2636:U:H4'	4:D:80:GLU:CD	2.25	0.57
19:S:22:ASP:HA	19:S:25:ARG:NH1	2.19	0.57
19:S:25:ARG:HH11	19:S:25:ARG:HB2	1.69	0.57
2:B:2:C:H2'	2:B:3:C:H6	1.67	0.57
1:A:1459:G:H2'	1:A:1459:G:N3	2.19	0.57
1:A:1991:U:H2'	1:A:1992:G:H5'	1.87	0.57
2:B:28:C:H2'	2:B:29:A:H8	1.70	0.57
1:A:2183:C:O2	1:A:2183:C:H2'	2.04	0.57
16:P:55:ASN:H	16:P:59:THR:HB	1.69	0.57
12:L:50:ARG:HD2	12:L:51:PHE:CA	2.35	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:4:19:ARG:CB	30:4:19:ARG:HH11	2.17	0.57
1:A:1188:U:C2'	1:A:1189:A:H5'	2.34	0.57
1:A:2543:G:H2'	1:A:2544:G:C8	2.39	0.57
24:X:13:ILE:HG23	24:X:14:VAL:H	1.68	0.57
1:A:1046:A:H2	9:I:8:GLU:OE1	1.88	0.57
6:F:131:TYR:HE2	6:F:133:LEU:HB3	1.70	0.57
14:N:99:LYS:H	14:N:99:LYS:HD2	1.69	0.57
13:M:37:LEU:O	13:M:99:PRO:HB3	2.04	0.57
1:A:270(K):G:H2'	1:A:270(L):C:O4'	2.05	0.57
6:F:165:THR:OG1	6:F:168:GLU:HG3	2.04	0.57
1:A:1204:A:N1	1:A:1241:A:H2	2.03	0.57
1:A:127:A:H5''	1:A:128:C:C6	2.39	0.57
1:A:1115:G:O2'	1:A:1116:C:H5'	2.04	0.57
1:A:631:A:OP1	12:L:64:LYS:HE3	2.04	0.57
8:H:142:VAL:HG12	8:H:143:SER:H	1.69	0.57
1:A:1187:G:H8	1:A:1187:G:O5'	1.88	0.57
24:X:45:ASN:O	24:X:63:ALA:HA	2.04	0.57
11:K:88:ASN:ND2	11:K:90:GLN:HB3	2.20	0.57
21:U:47:LYS:HA	21:U:60:PHE:CZ	2.40	0.57
1:A:2243:U:H2'	1:A:2244:U:C6	2.39	0.57
13:M:133:ARG:O	13:M:134:ARG:HB2	2.04	0.57
1:A:289:A:H2'	1:A:290:G:O4'	2.04	0.57
1:A:749:C:O2	1:A:1618:A:H2'	2.05	0.57
6:F:137:GLU:HG2	6:F:152:LEU:HD22	1.85	0.57
10:J:49:LEU:O	10:J:53:ILE:HG13	2.05	0.57
30:4:19:ARG:NH1	30:4:19:ARG:CG	2.56	0.57
3:C:253:GLN:OE1	3:C:255:LYS:HD3	2.04	0.57
1:A:1587:A:H2'	1:A:1588:C:H6	1.62	0.57
13:M:19:GLY:O	13:M:98:LYS:HD3	2.04	0.57
1:A:2469:A:H2	1:A:2481:G:N2	2.00	0.57
1:A:18:C:OP1	17:Q:26:GLY:HA2	2.05	0.57
4:D:149:ARG:HG3	4:D:150:VAL:N	2.19	0.57
1:A:1530:G:N1	1:A:1542:G:N2	2.53	0.57
10:J:90:LEU:HA	10:J:110:LEU:HD13	1.87	0.57
1:A:2727:G:C5	1:A:2728:U:C5	2.93	0.57
4:D:134:ILE:HA	4:D:137:HIS:CD2	2.39	0.57
8:H:92:VAL:CG2	8:H:96:ASP:HB2	2.34	0.57
11:K:97:ARG:N	11:K:117:LEU:HD22	2.20	0.57
8:H:15:VAL:HG12	8:H:16:GLY:H	1.70	0.57
5:E:206:ILE:O	5:E:206:ILE:HD12	2.04	0.57
1:A:2188:C:H2'	1:A:2189:U:O4'	2.05	0.57
1:A:2476:A:N1	1:A:2477:C:C4	2.73	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1831:G:C5	1:A:1832:C:C5	2.92	0.57
16:P:126:ALA:O	16:P:128:GLU:N	2.38	0.57
11:K:49:ARG:HA	11:K:53:LYS:NZ	2.20	0.57
13:M:29:PHE:O	13:M:30:GLY:O	2.23	0.57
4:D:23:VAL:HA	4:D:184:VAL:O	2.04	0.56
1:A:1543:A:N7	1:A:1545:A:H5''	2.19	0.56
10:J:114:LEU:HD21	10:J:121:VAL:HG21	1.86	0.56
20:T:50:LYS:H	20:T:87:GLN:NE2	1.90	0.56
21:U:95:LYS:HD3	21:U:99:CYS:O	2.05	0.56
5:E:192:LEU:HD22	5:E:194:MET:HG2	1.85	0.56
1:A:1326:U:O2'	1:A:2010:G:H1'	2.05	0.56
1:A:2078:C:O2'	1:A:2079:U:H5'	2.05	0.56
4:D:128:SER:OG	4:D:129:HIS:N	2.37	0.56
1:A:1028:A:N6	1:A:1125:G:H2'	2.20	0.56
4:D:101:ARG:HB3	4:D:169:ASN:ND2	2.20	0.56
18:R:49:THR:HB	18:R:50:PRO:HD2	1.87	0.56
13:M:140:ALA:HB3	22:V:53:ILE:HG12	1.87	0.56
14:N:10:LEU:HB3	14:N:17:ARG:CD	2.35	0.56
26:Z:17:LYS:C	26:Z:17:LYS:HD3	2.26	0.56
24:X:19:GLN:O	24:X:20:ARG:HG3	2.06	0.56
8:H:7:GLU:CD	8:H:8:PRO:HD2	2.26	0.56
1:A:988:A:C2'	1:A:989:G:O5'	2.53	0.56
1:A:115:C:O2'	1:A:116:C:H5'	2.05	0.56
14:N:93:GLY:O	14:N:117:VAL:HG11	2.05	0.56
30:4:5:TRP:NE1	30:4:7:PRO:HG3	2.19	0.56
13:M:97:VAL:O	13:M:97:VAL:HG12	2.05	0.56
1:A:1175:U:H2'	1:A:1176:G:H8	1.70	0.56
1:A:1899:G:O2'	1:A:1900:A:OP2	2.20	0.56
6:F:86:MET:N	6:F:87:PRO:CD	2.68	0.56
3:C:108:PRO:HB3	3:C:143:HIS:HE1	1.69	0.56
1:A:1812:A:O2'	3:C:45:ASN:HB3	2.05	0.56
1:A:1210:A:C8	1:A:1210:A:H5''	2.37	0.56
1:A:2886:G:O2'	1:A:2887:U:H5'	2.05	0.56
4:D:52:LEU:HB2	4:D:76:ARG:HB2	1.87	0.56
1:A:2755:C:HO2'	1:A:2756:U:H6	1.53	0.56
6:F:134:GLY:C	6:F:135:LEU:HD12	2.26	0.56
18:R:64:HIS:HD2	18:R:92:THR:HG22	1.66	0.56
1:A:954:G:H5''	13:M:13:GLN:HG3	1.87	0.56
2:B:75:G:N1	2:B:102:G:N2	2.53	0.56
12:L:55:ARG:CG	12:L:56:SER:N	2.66	0.56
28:2:4:HIS:HB3	28:2:5:PRO:CD	2.34	0.56
5:E:52:LYS:HB3	5:E:56:GLU:HB2	1.87	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:181:LEU:HD21	16:P:7:ILE:HG23	1.88	0.56
1:A:2709:G:O2'	1:A:2710:C:H5'	2.05	0.56
8:H:58:LEU:C	8:H:60:GLU:H	2.08	0.56
1:A:974(B):C:OP2	1:A:974(B):C:H4'	2.05	0.56
1:A:2427:C:H5''	1:A:2428:G:OP1	2.06	0.56
22:V:117:LEU:O	22:V:117:LEU:HG	2.05	0.56
31:5:52:LYS:N	31:5:53:PRO:HD2	2.19	0.56
12:L:61:ARG:HA	12:L:62:LEU:HD13	1.87	0.56
18:R:38:LEU:C	18:R:39:LEU:HD13	2.25	0.56
31:5:7:HIS:HB2	31:5:60:LEU:HB3	1.86	0.56
12:L:50:ARG:HH11	12:L:50:ARG:HB3	1.69	0.56
1:A:2729:G:H2'	1:A:2730:C:H6	1.70	0.56
1:A:1858:G:O2'	1:A:1859:A:C8	2.57	0.56
13:M:37:LEU:HD23	13:M:37:LEU:N	2.20	0.56
1:A:1683:C:N4	1:A:1705:G:H1	2.01	0.56
14:N:79:LEU:HD23	14:N:83:ILE:HB	1.87	0.56
16:P:36:GLU:OE2	16:P:41:ARG:HD3	2.05	0.56
1:A:165:U:N3	1:A:171:G:C8	2.73	0.56
26:Z:8:LEU:HD13	26:Z:31:LEU:HD12	1.85	0.56
12:L:85:LEU:H	12:L:85:LEU:CD2	2.18	0.56
1:A:1265:A:H5'	1:A:1267:U:H1'	1.86	0.56
4:D:24:THR:HG21	4:D:188:VAL:HG12	1.87	0.56
20:T:39:ILE:O	20:T:43:VAL:HG12	2.04	0.56
2:B:50:G:OP2	15:O:62:LYS:HD3	2.04	0.56
26:Z:40:THR:CG2	26:Z:43:ILE:HG12	2.34	0.56
24:X:65:SER:OG	24:X:66:HIS:CD2	2.58	0.56
1:A:2309:A:N6	1:A:2310:A:N1	2.54	0.56
3:C:25:THR:HG22	3:C:82:ILE:H	1.69	0.56
1:A:966:G:C4	1:A:967:C:H5	2.21	0.56
1:A:966:G:C5	1:A:967:C:C5	2.94	0.56
22:V:38:TYR:O	22:V:38:TYR:CD1	2.59	0.56
28:2:4:HIS:CB	28:2:5:PRO:HD3	2.35	0.56
1:A:1773:A:C2'	1:A:1774:C:H5'	2.35	0.56
13:M:26:TYR:CD1	13:M:26:TYR:O	2.59	0.56
18:R:87:HIS:CD2	18:R:87:HIS:O	2.59	0.56
1:A:89:G:C4	1:A:90:U:C5	2.94	0.56
1:A:2356:C:O3'	23:W:20:ARG:HD3	2.04	0.56
1:A:1338:G:C2'	1:A:1339:G:H5'	2.35	0.56
26:Z:50:VAL:O	26:Z:54:VAL:HG22	2.04	0.56
3:C:44:ASN:CG	3:C:45:ASN:N	2.58	0.56
20:T:14:SER:O	20:T:15:GLU:C	2.42	0.56
20:T:30:VAL:HG11	20:T:39:ILE:HD13	1.86	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:68:LEU:HD21	8:H:107:ILE:HD11	1.86	0.56
22:V:94:GLU:HB2	22:V:95:PRO:HD2	1.88	0.56
21:U:81:LYS:HD2	21:U:96:ILE:CD1	2.35	0.56
13:M:68:ILE:HD13	13:M:103:MET:CG	2.33	0.56
13:M:68:ILE:HG21	13:M:103:MET:HG3	1.87	0.56
1:A:322:A:OP1	5:E:168:ARG:HD3	2.06	0.56
1:A:1153:C:H5'	17:Q:76:TYR:CE2	2.40	0.56
1:A:1152:C:H5''	17:Q:80:ILE:CG2	2.35	0.56
1:A:2480:C:H2'	1:A:2481:G:H5'	1.88	0.56
1:A:830:G:H4'	1:A:831:G:OP2	2.04	0.56
28:2:3:LYS:O	28:2:4:HIS:C	2.43	0.56
1:A:2228:G:OP2	3:C:263:ARG:NH2	2.39	0.56
17:Q:16:LYS:O	17:Q:20:LEU:HD22	2.05	0.56
1:A:2511:U:O3'	4:D:123:ALA:HB3	2.06	0.56
1:A:1850:G:C6	1:A:1851:U:C4	2.93	0.56
1:A:1762:A:H8	1:A:1762:A:O5'	1.88	0.56
29:3:25:LYS:HD3	31:5:34:TRP:CZ3	2.41	0.56
16:P:50:ILE:HA	16:P:99:LEU:HD11	1.87	0.56
13:M:75:THR:HA	13:M:88:GLY:HA3	1.86	0.56
3:C:31:LYS:O	3:C:36:PRO:HD3	2.06	0.56
1:A:1121:C:H6	1:A:1121:C:O5'	1.88	0.56
1:A:662:G:OP1	12:L:18:ARG:NH1	2.39	0.56
15:O:39:ILE:O	15:O:39:ILE:HG22	2.06	0.56
3:C:186:HIS:HD2	3:C:188:GLU:HB2	1.70	0.56
10:J:74:PHE:CZ	10:J:142:ARG:HD2	2.39	0.56
1:A:1414:G:C5	1:A:1415:U:C5	2.94	0.56
1:A:814:C:O2'	1:A:815:C:H5'	2.05	0.56
13:M:43:THR:OG1	13:M:46:GLN:HG3	2.06	0.56
4:D:176:ILE:HB	4:D:181:LEU:HB2	1.88	0.56
1:A:718:A:O5'	1:A:718:A:H8	1.89	0.56
1:A:533:G:N3	17:Q:45:TYR:CE1	2.74	0.56
11:K:86:ILE:H	11:K:86:ILE:HD12	1.71	0.56
18:R:13:ARG:HH11	18:R:13:ARG:HG3	1.70	0.56
10:J:85:VAL:CG2	10:J:89:LYS:HG3	2.32	0.56
27:1:59:VAL:HG12	27:1:60:GLU:N	2.13	0.56
21:U:81:LYS:CE	21:U:97:ARG:HB3	2.36	0.56
15:O:36:TYR:HD1	15:O:36:TYR:H	1.53	0.56
1:A:243:U:C2'	1:A:244:A:H5'	2.36	0.56
3:C:61:LEU:CB	3:C:63:ARG:NH1	2.69	0.56
7:G:54:ARG:NH2	7:G:62:LYS:HE2	2.19	0.56
5:E:14:PRO:HD3	5:E:128:ALA:HB2	1.87	0.56
1:A:1204:A:N1	1:A:1241:A:C2	2.74	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:173:G:H2'	1:A:174:C:C6	2.41	0.56
3:C:198:ASN:C	3:C:198:ASN:HD22	2.09	0.56
1:A:2392:A:H2	1:A:2424:C:N4	1.95	0.56
4:D:11:MET:HB2	4:D:24:THR:HA	1.86	0.56
1:A:1448:G:H2'	1:A:149(B):A:C8	2.40	0.56
1:A:1263:U:O2'	28:2:11:THR:HG23	2.06	0.56
17:Q:88:ILE:HG22	18:R:47:VAL:O	2.05	0.56
1:A:666:G:H5''	12:L:47:ASP:O	2.06	0.56
1:A:1022:G:H22	1:A:114(B):A:H2	1.53	0.56
26:Z:26:LEU:HD21	26:Z:46:ASN:HB2	1.86	0.56
24:X:10:LYS:O	24:X:11:ARG:CB	2.54	0.56
1:A:1495:A:H2'	1:A:1496:A:N3	2.21	0.56
22:V:23:LYS:HB3	22:V:38:TYR:CD1	2.40	0.56
22:V:39:VAL:CG2	22:V:44:PHE:HB2	2.36	0.56
12:L:75:ILE:CD1	12:L:75:ILE:H	2.17	0.56
23:W:11:LYS:O	23:W:14:ARG:NH2	2.37	0.56
1:A:1833:U:C2	1:A:1834:U:C5	2.93	0.56
1:A:530:G:N1	1:A:2022:U:OP1	2.39	0.56
4:D:8:LYS:HG2	4:D:192:ASN:HD22	1.70	0.56
1:A:2064:C:H2'	1:A:2065:C:C6	2.40	0.56
25:Y:36:ARG:HA	25:Y:39:ALA:CB	2.35	0.56
1:A:2392:A:OP1	31:5:32:LEU:HB3	2.06	0.56
4:D:11:MET:HE3	4:D:186:GLY:HA2	1.87	0.56
21:U:11:ASP:OD1	21:U:12:THR:N	2.39	0.56
20:T:12:VAL:HG12	20:T:28:PHE:HA	1.86	0.56
8:H:77:LEU:HD12	8:H:101:LEU:HD13	1.88	0.56
1:A:568:U:O4	18:R:78:LYS:NZ	2.39	0.56
27:1:40:ILE:HG23	27:1:59:VAL:HG21	1.87	0.56
1:A:363(C):G:H2'	1:A:363(D):G:H8	1.71	0.56
7:G:151:ILE:HD13	7:G:151:ILE:N	2.20	0.56
2:B:90:C:OP2	13:M:16:ARG:HD2	2.05	0.56
1:A:1820:U:O2	3:C:201:HIS:HB3	2.05	0.56
22:V:5:LEU:HD23	22:V:6:LYS:H	1.71	0.56
1:A:914:C:H3'	1:A:914:C:H6	1.70	0.56
1:A:1252:G:C2	1:A:1253:A:C2	2.94	0.56
1:A:1368:G:C2	1:A:1369:G:C8	2.94	0.56
1:A:1757:U:C2'	1:A:1758:G:OP1	2.54	0.56
10:J:53:ILE:HD12	10:J:122:LEU:HD11	1.88	0.55
10:J:90:LEU:H	10:J:90:LEU:HD12	1.72	0.55
25:Y:60:LEU:O	25:Y:62:THR:N	2.38	0.55
7:G:139:GLN:HG3	7:G:140:LYS:N	2.20	0.55
25:Y:9:GLN:HG3	25:Y:12:GLU:OE1	2.05	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:24:ILE:HD11	3:C:84:TYR:HB2	1.87	0.55
10:J:62:ARG:HH21	10:J:64:ASP:CG	2.10	0.55
1:A:2284:C:C2'	1:A:2285:C:H5'	2.36	0.55
1:A:2480:C:N4	1:A:2481:G:C6	2.74	0.55
1:A:1918:A:O2'	1:A:1920:C:N4	2.39	0.55
1:A:2279:G:O6	23:W:14:ARG:HD2	2.05	0.55
1:A:553:U:O2'	1:A:554:U:H5'	2.05	0.55
7:G:118:PRO:O	7:G:121:ILE:HG22	2.06	0.55
1:A:1335:U:O2'	1:A:1336:A:H5'	2.06	0.55
1:A:1394:U:C5	1:A:1395:A:C5	2.94	0.55
10:J:68:ASN:H	10:J:68:ASN:ND2	2.04	0.55
19:S:18:ARG:HG2	19:S:18:ARG:HH11	1.72	0.55
3:C:108:PRO:CG	3:C:143:HIS:HE1	2.19	0.55
6:F:40:ASN:O	6:F:155:MET:HB2	2.05	0.55
7:G:19:VAL:CG1	7:G:20:ALA:H	2.17	0.55
7:G:84:SER:CA	7:G:133:VAL:O	2.51	0.55
3:C:25:THR:HG21	3:C:82:ILE:N	2.22	0.55
16:P:89:VAL:CG2	16:P:89:VAL:O	2.53	0.55
1:A:2086:U:OP2	3:C:263:ARG:HD3	2.06	0.55
1:A:637:A:P	12:L:116:GLY:HA2	2.46	0.55
1:A:2250:G:C6	13:M:82:ARG:HD2	2.41	0.55
13:M:89:ASN:C	13:M:92:GLY:H	2.09	0.55
8:H:88:ILE:HG22	8:H:90:GLY:N	2.21	0.55
1:A:330:A:O2'	1:A:331:A:C8	2.50	0.55
25:Y:57:ILE:HG22	25:Y:61:LEU:HD22	1.88	0.55
14:N:8:ARG:HD3	14:N:43:GLU:OE1	2.06	0.55
1:A:2287:A:C4	1:A:2289:G:C8	2.95	0.55
22:V:38:TYR:O	22:V:38:TYR:CG	2.59	0.55
17:Q:50:ARG:HH12	18:R:72:VAL:HG12	1.72	0.55
5:E:181:LEU:CD2	5:E:186:ILE:HD11	2.37	0.55
16:P:109:GLU:O	16:P:112:ARG:HG3	2.05	0.55
1:A:1445:C:C2	1:A:1446:C:C5	2.95	0.55
1:A:2038:G:H2'	1:A:2039:C:C6	2.41	0.55
12:L:80:TYR:CE1	12:L:111:ARG:HG2	2.42	0.55
1:A:2727:G:C5	1:A:2728:U:H5	2.24	0.55
1:A:1812:A:O2'	1:A:1813:G:H5'	2.06	0.55
20:T:12:VAL:HG13	20:T:27:THR:O	2.06	0.55
1:A:1789:A:OP1	3:C:222:ARG:HG3	2.07	0.55
24:X:14:VAL:HG12	24:X:14:VAL:O	2.07	0.55
1:A:2218:G:O2'	1:A:2219:G:H5'	2.05	0.55
1:A:1858:G:H1'	1:A:1884:A:H61	1.71	0.55
8:H:6:LEU:O	8:H:7:GLU:HB2	2.06	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:19:LYS:HB3	21:U:20:TYR:CD1	2.40	0.55
1:A:1726:G:H2'	1:A:1727:U:H6	1.70	0.55
1:A:1184:G:C5	1:A:1185:C:C5	2.94	0.55
1:A:2032:G:H21	4:D:146:THR:HG23	1.72	0.55
12:L:97:PRO:HA	12:L:112:LEU:HD12	1.87	0.55
17:Q:79:PHE:CD1	17:Q:83:LEU:HD13	2.41	0.55
1:A:1188:U:H4'	18:R:79:VAL:HG22	1.87	0.55
26:Z:28:LEU:N	26:Z:28:LEU:HD12	2.20	0.55
1:A:528:A:C2	1:A:2043:C:O5'	2.60	0.55
1:A:2284:C:H2'	1:A:2285:C:H5'	1.89	0.55
22:V:24:LEU:HD11	22:V:86:VAL:HG22	1.89	0.55
1:A:1538:G:H2'	1:A:1539:G:H8	1.71	0.55
20:T:75:ASP:O	20:T:76:ARG:HG3	2.06	0.55
1:A:2097:C:C2'	1:A:2098:U:H5'	2.36	0.55
1:A:2399:G:H2'	1:A:2400:G:O4'	2.06	0.55
13:M:73:PRO:HB3	13:M:93:TYR:CE2	2.41	0.55
12:L:111:ARG:HD2	12:L:128:HIS:CD2	2.41	0.55
12:L:32:THR:HG21	12:L:37:GLY:CA	2.36	0.55
3:C:33:LEU:HD23	3:C:33:LEU:H	1.72	0.55
1:A:860:U:O2	1:A:860:U:O4'	2.22	0.55
1:A:1022:G:O2'	1:A:1023:U:OP2	2.21	0.55
8:H:82:ARG:HB3	8:H:89:TYR:CG	2.41	0.55
5:E:124:LEU:HD12	5:E:125:LEU:O	2.06	0.55
28:2:48:GLU:O	28:2:49:CYS:HB2	2.06	0.55
2:B:30:C:OP2	15:O:32:LEU:HD11	2.06	0.55
1:A:2279:G:N2	1:A:2280:G:H1'	2.21	0.55
1:A:898:C:H2'	1:A:899:A:O4'	2.06	0.55
1:A:2097:C:O2'	1:A:2098:U:H5'	2.07	0.55
1:A:482:A:C2	1:A:506:G:C5	2.95	0.55
1:A:2301:C:H2'	1:A:2302:G:H8	1.71	0.55
1:A:1448:G:N2	1:A:149(B):A:N6	2.54	0.55
17:Q:90:VAL:O	17:Q:92:ARG:N	2.39	0.55
31:5:6:THR:HG21	31:5:64:TYR:HD1	1.72	0.55
1:A:2541:A:H5''	1:A:2542:A:OP2	2.06	0.55
1:A:2599:G:N7	3:C:237:GLU:HG3	2.22	0.55
1:A:1884:A:C2	1:A:1885:A:C8	2.94	0.55
1:A:1952:A:C6	11:K:22:ILE:CD1	2.89	0.55
3:C:15:PHE:O	3:C:205:VAL:HG11	2.06	0.55
5:E:46:ARG:CG	5:E:46:ARG:HH11	2.19	0.55
1:A:270(O):G:O2'	1:A:270(Q):C:H5'	2.06	0.55
26:Z:23:LEU:HD12	26:Z:23:LEU:N	2.20	0.55
1:A:969:U:H2'	1:A:970:C:C6	2.41	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:X:52:ARG:O	24:X:56:GLN:O	2.25	0.55
1:A:1382:G:O2'	1:A:1383:C:H5'	2.06	0.55
12:L:101:VAL:HG23	12:L:107:LYS:H	1.72	0.55
12:L:132:LYS:HD3	12:L:132:LYS:N	2.18	0.55
1:A:1540:G:H3'	1:A:1541:U:H6	1.72	0.55
1:A:993:G:C5	1:A:994:C:C5	2.95	0.55
1:A:1614:A:N6	19:S:93:ALA:HB2	2.08	0.55
6:F:161:THR:C	6:F:163:ALA:H	2.10	0.55
2:B:43:C:H4'	6:F:98:ARG:HH12	1.70	0.55
14:N:10:LEU:CB	14:N:17:ARG:NE	2.67	0.55
1:A:2633:G:O2'	4:D:61:ARG:HD3	2.07	0.55
1:A:2090:G:H21	24:X:45:ASN:ND2	2.05	0.55
1:A:1777:U:O2'	1:A:1778:U:H5'	2.05	0.55
23:W:31:VAL:O	23:W:64:ASP:HA	2.07	0.55
1:A:634:C:H2'	1:A:635:C:C6	2.41	0.55
12:L:61:ARG:HD3	31:5:13:ARG:HD2	1.89	0.55
1:A:1141:U:H4'	1:A:114(B):A:O4'	2.07	0.55
20:T:28:PHE:HD1	20:T:28:PHE:H	1.53	0.55
1:A:142:G:H4'	20:T:35:THR:HG21	1.88	0.55
2:B:71:C:C2	2:B:72:G:C8	2.95	0.55
1:A:1407:C:H2'	1:A:1408:C:H6	1.72	0.55
26:Z:26:LEU:HB2	26:Z:28:LEU:CD1	2.36	0.55
1:A:2307:G:O5'	1:A:2307:G:H8	1.90	0.55
7:G:123:PHE:HB3	7:G:133:VAL:HG13	1.88	0.55
5:E:31:HIS:O	5:E:34:TRP:HB3	2.07	0.55
1:A:1476:C:C2'	1:A:1477:A:H5'	2.37	0.55
1:A:1478:G:N3	1:A:1479:G:C8	2.75	0.55
22:V:37:VAL:O	22:V:38:TYR:HB3	2.07	0.55
1:A:1920:C:H2'	1:A:1920:C:O2	2.07	0.55
31:5:26:LYS:HG2	31:5:48:PHE:CD2	2.42	0.55
1:A:399:G:C2'	1:A:400:G:H5'	2.36	0.55
13:M:137:TYR:HB3	22:V:76:LEU:HD21	1.89	0.55
5:E:28:ILE:O	5:E:28:ILE:HG13	2.07	0.55
1:A:1275:A:C4	14:N:16:HIS:CE1	2.95	0.55
1:A:83:G:C4	1:A:102:G:N2	2.75	0.55
21:U:15:VAL:HG13	21:U:17:SER:HB3	1.88	0.55
3:C:108:PRO:HG3	3:C:143:HIS:HE1	1.72	0.55
2:B:40:U:O2'	2:B:41:U:H5'	2.06	0.55
1:A:1607:C:N4	1:A:1621:U:H3'	2.22	0.55
11:K:35:VAL:HG11	11:K:103:ALA:HB3	1.87	0.55
20:T:23:GLU:HG3	20:T:24:GLY:H	1.72	0.55
3:C:131:LEU:HD11	3:C:136:ILE:HG13	1.88	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:79:LEU:HD23	14:N:83:ILE:HG13	1.89	0.55
1:A:2854:G:H2'	1:A:2855:C:H6	1.71	0.55
25:Y:36:ARG:HA	25:Y:39:ALA:HB3	1.89	0.55
1:A:2038:G:C5	1:A:2039:C:C5	2.94	0.55
1:A:231:C:N4	1:A:232:G:N1	2.55	0.55
1:A:263:C:H2'	1:A:264:C:O4'	2.07	0.55
1:A:2771:C:O2	1:A:2771:C:H2'	2.07	0.55
12:L:125:VAL:O	12:L:145:PRO:HD2	2.06	0.54
1:A:2846:G:OP2	16:P:54:ARG:HB2	2.07	0.54
16:P:56:GLY:O	16:P:59:THR:CG2	2.50	0.54
1:A:587:C:N4	12:L:33:ARG:HB2	2.22	0.54
18:R:52:VAL:HG13	18:R:55:ALA:HB3	1.89	0.54
19:S:14:PRO:O	19:S:16:LYS:N	2.39	0.54
20:T:14:SER:O	20:T:17:ALA:N	2.39	0.54
2:B:73:A:C4	2:B:74:U:C6	2.95	0.54
15:O:69:VAL:O	15:O:72:ALA:CB	2.52	0.54
19:S:24:ILE:HG21	19:S:36:LEU:CD2	2.37	0.54
1:A:2219:G:C2'	1:A:2224:G:C5'	2.81	0.54
11:K:97:ARG:H	11:K:117:LEU:HD22	1.73	0.54
1:A:9:U:C4	1:A:2629:A:N6	2.75	0.54
1:A:2476:A:H2'	1:A:2476:A:N3	2.22	0.54
1:A:2850:A:OP2	1:A:2866:U:C5	2.58	0.54
24:X:70:VAL:O	24:X:74:VAL:HG23	2.07	0.54
1:A:1993:U:H4'	4:D:128:SER:CB	2.37	0.54
9:I:14:LYS:HA	9:I:14:LYS:HE2	1.89	0.54
1:A:2527:C:C4	1:A:2528:U:C5	2.95	0.54
11:K:7:TYR:HE1	11:K:20:MET:HE3	1.72	0.54
4:D:167:VAL:HG11	4:D:189:PRO:HD3	1.88	0.54
17:Q:105:VAL:HG11	18:R:40:LEU:HD13	1.89	0.54
20:T:11:PRO:HG2	20:T:13:LEU:HD21	1.89	0.54
1:A:480:A:OP2	21:U:46:LYS:HE2	2.07	0.54
28:2:52:TYR:CD1	28:2:52:TYR:C	2.80	0.54
1:A:1963:U:C2'	1:A:1963:U:O2	2.54	0.54
22:V:24:LEU:HG	22:V:24:LEU:O	2.07	0.54
22:V:85:HIS:C	22:V:85:HIS:ND1	2.61	0.54
22:V:24:LEU:HD11	22:V:85:HIS:HA	1.90	0.54
1:A:1449:G:H2'	1:A:1450:C:H6	1.71	0.54
1:A:2023:G:H5'	1:A:2617:C:H4'	1.90	0.54
16:P:105:LEU:O	16:P:107:ASP:CG	2.46	0.54
4:D:73:GLU:OE2	4:D:74:PRO:HD2	2.08	0.54
1:A:907:U:O2'	13:M:101:ARG:NH2	2.40	0.54
25:Y:38:GLN:HB3	25:Y:44:LEU:O	2.07	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:993:G:C4	1:A:994:C:C5	2.95	0.54
3:C:126:GLN:HG2	3:C:127:VAL:N	2.22	0.54
1:A:603:A:N1	1:A:655:A:N3	2.55	0.54
22:V:3:TYR:CD1	22:V:3:TYR:N	2.74	0.54
26:Z:26:LEU:HD21	26:Z:46:ASN:CB	2.37	0.54
20:T:23:GLU:HA	20:T:23:GLU:OE1	2.06	0.54
6:F:133:LEU:HD23	6:F:133:LEU:N	2.22	0.54
1:A:1777:U:C2'	1:A:1778:U:H5'	2.36	0.54
3:C:133:LEU:HD13	3:C:173:VAL:HG11	1.89	0.54
1:A:1390:U:O2'	1:A:1391:U:H5'	2.06	0.54
1:A:1388:G:H4'	1:A:1525:G:O2'	2.06	0.54
1:A:1845:G:OP1	3:C:258:LYS:HE3	2.07	0.54
1:A:271(C):G:N7	1:A:421:U:H2'	2.23	0.54
1:A:1856:G:H2'	1:A:1857:G:O4'	2.07	0.54
1:A:1856:G:C2	1:A:1887:C:N3	2.76	0.54
1:A:2364:C:H2'	1:A:2365:G:O4'	2.08	0.54
4:D:114:ALA:O	4:D:157:ALA:HB1	2.06	0.54
31:5:22:VAL:CG1	31:5:50:LEU:HD12	2.37	0.54
1:A:1257:C:OP1	5:E:72:ARG:NH1	2.40	0.54
12:L:49:ARG:O	12:L:50:ARG:C	2.46	0.54
1:A:114(B):A:C5	1:A:1144:G:C5	2.95	0.54
22:V:48:PHE:CZ	22:V:52:SER:HA	2.42	0.54
1:A:2330:G:O2'	23:W:41:ARG:HB2	2.08	0.54
1:A:390:A:C5	12:L:71:VAL:HG21	2.43	0.54
16:P:1:MET:O	16:P:3:ARG:N	2.41	0.54
4:D:110:GLY:O	14:N:5:LYS:NZ	2.39	0.54
1:A:176:G:O2'	1:A:177:G:H5'	2.07	0.54
1:A:1451:C:H42	1:A:1459:G:H1	1.56	0.54
1:A:2572:A:H2'	4:D:144:ARG:HG3	1.89	0.54
1:A:544:C:H6	1:A:544:C:O5'	1.90	0.54
1:A:611:C:C2	1:A:612:G:C8	2.95	0.54
14:N:14:SER:O	14:N:15:SER:C	2.44	0.54
2:B:35:U:O2'	2:B:36:C:H5'	2.08	0.54
1:A:125:G:OP2	30:4:19:ARG:NH1	2.40	0.54
2:B:46:A:H2'	2:B:47:C:C6	2.43	0.54
22:V:33:LEU:HD23	22:V:90:VAL:HG21	1.89	0.54
19:S:23:LEU:HD22	28:2:25:LEU:HD13	1.88	0.54
7:G:46:GLU:O	7:G:49:VAL:HG22	2.08	0.54
1:A:2894:G:H2'	1:A:2894:G:N3	2.22	0.54
1:A:1953:A:H2	1:A:2549:G:N3	2.04	0.54
16:P:27:THR:HG22	16:P:90:GLN:HB3	1.89	0.54
1:A:334:C:O2'	1:A:335:C:P	2.66	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1414:G:C4	1:A:1415:U:C5	2.96	0.54
1:A:2098:U:O2'	1:A:2099:U:O5'	2.24	0.54
12:L:30:THR:HG22	12:L:31:ALA:N	2.22	0.54
24:X:10:LYS:O	24:X:11:ARG:CG	2.55	0.54
18:R:61:VAL:HG23	18:R:61:VAL:O	2.07	0.54
1:A:205:G:HO2'	1:A:206:U:P	2.28	0.54
31:5:29:LYS:HB2	31:5:44:LYS:HB3	1.89	0.54
2:B:28:C:H2'	2:B:29:A:O4'	2.08	0.54
11:K:60:ALA:HB2	11:K:86:ILE:HA	1.87	0.54
8:H:12:LEU:N	8:H:12:LEU:HD22	2.23	0.54
5:E:126:VAL:O	5:E:196:LEU:HG	2.07	0.54
1:A:1015:G:C2'	1:A:1016:G:H5'	2.37	0.54
4:D:24:THR:HG21	4:D:188:VAL:CG1	2.38	0.54
1:A:858:U:C2	1:A:2268:A:C2	2.95	0.54
1:A:307:G:N1	1:A:310:A:OP2	2.41	0.54
21:U:68:HIS:O	21:U:70:SER:N	2.41	0.54
1:A:806:C:OP2	12:L:39:LYS:HD3	2.08	0.54
1:A:1266:G:C6	19:S:16:LYS:HD2	2.43	0.54
1:A:140:A:C8	1:A:1408:C:O2'	2.55	0.54
21:U:81:LYS:CD	21:U:96:ILE:HG13	2.37	0.54
1:A:752:A:H3'	30:4:1:MET:CE	2.37	0.54
1:A:7:G:N2	1:A:2897:U:C4	2.76	0.54
22:V:44:PHE:CE2	22:V:86:VAL:HG11	2.43	0.54
1:A:2432:A:H2'	1:A:2433:A:C8	2.43	0.54
1:A:2705:A:C2	14:N:64:ARG:NH1	2.76	0.54
1:A:880:G:H2'	1:A:881:G:H8	1.72	0.54
2:B:116:G:H4'	15:O:55:ALA:O	2.07	0.54
1:A:430:G:H5''	1:A:431:U:OP2	2.08	0.54
1:A:1465:G:C2	1:A:1466:G:C8	2.96	0.54
1:A:2419:U:O4	31:5:30:ARG:NH1	2.40	0.54
3:C:246:PRO:HD2	3:C:255:LYS:HB3	1.90	0.54
22:V:97:GLU:HB3	22:V:125:LEU:HD21	1.89	0.54
3:C:86:PRO:HD2	3:C:87:ASN:ND2	2.23	0.54
1:A:2562:U:H2'	1:A:2563:U:H5'	1.89	0.54
4:D:117:MET:HE1	4:D:124:GLY:HA3	1.89	0.54
22:V:179:ASP:CG	22:V:180:VAL:HG13	2.27	0.54
28:2:40:LYS:CD	28:2:46:CYS:HB3	2.38	0.54
1:A:1478:G:O2'	1:A:1558:A:H2	1.91	0.54
22:V:74:VAL:HG22	22:V:86:VAL:HG13	1.88	0.54
23:W:51:VAL:HG21	23:W:80:HIS:HA	1.89	0.54
1:A:2038:G:H2'	1:A:2039:C:H6	1.72	0.54
8:H:57:ARG:O	8:H:57:ARG:HG2	2.08	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:298:G:OP2	21:U:85:VAL:HG22	2.07	0.54
5:E:93:LYS:HB3	5:E:94:PRO:HD2	1.89	0.54
12:L:115:LEU:HA	12:L:134:ALA:CB	2.38	0.54
20:T:63:LYS:HE3	20:T:72:LYS:HG2	1.89	0.54
17:Q:102:GLU:HG3	18:R:2:PHE:CE1	2.43	0.54
3:C:34:VAL:O	3:C:35:LYS:HD3	2.07	0.54
1:A:748:G:C8	1:A:750:A:C8	2.96	0.54
1:A:2731:G:C6	1:A:2732:G:O6	2.61	0.54
19:S:29:LEU:HD22	19:S:69:LEU:HD11	1.90	0.54
1:A:205:G:O2'	1:A:206:U:OP2	2.19	0.54
1:A:1336:A:OP1	20:T:64:LYS:HD3	2.08	0.54
13:M:73:PRO:HA	13:M:93:TYR:CD2	2.43	0.54
1:A:2564:A:OP1	1:A:2648:C:H4'	2.08	0.54
1:A:433:C:H2'	1:A:434:U:C6	2.43	0.54
26:Z:10:LYS:HB3	26:Z:53:LEU:HD23	1.89	0.54
20:T:4:ALA:C	20:T:6:ASP:H	2.11	0.54
12:L:33:ARG:CG	12:L:34:GLY:N	2.71	0.54
1:A:1493:C:O2	1:A:1493:C:H2'	2.08	0.54
24:X:45:ASN:ND2	24:X:47:GLN:HE21	2.06	0.54
3:C:186:HIS:CD2	3:C:188:GLU:HB2	2.42	0.54
7:G:44:VAL:HG12	7:G:45:VAL:N	2.18	0.54
13:M:16:ARG:C	13:M:17:LEU:HD23	2.28	0.54
1:A:909:A:C2	1:A:912:C:C6	2.96	0.54
21:U:36:ALA:HA	21:U:67:LEU:O	2.08	0.54
1:A:2443:C:C2'	1:A:2444:G:H5'	2.38	0.54
1:A:564:C:O2'	1:A:565:C:H5'	2.08	0.54
1:A:1403:C:H5''	1:A:1471:A:C1'	2.37	0.54
20:T:64:LYS:HG2	20:T:65:ARG:HH21	1.73	0.54
1:A:2038:G:C6	1:A:2039:C:C4	2.96	0.54
24:X:17:SER:HA	24:X:44:PRO:HD3	1.90	0.54
9:I:57:THR:HG23	9:I:60:ARG:HH12	1.73	0.54
23:W:27:GLU:HB2	23:W:69:PHE:HD1	1.71	0.54
1:A:370:G:H4'	1:A:371:A:OP2	2.08	0.54
14:N:30:THR:HG22	14:N:31:HIS:ND1	2.23	0.54
19:S:62:HIS:C	19:S:64:MET:H	2.12	0.54
1:A:627:A:C6	1:A:637:A:C8	2.95	0.53
4:D:102:VAL:HA	4:D:199:ARG:O	2.08	0.53
4:D:171:GLU:HG2	4:D:185:LYS:HG2	1.90	0.53
3:C:208:LYS:HG3	3:C:211:ARG:H	1.73	0.53
17:Q:92:ARG:NE	17:Q:94:ASN:HB3	2.22	0.53
13:M:88:GLY:C	13:M:89:ASN:CG	2.67	0.53
1:A:1615:C:C2	19:S:87:PRO:HG2	2.43	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2729:G:H2'	1:A:2730:C:C6	2.43	0.53
1:A:1504:C:O2'	1:A:1505:C:O5'	2.26	0.53
6:F:111:LEU:HB2	6:F:112:PRO:HD3	1.90	0.53
5:E:153:SER:OG	5:E:190:GLU:HG3	2.08	0.53
1:A:276:A:N7	1:A:278:A:H8	2.06	0.53
1:A:492:A:C2'	1:A:493:G:H5'	2.38	0.53
1:A:2079:U:H2'	1:A:2080:G:O5'	2.09	0.53
1:A:2607:G:H2'	1:A:2608:G:O4'	2.08	0.53
1:A:444:C:H4'	5:E:49:ALA:HB2	1.91	0.53
1:A:1356:G:C5	1:A:1357:U:C5	2.96	0.53
1:A:2602:A:H4'	1:A:2602:A:OP2	2.09	0.53
31:5:51:ALA:C	31:5:52:LYS:HD3	2.29	0.53
12:L:132:LYS:O	12:L:136:GLU:HG2	2.08	0.53
1:A:1529:A:C8	1:A:1530:G:C8	2.96	0.53
1:A:2338:G:O2'	1:A:2339:G:H5'	2.08	0.53
20:T:35:THR:HG22	20:T:36:LYS:N	2.24	0.53
1:A:1511:A:H2'	1:A:1512:G:C8	2.42	0.53
3:C:58:HIS:HD2	3:C:59:LYS:O	1.91	0.53
19:S:43:GLY:O	19:S:47:VAL:HG23	2.07	0.53
30:4:1:MET:O	30:4:2:LYS:C	2.46	0.53
14:N:99:LYS:HD2	14:N:99:LYS:N	2.23	0.53
3:C:131:LEU:HG	3:C:136:ILE:HD11	1.91	0.53
23:W:31:VAL:HG23	23:W:32:ARG:O	2.07	0.53
1:A:1862:G:H2'	1:A:1863:G:C8	2.41	0.53
1:A:2058:A:C6	1:A:2059:A:N6	2.76	0.53
16:P:81:PRO:C	16:P:82:LEU:HD23	2.28	0.53
16:P:41:ARG:HH11	16:P:41:ARG:HB3	1.73	0.53
7:G:105:LEU:N	7:G:105:LEU:HD23	2.23	0.53
1:A:2822:G:H2'	1:A:2823:A:H5''	1.88	0.53
1:A:833:U:H2'	1:A:834:C:C6	2.42	0.53
11:K:9:GLU:OE1	11:K:18:LYS:HE2	2.08	0.53
17:Q:79:PHE:HE2	17:Q:106:PHE:CZ	2.25	0.53
13:M:89:ASN:O	13:M:92:GLY:N	2.40	0.53
6:F:25:TYR:OH	6:F:32:PRO:HD3	2.08	0.53
2:B:7:G:H5''	15:O:29:PHE:CD2	2.43	0.53
1:A:1407:C:H2'	1:A:1408:C:C6	2.43	0.53
24:X:13:ILE:HA	24:X:66:HIS:ND1	2.23	0.53
24:X:31:GLY:O	24:X:32:LYS:CB	2.57	0.53
21:U:2:ARG:N	21:U:4:LYS:HZ2	2.06	0.53
1:A:1467:C:H42	1:A:1525:G:H1	1.55	0.53
1:A:988:A:H2'	1:A:989:G:O5'	2.08	0.53
1:A:2854:G:H2'	1:A:2855:C:C6	2.43	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1647:G:H3'	1:A:1647:G:OP2	2.07	0.53
19:S:52:GLU:HA	19:S:52:GLU:OE2	2.08	0.53
1:A:219:G:N3	1:A:234:C:O2'	2.37	0.53
1:A:1543:A:H5'	1:A:1544:C:P	2.48	0.53
1:A:1614:A:H61	19:S:88:ARG:H	1.56	0.53
2:B:83:G:C2	2:B:84:C:C6	2.96	0.53
31:5:62:LEU:C	31:5:64:TYR:H	2.12	0.53
1:A:195:A:H4'	1:A:251:A:O2'	2.08	0.53
21:U:29:GLU:HB3	21:U:38:ILE:CB	2.33	0.53
23:W:56:ASP:O	23:W:57:PHE:CB	2.56	0.53
24:X:27:GLU:CB	24:X:33:LYS:HA	2.35	0.53
1:A:556:G:H2'	1:A:557:U:H6	1.72	0.53
1:A:2531:A:H2	1:A:2658:C:O2	1.92	0.53
1:A:8:A:H2'	1:A:9:U:C6	2.44	0.53
3:C:72:LYS:HE2	3:C:101:GLU:HG2	1.90	0.53
23:W:66:VAL:O	23:W:81:VAL:HA	2.09	0.53
1:A:2831:G:O4'	1:A:2883:A:C2	2.62	0.53
17:Q:46:ALA:O	17:Q:47:TYR:C	2.47	0.53
31:5:57:ARG:NE	31:5:57:ARG:CA	2.70	0.53
1:A:84:A:C2	1:A:98:G:N3	2.76	0.53
10:J:57:LEU:HD21	10:J:143:LEU:HB2	1.88	0.53
3:C:33:LEU:C	3:C:35:LYS:N	2.61	0.53
12:L:50:ARG:HB2	31:5:60:LEU:CD1	2.39	0.53
1:A:2338:G:C2'	1:A:2339:G:H5'	2.39	0.53
1:A:1813:G:H1'	3:C:50:THR:CG2	2.30	0.53
20:T:12:VAL:CG1	20:T:28:PHE:HA	2.38	0.53
20:T:30:VAL:CG1	20:T:31:HIS:N	2.71	0.53
8:H:132:PRO:O	8:H:134:PRO:HD3	2.08	0.53
1:A:1046:A:H8	1:A:1046:A:O5'	1.92	0.53
2:B:78:A:H61	2:B:98:G:H1'	1.74	0.53
13:M:22:LYS:C	13:M:22:LYS:HD3	2.29	0.53
1:A:580:C:O2'	1:A:581:C:H5'	2.09	0.53
1:A:1921:G:O2'	1:A:1922:G:H5'	2.08	0.53
1:A:1726:G:C2	1:A:1735:U:O2	2.61	0.53
1:A:1857:G:N2	1:A:1886:C:C4	2.76	0.53
2:B:28:C:H2'	2:B:29:A:C8	2.42	0.53
1:A:772:C:H2'	1:A:772:C:O2	2.08	0.53
1:A:681:G:C2'	1:A:682:G:O5'	2.56	0.53
1:A:2506:U:H5	1:A:2507:C:C5	2.26	0.53
9:I:9:LEU:HD23	9:I:9:LEU:O	2.09	0.53
31:5:52:LYS:N	31:5:52:LYS:HD3	2.22	0.53
16:P:98:LYS:HB3	16:P:100:TYR:CE1	2.43	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:673:C:H5''	5:E:81:PRO:HD2	1.89	0.53
10:J:112:LYS:O	10:J:116:THR:HG23	2.08	0.53
3:C:268:ARG:HD2	3:C:269:PHE:CE1	2.43	0.53
8:H:129:THR:HA	8:H:138:ILE:O	2.09	0.53
3:C:141:VAL:HG23	3:C:162:SER:OG	2.08	0.53
13:M:55:VAL:HG22	13:M:56:ARG:N	2.23	0.53
25:Y:9:GLN:HA	25:Y:12:GLU:HB3	1.91	0.53
1:A:1003:G:O2'	1:A:1010:A:N1	2.36	0.53
1:A:598:G:H5'	12:L:15:ARG:HG2	1.89	0.53
28:2:40:LYS:HZ3	28:2:49:CYS:HB3	1.74	0.53
1:A:2739:U:O2	1:A:2739:U:C2'	2.55	0.53
1:A:2572:A:P	4:D:144:ARG:HB2	2.49	0.53
1:A:2641:G:OP1	10:J:97:ARG:HD3	2.08	0.53
1:A:532:A:C8	1:A:2021:C:C5	2.97	0.53
20:T:66:LEU:HD23	20:T:67:GLY:N	2.24	0.53
1:A:2416:C:C2	1:A:2417:C:C5	2.96	0.53
1:A:2415:G:O3'	12:L:66:GLY:HA3	2.08	0.53
1:A:1543:A:C3'	1:A:1543:A:C8	2.88	0.53
17:Q:83:LEU:HA	17:Q:86:ALA:HB3	1.89	0.53
12:L:47:ASP:CB	12:L:51:PHE:HB2	2.38	0.53
6:F:76:SER:HB2	6:F:83:ARG:N	2.24	0.53
19:S:14:PRO:C	19:S:16:LYS:N	2.62	0.53
8:H:77:LEU:HD21	8:H:104:GLN:HB2	1.91	0.53
22:V:92:SER:HB2	22:V:94:GLU:OE2	2.09	0.53
24:X:46:LEU:HD21	24:X:61:ARG:HG3	1.90	0.53
1:A:319:C:H2'	1:A:320:A:C8	2.44	0.53
1:A:773:U:C5'	3:C:47:GLY:HA3	2.38	0.53
1:A:2364:C:O2'	1:A:2365:G:H5'	2.09	0.53
23:W:14:ARG:CZ	23:W:14:ARG:CB	2.86	0.53
1:A:351:G:H5''	1:A:352:G:OP1	2.09	0.53
24:X:48:LYS:NZ	24:X:50:ARG:CZ	2.72	0.53
12:L:135:LEU:HD13	12:L:139:LYS:HB2	1.90	0.53
12:L:125:VAL:HG11	12:L:138:LEU:HD22	1.90	0.53
1:A:2267:A:H5''	1:A:2268:A:H5''	1.91	0.53
10:J:119:GLU:N	10:J:119:GLU:OE1	2.33	0.53
20:T:71:GLY:C	20:T:72:LYS:HG3	2.29	0.53
1:A:114(B):A:C4'	10:J:48:ARG:HH22	2.20	0.53
1:A:518:G:H4'	19:S:18:ARG:NH1	2.23	0.53
2:B:7:G:H1'	15:O:38:GLN:NE2	2.23	0.53
24:X:27:GLU:HB2	24:X:33:LYS:CA	2.36	0.53
25:Y:46:GLN:HB2	25:Y:49:LYS:HZ3	1.71	0.53
1:A:848:G:C4	1:A:933:A:H8	2.26	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:270(H):C:C5	1:A:270(I):C:H5	2.27	0.53
5:E:132:VAL:HG23	5:E:133:ASN:N	2.23	0.53
1:A:2485:G:H5''	13:M:46:GLN:NE2	2.23	0.53
1:A:270(Q):C:O2'	1:A:270(R):C:H6	1.91	0.53
1:A:1281:G:C5	1:A:1282:U:C5	2.97	0.53
12:L:62:LEU:HD13	12:L:62:LEU:N	2.23	0.53
6:F:60:LEU:O	6:F:64:THR:HG22	2.09	0.53
3:C:35:LYS:HZ1	3:C:104:TYR:H	1.57	0.53
1:A:1144:G:C4	1:A:1145:C:C5	2.97	0.53
19:S:12:ILE:HG12	19:S:13:SER:N	2.23	0.53
3:C:265:PRO:C	3:C:267:SER:H	2.11	0.53
24:X:19:GLN:HG3	24:X:41:ARG:NE	2.20	0.53
1:A:1746:G:N3	1:A:1747:G:C8	2.77	0.53
1:A:2345:G:OP2	29:3:39:TYR:HA	2.09	0.53
1:A:681:G:H2'	1:A:682:G:O5'	2.09	0.53
1:A:2582:G:C2	1:A:2583:G:C8	2.96	0.53
1:A:1937:A:N7	1:A:1939:U:H2'	2.23	0.53
1:A:527:C:O2	1:A:527:C:O4'	2.23	0.53
5:E:74:ARG:HG2	5:E:74:ARG:O	2.08	0.53
12:L:33:ARG:CG	12:L:34:GLY:H	2.20	0.53
1:A:1658:C:H2'	1:A:1659:U:C6	2.44	0.53
17:Q:92:ARG:HD2	17:Q:95:LEU:N	2.24	0.53
6:F:83:ARG:HG3	6:F:84:LYS:N	2.24	0.53
15:O:12:PHE:C	15:O:12:PHE:HD1	2.12	0.53
15:O:28:VAL:HG21	15:O:87:PHE:CE1	2.44	0.53
1:A:1884:A:C4	1:A:1885:A:C8	2.97	0.53
10:J:59:GLY:O	10:J:65:TRP:HE3	1.91	0.53
1:A:389:G:H1	12:L:71:VAL:HG23	1.74	0.53
1:A:2289:G:N3	1:A:2289:G:H2'	2.23	0.53
1:A:270(H):C:C4	1:A:270(I):C:H5	2.25	0.53
1:A:786:C:C2'	1:A:787:U:H5'	2.39	0.53
13:M:134:ARG:NH1	13:M:138:ASP:OD1	2.39	0.53
2:B:115:G:H5'	15:O:50:SER:OG	2.09	0.53
1:A:1904:G:O2'	1:A:1905:C:H5'	2.08	0.53
1:A:685:A:H1'	1:A:688:U:O4	2.09	0.53
16:P:56:GLY:C	16:P:57:PHE:O	2.43	0.52
8:H:113:ARG:HB2	8:H:130:TYR:CE1	2.44	0.52
8:H:88:ILE:HG12	8:H:123:LEU:N	2.24	0.52
3:C:242:ARG:N	3:C:242:ARG:HD3	2.24	0.52
14:N:103:ARG:NH1	14:N:110:PRO:HG3	2.24	0.52
12:L:18:ARG:C	12:L:19:VAL:HG22	2.29	0.52
1:A:1312:U:H4'	1:A:1313:U:O5'	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:X:46:LEU:HD23	24:X:46:LEU:O	2.07	0.52
3:C:27:THR:CG2	3:C:27:THR:O	2.51	0.52
8:H:133:HIS:HD2	8:H:135:GLU:HG2	1.73	0.52
1:A:2276:G:O2'	1:A:2277:G:H5'	2.09	0.52
23:W:36:ILE:HG23	23:W:58:THR:CG2	2.39	0.52
3:C:148:GLU:HB2	3:C:151:LYS:CD	2.39	0.52
1:A:2657:A:H5''	1:A:2658:C:OP2	2.09	0.52
1:A:912:C:C2	1:A:913:U:C5	2.97	0.52
1:A:1387:C:C2	1:A:1388:G:C8	2.97	0.52
1:A:2476:A:H2	1:A:2477:C:C6	2.27	0.52
1:A:1270:C:H5''	1:A:1271:G:C5'	2.38	0.52
1:A:2213:U:H5''	1:A:2215:G:OP2	2.08	0.52
1:A:975:G:H1'	1:A:990:A:C2	2.43	0.52
11:K:7:TYR:CZ	11:K:44:LYS:HG3	2.43	0.52
3:C:212:SER:O	3:C:217:ARG:HG3	2.09	0.52
1:A:841:A:C2	1:A:938:G:C2	2.96	0.52
1:A:1190:G:H5''	12:L:35:HIS:HA	1.90	0.52
31:5:62:LEU:C	31:5:64:TYR:N	2.61	0.52
3:C:68:LYS:O	3:C:70:TRP:CE3	2.63	0.52
4:D:137:HIS:HB3	4:D:138:PRO:HD2	1.90	0.52
4:D:111:ARG:CD	4:D:160:TYR:CE1	2.92	0.52
21:U:81:LYS:HZ1	21:U:98:VAL:HG12	1.72	0.52
7:G:43:VAL:HG12	7:G:52:VAL:CG2	2.39	0.52
1:A:2756:U:H4'	1:A:2757:A:OP1	2.08	0.52
1:A:322:A:O4'	1:A:340:A:H1'	2.09	0.52
1:A:2598:A:H2'	1:A:2599:G:O5'	2.09	0.52
1:A:909:A:C4	1:A:912:C:C5	2.96	0.52
1:A:301:G:OP1	1:A:301:G:H4'	2.09	0.52
13:M:43:THR:O	13:M:46:GLN:HB2	2.10	0.52
12:L:75:ILE:HD12	12:L:75:ILE:N	2.25	0.52
13:M:10:ARG:HB3	13:M:11:LYS:HG2	1.90	0.52
22:V:68:PRO:O	22:V:91:LEU:HB2	2.08	0.52
14:N:11:ASN:O	14:N:12:ARG:NH1	2.38	0.52
25:Y:29:LYS:HD3	25:Y:57:ILE:HG21	1.92	0.52
1:A:1324:G:N2	1:A:1331:A:C4	2.78	0.52
26:Z:26:LEU:HB2	26:Z:28:LEU:HD13	1.92	0.52
1:A:2598:A:C2'	1:A:2599:G:O5'	2.58	0.52
3:C:25:THR:HG21	3:C:81:ALA:CB	2.38	0.52
1:A:955:C:H5''	13:M:85:LYS:HE2	1.92	0.52
13:M:16:ARG:O	13:M:17:LEU:HD23	2.09	0.52
17:Q:62:ILE:HD13	17:Q:62:ILE:N	2.24	0.52
7:G:94:TYR:N	7:G:94:TYR:CD1	2.76	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:783:A:H2'	1:A:785:G:OP1	2.10	0.52
3:C:74:GLY:O	3:C:76:PRO:HD3	2.09	0.52
1:A:1917:U:C2'	1:A:1918:A:H5'	2.40	0.52
1:A:1130:U:O2	4:D:149:ARG:NH2	2.41	0.52
1:A:1027:A:C2	1:A:2488:A:H5'	2.44	0.52
1:A:464:U:H4'	30:4:5:TRP:CZ3	2.44	0.52
1:A:861:A:N3	2:B:79:C:O2'	2.38	0.52
3:C:181:GLU:HA	3:C:272:ALA:HB3	1.90	0.52
6:F:8:LYS:HD3	6:F:9:ARG:CG	2.40	0.52
4:D:5:LEU:CB	4:D:51:PHE:HD2	2.17	0.52
1:A:1506:C:H2'	1:A:1508:A:C8	2.44	0.52
11:K:63:VAL:HB	11:K:102:VAL:HG12	1.89	0.52
1:A:598:G:H5'	12:L:15:ARG:HB3	1.91	0.52
1:A:1476:C:C6	1:A:1476:C:H3'	2.42	0.52
1:A:2100:G:H21	1:A:2101:G:H1'	1.74	0.52
1:A:277:C:H3'	1:A:278:A:C5'	2.39	0.52
4:D:25:VAL:C	4:D:26:ILE:HD13	2.29	0.52
13:M:43:THR:HG1	13:M:45:GLN:HG2	1.74	0.52
1:A:795:C:H2'	1:A:796:C:C6	2.43	0.52
1:A:415:A:H2'	1:A:416:C:C6	2.44	0.52
24:X:67:ILE:HB	24:X:68:PRO:HD3	1.92	0.52
1:A:1757:U:H2'	1:A:1758:G:OP1	2.09	0.52
1:A:459:U:H4'	30:4:40:TRP:CZ3	2.45	0.52
1:A:2584:U:H6	1:A:2584:U:O5'	1.92	0.52
1:A:2296:U:O2	1:A:2333:A:N3	2.43	0.52
8:H:142:VAL:O	8:H:143:SER:HB2	2.09	0.52
15:O:52:SER:O	15:O:53:SER:HB2	2.09	0.52
15:O:65:VAL:O	15:O:69:VAL:HG12	2.08	0.52
24:X:13:ILE:O	24:X:14:VAL:HB	2.10	0.52
1:A:2396:G:H4'	24:X:31:GLY:HA2	1.92	0.52
3:C:25:THR:HG21	3:C:81:ALA:HB1	1.92	0.52
21:U:2:ARG:HG2	21:U:3:VAL:N	2.24	0.52
1:A:480:A:N3	1:A:480:A:H2'	2.24	0.52
1:A:336:C:O2	1:A:336:C:C2'	2.57	0.52
28:2:52:TYR:O	28:2:52:TYR:CD1	2.62	0.52
1:A:908:C:OP1	13:M:22:LYS:HD2	2.08	0.52
1:A:991:C:C6	1:A:1185:C:N3	2.78	0.52
21:U:90:LEU:HG	21:U:91:GLU:N	2.23	0.52
24:X:68:PRO:O	24:X:71:TYR:N	2.42	0.52
15:O:67:ARG:HG3	15:O:100:ALA:HB1	1.92	0.52
12:L:59:LEU:C	12:L:59:LEU:HD23	2.30	0.52
10:J:95:TYR:HB2	10:J:108:ILE:O	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:103:U:C2'	2:B:104:A:H5'	2.39	0.52
1:A:1493:C:H4'	1:A:1494:A:OP1	2.09	0.52
1:A:275:G:OP2	1:A:363(A):G:N2	2.41	0.52
1:A:2886:G:H2'	1:A:2887:U:H6	1.73	0.52
24:X:11:ARG:NH1	24:X:11:ARG:HG3	2.24	0.52
7:G:21:PRO:HB2	7:G:23:ARG:NH1	2.24	0.52
1:A:932:G:H4'	1:A:933:A:O5'	2.10	0.52
1:A:379:G:N1	24:X:20:ARG:NH2	2.56	0.52
10:J:70:ALA:HB2	10:J:135:LEU:HD11	1.90	0.52
1:A:481:G:OP1	1:A:481:G:H4'	2.09	0.52
3:C:30:GLU:CG	3:C:63:ARG:NH2	2.73	0.52
1:A:2352:A:H2'	1:A:2353:G:H5'	1.90	0.52
1:A:1590:U:O2	1:A:1591:G:C8	2.63	0.52
22:V:9:TYR:CG	22:V:35:ARG:NH1	2.78	0.52
8:H:12:LEU:H	8:H:12:LEU:HD22	1.75	0.52
1:A:270(S):G:H2'	1:A:270(T):G:C8	2.45	0.52
1:A:806:C:O5'	1:A:806:C:H6	1.93	0.52
6:F:19:LEU:HD11	6:F:172:LEU:HD13	1.92	0.52
1:A:72:U:O4	1:A:112:U:H4'	2.09	0.52
30:4:12:ARG:CG	30:4:12:ARG:HH11	2.15	0.52
1:A:81:G:H21	21:U:2:ARG:NH2	2.07	0.52
11:K:28:SER:O	11:K:29:ASN:HB3	2.10	0.52
1:A:2352:A:C2'	1:A:2353:G:H5'	2.39	0.52
1:A:1414:G:C6	1:A:1415:U:C4	2.97	0.52
24:X:48:LYS:NZ	24:X:50:ARG:NH1	2.57	0.52
4:D:173:VAL:HG12	4:D:174:ASP:H	1.74	0.52
27:1:43:GLY:O	27:1:44:CYS:HB3	2.08	0.52
1:A:2415:G:H1'	12:L:67:MET:CE	2.37	0.52
1:A:568:U:O4	18:R:78:LYS:CE	2.58	0.52
14:N:66:VAL:HG13	14:N:70:LEU:HD12	1.92	0.52
18:R:64:HIS:HD2	18:R:92:THR:CG2	2.21	0.52
3:C:25:THR:HG22	3:C:82:ILE:N	2.25	0.52
1:A:1047:G:H1'	1:A:1110:G:N2	2.24	0.52
1:A:284:U:H2'	1:A:285:C:C6	2.45	0.52
5:E:36:VAL:HG11	5:E:183:VAL:HG11	1.90	0.52
23:W:31:VAL:HG11	23:W:67:VAL:HG23	1.92	0.52
23:W:50:ASN:O	23:W:62:LEU:HB2	2.10	0.52
26:Z:11:SER:OG	26:Z:13:ILE:HG13	2.10	0.52
6:F:10:LYS:O	6:F:14:GLU:HB3	2.09	0.52
1:A:2461:C:O2	1:A:2461:C:C2'	2.55	0.52
1:A:2317:C:C2'	1:A:2318:G:H5'	2.40	0.52
21:U:59:GLY:C	21:U:61:ILE:H	2.12	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1028:A:N3	1:A:2486:G:O2'	2.29	0.52
1:A:1235:G:C6	1:A:1236:G:N1	2.78	0.52
1:A:2342:C:O2'	1:A:2374:C:H5''	2.08	0.52
1:A:1301:A:H2'	1:A:1301:A:N3	2.24	0.52
1:A:900:A:C4	1:A:901:A:C8	2.97	0.52
1:A:1636:C:H2'	1:A:1637:A:C8	2.43	0.52
8:H:29:TYR:C	8:H:32:PRO:HD2	2.29	0.52
4:D:201:THR:C	4:D:202:LYS:HD3	2.27	0.52
12:L:47:ASP:OD1	12:L:49:ARG:N	2.43	0.52
1:A:1210:A:H8	1:A:1210:A:H5'	1.73	0.52
1:A:2723:C:OP2	4:D:109:LYS:NZ	2.42	0.52
11:K:97:ARG:H	11:K:117:LEU:CD2	2.23	0.52
3:C:120:GLY:HA2	3:C:190:TYR:OH	2.10	0.52
1:A:1478:G:N2	1:A:1479:G:C4	2.77	0.52
22:V:58:VAL:HG11	22:V:66:SER:HB2	1.92	0.52
1:A:2862:G:C6	1:A:2863:C:C4	2.98	0.52
2:B:55:U:O2'	2:B:56:G:H5'	2.10	0.52
22:V:68:PRO:HG2	22:V:91:LEU:O	2.09	0.52
1:A:2020:A:OP1	17:Q:27:LEU:HB2	2.09	0.52
13:M:84:GLY:HA3	23:W:10:THR:CG2	2.39	0.52
3:C:168:ARG:O	3:C:169:GLU:HB2	2.10	0.52
5:E:179:GLU:CD	5:E:179:GLU:H	2.12	0.52
12:L:86:LYS:HB3	12:L:118:GLY:HA3	1.91	0.52
31:5:60:LEU:N	31:5:60:LEU:HD23	2.25	0.52
1:A:253:C:H2'	1:A:254:G:O4'	2.10	0.52
1:A:2731:G:C6	1:A:2732:G:C6	2.98	0.52
1:A:2335:A:N7	1:A:2337:G:C5	2.78	0.52
1:A:1799:G:H8	3:C:181:GLU:CD	2.14	0.52
3:C:127:VAL:HA	3:C:193:VAL:HG12	1.92	0.52
1:A:1105:U:C2	1:A:1106:G:C8	2.98	0.52
18:R:98:GLU:HG2	18:R:100:ARG:CD	2.39	0.52
10:J:62:ARG:NH2	10:J:64:ASP:OD2	2.38	0.52
2:B:75:G:H21	22:V:85:HIS:CE1	2.27	0.52
1:A:2721:A:H1'	1:A:2873:A:O2'	2.08	0.52
1:A:1922:G:H2'	1:A:1923:U:O4'	2.10	0.52
1:A:779:U:P	3:C:49:ILE:HD12	2.50	0.52
1:A:1850:G:C5	1:A:1851:U:C5	2.98	0.52
29:3:11:LEU:O	29:3:24:GLU:HB2	2.10	0.52
1:A:36:G:C5	1:A:37:C:C5	2.98	0.52
1:A:466:A:H5''	1:A:467:G:OP2	2.10	0.52
22:V:152:ALA:C	22:V:154:ASP:H	2.13	0.52
1:A:943:U:OP2	12:L:38:GLN:CD	2.48	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:102:GLU:N	17:Q:103:PRO:CD	2.74	0.51
17:Q:92:ARG:HH22	18:R:11:GLN:H	1.55	0.51
1:A:593:G:H4'	31:5:62:LEU:CD1	2.40	0.51
6:F:86:MET:N	6:F:87:PRO:HD3	2.25	0.51
10:J:93:LYS:HE3	10:J:95:TYR:CE1	2.35	0.51
30:4:19:ARG:NH1	30:4:19:ARG:CB	2.73	0.51
8:H:97:ILE:O	8:H:101:LEU:HB2	2.11	0.51
2:B:45:A:H1'	6:F:95:ARG:CZ	2.40	0.51
27:1:51:TYR:O	27:1:52:SER:HB2	2.09	0.51
1:A:2688:U:O2	1:A:2688:U:C3'	2.57	0.51
14:N:47:PHE:CE2	14:N:51:LEU:HD11	2.45	0.51
14:N:48:VAL:O	14:N:51:LEU:N	2.43	0.51
1:A:379:G:C2	24:X:20:ARG:NH2	2.77	0.51
1:A:389:G:C6	12:L:71:VAL:HG23	2.45	0.51
16:P:88:ILE:HG13	16:P:89:VAL:N	2.25	0.51
1:A:774:A:H2	1:A:787:U:O2'	1.92	0.51
19:S:45:TYR:C	19:S:45:TYR:CD2	2.84	0.51
1:A:449:A:C2'	1:A:450:G:H5'	2.40	0.51
22:V:165:VAL:HG23	22:V:166:SER:O	2.10	0.51
4:D:24:THR:HG22	4:D:186:GLY:H	1.74	0.51
16:P:54:ARG:CG	16:P:54:ARG:NH1	2.60	0.51
2:B:81:G:C6	2:B:82:G:N7	2.78	0.51
2:B:40:U:O2	2:B:43:C:C6	2.63	0.51
1:A:141(A):A:N6	1:A:1596:A:H5'	2.26	0.51
1:A:2090:G:H21	24:X:45:ASN:HD21	1.59	0.51
24:X:62:VAL:CG2	24:X:63:ALA:N	2.73	0.51
1:A:2305:A:H3'	1:A:2306:C:H5''	1.92	0.51
28:2:40:LYS:HZ1	28:2:49:CYS:CB	2.22	0.51
1:A:1680:U:O2	1:A:1763:G:H3'	2.10	0.51
1:A:1894:C:H2'	1:A:1895:C:H6	1.75	0.51
1:A:2718:G:H2'	1:A:2719:G:C8	2.45	0.51
1:A:1993:U:H4'	4:D:128:SER:HB3	1.92	0.51
1:A:769:G:C2'	1:A:770:G:H5'	2.40	0.51
1:A:771:G:H2'	1:A:772:C:H6	1.75	0.51
1:A:2473:U:C4	1:A:2474:C:C4	2.98	0.51
1:A:537:C:H2'	1:A:539:G:H8	1.75	0.51
31:5:57:ARG:CB	31:5:57:ARG:CZ	2.87	0.51
21:U:9:LYS:O	21:U:27:VAL:HG21	2.09	0.51
12:L:32:THR:HG21	12:L:37:GLY:N	2.25	0.51
1:A:197:A:C5'	1:A:197:A:H8	2.14	0.51
6:F:82:LEU:HD22	6:F:87:PRO:HG3	1.92	0.51
3:C:44:ASN:CG	3:C:45:ASN:H	2.12	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:16:ARG:NH2	12:L:18:ARG:N	2.57	0.51
22:V:102:LEU:HD21	22:V:124:ILE:HD11	1.93	0.51
19:S:29:LEU:CG	19:S:33:ARG:HE	2.22	0.51
1:A:1104:C:C4	1:A:1105:U:H5	2.28	0.51
15:O:34:HIS:ND1	15:O:54:LEU:HB3	2.26	0.51
2:B:60:C:C2	2:B:61:G:C8	2.98	0.51
13:M:20:ALA:O	13:M:21:THR:O	2.28	0.51
13:M:111:GLU:O	13:M:115:MET:HB2	2.10	0.51
1:A:1241:A:N6	1:A:1242:A:C6	2.79	0.51
17:Q:20:LEU:HB2	17:Q:39:LEU:HD11	1.90	0.51
12:L:113:LYS:HA	12:L:129:ALA:O	2.10	0.51
1:A:747:U:O2	1:A:2014:A:H1'	2.10	0.51
5:E:64:ILE:HG23	5:E:65:TRP:NE1	2.25	0.51
1:A:548:A:H2'	1:A:549:G:H5'	1.91	0.51
4:D:49:LEU:H	4:D:49:LEU:CD2	2.16	0.51
14:N:73:VAL:O	14:N:76:VAL:HG22	2.11	0.51
1:A:95:G:HO2'	25:Y:48:HIS:CE1	2.24	0.51
25:Y:48:HIS:O	25:Y:49:LYS:C	2.46	0.51
1:A:2277:G:C5'	13:M:85:LYS:HB2	2.40	0.51
1:A:2776:A:H4'	1:A:2777:G:H5''	1.92	0.51
10:J:80:ALA:O	10:J:83:ILE:HG13	2.09	0.51
24:X:51:VAL:HG13	24:X:53:VAL:HG23	1.92	0.51
27:1:47:VAL:HG12	27:1:49:GLU:OE1	2.11	0.51
6:F:171:ALA:O	6:F:175:LEU:HG	2.11	0.51
25:Y:16:LEU:HB2	25:Y:20:GLU:HG3	1.91	0.51
21:U:14:LEU:HD23	21:U:14:LEU:C	2.31	0.51
17:Q:90:VAL:HG13	17:Q:91:ASP:N	2.24	0.51
17:Q:92:ARG:HD2	17:Q:95:LEU:H	1.74	0.51
18:R:5:VAL:HG12	18:R:14:VAL:HG21	1.93	0.51
1:A:242:G:P	31:5:3:LYS:HZ1	2.33	0.51
6:F:83:ARG:HG3	6:F:84:LYS:H	1.75	0.51
3:C:150:LYS:HA	3:C:150:LYS:HE3	1.92	0.51
1:A:1404:C:O2	1:A:1404:C:C2'	2.55	0.51
1:A:2605:U:H2'	1:A:2606:C:C6	2.45	0.51
24:X:11:ARG:O	24:X:12:PRO:C	2.48	0.51
23:W:42:GLY:CA	23:W:57:PHE:CD2	2.90	0.51
24:X:27:GLU:OE2	24:X:33:LYS:HE3	2.10	0.51
5:E:88:VAL:HG13	5:E:89:VAL:O	2.11	0.51
9:I:4:LYS:O	9:I:4:LYS:HG2	2.11	0.51
1:A:998:C:H2'	1:A:999:U:O5'	2.11	0.51
1:A:2101:G:H2'	1:A:2102:U:C5'	2.40	0.51
1:A:2477:C:O2'	1:A:2478:A:P	2.69	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1348:G:C2'	1:A:1349:A:H5''	2.39	0.51
1:A:270(J):G:O2'	1:A:270(K):G:H8	1.92	0.51
25:Y:7:ARG:NE	25:Y:11:GLU:OE2	2.44	0.51
1:A:443:A:H1'	1:A:1201:C:O4'	2.09	0.51
14:N:18:LEU:HD11	14:N:22:ARG:NE	2.26	0.51
1:A:1796:U:H4'	3:C:256:GLY:HA2	1.92	0.51
12:L:136:GLU:O	12:L:138:LEU:N	2.44	0.51
18:R:47:VAL:HG11	18:R:50:PRO:O	2.11	0.51
1:A:1141:U:P	10:J:86:THR:HG21	2.50	0.51
1:A:94:G:N2	25:Y:47:ASN:HD22	1.98	0.51
14:N:60:LEU:HA	14:N:63:ARG:HB3	1.93	0.51
1:A:2744:G:H1'	1:A:2761:G:H22	1.75	0.51
7:G:67:LEU:HG	7:G:71:LEU:HD23	1.92	0.51
1:A:1496:A:N7	1:A:1498:C:N3	2.59	0.51
1:A:1859:A:C6	1:A:1884:A:C8	2.98	0.51
6:F:120:LEU:HD13	6:F:133:LEU:HD13	1.93	0.51
10:J:66:THR:O	10:J:69:VAL:HG12	2.11	0.51
1:A:2773:C:P	4:D:166:THR:HG1	2.34	0.51
1:A:699:A:H2'	1:A:700:G:O4'	2.11	0.51
1:A:2197:U:O3'	1:A:2198:A:H8	1.93	0.51
1:A:107:C:C2'	1:A:108:U:H5'	2.41	0.51
1:A:1173:G:H3'	1:A:1174:A:C5'	2.40	0.51
17:Q:113:ALA:HA	17:Q:116:ALA:HB3	1.91	0.51
25:Y:53:LEU:O	25:Y:57:ILE:HG13	2.11	0.51
3:C:223:GLY:O	3:C:224:ALA:C	2.49	0.51
24:X:11:ARG:CG	24:X:61:ARG:O	2.59	0.51
