



Full wwPDB X-ray Structure Validation Report

Sep 15, 2014 – 11:19 AM EDT

PDB ID : 1VVM
Title : Crystal Structure of Frameshift Suppressor tRNA SufA6 Bound to Codon CCC-U on the Ribosome
Authors : Maehigashi, T.; Dunkle, J.A.; Dunham, C.M.
Deposited on : 2013-06-07
Resolution : 3.22 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>

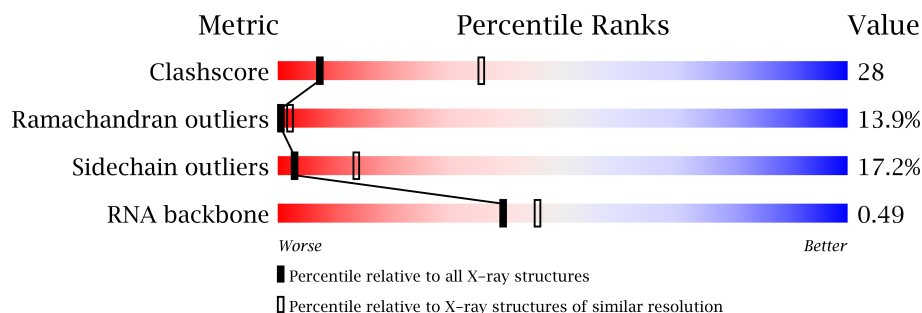
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.16 November 2013
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 21963
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable23489

1 Overall quality at a glance

The reported resolution of this entry is 3.22 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))
Clashscore	79885	1072 (3.28-3.16)
Ramachandran outliers	78287	1052 (3.28-3.16)
Sidechain outliers	78261	1051 (3.28-3.16)
RNA backbone	1838	1004 (3.74-2.70)

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.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	2916	
2	B	122	
3	D	276	
4	E	206	
5	F	210	
6	G	182	
7	H	180	
8	I	148	
9	N	140	
10	O	122	
11	P	150	
12	Q	141	
13	R	118	
14	S	112	

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Mol	Chain	Length	Quality of chain
15	T	146	
16	U	118	
17	V	101	
18	W	113	
19	X	96	
20	Y	110	
21	Z	206	
22	0	85	
23	1	98	
24	2	72	
25	3	60	
26	4	71	
27	5	60	
28	6	54	
29	7	49	
30	8	65	
31	9	37	
32	a	3	

2 Entry composition

There are 34 unique types of molecules in this entry. The entry contains 92246 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 rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	2882	Total	C	N	O	P	0	0	0
			62071	27627	11611	19952	2881			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	D	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	E	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	F	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	G	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	H	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	I	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			

- Molecule 9 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	N	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 10 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	O	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

- Molecule 11 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	P	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			

- Molecule 12 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	Q	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 13 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	R	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 14 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	S	111	Total	C	N	O	0	0	0
			882	556	176	150			

- Molecule 15 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	T	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			

- Molecule 16 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	U	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 17 is a protein called 50S ribosomal protein L21.

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

- Molecule 18 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	W	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 19 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
19	X	92	Total	C	N	O	0	0	0
			725	471	131	123			

- Molecule 20 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	Y	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			

- Molecule 21 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	Z	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

- Molecule 22 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			

- Molecule 23 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			

- Molecule 24 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			

- Molecule 25 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
25	3	59	Total	C	N	O	0	0	0
			469	298	90	81			

- Molecule 26 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			

- Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 28 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			

- Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 30 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 32 is a RNA chain called tRNA acceptor end mimic.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	a	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

- Molecule 33 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	P	2	Total	Mg	0	0
			2	2		
33	0	1	Total	Mg	0	0
			1	1		
33	D	1	Total	Mg	0	0
			1	1		
33	E	2	Total	Mg	0	0
			2	2		
33	B	2	Total	Mg	0	0
			2	2		
33	5	1	Total	Mg	0	0
			1	1		

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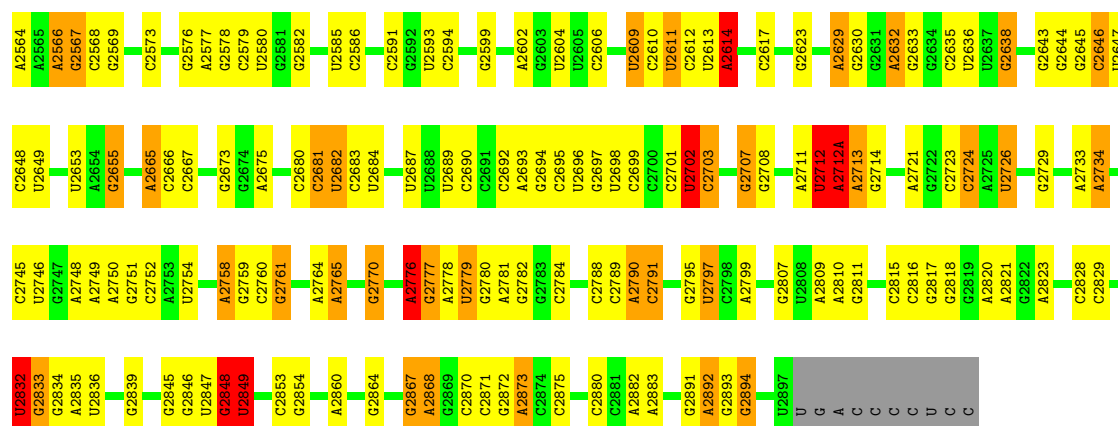
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	A	241	Total 241	Mg 241	0	0
33	U	1	Total 1	Mg 1	0	0
33	8	1	Total 1	Mg 1	0	0
33	R	1	Total 1	Mg 1	0	0
33	F	1	Total 1	Mg 1	0	0

- Molecule 34 is ZINC ION (three-letter code: ZN) (formula: Zn).

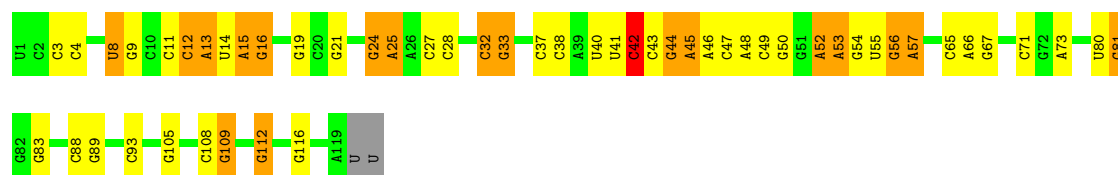
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	9	1	Total 1	Zn 1	0	0

U2462	G2382	A2298	C2183	G2087	G1863	C1771	C1648	A1536	A1444A	U1341	G1256	G1154	C1076	G1003
C2463	G2383	G2299	G2184	U2099	U1864	G1772	G1653	C1537	C1445	A1342	C1257	A1155	A1077	C1004
C2466	G2384	G2304	G2190	G1989	G1869	A1773	A1654	G1538	C1445	G1348	C1258	C1161	U1078	C1005
C2467	C2385	A2305	G2191	C1990	C1870	A1773	A1655	A1542	G1449	A1349	U1263	G1162	C1079	C1006
G2468	C2467	C2306	G2192	U1991	A1871	A1780	C1656	A1543	G1449A	A1349	U1263	U1081	U1080	C1007
A2469	A2388	G2307	G2197	U1993	G1878	C1782	C1657	C1544	A1354	A1354	G1264	U1165	U1082	C1008
G2470	G2392	G2308	A2198	G1998	C1882	A1786	U1659	A1545	U1454	A1359	G1266	C1166	U1083	A1009
C2474	A2393	U2311	A2199	C1999	A1883	A1787	C1660	C1547	G1455	A1359	G1266	U1083	A1010	A1010
G2475	C2394	U2312	G2208	G2009	A1884	A1790	C1661	A1554	C1458	G1364	G1271	G1169	A1084	G1011
A2476	C2395	C2313	C2209	U2010	A1885	A1791	G1667	A1558	A1460	A1365	A1272	G1170	A1085	U1012
C2477	G2396	C2314	C2210	U2011	A1889	G1792	A1668	A1559	G1461	A1365	U1273	G1171	G1087	C1013
U2398	G2397	G2318	G2211	G2012	A1896	C1795	A1669	G1569	C1462	G1368	U1273	G1172	A1088	U1014
G2481	U2401	G2319	A2212	A2013	G1899	C1796	G1674	G1569	C1463	G1371	A1278	U1175	U1089	G1015
C2482	C2403	A2320	G2213	A2014	A1900	C1797	G1678	A1569	C1464	U1372	G1279	U1176	U1090	U1019
G2484	C2404	G2326	G2216	A2015	A1901	G1798	G1682	C1577	C1467	A1379	A1286	A1177	G1093	A1020
G2485	G2405	A2327	G2219	G2018	C1902	C1800	U1688	U1578	A1471	G1380	U1288	G1184	U1094	A1021
U2490	U2406	C2329	G2224	A2019	G1903	G1801	U1688	A1579	A1477	A1384	C1291	G1187	U1094	A1022
G2494	G2410	G2330	C2226	U2022	G1904	A1802	A1689	A1580	U1482	G1385	U1292	U1188	A1095	G1023
C2499	A2411	G2331	G2023	G2024	C1905	A1803	A1689	G1581	U1483	C1386	C1293	A1189	A1096	U1024
G2502	G2416	A2336	U2232	C2025	A1913	G1811	U1693	C1588	G1483	A1395	C1297	G1190	U1101	U1025
U2503	C2416	A2336	G2234	C2026	C1924	G1812	C1694	A1586	G1484	U1396	C1298	G1190	U1102	A1026
A2504	U2419	C2342	G2238	A2031	C1925	G1813	A1698	A1587	G1487	U1397	U1300	G1195	U1103	A1027
G2505	G2420	C2343	G2239	G2032	U1926	A1814	A1699	C1589	U1490	C1398	U1301	G1195	U1104	A1028
U2506	C2421	U2344	G2243	A2033	A1927	G1816	A1700	U1590	A1490	G1401	A1302	G1110	G1111	G1041
C2507	A2422	G2345	U2243	A2136	A1928	G1817	A1701	U1591	C1493	C1402	A1303	G1112	A1112	G1042
G2508	U2423	A2346	U2244	C2136	G1929	A1818	U1709	G1595	C1493	C1403	A1303	G1113	U1113	G1043
C2517	A2425	U2348	G2246	C2146	U1930	A1819	C1710	A1496	U1497	U1405	C1306	G1114	G1114	A1044
U2518	A2426	G2349	G2250	G2147	U1931	A1820	G1725	C1598	C1498	C1407	G1309	G1122	G1047	A1046
U2519	G2350	G2351	C2250	G2148	G1936	G1824	G1725	A1607	C1498	A1408	G1310	U1210	A1048	G1047
C2527	A2430	G2352	C2264	U2149	A1936	A1825	G1728	A1608	C1505	C1411	G1311	G1125	C1049	A1050
U2528	A2431	G2353	G2264	G2151	A1937	C1827	A1729	A1609	C1506	C1412	U1312	A1126	G1055	G1055
G2529	A2432	A2054	A2269	G2152	A1938	G1828	U1730	A1610	C1507	A1412	U1313	A1129	U1060	G1056
A2530	A2433	C2055	A2269	G2152	U1939	A1829	G1731	A1614	C1508	G1413	U1314	U1130	U1061	G1057
U2537	A2434	G2056	C2275	G2157	U1940	U1833	A1732	C1615	C1509	G1414	U1315	G1131	G1068	G1068
C2538	A2435	G2356	G2276	A2158	C1947	U1834	G1733	A1616	A1510	U1415	A1317	C1135	A1064	A1064
U2542	G2436	C2359	G2277	G2159	A2059	G1835	C1742	A1617	A1511	G1416	G1318	G1136	G1059	G1059
A2543	U2437	A2360	C2284	G2160	A2060	A1836	G1743	A1618	U1514	G1417	G1319	G1137	U1060	U1060
G2544	A2438	A2361	C2285	G2165	A2062	G1839	G1743	C1617	U1514	G1418	A1321	G1138	U1061	U1061
U2554	C2440	G2365	A2286	U2166	U1963	A1847	G1750	G1622	U1515	U1420	G1327	G1139	G1062	G1062
G2555	A2441	G2365	A2287	U2167	G1964	A1848	C1764	C1636	U1520	G1421	C1327	C1140	G1063	G1063
C2556	G2446	A2369	A2288	G2168	C1967	G1849	A1756	A1637	G1521	G1422	G1328	U1141	C1064	C1064
G2557	G2447	G2370	A2288	A2169	G1968	G1850	G1756	G1522	G1522	U1429	U1329	U1142	U1065	U1065
A2448	A2448	G2372	C2292	A2173	A1969	A1853	U1757	C1640	G1525	A1427	U1330	A1142A	U1066	U1066
C2559	U2449	G2373	C2293	A2176	A1970	A1854	U1758	G1643	A1528	C1428	A1331	A1142A	A1067	A1067
U2562	A2450	C2374	C2294	A2181	A1971	A1854	G1763	G1644	A1528	G1429	G1332	G1149	G1149	G1068
U2563	G2455	A2377	C2295	G2182	G1980	G1858	G1764	G1646	G1534	U1431	U1335	C1150	A1069	A1069
					A1981	G1862		G1647	U1535	G1436	U1340	C1152	G1071	A1070
														G1071