24:X:73:LEU:HG	24:X:73:LEU:O	2.10	0.51
1:A:379:G:C5	1:A:380:U:C5	2.99	0.51
1:A:1025:G:C4	1:A:1135:C:H1'	2.46	0.51
1:A:198:C:H5'	1:A:2244:U:OP1	2.10	0.51
1:A:2190:G:H2'	1:A:2191:G:C8	2.44	0.51
14:N:79:LEU:CD2	14:N:83:ILE:HB	2.41	0.51
19:S:45:TYR:O	19:S:45:TYR:CG	2.63	0.51
4:D:149:ARG:CG	4:D:150:VAL:N	2.72	0.51
25:Y:42:GLY:O	25:Y:44:LEU:N	2.36	0.51
31:5:33:ASN:O	31:5:34:TRP:HB3	2.10	0.51
31:5:22:VAL:CG2	31:5:54:GLU:HG3	2.40	0.51
12:L:85:LEU:H	12:L:85:LEU:HD22	1.74	0.51
4:D:170:LEU:HB3	4:D:185:LYS:HB2	1.93	0.51
1:A:2728:U:H2'	1:A:2728:U:O2	2.10	0.51
1:A:2335:A:C8	1:A:2337:G:N7	2.79	0.51
22:V:94:GLU:CD	22:V:94:GLU:N	2.63	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:66:ARG:HD2	18:R:88:ARG:NE	2.26	0.51
1:A:1486:A:H2'	1:A:1487:G:H8	1.75	0.51
8:H:135:GLU:HG3	8:H:135:GLU:O	2.11	0.51
1:A:1109:C:N4	1:A:1110:G:N2	2.59	0.51
1:A:2287:A:C2	1:A:2289:G:C8	2.99	0.51
1:A:282:A:N6	1:A:284:U:C2	2.78	0.51
7:G:85:LYS:O	7:G:132:ARG:HA	2.11	0.51
1:A:1568:G:OP2	3:C:63:ARG:NH2	2.35	0.51
1:A:1389:G:C2	1:A:1390:U:C2	2.99	0.51
11:K:19:ILE:HG22	11:K:43:VAL:HA	1.92	0.51
2:B:75:G:H1	2:B:102:G:N2	2.09	0.51
22:V:24:LEU:HB2	22:V:41:LEU:HG	1.93	0.51
1:A:2837:G:C5	1:A:2838:G:N7	2.78	0.51
1:A:510:C:H2'	1:A:511:U:O4'	2.10	0.51
1:A:962:G:H2'	1:A:963:U:O4'	2.11	0.51
7:G:38:SER:HB3	7:G:41:MET:HG2	1.92	0.51
1:A:844:C:C2'	1:A:845:G:H5'	2.40	0.51
6:F:92:VAL:HG13	6:F:92:VAL:O	2.10	0.51
1:A:1005:C:O2'	10:J:51:THR:HG21	2.11	0.51
18:R:6:LYS:CG	18:R:11:GLN:HG2	2.41	0.51
1:A:2688:U:C5	1:A:2720:U:OP2	2.64	0.51
19:S:29:LEU:HD21	19:S:33:ARG:HH21	1.76	0.51
7:G:46:GLU:HG3	7:G:51:ARG:CZ	2.41	0.51
1:A:910:A:C4	13:M:13:GLN:OE1	2.63	0.51
1:A:1045:A:H4'	1:A:1046:A:H5''	1.93	0.51
1:A:947:G:N2	1:A:971:C:C2	2.79	0.51
8:H:8:PRO:HB3	8:H:14:ASP:OD1	2.11	0.51
22:V:179:ASP:CG	22:V:180:VAL:H	2.13	0.51
13:M:20:ALA:HB2	13:M:99:PRO:HB2	1.91	0.51
1:A:825:C:O2	12:L:55:ARG:NH2	2.41	0.51
1:A:1705:G:O2'	1:A:1706:U:H5'	2.10	0.51
1:A:2689:U:P	1:A:2719:G:H22	2.34	0.51
1:A:1526:G:O2'	1:A:1527:G:H5'	2.10	0.51
16:P:78:LEU:O	16:P:78:LEU:HD13	2.10	0.51
1:A:2250:G:OP2	1:A:2275:C:H2'	2.11	0.51
21:U:8:LYS:N	21:U:8:LYS:NZ	2.57	0.51
5:E:164:ARG:CG	5:E:164:ARG:HH11	2.08	0.51
25:Y:17:SER:O	25:Y:21:LEU:N	2.22	0.51
17:Q:106:PHE:O	17:Q:110:VAL:HG23	2.11	0.51
19:S:86:LEU:HD12	19:S:87:PRO:HD2	1.92	0.51
3:C:127:VAL:HA	3:C:193:VAL:CG1	2.41	0.51
1:A:137(B):G:H2'	1:A:139:G:N7	2.26	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2328:A:C2	1:A:2329:G:C4	2.99	0.51
1:A:1884:A:N3	1:A:1885:A:C8	2.79	0.51
21:U:44:ILE:HG22	21:U:45:VAL:N	2.24	0.51
7:G:91:GLY:O	7:G:92:ILE:O	2.29	0.51
1:A:1728:G:C8	1:A:1728:G:O5'	2.62	0.51
7:G:102:ALA:CB	7:G:116:GLU:HA	2.41	0.51
1:A:2051:A:H4'	4:D:141:ILE:CG2	2.41	0.51
1:A:1442:G:C2	1:A:1550:C:O2	2.64	0.51
1:A:2837:G:C6	1:A:2838:G:C5	2.99	0.51
17:Q:47:TYR:C	17:Q:47:TYR:CD2	2.84	0.51
6:F:18:GLU:HG2	6:F:175:LEU:HD22	1.93	0.51
12:L:61:ARG:CA	12:L:62:LEU:HD13	2.41	0.50
16:P:50:ILE:HA	16:P:99:LEU:CD1	2.41	0.50
1:A:587:C:O2	12:L:33:ARG:HD3	2.10	0.50
1:A:1159:U:H2'	1:A:1160:G:C8	2.45	0.50
15:O:27:SER:HA	15:O:88:ASP:HB3	1.93	0.50
8:H:81:VAL:HG11	8:H:90:GLY:HA3	1.94	0.50
26:Z:40:THR:OG1	26:Z:41:PRO:HD2	2.10	0.50
13:M:55:VAL:CG2	13:M:56:ARG:N	2.74	0.50
10:J:69:VAL:O	10:J:70:ALA:HB3	2.11	0.50
1:A:2531:A:H4'	7:G:157:TYR:CE2	2.46	0.50
5:E:199:TRP:CZ2	5:E:203:GLN:NE2	2.79	0.50
1:A:966:G:C5	1:A:967:C:H5	2.29	0.50
11:K:19:ILE:HB	11:K:41:ALA:HB1	1.93	0.50
24:X:67:ILE:N	24:X:68:PRO:HD2	2.25	0.50
26:Z:23:LEU:CD1	26:Z:23:LEU:N	2.73	0.50
1:A:449:A:H2'	1:A:450:G:H5'	1.92	0.50
3:C:124:PRO:HG2	3:C:129:ASN:ND2	2.26	0.50
1:A:57:C:H2'	1:A:58:G:O4'	2.11	0.50
13:M:83:MET:HG3	13:M:83:MET:O	2.11	0.50
11:K:71:ARG:NH2	11:K:77:ILE:HG21	2.26	0.50
18:R:2:PHE:HE2	18:R:13:ARG:CD	2.23	0.50
14:N:57:ARG:CD	14:N:59:ASP:OD2	2.59	0.50
14:N:67:LEU:O	14:N:70:LEU:O	2.28	0.50
1:A:1105:U:H2'	1:A:1106:G:H8	1.75	0.50
19:S:42:ARG:HH11	19:S:42:ARG:HG2	1.76	0.50
4:D:117:MET:HE3	4:D:136:ARG:HA	1.93	0.50
1:A:301:G:HO2'	1:A:302:C:H6	1.58	0.50
1:A:1680:U:C2'	1:A:1681:G:O5'	2.59	0.50
21:U:90:LEU:HD12	21:U:91:GLU:HG3	1.93	0.50
11:K:7:TYR:CE1	11:K:20:MET:HB3	2.46	0.50
7:G:78:GLY:O	7:G:136:ILE:HG22	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:63:ASP:HB3	22:V:65:GLN:HG3	1.93	0.50
1:A:30:G:H2'	1:A:31:C:C6	2.46	0.50
6:F:49:ASP:HB3	6:F:52:ILE:HG12	1.92	0.50
14:N:25:ALA:O	14:N:26:LYS:C	2.47	0.50
1:A:1173:G:H1'	1:A:1177:A:H61	1.75	0.50
10:J:119:GLU:CD	10:J:119:GLU:H	2.11	0.50
1:A:2017:U:O2	28:2:10:LYS:HB2	2.11	0.50
17:Q:72:HIS:CE1	17:Q:107:ALA:HA	2.47	0.50
6:F:72:ARG:HB3	6:F:87:PRO:HD2	1.92	0.50
1:A:1019:U:H2'	1:A:1020:A:C8	2.40	0.50
1:A:1344:G:H5'	1:A:1384:A:C6	2.46	0.50
1:A:1502:C:H2'	1:A:1503:U:C6	2.47	0.50
1:A:2324:C:H42	1:A:2331:G:H1	1.59	0.50
1:A:954:G:H5''	13:M:13:GLN:HG2	1.93	0.50
1:A:1109:C:N4	1:A:1110:G:C2	2.78	0.50
1:A:2563:U:O2	1:A:2565:A:H8	1.94	0.50
2:B:78:A:N3	2:B:99:A:C5	2.80	0.50
21:U:46:LYS:O	21:U:48:ALA:N	2.44	0.50
1:A:2468:G:O2'	1:A:2476:A:N7	2.41	0.50
11:K:19:ILE:HD13	11:K:19:ILE:N	2.22	0.50
1:A:2638:G:OP2	4:D:82:ARG:NH2	2.44	0.50
1:A:1709:U:H2'	1:A:1710:C:C6	2.45	0.50
31:5:39:LYS:HA	31:5:42:ARG:NH1	2.27	0.50
1:A:1833:U:O2'	1:A:1834:U:H5'	2.11	0.50
1:A:2302:G:C2'	1:A:2303:G:H5'	2.42	0.50
17:Q:36:ARG:HD3	17:Q:40:PHE:CZ	2.46	0.50
1:A:2420:C:OP1	31:5:34:TRP:HA	2.11	0.50
12:L:140:ALA:O	12:L:141:ALA:CB	2.59	0.50
1:A:810:U:O5'	1:A:810:U:H6	1.94	0.50
17:Q:79:PHE:CE2	17:Q:106:PHE:CE1	3.00	0.50
3:C:265:PRO:C	3:C:267:SER:N	2.65	0.50
3:C:270:ILE:C	3:C:271:ILE:HG12	2.32	0.50
14:N:101:ALA:HB2	28:2:44:THR:HB	1.94	0.50
7:G:88:LEU:O	7:G:162:ILE:HA	2.11	0.50
1:A:270(H):C:C4	1:A:270(I):C:C5	3.00	0.50
7:G:86:GLU:N	7:G:86:GLU:OE2	2.42	0.50
3:C:260:ARG:HG2	3:C:260:ARG:O	2.11	0.50
6:F:55:LYS:HD2	6:F:58:GLN:NE2	2.27	0.50
4:D:112:GLY:O	4:D:159:HIS:HA	2.12	0.50
1:A:644:A:C2	1:A:646:A:C4	3.00	0.50
1:A:1126:A:O5'	1:A:1126:A:H8	1.95	0.50
20:T:3:THR:HA	20:T:6:ASP:OD2	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:5:22:VAL:CB	31:5:54:GLU:HG3	2.41	0.50
10:J:39:ILE:O	10:J:78:VAL:HG22	2.11	0.50
6:F:73:ALA:HB3	6:F:76:SER:OG	2.12	0.50
1:A:142:G:C1'	20:T:37:THR:HG21	2.41	0.50
3:C:158:ALA:C	3:C:161:THR:HG23	2.31	0.50
1:A:2713:A:H3'	1:A:2714:G:C5'	2.40	0.50
1:A:1771:C:O2'	1:A:1786:A:H8	1.79	0.50
4:D:49:LEU:N	4:D:49:LEU:HD22	2.17	0.50
1:A:2886:G:H2'	1:A:2887:U:C6	2.46	0.50
1:A:2346:A:C2	1:A:2383:G:C2	2.98	0.50
8:H:5:LEU:HD23	8:H:17:GLN:O	2.11	0.50
1:A:783:A:H3'	1:A:783:A:C8	2.47	0.50
21:U:76:CYS:SG	21:U:77:PRO:CD	2.99	0.50
1:A:1290:C:H2'	1:A:1291:C:C6	2.41	0.50
1:A:825:C:C2'	1:A:826:U:H5'	2.41	0.50
1:A:795:C:O5'	1:A:795:C:H6	1.95	0.50
1:A:1773:A:C5	1:A:1829:A:H1'	2.46	0.50
1:A:1204:A:N6	1:A:1240:U:O2'	2.45	0.50
1:A:2078:C:C2'	1:A:2079:U:H5'	2.42	0.50
1:A:1317:A:C6	1:A:1318:C:C4	2.99	0.50
1:A:1232:G:H2'	1:A:1233:C:H6	1.76	0.50
8:H:76:THR:HG22	8:H:141:LYS:HB2	1.93	0.50
4:D:3:GLY:C	4:D:81:ILE:HD13	2.32	0.50
10:J:32:VAL:HG12	10:J:33:GLU:N	2.26	0.50
31:5:14:VAL:HG13	31:5:22:VAL:HG13	1.93	0.50
18:R:2:PHE:O	18:R:41:GLY:HA2	2.12	0.50
2:B:7:G:H4'	15:O:29:PHE:CG	2.46	0.50
8:H:128:LEU:O	8:H:139:GLN:HA	2.11	0.50
1:A:2687:U:H2'	1:A:2688:U:O4'	2.12	0.50
18:R:28:GLU:O	18:R:61:VAL:HG21	2.12	0.50
1:A:1858:G:H1'	1:A:1884:A:H62	1.71	0.50
1:A:1952:A:C5	11:K:22:ILE:CD1	2.91	0.50
1:A:2658:C:H4'	7:G:158:HIS:NE2	2.27	0.50
1:A:864:G:O2'	1:A:865:C:H5'	2.12	0.50
13:M:20:ALA:HA	13:M:98:LYS:HB3	1.92	0.50
1:A:816:C:O2'	1:A:817:C:H5'	2.12	0.50
4:D:16:ARG:O	4:D:17:ASP:C	2.47	0.50
1:A:990:A:H5''	1:A:991:C:OP2	2.10	0.50
13:M:40:ALA:CB	13:M:127:ILE:HD12	2.40	0.50
3:C:198:ASN:C	3:C:198:ASN:ND2	2.64	0.50
12:L:100:LEU:H	12:L:100:LEU:HD22	1.77	0.50
1:A:2482:G:H2'	1:A:2483:C:O4'	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:455:C:N3	1:A:472:A:H2'	2.27	0.50
12:L:101:VAL:CB	12:L:106:LEU:HB3	2.42	0.50
1:A:2250:G:H5''	1:A:2250:G:N3	2.27	0.50
1:A:1542:G:OP2	1:A:1543:A:OP1	2.29	0.50
1:A:806:C:OP1	12:L:39:LYS:HB3	2.12	0.50
1:A:252:G:O2'	1:A:253:C:H5'	2.12	0.50
20:T:27:THR:HB	20:T:80:ILE:HB	1.93	0.50
1:A:1209:G:N2	1:A:1210:A:N6	2.58	0.50
20:T:57:LEU:N	20:T:57:LEU:HD12	2.26	0.50
1:A:1567:A:C8	3:C:84:TYR:CE2	3.00	0.50
1:A:1476:C:C6	1:A:1476:C:C3'	2.94	0.50
1:A:184:C:C2	1:A:185:U:C5	3.00	0.50
1:A:1164:G:H5'	1:A:1165:U:OP2	2.12	0.50
1:A:188:G:C2'	1:A:189:G:H5'	2.42	0.50
1:A:188:G:H1	1:A:208:C:H42	1.60	0.50
24:X:58:ILE:HD11	24:X:60:PHE:CE1	2.47	0.50
1:A:25:U:H2'	1:A:26:G:C8	2.47	0.50
19:S:45:TYR:O	19:S:45:TYR:CD2	2.65	0.50
1:A:1850:G:C4	1:A:1851:U:C5	3.00	0.50
1:A:618(B):C:O2	1:A:618(B):C:H2'	2.12	0.50
10:J:133:GLY:O	10:J:137:ARG:HG2	2.11	0.50
24:X:77:ALA:HA	24:X:80:LEU:HB2	1.92	0.50
1:A:1398:C:O3'	20:T:25:LYS:NZ	2.40	0.50
1:A:94:G:N3	25:Y:47:ASN:ND2	2.60	0.50
4:D:36:ARG:HH11	4:D:85:ASN:ND2	2.09	0.50
4:D:51:PHE:C	4:D:51:PHE:CD1	2.85	0.50
24:X:11:ARG:HG3	24:X:61:ARG:O	2.12	0.50
24:X:27:GLU:HB3	24:X:33:LYS:HG3	1.93	0.50
1:A:932:G:OP1	1:A:932:G:H3'	2.12	0.50
25:Y:9:GLN:CA	25:Y:12:GLU:HB3	2.41	0.50
1:A:2208:U:O4'	3:C:151:LYS:HE3	2.12	0.50
1:A:7:G:H2'	1:A:8:A:O4'	2.12	0.50
14:N:100:LEU:N	14:N:100:LEU:HD23	2.27	0.50
1:A:2352:A:C4	1:A:2366:A:C2	3.00	0.50
1:A:26:G:H1'	1:A:514:A:N6	2.27	0.50
25:Y:38:GLN:HB3	25:Y:44:LEU:HB3	1.93	0.50
1:A:1015:G:O2'	1:A:1016:G:H5'	2.12	0.50
3:C:52:ARG:HB3	3:C:53:PHE:CD2	2.47	0.50
1:A:1040:C:H2'	1:A:1041:C:C6	2.47	0.50
6:F:28:VAL:O	6:F:31:VAL:HG12	2.11	0.50
1:A:1932:A:H2'	1:A:1933:G:O4'	2.11	0.50
13:M:110:THR:OG1	13:M:113:GLN:HB2	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:5:53:PRO:O	31:5:57:ARG:NH1	2.44	0.50
25:Y:3:LEU:O	25:Y:4:SER:C	2.51	0.50
1:A:960:A:H61	13:M:82:ARG:HH21	1.59	0.50
21:U:27:VAL:O	21:U:27:VAL:CG2	2.56	0.50
10:J:122:LEU:O	10:J:126:VAL:HG22	2.11	0.50
5:E:65:TRP:HZ3	5:E:73:ALA:O	1.94	0.50
15:O:28:VAL:O	15:O:92:TYR:HE1	1.94	0.50
3:C:105:ILE:HD13	3:C:106:ILE:H	1.77	0.50
1:A:1487:G:O2'	1:A:1488:G:H5'	2.12	0.50
1:A:1511:A:O2'	1:A:1512:G:H5'	2.10	0.50
1:A:848:G:C4	1:A:933:A:C8	3.00	0.50
1:A:848:G:N9	1:A:933:A:H8	2.09	0.50
1:A:929:G:O5'	1:A:929:G:H8	1.95	0.50
1:A:2328:A:H2'	1:A:2329:G:O4'	2.12	0.50
19:S:47:VAL:HA	19:S:50:VAL:HG12	1.94	0.50
23:W:53:MET:HA	23:W:58:THR:O	2.12	0.50
18:R:100:ARG:O	18:R:100:ARG:CG	2.57	0.50
10:J:65:TRP:HA	10:J:71:MET:HE1	1.93	0.50
1:A:9:U:N3	1:A:2629:A:C6	2.79	0.50
1:A:8:A:C5	1:A:9:U:C4	3.00	0.50
3:C:76:PRO:HA	3:C:118:VAL:HG23	1.93	0.50
1:A:2477:C:HO2'	1:A:2478:A:P	2.35	0.50
23:W:51:VAL:N	23:W:62:LEU:HD12	2.26	0.50
1:A:1593:G:C6	1:A:1594:G:C6	3.00	0.50
1:A:828:U:H4'	1:A:831:G:N1	2.27	0.50
1:A:1909:C:N3	1:A:1922:G:C2	2.79	0.50
14:N:84:ALA:O	14:N:85:PRO:C	2.50	0.50
1:A:2215:G:H8	1:A:2215:G:OP2	1.94	0.50
3:C:40:THR:CG2	3:C:41:GLY:N	2.75	0.50
1:A:1444:G:N2	1:A:1548:C:C2	2.80	0.50
1:A:270(Q):C:O2'	1:A:270(R):C:C6	2.62	0.50
31:5:26:LYS:HA	31:5:48:PHE:CE2	2.46	0.50
5:E:150:GLY:HA2	5:E:172:TRP:CE3	2.47	0.50
1:A:2408:U:H6	1:A:2408:U:O5'	1.95	0.50
27:1:45:GLY:O	27:1:46:ASN:HB2	2.11	0.50
1:A:1523:U:H2'	1:A:1524:G:H8	1.75	0.50
22:V:155:LEU:O	22:V:157:LEU:HD12	2.12	0.50
1:A:1570:A:H2'	1:A:1571:A:C8	2.47	0.50
31:5:57:ARG:HA	31:5:57:ARG:CZ	2.42	0.49
12:L:132:LYS:CD	12:L:132:LYS:N	2.75	0.49
4:D:103:ASP:OD1	4:D:201:THR:HG23	2.12	0.49
4:D:104:VAL:HG22	4:D:198:VAL:HG13	1.94	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:674:G:C1'	5:E:74:ARG:HD3	2.36	0.49
6:F:76:SER:HB2	6:F:83:ARG:CA	2.43	0.49
8:H:113:ARG:O	8:H:131:LYS:N	2.45	0.49
13:M:141:GLN:NE2	22:V:89:PHE:HD1	2.10	0.49
4:D:36:ARG:NH1	4:D:86:PRO:HD2	2.27	0.49
4:D:61:ARG:HB3	4:D:62:PRO:HD2	1.94	0.49
1:A:1324:G:C5	1:A:1328:G:O6	2.66	0.49
13:M:47:ILE:HD11	13:M:68:ILE:HD12	1.93	0.49
1:A:322:A:P	5:E:169:ASN:HB2	2.52	0.49
1:A:2305:A:C4	6:F:154:GLY:HA3	2.47	0.49
1:A:1509:A:O2'	1:A:1510:A:OP1	2.24	0.49
1:A:1567:A:H5''	3:C:58:HIS:CD2	2.47	0.49
28:2:52:TYR:O	28:2:52:TYR:HD1	1.96	0.49
6:F:7:LEU:HD22	6:F:176:LEU:HD22	1.94	0.49
14:N:93:GLY:C	14:N:95:THR:H	2.16	0.49
1:A:1169:G:H1	1:A:1180:C:N4	2.08	0.49
24:X:49:VAL:HG11	24:X:70:VAL:HG11	1.93	0.49
26:Z:23:LEU:CD1	26:Z:50:VAL:HG11	2.42	0.49
1:A:265:A:H1'	1:A:266:G:O4'	2.12	0.49
1:A:2750:A:C2	1:A:2753:A:H2	2.30	0.49
1:A:1689:A:H62	1:A:1698:A:H2	1.60	0.49
10:J:110:LEU:O	10:J:113:MET:HB2	2.11	0.49
1:A:2579:C:H2'	1:A:2580:U:O4'	2.12	0.49
20:T:30:VAL:HG21	20:T:79:ALA:HB3	1.94	0.49
1:A:1828:G:OP2	3:C:239:ARG:CZ	2.60	0.49
14:N:107:ASP:OD2	14:N:108:GLY:N	2.45	0.49
4:D:1:MET:O	4:D:2:LYS:O	2.30	0.49
1:A:2517:C:C6	1:A:2542:A:C2	3.00	0.49
18:R:28:GLU:HB2	18:R:31:ALA:CB	2.42	0.49
1:A:2893:G:H3'	1:A:2894:G:H5'	1.95	0.49
17:Q:62:ILE:HD11	17:Q:93:LYS:HG2	1.94	0.49
8:H:15:VAL:C	8:H:17:GLN:H	2.16	0.49
1:A:826:U:H2'	1:A:828:U:O4'	2.12	0.49
1:A:2372:G:O2'	29:3:46:HIS:CE1	2.65	0.49
1:A:245:G:N3	1:A:246:C:C6	2.80	0.49
1:A:2459:A:C2	1:A:2460:U:H1'	2.47	0.49
1:A:1855:G:N1	1:A:1888:G:C8	2.80	0.49
2:B:86:G:H2'	2:B:87:G:C8	2.47	0.49
1:A:2105:C:H2'	1:A:2106:G:C8	2.47	0.49
1:A:1360:A:H5'	1:A:1361:G:OP2	2.12	0.49
19:S:5:ALA:HB2	19:S:54:ALA:HA	1.93	0.49
1:A:2416:C:N3	1:A:2417:C:C5	2.79	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:107:LYS:O	12:L:109:GLY:N	2.44	0.49
1:A:747:U:N3	28:2:2:ALA:N	2.61	0.49
1:A:1543:A:C8	1:A:1545:A:H5''	2.46	0.49
1:A:1542:G:P	1:A:1543:A:OP1	2.70	0.49
21:U:14:LEU:HD23	21:U:15:VAL:CA	2.42	0.49
1:A:1122:G:N3	1:A:1122:G:H2'	2.26	0.49
3:C:182:LEU:O	3:C:271:ILE:HG13	2.12	0.49
1:A:2711:A:OP1	1:A:712(B):A:OP1	2.30	0.49
1:A:363(C):G:O2'	1:A:363(D):G:H5'	2.12	0.49
1:A:2543:G:O4'	1:A:2766:G:H5'	2.13	0.49
1:A:2378:A:H4'	15:O:84:GLN:NE2	2.27	0.49
21:U:81:LYS:HD2	21:U:96:ILE:HD12	1.94	0.49
1:A:2683:C:OP1	16:P:53:ARG:NH2	2.45	0.49
1:A:1502:C:H6	1:A:1502:C:H3'	1.77	0.49
1:A:243:U:H2'	1:A:244:A:H5'	1.93	0.49
14:N:99:LYS:CD	14:N:99:LYS:N	2.74	0.49
1:A:335:C:C2	1:A:336:C:C5	3.00	0.49
1:A:1728:G:H3'	1:A:1728:G:C8	2.47	0.49
7:G:40:GLU:O	7:G:55:PRO:HG3	2.12	0.49
1:A:2836:U:C5	1:A:2883:A:N6	2.81	0.49
11:K:49:ARG:HA	11:K:53:LYS:HZ2	1.76	0.49
1:A:1881:C:H2'	1:A:1882:C:H6	1.78	0.49
1:A:2343:C:O2'	1:A:2373:G:O2'	2.24	0.49
1:A:2315:G:H2'	1:A:2316:C:C6	2.47	0.49
1:A:727:A:H2	3:C:9:TYR:CD2	2.30	0.49
20:T:44:GLU:HG2	20:T:49:VAL:O	2.13	0.49
20:T:30:VAL:HG21	20:T:79:ALA:CB	2.42	0.49
22:V:54:HIS:CG	22:V:101:PRO:HG3	2.47	0.49
7:G:138:LYS:O	7:G:139:GLN:C	2.51	0.49
7:G:46:GLU:HG3	7:G:51:ARG:HE	1.73	0.49
6:F:131:TYR:CD2	6:F:133:LEU:HD22	2.48	0.49
1:A:998:C:C2'	1:A:999:U:O5'	2.60	0.49
1:A:2287:A:C6	1:A:2289:G:C4	3.01	0.49
17:Q:98:LEU:O	17:Q:99:ALA:C	2.51	0.49
18:R:19:LYS:HA	18:R:94:LEU:O	2.12	0.49
17:Q:111:GLU:HA	17:Q:114:LYS:HB2	1.95	0.49
11:K:43:VAL:HG23	11:K:56:ASP:O	2.12	0.49
1:A:2865:U:C5	1:A:2866:U:C4	3.01	0.49
1:A:2065:C:O2'	1:A:2066:C:H5'	2.12	0.49
1:A:298:G:P	21:U:85:VAL:HG22	2.52	0.49
1:A:1815:A:P	3:C:54:ARG:HH22	2.35	0.49
1:A:805:G:H4'	1:A:806:C:OP2	2.13	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:36:PRO:O	3:C:37:LEU:HB2	2.12	0.49
19:S:75:TYR:CE2	19:S:104:THR:CB	2.91	0.49
7:G:12:PRO:HB2	7:G:49:VAL:HA	1.93	0.49
1:A:1512:G:C6	1:A:1513:C:N3	2.81	0.49
13:M:8:LYS:HG3	13:M:9:TYR:N	2.25	0.49
7:G:95:ARG:NH1	7:G:97:ARG:HE	2.10	0.49
16:P:28:VAL:HA	16:P:89:VAL:HG12	1.94	0.49
2:B:21:G:H2'	2:B:22:U:H6	1.77	0.49
1:A:2478:A:H2'	1:A:2479:G:O4'	2.12	0.49
22:V:85:HIS:C	22:V:85:HIS:HD1	2.16	0.49
1:A:1717:G:C6	1:A:1743:G:C6	3.00	0.49
1:A:117:G:H5''	1:A:118:A:OP2	2.12	0.49
1:A:978:G:C2	1:A:986:C:C2	3.01	0.49
1:A:851:U:O2'	26:Z:45:GLY:HA3	2.12	0.49
18:R:75:PHE:C	18:R:75:PHE:CD1	2.84	0.49
1:A:447:A:C4	1:A:473:G:N7	2.80	0.49
2:B:63:G:H2'	2:B:64:C:C6	2.47	0.49
1:A:2703:C:O2'	1:A:2704:C:H5'	2.12	0.49
31:5:21:LYS:HA	31:5:54:GLU:OE2	2.12	0.49
31:5:57:ARG:HB2	31:5:57:ARG:CZ	2.42	0.49
1:A:2439:A:H8	1:A:2439:A:H5''	1.76	0.49
1:A:114(B):A:O2'	1:A:1143:A:H3'	2.13	0.49
3:C:267:SER:C	3:C:269:PHE:H	2.14	0.49
6:F:88:ILE:HD12	6:F:89:GLY:N	2.27	0.49
1:A:2723:C:O5'	1:A:2723:C:H6	1.96	0.49
3:C:185:VAL:HG12	3:C:186:HIS:N	2.28	0.49
1:A:318:C:O2'	1:A:319:C:H5'	2.13	0.49
1:A:1577:C:H5''	1:A:1578:U:OP2	2.12	0.49
25:Y:49:LYS:H	25:Y:49:LYS:HD2	1.77	0.49
17:Q:61:TRP:O	17:Q:62:ILE:C	2.51	0.49
1:A:773:U:H4'	3:C:47:GLY:CA	2.41	0.49
1:A:2102:U:C4	1:A:2103:C:N4	2.81	0.49
29:3:38:LYS:HG2	29:3:39:TYR:N	2.26	0.49
1:A:1798:U:H5''	3:C:259:THR:O	2.13	0.49
26:Z:23:LEU:HD12	26:Z:50:VAL:HG11	1.92	0.49
1:A:1465:G:H21	1:A:1466:G:H1'	1.78	0.49
1:A:1322:A:O3'	19:S:84:ARG:NH2	2.41	0.49
1:A:2734:A:H2'	1:A:2735:G:H5'	1.95	0.49
6:F:106:LEU:HD12	6:F:110:ALA:HB3	1.95	0.49
10:J:151:HIS:CD2	10:J:151:HIS:C	2.86	0.49
8:H:45:LYS:HA	8:H:48:GLU:HG2	1.94	0.49
10:J:143:LEU:C	10:J:143:LEU:CD1	2.81	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:163:LEU:CD2	22:V:163:LEU:H	2.25	0.49
21:U:81:LYS:HD3	21:U:96:ILE:HG13	1.93	0.49
1:A:1343:G:O2'	1:A:1344:G:H5'	2.13	0.49
1:A:1952:A:C6	11:K:22:ILE:HD11	2.48	0.49
1:A:2287:A:O2'	1:A:2288:A:P	2.70	0.49
1:A:226:G:N2	1:A:227:A:C2	2.81	0.49
6:F:77:ILE:CG2	6:F:80:PHE:H	2.23	0.49
1:A:1476:C:C5	1:A:1477:A:N7	2.80	0.49
1:A:1746:G:N2	1:A:1747:G:C4	2.80	0.49
1:A:2225:A:H1'	1:A:2226:C:OP2	2.13	0.49
1:A:304:G:N2	1:A:314:A:C4	2.80	0.49
14:N:79:LEU:HA	14:N:83:ILE:HG13	1.95	0.49
11:K:9:GLU:O	11:K:83:ALA:HA	2.13	0.49
22:V:91:LEU:CD2	22:V:96:VAL:HG11	2.43	0.49
1:A:57:C:H6	1:A:57:C:O5'	1.95	0.49
10:J:32:VAL:HG12	10:J:33:GLU:O	2.12	0.49
6:F:74:LYS:HA	6:F:74:LYS:HE3	1.94	0.49
1:A:762:U:H4'	1:A:763:G:O5'	2.12	0.49
1:A:636:G:OP1	12:L:132:LYS:HD3	2.13	0.49
2:B:7:G:H2'	2:B:8:U:O4'	2.12	0.49
6:F:41:GLN:HB2	6:F:90:LEU:HB2	1.94	0.49
2:B:71:C:C4	2:B:72:G:N7	2.81	0.49
4:D:84:PHE:CD2	4:D:84:PHE:C	2.86	0.49
1:A:2886:G:N2	1:A:2887:U:C2	2.81	0.49
15:O:84:GLN:C	15:O:86:ALA:H	2.16	0.49
24:X:10:LYS:O	24:X:11:ARG:HB2	2.11	0.49
7:G:20:ALA:HB1	7:G:21:PRO:HD2	1.94	0.49
1:A:319:C:N4	1:A:320:A:C6	2.81	0.49
1:A:1401:G:C2'	1:A:1402:C:H6	2.22	0.49
1:A:286:C:C2	1:A:287:C:C5	3.01	0.49
16:P:27:THR:O	16:P:89:VAL:HG13	2.12	0.49
1:A:245:G:C4	1:A:246:C:C5	3.00	0.49
1:A:270(O):G:C6	1:A:270(Q):C:N4	2.81	0.49
1:A:2435:A:H2'	1:A:2436:G:O5'	2.11	0.49
17:Q:65:ILE:O	17:Q:66:ASN:C	2.51	0.49
1:A:1394:U:C5	1:A:1395:A:C4	3.00	0.49
1:A:2648:C:H2'	1:A:2649:U:C6	2.48	0.49
14:N:30:THR:HG22	14:N:31:HIS:CE1	2.48	0.49
1:A:702:G:C2	1:A:731:C:C2	3.01	0.49
1:A:2024:G:H2'	1:A:2025:C:H6	1.77	0.49
8:H:1:MET:HG3	8:H:23:PRO:HG3	1.95	0.49
1:A:1930:G:N2	1:A:1968:G:H2'	2.28	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:Y:1:MET:CE	25:Y:4:SER:HB2	2.42	0.49
1:A:1542:G:H3'	1:A:1542:G:P	2.53	0.49
18:R:13:ARG:NH1	18:R:13:ARG:HG3	2.28	0.49
3:C:83:GLU:OE1	3:C:104:TYR:OH	2.19	0.49
1:A:860:U:O2'	1:A:861:A:C5'	2.52	0.49
6:F:85:GLY:C	6:F:86:MET:HG3	2.32	0.49
3:C:134:ARG:HD3	3:C:135:PHE:HE1	1.74	0.49
1:A:2636:U:H2'	1:A:2637:U:H6	1.77	0.49
1:A:2190:G:C4	1:A:2191:G:C8	3.00	0.49
21:U:30:VAL:CG2	21:U:37:VAL:HG12	2.42	0.49
1:A:1749:A:H2'	1:A:1750:G:O4'	2.12	0.49
1:A:2828:C:C2'	1:A:2829:C:H5'	2.41	0.49
1:A:2836:U:H2'	1:A:2837:G:C8	2.47	0.49
1:A:1465:G:N2	1:A:1466:G:H1'	2.28	0.49
19:S:54:ALA:HB1	19:S:107:LEU:HD22	1.95	0.49
1:A:1314:C:C2'	1:A:1315:C:H5'	2.43	0.49
23:W:47:PRO:HB2	23:W:48:GLY:H	1.47	0.49
1:A:343:C:O2'	1:A:344:G:H5'	2.12	0.49
1:A:1168:G:C2	1:A:1182:A:C2	3.01	0.49
23:W:82:ARG:O	23:W:84:LEU:HD23	2.13	0.49
1:A:2679:A:H4'	4:D:165:VAL:HG11	1.94	0.49
1:A:1678:G:H22	1:A:1989:G:H22	1.60	0.49
1:A:2361:A:OP1	31:5:27:THR:OG1	2.30	0.49
1:A:103:A:O5'	1:A:103:A:H8	1.96	0.49
15:O:87:PHE:CD1	15:O:102:ALA:HB2	2.48	0.49
3:C:105:ILE:HD13	3:C:106:ILE:N	2.28	0.49
1:A:1608:A:HO2'	1:A:1610:A:P	2.36	0.49
1:A:2681:C:O2	1:A:2681:C:O5'	2.30	0.49
14:N:72:ASP:O	14:N:76:VAL:HG13	2.12	0.49
1:A:2746:U:C2'	1:A:2747:G:O5'	2.61	0.49
1:A:1503:U:N3	1:A:1504:C:N4	2.61	0.49
7:G:86:GLU:O	7:G:86:GLU:CG	2.61	0.49
16:P:28:VAL:HA	16:P:89:VAL:CG1	2.42	0.49
16:P:27:THR:HG23	16:P:90:GLN:HB3	1.94	0.49
13:M:21:THR:O	13:M:23:GLY:N	2.45	0.49
17:Q:117:GLN:OE1	17:Q:117:GLN:HA	2.13	0.49
1:A:1389:G:N2	1:A:1390:U:C2	2.80	0.49
1:A:1289:C:H2'	1:A:1290:C:C6	2.47	0.49
14:N:78:LYS:O	14:N:83:ILE:HG12	2.12	0.49
1:A:26:G:C6	1:A:27:G:N1	2.80	0.49
1:A:915:C:O2'	2:B:100:G:H5'	2.13	0.49
13:M:29:PHE:N	13:M:105:GLU:OE2	2.45	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2849:U:H4'	1:A:2868:A:C2	2.47	0.49
1:A:1926:U:O2	1:A:1929:G:C2	2.66	0.49
6:F:56:ALA:O	6:F:60:LEU:HB2	2.13	0.48
1:A:1971:A:C2	3:C:241:PRO:HD3	2.47	0.48
15:O:89:ARG:HG2	15:O:89:ARG:O	2.13	0.48
8:H:82:ARG:HB3	8:H:89:TYR:HB2	1.95	0.48
2:B:44:G:N3	2:B:47:C:N4	2.60	0.48
1:A:2887:U:C2	1:A:2888:C:C5	3.00	0.48
1:A:1788:C:OP1	3:C:222:ARG:NH2	2.46	0.48
19:S:69:LEU:HA	19:S:108:GLY:O	2.13	0.48
11:K:12:ASP:HA	11:K:98:VAL:HA	1.94	0.48
1:A:301:G:C6	1:A:302:C:N4	2.81	0.48
2:B:75:G:HO2'	22:V:85:HIS:CD2	2.31	0.48
23:W:64:ASP:OD1	23:W:64:ASP:N	2.45	0.48
12:L:55:ARG:HG3	12:L:56:SER:N	2.28	0.48
5:E:127:GLU:O	5:E:127:GLU:OE2	2.31	0.48
1:A:2862:G:C4	1:A:2863:C:C5	3.01	0.48
1:A:2738:A:C2	1:A:2739:U:N1	2.81	0.48
11:K:14:THR:HG22	11:K:14:THR:O	2.11	0.48
1:A:46:C:N4	1:A:179:G:H1	2.11	0.48
1:A:1241:A:N6	1:A:1242:A:N1	2.61	0.48
8:H:28:ASN:C	8:H:32:PRO:HG2	2.34	0.48
1:A:443:A:N7	5:E:45:ARG:HG2	2.28	0.48
5:E:122:LYS:HD2	5:E:122:LYS:N	2.28	0.48
14:N:104:ARG:CB	14:N:104:ARG:HH11	2.25	0.48
1:A:2620:C:C4'	4:D:156:MET:HG3	2.43	0.48
1:A:811:U:OP2	12:L:24:GLY:HA2	2.13	0.48
1:A:569:U:O2'	1:A:983:A:N1	2.45	0.48
1:A:2416:C:O5'	1:A:2416:C:H6	1.96	0.48
1:A:306:U:H2'	1:A:307:G:O4'	2.13	0.48
10:J:157:ARG:O	10:J:158:PRO:C	2.49	0.48
12:L:40:SER:C	12:L:41:ARG:HD3	2.32	0.48
1:A:2320:A:C8	1:A:2333:A:N6	2.80	0.48
1:A:1827:C:O2'	1:A:1828:G:H5'	2.13	0.48
1:A:1331:A:O2'	1:A:1332:G:C8	2.63	0.48
1:A:1788:C:H2'	1:A:1789:A:O4'	2.12	0.48
3:C:222:ARG:NH1	3:C:224:ALA:HB3	2.27	0.48
26:Z:26:LEU:HD13	26:Z:47:VAL:HG22	1.94	0.48
3:C:235:GLY:O	3:C:237:GLU:N	2.46	0.48
5:E:89:VAL:O	5:E:91:GLY:N	2.44	0.48
2:B:12:C:O2'	23:W:74:ARG:HG2	2.13	0.48
1:A:1152:C:HO2'	17:Q:76:TYR:HE2	1.58	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:60:ARG:HA	22:V:179:ASP:HB2	1.95	0.48
1:A:2100:G:N2	1:A:2101:G:N3	2.61	0.48
12:L:105:LEU:N	12:L:105:LEU:HD12	2.27	0.48
1:A:2228:G:P	3:C:263:ARG:HH21	2.36	0.48
1:A:2862:G:C5	1:A:2863:C:C5	3.00	0.48
1:A:2738:A:C6	1:A:2739:U:C5	3.01	0.48
1:A:1118:C:H5''	22:V:80:ARG:NH2	2.27	0.48
1:A:2813:A:H2'	1:A:2814:C:O4'	2.13	0.48
1:A:516:C:P	28:2:13:LYS:HZ1	2.35	0.48
12:L:80:TYR:CE1	12:L:111:ARG:CG	2.96	0.48
20:T:49:VAL:HG21	20:T:83:VAL:CG1	2.42	0.48
26:Z:52:HIS:HD2	26:Z:52:HIS:H	1.58	0.48
2:B:7:G:H1'	15:O:38:GLN:HE21	1.78	0.48
1:A:973:A:O4'	1:A:1188:U:C6	2.66	0.48
14:N:10:LEU:HB3	14:N:17:ARG:CZ	2.42	0.48
1:A:1327:C:H2'	1:A:1328:G:O4'	2.14	0.48
14:N:55:ALA:O	14:N:57:ARG:O	2.32	0.48
1:A:1505:C:H2'	1:A:1506:C:C6	2.49	0.48
1:A:105:C:C2	1:A:106:C:C5	3.02	0.48
22:V:4:ARG:HD3	22:V:60:GLU:HG3	1.94	0.48
1:A:2638:G:P	4:D:82:ARG:HH22	2.36	0.48
1:A:2663:G:C5	1:A:2664:G:C5	3.01	0.48
4:D:4:ILE:HD11	4:D:28:ALA:O	2.13	0.48
1:A:814:C:H2'	1:A:815:C:H6	1.78	0.48
15:O:93:LYS:O	15:O:93:LYS:HG3	2.13	0.48
1:A:2734:A:C8	1:A:2735:G:C8	3.01	0.48
21:U:75:ILE:HG13	21:U:79:CYS:HA	1.94	0.48
10:J:58:ARG:O	10:J:60:LYS:N	2.46	0.48
1:A:2261:C:H1'	1:A:2388:A:N3	2.28	0.48
1:A:1900:A:C2	1:A:1970:A:C5	3.00	0.48
10:J:156:GLN:O	10:J:157:ARG:HB2	2.13	0.48
1:A:1264:G:H5'	28:2:11:THR:HG23	1.94	0.48
3:C:141:VAL:HG22	3:C:141:VAL:O	2.14	0.48
1:A:2305:A:O2'	6:F:136:ARG:NE	2.46	0.48
10:J:59:GLY:O	10:J:65:TRP:CE3	2.65	0.48
3:C:17:THR:H	3:C:205:VAL:HG12	1.77	0.48
1:A:2784:C:H2'	1:A:2785:C:C6	2.49	0.48
2:B:75:G:O2'	22:V:85:HIS:CD2	2.66	0.48
21:U:63:LYS:HG3	21:U:64:GLU:N	2.28	0.48
1:A:904:C:H2'	1:A:905:U:C6	2.48	0.48
13:M:38:GLU:HB2	13:M:127:ILE:CG1	2.43	0.48
1:A:2079:U:H2'	1:A:2080:G:O4'	2.14	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:18:GLU:HG2	6:F:175:LEU:CD2	2.43	0.48
1:A:122(A):C:H2'	1:A:1222:C:H6	1.78	0.48
2:B:76:G:OP1	22:V:15:PRO:HG3	2.13	0.48
19:S:95:ILE:HG13	19:S:95:ILE:O	2.13	0.48
1:A:2392:A:OP2	31:5:31:HIS:HE1	1.95	0.48
1:A:328:U:H4'	21:U:68:HIS:CE1	2.48	0.48
8:H:101:LEU:O	8:H:107:ILE:HG22	2.13	0.48
1:A:1826:G:P	3:C:233:HIS:HD2	2.36	0.48
7:G:23:ARG:H	7:G:23:ARG:HD3	1.78	0.48
1:A:2307:G:O5'	1:A:2307:G:C8	2.67	0.48
3:C:15:PHE:O	3:C:205:VAL:CG1	2.62	0.48
12:L:13:ASN:O	12:L:14:LYS:C	2.51	0.48
7:G:87:LEU:CD2	7:G:164:TYR:HD1	2.25	0.48
1:A:260:G:C6	1:A:261:G:C8	3.02	0.48
22:V:179:ASP:CG	22:V:180:VAL:N	2.66	0.48
3:C:79:VAL:HG11	3:C:111:LEU:CD1	2.43	0.48
1:A:2636:U:H4'	4:D:80:GLU:OE1	2.14	0.48
1:A:2094:G:C2	1:A:2196:C:C2	3.02	0.48
22:V:5:LEU:CG	22:V:47:VAL:HG21	2.42	0.48
1:A:693:C:H2'	1:A:694:U:H6	1.77	0.48
1:A:1773:A:N7	1:A:1829:A:H1'	2.28	0.48
1:A:914:C:C5	1:A:915:C:C6	3.02	0.48
4:D:3:GLY:HA3	4:D:81:ILE:HD13	1.95	0.48
1:A:2025:C:H2'	1:A:2026:C:C6	2.48	0.48
1:A:1929:G:H5''	1:A:1929:G:N3	2.29	0.48
17:Q:53:ARG:O	17:Q:56:ASP:HB2	2.14	0.48
14:N:96:ARG:HD3	14:N:98:LEU:HD21	1.95	0.48
10:J:38:LEU:C	10:J:39:ILE:HG12	2.33	0.48
10:J:116:THR:OG1	10:J:117:HIS:N	2.46	0.48
1:A:2334:G:C4	15:O:12:PHE:HZ	2.32	0.48
1:A:1313:U:H4'	1:A:1332:G:H4'	1.94	0.48
1:A:1412:A:H2'	1:A:1413:G:O4'	2.14	0.48
11:K:32:TYR:N	11:K:32:TYR:CD1	2.80	0.48
21:U:6:HIS:CD2	21:U:35:TYR:CE1	2.97	0.48
13:M:134:ARG:HE	13:M:134:ARG:HA	1.78	0.48
1:A:618(A):G:H2'	1:A:618(B):C:H6	1.77	0.48
16:P:34:VAL:HG21	16:P:43:GLN:HB2	1.96	0.48
1:A:312:G:H2'	1:A:312:G:N3	2.29	0.48
1:A:1188:U:H2'	1:A:1189:A:C5'	2.44	0.48
27:1:50:THR:HG22	27:1:51:TYR:N	2.26	0.48
1:A:1826:G:OP1	3:C:233:HIS:CD2	2.59	0.48
1:A:1827:C:C2'	1:A:1828:G:H5'	2.44	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1104:C:C4	1:A:1105:U:C5	3.01	0.48
8:H:4:ILE:HA	8:H:17:GLN:O	2.13	0.48
28:2:40:LYS:HD3	28:2:46:CYS:HB3	1.95	0.48
13:M:21:THR:C	13:M:23:GLY:N	2.67	0.48
1:A:118:A:C8	1:A:119:A:C8	3.02	0.48
2:B:30:C:H1'	2:B:58:A:N1	2.28	0.48
1:A:641:C:O2'	1:A:2350:C:OP1	2.28	0.48
3:C:94:LEU:C	3:C:94:LEU:HD22	2.34	0.48
1:A:1336:A:H2'	1:A:1337:G:C8	2.49	0.48
1:A:531:C:H4'	1:A:532:A:H5''	1.94	0.48
15:O:20:ARG:HH12	23:W:48:GLY:H	1.61	0.48
1:A:220:G:N1	1:A:428:A:OP2	2.32	0.48
1:A:1839:G:C8	1:A:1927:A:H1'	2.48	0.48
1:A:1174:A:H3'	1:A:1175:U:C5'	2.17	0.48
16:P:58:ASN:HD22	16:P:58:ASN:C	2.17	0.48
17:Q:106:PHE:O	17:Q:109:LEU:N	2.47	0.48
17:Q:72:HIS:HE1	17:Q:107:ALA:HA	1.77	0.48
12:L:41:ARG:HD2	12:L:41:ARG:HA	1.56	0.48
19:S:14:PRO:C	19:S:16:LYS:H	2.16	0.48
6:F:161:THR:C	6:F:163:ALA:N	2.67	0.48
1:A:1812:A:H2'	1:A:1813:G:H5'	1.95	0.48
8:H:130:TYR:C	8:H:132:PRO:HD3	2.34	0.48
4:D:5:LEU:C	4:D:51:PHE:HE2	2.17	0.48
3:C:172:TYR:CE1	3:C:186:HIS:HA	2.49	0.48
1:A:1486:A:C6	1:A:1504:C:N4	2.80	0.48
1:A:528:A:N1	1:A:2043:C:O5'	2.47	0.48
17:Q:62:ILE:HD12	17:Q:76:TYR:CE1	2.49	0.48
17:Q:25:TRP:C	17:Q:25:TRP:CD1	2.87	0.48
12:L:27:HIS:C	12:L:27:HIS:CD2	2.86	0.48
1:A:1862:G:C2	1:A:1863:G:C5	3.01	0.48
1:A:151:C:C2	1:A:176:G:N2	2.81	0.48
1:A:2297:C:H2'	1:A:2298:A:H8	1.78	0.48
6:F:62:LEU:HB3	6:F:143:GLU:HG3	1.96	0.48
1:A:533:G:N3	17:Q:45:TYR:HE1	2.11	0.48
22:V:63:ASP:C	22:V:65:GLN:H	2.16	0.48
1:A:1583:A:H8	1:A:1583:A:O5'	1.97	0.48
12:L:64:LYS:HB2	31:5:25:MET:HG3	1.95	0.48
12:L:59:LEU:N	12:L:61:ARG:HE	2.11	0.48
12:L:32:THR:CG2	12:L:37:GLY:H	2.27	0.48
13:M:75:THR:C	13:M:88:GLY:HA2	2.34	0.48
10:J:95:TYR:CD2	10:J:113:MET:HG3	2.48	0.48
1:A:2730:C:C2'	1:A:2731:G:H5'	2.43	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:108:PRO:CB	3:C:143:HIS:HE1	2.26	0.48
1:A:1786:A:H2	1:A:2606:C:H1'	1.78	0.48
1:A:2687:U:N3	1:A:2688:U:C6	2.82	0.48
1:A:2516:G:C6	1:A:2517:C:N4	2.82	0.48
14:N:48:VAL:HA	14:N:51:LEU:HD12	1.94	0.48
1:A:1496:A:C8	1:A:1577:C:O2'	2.67	0.48
1:A:2893:G:H5''	1:A:2894:G:O4'	2.13	0.48
1:A:1871:A:O2'	1:A:1872:A:H5'	2.14	0.48
1:A:1909:C:C2	1:A:1922:G:C2	3.02	0.48
1:A:442:G:C4'	5:E:46:ARG:HD3	2.43	0.48
1:A:2853:C:O2'	1:A:2854:G:H5'	2.14	0.48
16:P:80:SER:C	16:P:82:LEU:N	2.66	0.48
20:T:40:LYS:C	20:T:42:ALA:N	2.67	0.48
1:A:2506:U:OP2	1:A:2576:G:N1	2.31	0.48
17:Q:27:LEU:HD23	17:Q:27:LEU:O	2.14	0.48
1:A:30:G:C5	1:A:31:C:C4	3.00	0.48
1:A:1678:G:N3	1:A:1678:G:H2'	2.29	0.48
1:A:2416:C:C4	1:A:2417:C:C5	3.02	0.48
16:P:75:ILE:HG22	16:P:75:ILE:O	2.13	0.48
10:J:51:THR:HG22	10:J:52:LYS:N	2.29	0.48
18:R:45:THR:O	18:R:46:VAL:HG22	2.13	0.48
12:L:50:ARG:HB2	31:5:60:LEU:HD21	1.95	0.48
1:A:114(B):A:C4	1:A:1144:G:N7	2.82	0.48
3:C:155:LEU:HG	3:C:177:LEU:HD22	1.95	0.48
14:N:4:LEU:C	14:N:6:SER:N	2.66	0.48
1:A:2746:U:O3'	7:G:138:LYS:HD3	2.14	0.48
1:A:1487:G:H2'	1:A:1488:G:C8	2.35	0.48
19:S:42:ARG:NH1	19:S:42:ARG:HG2	2.29	0.48
1:A:333:G:C4	1:A:334:C:C5	3.01	0.48
1:A:304:G:H2'	1:A:305:U:O4'	2.14	0.48
1:A:903:C:O2'	1:A:904:C:H5'	2.14	0.48
5:E:12:LEU:HD11	5:E:17:ARG:HG2	1.96	0.48
13:M:26:TYR:HD1	13:M:26:TYR:O	1.94	0.48
4:D:173:VAL:O	4:D:174:ASP:C	2.51	0.48
15:O:64:GLU:O	15:O:68:GLN:HG3	2.13	0.48
1:A:476:G:O4'	1:A:505:A:C2	2.66	0.48
1:A:1292:U:H2'	1:A:1293:C:C6	2.49	0.48
22:V:144:LEU:HB3	22:V:174:VAL:HG21	1.96	0.48
1:A:2846:G:H2'	1:A:2847:U:O4'	2.14	0.47
18:R:44:LYS:HB3	18:R:46:VAL:HG13	1.95	0.47
18:R:47:VAL:O	18:R:48:GLY:C	2.51	0.47
8:H:69:LYS:HD3	8:H:138:ILE:HG12	1.95	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:88:ILE:HD12	6:F:89:GLY:H	1.79	0.47
1:A:1999:C:OP1	1:A:2723:C:O2'	2.32	0.47
1:A:2621:A:OP1	4:D:119:ARG:NH2	2.46	0.47
5:E:173:VAL:HG12	5:E:174:VAL:N	2.28	0.47
1:A:1508:A:N6	1:A:1509:A:C6	2.82	0.47
18:R:24:LYS:HA	18:R:92:THR:CG2	2.39	0.47
1:A:588:U:C2	5:E:90:PHE:CE1	3.02	0.47
6:F:112:PRO:HB3	27:1:62:CYS:O	2.14	0.47
21:U:76:CYS:O	21:U:77:PRO:C	2.52	0.47
1:A:1591:G:H2'	1:A:1592:C:C6	2.49	0.47
1:A:1592:C:H2'	1:A:1593:G:C8	2.46	0.47
14:N:88:ARG:C	14:N:90:ARG:H	2.17	0.47
19:S:59:VAL:HG12	19:S:60:ASN:N	2.29	0.47
27:1:41:ILE:HD13	27:1:47:VAL:HG13	1.96	0.47
8:H:73:GLU:C	8:H:75:LEU:H	2.18	0.47
1:A:1677:A:H2'	1:A:1678:G:O4'	2.14	0.47
1:A:653:C:O5'	1:A:653:C:H6	1.97	0.47
1:A:337:C:H2'	1:A:338:G:O5'	2.14	0.47
1:A:616:A:C4	5:E:180:GLY:HA2	2.49	0.47
12:L:115:LEU:HB3	12:L:131:SER:HB2	1.96	0.47
1:A:1175:U:H2'	1:A:1176:G:C8	2.48	0.47
5:E:65:TRP:HB3	5:E:66:PRO:HD2	1.96	0.47
20:T:38:GLU:O	20:T:39:ILE:C	2.48	0.47
8:H:69:LYS:HD2	8:H:138:ILE:HG23	1.95	0.47
5:E:124:LEU:CD1	5:E:125:LEU:O	2.62	0.47
1:A:1328:G:H2'	1:A:1330:C:C5	2.49	0.47
5:E:174:VAL:HG21	5:E:189:THR:HG21	1.97	0.47
1:A:2308:G:HO2'	1:A:2310:A:P	2.37	0.47
1:A:557:U:C2	1:A:558:G:C8	3.02	0.47
2:B:10:C:N3	2:B:11:C:C5	2.82	0.47
1:A:270(H):C:C2	1:A:270(I):C:C5	3.03	0.47
1:A:967:C:O2'	1:A:968:G:H5'	2.14	0.47
1:A:2591:C:H2'	1:A:2592:G:C8	2.49	0.47
4:D:117:MET:CE	4:D:136:ARG:HA	2.44	0.47
28:2:33:CYS:HG	28:2:49:CYS:HG	1.41	0.47
1:A:1478:G:O2'	1:A:1558:A:C2	2.67	0.47
1:A:1923:U:H2'	1:A:1924:C:C6	2.49	0.47
14:N:84:ALA:N	14:N:85:PRO:HD2	2.29	0.47
1:A:1465:G:C2	1:A:1466:G:N9	2.82	0.47
1:A:2523:G:H2'	1:A:2524:G:H5'	1.96	0.47
3:C:210:GLY:HA2	3:C:213:ARG:HG3	1.95	0.47
1:A:1456:G:C2'	1:A:1457:A:H5'	2.45	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1641:A:H2'	1:A:1642:G:O4'	2.14	0.47
1:A:2694:G:C6	1:A:2695:C:C4	3.02	0.47
16:P:63:VAL:O	16:P:73:GLU:HA	2.13	0.47
1:A:1899:G:HO2'	1:A:1900:A:P	2.37	0.47
1:A:2334:G:H4'	1:A:2335:A:OP2	2.15	0.47
8:H:101:LEU:HD23	8:H:109:ILE:HG13	1.96	0.47
4:D:6:GLY:CA	4:D:51:PHE:HE2	2.27	0.47
7:G:19:VAL:HG13	7:G:43:VAL:CG2	2.44	0.47
1:A:1359:A:C8	1:A:1372:U:O4	2.67	0.47
1:A:2785:C:O2'	4:D:66:HIS:CD2	2.67	0.47
10:J:80:ALA:C	10:J:82:LYS:H	2.17	0.47
1:A:2001:A:H2'	1:A:2002:G:O4'	2.14	0.47
1:A:1550:C:H2'	1:A:1551:C:H6	1.79	0.47
1:A:1526:G:H2'	1:A:1527:G:C8	2.49	0.47
13:M:38:GLU:C	13:M:127:ILE:HD11	2.34	0.47
22:V:140:ASP:N	22:V:140:ASP:OD2	2.47	0.47
4:D:14:ILE:HD12	4:D:14:ILE:C	2.34	0.47
1:A:1345:C:O2'	1:A:1346:G:H5'	2.15	0.47
1:A:673:C:C2'	1:A:674:G:H5'	2.45	0.47
1:A:1971:A:C5	3:C:241:PRO:HG3	2.50	0.47
3:C:9:TYR:C	3:C:10:THR:HG22	2.34	0.47
18:R:3:ALA:HB1	18:R:38:LEU:HD21	1.97	0.47
6:F:25:TYR:CZ	6:F:32:PRO:HD3	2.49	0.47
3:C:143:HIS:C	3:C:143:HIS:CD2	2.87	0.47
14:N:2:ARG:O	14:N:3:HIS:CG	2.68	0.47
4:D:52:LEU:CB	4:D:76:ARG:HB2	2.45	0.47
1:A:2746:U:H4'	7:G:138:LYS:HD3	1.96	0.47
1:A:588:U:H2'	1:A:589:C:H6	1.79	0.47
1:A:1109:C:H42	1:A:1110:G:N2	2.12	0.47
1:A:1952:A:C6	1:A:1953:A:C6	3.03	0.47
1:A:1516:U:H2'	1:A:1517:G:H8	1.77	0.47
3:C:176:ARG:HG2	3:C:176:ARG:NH1	2.27	0.47
1:A:1030:G:OP2	13:M:128:LYS:HG2	2.15	0.47
23:W:50:ASN:HD22	23:W:83:PRO:HD3	1.78	0.47
1:A:2850:A:C4	1:A:2851:A:C8	3.03	0.47
6:F:178:PHE:O	6:F:180:PHE:CD1	2.67	0.47
1:A:815:C:C2	1:A:816:C:C5	3.03	0.47
1:A:1184:G:C6	1:A:1185:C:C4	3.03	0.47
1:A:189:G:H2'	1:A:205:G:N2	2.29	0.47
1:A:1443:G:H1	1:A:1548:C:H42	1.63	0.47
26:Z:38:GLU:N	26:Z:38:GLU:OE1	2.45	0.47
1:A:2251:G:C6	1:A:2252:G:C6	3.03	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:17:PRO:HA	6:F:20:ILE:HG12	1.96	0.47
1:A:2193:G:O2'	1:A:2194:G:H5'	2.14	0.47
3:C:89:SER:HB2	3:C:159:ALA:HB2	1.97	0.47
13:M:125:LEU:HB3	13:M:126:PRO:HD2	1.97	0.47
1:A:1665:A:H4'	11:K:67:LYS:HB2	1.95	0.47
1:A:627:A:C2	1:A:636:G:N3	2.83	0.47
17:Q:92:ARG:HD2	17:Q:95:LEU:CG	2.44	0.47
19:S:17:VAL:O	19:S:18:ARG:C	2.50	0.47
1:A:137(B):G:O6	1:A:139:G:O2'	2.29	0.47
15:O:53:SER:O	15:O:56:LEU:HB3	2.14	0.47
1:A:528:A:OP2	10:J:134:PRO:HB3	2.14	0.47
1:A:2791:C:H4'	1:A:2792:G:OP1	2.14	0.47
1:A:2406:U:O4	12:L:70:GLN:HB3	2.13	0.47
1:A:2287:A:C5	1:A:2289:G:N7	2.83	0.47
1:A:2629:A:H2'	1:A:2629:A:N3	2.29	0.47
8:H:15:VAL:HG12	8:H:16:GLY:N	2.29	0.47
6:F:111:LEU:HA	6:F:114:ILE:HD11	1.96	0.47
1:A:1131:G:N2	1:A:1132:A:C4	2.83	0.47
11:K:1:MET:HE2	11:K:32:TYR:CG	2.50	0.47
4:D:179:GLU:HB3	4:D:181:LEU:HD22	1.97	0.47
1:A:2299:G:C6	1:A:2318:G:N2	2.83	0.47
1:A:2428:G:H5''	1:A:2429:G:O5'	2.14	0.47
1:A:1851:U:C4	1:A:1852:C:C4	3.02	0.47
11:K:60:ALA:CB	11:K:86:ILE:HA	2.43	0.47
1:A:2302:G:O2'	1:A:2303:G:H5'	2.15	0.47
1:A:2104:G:H2'	1:A:2105:C:C6	2.49	0.47
1:A:136:G:C5	1:A:137(A):C:C5	3.02	0.47
1:A:13:A:N1	1:A:525:U:C2	2.83	0.47
1:A:273(B):G:C2	1:A:364:C:N3	2.82	0.47
21:U:68:HIS:ND1	21:U:70:SER:HB3	2.29	0.47
1:A:2846:G:C5	1:A:2847:U:C4	3.02	0.47
31:5:7:HIS:CB	31:5:60:LEU:HB3	2.45	0.47
6:F:72:ARG:HG2	6:F:86:MET:O	2.14	0.47
1:A:2293:C:H5''	15:O:89:ARG:NH1	2.30	0.47
15:O:14:VAL:O	15:O:18:ILE:HG12	2.15	0.47
22:V:126:VAL:HG12	22:V:163:LEU:HA	1.96	0.47
22:V:56:VAL:HG12	22:V:57:ILE:N	2.30	0.47
21:U:29:GLU:O	21:U:38:ILE:N	2.44	0.47
14:N:59:ASP:OD1	14:N:61:HIS:HB3	2.14	0.47
21:U:96:ILE:HD11	21:U:99:CYS:SG	2.54	0.47
11:K:90:GLN:HG3	11:K:90:GLN:O	2.15	0.47
1:A:783:A:C3'	1:A:783:A:C8	2.98	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:49:C:H6	2:B:49:C:O5'	1.98	0.47
1:A:1467:C:C2'	1:A:1468:C:H5'	2.44	0.47
1:A:1248:G:C8	17:Q:3:ARG:HB2	2.49	0.47
3:C:257:LEU:CD2	3:C:257:LEU:C	2.83	0.47
1:A:2433:A:H5''	1:A:2434:A:OP1	2.15	0.47
1:A:2460:U:C4	1:A:2461:C:C5	3.02	0.47
2:B:56:G:H4'	2:B:57:A:H8	1.80	0.47
1:A:779:U:OP1	3:C:49:ILE:HD12	2.15	0.47
16:P:105:LEU:O	16:P:106:SER:C	2.52	0.47
1:A:338:G:N2	1:A:339:U:H1'	2.29	0.47
1:A:13:A:N3	1:A:15:G:C6	2.83	0.47
1:A:1017:G:C2	1:A:1146:C:O2	2.68	0.47
15:O:79:ALA:O	15:O:80:LEU:HD23	2.15	0.47
1:A:1050:A:C2	1:A:2751:G:C5	3.02	0.47
26:Z:5:LYS:HE2	26:Z:34:GLU:OE1	2.14	0.47
1:A:671:C:H2'	1:A:672:C:H6	1.79	0.47
1:A:2393:A:H5''	12:L:62:LEU:HB3	1.96	0.47
25:Y:2:LYS:O	25:Y:5:GLU:HG3	2.15	0.47
1:A:85:G:N3	1:A:103:A:C2	2.83	0.47
10:J:119:GLU:O	10:J:123:GLU:HG3	2.14	0.47
16:P:57:PHE:CD2	16:P:58:ASN:N	2.82	0.47
1:A:1902:C:H2'	1:A:1903:G:O4'	2.14	0.47
10:J:37:VAL:HG12	10:J:38:LEU:H	1.80	0.47
14:N:39:PRO:O	14:N:40:LYS:C	2.53	0.47
5:E:164:ARG:CG	5:E:164:ARG:NH1	2.71	0.47
17:Q:92:ARG:HG2	18:R:11:GLN:HE21	1.74	0.47
13:M:75:THR:CA	13:M:88:GLY:CA	2.78	0.47
1:A:1021:A:H8	1:A:1022:G:H5''	1.79	0.47
3:C:143:HIS:CD2	3:C:144:ALA:N	2.83	0.47
1:A:72:U:C4	1:A:112:U:H4'	2.49	0.47
8:H:123:LEU:HD11	8:H:145:VAL:OXT	2.14	0.47
8:H:88:ILE:CG2	8:H:89:TYR:N	2.78	0.47
1:A:1639:U:O2'	1:A:1640:C:H5''	2.15	0.47
22:V:30:ASN:O	22:V:33:LEU:N	2.48	0.47
15:O:56:LEU:HG	15:O:57:LYS:HB3	1.95	0.47
15:O:49:VAL:HG11	15:O:76:LYS:HB2	1.97	0.47
22:V:128:VAL:CG2	22:V:132:ASN:HB2	2.44	0.47
19:S:35:ILE:O	19:S:36:LEU:C	2.52	0.47
1:A:1503:U:H2'	1:A:1504:C:C6	2.50	0.47
1:A:1056:G:N2	1:A:1104:C:N3	2.63	0.47
11:K:34:THR:HG23	11:K:35:VAL:N	2.29	0.47
1:A:1000:A:H62	1:A:1154:G:H2'	1.80	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:5:LEU:N	8:H:5:LEU:CD2	2.77	0.47
8:H:6:LEU:HD23	8:H:6:LEU:N	2.29	0.47
13:M:60:ARG:H	22:V:179:ASP:CB	2.27	0.47
10:J:160:LYS:HD2	10:J:160:LYS:HA	1.53	0.47
3:C:257:LEU:HD23	3:C:258:LYS:N	2.29	0.47
1:A:635:C:O2'	1:A:639:U:OP1	2.33	0.47
1:A:956:G:OP1	13:M:86:GLY:N	2.47	0.47
14:N:94:TYR:C	14:N:117:VAL:HG12	2.35	0.47
8:H:86:THR:HG22	8:H:86:THR:O	2.14	0.47
1:A:49:A:H5''	1:A:51:G:O4'	2.14	0.47
1:A:1901:A:N3	1:A:1901:A:C2'	2.78	0.47
1:A:1832:C:H2'	1:A:1833:U:O4'	2.15	0.47
1:A:2039:C:H2'	1:A:2040:C:H6	1.78	0.47
1:A:1356:G:C6	1:A:1357:U:C4	3.03	0.47
1:A:2506:U:C5	1:A:2507:C:C5	3.03	0.47
1:A:1231:G:O2'	1:A:1232:G:H5'	2.15	0.47
19:S:107:LEU:N	19:S:107:LEU:HD13	2.29	0.47
1:A:1685:C:O2'	1:A:1686:C:H5'	2.14	0.47
1:A:2760:C:H2'	1:A:2760:C:O2	2.13	0.47
1:A:409:C:O2'	1:A:410:G:H5'	2.15	0.47
1:A:1364:G:OP2	24:X:8:SER:HB2	2.14	0.47
4:D:104:VAL:HG11	4:D:188:VAL:HG21	1.95	0.47
5:E:65:TRP:CH2	5:E:75:HIS:HD2	2.33	0.47
10:J:37:VAL:HG12	10:J:38:LEU:N	2.29	0.47
17:Q:92:ARG:O	17:Q:94:ASN:N	2.48	0.47
18:R:47:VAL:CG1	18:R:50:PRO:O	2.63	0.47
1:A:1799:G:C8	3:C:181:GLU:CD	2.88	0.47
8:H:110:ASP:HB3	8:H:111:PRO:HD2	1.95	0.47
1:A:2697:G:C2	1:A:2711:A:C2	3.02	0.47
17:Q:60:LEU:O	17:Q:60:LEU:HD22	2.15	0.47
1:A:2723:C:H4'	14:N:2:ARG:HH21	1.78	0.47
15:O:58:LEU:HD12	15:O:58:LEU:N	2.30	0.47
4:D:57:LYS:CG	4:D:58:ARG:N	2.78	0.47
7:G:72:ILE:O	7:G:75:ALA:N	2.47	0.47
3:C:223:GLY:HA3	3:C:231:HIS:ND1	2.30	0.47
24:X:11:ARG:HB3	24:X:12:PRO:HD3	1.91	0.47
14:N:47:PHE:O	14:N:51:LEU:HD12	2.14	0.47
19:S:36:LEU:HD12	19:S:48:ALA:CA	2.45	0.47
1:A:955:C:OP1	13:M:85:LYS:HE2	2.14	0.47
6:F:131:TYR:CE2	6:F:133:LEU:HB3	2.49	0.47
1:A:282:A:C4	1:A:359:A:C2	3.03	0.47
2:B:19:G:N2	2:B:65:C:C2	2.83	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:59:A:H2'	2:B:60:C:O4'	2.15	0.47
1:A:2189:U:O2	1:A:2189:U:H2'	2.14	0.47
5:E:36:VAL:HG11	5:E:183:VAL:CG1	2.45	0.47
22:V:13:GLU:CD	22:V:13:GLU:H	2.18	0.47
22:V:82:ARG:HG2	22:V:83:PRO:HD2	1.97	0.47
1:A:2401:U:O2'	1:A:2402:C:H5''	2.14	0.47
10:J:101:TYR:CD1	10:J:101:TYR:N	2.83	0.47
1:A:27:G:C4	1:A:512:G:N2	2.82	0.47
1:A:165:U:H2'	1:A:171:G:O4'	2.14	0.47
26:Z:50:VAL:HG23	26:Z:50:VAL:O	2.14	0.47
1:A:948:G:N2	1:A:970:C:O2	2.48	0.47
20:T:18:TYR:N	20:T:18:TYR:CD1	2.79	0.47
19:S:10:VAL:HG23	19:S:101:SER:O	2.15	0.47
1:A:896:A:H1'	22:V:176:PRO:HG3	1.96	0.47
12:L:66:GLY:O	12:L:67:MET:HB2	2.15	0.47
1:A:2439:A:O2'	1:A:2440:C:OP2	2.25	0.47
4:D:101:ARG:HB3	4:D:169:ASN:HD22	1.80	0.47
4:D:167:VAL:CG1	4:D:189:PRO:HD3	2.44	0.47
21:U:17:SER:CB	21:U:71:LYS:HD2	2.45	0.47
16:P:51:ARG:CD	16:P:62:THR:HG23	2.43	0.47
12:L:51:PHE:HB3	12:L:52:GLU:H	1.39	0.47
8:H:68:LEU:O	8:H:72:LEU:HB2	2.15	0.47
15:O:62:LYS:O	15:O:65:VAL:HB	2.14	0.47
24:X:9:GLY:O	24:X:13:ILE:CG2	2.63	0.47
19:S:48:ALA:O	19:S:51:LEU:N	2.48	0.47
1:A:2744:G:N3	1:A:2761:G:C2	2.83	0.47
7:G:29:PRO:HD2	7:G:79:VAL:O	2.15	0.47
1:A:2562:U:C2'	1:A:2563:U:H5'	2.45	0.47
6:F:111:LEU:HA	6:F:114:ILE:CD1	2.45	0.47
8:H:2:LYS:HB3	8:H:20:ASP:OD1	2.15	0.47
13:M:32:PHE:CZ	13:M:111:GLU:HG2	2.46	0.47
1:A:1218:C:OP2	17:Q:15:LYS:NZ	2.39	0.47
1:A:2298:A:H2'	1:A:2299:G:O4'	2.15	0.47
1:A:2617:C:O2'	1:A:2618:G:H5'	2.14	0.47
16:P:41:ARG:NH1	16:P:41:ARG:CB	2.78	0.47
1:A:1015:G:H2'	1:A:1016:G:H5'	1.96	0.47
1:A:1897:G:H2'	1:A:1898:U:O4'	2.15	0.47
1:A:2011:U:H2'	1:A:2012:G:O4'	2.14	0.47
1:A:487:C:H1'	19:S:53:SER:HB2	1.97	0.47
1:A:2409:G:C6	1:A:2410:G:C5	3.03	0.47
1:A:2405:G:O2'	1:A:2411:A:N6	2.46	0.47
6:F:64:THR:HG23	6:F:66:GLN:N	2.29	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2731:G:H2'	1:A:2732:G:C8	2.50	0.47
8:H:79:ILE:HG22	8:H:81:VAL:CG2	2.43	0.47
18:R:76:LYS:O	18:R:79:VAL:HG12	2.14	0.47
22:V:92:SER:O	22:V:93:ASP:HB3	2.14	0.47
1:A:1586:A:H2'	1:A:1587:A:H5'	1.97	0.47
1:A:2477:C:O2'	1:A:2478:A:OP2	2.30	0.47
1:A:1024:G:OP2	1:A:1025:G:H3'	2.16	0.47
1:A:1894:C:C2	1:A:1895:C:C5	3.02	0.47
31:5:29:LYS:O	31:5:29:LYS:HG2	2.15	0.47
26:Z:19:GLN:O	26:Z:23:LEU:HD13	2.14	0.47
1:A:2584:U:O5'	1:A:2584:U:C6	2.68	0.47
15:O:20:ARG:HH12	23:W:47:PRO:HB2	1.79	0.47
22:V:46:LYS:O	22:V:50:GLN:OE1	2.33	0.47
1:A:153:C:OP1	24:X:92:LYS:HE2	2.15	0.47
28:2:6:VAL:HG13	28:2:7:PRO:HD2	1.97	0.47
12:L:62:LEU:HD21	31:5:25:MET:HB2	1.97	0.46
21:U:68:HIS:C	21:U:70:SER:H	2.19	0.46
16:P:64:ARG:HD2	16:P:73:GLU:CG	2.45	0.46
12:L:38:GLN:CG	12:L:39:LYS:N	2.71	0.46
1:A:1657:C:O2'	1:A:1658:C:H5'	2.16	0.46
17:Q:83:LEU:HD12	17:Q:83:LEU:N	2.30	0.46
19:S:86:LEU:C	19:S:86:LEU:HD12	2.35	0.46
4:D:137:HIS:CB	4:D:138:PRO:HD2	2.44	0.46
4:D:35:GLN:HG2	4:D:36:ARG:N	2.30	0.46
24:X:9:GLY:O	24:X:13:ILE:HG21	2.15	0.46
1:A:1418:G:C8	1:A:1418:G:O5'	2.54	0.46