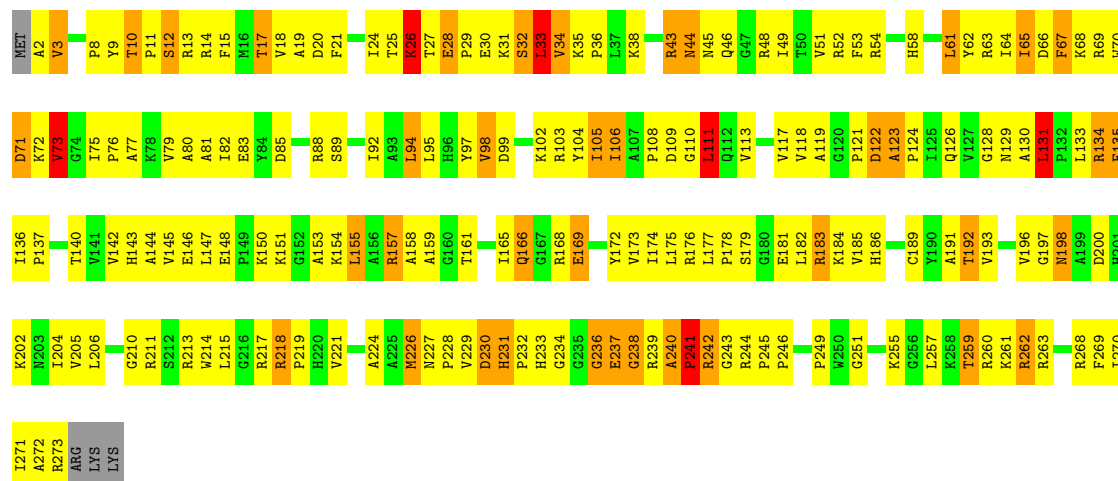
• Molecule 2: 5S rRNA

Chain B:



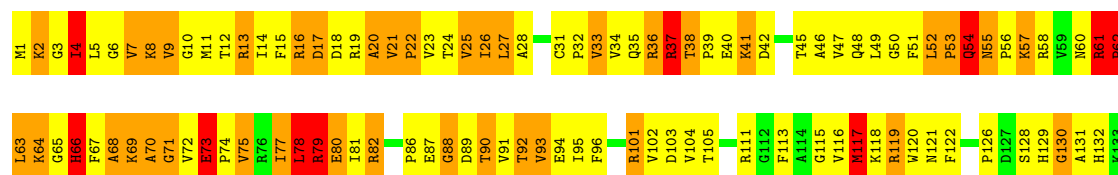
• Molecule 3: 50S ribosomal protein L2

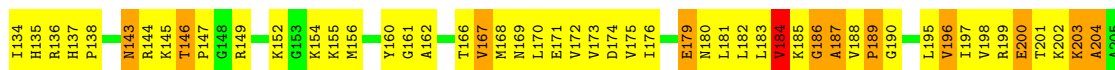
Chain D:



• Molecule 4: 50S ribosomal protein L3

Chain E:

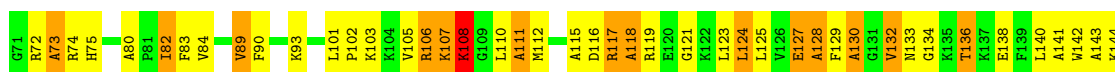




LYS

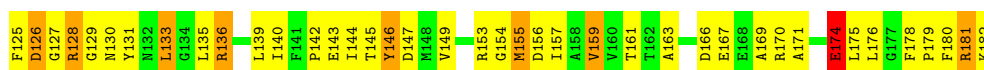
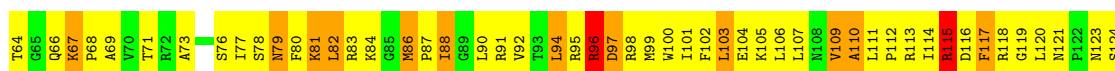
- Molecule 5: 50S ribosomal protein L4

Chain F:



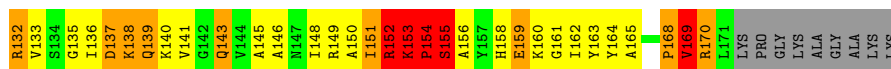
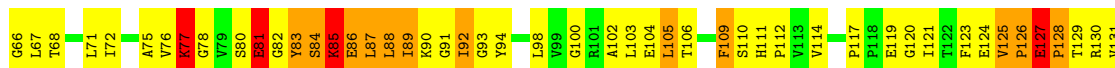
- Molecule 6: 50S ribosomal protein L5

Chain G:



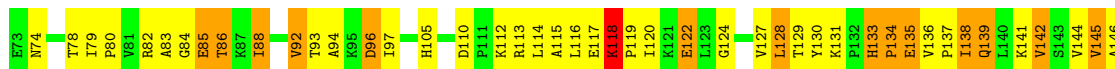
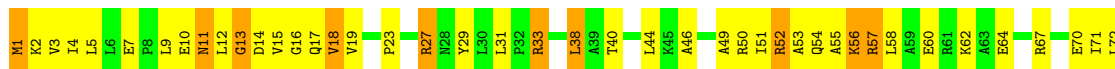
- Molecule 7: 50S ribosomal protein L6

Chain H:



- Molecule 8: 50S ribosomal protein L9

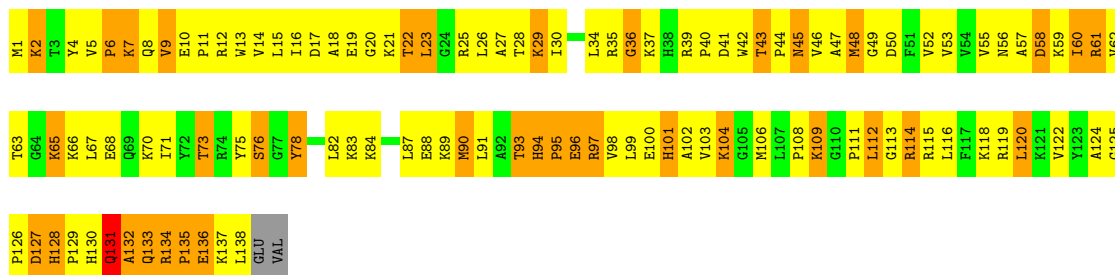
Chain I:



GLN
GLU

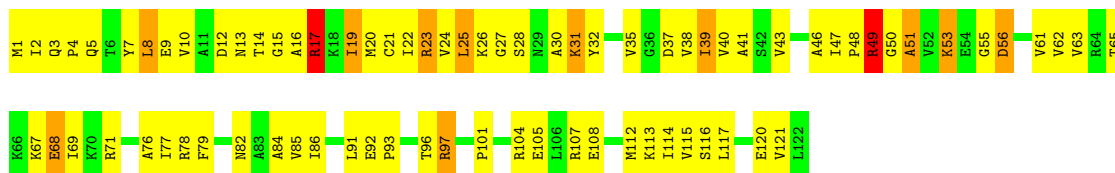
- Molecule 9: 50S ribosomal protein L13

Chain N:



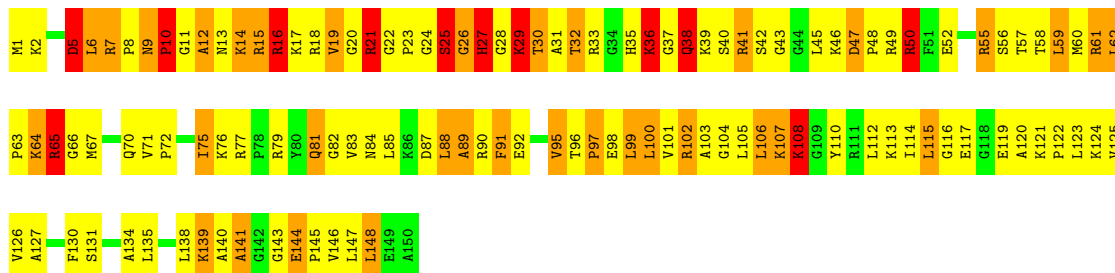
- Molecule 10: 50S ribosomal protein L14

Chain O:



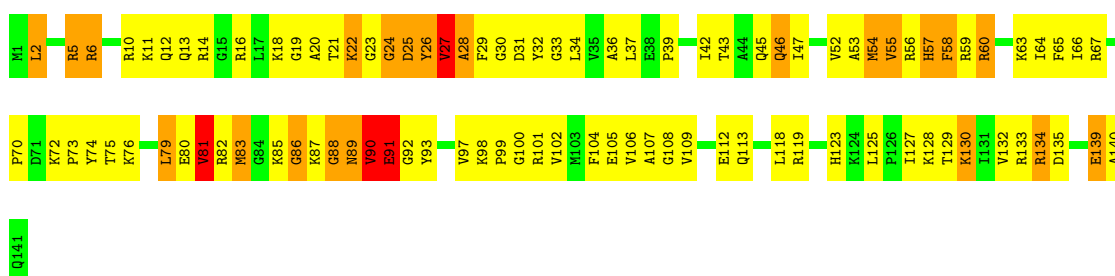
- Molecule 11: 50S ribosomal protein L15

Chain P:



- Molecule 12: 50S ribosomal protein L16

Chain Q:



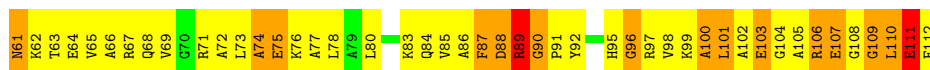
- Molecule 13: 50S ribosomal protein L17

Chain R:



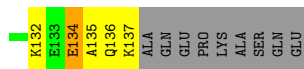
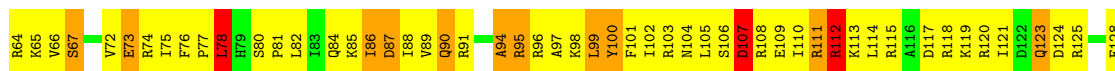
• Molecule 14: 50S ribosomal protein L18

Chain S:



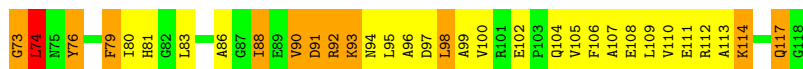
• Molecule 15: 50S ribosomal protein L19

Chain T:



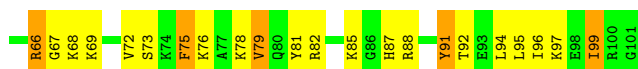
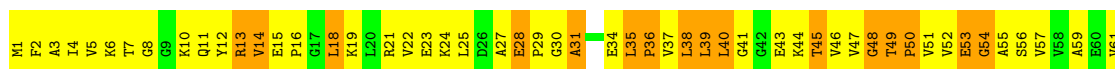
• Molecule 16: 50S ribosomal protein L20

Chain U:



• Molecule 17: 50S ribosomal protein L21

Chain V:



• Molecule 18: 50S ribosomal protein L22

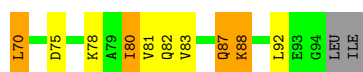
Chain W:





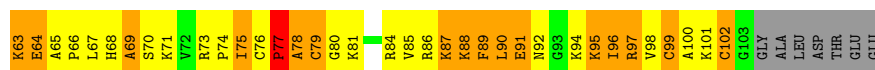
• Molecule 19: 50S ribosomal protein L23

Chain X:



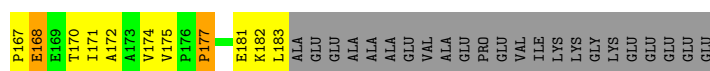
• Molecule 20: 50S ribosomal protein L24

Chain Y:



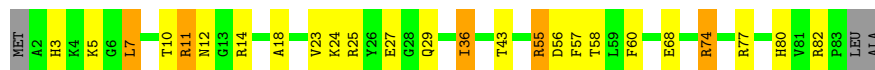
• Molecule 21: 50S ribosomal protein L25

Chain Z:



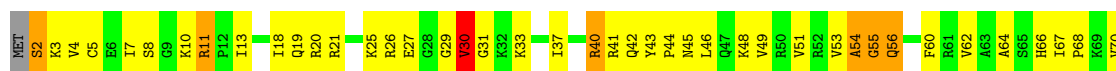
• Molecule 22: 50S ribosomal protein L27

Chain 0:



• Molecule 23: 50S ribosomal protein L28

Chain 1:



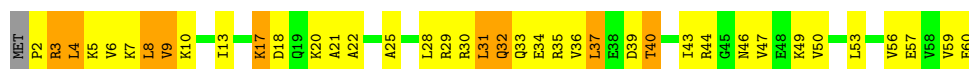
• Molecule 24: 50S ribosomal protein L29

Chain 2:



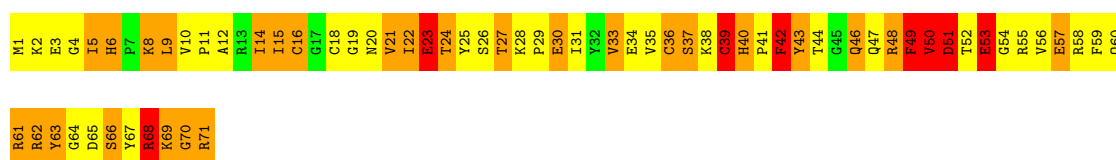
- Molecule 25: 50S ribosomal protein L30

Chain 3:



- Molecule 26: 50S ribosomal protein L31

Chain 4:



- Molecule 27: 50S ribosomal protein L32

Chain 5:



- Molecule 28: 50S ribosomal protein L33

Chain 6:



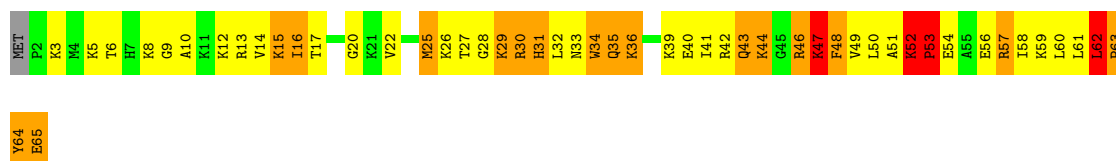
- Molecule 29: 50S ribosomal protein L34

Chain 7:



- Molecule 30: 50S ribosomal protein L35

Chain 8:



- Molecule 31: 50S ribosomal protein L36

Chain 9:



- Molecule 32: tRNA acceptor end mimic

Chain a:



4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section will therefore be incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	210.20Å 450.23Å 621.74Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.97 – 3.22	Depositor
% Data completeness (in resolution range)	98.5 (34.97-3.22)	Depositor
R_{merge}	0.25	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	PHENIX	Depositor
R, R_{free}	0.229 , 0.260	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	92246	wwPDB-VP
Average B, all atoms (Å ²)	90.0	wwPDB-VP

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.39	1/69521 (0.0%)	0.91	95/108529 (0.1%)
2	B	0.34	0/2878	0.89	3/4490 (0.1%)
3	D	0.59	2/2165 (0.1%)	0.90	4/2919 (0.1%)
4	E	0.52	0/1601	0.91	2/2160 (0.1%)
5	F	0.50	0/1620	0.76	0/2194
6	G	0.40	0/1499	0.66	0/2016
7	H	0.45	0/1332	0.85	3/1802 (0.2%)
8	I	0.29	0/1151	0.63	0/1558
9	N	0.46	0/1131	0.78	1/1525 (0.1%)
10	O	0.53	0/943	0.71	0/1269
11	P	0.50	0/1162	0.94	3/1544 (0.2%)
12	Q	0.54	0/1143	0.90	3/1527 (0.2%)
13	R	0.45	0/982	0.80	1/1312 (0.1%)
14	S	0.46	0/892	0.82	1/1187 (0.1%)
15	T	0.47	0/1155	0.73	2/1542 (0.1%)
16	U	0.48	0/982	0.78	0/1306
17	V	0.47	0/790	0.82	0/1057
18	W	0.45	0/911	0.75	0/1220
19	X	0.56	0/739	0.77	0/993
20	Y	0.52	0/798	0.80	0/1064
21	Z	0.32	0/1493	0.60	0/2026
22	0	0.30	0/657	0.56	0/874
23	1	0.49	0/770	0.85	1/1022 (0.1%)
24	2	0.51	0/583	0.83	1/771 (0.1%)
25	3	0.47	0/474	0.72	0/635
26	4	0.38	0/594	0.78	1/795 (0.1%)
27	5	0.51	0/473	0.74	0/639
28	6	0.42	0/431	0.76	0/575
29	7	0.56	0/438	0.76	0/575
30	8	0.62	0/525	0.93	1/691 (0.1%)
31	9	0.35	0/310	0.59	0/407
32	a	0.79	0/40	1.79	1/60 (1.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	0.41	3/100183 (0.0%)	0.88	123/150284 (0.1%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	236	GLY	C-N	8.55	1.53	1.34
1	A	654(T)	C	C1'-N1	5.71	1.57	1.48
3	D	241	PRO	N-CD	5.15	1.55	1.47