1:A:2274:A:C5	1:A:2276:G:C8	3.03	0.46
1:A:2550:G:C6	1:A:2551:C:C4	3.03	0.46
12:L:70:GLN:O	12:L:73:GLY:N	2.48	0.46
1:A:8:A:C5	1:A:9:U:O4	2.68	0.46
3:C:134:ARG:HG3	3:C:135:PHE:HD1	1.75	0.46
2:B:21:G:H2'	2:B:22:U:O4'	2.15	0.46
7:G:92:ILE:HD12	7:G:92:ILE:N	2.30	0.46
1:A:229:A:H5'	1:A:230:U:O5'	2.15	0.46
1:A:442:G:H4'	5:E:46:ARG:HD3	1.96	0.46
19:S:45:TYR:CD2	19:S:46:PHE:CD1	3.01	0.46
1:A:164:U:C4	1:A:165:U:C4	3.03	0.46
1:A:2823:A:C5	1:A:2824:C:C5	3.04	0.46
1:A:2027:G:H2'	1:A:2028:U:O4'	2.15	0.46
1:A:2410:G:H2'	1:A:2411:A:O4'	2.15	0.46
21:U:9:LYS:O	21:U:27:VAL:CG2	2.63	0.46
2:B:83:G:C6	2:B:84:C:C5	3.03	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:593:G:H4'	31:5:62:LEU:HD11	1.96	0.46
10:J:110:LEU:HD22	10:J:110:LEU:O	2.15	0.46
1:A:2295:C:N3	1:A:2296:U:H5	2.12	0.46
3:C:182:LEU:N	3:C:272:ALA:HB3	2.28	0.46
6:F:70:VAL:HG12	6:F:90:LEU:CD2	2.44	0.46
2:B:73:A:N6	2:B:104:A:H1'	2.29	0.46
22:V:30:ASN:HA	22:V:89:PHE:HE2	1.81	0.46
1:A:661:C:O3'	12:L:18:ARG:HD2	2.15	0.46
22:V:134:PRO:C	22:V:136:PHE:N	2.68	0.46
1:A:2327:A:H2'	1:A:2328:A:H8	1.75	0.46
22:V:151:HIS:O	22:V:171:ILE:HG12	2.15	0.46
2:B:10:C:C4	2:B:11:C:C5	3.04	0.46
8:H:14:ASP:H	8:H:17:GLN:NE2	2.13	0.46
8:H:5:LEU:HD22	8:H:19:VAL:HG12	1.96	0.46
1:A:359:A:C8	1:A:360:G:C8	3.03	0.46
28:2:32:PRO:HA	28:2:38:ALA:O	2.16	0.46
22:V:58:VAL:CG1	22:V:66:SER:HB2	2.45	0.46
1:A:987:G:H2'	1:A:988:A:C5'	2.45	0.46
1:A:1682:G:H2'	1:A:1683:C:C6	2.50	0.46
17:Q:29:SER:OG	17:Q:30:LYS:HE3	2.16	0.46
1:A:1734:C:H2'	1:A:1735:U:O4'	2.16	0.46
14:N:84:ALA:HB3	14:N:85:PRO:HD3	1.98	0.46
1:A:189:G:H1	1:A:205:G:HO2'	1.62	0.46
1:A:2837:G:C6	1:A:2838:G:N7	2.83	0.46
19:S:45:TYR:CZ	19:S:49:LYS:HE3	2.49	0.46
1:A:532:A:C8	1:A:2021:C:C4	3.03	0.46
1:A:1678:G:H22	1:A:1989:G:N2	2.12	0.46
1:A:476:G:H4'	1:A:502:A:N1	2.31	0.46
22:V:131:ARG:HD2	22:V:131:ARG:H	1.79	0.46
7:G:103:LEU:O	7:G:103:LEU:HG	2.15	0.46
6:F:121:ASN:ND2	6:F:122:PRO:HD2	2.30	0.46
1:A:637:A:OP1	12:L:133:SER:HB3	2.15	0.46
12:L:122:PRO:HB3	12:L:141:ALA:O	2.15	0.46
1:A:861:A:O2'	13:M:18:LYS:NZ	2.46	0.46
13:M:141:GLN:OE1	22:V:97:GLU:O	2.32	0.46
26:Z:43:ILE:O	26:Z:47:VAL:HG23	2.15	0.46
3:C:172:TYR:CD1	3:C:186:HIS:CA	2.92	0.46
1:A:2745:C:C4	1:A:2746:U:C4	3.02	0.46
1:A:1495:A:C4	1:A:1496:A:C2	3.04	0.46
28:2:52:TYR:C	28:2:52:TYR:HD1	2.18	0.46
1:A:534:U:C2'	17:Q:49:HIS:HD2	2.28	0.46
7:G:62:LYS:O	7:G:63:SER:C	2.54	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:11:TYR:HB2	6:F:176:LEU:HD21	1.96	0.46
3:C:257:LEU:HD23	3:C:258:LYS:O	2.16	0.46
1:A:775:G:C4	1:A:794:G:C8	3.04	0.46
18:R:22:VAL:O	18:R:23:GLU:C	2.54	0.46
1:A:189:G:C8	1:A:189:G:H3'	2.51	0.46
1:A:414:C:H2'	1:A:415:A:C8	2.51	0.46
1:A:1471:A:C2	1:A:1472:A:C8	3.03	0.46
2:B:5:C:O2'	2:B:27:C:H1'	2.15	0.46
1:A:1027:A:N6	1:A:1126:A:C4	2.84	0.46
1:A:1232:G:C5	1:A:1233:C:C5	3.04	0.46
19:S:31:GLU:O	19:S:34:ASN:HB2	2.16	0.46
1:A:60:G:C6	1:A:74:A:N6	2.82	0.46
1:A:1206:G:C6	1:A:1207:C:C4	3.03	0.46
1:A:627:A:C5	1:A:637:A:N7	2.83	0.46
23:W:26:TYR:HB2	23:W:29:GLN:NE2	2.30	0.46
5:E:68:LYS:C	5:E:70:THR:H	2.19	0.46
17:Q:79:PHE:CE2	17:Q:106:PHE:CZ	3.04	0.46
18:R:2:PHE:CE2	18:R:13:ARG:CD	2.88	0.46
1:A:1022:G:H8	10:J:92:GLN:NE2	2.12	0.46
6:F:33:ARG:HD3	6:F:162:THR:HG21	1.98	0.46
20:T:43:VAL:HG11	20:T:81:VAL:HG11	1.97	0.46
22:V:125:LEU:HD23	22:V:126:VAL:N	2.31	0.46
5:E:118:ALA:HB2	5:E:123:LEU:HD23	1.97	0.46
1:A:1404:C:C2'	1:A:1405:U:H5'	2.46	0.46
1:A:1324:G:C4	1:A:1328:G:O6	2.69	0.46
7:G:151:ILE:H	7:G:151:ILE:HD13	1.78	0.46
13:M:6:ARG:HB2	13:M:6:ARG:HE	1.56	0.46
1:A:2809:A:C2	1:A:2892:A:C4	3.03	0.46
1:A:380:U:H2'	1:A:380:U:O2	2.13	0.46
1:A:1557:C:OP2	1:A:1558:A:O2'	2.25	0.46
11:K:2:ILE:CD1	11:K:82:ASN:HD22	2.28	0.46
16:P:96:ARG:HB2	16:P:96:ARG:CZ	2.45	0.46
4:D:9:VAL:HG22	4:D:25:VAL:HB	1.98	0.46
1:A:794:G:H2'	1:A:795:C:C6	2.49	0.46
22:V:108:PRO:HG3	22:V:141:VAL:HG22	1.96	0.46
1:A:2436:G:C4	1:A:2437:U:C6	3.03	0.46
13:M:38:GLU:HB2	13:M:127:ILE:HG12	1.97	0.46
1:A:2572:A:C8	4:D:144:ARG:HB3	2.50	0.46
1:A:1523:U:H2'	1:A:1524:G:C8	2.51	0.46
1:A:2557:G:H2'	1:A:2558:C:C6	2.50	0.46
1:A:238:C:O2'	1:A:608:A:H1'	2.15	0.46
1:A:2361:A:H5'	31:5:27:THR:OG1	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:5:32:LEU:HD23	31:5:32:LEU:N	2.30	0.46
1:A:1309:G:P	30:4:9:ARG:HD2	2.56	0.46
1:A:809:G:O2'	1:A:810:U:H5'	2.15	0.46
22:V:3:TYR:O	22:V:57:ILE:HA	2.16	0.46
14:N:9:LYS:HG2	14:N:43:GLU:OE2	2.15	0.46
6:F:131:TYR:HD2	6:F:133:LEU:HD22	1.81	0.46
1:A:2784:C:H2'	1:A:2785:C:H6	1.81	0.46
1:A:2591:C:H2'	1:A:2592:G:H8	1.79	0.46
1:A:737:C:H2'	1:A:738:G:C5'	2.42	0.46
16:P:3:ARG:HD2	16:P:6:LEU:HD23	1.97	0.46
7:G:16:SER:HB2	7:G:27:LYS:HB2	1.98	0.46
1:A:1414:G:N2	1:A:1589:C:C2	2.84	0.46
1:A:2226:C:O5'	1:A:2226:C:H6	1.99	0.46
7:G:98:LEU:HB2	7:G:125:VAL:CG2	2.46	0.46
1:A:991:C:C5	1:A:1185:C:N3	2.84	0.46
1:A:1127:A:H2'	1:A:1128:A:H5''	1.97	0.46
1:A:491:G:O6	19:S:49:LYS:HD3	2.15	0.46
1:A:2038:G:C5	1:A:2039:C:C4	3.03	0.46
6:F:121:ASN:HD22	6:F:122:PRO:HD2	1.80	0.46
12:L:115:LEU:HA	12:L:134:ALA:HB2	1.96	0.46
18:R:38:LEU:HD12	18:R:57:VAL:HG12	1.98	0.46
1:A:1639:U:H4'	1:A:2699:C:H4'	1.98	0.46
1:A:1323:U:H2'	1:A:1324:G:H5'	1.97	0.46
3:C:231:HIS:HD2	3:C:249:PRO:CA	2.18	0.46
1:A:1401:G:C5	1:A:1402:C:C5	3.03	0.46
11:K:96:THR:O	11:K:97:ARG:C	2.54	0.46
11:K:88:ASN:HB3	11:K:92:GLU:H	1.80	0.46
8:H:66:GLU:HB3	8:H:67:ARG:NH1	2.31	0.46
3:C:61:LEU:HB3	3:C:63:ARG:NH1	2.30	0.46
1:A:1349:A:N6	1:A:1598:C:N4	2.64	0.46
1:A:493:G:H2'	1:A:494:G:O4'	2.16	0.46
18:R:12:TYR:CZ	18:R:22:VAL:HG22	2.50	0.46
1:A:2718:G:C2'	1:A:2719:G:O5'	2.64	0.46
1:A:1904:G:C2'	1:A:1905:C:H5'	2.46	0.46
17:Q:36:ARG:HD3	17:Q:40:PHE:CE1	2.50	0.46
13:M:34:LEU:HD11	13:M:129:THR:HB	1.98	0.46
13:M:34:LEU:HD12	13:M:130:LYS:O	2.16	0.46
1:A:1582:C:O5'	1:A:1582:C:H6	1.98	0.46
3:C:69:ARG:NH2	3:C:128:GLY:O	2.49	0.46
1:A:1354:A:C8	1:A:1355:G:C8	3.03	0.46
1:A:2495:G:H2'	1:A:2496:C:O5'	2.15	0.46
1:A:448:U:H1'	5:E:84:VAL:HG21	1.96	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1001:A:H2'	1:A:1002:G:O4'	2.16	0.46
5:E:144:LYS:O	5:E:146:ALA:N	2.43	0.46
1:A:1540:G:C4	1:A:1541:U:C6	3.03	0.46
20:T:63:LYS:CE	20:T:72:LYS:HB3	2.45	0.46
1:A:1903:G:OP2	3:C:241:PRO:HB3	2.16	0.46
3:C:143:HIS:HD2	3:C:144:ALA:HB2	1.78	0.46
3:C:182:LEU:HD23	3:C:182:LEU:HA	1.50	0.46
8:H:82:ARG:HB3	8:H:89:TYR:CB	2.46	0.46
2:B:73:A:C4	2:B:104:A:C2	3.04	0.46
13:M:141:GLN:OE1	22:V:72:ARG:CZ	2.64	0.46
25:Y:57:ILE:O	25:Y:61:LEU:HB2	2.15	0.46
1:A:2276:G:C2'	1:A:2277:G:H5'	2.45	0.46
2:B:13:A:O4'	23:W:74:ARG:NH2	2.49	0.46
1:A:1670:C:OP2	1:A:2550:G:OP1	2.34	0.46
1:A:8:A:C6	1:A:9:U:O4	2.69	0.46
28:2:33:CYS:HB2	28:2:34:PRO:HD2	1.97	0.46
1:A:908:C:O2'	1:A:909:A:H5'	2.16	0.46
3:C:77:ALA:HB2	3:C:97:TYR:CG	2.51	0.46
1:A:2584:U:H5''	1:A:2585:U:OP2	2.15	0.46
1:A:270(S):G:H2'	1:A:270(T):G:H8	1.81	0.46
1:A:1301:A:H2	1:A:1626:G:N3	2.14	0.46
1:A:844:C:O2'	1:A:845:G:H5'	2.16	0.46
1:A:2075:U:H2'	1:A:2238:G:N2	2.31	0.46
1:A:2462:U:H2'	1:A:2463:C:O4'	2.16	0.46
6:F:44:GLY:O	6:F:47:LYS:HB2	2.16	0.46
1:A:723:G:H2'	1:A:724:U:O4'	2.16	0.46
1:A:374:A:C2	1:A:401:A:C4	3.04	0.46
21:U:11:ASP:H	21:U:27:VAL:HG22	1.81	0.46
1:A:1902:C:H2'	1:A:1903:G:O5'	2.15	0.46
8:H:98:ALA:HB1	8:H:109:ILE:HG12	1.98	0.46
8:H:110:ASP:OD2	8:H:113:ARG:HG3	2.16	0.46
2:B:104:A:O4'	22:V:29:TYR:CE1	2.66	0.46
1:A:363(B):A:C2	1:A:363(C):G:C5	3.03	0.46
22:V:102:LEU:HD23	22:V:137:ILE:HB	1.96	0.46
1:A:1577:C:H2'	1:A:1578:U:C1'	2.46	0.46
1:A:2892:A:C2'	1:A:2893:G:H5'	2.45	0.46
1:A:2550:G:C5	1:A:2551:C:C5	3.04	0.46
11:K:22:ILE:HD13	11:K:22:ILE:HA	1.42	0.46
1:A:2050:C:C2'	1:A:2051:A:O5'	2.64	0.46
5:E:53:THR:C	5:E:55:GLY:H	2.18	0.46
16:P:84:GLN:HG3	16:P:85:LYS:HG3	1.98	0.46
1:A:1127:A:C2'	1:A:1128:A:H5''	2.46	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:646:A:H2'	1:A:647:G:O5'	2.16	0.46
1:A:1775:U:H2'	1:A:1776:G:O5'	2.15	0.46
1:A:2026:C:C4	1:A:2027:G:N7	2.84	0.46
1:A:629:G:H2'	1:A:630:G:C8	2.51	0.46
6:F:60:LEU:HA	6:F:63:ILE:HG12	1.97	0.46
5:E:68:LYS:H	5:E:70:THR:HG22	1.80	0.46
14:N:40:LYS:HB2	14:N:40:LYS:HE3	1.77	0.46
2:B:82:G:C2'	2:B:83:G:H5'	2.45	0.46
31:5:7:HIS:CD2	31:5:60:LEU:HD13	2.51	0.46
1:A:2729:G:C5	1:A:2730:C:C5	3.04	0.46
20:T:35:THR:HB	20:T:38:GLU:H	1.81	0.46
13:M:141:GLN:OXT	22:V:53:ILE:O	2.34	0.46
14:N:4:LEU:C	14:N:6:SER:H	2.19	0.46
1:A:2630:G:H1'	1:A:2894:G:H1'	1.97	0.46
11:K:2:ILE:CD1	11:K:82:ASN:ND2	2.79	0.46
22:V:178:GLU:O	22:V:178:GLU:HG3	2.16	0.46
18:R:1:MET:N	18:R:16:PRO:HD3	2.30	0.46
1:A:948:G:OP1	1:A:962:G:OP1	2.34	0.46
1:A:2495:G:C2'	1:A:2496:C:O5'	2.63	0.46
15:O:98:VAL:O	15:O:101:LEU:HB3	2.15	0.46
11:K:3:GLN:HG3	11:K:4:PRO:HD2	1.97	0.46
1:A:270(Z):G:C2	1:A:271(A):U:O4	2.69	0.46
8:H:51:ILE:HG22	8:H:52:ARG:N	2.30	0.46
14:N:116:LEU:HA	14:N:116:LEU:HD23	1.61	0.46
1:A:2393:A:H4'	12:L:61:ARG:O	2.16	0.46
1:A:2846:G:P	16:P:54:ARG:HB2	2.56	0.46
20:T:62:LYS:H	20:T:62:LYS:HG2	1.58	0.46
3:C:32:SER:O	3:C:33:LEU:O	2.34	0.46
1:A:242:G:N7	31:5:5:LYS:HG2	2.31	0.46
12:L:50:ARG:HB2	31:5:60:LEU:CD2	2.46	0.46
1:A:2728:U:O2	1:A:2729:G:C8	2.68	0.46
15:O:12:PHE:O	15:O:12:PHE:HD1	1.98	0.46
24:X:10:LYS:O	24:X:13:ILE:CG2	2.64	0.46
22:V:101:PRO:O	22:V:102:LEU:HD23	2.16	0.46
1:A:2287:A:C5	1:A:2289:G:C5	3.04	0.46
28:2:35:GLU:OE2	28:2:51:TYR:HA	2.16	0.46
2:B:21:G:N2	2:B:62:C:N3	2.59	0.46
13:M:21:THR:O	13:M:22:LYS:C	2.54	0.46
1:A:2661:G:C6	1:A:2662:A:C2	3.03	0.46
1:A:1820:U:H4'	1:A:1821:A:OP2	2.16	0.46
1:A:775:G:O5'	1:A:777:A:H1'	2.15	0.46
26:Z:56:VAL:O	26:Z:57:GLU:HG2	2.16	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:131:ILE:HG22	13:M:132:VAL:N	2.31	0.46
1:A:2726:U:H5'	1:A:2726:U:O2	2.15	0.46
1:A:664:C:H4'	1:A:941:A:OP1	2.16	0.45
1:A:1899:G:N2	1:A:1902:C:H5	2.10	0.45
19:S:86:LEU:HD12	19:S:87:PRO:CD	2.46	0.45
31:5:2:PRO:O	31:5:3:LYS:HB2	2.16	0.45
12:L:46:LYS:HB3	12:L:52:GLU:HG2	1.98	0.45
8:H:98:ALA:O	8:H:109:ILE:HD11	2.15	0.45
3:C:233:HIS:HE1	3:C:247:ALA:N	2.11	0.45
14:N:9:LYS:O	14:N:10:LEU:HD23	2.17	0.45
15:O:57:LYS:HB3	15:O:58:LEU:HD12	1.98	0.45
24:X:11:ARG:NH1	24:X:61:ARG:N	2.63	0.45
15:O:104:GLY:HA2	15:O:107:GLU:CG	2.41	0.45
23:W:73:GLY:O	23:W:74:ARG:C	2.54	0.45
1:A:1477:A:C4	1:A:1478:G:C8	3.04	0.45
23:W:31:VAL:HG13	23:W:65:GLY:O	2.16	0.45
2:B:31:C:C2'	2:B:31:C:O2	2.64	0.45
1:A:189:G:C8	1:A:189:G:C3'	2.99	0.45
1:A:643:A:C2	1:A:644:A:N9	2.84	0.45
1:A:887:A:N3	1:A:889:C:C5	2.84	0.45
1:A:414:C:H2'	1:A:415:A:H8	1.80	0.45
1:A:1471:A:C2	1:A:1472:A:N9	2.84	0.45
1:A:770:G:H2'	1:A:771:G:O5'	2.16	0.45
1:A:2359:C:H2'	1:A:2360:A:C8	2.51	0.45
21:U:8:LYS:HD2	21:U:13:VAL:CG2	2.42	0.45
10:J:126:VAL:O	10:J:127:LYS:C	2.55	0.45
1:A:2727:G:C4	1:A:2728:U:H5	2.30	0.45
1:A:2291:U:H2'	1:A:2292:C:C6	2.51	0.45
20:T:31:HIS:HA	20:T:32:PRO:HD3	1.85	0.45
1:A:2712:U:HO2'	1:A:712(B):A:H5''	1.80	0.45
27:1:40:ILE:HG23	27:1:59:VAL:CG2	2.46	0.45
1:A:1329:U:H5''	1:A:1330:C:C5	2.43	0.45
19:S:75:TYR:C	19:S:75:TYR:CD2	2.90	0.45
21:U:95:LYS:HE2	21:U:100:ALA:HB2	1.98	0.45
7:G:67:LEU:O	7:G:71:LEU:HB2	2.16	0.45
11:K:63:VAL:HG23	11:K:64:ARG:HG3	1.98	0.45
3:C:148:GLU:HB2	3:C:151:LYS:HD3	1.97	0.45
12:L:70:GLN:O	12:L:71:VAL:C	2.53	0.45
21:U:46:LYS:O	21:U:47:LYS:C	2.55	0.45
1:A:1388:G:N3	1:A:1389:G:C8	2.84	0.45
1:A:1389:G:H2'	1:A:1390:U:H6	1.80	0.45
23:W:31:VAL:HG21	23:W:61:ALA:HB2	1.98	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:W:81:VAL:O	23:W:83:PRO:HD3	2.16	0.45
22:V:121:HIS:CE1	22:V:169:GLU:OE2	2.69	0.45
1:A:644:A:N1	1:A:646:A:C4	2.84	0.45
1:A:1833:U:H2'	1:A:1834:U:H6	1.80	0.45
26:Z:18:ASP:N	26:Z:18:ASP:OD1	2.48	0.45
16:P:14:TYR:HD1	16:P:14:TYR:H	1.62	0.45
18:R:95:LEU:HD23	18:R:96:ILE:N	2.31	0.45
4:D:169:ASN:C	4:D:169:ASN:HD22	2.19	0.45
25:Y:18:PRO:O	25:Y:22:GLU:HG3	2.17	0.45
6:F:32:PRO:HA	6:F:162:THR:OG1	2.17	0.45
3:C:45:ASN:C	3:C:45:ASN:OD1	2.54	0.45
1:A:1439:A:H2'	1:A:1440:G:H5'	1.99	0.45
17:Q:61:TRP:O	17:Q:64:ARG:HB2	2.16	0.45
22:V:180:VAL:C	22:V:182:LYS:N	2.69	0.45
2:B:21:G:H2'	2:B:22:U:C6	2.50	0.45
1:A:540:G:H2'	1:A:541:C:C6	2.43	0.45
1:A:247:G:H4'	1:A:386:G:C5	2.52	0.45
23:W:62:LEU:O	23:W:63:VAL:HG13	2.16	0.45
1:A:300:A:P	21:U:84:ARG:NH2	2.89	0.45
5:E:46:ARG:HB3	5:E:46:ARG:NH1	2.32	0.45
1:A:634:C:H2'	1:A:635:C:H6	1.81	0.45
1:A:1164:G:C5	1:A:1165:U:C4	3.03	0.45
1:A:1239:G:C6	1:A:1240:U:C4	3.04	0.45
1:A:164:U:C4	1:A:165:U:O4	2.69	0.45
4:D:146:THR:HA	4:D:147:PRO:C	2.37	0.45
1:A:1382:G:H4'	1:A:1573:G:C2	2.52	0.45
1:A:768:G:C4	1:A:769:G:C8	3.04	0.45
1:A:1274:A:N3	1:A:1297:C:H1'	2.31	0.45
31:5:23:VAL:HG12	31:5:47:LYS:HB3	1.99	0.45
1:A:2014:A:H2'	1:A:2015:A:C8	2.51	0.45
1:A:2502:G:C5'	1:A:2503:A:C5'	2.89	0.45
17:Q:88:ILE:HB	17:Q:90:VAL:CG1	2.29	0.45
17:Q:91:ASP:OD2	17:Q:96:ALA:CB	2.61	0.45
6:F:86:MET:O	6:F:87:PRO:O	2.34	0.45
10:J:110:LEU:CD2	10:J:110:LEU:O	2.65	0.45
20:T:12:VAL:HG22	20:T:17:ALA:HB2	1.99	0.45
8:H:88:ILE:CG1	8:H:123:LEU:HA	2.44	0.45
1:A:139:G:N3	1:A:141(A):A:N1	2.64	0.45
15:O:69:VAL:HA	15:O:72:ALA:HB2	1.98	0.45
4:D:52:LEU:O	4:D:75:VAL:HA	2.16	0.45
14:N:57:ARG:HG2	14:N:58:GLY:N	2.28	0.45
1:A:2745:C:C4	1:A:2746:U:C5	3.04	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:8:ARG:O	19:S:9:TYR:HB2	2.16	0.45
1:A:1503:U:C2	1:A:1504:C:H5	2.34	0.45
1:A:1104:C:C2'	1:A:1105:U:H5'	2.46	0.45
1:A:601:C:H4'	5:E:104:LYS:HE2	1.98	0.45
17:Q:76:TYR:CZ	17:Q:80:ILE:HG12	2.52	0.45
17:Q:98:LEU:O	17:Q:101:ARG:N	2.50	0.45
1:A:2100:G:C2	1:A:2101:G:C4	3.04	0.45
1:A:540:G:C4	1:A:541:C:C6	3.04	0.45
24:X:23:LYS:HB3	24:X:37:ILE:CG1	2.47	0.45
1:A:2366:A:H2'	1:A:2367:G:O4'	2.16	0.45
1:A:1006:C:C2	1:A:1138:G:N2	2.85	0.45
1:A:245:G:C4	1:A:246:C:C6	3.04	0.45
1:A:569:U:C4	1:A:570:G:C6	3.03	0.45
30:4:35:ARG:HG3	30:4:42:LEU:HD11	1.98	0.45
8:H:26:ALA:HA	8:H:30:LEU:HB2	1.98	0.45
29:3:36:LEU:HD23	29:3:36:LEU:N	2.31	0.45
1:A:627:A:H4'	1:A:628:G:OP1	2.17	0.45
4:D:170:LEU:N	4:D:170:LEU:CD2	2.79	0.45
1:A:1530:G:C6	1:A:1531:C:C4	3.04	0.45
1:A:99:U:C6	1:A:102:G:N1	2.84	0.45
12:L:52:GLU:CA	12:L:52:GLU:OE1	2.63	0.45
6:F:69:ALA:O	6:F:90:LEU:HD13	2.15	0.45
1:A:2210:G:C3'	1:A:2210:G:N3	2.77	0.45
19:S:24:ILE:CG2	19:S:36:LEU:HD21	2.46	0.45
7:G:143:GLN:O	7:G:144:VAL:C	2.54	0.45
1:A:2311:A:O2'	1:A:2312:U:O4'	2.34	0.45
3:C:25:THR:CG2	3:C:81:ALA:HB1	2.45	0.45
22:V:150:LEU:HD23	22:V:171:ILE:HB	1.97	0.45
12:L:10:PRO:CD	12:L:11:GLY:N	2.80	0.45
3:C:61:LEU:HB2	3:C:63:ARG:HH12	1.82	0.45
1:A:2476:A:N3	1:A:2476:A:C2'	2.80	0.45
1:A:1717:G:C5	1:A:1743:G:C2	3.04	0.45
1:A:2850:A:H2'	1:A:2851:A:O4'	2.16	0.45
13:M:115:MET:HE2	13:M:115:MET:HA	1.98	0.45
13:M:135:ASP:N	13:M:135:ASP:OD1	2.49	0.45
13:M:43:THR:HG1	13:M:46:GLN:HG3	1.82	0.45
1:A:1870:C:C2'	1:A:1870:C:O2	2.65	0.45
1:A:205:G:O2'	1:A:206:U:P	2.75	0.45
1:A:2863:C:O2'	1:A:2864:G:H5'	2.16	0.45
4:D:96:PHE:HA	4:D:100:GLU:OE1	2.16	0.45
1:A:1204:A:C2	1:A:1241:A:N1	2.85	0.45
1:A:2037:G:C6	1:A:2038:G:C6	3.05	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:537:C:H2'	1:A:539:G:C8	2.51	0.45
14:N:96:ARG:HD2	14:N:115:GLU:OE1	2.17	0.45
6:F:45:GLU:C	6:F:47:LYS:H	2.19	0.45
8:H:3:VAL:HG12	8:H:37:VAL:O	2.17	0.45
1:A:1484:G:H2'	1:A:1485:G:H8	1.81	0.45
12:L:126:VAL:HG23	12:L:145:PRO:HG2	1.99	0.45
1:A:1971:A:H5''	1:A:1971:A:H8	1.82	0.45
10:J:157:ARG:O	10:J:159:GLU:N	2.50	0.45
17:Q:107:ALA:O	17:Q:110:VAL:HB	2.17	0.45
13:M:74:TYR:O	13:M:89:ASN:N	2.44	0.45
1:A:2338:G:C2	1:A:2339:G:C8	3.04	0.45
8:H:126:TYR:HB2	8:H:142:VAL:HG21	1.98	0.45
8:H:143:SER:O	8:H:145:VAL:N	2.47	0.45
27:1:40:ILE:HD12	27:1:40:ILE:N	2.31	0.45
2:B:16:G:O6	2:B:69:G:C2	2.69	0.45
4:D:84:PHE:CE2	4:D:86:PRO:HG3	2.52	0.45
4:D:119:ARG:HD3	4:D:120:TRP:NE1	2.31	0.45
2:B:106:G:C6	2:B:107:U:C4	3.04	0.45
1:A:96:G:O5'	25:Y:48:HIS:HE1	1.99	0.45
1:A:2807:G:N1	1:A:2893:G:O6	2.49	0.45
7:G:73:ALA:O	7:G:76:VAL:HB	2.17	0.45
1:A:1478:G:C2	1:A:1479:G:C5	3.05	0.45
6:F:178:PHE:HA	6:F:179:PRO:HD3	1.69	0.45
10:J:80:ALA:C	10:J:82:LYS:N	2.70	0.45
1:A:2862:G:H2'	1:A:2863:C:H6	1.82	0.45
1:A:2572:A:OP2	4:D:144:ARG:HB2	2.17	0.45
11:K:86:ILE:N	11:K:86:ILE:HD12	2.30	0.45
1:A:1465:G:C2	1:A:1466:G:C4	3.05	0.45
6:F:16:ARG:O	6:F:20:ILE:HG12	2.16	0.45
1:A:270(F):G:H2'	1:A:270(G):U:O4'	2.16	0.45
12:L:114:ILE:H	12:L:114:ILE:CD1	1.98	0.45
1:A:1900:A:N1	1:A:1970:A:C5	2.85	0.45
3:C:35:LYS:HD3	3:C:35:LYS:HA	1.70	0.45
1:A:1021:A:N6	1:A:1141:U:N3	2.53	0.45
1:A:1022:G:N2	1:A:114(B):A:H2	2.13	0.45
13:M:140:ALA:HB3	22:V:53:ILE:CG1	2.47	0.45
14:N:2:ARG:O	14:N:3:HIS:CD2	2.69	0.45
4:D:55:ASN:O	4:D:59:VAL:HG23	2.17	0.45
3:C:86:PRO:HD2	3:C:87:ASN:HD21	1.81	0.45
14:N:50:HIS:CD2	14:N:50:HIS:C	2.89	0.45
1:A:2744:G:N2	1:A:2761:G:C4	2.85	0.45
23:W:73:GLY:O	23:W:75:LEU:N	2.50	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:379:G:N2	24:X:20:ARG:NH2	2.64	0.45
1:A:483:A:H1'	21:U:47:LYS:O	2.17	0.45
7:G:92:ILE:O	7:G:93:GLY:C	2.55	0.45
3:C:97:TYR:HB2	3:C:101:GLU:O	2.16	0.45
1:A:1411:C:O2'	1:A:1412:A:H5'	2.17	0.45
1:A:651:G:OP1	31:5:19:SER:CB	2.63	0.45
19:S:57:ASN:O	19:S:58:ALA:C	2.54	0.45
5:E:53:THR:C	5:E:55:GLY:N	2.69	0.45
24:X:51:VAL:HG12	24:X:58:ILE:HG12	1.99	0.45
24:X:68:PRO:O	24:X:70:VAL:N	2.49	0.45
17:Q:24:TYR:HE1	17:Q:39:LEU:HD23	1.81	0.45
1:A:2511:U:O4	1:A:2575:C:N3	2.49	0.45
1:A:629:G:H2'	1:A:630:G:H8	1.81	0.45
12:L:62:LEU:O	12:L:62:LEU:CD2	2.62	0.45
12:L:85:LEU:HD23	12:L:117:GLU:O	2.16	0.45
4:D:11:MET:CE	4:D:186:GLY:CA	2.94	0.45
1:A:83:G:N2	1:A:84:A:N6	2.65	0.45
21:U:15:VAL:HG12	21:U:15:VAL:O	2.17	0.45
21:U:8:LYS:HE2	21:U:8:LYS:HB2	1.51	0.45
10:J:123:GLU:C	10:J:125:ALA:H	2.19	0.45
1:A:2388:A:C8	1:A:2389:G:C5	3.05	0.45
5:E:67:GLN:O	5:E:68:LYS:HB3	2.17	0.45
1:A:587:C:C4	12:L:33:ARG:HB2	2.52	0.45
1:A:993:G:C6	1:A:994:C:C5	3.05	0.45
3:C:36:PRO:HA	3:C:62:TYR:O	2.17	0.45
6:F:128:ARG:HH21	6:F:129:GLY:C	2.20	0.45
3:C:50:THR:HG23	3:C:51:VAL:N	2.32	0.45
1:A:1786:A:C2	1:A:2606:C:H1'	2.52	0.45
25:Y:60:LEU:HA	25:Y:60:LEU:HD23	1.38	0.45
13:M:55:VAL:O	13:M:56:ARG:C	2.54	0.45
19:S:32:ALA:O	19:S:33:ARG:C	2.55	0.45
10:J:142:ARG:HH11	10:J:142:ARG:CG	2.20	0.45
24:X:86:SER:HB3	24:X:89:GLU:HB2	1.99	0.45
19:S:8:ARG:HA	19:S:102:HIS:HA	1.98	0.45
3:C:25:THR:O	3:C:27:THR:CB	2.64	0.45
5:E:203:GLN:OE1	5:E:207:GLY:CA	2.64	0.45
22:V:60:GLU:OE1	22:V:66:SER:HB3	2.17	0.45
1:A:2470:G:C6	1:A:2471:C:C5	3.05	0.45
1:A:988:A:C8	26:Z:13:ILE:HD12	2.52	0.45
1:A:1051:G:C5	1:A:1052:C:N3	2.84	0.45
1:A:2852:G:H2'	1:A:2853:C:C6	2.51	0.45
1:A:231:C:C5	1:A:232:G:C6	3.05	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:87:G:N2	2:B:89(A):G:C8	2.85	0.45
1:A:1759:A:C8	1:A:2696:U:H1'	2.52	0.45
1:A:2410:G:C2	1:A:2411:A:H1'	2.52	0.45
5:E:144:LYS:C	5:E:146:ALA:H	2.19	0.45
1:A:270(G):U:H3	1:A:270(U):G:H1	1.64	0.45
26:Z:49:LYS:HA	26:Z:49:LYS:HD3	1.44	0.45
1:A:735:A:H3'	1:A:736:C:H6	1.81	0.45
4:D:12:THR:O	4:D:23:VAL:O	2.35	0.45
14:N:12:ARG:CG	14:N:16:HIS:CD2	2.78	0.45
3:C:158:ALA:HB3	3:C:161:THR:CG2	2.33	0.45
27:1:60:GLU:CD	27:1:60:GLU:N	2.70	0.45
25:Y:28:LYS:HG3	25:Y:60:LEU:HD12	1.99	0.45
14:N:2:ARG:HD2	14:N:2:ARG:HA	1.42	0.45
7:G:35:VAL:HG21	7:G:75:ALA:HB2	1.98	0.45
21:U:81:LYS:HD3	21:U:97:ARG:CB	2.43	0.45
1:A:1586:A:C2'	1:A:1587:A:H5'	2.46	0.45
1:A:528:A:O2'	1:A:529:A:H5'	2.17	0.45
8:H:133:HIS:NE2	8:H:135:GLU:HG2	2.32	0.45
1:A:2468:G:C2	1:A:2481:G:N3	2.84	0.45
18:R:7:THR:CG2	18:R:22:VAL:HG11	2.47	0.45
1:A:30:G:C6	1:A:31:C:C4	3.05	0.45
3:C:52:ARG:CZ	3:C:53:PHE:CE2	3.00	0.45
3:C:52:ARG:NH1	3:C:53:PHE:HE2	2.15	0.45
1:A:2360:A:H8	1:A:2360:A:O5'	1.99	0.45
1:A:2587:A:H8	1:A:2587:A:O5'	1.99	0.45
1:A:1417:C:H42	1:A:1581:G:H1	1.64	0.45
14:N:65:LEU:O	14:N:68:ARG:HB2	2.17	0.45
1:A:1983:C:O2'	1:A:1984:G:H5'	2.16	0.45
2:B:95:U:H2'	2:B:96:G:C8	2.51	0.45
1:A:2672:G:H2'	1:A:2673:G:O5'	2.17	0.45
1:A:2795:G:H3'	1:A:2797:U:C5'	2.47	0.45
12:L:61:ARG:HD2	31:5:13:ARG:HD2	1.99	0.45
12:L:57:THR:OG1	12:L:58:THR:N	2.49	0.45
12:L:97:PRO:O	12:L:101:VAL:HG12	2.17	0.45
12:L:49:ARG:O	12:L:51:PHE:N	2.50	0.45
6:F:73:ALA:H	6:F:87:PRO:HD2	1.82	0.45
28:2:17:ASP:O	28:2:20:ARG:HB2	2.16	0.45
15:O:88:ASP:O	15:O:90:GLY:N	2.45	0.45
20:T:28:PHE:HE1	20:T:81:VAL:CG2	2.30	0.45
2:B:68:C:H2'	2:B:69:G:O4'	2.17	0.45
22:V:97:GLU:O	22:V:98:MET:HB3	2.17	0.45
1:A:661:C:O3'	12:L:18:ARG:CG	2.65	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:Y:60:LEU:C	25:Y:62:THR:N	2.70	0.45
1:A:1438:U:O2'	1:A:1439:A:H5'	2.16	0.45
20:T:29:TRP:CZ3	20:T:78:LYS:CG	3.00	0.45
1:A:1578:U:H2'	1:A:1578:U:O2	2.17	0.45
5:E:89:VAL:CG1	5:E:90:PHE:H	2.19	0.45
1:A:2286:A:C8	1:A:2287:A:C6	3.05	0.45
1:A:247:G:N7	1:A:249:C:C2	2.85	0.45
1:A:1413:G:C2'	1:A:1414:G:H5'	2.47	0.45
13:M:116:GLU:O	13:M:117:ALA:C	2.55	0.45
1:A:2347:C:H4'	29:3:39:TYR:CE1	2.52	0.45
3:C:221:VAL:HG22	3:C:226:MET:CE	2.47	0.45
1:A:496:G:C1'	19:S:61:ASN:HD21	2.30	0.45
2:B:27:C:N4	2:B:28:C:N4	2.65	0.45
1:A:1241:A:N7	1:A:1242:A:C4	2.85	0.45
16:P:41:ARG:CB	16:P:41:ARG:HH11	2.28	0.45
1:A:1425:G:N2	1:A:1573:G:N7	2.64	0.45
1:A:771:G:C4	1:A:772:C:C5	3.05	0.45
8:H:75:LEU:HG	8:H:76:THR:O	2.16	0.45
2:B:95:U:C2	2:B:96:G:N7	2.85	0.45
19:S:78:GLU:OE2	19:S:99:ARG:HD3	2.17	0.45
1:A:1790:C:H2'	1:A:1791:A:C5	2.51	0.45
16:P:108:ARG:O	16:P:111:ARG:HB2	2.17	0.45
1:A:575:A:N3	1:A:575:A:H2'	2.32	0.45
1:A:1835:G:C4	1:A:1836:C:C5	3.05	0.45
1:A:2046:G:O5'	28:2:19:ARG:HA	2.16	0.45
18:R:82:ARG:C	18:R:83:ARG:HG2	2.37	0.45
1:A:1540:G:C2	1:A:1541:U:C2	3.05	0.44
1:A:1541:U:O3'	1:A:1542:G:H3'	2.16	0.44
5:E:64:ILE:HG23	5:E:65:TRP:CD1	2.52	0.44
12:L:47:ASP:HB2	12:L:51:PHE:HB2	1.98	0.44
1:A:1022:G:C6	1:A:1140:C:C4	3.05	0.44
3:C:242:ARG:HH11	3:C:242:ARG:H	1.64	0.44
1:A:662:G:H5'	12:L:18:ARG:HA	1.97	0.44
4:D:2:LYS:HD3	4:D:95:ILE:O	2.16	0.44
25:Y:25:VAL:HG21	25:Y:61:LEU:HD13	1.98	0.44
1:A:2722:G:C5	1:A:2723:C:C4	3.05	0.44
14:N:17:ARG:O	14:N:20:LEU:HB3	2.17	0.44
14:N:54:LEU:CD2	14:N:62:ALA:HB1	2.45	0.44
1:A:2305:A:C5'	6:F:134:GLY:HA3	2.46	0.44
3:C:25:THR:O	3:C:26:LYS:C	2.55	0.44
6:F:133:LEU:HD23	6:F:133:LEU:H	1.81	0.44
1:A:540:G:C5	1:A:541:C:C5	3.05	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:50:SER:OG	5:E:51:THR:N	2.46	0.44
1:A:2009:G:O2'	1:A:2010:G:H5'	2.17	0.44
1:A:2664:G:H2'	1:A:2665:A:OP2	2.17	0.44
1:A:494:G:N2	19:S:57:ASN:HD21	2.15	0.44
4:D:72:VAL:O	4:D:73:GLU:C	2.54	0.44
1:A:1647:G:H3'	1:A:1647:G:P	2.57	0.44
1:A:2026:C:C2	1:A:2027:G:C8	3.05	0.44
1:A:2231:C:H2'	1:A:2232:U:O4'	2.17	0.44
12:L:85:LEU:CA	12:L:88:LEU:HB2	2.46	0.44
21:U:14:LEU:CD2	21:U:15:VAL:N	2.69	0.44
5:E:64:ILE:O	5:E:65:TRP:CD1	2.70	0.44
1:A:748:G:OP2	19:S:88:ARG:HG3	2.17	0.44
1:A:194:G:H2'	1:A:195:A:O4'	2.17	0.44
1:A:197:A:C8	1:A:197:A:C5'	2.95	0.44
3:C:70:TRP:O	3:C:70:TRP:HD1	2.01	0.44
2:B:16:G:C6	2:B:69:G:N2	2.85	0.44
22:V:57:ILE:HG22	22:V:59:LEU:HG	1.99	0.44
4:D:87:GLU:O	4:D:88:GLY:C	2.53	0.44
19:S:4:LYS:CD	19:S:6:ILE:HD11	2.45	0.44
1:A:1454:U:C5	1:A:2702:U:O4	2.71	0.44
1:A:1454:U:O4'	14:N:63:ARG:HD3	2.17	0.44
1:A:2747:G:O2'	1:A:2748:A:O4'	2.27	0.44
2:B:10:C:C2	2:B:11:C:C5	3.06	0.44
1:A:498:G:O2'	21:U:47:LYS:HD3	2.17	0.44
16:P:3:ARG:HB3	16:P:6:LEU:HB3	1.98	0.44
1:A:1649:G:C6	1:A:2009:G:C6	3.05	0.44
1:A:2467:C:C2'	1:A:2468:G:H5'	2.47	0.44
11:K:31:LYS:HB3	11:K:32:TYR:CD1	2.53	0.44
1:A:814:C:C5	12:L:27:HIS:NE2	2.85	0.44
1:A:1945:G:H2'	1:A:1946:U:C6	2.52	0.44
1:A:1684:C:C2	1:A:1705:G:N2	2.86	0.44
4:D:176:ILE:N	4:D:176:ILE:CD1	2.80	0.44
14:N:79:LEU:HD23	14:N:83:ILE:CB	2.47	0.44
3:C:221:VAL:HG22	3:C:226:MET:HE3	1.99	0.44
16:P:80:SER:O	16:P:82:LEU:N	2.50	0.44
29:3:18:ARG:HH22	29:3:44:ARG:HB2	1.82	0.44
1:A:1203:G:H3'	1:A:1204:A:C5'	2.47	0.44
1:A:1027:A:C6	1:A:1126:A:C4	3.04	0.44
1:A:1464:C:C2	1:A:1465:G:C8	3.05	0.44
5:E:135:LYS:O	5:E:136:THR:C	2.56	0.44
12:L:126:VAL:CA	12:L:145:PRO:HG2	2.46	0.44
12:L:62:LEU:CD1	31:5:27:THR:HG22	2.48	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:10:THR:CG2	3:C:13:ARG:CB	2.92	0.44
12:L:50:ARG:HD2	12:L:51:PHE:CB	2.47	0.44
3:C:164:GLN:O	3:C:175:LEU:HD23	2.18	0.44
22:V:137:ILE:HG22	22:V:138:GLU:N	2.31	0.44
13:M:47:ILE:HG22	13:M:48:GLU:H	1.78	0.44
1:A:1576:U:N3	1:A:1577:C:C5	2.85	0.44
1:A:2330:G:H1'	23:W:41:ARG:HB3	1.98	0.44
19:S:41:LYS:C	19:S:43:GLY:N	2.69	0.44
1:A:953:A:O2'	1:A:954:G:H5'	2.17	0.44
1:A:2471:C:H2'	1:A:2472:G:O4'	2.17	0.44
22:V:39:VAL:HG21	22:V:44:PHE:CD2	2.52	0.44
1:A:693:C:C2'	1:A:694:U:O5'	2.66	0.44
1:A:2280:G:C2'	1:A:2281:C:H5'	2.47	0.44
1:A:958:U:C2'	1:A:959:A:OP2	2.65	0.44
1:A:1381:G:H2'	1:A:1382:G:H5'	1.97	0.44
6:F:52:ILE:HG23	6:F:153:ARG:HH22	1.83	0.44
1:A:447:A:C4	1:A:473:G:C8	3.05	0.44
1:A:2666:C:C6	1:A:2667:C:C6	3.05	0.44
28:2:14:ALA:O	28:2:15:ARG:C	2.55	0.44
1:A:836:G:C5	1:A:837:C:C4	3.05	0.44
12:L:107:LYS:C	12:L:109:GLY:H	2.20	0.44
5:E:67:GLN:O	5:E:68:LYS:CB	2.65	0.44
1:A:577:G:OP1	1:A:2502:G:H2'	2.16	0.44
19:S:14:PRO:O	19:S:15:ARG:C	2.55	0.44
1:A:2712:U:O2'	1:A:712(B):A:C5'	2.64	0.44
22:V:163:LEU:HD23	22:V:163:LEU:H	1.83	0.44
19:S:19:LEU:HB3	28:2:25:LEU:HD11	1.99	0.44
7:G:44:VAL:O	7:G:50:VAL:HG13	2.18	0.44
3:C:166:GLN:NE2	3:C:166:GLN:CA	2.62	0.44
3:C:166:GLN:HB2	3:C:174:ILE:HG22	1.99	0.44
11:K:35:VAL:HG11	11:K:103:ALA:CB	2.47	0.44
15:O:34:HIS:HB3	15:O:36:TYR:CE1	2.53	0.44
1:A:1010:A:H5'	17:Q:62:ILE:HG21	1.99	0.44
1:A:295:G:H4'	21:U:2:ARG:NH1	2.32	0.44
1:A:1518:C:H2'	1:A:1519:G:H8	1.82	0.44
11:K:2:ILE:HD12	11:K:2:ILE:HA	1.76	0.44
22:V:74:VAL:CG2	22:V:86:VAL:HG13	2.47	0.44
1:A:2705:A:H3'	1:A:2706:G:H8	1.83	0.44
4:D:172:VAL:HG13	4:D:182:LEU:HD11	1.98	0.44
1:A:2604:U:O2	1:A:2604:U:C2'	2.65	0.44
11:K:7:TYR:HE1	11:K:20:MET:CE	2.29	0.44
1:A:772:C:C2'	1:A:772:C:O2	2.64	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:153:ARG:HB3	6:F:153:ARG:NH1	2.32	0.44
4:D:3:GLY:HA3	4:D:81:ILE:HG21	1.99	0.44
1:A:608:A:C4	1:A:621:A:C6	3.06	0.44
16:P:114:LEU:HA	16:P:114:LEU:HD23	1.54	0.44
1:A:2490:G:H4'	1:A:2491:U:OP1	2.17	0.44
1:A:679:C:H2'	1:A:680:G:H8	1.83	0.44
10:J:121:VAL:HG23	10:J:122:LEU:N	2.33	0.44
17:Q:79:PHE:HE1	17:Q:83:LEU:CD2	2.31	0.44
18:R:2:PHE:HE2	18:R:13:ARG:CG	2.31	0.44
8:H:143:SER:O	8:H:145:VAL:HG23	2.18	0.44
4:D:59:VAL:O	4:D:61:ARG:N	2.51	0.44
3:C:175:LEU:HD23	3:C:175:LEU:HA	1.84	0.44
18:R:28:GLU:HB2	18:R:31:ALA:HB2	1.99	0.44
19:S:9:TYR:N	19:S:102:HIS:CD2	2.83	0.44
11:K:115:VAL:O	11:K:118:ALA:HB3	2.17	0.44
6:F:133:LEU:HD21	6:F:157:ILE:HG13	1.99	0.44
7:G:28:GLY:HA3	7:G:79:VAL:HB	1.99	0.44
1:A:333:G:C6	1:A:334:C:C4	3.06	0.44
3:C:176:ARG:CG	3:C:176:ARG:HH11	2.25	0.44
1:A:2738:A:C2	1:A:2739:U:C6	3.06	0.44
1:A:646:A:H2'	1:A:647:G:O4'	2.18	0.44
11:K:26:LYS:HB3	11:K:27:GLY:H	1.65	0.44
26:Z:8:LEU:HA	26:Z:8:LEU:HD23	1.75	0.44
20:T:75:ASP:C	20:T:76:ARG:HG3	2.38	0.44
1:A:466:A:O3'	30:4:33:ARG:NH1	2.50	0.44
8:H:25:TYR:CD1	8:H:30:LEU:HD11	2.52	0.44
5:E:140:LEU:HD12	5:E:140:LEU:HA	1.80	0.44
1:A:2082:A:H2'	1:A:2083:G:O4'	2.17	0.44
10:J:41:ALA:HB3	10:J:79:ASN:O	2.18	0.44
1:A:270(W):G:C4	1:A:270(X):G:C8	3.06	0.44
1:A:38:A:H2'	1:A:39:C:C6	2.52	0.44
21:U:71:LYS:HB2	21:U:71:LYS:NZ	2.32	0.44
5:E:164:ARG:HA	5:E:175:THR:OG1	2.17	0.44
31:5:11:LYS:HD2	31:5:64:TYR:CE2	2.52	0.44
1:A:195:A:N7	1:A:197:A:OP1	2.51	0.44
3:C:155:LEU:N	3:C:155:LEU:CD1	2.80	0.44
8:H:100:ALA:O	8:H:104:GLN:HG3	2.17	0.44
4:D:77:ILE:HD13	4:D:195:LEU:CD1	2.42	0.44
16:P:53:ARG:HH11	16:P:53:ARG:CG	2.16	0.44
20:T:21:PHE:O	20:T:23:GLU:O	2.36	0.44
4:D:37:ARG:NH1	4:D:42:ASP:OD1	2.51	0.44
22:V:179:ASP:O	22:V:182:LYS:HB2	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:30:GLU:HG3	3:C:63:ARG:NE	2.32	0.44
1:A:2467:C:H4'	13:M:123:HIS:ND1	2.32	0.44
18:R:12:TYR:CD2	18:R:12:TYR:N	2.85	0.44
1:A:886:C:C2'	1:A:887:A:H4'	2.47	0.44
1:A:926:A:H2'	1:A:928:G:H8	1.83	0.44
29:3:44:ARG:O	29:3:45:LYS:HG2	2.18	0.44
1:A:463:G:H5''	1:A:464:U:OP2	2.17	0.44
1:A:1368:G:N3	1:A:1369:G:C8	2.85	0.44
1:A:2506:U:C5	1:A:2507:C:H5	2.35	0.44
1:A:2248:C:H2'	1:A:2249:U:O4'	2.16	0.44
1:A:1956:U:H1'	1:A:2552:U:OP1	2.17	0.44
1:A:1803:A:H2	1:A:1822:G:N3	2.15	0.44
31:5:15:LYS:HG3	31:5:16:ILE:N	2.32	0.44
1:A:649:G:H2'	1:A:650:C:C6	2.52	0.44
16:P:13:ARG:C	16:P:15:VAL:H	2.20	0.44
12:L:114:ILE:CD1	12:L:130:PHE:CE1	2.97	0.44
1:A:1177:A:H5''	1:A:1178:C:OP2	2.18	0.44
6:F:60:LEU:HA	6:F:63:ILE:HD11	1.99	0.44
1:A:861:A:C2	1:A:917:A:C4	3.05	0.44
6:F:72:ARG:HD3	6:F:86:MET:HA	2.00	0.44
3:C:105:ILE:HD11	3:C:192:THR:HG21	1.99	0.44
25:Y:57:ILE:HA	25:Y:60:LEU:HB2	2.00	0.44
2:B:106:G:C2'	2:B:107:U:H5'	2.48	0.44
1:A:2746:U:H2'	1:A:2747:G:C5'	2.47	0.44
1:A:998:C:H2'	1:A:999:U:O4'	2.18	0.44
1:A:2287:A:N1	1:A:2346:A:H2	2.15	0.44
1:A:1132:A:C2'	1:A:1133:U:H5'	2.48	0.44
1:A:479:A:H4'	1:A:480:A:O5'	2.17	0.44
7:G:54:ARG:HA	7:G:55:PRO:HD2	1.70	0.44
1:A:1746:G:C2	1:A:1747:G:C5	3.06	0.44
6:F:58:GLN:O	6:F:61:ALA:HB3	2.18	0.44
1:A:2867:G:O6	16:P:23:ARG:HD3	2.17	0.44
22:V:14:LYS:HB2	22:V:17:ALA:HB3	1.99	0.44
11:K:59:LYS:O	11:K:86:ILE:HG23	2.17	0.44
1:A:841:A:C2	1:A:938:G:N3	2.86	0.44
1:A:2342:C:O2	1:A:2374:C:H4'	2.18	0.44
8:H:31:LEU:HD13	8:H:31:LEU:HA	1.73	0.44
17:Q:84:LYS:HA	17:Q:84:LYS:HD3	1.89	0.44
4:D:116:VAL:HG13	4:D:122:PHE:CD2	2.53	0.44
1:A:2692:C:H2'	1:A:2693:A:O4'	2.18	0.44
12:L:21:ARG:HG2	12:L:21:ARG:H	1.60	0.44
10:J:114:LEU:HA	10:J:118:PRO:CB	2.46	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2846:G:C6	1:A:2847:U:C4	3.05	0.44
10:J:36:TRP:HB2	10:J:156:GLN:CB	2.48	0.44
1:A:242:G:H5'	31:5:63:PRO:CB	2.48	0.44
6:F:161:THR:CG2	6:F:172:LEU:HD23	2.47	0.44
1:A:1188:U:H2'	1:A:1189:A:H5'	2.00	0.44
2:B:43:C:H2'	2:B:44:G:H5''	1.99	0.44
24:X:45:ASN:HD22	24:X:46:LEU:H	1.63	0.44
7:G:74:ASN:ND2	7:G:138:LYS:HD2	2.32	0.44
1:A:2304:G:H5'	1:A:2305:A:OP2	2.18	0.44
1:A:589:C:O3'	5:E:95:ARG:NH1	2.51	0.44
23:W:36:ILE:HD12	23:W:58:THR:CG2	2.41	0.44
1:A:259:G:C2	1:A:260:G:C8	3.06	0.44
22:V:182:LYS:O	22:V:186:GLU:HB2	2.18	0.44
1:A:2479:G:H5''	1:A:2537:U:O4'	2.17	0.44
1:A:1138:G:O2'	10:J:128:GLY:HA3	2.17	0.44
1:A:150:C:H2'	1:A:151:C:C6	2.53	0.44
1:A:718:A:H2'	1:A:719:C:H5'	1.99	0.44
1:A:2065:C:H2'	1:A:2066:C:C6	2.52	0.44
13:M:24:GLY:HA2	13:M:101:ARG:HA	1.99	0.44
19:S:62:HIS:O	19:S:64:MET:N	2.47	0.44
1:A:900:A:H2'	1:A:901:A:O4'	2.17	0.44
1:A:2849:U:OP2	16:P:95:ARG:NH1	2.44	0.44
27:1:53:THR:C	27:1:54:LYS:HD2	2.38	0.44
3:C:214:TRP:C	3:C:216:GLY:H	2.21	0.44
3:C:122:ASP:CG	3:C:123:ALA:N	2.71	0.44
1:A:606:U:H4'	1:A:658:C:H4'	2.00	0.44
5:E:33:LEU:HD12	5:E:33:LEU:HA	1.66	0.44
1:A:630:G:H22	1:A:632:A:H3'	1.81	0.44
1:A:1173:G:O5'	1:A:1173:G:H8	2.01	0.44
1:A:2282:G:H4'	1:A:2389:G:O2'	2.18	0.44
1:A:587:C:C2	12:L:33:ARG:HD3	2.53	0.44
25:Y:17:SER:HB3	25:Y:18:PRO:CD	2.37	0.44
28:2:16:ARG:HG2	28:2:17:ASP:N	2.31	0.44
4:D:92:THR:O	4:D:95:ILE:HG12	2.18	0.44
1:A:2687:U:C4	1:A:2688:U:H5	2.31	0.44
2:B:50:G:OP1	15:O:63:THR:OG1	2.36	0.44
1:A:2767:C:C2'	1:A:2768:C:H5'	2.48	0.44
1:A:850:C:O2'	26:Z:46:ASN:ND2	2.51	0.44
1:A:2305:A:H1'	6:F:135:LEU:O	2.18	0.44
1:A:849:A:O2'	26:Z:17:LYS:HE3	2.17	0.44
1:A:997:G:OP1	17:Q:93:LYS:HD2	2.18	0.44
10:J:64:ASP:O	10:J:71:MET:HE1	2.17	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2287:A:HO2'	1:A:2288:A:C5'	2.30	0.44
5:E:117:ARG:HH21	5:E:187:VAL:HA	1.82	0.44
1:A:1800:C:OP2	3:C:183:ARG:NH2	2.47	0.44
1:A:1592:C:O2'	1:A:1593:G:H5'	2.18	0.44
1:A:245:G:C5	1:A:246:C:C5	3.06	0.44
22:V:121:HIS:C	22:V:123:ASP:H	2.22	0.44
1:A:2861:G:C2	1:A:2862:G:C8	3.05	0.44
5:E:110:LEU:HA	5:E:110:LEU:HD12	1.70	0.44
1:A:2837:G:C4	1:A:2838:G:C8	3.06	0.44
29:3:18:ARG:HB3	29:3:19:ARG:H	1.51	0.44
2:B:5:C:O2	2:B:116:G:N2	2.50	0.44
2:B:26:A:N7	2:B:27:C:C4	2.86	0.44
10:J:137:ARG:HG2	10:J:137:ARG:H	1.55	0.44
13:M:130:LYS:HZ2	22:V:80:ARG:HE	1.65	0.44
6:F:20:ILE:O	6:F:24:GLY:HA2	2.18	0.44
1:A:725:G:C6	1:A:726:G:N1	2.86	0.44
16:P:113:LYS:O	16:P:114:LEU:HD23	2.18	0.44
12:L:77:ARG:HA	12:L:78:PRO:HD3	1.87	0.44
12:L:107:LYS:C	12:L:108:LYS:HG2	2.38	0.43
30:4:9:ARG:O	30:4:10:ARG:C	2.53	0.43
1:A:1309:G:O5'	1:A:1309:G:H8	2.00	0.43
14:N:11:ASN:O	14:N:12:ARG:CB	2.64	0.43
16:P:50:ILE:HD11	16:P:102:ILE:HG12	2.00	0.43
2:B:80:U:C2	2:B:81:G:N2	2.86	0.43
2:B:84:C:C2'	2:B:84:C:O2	2.67	0.43
15:O:11:LYS:O	15:O:12:PHE:CB	2.64	0.43
27:1:42:CYS:HB3	27:1:59:VAL:HB	1.99	0.43
4:D:59:VAL:C	4:D:61:ARG:H	2.21	0.43
1:A:2768:C:C5	1:A:2769:C:C5	3.05	0.43
7:G:35:VAL:HG21	7:G:75:ALA:CB	2.48	0.43
24:X:26:ARG:O	24:X:27:GLU:HB3	2.18	0.43
1:A:1502:C:C6	1:A:1502:C:H3'	2.52	0.43
3:C:174:ILE:N	3:C:174:ILE:CD1	2.81	0.43
1:A:480:A:H5'	21:U:46:LYS:HG3	2.00	0.43
1:A:737:C:O2'	1:A:738:G:H5'	2.18	0.43
1:A:1478:G:H2'	1:A:1479:G:H8	1.83	0.43
1:A:2476:A:C2	1:A:2477:C:C5	3.06	0.43
5:E:46:ARG:HB3	5:E:46:ARG:CZ	2.48	0.43
1:A:1991:U:H2'	1:A:1992:G:C5'	2.48	0.43
2:B:116:G:H8	2:B:116:G:O5'	2.01	0.43
13:M:30:GLY:CA	13:M:107:ALA:HB2	2.48	0.43
1:A:1678:G:N3	1:A:1678:G:C2'	2.75	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2515:C:O2	1:A:2570:G:C2	2.71	0.43
1:A:32:C:O2'	1:A:33:U:H5'	2.18	0.43
12:L:138:LEU:O	12:L:141:ALA:N	2.51	0.43
12:L:85:LEU:CD2	12:L:85:LEU:N	2.79	0.43
1:A:1309:G:H3'	30:4:9:ARG:HH12	1.79	0.43
21:U:68:HIS:C	21:U:70:SER:N	2.72	0.43
8:H:88:ILE:HG13	8:H:144:VAL:CG1	2.48	0.43
1:A:1842:G:H1'	3:C:255:LYS:HZ3	1.83	0.43
1:A:1496:A:C8	1:A:1498:C:N3	2.86	0.43
1:A:1502:C:C6	1:A:1502:C:C3'	3.01	0.43
3:C:24:ILE:HD13	3:C:84:TYR:HB2	2.00	0.43
3:C:148:GLU:HB2	3:C:151:LYS:HD2	1.99	0.43
1:A:1358:G:H1'	1:A:1373:A:H61	1.83	0.43
1:A:2590:A:O2'	1:A:2591:C:H5'	2.17	0.43
13:M:54:MET:O	13:M:57:HIS:HB3	2.17	0.43
1:A:2663:G:C6	1:A:2664:G:C5	3.06	0.43
1:A:1248:G:OP1	17:Q:2:PRO:CD	2.64	0.43
21:U:43:ASN:OD1	21:U:64:GLU:HA	2.18	0.43
14:N:85:PRO:HA	14:N:88:ARG:HH11	1.82	0.43
7:G:169:VAL:O	7:G:170:ARG:HB2	2.18	0.43
1:A:1443:G:O2'	1:A:1444:G:H5'	2.17	0.43
1:A:1980:G:H4'	1:A:1981:A:OP2	2.17	0.43
1:A:2435:A:C2'	1:A:2436:G:O5'	2.66	0.43
5:E:160:ASN:OD1	5:E:163:VAL:HG23	2.18	0.43
1:A:1833:U:H2'	1:A:1834:U:H5'	1.98	0.43
1:A:914:C:H3'	1:A:914:C:C6	2.52	0.43
2:B:27:C:C4	2:B:28:C:C4	3.06	0.43
1:A:1424:G:H2'	1:A:1425:G:O4'	2.18	0.43
4:D:68:ALA:C	4:D:70:ALA:H	2.22	0.43
13:M:24:GLY:HA2	13:M:100:GLY:O	2.18	0.43
1:A:2564:A:C2	1:A:2647:U:H4'	2.53	0.43
1:A:1629:U:H2'	1:A:1630:G:O4'	2.18	0.43
1:A:2734:A:C2'	1:A:2735:G:H5'	2.48	0.43
1:A:1930:G:O2'	1:A:1931:U:P	2.76	0.43
11:K:3:GLN:CB	11:K:4:PRO:HD2	2.48	0.43
3:C:220:HIS:CD2	3:C:220:HIS:C	2.92	0.43
18:R:62:LEU:HD12	18:R:62:LEU:HA	1.77	0.43
1:A:660:G:O3'	5:E:38:ARG:NH2	2.51	0.43
16:P:101:PHE:C	16:P:101:PHE:CD2	2.91	0.43
12:L:84:ASN:HB3	12:L:86:LYS:HG2	1.99	0.43
12:L:91:PHE:CE2	12:L:95:VAL:HG12	2.53	0.43
1:A:1541:U:H5''	1:A:1543:A:OP2	2.17	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:54:ARG:HA	16:P:59:THR:OG1	2.19	0.43
1:A:2259:G:C2	1:A:2282:G:N1	2.87	0.43
17:Q:79:PHE:CE1	17:Q:83:LEU:CD1	3.02	0.43
18:R:49:THR:O	18:R:50:PRO:C	2.56	0.43
3:C:32:SER:O	3:C:36:PRO:HD2	2.19	0.43
12:L:46:LYS:HG2	12:L:52:GLU:CD	2.38	0.43
1:A:1021:A:N6	1:A:1141:U:C2	2.87	0.43
1:A:2292:C:N4	1:A:2293:C:N4	2.66	0.43
3:C:147:LEU:HD13	3:C:155:LEU:CD1	2.48	0.43
8:H:88:ILE:HG13	8:H:144:VAL:HG11	2.00	0.43
17:Q:57:PHE:O	17:Q:60:LEU:N	2.52	0.43
25:Y:24:LEU:HD22	25:Y:60:LEU:CD1	2.47	0.43
1:A:2744:G:H1'	1:A:2761:G:N2	2.33	0.43
1:A:952:G:C6	1:A:953:A:N7	2.87	0.43
1:A:1953:A:C2	1:A:2549:G:N3	2.84	0.43
1:A:2658:C:H2'	1:A:2658:C:O2	2.18	0.43
1:A:1131:G:C2	1:A:1132:A:C5	3.06	0.43
1:A:273(G):C:H2'	1:A:274:G:C5'	2.46	0.43
1:A:880:G:N2	1:A:898:C:C4	2.86	0.43
1:A:948:G:C2	1:A:970:C:O2	2.72	0.43
1:A:107:C:H2'	1:A:108:U:H5'	2.01	0.43
6:F:106:LEU:HA	6:F:110:ALA:HB3	2.00	0.43
1:A:1221:C:H2'	1:A:122(A):C:H6	1.83	0.43
30:4:3:ARG:HA	30:4:3:ARG:HD3	1.72	0.43
1:A:1779:U:C6	1:A:1783:A:N7	2.86	0.43
11:K:47:ILE:HD12	11:K:47:ILE:HA	1.66	0.43
31:5:23:VAL:HG11	31:5:47:LYS:HD3	2.01	0.43
12:L:79:ARG:O	12:L:111:ARG:HB2	2.19	0.43
12:L:97:PRO:CD	12:L:126:VAL:HG12	2.44	0.43
21:U:11:ASP:O	21:U:26:LYS:HA	2.18	0.43
21:U:8:LYS:HZ3	21:U:8:LYS:CA	2.30	0.43
6:F:60:LEU:HA	6:F:63:ILE:CG1	2.48	0.43
10:J:143:LEU:HD13	10:J:144:LYS:N	2.34	0.43
1:A:918:A:H5''	1:A:919:G:OP2	2.17	0.43
1:A:593:G:C6	1:A:594:U:C4	3.07	0.43
6:F:86:MET:H	6:F:87:PRO:HD2	1.83	0.43
1:A:1825:A:O3'	3:C:233:HIS:CD2	2.71	0.43
1:A:1285:G:C5	1:A:1329:U:C4	3.06	0.43
1:A:1313:U:C2'	1:A:1313:U:O2	2.64	0.43
1:A:1332:G:N2	1:A:1610:A:H8	2.13	0.43
1:A:1401:G:C4	1:A:1402:C:C5	3.06	0.43
1:A:2809:A:N1	1:A:2892:A:C4	2.86	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:135:LEU:O	10:J:136:GLY:C	2.56	0.43
1:A:1716:U:O2'	1:A:1717:G:H5'	2.18	0.43
1:A:814:C:H2'	1:A:815:C:C6	2.53	0.43
19:S:65:LEU:HB2	19:S:68:ARG:NE	2.31	0.43
24:X:53:VAL:O	24:X:55:GLY:O	2.37	0.43
1:A:298:G:P	21:U:85:VAL:CG2	3.06	0.43
1:A:374:A:H3'	1:A:375:C:H6	1.82	0.43
1:A:1297:C:H2'	1:A:1298:C:H6	1.82	0.43
1:A:270(F):G:C6	1:A:270(G):U:C4	3.06	0.43
27:1:39:ARG:O	27:1:57:ILE:HB	2.17	0.43
30:4:18:PHE:CE2	30:4:22:MET:HG3	2.53	0.43
1:A:2493:U:C4	1:A:2494:G:C8	3.07	0.43
1:A:1668:A:N7	1:A:1674:G:C6	2.87	0.43
1:A:1614:A:C6	19:S:87:PRO:HA	2.54	0.43
26:Z:52:HIS:CD2	26:Z:52:HIS:N	2.85	0.43
31:5:11:LYS:N	31:5:61:LEU:HD21	2.34	0.43
1:A:1188:U:C2'	1:A:1189:A:C5'	2.96	0.43
2:B:69:G:C6	2:B:70:C:C4	3.07	0.43
1:A:94:G:C2	25:Y:47:ASN:ND2	2.86	0.43
1:A:2766:G:H5''	1:A:2767:C:OP2	2.18	0.43
19:S:74:ALA:HA	19:S:104:THR:O	2.18	0.43
5:E:167:ALA:O	5:E:170:LEU:HB2	2.18	0.43
1:A:686:G:O6	30:4:12:ARG:NH1	2.51	0.43
1:A:2285:C:C4	1:A:2346:A:N6	2.87	0.43
5:E:203:GLN:O	5:E:206:ILE:C	2.57	0.43
7:G:124:GLU:N	7:G:132:ARG:O	2.49	0.43
21:U:46:LYS:C	21:U:48:ALA:N	2.71	0.43
21:U:19:LYS:HB3	21:U:20:TYR:CE1	2.53	0.43
1:A:2467:C:H5'	13:M:123:HIS:CE1	2.53	0.43
1:A:1728:G:C3'	1:A:1728:G:C8	3.02	0.43
1:A:1591:G:H2'	1:A:1592:C:H6	1.82	0.43
1:A:923:C:O2'	1:A:924:C:H5'	2.18	0.43
1:A:198:C:O5'	1:A:198:C:H6	2.01	0.43
4:D:181:LEU:HD12	4:D:181:LEU:HA	1.69	0.43
1:A:1051:G:C2	1:A:1052:C:O2	2.71	0.43
5:E:112:MET:HB3	5:E:112:MET:HE3	1.76	0.43
1:A:1180:C:O2'	1:A:1181:C:H5'	2.18	0.43
13:M:38:GLU:O	13:M:127:ILE:HD11	2.19	0.43
1:A:1227:G:OP2	17:Q:16:LYS:NZ	2.48	0.43
11:K:6:THR:O	11:K:20:MET:HA	2.18	0.43
22:V:146:ILE:HG23	22:V:174:VAL:HG12	2.00	0.43
12:L:77:ARG:O	12:L:77:ARG:HG3	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:3:13:CYS:O	29:3:21:TYR:HA	2.18	0.43
22:V:75:ASN:O	22:V:84:GLU:HB2	2.17	0.43
1:A:458:G:O2'	30:4:39:ARG:HD3	2.18	0.43
1:A:394:A:O2'	1:A:395:U:H5'	2.19	0.43
22:V:70:LEU:H	22:V:70:LEU:HD23	1.82	0.43
29:3:25:LYS:HD3	31:5:34:TRP:HZ3	1.83	0.43
1:A:2261:C:C2'	1:A:2262:U:H5'	2.49	0.43
18:R:5:VAL:HG11	18:R:14:VAL:HG21	1.98	0.43
1:A:1019:U:O2'	1:A:1021:A:H2	2.01	0.43
3:C:126:GLN:HB3	3:C:126:GLN:HE21	1.53	0.43
3:C:145:VAL:O	3:C:153:ALA:HA	2.18	0.43
20:T:14:SER:OG	20:T:17:ALA:HB2	2.18	0.43
1:A:2697:G:H2'	1:A:2698:U:O4'	2.19	0.43
2:B:71:C:N3	2:B:72:G:C8	2.87	0.43
5:E:9:ILE:HD11	5:E:125:LEU:CD1	2.49	0.43
1:A:1587:A:C5	1:A:1588:C:C4	3.06	0.43
1:A:2744:G:N7	1:A:2755:C:C2	2.87	0.43
19:S:40:ASN:O	19:S:41:LYS:CG	2.61	0.43
1:A:601:C:O2'	1:A:605:C:H5''	2.18	0.43
21:U:50:ARG:HD3	21:U:51:VAL:N	2.28	0.43
1:A:1476:C:H2'	1:A:1477:A:H5'	2.00	0.43
1:A:2402:C:C3'	1:A:2403:C:H5'	2.48	0.43
1:A:2092:U:C4	1:A:2226:C:OP2	2.71	0.43
1:A:2870:C:C5	1:A:2871:C:C5	3.07	0.43
19:S:60:ASN:OD1	19:S:60:ASN:N	2.52	0.43
17:Q:24:TYR:CE1	17:Q:39:LEU:HD23	2.53	0.43
1:A:173:G:H2'	1:A:174:C:H6	1.84	0.43
4:D:67:PHE:CD1	4:D:74:PRO:HB3	2.53	0.43
1:A:709:U:C2	1:A:723:G:N2	2.87	0.43
15:O:35:ILE:CG1	15:O:101:LEU:HD23	2.49	0.43
12:L:29:LYS:N	12:L:29:LYS:HD2	2.34	0.43
26:Z:12:PRO:O	26:Z:14:GLY:N	2.51	0.43
1:A:631:A:OP2	31:5:47:LYS:NZ	2.34	0.43
12:L:143:GLY:O	12:L:145:PRO:HD3	2.19	0.43
16:P:74:ARG:CD	16:P:76:PHE:CZ	3.01	0.43
1:A:675:A:OP1	5:E:63:LYS:NZ	2.49	0.43
17:Q:104:GLN:HB3	18:R:44:LYS:CE	2.49	0.43
18:R:47:VAL:HG12	18:R:49:THR:O	2.18	0.43
1:A:2295:C:H2'	1:A:2296:U:O5'	2.19	0.43
1:A:549:G:H2'	1:A:550:G:O4'	2.18	0.43
3:C:245:PRO:HA	3:C:246:PRO:HD3	1.84	0.43
2:B:70:C:C2	2:B:71:C:C5	3.07	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1209:G:N2	1:A:1210:A:H62	2.02	0.43
1:A:1651:G:H2'	1:A:1652:A:O4'	2.19	0.43
24:X:11:ARG:CB	24:X:12:PRO:CD	2.88	0.43
14:N:55:ALA:CA	14:N:80:PHE:CE1	2.93	0.43
28:2:25:LEU:HD12	28:2:25:LEU:N	2.19	0.43
19:S:32:ALA:O	19:S:35:ILE:N	2.52	0.43
1:A:2744:G:C2	1:A:2761:G:C6	3.07	0.43
1:A:2757:A:H2'	1:A:2758:A:H5'	2.00	0.43
1:A:2549:G:C2'	1:A:2550:G:H5'	2.49	0.43
28:2:42:PRO:HB2	28:2:43:HIS:CD2	2.54	0.43
1:A:258:G:C4	1:A:259:G:C8	3.07	0.43
1:A:302:C:H2'	1:A:303:U:H6	1.82	0.43
1:A:2663:G:C5	1:A:2664:G:N7	2.86	0.43
1:A:186:G:H2'	1:A:187:G:H8	1.83	0.43
1:A:2213:U:H6	1:A:2213:U:O5'	2.02	0.43
24:X:59:THR:OG1	24:X:60:PHE:N	2.51	0.43
1:A:511:U:H5	1:A:512:G:C5	2.35	0.43
11:K:7:TYR:CD1	11:K:20:MET:HB3	2.54	0.43
7:G:105:LEU:CD2	7:G:105:LEU:N	2.82	0.43
6:F:16:ARG:HB3	6:F:17:PRO:HD3	1.99	0.43
1:A:1416:G:HO2'	1:A:1417:C:H6	1.67	0.43
31:5:15:LYS:CG	31:5:16:ILE:N	2.82	0.43
1:A:2313:C:H4'	6:F:91:ARG:HG3	1.99	0.43
1:A:2794:C:N4	1:A:2802:G:H1	2.17	0.43
25:Y:3:LEU:O	25:Y:5:GLU:N	2.52	0.43
1:A:2845:G:C2	1:A:2846:G:C5	3.06	0.43
12:L:32:THR:HB	12:L:36:LYS:HB2	2.00	0.43
3:C:177:LEU:HD23	3:C:177:LEU:HA	1.85	0.43
8:H:77:LEU:HD23	8:H:105:HIS:HE1	1.83	0.43
6:F:41:GLN:HG2	6:F:155:MET:CB	2.47	0.43
1:A:2634:G:O2'	1:A:2635:C:H5'	2.19	0.43
4:D:50:GLY:HA3	4:D:75:VAL:HG21	2.01	0.43
18:R:34:GLU:O	18:R:36:PRO:CD	2.59	0.43
23:W:72:ARG:O	23:W:73:GLY:C	2.56	0.43
10:J:66:THR:HB	10:J:71:MET:HE3	2.00	0.43
1:A:384:U:H2'	1:A:385:C:H6	1.83	0.43
3:C:136:ILE:HA	3:C:137:PRO:HD3	1.81	0.43
8:H:2:LYS:HG3	8:H:39:ALA:CB	2.46	0.43
1:A:2870:C:H2'	1:A:2871:C:O4'	2.19	0.43
1:A:1006:C:C2'	1:A:1007:C:H5'	2.48	0.43
13:M:45:GLN:O	13:M:49:ALA:HB2	2.17	0.43
1:A:1917:U:O2'	1:A:1918:A:H5'	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:76:LEU:HD12	22:V:76:LEU:H	1.83	0.43
1:A:500:G:N2	1:A:502:A:H3'	2.33	0.43
1:A:2695:C:H2'	1:A:2696:U:C6	2.54	0.43
1:A:2194:G:C6	1:A:2195:C:C4	3.07	0.43
1:A:1835:G:H2'	1:A:1835:G:N3	2.34	0.43
26:Z:1:MET:HB3	26:Z:39:ASP:HB3	2.00	0.43
1:A:2392:A:H2'	1:A:2393:A:H5'	2.00	0.43
11:K:77:ILE:HD11	16:P:72:VAL:CG1	2.49	0.43
10:J:51:THR:O	10:J:54:ALA:HB3	2.19	0.43
1:A:2846:G:C8	1:A:2847:U:C5	3.06	0.43
1:A:1902:C:C2'	1:A:1903:G:O5'	2.67	0.43
17:Q:69:CYS:HB3	17:Q:79:PHE:HD2	1.83	0.43
12:L:50:ARG:CD	12:L:51:PHE:N	2.78	0.43
20:T:80:ILE:HG12	20:T:80:ILE:O	2.16	0.43
21:U:100:ALA:O	21:U:101:LYS:HB3	2.19	0.43
21:U:81:LYS:HG2	21:U:97:ARG:HB3	2.01	0.43
3:C:175:LEU:HD12	3:C:185:VAL:HG21	2.00	0.43
4:D:120:TRP:NE1	4:D:155:LYS:HB3	2.34	0.43
3:C:25:THR:O	3:C:27:THR:HG22	2.18	0.43
11:K:88:ASN:O	11:K:91:LEU:HA	2.19	0.43
1:A:380:U:H4'	24:X:21:ARG:O	2.18	0.43
1:A:2563:U:O2	1:A:2565:A:C8	2.71	0.43
1:A:475:U:C4	1:A:481:G:O6	2.72	0.43
1:A:1476:C:O2'	1:A:1477:A:H5'	2.18	0.43
2:B:61:G:C6	2:B:62:C:C4	3.07	0.43
1:A:2636:U:C2	1:A:2637:U:C5	3.07	0.43
14:N:85:PRO:HA	14:N:88:ARG:NH1	2.33	0.43
1:A:1515:C:O2	1:A:1515:C:H2'	2.19	0.43
1:A:963:U:H2'	1:A:964:C:H6	1.84	0.43
11:K:20:MET:O	11:K:20:MET:HG3	2.17	0.43
14:N:18:LEU:HD13	14:N:19:ALA:N	2.34	0.43
8:H:38:LEU:HD13	8:H:38:LEU:HA	1.87	0.43
1:A:270(F):G:C5	1:A:270(G):U:C5	3.06	0.43
7:G:126:PRO:HG2	7:G:130:ARG:HB3	2.01	0.43
1:A:1603:A:OP1	1:A:1604:C:OP2	2.37	0.43
1:A:77:C:OP1	25:Y:59:ARG:HD3	2.19	0.43
4:D:153:GLY:O	4:D:154:LYS:C	2.55	0.43
5:E:139:PHE:HB2	5:E:166:ALA:HB1	2.00	0.43
1:A:852:G:H2'	1:A:853:G:C8	2.54	0.43
12:L:96:THR:HB	12:L:97:PRO:HD2	2.01	0.43
1:A:1275:A:C5	14:N:16:HIS:ND1	2.87	0.43
11:K:75:SER:HB2	16:P:75:ILE:O	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:143:LEU:C	10:J:144:LYS:HD2	2.39	0.43
1:A:2258:C:H4'	1:A:2259:G:OP2	2.19	0.43
17:Q:82:GLY:CA	17:Q:113:ALA:HB1	2.42	0.43
1:A:1144:G:C6	1:A:1145:C:N4	2.87	0.43
1:A:142:G:H2'	1:A:143:C:O4'	2.19	0.43
8:H:107:ILE:HD12	8:H:108:THR:H	1.84	0.43
2:B:45:A:C2	2:B:46:A:O4'	2.72	0.43
1:A:1826:G:H2'	1:A:1827:C:H6	1.83	0.43
1:A:1785:A:O2'	1:A:1786:A:H2'	2.19	0.43
1:A:1607:C:N4	1:A:1621:U:C3'	2.82	0.43
5:E:173:VAL:CG1	5:E:174:VAL:N	2.81	0.43
1:A:1105:U:H2'	1:A:1106:G:C8	2.54	0.43
13:M:16:ARG:CG	13:M:17:LEU:H	2.32	0.43
1:A:1046:A:C3'	1:A:1047:G:C5'	2.96	0.43
1:A:241:A:H5'	1:A:243:U:C1'	2.47	0.43
4:D:37:ARG:HA	4:D:42:ASP:OD2	2.19	0.43
1:A:479:A:N3	1:A:481:G:H5''	2.34	0.43
7:G:92:ILE:HG22	7:G:93:GLY:H	1.80	0.43
1:A:912:C:C2'	1:A:912:C:O2	2.64	0.43
1:A:1399:C:H2'	1:A:1400:G:H8	1.82	0.43
1:A:1414:G:H2'	1:A:1415:U:C6	2.51	0.43
5:E:46:ARG:CG	5:E:46:ARG:NH1	2.80	0.43
1:A:1856:G:C2	1:A:1887:C:C2	3.06	0.43
1:A:2001:A:H4'	1:A:2689:U:O2'	2.19	0.43
1:A:2738:A:H2'	1:A:2739:U:O5'	2.19	0.43
11:K:25:LEU:HD23	11:K:25:LEU:HA	1.56	0.43
1:A:1471:A:C2	1:A:1472:A:C4	3.07	0.43
16:P:14:TYR:CD1	16:P:14:TYR:N	2.83	0.43
29:3:13:CYS:HB2	29:3:22:ALA:HB3	2.01	0.43
27:1:36:VAL:HB	27:1:37:PRO:HD2	2.01	0.43
1:A:69:C:O2'	1:A:70:G:H5'	2.19	0.43
31:5:30:ARG:HA	31:5:30:ARG:HD3	1.72	0.42
12:L:115:LEU:CB	12:L:131:SER:HB2	2.48	0.42
21:U:17:SER:HB2	21:U:71:LYS:HD2	2.00	0.42
16:P:50:ILE:HG22	16:P:51:ARG:HB3	2.01	0.42
1:A:705:A:C2	1:A:727:A:H1'	2.53	0.42
1:A:195:A:OP1	12:L:46:LYS:HE2	2.19	0.42
10:J:109:PRO:HG2	10:J:112:LYS:HB2	2.00	0.42
15:O:14:VAL:HG21	15:O:89:ARG:HH21	1.84	0.42
8:H:79:ILE:HB	8:H:143:SER:O	2.19	0.42
2:B:46:A:C5	2:B:47:C:C4	3.07	0.42
3:C:233:HIS:HE1	3:C:246:PRO:HA	1.83	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:246:PRO:HD2	3:C:255:LYS:HD2	2.01	0.42
22:V:53:ILE:HD12	22:V:53:ILE:C	2.40	0.42
1:A:1210:A:H4'	1:A:1211:U:O5'	2.19	0.42
14:N:6:SER:OG	14:N:7:GLY:N	2.51	0.42
1:A:2748:A:C4	1:A:2757:A:C6	3.07	0.42
5:E:102:PRO:O	5:E:106:ARG:HG2	2.19	0.42
1:A:589:C:H2'	1:A:590:A:C8	2.54	0.42
1:A:2790:A:C2	1:A:2791:C:H2'	2.54	0.42
1:A:947:G:N3	1:A:984:A:H2	2.17	0.42
1:A:738:G:H2'	1:A:739:G:C8	2.54	0.42
1:A:2188:C:C4	1:A:2189:U:C6	3.07	0.42
22:V:24:LEU:HB3	22:V:41:LEU:HG	2.00	0.42
1:A:566:U:H2'	1:A:567:A:O4'	2.18	0.42
14:N:52:ILE:HG21	14:N:94:TYR:CB	2.49	0.42
1:A:2836:U:H2'	1:A:2837:G:H8	1.84	0.42
1:A:958:U:O2'	1:A:959:A:OP2	2.35	0.42
1:A:553:U:O4	1:A:554:U:O4	2.37	0.42
6:F:137:GLU:HB3	6:F:139:LEU:HG	2.01	0.42
1:A:1126:A:O5'	1:A:1126:A:C8	2.71	0.42
1:A:1625:C:H2'	1:A:1626:G:O4'	2.19	0.42
8:H:76:THR:HG22	8:H:141:LYS:CB	2.49	0.42
10:J:32:VAL:CG1	10:J:33:GLU:N	2.82	0.42
1:A:2703:C:C2'	1:A:2704:C:H5'	2.48	0.42
1:A:1686:C:N4	1:A:1687:G:C6	2.87	0.42
1:A:724:U:H2'	1:A:725:G:O4'	2.18	0.42
1:A:2552:U:H2'	1:A:2554:U:OP2	2.19	0.42
1:A:876:C:H2'	1:A:877:U:H5'	2.00	0.42
9:I:15:GLU:HG3	9:I:66:LEU:HG	2.00	0.42
1:A:2450:A:C2	1:A:2451:A:C4	3.06	0.42
1:A:2881:C:C2	1:A:2882:A:C8	3.07	0.42
25:Y:1:MET:O	25:Y:1:MET:SD	2.77	0.42
4:D:103:ASP:OD2	4:D:168:MET:HE2	2.18	0.42
1:A:673:C:H4'	5:E:82:ILE:HD13	2.01	0.42
7:G:101:ARG:N	7:G:101:ARG:NE	2.43	0.42
1:A:2295:C:C4	1:A:2296:U:H5	2.37	0.42
1:A:71:A:H4'	1:A:72:U:H5"	2.00	0.42
8:H:114:LEU:HD21	8:H:128:LEU:HD13	2.00	0.42
22:V:30:ASN:HB3	22:V:90:VAL:HB	2.00	0.42
1:A:1284:A:H2'	1:A:1285:G:O4'	2.18	0.42
24:X:13:ILE:HD12	24:X:13:ILE:O	2.19	0.42
13:M:68:ILE:HG23	13:M:103:MET:HA	2.01	0.42
8:H:62:LYS:CB	8:H:133:HIS:CE1	3.00	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:997:G:H2'	1:A:998:C:H5'	2.00	0.42
1:A:257:A:C8	1:A:257:A:H3'	2.54	0.42
28:2:40:LYS:HE2	28:2:46:CYS:HB3	2.01	0.42
28:2:33:CYS:SG	28:2:40:LYS:HE3	2.59	0.42
1:A:1434:A:C2	1:A:1435:G:C4	3.08	0.42
1:A:2821:A:OP2	14:N:5:LYS:NZ	2.46	0.42
13:M:45:GLN:H	13:M:45:GLN:CD	2.21	0.42
1:A:189:G:H1'	1:A:207:A:H61	1.84	0.42
1:A:646:A:N3	1:A:646:A:H5'	2.34	0.42
1:A:2019:A:O4'	17:Q:34:LYS:HD2	2.19	0.42
18:R:75:PHE:O	18:R:75:PHE:HD1	2.02	0.42
1:A:1971:A:N3	3:C:241:PRO:HD3	2.35	0.42
17:Q:105:VAL:CG1	18:R:40:LEU:HD13	2.50	0.42
1:A:194:G:C2'	1:A:195:A:H5'	2.49	0.42
10:J:112:LYS:O	10:J:116:THR:CG2	2.67	0.42
25:Y:6:VAL:C	25:Y:10:LEU:HG	2.39	0.42
18:R:78:LYS:O	18:R:78:LYS:HG3	2.19	0.42
1:A:546:C:N4	1:A:547:A:C6	2.87	0.42
1:A:1487:G:C2	1:A:1488:G:C8	3.07	0.42
11:K:35:VAL:HG23	11:K:65:THR:CG2	2.42	0.42
11:K:102:VAL:HG21	11:K:118:ALA:CB	2.49	0.42
7:G:90:LYS:O	7:G:94:TYR:HB2	2.19	0.42
5:E:205:ARG:C	5:E:206:ILE:HG13	2.40	0.42
13:M:66:ILE:HG22	13:M:104:PHE:HD2	1.79	0.42
28:2:35:GLU:HB2	28:2:49:CYS:SG	2.58	0.42
5:E:32:LEU:O	5:E:36:VAL:HG23	2.19	0.42
1:A:2467:C:C5'	13:M:123:HIS:CE1	3.02	0.42
1:A:838:C:C4	1:A:839:U:C5	3.07	0.42
1:A:564:C:C2'	1:A:565:C:H5'	2.49	0.42
1:A:2861:G:C4	1:A:2862:G:C8	3.08	0.42
1:A:646:A:C2'	1:A:647:G:O5'	2.67	0.42
19:S:45:TYR:HD2	19:S:46:PHE:CE1	2.37	0.42
1:A:2618:G:O2'	4:D:149:ARG:HG3	2.20	0.42
1:A:1464:C:H2'	1:A:1465:G:H8	1.84	0.42
1:A:466:A:C3'	1:A:467:G:H5'	2.49	0.42
1:A:450:G:O6	1:A:453:C:OP1	2.38	0.42
17:Q:53:ARG:HA	17:Q:56:ASP:HB2	2.02	0.42
1:A:2523:G:C2'	1:A:2524:G:H5'	2.49	0.42
1:A:273(B):G:C2	1:A:364:C:C2	3.08	0.42
15:O:78:LEU:C	15:O:80:LEU:H	2.22	0.42
1:A:608:A:C6	1:A:609(A):A:C6	3.07	0.42
14:N:34:ILE:HA	14:N:34:ILE:HD13	1.83	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:63:ASP:C	19:S:63:ASP:OD2	2.58	0.42
26:Z:55:ARG:HA	26:Z:55:ARG:HD3	1.50	0.42
13:M:112:GLU:H	13:M:112:GLU:CD	2.23	0.42
1:A:1320:C:H4'	1:A:1321:A:OP1	2.18	0.42
1:A:1461:G:C2'	1:A:1462:C:H5'	2.50	0.42
1:A:2393:A:C5'	12:L:62:LEU:HD12	2.41	0.42
10:J:54:ALA:O	10:J:57:LEU:N	2.52	0.42
5:E:68:LYS:O	5:E:68:LYS:HG3	2.19	0.42
1:A:1191:G:OP1	12:L:35:HIS:CE1	2.72	0.42
1:A:1970:A:H4'	1:A:1971:A:OP1	2.19	0.42
2:B:83:G:N2	2:B:84:C:H1'	2.33	0.42
10:J:89:LYS:O	10:J:91:GLU:N	2.52	0.42
1:A:2727:G:C2	1:A:2728:U:C5	3.07	0.42
3:C:181:GLU:HA	3:C:272:ALA:CB	2.49	0.42
8:H:82:ARG:CA	8:H:89:TYR:HB2	2.49	0.42
1:A:1188:U:H2'	1:A:1189:A:O5'	2.19	0.42
1:A:1210:A:C8	1:A:1210:A:H5'	2.52	0.42
25:Y:53:LEU:O	25:Y:56:GLN:HB2	2.19	0.42
7:G:44:VAL:CG1	7:G:45:VAL:H	2.24	0.42
1:A:1504:C:O2'	1:A:1505:C:H6	2.02	0.42
1:A:1510:A:C2	1:A:1511:A:C4	3.08	0.42
1:A:2776:A:C2	1:A:2778:A:C4	3.07	0.42
1:A:1359:A:N7	1:A:1372:U:C4	2.87	0.42
10:J:69:VAL:CG1	10:J:71:MET:HG3	2.45	0.42
1:A:2285:C:H5	29:3:27:LYS:HZ2	1.68	0.42
1:A:1517:G:C2	1:A:1518:C:C2	3.07	0.42
17:Q:101:ARG:H	17:Q:101:ARG:HG3	1.70	0.42
2:B:48:A:H2'	2:B:49:C:C6	2.54	0.42
1:A:2101:G:C6	1:A:2102:U:C4	3.06	0.42
22:V:74:VAL:HG22	22:V:86:VAL:CG1	2.49	0.42
19:S:25:ARG:NH1	19:S:25:ARG:HB2	2.34	0.42
1:A:2737:G:C4	1:A:2738:A:C8	3.08	0.42
15:O:30:ARG:HB3	15:O:35:ILE:HD12	2.02	0.42
8:H:37:VAL:CG1	8:H:38:LEU:N	2.83	0.42
1:A:2248:C:C2'	1:A:2249:U:H5'	2.49	0.42
1:A:2501:C:H6	1:A:2501:C:H2'	1.68	0.42
17:Q:73:GLY:O	17:Q:74:LEU:HB3	2.19	0.42
14:N:36:THR:HG23	14:N:41:ALA:HB2	2.01	0.42
26:Z:3:ARG:NH1	26:Z:59:VAL:HG11	2.34	0.42
1:A:1049:C:O2	1:A:1113:U:H4'	2.19	0.42
12:L:112:LEU:HD22	12:L:127:ALA:CB	2.50	0.42
13:M:81:VAL:C	13:M:82:ARG:HG2	2.32	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:11:MET:CE	4:D:186:GLY:HA2	2.48	0.42
1:A:197:A:N6	1:A:2430:A:H2'	2.34	0.42
1:A:1493:C:N4	1:A:2210:G:O2'	2.53	0.42
4:D:2:LYS:CE	4:D:95:ILE:O	2.65	0.42
15:O:51:ALA:HB3	15:O:73:LEU:HG	2.02	0.42
4:D:59:VAL:C	4:D:61:ARG:N	2.73	0.42
2:B:10:C:N4	2:B:11:C:N4	2.67	0.42
1:A:497:A:C5	1:A:498:G:C8	3.07	0.42
21:U:20:TYR:CD1	21:U:20:TYR:N	2.87	0.42
1:A:581:C:H2'	1:A:582:G:C8	2.55	0.42
5:E:112:MET:HA	5:E:115:ALA:HB3	2.01	0.42
1:A:957:A:N6	1:A:2459:A:C8	2.88	0.42
1:A:1223:G:C6	1:A:1227:G:C6	3.08	0.42
1:A:1445:C:C2	1:A:1446:C:H5	2.37	0.42
1:A:723:G:C6	1:A:724:U:C4	3.07	0.42
8:H:30:LEU:O	8:H:31:LEU:C	2.58	0.42
1:A:2666:C:H5''	1:A:2667:C:OP2	2.19	0.42
1:A:2088:G:H2'	1:A:2089:U:O4'	2.20	0.42
2:B:109:G:H2'	2:B:110:G:H8	1.85	0.42
1:A:11:G:H2'	1:A:12:U:O4'	2.19	0.42
22:V:10:ARG:HH21	22:V:26:GLY:H	1.65	0.42
20:T:54:VAL:C	20:T:55:ASN:HD22	2.21	0.42
5:E:63:LYS:CE	5:E:67:GLN:HB3	2.49	0.42
1:A:1158:C:H2'	1:A:1159:U:H5'	2.01	0.42
17:Q:95:LEU:C	17:Q:97:ASP:H	2.23	0.42
12:L:47:ASP:CB	12:L:51:PHE:CB	2.98	0.42
1:A:2293:C:H2'	1:A:2294:C:C6	2.55	0.42
3:C:145:VAL:HB	3:C:155:LEU:HB2	2.01	0.42
1:A:676:A:N1	1:A:802:A:N1	2.67	0.42
20:T:28:PHE:HE1	20:T:81:VAL:HG22	1.84	0.42
3:C:244:ARG:HB2	3:C:245:PRO:HD3	2.02	0.42
2:B:70:C:H2'	2:B:71:C:C6	2.45	0.42
1:A:138:G:O2'	1:A:139:G:H5'	2.19	0.42
17:Q:54:LYS:O	17:Q:55:ARG:C	2.57	0.42
25:Y:50:ILE:O	25:Y:51:ARG:C	2.57	0.42
2:B:9:G:C6	2:B:10:C:C4	3.07	0.42
14:N:99:LYS:HG2	28:2:43:HIS:O	2.19	0.42
1:A:285:C:H2'	1:A:286:C:C6	2.55	0.42
1:A:988:A:C5	26:Z:13:ILE:HD12	2.55	0.42
29:3:30:THR:CG2	29:3:31:PRO:HD2	2.48	0.42
1:A:2436:G:C4	1:A:2437:U:C5	3.07	0.42
1:A:963:U:H2'	1:A:964:C:C6	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:105:LEU:HA	16:P:105:LEU:HD23	1.72	0.42
7:G:38:SER:OG	7:G:39:PRO:HD2	2.19	0.42
1:A:1665:A:H2'	1:A:1666:G:O4'	2.20	0.42
14:N:65:LEU:HA	14:N:65:LEU:HD12	1.40	0.42
30:4:18:PHE:CD2	30:4:18:PHE:C	2.93	0.42
1:A:876:C:C2'	1:A:877:U:H5'	2.50	0.42
1:A:1421:G:C2	1:A:1422:G:C8	3.08	0.42
1:A:1769:G:O2'	1:A:1958:C:OP1	2.26	0.42
1:A:869:G:H2'	1:A:870:A:H8	1.85	0.42
1:A:468:G:H5''	5:E:60:SER:HB2	2.02	0.42
1:A:1193:G:O2'	1:A:1194:A:H5'	2.19	0.42
1:A:1480:G:C2	1:A:1481:U:C2	3.07	0.42
12:L:62:LEU:HD21	31:5:25:MET:O	2.18	0.42
1:A:1190:G:H2'	1:A:1191:G:C8	2.55	0.42
12:L:36:LYS:HE3	12:L:36:LYS:HB3	1.81	0.42
20:T:50:LYS:N	20:T:87:GLN:HE22	1.92	0.42
17:Q:79:PHE:HE2	17:Q:106:PHE:CE1	2.36	0.42
1:A:861:A:H2'	1:A:862:G:O4'	2.19	0.42
1:A:2682:U:O4	1:A:2728:U:H1'	2.20	0.42
15:O:11:LYS:CG	15:O:12:PHE:N	2.69	0.42
3:C:143:HIS:CD2	3:C:144:ALA:CB	2.99	0.42
1:A:2713:A:C3'	1:A:2714:G:C5'	2.98	0.42
19:S:75:TYR:CD2	19:S:104:THR:HB	2.52	0.42
14:N:59:ASP:OD2	14:N:59:ASP:N	2.52	0.42
21:U:81:LYS:HD2	21:U:96:ILE:HG13	2.01	0.42
18:R:58:VAL:HB	18:R:98:GLU:HB2	2.01	0.42
1:A:270(I):C:C2'	1:A:270(I):C:O2	2.65	0.42
1:A:2035:G:H4'	1:A:2036:C:OP2	2.19	0.42
1:A:176:G:H2'	1:A:177:G:H5'	1.99	0.42
1:A:1431:U:H2'	1:A:1432:C:C6	2.55	0.42
1:A:2854:G:C4	1:A:2864:G:N2	2.88	0.42
1:A:1919:A:H5''	1:A:1920:C:OP2	2.20	0.42
1:A:1338:G:H2'	1:A:1339:G:H5'	2.00	0.42
1:A:234:C:H2'	1:A:235:U:C6	2.55	0.42
1:A:2752:C:C2'	1:A:2753:A:H5'	2.49	0.42
1:A:1854:A:H62	1:A:1888:G:H8	1.68	0.42
1:A:1360:A:C5'	1:A:1361:G:OP2	2.68	0.42
10:J:58:ARG:HB2	10:J:60:LYS:HB2	2.01	0.42
1:A:374:A:H3'	1:A:375:C:C6	2.55	0.42
1:A:1984:G:H2'	1:A:1985:G:O5'	2.20	0.42
8:H:35:LEU:N	8:H:35:LEU:HD23	2.33	0.42
30:4:21:ARG:HB3	30:4:31:LEU:HD22	2.02	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:595:C:H2'	1:A:596:G:O4'	2.19	0.42
1:A:729:G:H5'	1:A:730:C:H5''	2.01	0.42
1:A:1813:G:O2'	3:C:50:THR:HG21	2.19	0.42
4:D:1:MET:CE	4:D:1:MET:HA	2.50	0.42
22:V:136:PHE:O	22:V:137:ILE:HD12	2.19	0.42
22:V:137:ILE:N	22:V:137:ILE:CD1	2.83	0.42
13:M:8:LYS:CG	13:M:9:TYR:N	2.81	0.42
18:R:99:ILE:HD13	18:R:99:ILE:N	2.34	0.42
3:C:14:ARG:HG2	3:C:15:PHE:CD1	2.55	0.42
1:A:255:A:O2'	1:A:384:U:OP1	2.34	0.42
5:E:34:TRP:CE3	5:E:35:GLU:HG2	2.54	0.42
2:B:77:U:O2'	2:B:78:A:H5'	2.20	0.42
1:A:498:G:C6	1:A:499:U:C4	3.08	0.42
1:A:481:G:C2	1:A:507:A:C4	3.08	0.42
1:A:1434:A:C5	1:A:1560:G:N2	2.87	0.42
1:A:2101:G:N2	1:A:2189:U:C2	2.88	0.42
1:A:2188:C:H2'	1:A:2189:U:C1'	2.50	0.42
1:A:2476:A:N1	1:A:2477:C:C5	2.87	0.42
1:A:2636:U:H2'	1:A:2637:U:C6	2.55	0.42
1:A:2662:A:C5	1:A:2663:G:H1'	2.55	0.42
6:F:173:LEU:HB2	6:F:180:PHE:HZ	1.84	0.42
1:A:1946:U:C2	1:A:1947:C:C5	3.08	0.42
1:A:1638:C:H4'	1:A:2710:C:O2	2.20	0.42
7:G:121:ILE:O	7:G:122:THR:HG23	2.20	0.42
16:P:107:ASP:H	16:P:110:ILE:HG13	1.83	0.42
24:X:48:LYS:HZ3	24:X:50:ARG:NH1	2.17	0.42
8:H:61:ARG:HG2	8:H:61:ARG:O	2.19	0.42
27:1:48:ILE:H	27:1:48:ILE:HD12	1.85	0.42
1:A:2419:U:OP2	31:5:41:ILE:CD1	2.67	0.42
12:L:112:LEU:HD23	12:L:112:LEU:C	2.40	0.42
12:L:86:LYS:HB3	12:L:117:GLU:O	2.19	0.42
4:D:188:VAL:HG23	4:D:189:PRO:HD2	2.00	0.42
2:B:42:C:O2	6:F:93:THR:N	2.48	0.42
6:F:5:LEU:O	6:F:8:LYS:HB3	2.20	0.42
25:Y:28:LYS:HD3	25:Y:28:LYS:HA	1.78	0.42
19:S:75:TYR:C	19:S:75:TYR:HD2	2.23	0.42
15:O:84:GLN:O	15:O:86:ALA:N	2.53	0.42
13:M:55:VAL:O	13:M:58:PHE:N	2.53	0.42
1:A:933:A:H2'	1:A:934:G:O5'	2.20	0.42
22:V:151:HIS:HA	22:V:170:THR:HA	2.02	0.42
1:A:9:U:C2	1:A:2629:A:N6	2.88	0.42
1:A:256:A:H2'	1:A:257:A:H5'	1.96	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:88:ILE:CG1	16:P:89:VAL:N	2.82	0.42
22:V:24:LEU:HD12	22:V:85:HIS:HA	2.00	0.42
24:X:23:LYS:HB3	24:X:37:ILE:HG12	2.01	0.42
1:A:1743:G:H2'	1:A:1746:G:H8	1.85	0.42
1:A:1709:U:N3	1:A:1750:G:C2	2.88	0.42
1:A:2350:C:H5''	31:5:42:ARG:HD3	2.00	0.42
8:H:86:THR:C	8:H:87:LYS:HG3	2.39	0.42
1:A:270(Q):C:O2'	1:A:270(R):C:O5'	2.38	0.42
1:A:1253:A:C3'	1:A:1254:A:H5'	2.50	0.42
12:L:100:LEU:N	12:L:100:LEU:HD22	2.34	0.42
1:A:1930:G:HO2'	1:A:1931:U:P	2.43	0.42
15:O:30:ARG:C	15:O:30:ARG:HD2	2.40	0.42
1:A:239:U:O2'	1:A:240:G:H5'	2.20	0.42
1:A:41:C:H2'	1:A:43:G:O4'	2.20	0.42
2:B:38:C:H2'	2:B:39:A:H8	1.84	0.42
1:A:417:C:O5'	1:A:417:C:H6	2.03	0.42
12:L:122:PRO:HA	12:L:141:ALA:O	2.19	0.42
4:D:103:ASP:OD1	4:D:169:ASN:N	2.51	0.42
1:A:1653:G:O6	14:N:11:ASN:HB2	2.20	0.42
16:P:47:GLY:C	16:P:63:VAL:HG12	2.40	0.42
12:L:47:ASP:HB3	12:L:51:PHE:CB	2.50	0.42
3:C:142:VAL:CG2	3:C:192:THR:O	2.68	0.42
3:C:161:THR:O	3:C:162:SER:HB2	2.19	0.42
1:A:1208:C:C4	1:A:1209:G:C8	3.08	0.42
22:V:103:ARG:HG3	22:V:136:PHE:CD1	2.55	0.42
1:A:317:G:C6	1:A:318:C:C4	3.07	0.42
7:G:95:ARG:HH12	7:G:97:ARG:HE	1.67	0.42
1:A:278:A:O2'	1:A:279:C:C1'	2.68	0.42
1:A:1717:G:C5	1:A:1743:G:N1	2.88	0.42
1:A:817:C:O2'	1:A:839:U:H5''	2.20	0.42
1:A:1268:A:C2	1:A:2013:A:C4	3.08	0.42
1:A:2705:A:H2'	1:A:2706:G:O4'	2.18	0.42
1:A:1127:A:O2'	1:A:1128:A:H5''	2.20	0.42
16:P:82:LEU:N	16:P:82:LEU:HD23	2.34	0.42
2:B:111:U:H2'	2:B:112:G:H8	1.84	0.42
1:A:1203:G:H3'	1:A:1204:A:H5''	2.01	0.42
1:A:1336:A:H2'	1:A:1337:G:H8	1.84	0.42
1:A:2300:G:C6	1:A:2301:C:C4	3.08	0.42
1:A:2770:G:H5''	1:A:2771:C:OP2	2.19	0.42
13:M:84:GLY:HA3	23:W:10:THR:HG23	2.01	0.42
29:3:11:LEU:HG	29:3:26:ASN:HB2	2.02	0.42
1:A:1345:C:C2'	1:A:1346:G:H5'	2.50	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:116:VAL:CG1	4:D:122:PHE:CD2	3.03	0.42
1:A:663:G:O3'	12:L:21:ARG:NH1	2.52	0.42
29:3:14:THR:HG22	29:3:51:GLU:O	2.20	0.42
11:K:13:ASN:C	11:K:15:GLY:N	2.73	0.42
1:A:2415:G:H4'	12:L:66:GLY:HA3	1.99	0.41
1:A:2415:G:O2'	1:A:2416:C:H5'	2.20	0.41
12:L:111:ARG:HG3	12:L:128:HIS:HB2	2.02	0.41
1:A:1545:A:O2'	1:A:1546:A:H5'	2.20	0.41
21:U:12:THR:HG22	21:U:13:VAL:N	2.35	0.41
10:J:140:PHE:O	10:J:140:PHE:CD2	2.73	0.41
1:A:1121:C:H2'	1:A:1122:G:O4'	2.19	0.41
1:A:2727:G:C6	1:A:2728:U:C5	3.08	0.41
3:C:67:PHE:HB3	3:C:153:ALA:H	1.85	0.41
1:A:2579:C:O4'	4:D:134:ILE:HG12	2.19	0.41
8:H:114:LEU:HA	8:H:130:TYR:CD1	2.55	0.41
8:H:92:VAL:HG22	8:H:93:THR:O	2.20	0.41
18:R:77:ALA:C	18:R:79:VAL:N	2.72	0.41
1:A:2376:A:H2'	1:A:2377:A:O4'	2.20	0.41
15:O:23:ARG:HB3	15:O:24:LEU:HG	2.02	0.41
1:A:2330:G:H1'	23:W:41:ARG:CB	2.50	0.41
5:E:101:LEU:O	5:E:106:ARG:HD3	2.19	0.41
9:I:4:LYS:HG3	9:I:7:VAL:HB	2.01	0.41
5:E:204:ASN:C	5:E:206:ILE:N	2.73	0.41
1:A:1519:G:O2'	1:A:1520:U:H5'	2.19	0.41
14:N:99:LYS:HA	14:N:112:ALA:HB2	2.00	0.41
21:U:50:ARG:CD	21:U:51:VAL:H	2.27	0.41
1:A:1131:G:N2	1:A:1132:A:N3	2.68	0.41
28:2:40:LYS:CE	28:2:46:CYS:HB3	2.50	0.41
1:A:865:C:H4'	1:A:866:A:OP1	2.19	0.41
1:A:909:A:H2'	1:A:912:C:H5	1.85	0.41
6:F:173:LEU:HD22	6:F:178:PHE:CE1	2.55	0.41
1:A:2631:G:C6	1:A:2632:A:C5	3.08	0.41
1:A:797:C:O2'	1:A:798:G:H5'	2.20	0.41
16:P:84:GLN:HG3	16:P:85:LYS:CG	2.50	0.41
1:A:1128:A:N7	1:A:2489:G:O2'	2.51	0.41
1:A:2737:G:C6	1:A:2738:A:N7	2.88	0.41
1:A:270(Q):C:O2'	1:A:270(R):C:P	2.78	0.41
18:R:15:GLU:HB3	18:R:16:PRO:HD2	2.02	0.41
20:T:40:LYS:C	20:T:42:ALA:H	2.23	0.41
1:A:2369:A:H2'	1:A:2370:G:C8	2.55	0.41
1:A:503:A:C4	1:A:506:G:N7	2.88	0.41
1:A:465:G:C2	1:A:466:A:C2	3.08	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:95:U:N3	2:B:96:G:N7	2.67	0.41
10:J:130:LEU:HD23	10:J:130:LEU:HA	1.85	0.41
1:A:1377:G:H8	1:A:1377:G:O5'	2.03	0.41
6:F:67:LYS:H	6:F:67:LYS:HG3	1.70	0.41
16:P:16:ARG:HD3	16:P:16:ARG:HA	1.91	0.41
1:A:623:G:H2'	1:A:624:C:C6	2.56	0.41
14:N:32:GLY:C	14:N:33:ARG:HD2	2.39	0.41
30:4:11:LYS:HD2	30:4:15:THR:HG23	1.99	0.41
1:A:1173:G:C8	1:A:1173:G:OP2	2.74	0.41
1:A:1173:G:H3'	1:A:1174:A:H5''	2.02	0.41
10:J:139:LEU:O	10:J:140:PHE:C	2.58	0.41
16:P:57:PHE:C	16:P:59:THR:H	2.22	0.41
18:R:4:ILE:HD13	18:R:13:ARG:HA	2.02	0.41
15:O:13:ARG:HG3	15:O:14:VAL:H	1.85	0.41
15:O:25:ARG:NH2	15:O:42:ASP:OD2	2.53	0.41
1:A:2293:C:H5''	15:O:89:ARG:HH12	1.85	0.41
8:H:77:LEU:O	8:H:79:ILE:HG12	2.20	0.41
1:A:1408:C:C2	1:A:1595:G:N2	2.88	0.41
1:A:1786:A:C4'	1:A:1787:A:OP2	2.67	0.41
1:A:2634:G:H5'	4:D:61:ARG:NH1	2.35	0.41
1:A:1285:G:O6	1:A:1329:U:C2	2.73	0.41
1:A:1496:A:C8	1:A:1498:C:C4	3.08	0.41
1:A:2331:G:H8	1:A:2331:G:O5'	2.03	0.41
1:A:529:A:N6	1:A:2041:U:C2	2.89	0.41
23:W:70:GLN:HG2	23:W:72:ARG:CG	2.51	0.41
1:A:1568:G:H5''	3:C:61:LEU:HD22	2.01	0.41
1:A:581:C:H2'	1:A:582:G:H8	1.85	0.41
1:A:2741:A:H2'	1:A:2742:C:O4'	2.21	0.41
21:U:37:VAL:HG13	21:U:69:ALA:HA	2.01	0.41
21:U:91:GLU:HB3	21:U:92:ASN:H	1.67	0.41
3:C:52:ARG:CB	3:C:53:PHE:CD2	3.02	0.41
1:A:1686:C:C4	1:A:1687:G:C5	3.08	0.41
10:J:55:THR:HG22	10:J:55:THR:O	2.20	0.41
3:C:215:LEU:HA	3:C:215:LEU:HD23	1.55	0.41
1:A:2415:G:H2'	1:A:2416:C:C6	2.56	0.41
10:J:120:ARG:O	10:J:121:VAL:C	2.58	0.41
5:E:65:TRP:CZ3	5:E:73:ALA:O	2.72	0.41
1:A:1019:U:H5'	1:A:1121:C:H1'	2.03	0.41
10:J:90:LEU:HA	10:J:110:LEU:HB3	2.03	0.41
6:F:126:ASP:O	6:F:128:ARG:N	2.46	0.41
22:V:56:VAL:O	22:V:57:ILE:HD12	2.19	0.41
1:A:2768:C:N4	1:A:2769:C:C4	2.89	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:X:13:ILE:HG23	24:X:14:VAL:N	2.33	0.41
13:M:47:ILE:HD11	13:M:68:ILE:CD1	2.51	0.41
25:Y:49:LYS:H	25:Y:49:LYS:CD	2.33	0.41
1:A:528:A:C2'	1:A:529:A:O5'	2.69	0.41
20:T:41:ASN:HD22	20:T:41:ASN:N	2.18	0.41
1:A:379:G:C5	1:A:380:U:C6	3.07	0.41
1:A:2287:A:H62	1:A:2344:U:H3	1.68	0.41
1:A:987:G:O6	1:A:988:A:C2	2.74	0.41
1:A:2880:C:O3'	14:N:90:ARG:NH1	2.53	0.41
1:A:189:G:H1'	1:A:207:A:N6	2.35	0.41
1:A:1997:G:O2'	1:A:1998:G:H5'	2.21	0.41
1:A:1833:U:N3	1:A:1834:U:C5	2.88	0.41
1:A:1403:C:H5''	1:A:1471:A:O4'	2.20	0.41
1:A:781:A:C2	1:A:1776:G:H2'	2.56	0.41
1:A:781:A:C2	1:A:1776:G:N3	2.86	0.41
1:A:1335:U:H2'	1:A:1336:A:O5'	2.19	0.41
11:K:18:LYS:HG3	11:K:45:GLU:OE2	2.20	0.41
6:F:110:ALA:O	6:F:140:ILE:HD12	2.19	0.41
5:E:184:TYR:O	5:E:188:ARG:HB2	2.19	0.41
1:A:1889:A:H2'	1:A:1890:A:O4'	2.20	0.41
8:H:95:LYS:O	8:H:99:GLU:HB2	2.21	0.41
1:A:2676:C:C2'	1:A:2677:G:H5'	2.50	0.41
1:A:2684:U:O2'	1:A:2685:G:H5'	2.20	0.41
31:5:37:SER:OG	31:5:40:GLU:HG2	2.20	0.41
1:A:84:A:H4'	1:A:85:G:O5'	2.20	0.41
10:J:49:LEU:O	10:J:49:LEU:HD12	2.21	0.41
5:E:64:ILE:C	5:E:65:TRP:CD1	2.93	0.41
20:T:62:LYS:C	20:T:63:LYS:HD3	2.40	0.41
1:A:1971:A:C4	3:C:241:PRO:HG3	2.54	0.41
31:5:62:LEU:HA	31:5:62:LEU:HD23	1.29	0.41
1:A:1141:U:H5''	1:A:114(B):A:O4'	2.21	0.41
2:B:7:G:H5''	15:O:29:PHE:CZ	2.56	0.41
3:C:143:HIS:NE2	3:C:192:THR:OG1	2.53	0.41
1:A:603:A:C2	1:A:655:A:C2	3.08	0.41
2:B:41:U:H5	6:F:70:VAL:H	1.67	0.41
22:V:31:ARG:CZ	22:V:94:GLU:HG3	2.51	0.41
1:A:2722:G:H2'	1:A:2723:C:C6	2.55	0.41
15:O:56:LEU:HG	15:O:57:LYS:N	2.35	0.41
1:A:2747:G:C6	1:A:2754:U:C6	3.09	0.41
1:A:1486:A:N1	1:A:1504:C:C4	2.87	0.41
1:A:2330:G:C2'	1:A:2331:G:H5'	2.51	0.41
1:A:910:A:H2'	1:A:2264:C:O2'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:2:ARG:HH11	21:U:2:ARG:HG3	1.85	0.41
8:H:4:ILE:HD12	8:H:5:LEU:N	2.35	0.41
1:A:732:C:C2'	1:A:733:G:H5'	2.50	0.41
1:A:497:A:C6	1:A:498:G:C5	3.08	0.41
1:A:1434:A:H2'	1:A:1435:G:C8	2.55	0.41
11:K:2:ILE:HD11	11:K:82:ASN:ND2	2.35	0.41
11:K:19:ILE:HA	11:K:42:SER:O	2.20	0.41
24:X:23:LYS:HE2	24:X:23:LYS:HB3	1.74	0.41
1:A:2663:G:C4	1:A:2664:G:C8	3.08	0.41
10:J:160:LYS:C	10:J:161:LEU:HD23	2.41	0.41
1:A:2244:U:H1'	1:A:2434:A:C4	2.55	0.41
1:A:956:G:H2'	1:A:957:A:H2'	2.01	0.41
1:A:2738:A:C2	1:A:2739:U:H1'	2.55	0.41
22:V:120:ILE:CD1	22:V:120:ILE:N	2.83	0.41
1:A:2078:C:H2'	1:A:2079:U:C6	2.54	0.41
1:A:718:A:C8	1:A:719:C:C6	3.08	0.41
1:A:1381:G:C2'	1:A:1382:G:H5'	2.49	0.41
1:A:2771:C:O2	1:A:2771:C:C2'	2.67	0.41
1:A:1230:C:H2'	1:A:1231:G:H8	1.84	0.41
20:T:18:TYR:O	20:T:19:ALA:C	2.58	0.41
1:A:2795:G:H3'	1:A:2797:U:H5''	2.03	0.41
1:A:575:A:OP2	1:A:2499:C:O2'	2.34	0.41
1:A:2257:U:O2'	1:A:2258:C:H5'	2.20	0.41
3:C:35:LYS:HA	3:C:64:ILE:HD12	2.01	0.41
20:T:10:ALA:HB1	20:T:11:PRO:HD2	2.02	0.41
22:V:163:LEU:HD23	22:V:163:LEU:N	2.35	0.41
24:X:9:GLY:O	24:X:10:LYS:O	2.38	0.41
1:A:2306:C:N4	1:A:2311:A:N6	2.68	0.41
1:A:911:A:C5	13:M:9:TYR:CE1	3.09	0.41
1:A:910:A:N7	13:M:12:GLN:HG3	2.36	0.41
1:A:2209:C:C2	1:A:2216:G:N1	2.89	0.41
1:A:1152:C:O2'	1:A:1153:C:H5'	2.21	0.41
1:A:104:U:C5	1:A:105:C:C4	3.09	0.41
21:U:2:ARG:NH1	21:U:2:ARG:HG3	2.36	0.41
10:J:83:ILE:H	10:J:83:ILE:HG13	1.59	0.41
14:N:84:ALA:N	14:N:85:PRO:CD	2.84	0.41
1:A:978:G:H2'	1:A:979:G:H5'	2.02	0.41
1:A:880:G:H1	1:A:897:C:N4	2.18	0.41
1:A:464:U:C4'	30:4:5:TRP:CZ3	3.03	0.41
1:A:1761:C:H5''	1:A:1762:A:OP2	2.21	0.41
5:E:179:GLU:CD	5:E:179:GLU:N	2.74	0.41
10:J:30:LYS:O	10:J:32:VAL:HG23	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:660:G:H5'	5:E:99:TYR:CD2	2.55	0.41
22:V:70:LEU:CD2	22:V:70:LEU:N	2.82	0.41
1:A:2567:G:H2'	1:A:2568:C:C6	2.56	0.41
28:2:30:LEU:HD23	28:2:30:LEU:HA	1.89	0.41
31:5:50:LEU:HA	31:5:50:LEU:HD23	1.87	0.41
12:L:125:VAL:HG13	12:L:125:VAL:O	2.21	0.41
12:L:83:VAL:O	12:L:114:ILE:HA	2.20	0.41
4:D:102:VAL:HB	4:D:198:VAL:HG12	2.02	0.41
1:A:103:A:O5'	1:A:103:A:C8	2.74	0.41
11:K:77:ILE:HD12	16:P:73:GLU:O	2.20	0.41
1:A:577:G:C6	1:A:578:A:C6	3.08	0.41
18:R:35:LEU:C	18:R:37:VAL:N	2.74	0.41
18:R:44:LYS:HB3	18:R:46:VAL:CG1	2.50	0.41
1:A:2337:G:N3	1:A:2337:G:H2'	2.36	0.41
3:C:177:LEU:HD12	3:C:181:GLU:HB3	2.03	0.41
1:A:547:A:C5	1:A:548:A:C6	3.08	0.41
4:D:85:ASN:HA	4:D:86:PRO:HD3	1.76	0.41
15:O:51:ALA:O	15:O:52:SER:O	2.39	0.41
4:D:55:ASN:C	4:D:57:LYS:N	2.74	0.41
21:U:86:ARG:NH1	21:U:95:LYS:HE3	2.35	0.41
1:A:2308:G:O2'	1:A:2310:A:P	2.78	0.41
1:A:2306:C:C4	1:A:2311:A:N6	2.88	0.41
1:A:95:G:N2	1:A:96:G:H1'	2.36	0.41
1:A:1504:C:O2'	1:A:1505:C:C6	2.72	0.41
1:A:911:A:C6	13:M:9:TYR:CE1	3.09	0.41
11:K:23:ARG:HG3	11:K:24:VAL:N	2.35	0.41
1:A:225:A:N6	1:A:226:G:C6	2.89	0.41
1:A:1389:G:C2	1:A:1399:C:O2	2.73	0.41
1:A:1270:C:H5''	1:A:1271:G:H5'	2.03	0.41
1:A:988:A:N7	26:Z:13:ILE:HD12	2.36	0.41
1:A:1248:G:C5	17:Q:3:ARG:HB2	2.55	0.41
28:2:4:HIS:CB	28:2:5:PRO:CD	2.95	0.41
2:B:3:C:H2'	2:B:4:C:C6	2.54	0.41
1:A:1441:G:H2'	1:A:1442:G:H8	1.86	0.41
1:A:1547:C:H2'	1:A:1548:C:C6	2.51	0.41
1:A:914:C:C3'	1:A:914:C:C6	3.03	0.41
17:Q:17:ILE:HA	17:Q:20:LEU:HD23	2.03	0.41
16:P:109:GLU:HA	16:P:112:ARG:CG	2.50	0.41
4:D:70:ALA:O	4:D:72:VAL:HG23	2.21	0.41
13:M:10:ARG:HA	13:M:10:ARG:HD3	1.67	0.41
17:Q:40:PHE:HD2	17:Q:40:PHE:HA	1.71	0.41
19:S:71:VAL:HA	19:S:107:LEU:HD12	2.02	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:151:HIS:CD2	10:J:152:PRO:C	2.94	0.41
3:C:89:SER:HB2	3:C:159:ALA:CB	2.50	0.41
1:A:2760:C:O2	1:A:2760:C:C2'	2.68	0.41
1:A:1985:G:O2'	1:A:1986:A:H5'	2.20	0.41
1:A:2881:C:C2'	1:A:2882:A:H5'	2.49	0.41
1:A:280:C:C2'	1:A:281:G:H5'	2.50	0.41
1:A:1718:G:N2	1:A:1742:C:C2	2.88	0.41
1:A:328:U:C2'	1:A:329:G:OP1	2.68	0.41
16:P:61:PHE:CE2	16:P:76:PHE:HB2	2.56	0.41
1:A:673:C:H2'	1:A:674:G:H5'	2.02	0.41
1:A:1900:A:C2	1:A:1970:A:C4	3.09	0.41
3:C:211:ARG:HD2	3:C:211:ARG:HH11	1.74	0.41
1:A:577:G:O6	1:A:578:A:N6	2.54	0.41
6:F:72:ARG:HG2	6:F:87:PRO:O	2.21	0.41
1:A:142:G:H2'	1:A:143:C:C6	2.56	0.41
22:V:48:PHE:CE1	22:V:52:SER:HA	2.56	0.41
13:M:140:ALA:HB1	22:V:99:TYR:HB2	2.02	0.41
24:X:90:ILE:O	24:X:94:LEU:HD22	2.20	0.41
1:A:1512:G:C2	1:A:1513:C:C2	3.09	0.41
1:A:753:C:H2'	1:A:754:C:H6	1.85	0.41
14:N:101:ALA:HB2	28:2:44:THR:CB	2.51	0.41
14:N:100:LEU:H	14:N:112:ALA:HA	1.85	0.41
28:2:50:GLY:O	28:2:51:TYR:HB2	2.20	0.41
3:C:61:LEU:HA	3:C:61:LEU:HD13	1.53	0.41
1:A:1717:G:O6	1:A:1743:G:C6	2.74	0.41
13:M:69:PHE:CG	13:M:70:PRO:HD2	2.55	0.41
1:A:2854:G:C6	1:A:2864:G:N1	2.89	0.41
1:A:2737:G:C5	1:A:2738:A:N7	2.89	0.41
1:A:880:G:H1	1:A:897:C:H42	1.67	0.41
1:A:26:G:H1'	1:A:514:A:H61	1.86	0.41
1:A:1775:U:C2'	1:A:1776:G:O5'	2.68	0.41
1:A:89:G:C5	1:A:90:U:C5	3.08	0.41
20:T:65:ARG:N	20:T:65:ARG:HE	2.19	0.41
8:H:9:LEU:O	8:H:10:GLU:C	2.59	0.41
12:L:135:LEU:O	12:L:139:LYS:HB2	2.20	0.41
1:A:537:C:H2'	1:A:539:G:O4'	2.20	0.41
1:A:2290:G:C2	1:A:2343:C:O2	2.74	0.41
1:A:2238:G:H2'	1:A:2238:G:N3	2.36	0.41
10:J:41:ALA:O	10:J:44:LYS:HG2	2.21	0.41
1:A:32:C:C2'	1:A:33:U:H5'	2.50	0.41
1:A:1035:U:H2'	1:A:1036:G:C8	2.56	0.41
16:P:19:LEU:HG	16:P:19:LEU:H	1.33	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:822:U:O2'	1:A:823:G:H5'	2.19	0.41
1:A:1370:C:H2'	1:A:1371:G:C5'	2.51	0.41
16:P:10:VAL:C	16:P:12:SER:N	2.74	0.41
1:A:1949:G:H2'	1:A:1950:G:O4'	2.20	0.41
1:A:1491:G:C5	1:A:1500:G:N2	2.89	0.41
1:A:2393:A:H5''	12:L:62:LEU:CD1	2.41	0.41
1:A:2393:A:N6	1:A:2422:A:C2	2.89	0.41
1:A:310:A:P	21:U:18:GLY:HA2	2.60	0.41
10:J:157:ARG:CG	10:J:157:ARG:O	2.67	0.41
10:J:36:TRP:HB2	10:J:156:GLN:HB2	2.02	0.41
19:S:17:VAL:O	19:S:20:VAL:N	2.53	0.41
14:N:103:ARG:HH12	14:N:110:PRO:HG3	1.84	0.41
2:B:70:C:C2	2:B:71:C:C6	3.09	0.41
1:A:2542:A:C8	1:A:2544:G:O6	2.73	0.41
3:C:172:TYR:CD1	3:C:185:VAL:C	2.91	0.41
1:A:2755:C:O5'	1:A:2755:C:H6	2.03	0.41
1:A:1669:A:H2'	1:A:1670:C:H5'	2.02	0.41
15:O:34:HIS:CB	15:O:36:TYR:HE1	2.33	0.41
7:G:87:LEU:CD2	7:G:164:TYR:CD1	3.03	0.41
18:R:93:GLU:O	18:R:94:LEU:HD23	2.21	0.41
28:2:40:LYS:HE2	28:2:46:CYS:SG	2.60	0.41
13:M:111:GLU:OE2	13:M:133:ARG:CZ	2.68	0.41
1:A:189:G:C2'	1:A:190:A:O5'	2.69	0.41
1:A:524:U:H4'	1:A:554:U:H4'	2.03	0.41
11:K:48:PRO:C	11:K:49:ARG:HG2	2.41	0.41
1:A:161:U:O2	1:A:165:U:O4	2.39	0.41
1:A:621:A:H5'	1:A:622:G:OP2	2.20	0.41
18:R:8:GLY:O	18:R:10:LYS:HG3	2.21	0.41
7:G:34:GLU:O	7:G:36:PRO:HD3	2.19	0.41
1:A:2415:G:H4'	12:L:67:MET:N	2.36	0.41
1:A:857:C:C2	1:A:858:U:C5	3.09	0.41
16:P:62:THR:HA	16:P:74:ARG:O	2.20	0.41
1:A:674:G:H4'	5:E:74:ARG:HG3	2.02	0.41
1:A:674:G:H2'	1:A:804:A:H61	1.86	0.41
12:L:40:SER:O	12:L:41:ARG:CD	2.49	0.41
1:A:2292:C:H6	1:A:2292:C:O5'	2.03	0.41
15:O:29:PHE:CD2	15:O:92:TYR:OH	2.74	0.41
3:C:70:TRP:O	3:C:70:TRP:CD1	2.73	0.41
8:H:104:GLN:HE21	8:H:104:GLN:HB3	1.68	0.41
1:A:2712:U:O2'	1:A:2713:A:H5'	2.21	0.41
4:D:86:PRO:HB2	4:D:87:GLU:H	1.43	0.41
1:A:2885:C:H2'	1:A:2886:G:O5'	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:50:GLY:HA3	4:D:75:VAL:HG11	2.01	0.41
1:A:1323:U:C2'	1:A:1324:G:H5'	2.50	0.41
1:A:2743:C:H2'	1:A:2744:G:O4'	2.21	0.41
7:G:140:LYS:HB2	7:G:140:LYS:HE3	1.88	0.41
1:A:2758:A:C2	1:A:2759:G:C1'	3.04	0.41
1:A:1423:G:N2	1:A:1576:U:H1'	2.35	0.41
1:A:96:G:C4'	25:Y:48:HIS:CE1	2.96	0.41
18:R:64:HIS:HA	18:R:92:THR:HA	2.03	0.41
1:A:1884:A:N1	1:A:1885:A:C5	2.89	0.41
19:S:41:LYS:O	19:S:42:ARG:C	2.60	0.41
5:E:89:VAL:C	5:E:91:GLY:H	2.24	0.41
1:A:911:A:C2'	13:M:9:TYR:OH	2.62	0.41
1:A:753:C:OP1	30:4:1:MET:CE	2.67	0.41
1:A:2790:A:H2'	1:A:2791:C:C5'	2.40	0.41
1:A:2842:G:H2'	1:A:2843:G:O4'	2.21	0.41
1:A:385:C:HO2'	1:A:390:A:H2	1.69	0.41
3:C:28:GLU:HB3	3:C:29:PRO:CD	2.44	0.41
28:2:51:TYR:CZ	28:2:52:TYR:CE1	3.09	0.41
1:A:559:G:H22	17:Q:49:HIS:CD2	2.38	0.41
1:A:2639:A:H2'	1:A:2640:G:C5'	2.46	0.41
7:G:55:PRO:HG2	7:G:61:HIS:ND1	2.36	0.41
1:A:2869:G:C6	1:A:2870:C:C4	3.08	0.41
13:M:134:ARG:O	13:M:135:ASP:C	2.59	0.41
1:A:2190:G:O2'	1:A:2191:G:H5'	2.21	0.41
18:R:72:VAL:HG23	18:R:85:LYS:HB3	2.03	0.41
1:A:1217:C:OP1	17:Q:15:LYS:HE2	2.20	0.41
21:U:89:PHE:HD1	21:U:89:PHE:HA	1.68	0.41
1:A:2085:C:H2'	1:A:2086:U:O4'	2.21	0.41
1:A:2459:A:C4	1:A:2460:U:C6	3.08	0.41
1:A:2853:C:H2'	1:A:2854:G:C8	2.49	0.41
1:A:1444:G:C2	1:A:1548:C:C2	3.08	0.41
22:V:120:ILE:HG12	22:V:172:ALA:HA	2.03	0.41
1:A:24:G:C6	1:A:25:U:C4	3.09	0.41
1:A:1993:U:H4'	4:D:128:SER:HB2	2.03	0.41
1:A:171:G:H2'	1:A:171:G:N3	2.35	0.41
1:A:1281:G:C4	1:A:1282:U:C6	3.09	0.41
1:A:1234:U:H2'	1:A:1235:G:O4'	2.21	0.41
1:A:2694:G:C4	1:A:2695:C:C5	3.09	0.41
1:A:2818:G:O2'	1:A:2819:G:H5'	2.20	0.41
1:A:872:A:C6	1:A:906:G:C2	3.09	0.41
1:A:2052:G:O4'	4:D:142:GLY:HA3	2.21	0.41
4:D:64:LYS:HA	4:D:64:LYS:HD2	1.81	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1914:C:O2	1:A:1914:C:O4'	2.39	0.41
22:V:129:SER:OG	22:V:130:PRO:HD2	2.21	0.41
31:5:13:ARG:O	31:5:14:VAL:HG23	2.20	0.41
12:L:101:VAL:C	12:L:103:ALA:N	2.75	0.41
17:Q:72:HIS:ND1	17:Q:110:VAL:HG21	2.36	0.41
17:Q:69:CYS:HB3	17:Q:79:PHE:CD2	2.56	0.41
1:A:1144:G:C6	1:A:1145:C:C4	3.09	0.41
15:O:25:ARG:CG	15:O:88:ASP:HB2	2.51	0.41
1:A:1439:A:C2	1:A:1553:A:C4	3.09	0.41
19:S:9:TYR:N	19:S:102:HIS:HD2	2.04	0.41
18:R:99:ILE:HD13	18:R:99:ILE:H	1.86	0.41
1:A:379:G:C6	1:A:380:U:C5	3.09	0.41
1:A:2285:C:C2'	1:A:2286:A:H5''	2.46	0.41
7:G:92:ILE:H	7:G:92:ILE:CD1	2.34	0.41
1:A:1006:C:O2'	1:A:1007:C:H5'	2.21	0.41
1:A:1894:C:N3	1:A:1895:C:C5	2.89	0.41
1:A:2461:C:H42	1:A:2489:G:H1	1.67	0.41
10:J:151:HIS:NE2	10:J:153:HIS:HA	2.36	0.41
1:A:2448:A:OP1	1:A:2499:C:OP1	2.39	0.41
22:V:77:ASP:HB2	22:V:84:GLU:CG	2.51	0.41
1:A:1632:A:C6	1:A:1633:G:C6	3.09	0.41
5:E:114:VAL:HG11	5:E:202:PHE:CZ	2.55	0.41
1:A:2859:G:O2'	1:A:2860:A:H5'	2.21	0.41
21:U:31:LEU:HA	21:U:32:PRO:HD3	1.80	0.41
3:C:4:LYS:NZ	3:C:4:LYS:CB	2.84	0.41
1:A:97:C:H2'	1:A:97:C:O2	2.19	0.41
12:L:80:TYR:CZ	12:L:111:ARG:HG2	2.55	0.40
25:Y:2:LYS:O	25:Y:5:GLU:CD	2.59	0.40
1:A:1541:U:H3'	1:A:1542:G:C2'	2.50	0.40
1:A:1178:C:H2'	1:A:1179:C:H6	1.86	0.40
1:A:743:G:O2'	1:A:744:G:H5'	2.21	0.40
1:A:1299:G:H3'	1:A:1639:U:O4	2.22	0.40
1:A:1640:C:H5'	1:A:1640:C:H6	1.85	0.40
2:B:41:U:OP1	2:B:42:C:H5	2.04	0.40
2:B:73:A:C8	2:B:74:U:C5	3.09	0.40
14:N:21:TYR:OH	14:N:43:GLU:HG2	2.21	0.40
1:A:1286:A:O2'	1:A:1288:U:P	2.79	0.40
26:Z:40:THR:HG23	26:Z:43:ILE:CD1	2.50	0.40
3:C:172:TYR:CD1	3:C:185:VAL:O	2.67	0.40
1:A:2310:A:H2'	1:A:2311:A:H5'	2.03	0.40
25:Y:48:HIS:C	25:Y:50:ILE:N	2.72	0.40
1:A:1486:A:C2	1:A:1487:G:C5	3.09	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2207:C:H2'	1:A:2208:U:O4'	2.22	0.40
11:K:88:ASN:N	11:K:92:GLU:O	2.40	0.40
18:R:99:ILE:HD13	18:R:100:ARG:H	1.86	0.40
21:U:3:VAL:C	21:U:5:MET:H	2.23	0.40
1:A:2562:U:H2'	1:A:2563:U:C5'	2.50	0.40
1:A:256:A:HO2'	1:A:257:A:H5'	1.84	0.40
1:A:1248:G:N7	17:Q:3:ARG:HB2	2.36	0.40
1:A:1709:U:C2	1:A:1750:G:N2	2.88	0.40
21:U:61:ILE:HG12	21:U:61:ILE:H	1.54	0.40
1:A:1797:C:O2'	3:C:259:THR:CG2	2.69	0.40
1:A:1242:A:C8	1:A:1243:G:C8	3.08	0.40
13:M:30:GLY:HA2	13:M:107:ALA:HB2	2.02	0.40
14:N:18:LEU:HD11	14:N:22:ARG:CZ	2.50	0.40
1:A:265:A:C8	1:A:266:G:H1'	2.56	0.40
1:A:2812:G:H2'	1:A:2813:A:O5'	2.21	0.40
12:L:23:PRO:O	12:L:29:LYS:O	2.38	0.40
17:Q:59:ARG:HE	17:Q:59:ARG:HB2	1.50	0.40
1:A:2380:C:O5'	1:A:2380:C:H6	2.03	0.40
14:N:28:LEU:HD23	14:N:28:LEU:HA	1.70	0.40
1:A:1733:G:H8	1:A:1733:G:O5'	2.03	0.40
24:X:34:THR:C	24:X:35:THR:HG23	2.41	0.40
6:F:97:ASP:HA	6:F:100:TRP:HD1	1.86	0.40
3:C:248:SER:HB2	3:C:250:TRP:CE3	2.56	0.40
1:A:1107:G:H2'	1:A:1108:U:H6	1.86	0.40
31:5:53:PRO:HA	31:5:56:GLU:HB2	2.04	0.40
1:A:2846:G:C4	1:A:2847:U:C5	3.09	0.40
12:L:51:PHE:O	12:L:52:GLU:C	2.59	0.40
1:A:72:U:H1'	25:Y:58:ALA:CB	2.52	0.40
8:H:97:ILE:HG21	8:H:114:LEU:HD11	2.04	0.40
27:1:59:VAL:CG1	27:1:60:GLU:H	2.15	0.40
14:N:103:ARG:NH1	14:N:108:GLY:O	2.55	0.40
2:B:72:G:N2	2:B:103:U:C5	2.89	0.40
5:E:123:LEU:HD11	5:E:125:LEU:HD23	2.03	0.40
1:A:1332:G:H22	1:A:1610:A:H8	1.68	0.40
5:E:167:ALA:O	5:E:168:ARG:C	2.60	0.40
1:A:2396:G:N3	1:A:2421:G:C2	2.89	0.40
1:A:2305:A:H5''	6:F:134:GLY:CA	2.48	0.40
1:A:2208:U:C1'	3:C:151:LYS:HE3	2.51	0.40
15:O:34:HIS:HB3	15:O:36:TYR:HE1	1.86	0.40
1:A:998:C:OP2	17:Q:93:LYS:NZ	2.55	0.40
3:C:205:VAL:O	3:C:205:VAL:CG1	2.68	0.40
1:A:283:A:H4'	1:A:284:U:OP2	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:110:GLY:CA	4:D:162:ALA:HB2	2.52	0.40
1:A:2749:A:H4'	7:G:62:LYS:HB3	2.02	0.40
1:A:855:G:C6	1:A:856:C:C4	3.10	0.40
1:A:902:C:H2'	1:A:903:C:C6	2.56	0.40
1:A:692:C:C2'	1:A:693:C:H5'	2.52	0.40
1:A:415:A:C5	1:A:416:C:C5	3.09	0.40
1:A:415:A:H2'	1:A:416:C:O4'	2.22	0.40
1:A:2299:G:O6	1:A:2318:G:N2	2.54	0.40
22:V:9:TYR:CD2	22:V:35:ARG:CZ	3.03	0.40
16:P:126:ALA:C	16:P:128:GLU:H	2.24	0.40
1:A:2183:C:O2	1:A:2183:C:C2'	2.67	0.40
1:A:288:C:O2'	1:A:289:A:H5'	2.21	0.40
1:A:2039:C:H2'	1:A:2040:C:C6	2.54	0.40
8:H:9:LEU:HB3	8:H:12:LEU:HD23	2.04	0.40
1:A:769:G:O2'	1:A:770:G:H5'	2.21	0.40
1:A:2197:U:H1'	1:A:2198:A:C8	2.56	0.40
1:A:1416:G:O2'	1:A:1417:C:H6	2.03	0.40
1:A:1632:A:H8	1:A:1632:A:O5'	2.04	0.40
1:A:2464:C:C2	1:A:2487:G:N2	2.90	0.40
1:A:1555:G:O2'	1:A:1556:C:H5'	2.21	0.40
14:N:105:ARG:HG2	14:N:106:GLY:N	2.37	0.40
23:W:55:ARG:NH1	23:W:55:ARG:HB3	2.36	0.40
1:A:857:C:N3	1:A:858:U:C4	2.89	0.40
17:Q:106:PHE:O	17:Q:109:LEU:HB2	2.21	0.40
13:M:74:TYR:N	13:M:92:GLY:O	2.45	0.40
3:C:32:SER:HA	3:C:36:PRO:HG3	2.03	0.40
1:A:1614:A:C6	19:S:87:PRO:HB3	2.56	0.40
1:A:114(B):A:N3	1:A:1144:G:C8	2.90	0.40
3:C:147:LEU:HD13	3:C:155:LEU:HD13	2.03	0.40
3:C:130:ALA:CB	3:C:192:THR:HA	2.51	0.40
20:T:35:THR:O	20:T:39:ILE:CG1	2.61	0.40
1:A:1596:A:O2'	1:A:1597:A:H5'	2.22	0.40
12:L:16:ARG:O	12:L:18:ARG:N	2.55	0.40
4:D:2:LYS:CD	4:D:95:ILE:O	2.69	0.40
4:D:47:VAL:HG21	4:D:85:ASN:HA	2.02	0.40
17:Q:60:LEU:C	17:Q:60:LEU:HD13	2.41	0.40
1:A:1652:A:OP1	14:N:9:LYS:HD2	2.21	0.40
4:D:34:VAL:HG11	4:D:78:LEU:CD1	2.52	0.40
19:S:6:ILE:HG12	19:S:104:THR:OG1	2.21	0.40
3:C:185:VAL:HG12	3:C:186:HIS:H	1.85	0.40
1:A:2755:C:O2'	1:A:2756:U:H6	2.03	0.40
5:E:154:VAL:O	5:E:174:VAL:HG23	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1401:G:C5	1:A:1402:C:C4	3.09	0.40
1:A:1105:U:C2'	1:A:1106:G:H5'	2.51	0.40
1:A:528:A:H2'	1:A:529:A:O5'	2.21	0.40
5:E:101:LEU:CD1	5:E:102:PRO:HD2	2.42	0.40
11:K:114:ILE:O	11:K:118:ALA:N	2.49	0.40
11:K:119:PRO:HB2	16:P:68:TYR:HE1	1.76	0.40
1:A:2592:G:C5	1:A:2593:U:C5	3.09	0.40
3:C:133:LEU:HG	3:C:189:CYS:O	2.20	0.40
28:2:51:TYR:CZ	28:2:52:TYR:CZ	3.09	0.40
13:M:54:MET:CG	13:M:64:ILE:HD13	2.46	0.40
1:A:2661:G:H2'	1:A:2662:A:O4'	2.21	0.40
1:A:814:C:H41	12:L:27:HIS:HD2	1.64	0.40
1:A:2242:G:H2'	1:A:2243:U:O4'	2.21	0.40
21:U:63:LYS:CG	21:U:64:GLU:N	2.84	0.40
1:A:2036:C:C6	1:A:2036:C:C5'	2.99	0.40
1:A:1856:G:C2	1:A:1857:G:H1'	2.56	0.40
19:S:45:TYR:CD2	19:S:46:PHE:CE1	3.10	0.40
25:Y:36:ARG:HA	25:Y:39:ALA:HB2	2.02	0.40
14:N:13:HIS:CE1	14:N:15:SER:HB3	2.56	0.40
17:Q:47:TYR:CE1	18:R:74:LYS:HE3	2.56	0.40
1:A:770:G:C2'	1:A:771:G:O5'	2.69	0.40
1:A:900:A:C5	1:A:901:A:C8	3.10	0.40
1:A:1881:C:O2'	1:A:1882:C:H5'	2.21	0.40
1:A:1314:C:H2'	1:A:1315:C:H5'	2.04	0.40
13:M:34:LEU:HB2	13:M:118:LEU:HD13	2.02	0.40
16:P:34:VAL:O	16:P:40:THR:HA	2.21	0.40
1:A:1417:C:N4	1:A:1581:G:H1	2.20	0.40
1:A:1416:G:O2'	1:A:1417:C:P	2.78	0.40
1:A:2063:C:O2	1:A:2450:A:N1	2.54	0.40
1:A:1718:G:H2'	1:A:1725:G:H8	1.87	0.40
1:A:791:C:H4'	1:A:792:G:OP1	2.21	0.40
1:A:1805:U:H2'	1:A:1806:C:C6	2.56	0.40
3:C:98:VAL:HG23	3:C:99:ASP:N	2.36	0.40
1:A:1599:C:H2'	1:A:1600:C:C6	2.57	0.40
4:D:24:THR:CB	4:D:186:GLY:HA2	2.50	0.40
1:A:1448:G:H1'	1:A:1528:A:N1	2.35	0.40
1:A:2846:G:N7	1:A:2847:U:C5	2.90	0.40
1:A:1263:U:O4'	28:2:10:LYS:HG3	2.22	0.40
2:B:81:G:C5	2:B:82:G:N7	2.90	0.40
6:F:25:TYR:HD1	6:F:30:GLU:HB3	1.79	0.40
1:A:2295:C:N3	1:A:2296:U:C5	2.89	0.40
3:C:70:TRP:CH2	3:C:150:LYS:CA	3.03	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:129:THR:HG22	8:H:130:TYR:H	1.87	0.40
22:V:48:PHE:CE2	22:V:71:VAL:HG21	2.57	0.40
22:V:56:VAL:C	22:V:57:ILE:HD12	2.41	0.40
25:Y:35:LEU:HD12	25:Y:53:LEU:CD1	2.35	0.40
1:A:1999:C:O2	1:A:2687:U:O2'	2.29	0.40
1:A:2766:G:C2	1:A:2767:C:C5	3.10	0.40
3:C:26:LYS:HE3	3:C:26:LYS:HB2	1.68	0.40
1:A:1952:A:C6	11:K:22:ILE:HD12	2.55	0.40
3:C:205:VAL:O	3:C:206:LEU:C	2.57	0.40
28:2:33:CYS:SG	28:2:38:ALA:HB3	2.62	0.40
1:A:1388:G:C4	1:A:1389:G:C8	3.10	0.40
1:A:826:U:O2	1:A:832:G:C2	2.75	0.40
13:M:138:ASP:HB3	13:M:139:GLU:H	1.53	0.40
1:A:2322:A:H3'	1:A:2323:G:C8	2.48	0.40
17:Q:8:VAL:O	17:Q:9:VAL:C	2.59	0.40
17:Q:34:LYS:HE3	17:Q:37:GLU:OE1	2.21	0.40
1:A:2837:G:N1	1:A:2838:G:C5	2.90	0.40
1:A:553:U:C4	1:A:554:U:C4	3.10	0.40
1:A:2370:G:O2'	29:3:45:LYS:HE3	2.21	0.40
24:X:67:ILE:N	24:X:68:PRO:CD	2.83	0.40
1:A:1798:U:C5'	3:C:259:THR:O	2.70	0.40
1:A:1116:C:H2'	1:A:1117:G:O4'	2.22	0.40
1:A:1314:C:O2'	1:A:1315:C:H5'	2.21	0.40
22:V:146:ILE:H	22:V:146:ILE:HG12	1.62	0.40
1:A:2358:G:C5	1:A:2359:C:C5	3.10	0.40
30:4:31:LEU:HD12	30:4:31:LEU:HA	1.84	0.40
1:A:1889:A:C6	1:A:1890:A:C6	3.09	0.40
1:A:1497:U:O4'	1:A:1497:U:O2	2.38	0.40
8:H:136:VAL:N	8:H:137:PRO:HD3	2.37	0.40
1:A:53:A:H2'	1:A:54:G:O4'	2.22	0.40
12:L:88:LEU:CD2	12:L:114:ILE:HG21	2.51	0.40
25:Y:1:MET:O	25:Y:1:MET:HE2	2.22	0.40
4:D:103:ASP:OD2	4:D:201:THR:HA	2.21	0.40
1:A:1542:G:H4'	1:A:1543:A:O4'	2.21	0.40
12:L:33:ARG:NE	12:L:36:LYS:CD	2.77	0.40
17:Q:69:CYS:SG	17:Q:79:PHE:CD2	3.14	0.40
18:R:49:THR:HB	18:R:50:PRO:CD	2.51	0.40
15:O:90:GLY:O	15:O:92:TYR:O	2.40	0.40
1:A:1799:G:O2'	3:C:181:GLU:OE2	2.38	0.40
1:A:71:A:C2	20:T:31:HIS:HE1	2.36	0.40
2:B:73:A:C5	2:B:74:U:C6	3.10	0.40
22:V:30:ASN:O	22:V:31:ARG:C	2.59	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:92:SER:HB2	22:V:94:GLU:OE1	2.22	0.40
21:U:96:ILE:HD11	21:U:99:CYS:HB2	2.03	0.40
19:S:23:LEU:HD12	19:S:23:LEU:HA	1.79	0.40
19:S:24:ILE:CG2	19:S:36:LEU:CD2	3.00	0.40
3:C:165:ILE:C	3:C:166:GLN:HE21	2.24	0.40
1:A:588:U:H1'	5:E:90:PHE:CG	2.56	0.40
11:K:112:MET:HA	11:K:115:VAL:HG13	2.03	0.40
1:A:295:G:C5	1:A:296:C:C5	3.09	0.40
8:H:8:PRO:HA	8:H:14:ASP:HA	2.03	0.40
1:A:1478:G:C2	1:A:1479:G:N7	2.90	0.40
3:C:176:ARG:CG	3:C:176:ARG:NH1	2.83	0.40
1:A:1747:G:C2	1:A:1748:G:C8	3.10	0.40
1:A:815:C:H2'	1:A:816:C:C6	2.56	0.40
1:A:2872:G:C2	1:A:2873:A:N6	2.89	0.40
19:S:65:LEU:HD23	19:S:65:LEU:HA	1.76	0.40
1:A:991:C:H2'	1:A:991:C:O2	2.22	0.40
1:A:1442:G:C2	1:A:1443:G:C4	3.09	0.40
22:V:91:LEU:HD21	22:V:96:VAL:HG11	2.02	0.40
1:A:2194:G:C5	1:A:2195:C:C5	3.09	0.40
1:A:14:A:H8	1:A:14:A:O5'	2.03	0.40
1:A:1362:C:C6	1:A:1362:C:H3'	2.57	0.40
4:D:152:LYS:HB3	4:D:152:LYS:HE3	1.77	0.40
1:A:1987:G:H2'	1:A:1988:C:H6	1.85	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. 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	
3	C	269/271 (99%)	210 (78%)	39 (14%)	20 (7%)	2	22
4	D	202/204 (99%)	155 (77%)	32 (16%)	15 (7%)	2	22
5	E	200/202 (99%)	155 (78%)	30 (15%)	15 (8%)	2	22
6	F	179/181 (99%)	136 (76%)	31 (17%)	12 (7%)	2	25