All (123) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	E	21	VAL	C-N-CD	-10.07	98.45	120.60
1	A	945	A	P-O3'-C3'	9.62	131.25	119.70
12	Q	81	VAL	CB-CA-C	-8.65	94.97	111.40
1	A	2506	U	N3-C2-O2	-7.87	116.69	122.20
23	1	79	GLY	N-CA-C	-7.84	93.51	113.10
1	A	2506	U	N1-C2-O2	7.78	128.25	122.80
1	A	1899	G	N3-C2-N2	7.56	125.19	119.90
1	A	1929	G	N1-C6-O6	7.44	124.36	119.90
11	P	59	LEU	N-CA-C	-7.25	91.41	111.00
1	A	1899	G	N1-C2-N2	-7.25	109.68	116.20
1	A	1396	U	C2-N1-C1'	7.17	126.30	117.70
1	A	2506	U	C2-N1-C1'	7.15	126.28	117.70
1	A	2702	U	C2-N1-C1'	7.11	126.23	117.70
1	A	2468	G	C4-N9-C1'	7.05	135.66	126.50
12	Q	81	VAL	N-CA-C	7.05	130.03	111.00
1	A	974(A)	C	C6-N1-C2	-6.86	117.56	120.30
1	A	1899	G	N3-C4-N9	6.83	130.10	126.00
1	A	2053	G	C5-N7-C8	-6.76	100.92	104.30
2	B	42	C	C2-N1-C1'	-6.71	111.42	118.80
32	a	74	C	N1-C2-O2	6.69	122.91	118.90
1	A	2614	A	C6-N1-C2	-6.68	114.59	118.60
1	A	1301	A	P-O3'-C3'	6.68	127.72	119.70
1	A	1396	U	N1-C2-O2	6.57	127.40	122.80
1	A	1396	U	N3-C2-O2	-6.54	117.62	122.20
3	D	131	LEU	CA-CB-CG	6.52	130.29	115.30
1	A	1786	A	N7-C8-N9	6.49	117.04	113.80
1	A	1980	G	P-O3'-C3'	6.49	127.48	119.70
1	A	1786	A	C5-N7-C8	-6.47	100.66	103.90
1	A	242	G	P-O3'-C3'	6.35	127.32	119.70
1	A	1799	G	P-O3'-C3'	6.33	127.30	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1899	G	C6-C5-N7	-6.24	126.65	130.40
1	A	265	A	O4'-C1'-N9	6.22	113.17	108.20
1	A	1882	C	C2-N1-C1'	6.19	125.61	118.80
1	A	1929	G	C6-C5-N7	-6.15	126.71	130.40
2	B	42	C	C6-N1-C1'	6.15	128.18	120.80
1	A	2702	U	C5-C6-N1	6.06	125.73	122.70
13	R	9	LYS	N-CA-C	-6.04	94.68	111.00
1	A	2614	A	N1-C2-N3	5.98	132.29	129.30
1	A	1694	C	P-O3'-C3'	5.95	126.84	119.70
1	A	2468	G	O4'-C1'-N9	5.93	112.95	108.20
1	A	205	G	P-O3'-C3'	5.93	126.82	119.70
1	A	2468	G	C8-N9-C1'	-5.93	119.29	127.00
3	D	240	ALA	C-N-CD	5.93	140.85	128.40
1	A	2053	G	C8-N9-C1'	5.88	134.64	127.00
7	H	125	VAL	C-N-CD	-5.87	107.68	120.60
1	A	1301	A	OP1-P-O3'	5.84	118.06	105.20
1	A	1130	U	P-O3'-C3'	5.84	126.71	119.70
4	E	58	ARG	N-CA-C	-5.83	95.25	111.00
1	A	140	A	N7-C8-N9	5.82	116.71	113.80
1	A	676	A	O4'-C1'-N9	5.81	112.84	108.20
1	A	2053	G	C8-N9-C4	-5.80	104.08	106.40
11	P	26	GLY	N-CA-C	-5.79	98.63	113.10
24	2	16	LEU	N-CA-C	-5.74	95.51	111.00
1	A	783	A	N7-C8-N9	5.71	116.66	113.80
1	A	2490	G	C4-N9-C1'	5.66	133.86	126.50
1	A	404	C	P-O3'-C3'	5.64	126.47	119.70
1	A	1929	G	C5-C6-O6	-5.63	125.22	128.60
1	A	28	A	N7-C8-N9	5.61	116.60	113.80
1	A	1786	A	C6-C5-N7	-5.60	128.38	132.30
1	A	1543	A	O4'-C1'-N9	5.57	112.66	108.20
1	A	1204	A	O4'-C1'-N9	5.57	112.65	108.20
9	N	114	ARG	N-CA-C	-5.56	95.98	111.00
1	A	1992	G	P-O3'-C3'	5.56	126.38	119.70
26	4	39	CYS	N-CA-C	-5.56	96.00	111.00
1	A	733	G	C5-N7-C8	-5.54	101.53	104.30
1	A	1078	U	P-O3'-C3'	5.53	126.34	119.70
1	A	774	A	C2-N3-C4	-5.48	107.86	110.60
1	A	227	A	P-O3'-C3'	5.47	126.27	119.70
3	D	251	GLY	N-CA-C	5.47	126.78	113.10
7	H	127	GLU	N-CA-C	-5.45	96.28	111.00
1	A	2430	A	N1-C2-N3	5.44	132.02	129.30
11	P	25	SER	N-CA-C	-5.44	96.31	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	27	G	C4-N9-C1'	-5.43	119.44	126.50
1	A	828	U	N3-C2-O2	-5.42	118.41	122.20
1	A	669	G	C4-N9-C1'	5.42	133.54	126.50
1	A	1929	G	C4-C5-N7	5.41	112.96	110.80
1	A	2832	U	P-O3'-C3'	5.40	126.19	119.70
1	A	974(A)	C	P-O3'-C3'	5.38	126.16	119.70
1	A	974(A)	C	N3-C2-O2	-5.38	118.13	121.90
1	A	2726	U	C2-N1-C1'	5.38	124.15	117.70
1	A	99	U	P-O3'-C3'	5.37	126.15	119.70
1	A	1929	G	OP1-P-O3'	5.37	117.01	105.20
1	A	1241	A	O4'-C1'-N9	5.36	112.49	108.20
1	A	383	U	N1-C2-O2	5.36	126.55	122.80
1	A	27	G	N3-C4-N9	-5.35	122.79	126.00
1	A	1653	G	P-O3'-C3'	5.35	126.12	119.70
1	A	2060	A	P-O3'-C3'	5.35	126.12	119.70
3	D	111	LEU	CA-CB-CG	5.34	127.59	115.30
1	A	2712(A)	A	N7-C8-N9	5.34	116.47	113.80
7	H	100	GLY	N-CA-C	-5.33	99.76	113.10
1	A	383	U	N3-C2-O2	-5.31	118.48	122.20
1	A	2849	U	O4'-C1'-N1	5.31	112.45	108.20
1	A	2439	A	P-O3'-C3'	5.29	126.05	119.70
30	8	36	LYS	N-CA-C	-5.27	96.77	111.00
1	A	2420	C	O5'-P-OP1	-5.27	100.96	105.70
1	A	2681	C	P-O3'-C3'	5.26	126.01	119.70
1	A	530	G	N3-C2-N2	5.25	123.58	119.90
1	A	2776	A	P-O3'-C3'	5.23	125.97	119.70
14	S	110	LEU	CA-CB-CG	5.23	127.32	115.30
1	A	1012	U	P-O3'-C3'	5.22	125.97	119.70
1	A	2490	G	C6-C5-N7	-5.22	127.27	130.40
12	Q	5	ARG	N-CA-C	-5.20	96.97	111.00
1	A	2053	G	N7-C8-N9	5.17	115.68	113.10
1	A	270(Z)	U	O4'-C1'-N1	5.16	112.33	108.20
1	A	528	A	C2-N3-C4	-5.16	108.02	110.60
1	A	1022	G	P-O3'-C3'	5.15	125.88	119.70
1	A	1496	A	N7-C8-N9	5.13	116.36	113.80
1	A	2712	U	P-O3'-C3'	5.13	125.85	119.70
1	A	2702	U	N1-C2-O2	5.13	126.39	122.80
1	A	345	A	P-O3'-C3'	5.12	125.85	119.70
2	B	44	G	C4-N9-C1'	-5.11	119.86	126.50
1	A	1558	A	P-O3'-C3'	5.10	125.82	119.70
1	A	2468	G	C6-C5-N7	-5.09	127.34	130.40
1	A	2335	A	O4'-C1'-N9	5.09	112.27	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1654	A	O5'-P-OP1	-5.08	101.13	105.70
1	A	1899	G	N3-C4-C5	-5.07	126.06	128.60
1	A	372	G	OP2-P-O3'	5.07	116.35	105.20
1	A	2848	G	P-O3'-C3'	5.06	125.77	119.70
15	T	123	GLN	N-CA-C	-5.06	97.34	111.00
15	T	59	THR	N-CA-C	-5.05	97.36	111.00
1	A	2447	G	C8-N9-C1'	5.03	133.54	127.00
1	A	2702	U	C6-N1-C1'	-5.00	114.20	121.20
1	A	140	A	C8-N9-C4	-5.00	103.80	105.80

There are no chirality outliers.

There are no planarity outliers.

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	62071	0	31285	849	0
2	B	2573	0	1306	58	0
3	D	2115	0	2195	317	0
4	E	1568	0	1634	271	0
5	F	1585	0	1632	177	0
6	G	1474	0	1535	204	0
7	H	1307	0	1382	226	0
8	I	1136	0	1223	69	0
9	N	1104	0	1180	194	0
10	O	933	0	996	121	0
11	P	1145	0	1227	245	0
12	Q	1122	0	1179	158	0
13	R	968	0	1033	112	0
14	S	882	0	943	160	0
15	T	1141	0	1202	149	0
16	U	964	0	1022	129	0
17	V	779	0	852	129	0
18	W	900	0	964	98	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	X	725	0	778	67	0
20	Y	785	0	878	169	0
21	Z	1461	0	1493	77	0
22	0	648	0	672	27	0
23	1	763	0	848	138	0
24	2	581	0	629	81	0
25	3	469	0	518	39	0
26	4	581	0	574	133	0
27	5	459	0	480	74	0
28	6	424	0	450	92	0
29	7	430	0	480	43	0
30	8	517	0	582	103	0
31	9	307	0	335	18	0
32	a	74	0	51	0	0
33	0	1	0	0	0	0
33	5	1	0	0	0	0
33	8	1	0	0	0	0
33	A	241	0	0	0	0
33	B	2	0	0	0	0
33	D	1	0	0	0	0
33	E	2	0	0	0	0
33	F	1	0	0	0	0
33	P	2	0	0	0	0
33	R	1	0	0	0	0
33	U	1	0	0	0	0
34	9	1	0	0	0	0
All	All	92246	0	61558	4274	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 28.

All (4274) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:127:GLU:CG	7:H:128:PRO:HD3	1.36	1.53
23:1:81:LYS:NZ	23:1:81:LYS:HA	1.43	1.34
21:Z:115:GLY:CA	21:Z:175:VAL:O	1.83	1.26
23:1:81:LYS:HE2	23:1:81:LYS:N	1.50	1.26
21:Z:115:GLY:HA2	21:Z:175:VAL:O	1.14	1.26
12:Q:59:ARG:O	12:Q:60:ARG:HD2	1.38	1.22
7:H:127:GLU:HG2	7:H:128:PRO:CD	1.69	1.20
7:H:127:GLU:CB	7:H:128:PRO:HD3	1.69	1.19
8:I:53:ALA:O	8:I:57:ARG:HG2	1.44	1.18

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:95:LYS:HB3	20:Y:100:ALA:HA	1.20	1.17
7:H:132:ARG:HH11	7:H:132:ARG:HB2	1.10	1.16
11:P:50:ARG:HB3	11:P:50:ARG:HH21	1.13	1.14
23:1:82:LEU:HD12	23:1:82:LEU:C	1.66	1.13
23:1:82:LEU:CD1	23:1:83:GLU:O	1.97	1.11
16:U:8:VAL:HG23	16:U:11:ARG:HH21	1.14	1.11
5:F:101:LEU:HD12	5:F:102:PRO:HD2	1.21	1.11
3:D:44:ASN:HB2	3:D:48:ARG:O	1.50	1.11
4:E:179:GLU:HB3	4:E:181:LEU:HD23	1.32	1.11
23:1:82:LEU:HD12	23:1:83:GLU:N	1.66	1.10
7:H:86:GLU:HG3	7:H:165:ALA:H	1.05	1.10
20:Y:76:CYS:HB3	20:Y:96:ILE:HD13	1.17	1.10
21:Z:108:PRO:O	21:Z:111:VAL:HG12	1.51	1.09
11:P:19:VAL:HG22	11:P:20:GLY:H	1.15	1.08
12:Q:80:GLU:OE1	22:0:7:LEU:HD22	1.49	1.08
21:Z:108:PRO:O	21:Z:111:VAL:CG1	2.01	1.08
3:D:131:LEU:HB2	3:D:136:ILE:HD11	1.35	1.07
11:P:126:VAL:HG12	11:P:147:LEU:HD21	1.30	1.07
7:H:152:ARG:HG3	7:H:153:LYS:HE2	1.34	1.07
26:4:71:ARG:HG3	26:4:71:ARG:HH11	1.13	1.07
4:E:50:GLY:HA2	4:E:77:ILE:HA	1.31	1.07
11:P:59:LEU:HA	11:P:61:ARG:NH2	1.69	1.06
4:E:21:VAL:HB	4:E:22:PRO:HB3	1.37	1.06
23:1:82:LEU:CD1	23:1:83:GLU:N	2.18	1.06
4:E:63:LEU:HD12	4:E:64:LYS:H	1.18	1.06
5:F:46:ARG:HH11	5:F:46:ARG:HG2	1.20	1.06
1:A:2701:C:H3'	1:A:2702:U:H5''	1.39	1.05
9:N:134:ARG:H	9:N:135:PRO:HD3	1.11	1.05
7:H:127:GLU:CB	7:H:128:PRO:CD	2.35	1.04
16:U:90:VAL:HG12	16:U:91:ASP:H	1.18	1.04
12:Q:59:ARG:O	12:Q:60:ARG:CD	2.05	1.04
13:R:67:LEU:HD13	13:R:76:VAL:HG21	1.39	1.04
8:I:52:ARG:HB2	8:I:56:LYS:HG2	1.33	1.04
14:S:106:ARG:HA	14:S:110:LEU:HD11	1.39	1.04
14:S:83:LYS:O	14:S:109:GLY:HA3	1.57	1.03
12:Q:81:VAL:O	12:Q:82:ARG:CD	2.06	1.03
12:Q:80:GLU:OE1	22:0:7:LEU:CD2	2.07	1.03
3:D:35:LYS:HG2	3:D:64:ILE:N	1.72	1.03
30:8:52:LYS:H	30:8:53:PRO:CD	1.69	1.03
12:Q:80:GLU:O	12:Q:81:VAL:HG13	1.59	1.02
5:F:67:GLN:HG3	5:F:67:GLN:O	1.58	1.02
5:F:67:GLN:O	5:F:68:LYS:HB2	1.56	1.02