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	G	157/159 (99%)	111 (71%)	36 (23%)	10 (6%)	2	26
8	H	143/145 (99%)	91 (64%)	31 (22%)	21 (15%)	0	5
9	I	28/65 (43%)	25 (89%)	3 (11%)	0	100	100
10	J	135/137 (98%)	97 (72%)	24 (18%)	14 (10%)	1	11
11	K	120/122 (98%)	98 (82%)	14 (12%)	8 (7%)	2	25
12	L	144/146 (99%)	86 (60%)	35 (24%)	23 (16%)	0	4
13	M	134/136 (98%)	86 (64%)	30 (22%)	18 (13%)	0	6
14	N	115/117 (98%)	90 (78%)	15 (13%)	10 (9%)	1	17
15	O	96/98 (98%)	54 (56%)	25 (26%)	17 (18%)	0	3
16	P	135/137 (98%)	100 (74%)	19 (14%)	16 (12%)	1	9
17	Q	114/116 (98%)	82 (72%)	20 (18%)	12 (10%)	1	11
18	R	99/101 (98%)	70 (71%)	20 (20%)	9 (9%)	1	15
19	S	110/112 (98%)	87 (79%)	17 (16%)	6 (6%)	3	31
20	T	90/92 (98%)	67 (74%)	18 (20%)	5 (6%)	3	30
21	U	98/100 (98%)	58 (59%)	21 (21%)	19 (19%)	0	2
22	V	186/188 (99%)	135 (73%)	34 (18%)	17 (9%)	1	15
23	W	74/76 (97%)	60 (81%)	10 (14%)	4 (5%)	3	31
24	X	86/88 (98%)	54 (63%)	19 (22%)	13 (15%)	0	4
25	Y	60/62 (97%)	41 (68%)	12 (20%)	7 (12%)	1	9
26	Z	57/59 (97%)	50 (88%)	6 (10%)	1 (2%)	13	65
27	1	28/30 (93%)	15 (54%)	7 (25%)	6 (21%)	0	2
28	2	50/52 (96%)	39 (78%)	7 (14%)	4 (8%)	1	19
29	3	42/44 (96%)	26 (62%)	11 (26%)	5 (12%)	1	9
30	4	46/48 (96%)	42 (91%)	3 (6%)	1 (2%)	10	60
31	5	61/63 (97%)	44 (72%)	10 (16%)	7 (12%)	1	9
All	All	3258/3351 (97%)	2364 (73%)	579 (18%)	315 (10%)	1	13

All (315) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	26	LYS
3	C	33	LEU
3	C	34	VAL

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Mol	Chain	Res	Type
3	C	271	ILE
4	D	2	LYS
4	D	17	ASP
4	D	86	PRO
5	E	68	LYS
5	E	89	VAL
5	E	128	ALA
5	E	168	ARG
6	F	86	MET
6	F	87	PRO
7	G	92	ILE
7	G	165	ALA
8	H	10	GLU
8	H	15	VAL
8	H	82	ARG
8	H	132	PRO
8	H	142	VAL
8	H	143	SER
10	J	81	ASP
10	J	149	PRO
10	J	155	ALA
10	J	157	ARG
11	K	27	GLY
11	K	29	ASN
11	K	101	PRO
12	L	15	ARG
12	L	17	LYS
12	L	36	LYS
12	L	39	LYS
12	L	49	ARG
12	L	50	ARG
12	L	65	ARG
12	L	110	TYR
12	L	141	ALA
12	L	147	LEU
13	M	8	LYS
13	M	13	GLN
13	M	21	THR
13	M	25	ASP
13	M	30	GLY
13	M	82	ARG
13	M	134	ARG

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Mol	Chain	Res	Type
14	N	3	HIS
14	N	5	LYS
14	N	6	SER
14	N	12	ARG
14	N	86	ARG
15	O	12	PHE
15	O	35	ILE
15	O	44	LYS
15	O	52	SER
15	O	53	SER
15	O	59	LYS
16	P	58	ASN
16	P	89	VAL
16	P	90	GLN
16	P	97	ALA
16	P	107	ASP
16	P	136	GLN
17	Q	9	VAL
17	Q	31	SER
17	Q	33	ARG
17	Q	99	ALA
18	R	35	LEU
18	R	78	LYS
21	U	7	VAL
21	U	17	SER
21	U	49	VAL
21	U	76	CYS
21	U	88	LYS
22	V	31	ARG
22	V	93	ASP
22	V	177	PRO
23	W	47	PRO
23	W	74	ARG
24	X	11	ARG
24	X	13	ILE
24	X	32	LYS
24	X	85	LEU
25	Y	3	LEU
25	Y	44	LEU
26	Z	13	ILE
27	1	44	CYS
27	1	52	SER