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:12:GLN:HG2	12:Q:73:PRO:HD2	1.42	1.02
7:H:153:LYS:HB3	7:H:154:PRO:HD2	1.06	1.02
10:O:53:LYS:H	10:O:53:LYS:HD2	1.23	1.02
5:F:185:ASP:HA	5:F:188:ARG:HD3	1.40	1.01
14:S:26:LEU:HD12	14:S:39:ILE:HD11	1.40	1.01
12:Q:134:ARG:HH22	21:Z:119:GLU:HG3	1.22	1.01
1:A:1496:A:H8	1:A:1577:C:HO2'	1.02	1.00
3:D:227:ASN:HB3	3:D:228:PRO:HD2	1.44	1.00
17:V:49:THR:HB	17:V:50:PRO:HD2	1.39	1.00
20:Y:97:ARG:HH21	20:Y:98:VAL:HB	1.25	1.00
26:4:56:VAL:HA	26:4:60:GLN:HB2	1.43	1.00
12:Q:81:VAL:O	12:Q:82:ARG:NE	1.94	1.00
12:Q:65:PHE:O	12:Q:66:ILE:HG12	1.59	1.00
24:2:50:ILE:HD12	24:2:51:ARG:N	1.76	1.00
1:A:270(T):G:H5''	23:1:97:LEU:HD22	1.40	1.00
7:H:153:LYS:HB3	7:H:154:PRO:CD	1.92	0.99
4:E:201:THR:HG22	4:E:203:LYS:H	1.26	0.99
7:H:77:LYS:HB3	7:H:77:LYS:HZ3	1.22	0.99
14:S:83:LYS:NZ	14:S:109:GLY:HA2	1.78	0.99
7:H:127:GLU:CG	7:H:128:PRO:CD	2.31	0.99
11:P:50:ARG:HH21	11:P:50:ARG:CB	1.76	0.98
11:P:105:LEU:O	11:P:106:LEU:HB2	1.61	0.98
18:W:86:LEU:HD12	18:W:87:PRO:HD2	1.45	0.98
6:G:13:GLU:O	6:G:14:GLU:HB2	1.60	0.98
12:Q:79:LEU:HD22	12:Q:79:LEU:O	1.64	0.98
23:1:81:LYS:HZ3	23:1:81:LYS:HA	0.83	0.98
3:D:44:ASN:HB3	3:D:49:ILE:HA	1.45	0.98
4:E:20:ALA:O	4:E:21:VAL:HG22	1.64	0.97
24:2:50:ILE:HD12	24:2:51:ARG:H	1.24	0.97
8:I:56:LYS:HG3	8:I:57:ARG:H	1.27	0.97
9:N:96:GLU:HG2	9:N:97:ARG:H	1.26	0.97
12:Q:79:LEU:HD13	12:Q:79:LEU:O	1.63	0.97
1:A:2015:A:H1'	27:5:2:ALA:HA	1.47	0.96
28:6:7:ILE:HG13	28:6:8:LYS:H	1.25	0.96
6:G:112:PRO:HB3	26:4:37:SER:HB2	1.47	0.96
28:6:47:THR:HG22	28:6:48:VAL:HG12	1.46	0.96
13:R:54:LEU:HD23	13:R:66:VAL:HG23	1.44	0.95
21:Z:109:ALA:O	21:Z:112:ARG:HB2	1.66	0.95
20:Y:84:ARG:HH12	20:Y:97:ARG:HB2	1.28	0.95
1:A:518:G:H4'	18:W:18:ARG:HH12	1.31	0.95
5:F:101:LEU:HD12	5:F:102:PRO:CD	1.96	0.95
7:H:86:GLU:HG3	7:H:165:ALA:N	1.79	0.95

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:2:13:ALA:HA	24:2:16:LEU:HD23	1.48	0.94
11:P:62:LEU:HD22	11:P:62:LEU:N	1.81	0.94
23:1:81:LYS:CA	23:1:81:LYS:CE	2.45	0.94
20:Y:51:VAL:HG13	20:Y:52:SER:H	1.31	0.94
10:O:2:ILE:HD11	10:O:82:ASN:HD22	1.33	0.94
8:I:52:ARG:CB	8:I:56:LYS:HG2	1.97	0.94
3:D:28:GLU:HB2	3:D:29:PRO:CD	1.98	0.94
3:D:108:PRO:HB3	3:D:143:HIS:HE1	1.32	0.94
15:T:62:THR:HG22	15:T:75:ILE:HG12	1.46	0.94
23:1:81:LYS:N	23:1:81:LYS:CE	2.30	0.94
4:E:78:LEU:HG	4:E:79:ARG:HE	1.31	0.94
15:T:11:GLU:CD	15:T:11:GLU:H	1.71	0.94
17:V:35:LEU:HD21	17:V:57:VAL:HG22	1.47	0.94
27:5:56:LYS:H	27:5:56:LYS:HD2	1.30	0.93
28:6:41:PRO:HG2	28:6:45:LYS:H	1.29	0.93
19:X:57:LEU:CD1	19:X:78:LYS:HB2	1.98	0.93
14:S:59:LYS:HG2	14:S:60:GLY:H	1.31	0.93
9:N:134:ARG:H	9:N:135:PRO:CD	1.81	0.93
11:P:1:MET:HE2	11:P:5:ASP:HB3	1.51	0.93
12:Q:59:ARG:O	12:Q:60:ARG:CG	2.17	0.93
27:5:58:LEU:HD13	27:5:60:VAL:HG12	1.48	0.93
7:H:127:GLU:HB3	7:H:128:PRO:CD	1.99	0.93
17:V:99:ILE:HD13	17:V:99:ILE:H	1.31	0.93
12:Q:34:LEU:HD11	12:Q:129:THR:HB	1.50	0.92
3:D:147:LEU:HD13	3:D:155:LEU:HD11	1.52	0.92
3:D:183:ARG:HH11	3:D:183:ARG:HG2	1.34	0.92
23:1:81:LYS:CA	23:1:81:LYS:NZ	2.31	0.92
5:F:103:LYS:HA	5:F:106:ARG:HG3	1.49	0.92
6:G:37:VAL:HG22	6:G:159:VAL:HA	1.52	0.92
7:H:153:LYS:CB	7:H:154:PRO:HD2	1.97	0.92
3:D:108:PRO:HB3	3:D:143:HIS:CE1	2.05	0.92
23:1:81:LYS:CE	23:1:81:LYS:HA	2.01	0.91
17:V:24:LYS:HA	17:V:92:THR:HG23	1.52	0.91
6:G:101:ILE:HG13	6:G:102:PHE:N	1.86	0.91
7:H:77:LYS:NZ	7:H:77:LYS:HB3	1.82	0.91
13:R:33:ARG:NH2	27:5:55:ARG:HG2	1.85	0.91
5:F:7:TYR:HB3	5:F:21:ALA:HB1	1.53	0.91
1:A:270(R):G:N3	23:1:78:LYS:NZ	2.19	0.91
4:E:14:ILE:HG12	4:E:15:PHE:H	1.33	0.91
14:S:67:ARG:NH1	14:S:67:ARG:HB2	1.85	0.90
3:D:10:THR:HG23	3:D:13:ARG:HB3	1.51	0.90
7:H:4:ILE:HG13	7:H:6:ARG:CZ	2.01	0.90