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Mol	Chain	Res	Type
28	2	4	HIS
28	2	35	GLU
28	2	49	CYS
29	3	28	ARG
29	3	51	GLU
31	5	31	HIS
31	5	34	TRP
31	5	51	ALA
31	5	62	LEU
3	C	43	ARG
3	C	125	ILE
3	C	134	ARG
3	C	169	GLU
3	C	236	GLY
3	C	237	GLU
3	C	261	LYS
3	C	268	ARG
4	D	29	GLY
5	E	19	GLU
5	E	132	VAL
6	F	26	GLN
6	F	96	ARG
6	F	115	ARG
7	G	21	PRO
7	G	138	LYS
8	H	16	GLY
8	H	74	ASN
8	H	91	SER
8	H	92	VAL
10	J	89	LYS
11	K	91	LEU
12	L	11	GLY
12	L	42	SER
12	L	52	GLU
12	L	136	GLU
12	L	137	LYS
13	M	18	LYS
13	M	47	ILE
13	M	135	ASP
13	M	136	ALA
13	M	140	ALA
15	O	57	LYS

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Mol	Chain	Res	Type
15	O	82	ILE
15	O	85	VAL
15	O	89	ARG
15	O	90	GLY
15	O	95	HIS
16	P	2	ASN
16	P	4	GLY
16	P	36	GLU
16	P	57	PHE
16	P	106	SER
16	P	115	ARG
16	P	126	ALA
16	P	127	ALA
17	Q	117	GLN
18	R	46	VAL
18	R	100	ARG
19	S	48	ALA
19	S	61	ASN
21	U	3	VAL
21	U	98	VAL
22	V	80	ARG
22	V	135	GLU
22	V	178	GLU
23	W	57	PHE
24	X	10	LYS
24	X	38	SER
25	Y	43	GLN
25	Y	61	LEU
3	C	35	LYS
3	C	37	LEU
3	C	42	GLY
3	C	239	ARG
4	D	69	LYS
4	D	159	HIS
4	D	185	LYS
5	E	86	GLY
5	E	134	GLY
5	E	145	GLU
5	E	176	LEU
6	F	14	GLU
6	F	148	MET
7	G	80	SER

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Mol	Chain	Res	Type
7	G	155	SER
8	H	30	LEU
8	H	39	ALA
8	H	77	LEU
8	H	99	GLU
10	J	124	HIS
10	J	152	PRO
11	K	4	PRO
12	L	108	LYS
13	M	10	ARG
13	M	62	GLY
14	N	8	ARG
17	Q	8	VAL
17	Q	54	LYS
17	Q	96	ALA
17	Q	98	LEU
18	R	53	GLU
18	R	61	VAL
19	S	49	LYS
19	S	64	MET
20	T	41	ASN
20	T	87	GLN
21	U	11	ASP
21	U	39	VAL
21	U	42	VAL
21	U	69	ALA
21	U	90	LEU
21	U	99	CYS
22	V	38	TYR
22	V	39	VAL
22	V	117	LEU
22	V	142	SER
22	V	153	SER
24	X	9	GLY
24	X	56	GLN
24	X	83	GLU
25	Y	17	SER
25	Y	47	ASN
27	1	62	CYS
28	2	46	CYS
29	3	31	PRO
29	3	32	ASN

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Mol	Chain	Res	Type
29	3	46	HIS
31	5	3	LYS
3	C	115	GLN
3	C	256	GLY
4	D	60	ASN
4	D	87	GLU
4	D	94	GLU
4	D	127	ASP
4	D	178	GLU
5	E	127	GLU
6	F	24	GLY
6	F	25	TYR
7	G	107	VAL
8	H	7	GLU
8	H	86	THR
8	H	144	VAL
10	J	133	GLY
10	J	158	PRO
11	K	21	CYS
11	K	22	ILE
11	K	97	ARG
12	L	43	GLY
12	L	47	ASP
12	L	109	GLY
13	M	22	LYS
15	O	62	LYS
15	O	83	LYS
15	O	91	PRO
16	P	14	TYR
17	Q	58	ARG
19	S	63	ASP
20	T	40	LYS
20	T	72	LYS
21	U	80	GLY
27	1	41	ILE
27	1	54	LYS
30	4	47	ARG
31	5	61	LEU
3	C	224	ALA
4	D	201	THR
5	E	144	LYS
5	E	160	ASN