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:56:LYS:HG3	8:I:57:ARG:N	1.81	0.90
11:P:58:THR:O	11:P:61:ARG:NE	2.05	0.90
12:Q:59:ARG:O	12:Q:60:ARG:HG3	1.72	0.90
24:2:65:ASN:HB3	24:2:69:ARG:HH12	1.34	0.90
12:Q:108:GLY:HA3	21:Z:116:VAL:HG11	1.53	0.90
3:D:69:ARG:HH21	3:D:130:ALA:HB2	1.37	0.89
7:H:10:PRO:HD2	7:H:50:VAL:O	1.72	0.89
7:H:26:VAL:HG13	7:H:27:LYS:H	1.36	0.89
8:I:53:ALA:O	8:I:57:ARG:CG	2.20	0.89
16:U:92:ARG:O	16:U:92:ARG:HG2	1.69	0.89
27:5:3:LYS:HE3	27:5:3:LYS:HA	1.54	0.89
17:V:44:LYS:O	17:V:46:VAL:HG12	1.72	0.89
20:Y:76:CYS:SG	20:Y:77:PRO:HD2	2.13	0.89
30:8:52:LYS:H	30:8:53:PRO:HD3	1.35	0.89
11:P:88:LEU:HD12	11:P:95:VAL:HG11	1.52	0.89
11:P:65:ARG:HH11	11:P:65:ARG:HG3	1.35	0.88
20:Y:30:VAL:HG22	20:Y:37:VAL:HG12	1.53	0.88
23:1:80:LEU:O	23:1:81:LYS:HB2	1.71	0.88
3:D:27:THR:HG23	3:D:28:GLU:H	1.38	0.88
6:G:88:ILE:O	6:G:88:ILE:HD13	1.72	0.88
8:I:51:ILE:O	8:I:55:ALA:N	2.07	0.88
21:Z:110:GLY:N	21:Z:111:VAL:HG12	1.88	0.88
11:P:106:LEU:O	11:P:107:LYS:HB2	1.71	0.88
4:E:63:LEU:HD12	4:E:64:LYS:N	1.88	0.88
9:N:22:THR:HG22	9:N:23:LEU:N	1.88	0.88
30:8:59:LYS:HB2	30:8:59:LYS:NZ	1.88	0.87
4:E:77:ILE:HD12	4:E:78:LEU:N	1.89	0.87
17:V:19:LYS:HD2	17:V:95:LEU:HD23	1.55	0.87
27:5:40:LYS:HZ1	27:5:48:GLU:HB2	1.39	0.87
1:A:674:G:H1'	5:F:74:ARG:HD3	1.54	0.87
3:D:28:GLU:HB2	3:D:29:PRO:HD2	1.56	0.87
18:W:65:LEU:HD12	18:W:68:ARG:HH11	1.36	0.87
11:P:49:ARG:HD2	30:8:58:ILE:HG22	1.54	0.87
14:S:106:ARG:NH1	14:S:106:ARG:HB2	1.88	0.87
20:Y:38:ILE:HG22	20:Y:66:PRO:HA	1.54	0.87
3:D:181:GLU:HA	3:D:272:ALA:HB3	1.57	0.87
3:D:44:ASN:H	3:D:44:ASN:HD22	1.19	0.87
11:P:64:LYS:O	11:P:66:GLY:N	2.07	0.87
12:Q:64:ILE:HA	12:Q:106:VAL:HG12	1.54	0.87
14:S:106:ARG:HH11	14:S:106:ARG:HB2	1.39	0.86
23:1:92:LYS:HG3	23:1:96:LYS:HB2	1.57	0.86
1:A:774:A:H2	1:A:787:U:HO2'	1.23	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:116:ASP:O	6:G:117:PHE:HB3	1.72	0.86
11:P:75:ILE:H	11:P:75:ILE:HD13	1.39	0.86
5:F:29:ASN:H	5:F:112:MET:HE3	1.40	0.86
5:F:82:ILE:HG13	5:F:82:ILE:O	1.73	0.86
6:G:161:THR:HG22	6:G:163:ALA:H	1.39	0.86
20:Y:51:VAL:O	20:Y:56:PRO:HA	1.76	0.86
3:D:44:ASN:CB	3:D:49:ILE:HA	2.04	0.86
4:E:61:ARG:O	4:E:63:LEU:HG	1.77	0.85
16:U:92:ARG:HD2	17:V:11:GLN:NE2	1.90	0.85
12:Q:75:THR:HA	12:Q:88:GLY:O	1.76	0.85
23:1:82:LEU:HD13	23:1:83:GLU:O	1.74	0.85
27:5:39:MET:O	27:5:40:LYS:HG3	1.77	0.85
5:F:32:LEU:HD13	5:F:105:VAL:HG13	1.59	0.85
6:G:67:LYS:HE2	26:4:6:HIS:NE2	1.91	0.85
4:E:81:ILE:O	4:E:82:ARG:HB2	1.75	0.85
4:E:95:ILE:HD12	4:E:95:ILE:H	1.41	0.85
16:U:64:ARG:HG2	16:U:64:ARG:HH21	1.42	0.85
7:H:127:GLU:HG2	7:H:128:PRO:HD3	0.86	0.85
1:A:2056:G:N2	27:5:4:HIS:O	2.08	0.85
1:A:1689:A:H62	1:A:1698:A:H2	1.24	0.85
3:D:17:THR:HG22	3:D:205:VAL:H	1.41	0.85
7:H:89:ILE:HD11	7:H:129:THR:HB	1.58	0.85
1:A:242:G:H5'	30:8:62:LEU:HD22	1.58	0.84
11:P:18:ARG:O	11:P:19:VAL:HB	1.75	0.84
30:8:59:LYS:NZ	30:8:59:LYS:CB	2.40	0.84
4:E:24:THR:HG21	4:E:188:VAL:HG11	1.59	0.84
14:S:89:ARG:HD2	14:S:92:TYR:O	1.78	0.84
1:A:2068:U:H3	1:A:2430:A:H2	1.22	0.84
10:O:26:LYS:HB2	10:O:30:ALA:HB2	1.59	0.84
11:P:62:LEU:CD2	30:8:25:MET:HB2	2.08	0.84
6:G:98:ARG:HA	6:G:101:ILE:HG12	1.59	0.84
14:S:83:LYS:HG2	14:S:109:GLY:CA	2.07	0.84
23:1:82:LEU:HD11	23:1:83:GLU:O	1.75	0.84
3:D:35:LYS:HG2	3:D:64:ILE:H	1.40	0.84
15:T:111:ARG:O	15:T:112:ARG:HG3	1.76	0.84
17:V:49:THR:HB	17:V:50:PRO:CD	2.07	0.84
7:H:54:ARG:NH1	7:H:62:LYS:HG2	1.92	0.84
1:A:1980:G:O2'	1:A:1982:C:OP2	1.95	0.83
1:A:676:A:H8	1:A:2069:G:H21	1.25	0.83
20:Y:81:LYS:HD3	20:Y:97:ARG:HE	1.43	0.83
1:A:498:G:N3	20:Y:47:LYS:NZ	2.25	0.83
13:R:117:VAL:HG22	13:R:118:GLU:H	1.43	0.83

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:24:PRO:HA	15:T:49:VAL:HG13	1.59	0.83
23:1:81:LYS:HZ3	23:1:81:LYS:CA	1.80	0.83
27:5:40:LYS:HD3	27:5:46:CYS:HB3	1.60	0.83
7:H:105:LEU:H	7:H:105:LEU:HD13	1.43	0.83
9:N:133:GLN:HB2	9:N:135:PRO:HD3	1.59	0.83
4:E:35:GLN:HG2	4:E:37:ARG:HE	1.44	0.83
20:Y:57:GLN:NE2	20:Y:58:GLY:H	1.76	0.83
9:N:131:GLN:NE2	9:N:132:ALA:H	1.75	0.83
11:P:65:ARG:NH1	11:P:65:ARG:HG3	1.90	0.83
17:V:66:ARG:NH1	17:V:88:ARG:HD3	1.94	0.83
14:S:88:ASP:O	14:S:89:ARG:HB3	1.78	0.83
15:T:3:ARG:HG3	15:T:7:ILE:HG12	1.60	0.83
15:T:53:ARG:O	15:T:59:THR:HG23	1.78	0.83
26:4:36:CYS:O	26:4:39:CYS:HB2	1.79	0.83
5:F:53:THR:HG23	5:F:56:GLU:OE1	1.77	0.83
11:P:101:VAL:HG23	11:P:107:LYS:H	1.41	0.83
1:A:483:A:H4'	20:Y:49:VAL:HA	1.58	0.83
12:Q:30:GLY:HA2	12:Q:107:ALA:HB2	1.60	0.82
1:A:631:A:OP2	30:8:46:ARG:NH2	2.11	0.82
28:6:27:LYS:NZ	28:6:27:LYS:HB2	1.93	0.82
4:E:15:PHE:CE1	4:E:20:ALA:HB2	2.14	0.82
14:S:106:ARG:HA	14:S:110:LEU:CD1	2.08	0.82
3:D:35:LYS:NZ	3:D:104:TYR:HB2	1.93	0.82
1:A:2729:G:H1'	4:E:187:ALA:HB2	1.61	0.82
4:E:7:VAL:HG23	4:E:8:LYS:H	1.44	0.82
9:N:22:THR:HG22	9:N:23:LEU:H	1.44	0.82
16:U:88:ILE:H	16:U:88:ILE:HD13	1.44	0.82
26:4:33:VAL:HG12	26:4:34:GLU:H	1.44	0.82
6:G:179:PRO:HG3	26:4:38:LYS:NZ	1.95	0.82
1:A:1279:G:H4'	13:R:31:HIS:HD2	1.44	0.81
5:F:155:LEU:HD13	5:F:174:VAL:HG13	1.62	0.81
24:2:16:LEU:HG	24:2:16:LEU:O	1.78	0.81
1:A:2810:A:O3'	4:E:61:ARG:HG3	1.80	0.81
7:H:132:ARG:NH1	7:H:132:ARG:HB2	1.94	0.81
7:H:153:LYS:HG2	7:H:162:ILE:HG13	1.61	0.81
10:O:53:LYS:N	10:O:53:LYS:HD2	1.96	0.81
30:8:52:LYS:N	30:8:53:PRO:CD	2.43	0.81
1:A:2580:U:H4'	4:E:130:GLY:HA3	1.62	0.81
7:H:8:PRO:C	7:H:9:ILE:HG12	2.00	0.81
11:P:126:VAL:HG22	11:P:145:PRO:HG2	1.60	0.81
12:Q:90:VAL:HG13	12:Q:91:GLU:N	1.95	0.81
6:G:67:LYS:HE2	26:4:6:HIS:CE1	2.14	0.81

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:152:ARG:O	7:H:153:LYS:HB2	1.80	0.81
15:T:102:ILE:HA	15:T:105:LEU:HD21	1.62	0.81
24:2:43:GLN:O	24:2:44:LEU:HG	1.81	0.81
29:7:48:LYS:HG2	29:7:49:ARG:H	1.46	0.81
3:D:27:THR:HG23	3:D:28:GLU:N	1.96	0.81
11:P:39:LYS:HA	11:P:45:LEU:CD1	2.10	0.81
4:E:3:GLY:O	4:E:4:ILE:HB	1.81	0.81
7:H:26:VAL:HG13	7:H:27:LYS:N	1.96	0.81
14:S:36:TYR:HD2	14:S:52:SER:HB3	1.46	0.81
6:G:47:LYS:HD3	6:G:81:LYS:HB2	1.63	0.81
9:N:35:ARG:HG3	9:N:37:LYS:HG3	1.63	0.81
14:S:106:ARG:CA	14:S:110:LEU:HD21	2.11	0.81
15:T:62:THR:CG2	15:T:75:ILE:HG12	2.11	0.81
15:T:39:ARG:HG2	15:T:40:THR:H	1.46	0.81
27:5:4:HIS:HB3	27:5:5:PRO:CD	2.11	0.80
1:A:141:A:H8	1:A:1595:G:H21	1.28	0.80
4:E:116:VAL:HG21	4:E:122:PHE:CD2	2.16	0.80
20:Y:76:CYS:HB3	20:Y:96:ILE:CD1	2.07	0.80
20:Y:6:HIS:O	20:Y:7:VAL:HG13	1.81	0.80
2:B:56:G:OP1	6:G:27:ASN:ND2	2.15	0.80
4:E:52:LEU:HB2	4:E:75:VAL:HG23	1.62	0.80
7:H:13:LYS:HE2	7:H:13:LYS:HA	1.61	0.80
4:E:50:GLY:CA	4:E:77:ILE:HA	2.10	0.80
14:S:19:LYS:O	14:S:20:ARG:HB3	1.80	0.80
4:E:201:THR:CG2	4:E:203:LYS:HB3	2.12	0.80
11:P:47:ASP:OD2	11:P:49:ARG:HG2	1.82	0.80
3:D:121:PRO:HB3	3:D:135:PHE:HE1	1.46	0.80
3:D:25:THR:HG22	3:D:82:ILE:H	1.47	0.80
3:D:35:LYS:HZ1	3:D:104:TYR:HB2	1.46	0.80
3:D:27:THR:HG21	3:D:83:GLU:HB3	1.64	0.80
1:A:338:G:OP1	20:Y:4:LYS:NZ	2.14	0.80
5:F:198:ALA:HA	5:F:201:VAL:HG12	1.62	0.80
1:A:637:A:H2'	11:P:117:GLU:OE2	1.82	0.80
17:V:99:ILE:N	17:V:99:ILE:HD13	1.95	0.80
1:A:2712:U:HO2'	1:A:2712(A):A:H8	1.27	0.80
3:D:34:VAL:O	3:D:34:VAL:HG13	1.80	0.80
5:F:145:GLU:HG3	5:F:145:GLU:O	1.81	0.80
10:O:14:THR:HG21	10:O:86:ILE:HB	1.62	0.80
3:D:25:THR:CG2	3:D:82:ILE:H	1.93	0.79
21:Z:108:PRO:O	21:Z:111:VAL:HG11	1.80	0.79
1:A:2667:C:H1'	7:H:109:PHE:HD2	1.46	0.79
5:F:11:VAL:HB	5:F:18:ARG:HG3	1.64	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:61:ALA:HB2	6:G:68:PRO:CD	2.12	0.79
6:G:77:ILE:HD13	6:G:82:LEU:HD12	1.64	0.79
11:P:14:LYS:O	11:P:16:ARG:HG2	1.83	0.79
4:E:137:HIS:HB3	4:E:138:PRO:HD2	1.65	0.79
12:Q:81:VAL:O	12:Q:82:ARG:CG	2.31	0.79
2:B:55:U:H4'	6:G:28:VAL:HG21	1.64	0.79
3:D:54:ARG:HG3	3:D:54:ARG:NH1	1.98	0.79
7:H:10:PRO:O	7:H:11:VAL:HG13	1.80	0.79
7:H:126:PRO:CG	7:H:127:GLU:H	1.96	0.79
4:E:111:ARG:HE	4:E:160:TYR:HE1	1.31	0.79
7:H:86:GLU:CG	7:H:165:ALA:H	1.94	0.79
11:P:59:LEU:HA	11:P:61:ARG:HH21	1.44	0.79
15:T:102:ILE:HA	15:T:105:LEU:CD2	2.13	0.79
1:A:102:G:OP2	24:2:7:ARG:NH2	2.16	0.79
1:A:2306:C:H3'	1:A:2307:G:H5''	1.63	0.79
30:8:59:LYS:HB2	30:8:59:LYS:HZ2	1.47	0.79
10:O:31:LYS:HG3	10:O:32:TYR:CE2	2.17	0.79
1:A:1939:U:OP1	1:A:2604:U:O2'	2.00	0.79
3:D:68:LYS:HB2	3:D:70:TRP:CH2	2.17	0.79
11:P:97:PRO:O	11:P:98:GLU:HB3	1.83	0.79
6:G:145:THR:HG23	26:4:28:LYS:HZ1	1.48	0.79
16:U:105:VAL:HG22	17:V:44:LYS:HD2	1.65	0.79
9:N:43:THR:HB	9:N:46:VAL:HG12	1.63	0.78
9:N:71:ILE:HG21	9:N:84:LYS:HB3	1.65	0.78
9:N:62:VAL:HG12	9:N:66:LYS:HD2	1.65	0.78
6:G:61:ALA:HB2	6:G:68:PRO:HD3	1.65	0.78
11:P:138:LEU:C	11:P:140:ALA:H	1.85	0.78
12:Q:80:GLU:O	12:Q:81:VAL:CG1	2.30	0.78
23:1:11:ARG:NH1	23:1:11:ARG:HB3	1.98	0.78
3:D:54:ARG:HG3	3:D:54:ARG:HH11	1.49	0.78
12:Q:119:ARG:HG2	12:Q:119:ARG:HH11	1.48	0.78
12:Q:20:ALA:HB1	12:Q:99:PRO:HB2	1.65	0.78
19:X:70:LEU:HD23	19:X:70:LEU:N	1.99	0.78
5:F:20:LEU:HD12	5:F:21:ALA:H	1.49	0.78
1:A:2713:A:OP1	13:R:14:SER:OG	2.01	0.78
25:3:56:VAL:HG12	25:3:57:GLU:H	1.48	0.78
7:H:153:LYS:CG	7:H:162:ILE:H	1.96	0.78
14:S:106:ARG:HA	14:S:110:LEU:HD21	1.64	0.78
16:U:90:VAL:HG12	16:U:91:ASP:N	1.97	0.78
3:D:94:LEU:HD22	3:D:95:LEU:N	1.98	0.78
4:E:24:THR:HG21	4:E:188:VAL:CG1	2.13	0.78
10:O:47:ILE:HD12	10:O:48:PRO:HD2	1.66	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:19:VAL:HG22	11:P:20:GLY:N	1.97	0.78
12:Q:80:GLU:CD	22:O:7:LEU:HD22	2.04	0.78
20:Y:86:ARG:HB2	20:Y:95:LYS:HD2	1.64	0.78
3:D:142:VAL:HG23	3:D:193:VAL:HA	1.66	0.78
3:D:25:THR:O	3:D:27:THR:N	2.17	0.77
5:F:29:ASN:H	5:F:112:MET:CE	1.97	0.77
6:G:128:ARG:HH21	6:G:128:ARG:HG3	1.48	0.77
11:P:75:ILE:N	11:P:75:ILE:HD13	2.00	0.77
28:6:15:GLU:CD	28:6:41:PRO:HB3	2.04	0.77
11:P:62:LEU:N	11:P:62:LEU:CD2	2.46	0.77
16:U:66:ASN:O	16:U:70:ARG:HB2	1.84	0.77
1:A:1607:C:N4	1:A:1622:G:OP2	2.16	0.77
4:E:4:ILE:HD12	4:E:28:ALA:HB1	1.67	0.77
6:G:127:GLY:HA2	6:G:166:ASP:CG	2.05	0.77
11:P:84:ASN:ND2	11:P:116:GLY:HA3	1.99	0.77
15:T:43:GLN:HG2	15:T:44:ASP:N	1.99	0.77
21:Z:110:GLY:HA2	21:Z:111:VAL:O	1.82	0.77
3:D:17:THR:CG2	3:D:205:VAL:H	1.96	0.77
7:H:150:ALA:O	7:H:152:ARG:N	2.14	0.77
18:W:65:LEU:CD1	18:W:68:ARG:HH11	1.97	0.77
20:Y:97:ARG:HH21	20:Y:98:VAL:CB	1.98	0.77
26:4:22:ILE:O	26:4:24:THR:HG23	1.84	0.77
11:P:114:ILE:HD11	11:P:130:PHE:CE1	2.19	0.77
14:S:60:GLY:O	14:S:61:ASN:HB3	1.84	0.77
23:1:86:SER:N	23:1:87:PRO:CD	2.48	0.77
1:A:1454:U:H5'	13:R:63:ARG:HE	1.49	0.77
3:D:146:GLU:HB2	3:D:189:CYS:HB3	1.67	0.77
10:O:97:ARG:H	10:O:117:LEU:HD22	1.48	0.77
23:1:13:ILE:HD11	23:1:42:GLN:OE1	1.84	0.77
26:4:58:ARG:O	26:4:63:TYR:HB2	1.84	0.77
12:Q:66:ILE:HG13	12:Q:67:ARG:N	1.99	0.77
20:Y:44:ILE:HG13	20:Y:45:VAL:N	2.00	0.77
26:4:1:MET:HB2	26:4:6:HIS:NE2	2.00	0.77
1:A:2701:C:H3'	1:A:2702:U:C5'	2.15	0.77
5:F:183:VAL:O	5:F:187:VAL:HG23	1.85	0.77
12:Q:20:ALA:CB	12:Q:99:PRO:HD2	2.14	0.77
20:Y:79:CYS:SG	20:Y:80:GLY:N	2.57	0.77
7:H:153:LYS:HA	7:H:153:LYS:NZ	1.99	0.76
1:A:2392:A:H8	11:P:60:MET:HG3	1.49	0.76
1:A:1803:A:H4'	3:D:259:THR:CG2	2.15	0.76
3:D:44:ASN:N	3:D:44:ASN:HD22	1.79	0.76
13:R:33:ARG:HH22	27:5:55:ARG:HG2	1.51	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1019:U:H3	1:A:1142(A):A:H62	1.33	0.76
12:Q:90:VAL:HG13	12:Q:91:GLU:H	1.49	0.76
20:Y:97:ARG:NH2	20:Y:98:VAL:HB	2.01	0.76
21:Z:94:GLU:HB2	21:Z:130:PRO:HD2	1.67	0.76
1:A:2392:A:C8	11:P:60:MET:HG3	2.21	0.76
6:G:127:GLY:O	6:G:128:ARG:HG2	1.85	0.76
16:U:88:ILE:HG22	16:U:90:VAL:HG23	1.67	0.76
28:6:34:LEU:HD13	28:6:34:LEU:H	1.50	0.76
1:A:1826:G:H4'	3:D:242:ARG:HH21	1.50	0.76
3:D:153:ALA:O	3:D:154:LYS:HG3	1.85	0.76
6:G:101:ILE:HG13	6:G:102:PHE:H	1.49	0.76
20:Y:81:LYS:HD3	20:Y:97:ARG:NE	2.00	0.76
25:3:35:ARG:HB3	25:3:37:LEU:HD21	1.66	0.76
3:D:34:VAL:HG21	3:D:103:ARG:HA	1.66	0.76
31:9:1:MET:HB3	31:9:4:ARG:NH1	2.01	0.76
23:1:56:GLN:N	23:1:56:GLN:NE2	2.34	0.76