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Mol	Chain	Res	Type
6	F	46	ALA
7	G	15	VAL
8	H	60	GLU
8	H	76	THR
8	H	93	THR
8	H	115	ALA
10	J	75	VAL
10	J	90	LEU
10	J	105	LEU
10	J	156	GLN
12	L	70	GLN
12	L	90	ARG
13	M	23	GLY
14	N	45	ARG
14	N	85	PRO
15	O	101	LEU
17	Q	86	ALA
18	R	48	GLY
19	S	110	LYS
21	U	47	LYS
22	V	101	PRO
22	V	140	ASP
23	W	55	ARG
25	Y	15	LYS
31	5	40	GLU
4	D	61	ARG
5	E	66	PRO
7	G	139	GLN
10	J	106	LYS
13	M	54	MET
21	U	41	GLY
22	V	133	ILE
22	V	134	PRO
24	X	53	VAL
4	D	30	PRO
5	E	206	ILE
18	R	50	PRO
20	T	84	ALA
21	U	18	GLY
21	U	96	ILE
22	V	114	GLY
24	X	36	GLY

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Mol	Chain	Res	Type
14	N	73	VAL
16	P	81	PRO
14	N	58	GLY
18	R	17	GLY
22	V	37	VAL
7	G	52	VAL
12	L	10	PRO
13	M	81	VAL
17	Q	65	ILE
21	U	55	TYR
24	X	14	VAL
24	X	31	GLY
3	C	10	THR
6	F	109	VAL
6	F	142	PRO
12	L	19	VAL
15	O	60	GLY
27	1	47	VAL

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. 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	
3	C	213/213 (100%)	162 (76%)	51 (24%)	1	5
4	D	165/165 (100%)	129 (78%)	36 (22%)	1	7
5	E	161/161 (100%)	124 (77%)	37 (23%)	1	6
6	F	155/155 (100%)	134 (86%)	21 (14%)	6	29
7	G	132/132 (100%)	107 (81%)	25 (19%)	2	12
8	H	122/122 (100%)	103 (84%)	19 (16%)	4	23
9	I	27/53 (51%)	25 (93%)	2 (7%)	20	65
10	J	116/116 (100%)	85 (73%)	31 (27%)	1	4
11	K	100/100 (100%)	78 (78%)	22 (22%)	1	7
12	L	112/112 (100%)	76 (68%)	36 (32%)	0	2
13	M	106/106 (100%)	81 (76%)	25 (24%)	1	6

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
14	N	100/100 (100%)	76 (76%)	24 (24%)	1	5
15	O	77/77 (100%)	63 (82%)	14 (18%)	2	13
16	P	121/121 (100%)	94 (78%)	27 (22%)	1	7
17	Q	92/92 (100%)	71 (77%)	21 (23%)	1	6
18	R	82/82 (100%)	61 (74%)	21 (26%)	1	4
19	S	91/91 (100%)	65 (71%)	26 (29%)	0	3
20	T	74/74 (100%)	60 (81%)	14 (19%)	2	12
21	U	84/84 (100%)	67 (80%)	17 (20%)	2	9
22	V	163/163 (100%)	141 (86%)	22 (14%)	6	29
23	W	61/61 (100%)	53 (87%)	8 (13%)	6	31
24	X	73/73 (100%)	50 (68%)	23 (32%)	0	3
25	Y	58/58 (100%)	46 (79%)	12 (21%)	2	8
26	Z	51/51 (100%)	43 (84%)	8 (16%)	4	23
27	1	27/27 (100%)	26 (96%)	1 (4%)	45	85
28	2	45/45 (100%)	39 (87%)	6 (13%)	6	30
29	3	43/43 (100%)	38 (88%)	5 (12%)	8	37
30	4	41/41 (100%)	28 (68%)	13 (32%)	0	3
31	5	53/53 (100%)	43 (81%)	10 (19%)	2	12
All	All	2745/2771 (99%)	2168 (79%)	577 (21%)	1	8

All (577) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	10	THR
3	C	13	ARG
3	C	14	ARG
3	C	16	MET
3	C	33	LEU
3	C	38	LYS
3	C	44	ASN
3	C	61	LEU
3	C	68	LYS
3	C	69	ARG
3	C	73	VAL
3	C	87	ASN
3	C	94	LEU

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Mol	Chain	Res	Type
3	C	95	LEU
3	C	99	ASP
3	C	102	LYS
3	C	103	ARG
3	C	105	ILE
3	C	111	LEU
3	C	112	GLN
3	C	125	ILE
3	C	126	GLN
3	C	131	LEU
3	C	134	ARG
3	C	138	VAL
3	C	141	VAL
3	C	150	LYS
3	C	154	LYS
3	C	155	LEU
3	C	166	GLN
3	C	171	ASP
3	C	174	ILE
3	C	192	THR
3	C	193	VAL
3	C	198	ASN
3	C	200	ASP
3	C	204	ILE
3	C	205	VAL
3	C	211	ARG
3	C	212	SER
3	C	217	ARG
3	C	218	ARG
3	C	226	MET
3	C	227	ASN
3	C	229	VAL
3	C	237	GLU
3	C	242	ARG
3	C	244	ARG
3	C	254	THR
3	C	259	THR
3	C	271	ILE
4	D	1	MET
4	D	4	ILE
4	D	9	VAL
4	D	16	ARG

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Mol	Chain	Res	Type
4	D	18	ASP
4	D	33	VAL
4	D	34	VAL
4	D	40	GLU
4	D	45	THR
4	D	49	LEU
4	D	54	GLN
4	D	57	LYS
4	D	76	ARG
4	D	77	ILE
4	D	78	LEU
4	D	79	ARG
4	D	84	PHE
4	D	95	ILE
4	D	116	VAL
4	D	121	ASN
4	D	122	PHE
4	D	141	ILE
4	D	144	ARG
4	D	145	LYS
4	D	152	LYS
4	D	154	LYS
4	D	156	MET
4	D	160	TYR
4	D	169	ASN
4	D	170	LEU
4	D	171	GLU
4	D	173	VAL
4	D	175	VAL
4	D	176	ILE
4	D	181	LEU
4	D	184	VAL
5	E	6	MET
5	E	8	GLN
5	E	9	ILE
5	E	24	LEU
5	E	33	LEU
5	E	46	ARG
5	E	48	THR
5	E	50	SER
5	E	53	THR
5	E	62	ARG

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Mol	Chain	Res	Type
5	E	64	ILE
5	E	65	TRP
5	E	67	GLN
5	E	68	LYS
5	E	70	THR
5	E	74	ARG
5	E	78	ILE
5	E	82	ILE
5	E	88	VAL
5	E	98	SER
5	E	100	THR
5	E	106	ARG
5	E	122	LYS
5	E	127	GLU
5	E	129	PHE
5	E	136	THR
5	E	158	THR
5	E	160	ASN
5	E	164	ARG
5	E	165	ARG
5	E	174	VAL
5	E	175	THR
5	E	181	LEU
5	E	183	VAL
5	E	192	LEU
5	E	194	MET
5	E	197	ASP
6	F	5	LEU
6	F	8	LYS
6	F	26	GLN
6	F	33	ARG
6	F	35	GLU
6	F	47	LYS
6	F	78	SER
6	F	86	MET
6	F	90	LEU
6	F	93	THR
6	F	94	LEU
6	F	98	ARG
6	F	107	LEU
6	F	115	ARG
6	F	128	ARG

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Mol	Chain	Res	Type
6	F	143	GLU
6	F	155	MET
6	F	157	ILE
6	F	159	VAL
6	F	161	THR
6	F	166	ASP
7	G	13	LYS
7	G	23	ARG
7	G	34	GLU
7	G	37	VAL
7	G	52	VAL
7	G	57	ASP
7	G	60	ARG
7	G	71	LEU
7	G	90	LYS
7	G	94	TYR
7	G	101	ARG
7	G	116	GLU
7	G	122	THR
7	G	123	PHE
7	G	124	GLU
7	G	129	THR
7	G	133	VAL
7	G	136	ILE
7	G	139	GLN
7	G	140	LYS
7	G	147	ASN
7	G	151	ILE
7	G	158	HIS
7	G	162	ILE
7	G	163	TYR
8	H	3	VAL
8	H	4	ILE
8	H	5	LEU
8	H	6	LEU
8	H	14	ASP
8	H	20	ASP
8	H	21	VAL
8	H	33	ARG
8	H	40	THR
8	H	50	ARG
8	H	67	ARG

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Mol	Chain	Res	Type
8	H	68	LEU
8	H	73	GLU
8	H	77	LEU
8	H	89	TYR
8	H	91	SER
8	H	109	ILE
8	H	135	GLU
8	H	142	VAL
9	I	3	ASN
9	I	58	LEU
10	J	38	LEU
10	J	39	ILE
10	J	42	GLU
10	J	46	LEU
10	J	51	THR
10	J	56	LEU
10	J	57	LEU
10	J	71	MET
10	J	83	ILE
10	J	86	THR
10	J	92	GLN
10	J	96	THR
10	J	105	LEU
10	J	106	LYS
10	J	110	LEU
10	J	112	LYS
10	J	113	MET
10	J	116	THR
10	J	117	HIS
10	J	122	LEU
10	J	126	VAL
10	J	129	MET
10	J	132	LYS
10	J	137	ARG
10	J	142	ARG
10	J	143	LEU
10	J	144	LYS
10	J	146	TYR
10	J	154	GLN
10	J	160	LYS
10	J	161	LEU
11	K	2	ILE

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Mol	Chain	Res	Type
11	K	3	GLN
11	K	4	PRO
11	K	19	ILE
11	K	22	ILE
11	K	23	ARG
11	K	24	VAL
11	K	26	LYS
11	K	31	LYS
11	K	32	TYR
11	K	47	ILE
11	K	52	VAL
11	K	65	THR
11	K	78	ARG
11	K	87	ILE
11	K	89	ASN
11	K	90	GLN
11	K	91	LEU
11	K	98	VAL
11	K	99	PHE
11	K	102	VAL
11	K	115	VAL
12	L	6	LEU
12	L	9	ASN
12	L	15	ARG
12	L	16	ARG
12	L	18	ARG
12	L	19	VAL
12	L	29	LYS
12	L	33	ARG
12	L	39	LYS
12	L	40	SER
12	L	42	SER
12	L	49	ARG
12	L	50	ARG
12	L	51	PHE
12	L	52	GLU
12	L	55	ARG
12	L	56	SER
12	L	57	THR
12	L	59	LEU
12	L	61	ARG
12	L	62	LEU

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Mol	Chain	Res	Type
12	L	67	MET
12	L	75	ILE
12	L	81	GLN
12	L	85	LEU
12	L	88	LEU
12	L	91	PHE
12	L	105	LEU
12	L	111	ARG
12	L	114	ILE
12	L	123	LEU
12	L	135	LEU
12	L	144	GLU
12	L	146	VAL
12	L	147	LEU
12	L	148	LEU
13	M	6	ARG
13	M	9	TYR
13	M	11	LYS
13	M	13	GLN
13	M	22	LYS
13	M	25	ASP
13	M	43	THR
13	M	45	GLN
13	M	52	VAL
13	M	58	PHE
13	M	59	ARG
13	M	63	LYS
13	M	66	ILE
13	M	79	LEU
13	M	80	GLU
13	M	81	VAL
13	M	83	MET
13	M	89	ASN
13	M	103	MET
13	M	106	VAL
13	M	109	VAL
13	M	115	MET
13	M	119	ARG
13	M	132	VAL
13	M	135	ASP
14	N	2	ARG
14	N	10	LEU

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Mol	Chain	Res	Type
14	N	15	SER
14	N	17	ARG
14	N	28	LEU
14	N	35	THR
14	N	37	THR
14	N	40	LYS
14	N	44	LEU
14	N	48	VAL
14	N	52	ILE
14	N	54	LEU
14	N	60	LEU
14	N	63	ARG
14	N	67	LEU
14	N	70	LEU
14	N	75	LEU
14	N	79	LEU
14	N	95	THR
14	N	98	LEU
14	N	99	LYS
14	N	104	ARG
14	N	107	ASP
14	N	111	LEU
15	O	12	PHE
15	O	13	ARG
15	O	26	LEU
15	O	30	ARG
15	O	36	TYR
15	O	40	ILE
15	O	44	LYS
15	O	48	LEU
15	O	54	LEU
15	O	63	THR
15	O	69	VAL
15	O	92	TYR
15	O	93	LYS
15	O	101	LEU
16	P	15	VAL
16	P	19	LEU
16	P	23	ARG
16	P	28	VAL
16	P	30	VAL
16	P	39	ARG

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Mol	Chain	Res	Type
16	P	41	ARG
16	P	50	ILE
16	P	51	ARG
16	P	53	ARG
16	P	54	ARG
16	P	58	ASN
16	P	63	VAL
16	P	64	ARG
16	P	75	ILE
16	P	84	GLN
16	P	85	LYS
16	P	86	ILE
16	P	87	ASP
16	P	88	ILE
16	P	89	VAL
16	P	99	LEU
16	P	100	TYR
16	P	104	ASN
16	P	112	ARG
16	P	113	LYS
16	P	115	ARG
17	Q	8	VAL
17	Q	14	HIS
17	Q	18	LEU
17	Q	20	LEU
17	Q	27	LEU
17	Q	34	LYS
17	Q	40	PHE
17	Q	47	TYR
17	Q	52	ARG
17	Q	55	ARG
17	Q	62	ILE
17	Q	64	ARG
17	Q	70	ARG
17	Q	76	TYR
17	Q	79	PHE
17	Q	80	ILE
17	Q	92	ARG
17	Q	97	ASP
17	Q	101	ARG
17	Q	108	GLU
17	Q	112	ARG

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Mol	Chain	Res	Type
18	R	5	VAL
18	R	10	LYS
18	R	12	TYR
18	R	13	ARG
18	R	18	LEU
18	R	20	LEU
18	R	21	ARG
18	R	33	VAL
18	R	37	VAL
18	R	39	LEU
18	R	44	LYS
18	R	53	GLU
18	R	57	VAL
18	R	66	ARG
18	R	72	VAL
18	R	78	LYS
18	R	79	VAL
18	R	80	GLN
18	R	88	ARG
18	R	98	GLU
18	R	99	ILE
19	S	1	MET
19	S	8	ARG
19	S	10	VAL
19	S	11	ARG
19	S	15	ARG
19	S	17	VAL
19	S	19	LEU
19	S	23	LEU
19	S	28	SER
19	S	33	ARG
19	S	36	LEU
19	S	39	THR
19	S	47	VAL
19	S	51	LEU
19	S	53	SER
19	S	60	ASN
19	S	61	ASN
19	S	69	LEU
19	S	75	TYR
19	S	76	VAL
19	S	78	GLU

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Mol	Chain	Res	Type
19	S	84	ARG
19	S	92	ARG
19	S	100	THR
19	S	105	VAL
19	S	107	LEU
20	T	9	LEU
20	T	12	VAL
20	T	28	PHE
20	T	39	ILE
20	T	45	THR
20	T	49	VAL
20	T	52	VAL
20	T	57	LEU
20	T	62	LYS
20	T	65	ARG
20	T	68	ARG
20	T	70	LEU
20	T	80	ILE
20	T	81	VAL
21	U	4	LYS
21	U	6	HIS
21	U	8	LYS
21	U	9	LYS
21	U	30	VAL
21	U	31	LEU
21	U	32	PRO
21	U	60	PHE
21	U	61	ILE
21	U	62	GLU
21	U	63	LYS
21	U	71	LYS
21	U	76	CYS
21	U	89	PHE
21	U	90	LEU
21	U	97	ARG
21	U	98	VAL
22	V	3	TYR
22	V	24	LEU
22	V	27	VAL
22	V	31	ARG
22	V	35	ARG
22	V	39	VAL

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Mol	Chain	Res	Type
22	V	42	VAL
22	V	70	LEU
22	V	72	ARG
22	V	81	ARG
22	V	82	ARG
22	V	85	HIS
22	V	86	VAL
22	V	89	PHE
22	V	94	GLU
22	V	98	MET
22	V	118	GLN
22	V	140	ASP
22	V	146	ILE
22	V	150	LEU
22	V	161	VAL
22	V	163	LEU
23	W	17	GLN
23	W	20	ARG
23	W	21	LEU
23	W	38	VAL
23	W	53	MET
23	W	63	VAL
23	W	64	ASP
23	W	84	LEU
24	X	8	SER
24	X	13	ILE
24	X	17	SER
24	X	18	ILE
24	X	21	ARG
24	X	25	LYS
24	X	27	GLU
24	X	37	ILE
24	X	38	SER
24	X	40	ARG
24	X	41	ARG
24	X	45	ASN
24	X	46	LEU
24	X	51	VAL
24	X	58	ILE
24	X	60	PHE
24	X	70	VAL
24	X	72	GLU

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Mol	Chain	Res	Type
24	X	73	LEU
24	X	75	GLU
24	X	80	LEU
24	X	88	LYS
24	X	95	LEU
25	Y	1	MET
25	Y	2	LYS
25	Y	3	LEU
25	Y	5	GLU
25	Y	19	VAL
25	Y	21	LEU
25	Y	24	LEU
25	Y	32	LEU
25	Y	35	LEU
25	Y	57	ILE
25	Y	61	LEU
25	Y	62	THR
26	Z	1	MET
26	Z	8	LEU
26	Z	37	LEU
26	Z	40	THR
26	Z	43	ILE
26	Z	52	HIS
26	Z	55	ARG
26	Z	56	VAL
27	1	60	GLU
28	2	3	LYS
28	2	4	HIS
28	2	11	THR
28	2	25	LEU
28	2	49	CYS
28	2	52	TYR
29	3	12	GLU
29	3	29	ASN
29	3	30	THR
29	3	34	LEU
29	3	42	TRP
30	4	1	MET
30	4	4	THR
30	4	8	ASN
30	4	9	ARG
30	4	15	THR

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Mol	Chain	Res	Type
30	4	19	ARG
30	4	24	THR
30	4	31	LEU
30	4	34	ARG
30	4	36	GLN
30	4	41	ARG
30	4	42	LEU
30	4	46	VAL
31	5	4	MET
31	5	11	LYS
31	5	19	SER
31	5	30	ARG
31	5	31	HIS
31	5	33	ASN
31	5	41	ILE
31	5	57	ARG
31	5	60	LEU
31	5	62	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (84) such sidechains are listed below:

Mol	Chain	Res	Type
3	C	58	HIS
3	C	87	ASN
3	C	116	GLN
3	C	126	GLN
3	C	143	HIS
3	C	166	GLN
3	C	186	HIS
3	C	198	ASN
3	C	220	HIS
3	C	227	ASN
3	C	231	HIS
3	C	233	HIS
4	D	60	ASN
4	D	66	HIS
4	D	85	ASN
4	D	143	ASN
4	D	169	ASN
4	D	192	ASN
5	E	67	GLN
5	E	75	HIS

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Mol	Chain	Res	Type
5	E	160	ASN
5	E	169	ASN
6	F	58	GLN
6	F	108	ASN
6	F	121	ASN
6	F	132	ASN
7	G	65	HIS
7	G	147	ASN
8	H	17	GLN
8	H	104	GLN
8	H	133	HIS
9	I	3	ASN
9	I	56	ASN
10	J	61	HIS
10	J	68	ASN
10	J	79	ASN
10	J	151	HIS
10	J	154	GLN
11	K	82	ASN
12	L	70	GLN
14	N	3	HIS
14	N	16	HIS
14	N	61	HIS
14	N	71	GLN
14	N	91	GLN
16	P	58	ASN
16	P	84	GLN
16	P	90	GLN
17	Q	14	HIS
17	Q	49	HIS
17	Q	72	HIS
17	Q	75	ASN
18	R	11	GLN
18	R	87	HIS
19	S	34	ASN
19	S	57	ASN
19	S	61	ASN
19	S	102	HIS
20	T	31	HIS
20	T	41	ASN
20	T	55	ASN
20	T	82	GLN

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Mol	Chain	Res	Type
20	T	87	GLN
21	U	6	HIS
22	V	73	GLN
22	V	121	HIS
23	W	35	ASN
23	W	50	ASN
24	X	45	ASN
24	X	56	GLN
24	X	66	HIS
25	Y	47	ASN
25	Y	56	GLN
26	Z	19	GLN
26	Z	46	ASN
26	Z	52	HIS
28	2	22	HIS
28	2	23	HIS
28	2	43	HIS
29	3	29	ASN
29	3	49	HIS
30	4	8	ASN
31	5	31	HIS
31	5	33	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2757/2879 (95%)	589 (21%)	29 (1%)
2	B	118/119 (99%)	27 (22%)	0
All	All	2875/2998 (95%)	616 (21%)	29 (1%)

All (616) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	10	G
1	A	11	G
1	A	34	C
1	A	35	G
1	A	46	C
1	A	60	G
1	A	61	G
1	A	64	A

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Mol	Chain	Res	Type
1	A	71	A
1	A	72	U
1	A	74	A
1	A	75	G
1	A	84	A
1	A	96	G
1	A	97	C
1	A	101	G
1	A	102	G
1	A	110	G
1	A	116	C
1	A	117	G
1	A	118	A
1	A	119	A
1	A	120	U
1	A	125	G
1	A	129	C
1	A	135	G
1	A	138	G
1	A	139	G
1	A	140	A
1	A	181	A
1	A	192	C
1	A	195	A
1	A	196	A
1	A	197	A
1	A	199	A
1	A	205	G
1	A	215	G
1	A	216	A
1	A	218	A
1	A	221	A
1	A	222	A
1	A	225	A
1	A	228	A
1	A	229	A
1	A	230	U
1	A	233	A
1	A	244	A
1	A	248	G
1	A	249	C
1	A	252	G

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Mol	Chain	Res	Type
1	A	257	A
1	A	258	G
1	A	265	A
1	A	269	U
1	A	270(K)	G
1	A	270(L)	C
1	A	270(M)	U
1	A	270(N)	U
1	A	270(O)	G
1	A	270(Q)	C
1	A	270(R)	C
1	A	271(D)	U
1	A	271	G
1	A	274	G
1	A	275	G
1	A	276	A
1	A	277	C
1	A	278	A
1	A	283	A
1	A	301	G
1	A	302	C
1	A	304	G
1	A	311	A
1	A	323	G
1	A	324	A
1	A	329	G
1	A	330	A
1	A	334	C
1	A	335	C
1	A	345	A
1	A	352	G
1	A	353	G
1	A	360	G
1	A	363(A)	G
1	A	372	G
1	A	386	G
1	A	396	G
1	A	405	U
1	A	406	G
1	A	407	G
1	A	411	G
1	A	416	C

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Mol	Chain	Res	Type
1	A	421	U
1	A	444	C
1	A	455	C
1	A	456	C
1	A	457	A
1	A	463	G
1	A	464	U
1	A	467	G
1	A	480	A
1	A	481	G
1	A	483	A
1	A	491	G
1	A	504	U
1	A	505	A
1	A	508	G
1	A	509	C
1	A	530	G
1	A	531	C
1	A	532	A
1	A	533	G
1	A	546	C
1	A	547	A
1	A	548	A
1	A	558	G
1	A	563	G
1	A	566	U
1	A	573	G
1	A	575	A
1	A	580	C
1	A	586	A
1	A	593	G
1	A	595	C
1	A	599	G
1	A	603	A
1	A	609(A)	A
1	A	615	G
1	A	617	G
1	A	620	G
1	A	627	A
1	A	632	A
1	A	637	A
1	A	645	C

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Mol	Chain	Res	Type
1	A	646	A
1	A	647	G
1	A	654	U
1	A	655	A
1	A	664	C
1	A	682	G
1	A	686	G
1	A	694	U
1	A	695	G
1	A	717	G
1	A	730	C
1	A	739	G
1	A	746	A
1	A	747	U
1	A	761	A
1	A	775	G
1	A	776	G
1	A	777	A
1	A	782	A
1	A	784	A
1	A	785	G
1	A	787	U
1	A	792	G
1	A	805	G
1	A	812	C
1	A	819	A
1	A	822	U
1	A	826	U
1	A	827	U
1	A	828	U
1	A	832	G
1	A	846	C
1	A	855	G
1	A	857	C
1	A	858	U
1	A	859	G
1	A	869	G
1	A	878	A
1	A	887	A
1	A	889	C
1	A	890	A
1	A	896	A

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Mol	Chain	Res	Type
1	A	897	C
1	A	910	A
1	A	914	C
1	A	915	C
1	A	917	A
1	A	919	G
1	A	932	G
1	A	933	A
1	A	934	G
1	A	938	G
1	A	941	A
1	A	946	G
1	A	957	A
1	A	958	U
1	A	959	A
1	A	961	C
1	A	964	C
1	A	974(A)	G
1	A	974(B)	C
1	A	975	G
1	A	979	G
1	A	983	A
1	A	989	G
1	A	990	A
1	A	991	C
1	A	996	A
1	A	1005	C
1	A	1009	A
1	A	1010	A
1	A	1011	G
1	A	1012	U
1	A	1013	C
1	A	1020	A
1	A	1022	G
1	A	1023	U
1	A	1025	G
1	A	1026	U
1	A	1030	G
1	A	1033	U
1	A	1046	A
1	A	1047	G
1	A	1053	C

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Mol	Chain	Res	Type
1	A	1105	U
1	A	1110	G
1	A	1112	G
1	A	1122	G
1	A	1126	A
1	A	1129	A
1	A	1130	U
1	A	1135	C
1	A	1136	G
1	A	1139	G
1	A	1142	U
1	A	114(B)	A
1	A	1143	A
1	A	1151	G
1	A	1155	A
1	A	1156	A
1	A	1174	A
1	A	1175	U
1	A	1177	A
1	A	1178	C
1	A	1190	G
1	A	1205	U
1	A	1210	A
1	A	1211	U
1	A	1212	G
1	A	1220	A
1	A	1221	C
1	A	1227	G
1	A	1236	G
1	A	1241	A
1	A	1253	A
1	A	1256	G
1	A	1269	A
1	A	1271	G
1	A	1272	A
1	A	1273	U
1	A	1287	A
1	A	1288	U
1	A	1289	C
1	A	1300	U
1	A	1301	A
1	A	1310	G

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Mol	Chain	Res	Type
1	A	1313	U
1	A	1314	C
1	A	1329	U
1	A	1332	G
1	A	1338	G
1	A	1343	G
1	A	1344	G
1	A	1345	C
1	A	1349	A
1	A	1352	U
1	A	1359	A
1	A	1360	A
1	A	1365	A
1	A	1368	G
1	A	1380	G
1	A	1384	A
1	A	1385	G
1	A	1386	C
1	A	1396	U
1	A	1416	G
1	A	1417	C
1	A	1420	U
1	A	1427	A
1	A	1428	C
1	A	1434	A
1	A	144(B)	A
1	A	1453	A
1	A	1459	G
1	A	1467	C
1	A	1469	A
1	A	1483	G
1	A	1490	A
1	A	1493	C
1	A	1494	A
1	A	1495	A
1	A	1496	A
1	A	1497	U
1	A	1505	C
1	A	1509	A
1	A	1510	A
1	A	1519	G
1	A	1535	U

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Mol	Chain	Res	Type
1	A	1537	C
1	A	1542	G
1	A	1543	A
1	A	1544	C
1	A	1545	A
1	A	1547	C
1	A	1558	A
1	A	1559	G
1	A	1565	C
1	A	1566	A
1	A	1569	A
1	A	1578	U
1	A	1585	C
1	A	1586	A
1	A	1587	A
1	A	1588	C
1	A	1598	C
1	A	1599	C
1	A	1608	A
1	A	1609	A
1	A	1610	A
1	A	1617	C
1	A	1618	A
1	A	1631	A
1	A	1639	U
1	A	1640	C
1	A	1644	C
1	A	1647	G
1	A	1648	C
1	A	1651	G
1	A	1654	A
1	A	1674	G
1	A	1677	A
1	A	1680	U
1	A	1681	G
1	A	1690	A
1	A	1696	G
1	A	1703	G
1	A	1727	U
1	A	1729	A
1	A	1743	G
1	A	1750	G

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Mol	Chain	Res	Type
1	A	1756	G
1	A	1763	G
1	A	1764	G
1	A	1767	C
1	A	1773	A
1	A	1778	U
1	A	1787	A
1	A	1788	C
1	A	1791	A
1	A	1800	C
1	A	1801	G
1	A	1811	G
1	A	1813	G
1	A	1816	G
1	A	1829	A
1	A	1835	G
1	A	1838	C
1	A	1840	G
1	A	1847	A
1	A	1870	C
1	A	1887	C
1	A	1888	G
1	A	1889	A
1	A	1896	G
1	A	1900	A
1	A	1902	C
1	A	1903	G
1	A	1906	G
1	A	1913	A
1	A	1914	C
1	A	1929	G
1	A	1936	A
1	A	1938	A
1	A	1939	U
1	A	1955	U
1	A	1956	U
1	A	1960	A
1	A	1963	U
1	A	1964	G
1	A	1966	A
1	A	1967	C
1	A	1970	A

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Mol	Chain	Res	Type
1	A	1971	A
1	A	1972	A
1	A	1974	C
1	A	1975	G
1	A	1981	A
1	A	1982	C
1	A	1985	G
1	A	1991	U
1	A	1992	G
1	A	1993	U
1	A	1997	G
1	A	2007	C
1	A	2010	G
1	A	2020	A
1	A	2023	G
1	A	2031	A
1	A	2032	G
1	A	2033	A
1	A	2034	U
1	A	2036	C
1	A	2043	C
1	A	2049	G
1	A	2051	A
1	A	2055	C
1	A	2056	G
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2069	G
1	A	2079	U
1	A	2080	G
1	A	2086	U
1	A	2099	U
1	A	2183	C
1	A	2189	U
1	A	2190	G
1	A	2196	C
1	A	2198	A
1	A	2205	C
1	A	2211	G
1	A	2212	A
1	A	2213	U

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Mol	Chain	Res	Type
1	A	2215	G
1	A	2225	A
1	A	2226	C
1	A	2227	A
1	A	2228	G
1	A	2235	G
1	A	2238	G
1	A	2239	G
1	A	2267	A
1	A	2268	A
1	A	2269	A
1	A	2272	U
1	A	2273	A
1	A	2275	C
1	A	2278	A
1	A	2283	C
1	A	2287	A
1	A	2288	A
1	A	2305	A
1	A	2306	C
1	A	2307	G
1	A	2309	A
1	A	2310	A
1	A	2319	G
1	A	2320	A
1	A	2322	A
1	A	2325	G
1	A	2334	G
1	A	2336	A
1	A	2343	C
1	A	2346	A
1	A	2347	C
1	A	2350	C
1	A	2358	G
1	A	2360	A
1	A	2361	A
1	A	2365	G
1	A	2379	G
1	A	2383	G
1	A	2384	G
1	A	2385	C
1	A	2388	A

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Mol	Chain	Res	Type
1	A	2389	G
1	A	2394	C
1	A	2402	C
1	A	2403	C
1	A	2405	G
1	A	2406	U
1	A	2410	G
1	A	2413	G
1	A	2414	G
1	A	2422	A
1	A	2423	U
1	A	2424	C
1	A	2425	A
1	A	2429	G
1	A	2430	A
1	A	2434	A
1	A	2436	G
1	A	2439	A
1	A	2440	C
1	A	2441	C
1	A	2448	A
1	A	2468	G
1	A	2469	A
1	A	2470	G
1	A	2474	C
1	A	2476	A
1	A	2477	C
1	A	2478	A
1	A	2484	G
1	A	2491	U
1	A	2496	C
1	A	2502	G
1	A	2503	A
1	A	2505	G
1	A	2515	C
1	A	2518	A
1	A	2520	C
1	A	2525	G
1	A	2529	G
1	A	2532	G
1	A	2535	G
1	A	2542	A

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Mol	Chain	Res	Type
1	A	2543	G
1	A	2554	U
1	A	2566	A
1	A	2567	G
1	A	2574	G
1	A	2584	U
1	A	2585	U
1	A	2599	G
1	A	2602	A
1	A	2603	G
1	A	2604	U
1	A	2609	U
1	A	2612	C
1	A	2613	U
1	A	2615	U
1	A	2617	C
1	A	2621	A
1	A	2636	U
1	A	2637	U
1	A	2638	G
1	A	2647	U
1	A	2657	A
1	A	2660	A
1	A	2665	A
1	A	2679	A
1	A	2680	C
1	A	2682	U
1	A	2683	C
1	A	2684	U
1	A	2689	U
1	A	2691	C
1	A	2693	A
1	A	2700	C
1	A	2702	U
1	A	2705	A
1	A	2707	G
1	A	2711	A
1	A	2712	U
1	A	712(B)	A
1	A	2713	A
1	A	2714	G
1	A	2719	G

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Mol	Chain	Res	Type
1	A	2724	C
1	A	2726	U
1	A	2730	C
1	A	2731	G
1	A	2733	A
1	A	2748	A
1	A	2751	G
1	A	2752	C
1	A	2755	C
1	A	2757	A
1	A	2758	A
1	A	2764	A
1	A	2765	A
1	A	2766	G
1	A	2768	C
1	A	2778	A
1	A	2779	U
1	A	2781	A
1	A	2790	A
1	A	2791	C
1	A	2792	G
1	A	2808	U
1	A	2818	G
1	A	2820	A
1	A	2821	A
1	A	2825	U
1	A	2833	G
1	A	2834	G
1	A	2835	A
1	A	2836	U
1	A	2872	G
1	A	2874	C
1	A	2886	G
1	A	2892	A
1	A	2894	G
2	B	5	C
2	B	9	G
2	B	12	C
2	B	13	A
2	B	15	A
2	B	16	G
2	B	23	G

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Mol	Chain	Res	Type
2	B	24	G
2	B	41	U
2	B	42	C
2	B	44	G
2	B	47	C
2	B	65	C
2	B	66	A
2	B	73	A
2	B	82	G
2	B	88	C
2	B	89(A)	G
2	B	89(B)	A
2	B	90	C
2	B	96	G
2	B	100	G
2	B	101	A
2	B	105	G
2	B	107	U
2	B	109	G
2	B	110	G

All (29) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	60	G
1	A	196	A
1	A	257	A
1	A	385	C
1	A	479	A
1	A	685	A
1	A	746	A
1	A	791	C
1	A	858	U
1	A	974(A)	G
1	A	1022	G
1	A	1210	A
1	A	1343	G
1	A	1379	A
1	A	1558	A
1	A	1608	A
1	A	1609	A
1	A	1617	C

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Mol	Chain	Res	Type
1	A	1786	A
1	A	1936	A
1	A	2062	A
1	A	2225	A
1	A	2272	U
1	A	2275	C
1	A	2405	G
1	A	2433	A
1	A	2435	A
1	A	2439	A
1	A	2542	A

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	2760/2879 (95%)	0.06	77 (2%) 50 21	25, 63, 178, 410	0
2	B	119/119 (100%)	0.77	16 (13%) 4 2	78, 129, 184, 236	0
3	C	271/271 (100%)	-0.05	2 (0%) 84 52	18, 57, 109, 177	0
4	D	204/204 (100%)	-0.01	0 100 100	33, 71, 145, 347	0
5	E	202/202 (100%)	0.06	4 (1%) 62 28	25, 73, 155, 192	0
6	F	181/181 (100%)	0.60	20 (11%) 6 4	104, 185, 268, 331	0
7	G	159/159 (100%)	0.21	6 (3%) 38 15	79, 136, 186, 235	0
8	H	145/145 (100%)	0.96	20 (13%) 4 2	64, 236, 379, 480	0
9	I	32/65 (49%)	0.70	3 (9%) 9 4	168, 253, 310, 334	0
10	J	137/137 (100%)	-0.04	3 (2%) 59 25	52, 81, 146, 194	0
11	K	122/122 (100%)	-0.02	1 (0%) 83 49	41, 69, 111, 162	0
12	L	146/146 (100%)	0.23	7 (4%) 29 12	32, 97, 163, 293	0
13	M	136/136 (100%)	0.36	6 (4%) 33 13	48, 88, 205, 406	0
14	N	117/117 (100%)	0.20	3 (2%) 53 21	43, 73, 134, 235	0
15	O	98/98 (100%)	0.51	9 (9%) 9 5	80, 136, 190, 215	0
16	P	137/137 (100%)	0.30	8 (5%) 22 8	55, 92, 190, 273	0
17	Q	116/116 (100%)	-0.03	0 100 100	26, 74, 126, 248	0
18	R	101/101 (100%)	0.16	0 100 100	41, 110, 156, 259	0
19	S	112/112 (100%)	-0.11	3 (2%) 52 21	43, 59, 134, 255	0
20	T	92/92 (100%)	0.04	0 100 100	36, 73, 127, 169	0
21	U	100/100 (100%)	0.44	9 (9%) 10 5	61, 102, 251, 408	0
22	V	188/188 (100%)	0.31	10 (5%) 25 9	83, 139, 194, 230	0
23	W	76/76 (100%)	0.19	3 (3%) 37 14	59, 84, 135, 256	0
24	X	88/88 (100%)	0.33	3 (3%) 43 17	39, 70, 153, 326	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	Y	62/62 (100%)	-0.01	2 (3%) 45 18	51, 96, 212, 328	0
26	Z	59/59 (100%)	-0.02	1 (1%) 67 31	45, 85, 157, 305	0
27	1	30/30 (100%)	0.96	5 (16%) 2 2	183, 261, 306, 358	0
28	2	52/52 (100%)	-0.03	1 (1%) 64 29	21, 72, 197, 229	0
29	3	44/44 (100%)	2.06	19 (43%) 1 1	141, 245, 312, 333	0
30	4	48/48 (100%)	0.10	1 (2%) 60 27	21, 41, 91, 200	0
31	5	63/63 (100%)	0.60	4 (6%) 19 8	45, 70, 132, 216	0
All	All	6197/6349 (97%)	0.17	246 (3%) 36 14	18, 77, 220, 480	0

All (246) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
29	3	47	THR	12.1
1	A	2801	A	11.2
12	L	150	ALA	10.4
1	A	10	G	9.8
1	A	2798	C	9.8
1	A	11	G	9.6
1	A	2797	U	9.2
2	B	88	C	8.0
29	3	49	HIS	7.4
12	L	149	GLU	7.0
1	A	2799	A	7.0
1	A	2795	G	6.5
13	M	141	GLN	6.5
22	V	181	GLU	6.4
1	A	2378	A	6.3
1	A	12	U	6.1
9	I	5	ARG	6.0
1	A	2602	A	6.0
1	A	2803	C	5.8
1	A	2895	U	5.7
2	B	89(B)	A	5.3
1	A	1741	C	5.2
8	H	71	ILE	5.2
29	3	43	CYS	5.1
1	A	888	C	5.0
15	O	105	ALA	5.0
2	B	11	C	4.9
6	F	26	GLN	4.7

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Mol	Chain	Res	Type	RSRZ
27	1	65	CYS	4.6
2	B	87	G	4.5
2	B	89(A)	G	4.5
13	M	140	ALA	4.5
8	H	132	PRO	4.5
6	F	30	GLU	4.4
1	A	1420	U	4.4
16	P	115	ARG	4.3
29	3	15	GLU	4.3
8	H	117	GLU	4.3
29	3	36	LEU	4.3
1	A	2379	G	4.3
8	H	92	VAL	4.3
8	H	116	LEU	4.3
1	A	896	A	4.2
8	H	4	ILE	4.1
1	A	508	G	4.1
22	V	189	ALA	4.1
6	F	118	ARG	4.1
21	U	89	PHE	4.0
1	A	229	A	4.0
2	B	57	A	3.9
2	B	12	C	3.9
15	O	21	THR	3.9
5	E	207	GLY	3.9
1	A	277	C	3.9
1	A	438	G	3.9
1	A	2897	U	3.8
3	C	2	ALA	3.8
8	H	114	LEU	3.8
6	F	85	GLY	3.7
6	F	2	PRO	3.7
29	3	41	PRO	3.6
1	A	1116	C	3.6
1	A	1879	C	3.6
29	3	50	ARG	3.6
2	B	91	C	3.6
1	A	2402	C	3.6
21	U	79	CYS	3.5
26	Z	1	MET	3.5
29	3	18	ARG	3.5
8	H	1	MET	3.5

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Mol	Chain	Res	Type	RSRZ
6	F	116	ASP	3.5
15	O	106	ARG	3.5
6	F	152	LEU	3.5
1	A	2828	C	3.5
7	G	57	ASP	3.4
1	A	2187	G	3.4
1	A	2804	C	3.4
1	A	2376	A	3.4
22	V	80	ARG	3.4
1	A	2894	G	3.4
8	H	94	ALA	3.3
1	A	1026	U	3.3
14	N	57	ARG	3.3
23	W	71	ASP	3.3
1	A	1742	C	3.3
8	H	98	ALA	3.3
6	F	80	PHE	3.2
29	3	21	TYR	3.2
8	H	41	GLU	3.2
29	3	17	LYS	3.2
29	3	31	PRO	3.2
29	3	48	VAL	3.2
11	K	90	GLN	3.1
6	F	150	ASP	3.1
21	U	76	CYS	3.1
29	3	20	ASN	3.1
1	A	34	C	3.1
1	A	2377	A	3.0
6	F	72	ARG	3.0
1	A	1104	C	3.0
8	H	18	VAL	3.0
2	B	86	G	3.0
14	N	59	ASP	3.0
8	H	118	LYS	3.0
2	B	55	U	2.9
1	A	653	C	2.9
1	A	645	C	2.9
29	3	19	ARG	2.9
14	N	58	GLY	2.9
10	J	31	GLN	2.8
1	A	1963	U	2.8
16	P	113	LYS	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	614	U	2.8
10	J	30	LYS	2.8
6	F	3	LEU	2.8
22	V	81	ARG	2.8
13	M	137	TYR	2.8
1	A	2188	C	2.8
6	F	86	MET	2.8
31	5	64	TYR	2.8
7	G	53	GLU	2.8
21	U	78	ALA	2.8
2	B	13	A	2.8
19	S	1	MET	2.8
2	B	22	U	2.7
1	A	537	C	2.7
31	5	21	LYS	2.7
8	H	70	GLU	2.7
15	O	102	ALA	2.7
1	A	2629	A	2.7
6	F	28	VAL	2.7
1	A	1535	U	2.7
12	L	148	LEU	2.7
7	G	169	VAL	2.7
6	F	13	GLU	2.7
16	P	129	ARG	2.7
29	3	37	ARG	2.7
2	B	58	A	2.7
6	F	25	TYR	2.6
16	P	114	LEU	2.6
1	A	2334	G	2.6
1	A	270(P)	U	2.6
15	O	64	GLU	2.6
29	3	44	ARG	2.6
1	A	1632	A	2.6
23	W	74	ARG	2.6
25	Y	16	LEU	2.6
22	V	162	GLU	2.6
22	V	160	GLY	2.6
8	H	115	ALA	2.6
12	L	110	TYR	2.6
27	1	54	LYS	2.6
5	E	23	ASP	2.6
23	W	75	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
6	F	95	ARG	2.6
1	A	1347	G	2.5
5	E	6	MET	2.5
16	P	111	ARG	2.5
1	A	776	G	2.5
8	H	90	GLY	2.5
19	S	108	GLY	2.5
1	A	950	G	2.5
1	A	1631	A	2.5
24	X	27	GLU	2.5
31	5	54	GLU	2.5
29	3	45	LYS	2.4
2	B	90	C	2.4
28	2	37	LYS	2.4
1	A	2362	G	2.4
31	5	63	PRO	2.4
13	M	136	ALA	2.4
12	L	111	ARG	2.4
1	A	1878	G	2.4
2	B	97	G	2.4
16	P	132	LYS	2.4
27	1	53	THR	2.3
1	A	2896	C	2.3
7	G	47	GLU	2.3
15	O	87	PHE	2.3
9	I	14	LYS	2.3
1	A	1217	C	2.3
1	A	540	G	2.3
1	A	230	U	2.3
12	L	108	LYS	2.3
21	U	2	ARG	2.3
1	A	1346	G	2.3
22	V	157	LEU	2.3
27	1	50	THR	2.3
22	V	77	ASP	2.3
8	H	84	GLY	2.3
22	V	159	PRO	2.3
1	A	702	G	2.3
1	A	1056	G	2.3
1	A	1032	A	2.3
7	G	46	GLU	2.3
13	M	139	GLU	2.3

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Mol	Chain	Res	Type	RSRZ
24	X	28	GLY	2.3
1	A	1421	G	2.2
1	A	1860	G	2.2
1	A	2805	G	2.2
5	E	145	GLU	2.2
8	H	2	LYS	2.2
1	A	405	U	2.2
2	B	52	A	2.2
16	P	112	ARG	2.2
7	G	100	GLY	2.2
9	I	21	GLN	2.2
1	A	440	G	2.2
16	P	116	ALA	2.2
21	U	59	GLY	2.2
1	A	1731	G	2.2
6	F	27	ASN	2.2
15	O	108	GLY	2.2
29	3	46	HIS	2.2
1	A	271(D)	U	2.2
6	F	75	LYS	2.2
8	H	133	HIS	2.2
25	Y	43	GLN	2.2
15	O	74	ALA	2.1
8	H	85	GLU	2.1
10	J	161	LEU	2.1
1	A	1373	A	2.1
1	A	1861	G	2.1
3	C	26	LYS	2.1
27	1	56	GLU	2.1
6	F	29	TRP	2.1
1	A	1848	A	2.1
13	M	7	MET	2.1
21	U	62	GLU	2.1
29	3	42	TRP	2.1
22	V	73	GLN	2.1
1	A	2490	G	2.1
19	S	2	GLU	2.1
1	A	899	A	2.1
15	O	75	GLU	2.1
1	A	866	A	2.1
1	A	439	G	2.1
1	A	1311	G	2.1

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Mol	Chain	Res	Type	RSRZ
6	F	84	LYS	2.0
30	4	47	ARG	2.0
12	L	106	LEU	2.0
21	U	63	LYS	2.0
21	U	53	PRO	2.0
1	A	258	G	2.0
1	A	1218	C	2.0
24	X	30	VAL	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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

6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.