3:D:69:ARG:HH21	3:D:130:ALA:CB	1.99	0.76
1:A:242:G:H5''	30:8:3:LYS:HE3	1.67	0.76
7:H:169:VAL:HG22	7:H:170:ARG:H	1.48	0.76
10:O:104:ARG:HG2	10:O:104:ARG:HH11	1.50	0.76
26:4:34:GLU:HG3	26:4:35:VAL:H	1.51	0.76
27:5:47:PRO:O	27:5:48:GLU:HG3	1.86	0.76
13:R:74:LYS:O	13:R:75:LEU:HB3	1.84	0.75
5:F:129:PHE:HA	5:F:142:TRP:NE1	2.02	0.75
6:G:76:SER:OG	6:G:83:ARG:HA	1.85	0.75
7:H:152:ARG:HG3	7:H:153:LYS:CE	2.14	0.75
27:5:40:LYS:CD	27:5:46:CYS:HB3	2.15	0.75
6:G:142:PRO:HB2	26:4:31:ILE:HD13	1.68	0.75
11:P:62:LEU:HD21	30:8:25:MET:HB2	1.69	0.75
6:G:3:LEU:HD12	6:G:4:ASP:H	1.52	0.75
16:U:52:ARG:HG2	16:U:52:ARG:HH11	1.51	0.75
17:V:47:VAL:HG13	17:V:48:GLY:H	1.49	0.75
20:Y:94:LYS:O	20:Y:101:LYS:HB3	1.85	0.75
17:V:15:GLU:O	17:V:18:LEU:HB2	1.86	0.75
21:Z:109:ALA:HB3	21:Z:145:GLU:HG2	1.69	0.75
23:1:3:LYS:HD3	23:1:43:TYR:HD2	1.52	0.75
7:H:150:ALA:C	7:H:152:ARG:H	1.88	0.75
7:H:153:LYS:HG2	7:H:162:ILE:H	1.52	0.75
20:Y:90:LEU:N	20:Y:90:LEU:HD22	2.02	0.75
21:Z:111:VAL:O	21:Z:113:ALA:N	2.19	0.75
1:A:768:G:O2'	1:A:1379:A:N6	2.19	0.75
4:E:63:LEU:CD1	4:E:65:GLY:H	1.99	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:36:ARG:HH21	4:E:88:GLY:HA2	1.51	0.75
6:G:97:ASP:H	6:G:100:TRP:HD1	1.31	0.75
13:R:73:VAL:O	13:R:76:VAL:HG12	1.87	0.75
14:S:62:LYS:HB3	14:S:97:ARG:HD3	1.69	0.75
9:N:96:GLU:CG	9:N:97:ARG:H	2.00	0.74
16:U:92:ARG:HH11	16:U:95:LEU:CD1	2.00	0.74
17:V:52:VAL:HG21	17:V:55:ALA:HB3	1.68	0.74
18:W:40:ASN:O	18:W:41:LYS:HG2	1.87	0.74
1:A:227:A:OP1	11:P:76:LYS:HE3	1.87	0.74
5:F:7:TYR:HB3	5:F:21:ALA:CB	2.16	0.74
15:T:111:ARG:O	15:T:113:LYS:N	2.17	0.74
18:W:18:ARG:HG3	18:W:76:VAL:CG1	2.15	0.74
23:1:26:ARG:HD2	23:1:26:ARG:O	1.86	0.74
1:A:571:A:O2'	17:V:78:LYS:NZ	2.20	0.74
19:X:57:LEU:HD11	19:X:78:LYS:HB2	1.68	0.74
26:4:71:ARG:NH1	26:4:71:ARG:HG3	1.90	0.74
5:F:136:THR:HG22	5:F:166:ALA:O	1.87	0.74
10:O:26:LYS:HB2	10:O:30:ALA:CB	2.18	0.74
24:2:47:ASN:HD22	24:2:47:ASN:H	1.33	0.74
14:S:83:LYS:HZ2	14:S:109:GLY:HA2	1.49	0.74
21:Z:110:GLY:HA2	21:Z:111:VAL:C	2.07	0.74
4:E:201:THR:HG22	4:E:203:LYS:HB3	1.70	0.74
15:T:50:ILE:HD12	15:T:102:ILE:HD11	1.68	0.74
3:D:77:ALA:CB	3:D:97:TYR:HA	2.18	0.74
20:Y:95:LYS:HB3	20:Y:100:ALA:CA	2.10	0.74
25:3:29:ARG:HH11	25:3:29:ARG:HB2	1.52	0.74
1:A:2198:A:O2'	1:A:2199:A:O5'	2.04	0.74
1:A:2245:U:H5'	1:A:2246:G:H5'	1.69	0.74
1:A:530:G:O2'	1:A:532:A:N7	2.20	0.74
10:O:47:ILE:CD1	10:O:48:PRO:HD2	2.16	0.74
17:V:51:VAL:HG12	17:V:52:VAL:H	1.52	0.74
18:W:70:TYR:H	18:W:70:TYR:HD2	1.36	0.74
20:Y:52:SER:OG	20:Y:53:PRO:HD3	1.88	0.74
23:1:76:ARG:HG2	23:1:76:ARG:HH11	1.53	0.73
23:1:80:LEU:O	23:1:81:LYS:CB	2.35	0.73
1:A:77:C:O3'	24:2:14:ARG:NH2	2.21	0.73
27:5:2:ALA:O	27:5:3:LYS:HB2	1.88	0.73
30:8:59:LYS:HZ3	30:8:59:LYS:CB	1.99	0.73
11:P:50:ARG:HB3	11:P:50:ARG:NH2	1.98	0.73
11:P:62:LEU:HD22	11:P:62:LEU:H	1.53	0.73
12:Q:79:LEU:CD1	12:Q:79:LEU:O	2.35	0.73
17:V:35:LEU:H	17:V:35:LEU:HD22	1.51	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:265:A:N6	1:A:427:U:O2'	2.21	0.73
4:E:77:ILE:HD12	4:E:78:LEU:H	1.52	0.73
5:F:29:ASN:HB3	5:F:112:MET:HE1	1.68	0.73
9:N:58:ASP:H	9:N:60:ILE:HD11	1.53	0.73
14:S:36:TYR:CD2	14:S:52:SER:HB3	2.23	0.73
18:W:73:ALA:HB3	18:W:106:ILE:HG12	1.68	0.73
2:B:52:A:O2'	2:B:53:A:N7	2.22	0.73
4:E:61:ARG:HB2	4:E:62:PRO:HD3	1.69	0.73
5:F:9:ILE:HD11	5:F:125:LEU:HG	1.70	0.73
1:A:2115:G:N2	1:A:2165:G:N7	2.32	0.73
3:D:30:GLU:HG3	3:D:63:ARG:CZ	2.17	0.73
4:E:23:VAL:HG21	4:E:183:LEU:HD23	1.68	0.73
7:H:153:LYS:HG3	7:H:161:GLY:CA	2.18	0.73
15:T:23:ARG:HB2	15:T:24:PRO:HD2	1.70	0.73
16:U:64:ARG:CG	16:U:64:ARG:HH21	2.00	0.73
25:3:7:LYS:HB2	25:3:34:GLU:HG2	1.69	0.73
4:E:203:LYS:O	4:E:203:LYS:HD2	1.89	0.73
9:N:96:GLU:HG2	9:N:97:ARG:N	2.01	0.73
26:4:41:PRO:O	26:4:42:PHE:HB3	1.88	0.73
1:A:2298:A:H62	1:A:2318:G:H8	1.32	0.73
3:D:131:LEU:HB2	3:D:136:ILE:CD1	2.17	0.73
7:H:84:SER:O	7:H:85:LYS:HB2	1.89	0.73
8:I:53:ALA:C	8:I:57:ARG:HG2	2.08	0.73
15:T:26:ASP:HB3	15:T:91:ARG:HA	1.69	0.73
4:E:55:ASN:C	4:E:57:LYS:H	1.91	0.73
7:H:125:VAL:HA	7:H:126:PRO:HB3	1.68	0.73
5:F:101:LEU:CD1	5:F:102:PRO:HD2	2.11	0.73
12:Q:90:VAL:CG1	12:Q:91:GLU:H	2.02	0.73
1:A:2287:A:N6	1:A:2344:U:H3	1.87	0.73
5:F:157:VAL:HB	5:F:194:MET:HB3	1.70	0.73
12:Q:108:GLY:CA	21:Z:116:VAL:HG11	2.17	0.73
16:U:34:LYS:HA	16:U:34:LYS:HE2	1.70	0.73
24:2:27:GLU:N	24:2:27:GLU:OE1	2.19	0.72
4:E:56:PRO:O	4:E:57:LYS:HB2	1.89	0.72
7:H:80:SER:O	7:H:81:GLU:HB2	1.89	0.72
1:A:1286:A:O2'	1:A:1288:U:OP2	2.07	0.72
7:H:54:ARG:HH12	7:H:62:LYS:HG2	1.54	0.72
9:N:1:MET:HE1	16:U:95:LEU:HD21	1.71	0.72
4:E:13:ARG:HA	4:E:22:PRO:HA	1.71	0.72
6:G:146:TYR:O	6:G:149:VAL:HG22	1.88	0.72
27:5:40:LYS:CE	27:5:46:CYS:HB3	2.19	0.72
23:1:80:LEU:HB2	23:1:81:LYS:HE2	1.71	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1667:G:O2'	1:A:1669:A:N6	2.22	0.72
4:E:78:LEU:HG	4:E:79:ARG:NE	2.03	0.72
10:O:113:LYS:HG2	10:O:117:LEU:HD11	1.71	0.72
11:P:127:ALA:C	11:P:147:LEU:HD23	2.10	0.72
11:P:88:LEU:C	11:P:90:ARG:H	1.92	0.72
14:S:42:ASP:O	14:S:43:GLU:HB2	1.90	0.72
15:T:117:ASP:O	15:T:121:ILE:HG13	1.89	0.72
27:5:58:LEU:CD1	27:5:60:VAL:HG12	2.19	0.72
7:H:30:LYS:HD2	7:H:81:GLU:H	1.54	0.72
15:T:78:LEU:HD13	15:T:78:LEU:O	1.87	0.72
1:A:2131:G:H4'	1:A:2132:U:H4'	1.72	0.72
4:E:28:ALA:HB3	4:E:93:VAL:HG22	1.72	0.72
5:F:124:LEU:HD12	5:F:125:LEU:N	2.04	0.72
15:T:54:ARG:HH11	15:T:54:ARG:HG2	1.52	0.72
25:3:56:VAL:HG12	25:3:57:GLU:N	2.04	0.72
29:7:10:ARG:O	29:7:14:LYS:HB2	1.90	0.72
30:8:16:ILE:HD11	30:8:57:ARG:HG2	1.70	0.72
1:A:1543:A:O2'	1:A:1544:C:H3'	1.88	0.72
5:F:32:LEU:HD12	5:F:32:LEU:O	1.90	0.72
7:H:89:ILE:CD1	7:H:129:THR:HB	2.19	0.72
7:H:26:VAL:CG1	7:H:27:LYS:H	2.02	0.72
11:P:29:LYS:HD2	11:P:30:THR:HG22	1.72	0.72
12:Q:79:LEU:C	12:Q:79:LEU:HD22	2.07	0.72
28:6:13:CYS:HA	28:6:50:ARG:O	1.89	0.72
4:E:93:VAL:H	4:E:95:ILE:HD12	1.54	0.72
11:P:114:ILE:HD13	11:P:125:VAL:HG21	1.72	0.72
14:S:103:GLU:O	14:S:106:ARG:HG3	1.90	0.72
15:T:57:PHE:C	15:T:58:ASN:HD22	1.93	0.72
16:U:69:CYS:HB3	16:U:106:PHE:HZ	1.55	0.72
16:U:98:LEU:HD23	16:U:99:ALA:N	2.04	0.72
29:7:5:TRP:NE1	29:7:7:PRO:HG3	2.04	0.72
30:8:61:LEU:O	30:8:62:LEU:HB2	1.88	0.72
5:F:32:LEU:C	5:F:32:LEU:HD12	2.10	0.72
6:G:7:LEU:HD21	6:G:176:LEU:HD22	1.70	0.72
7:H:152:ARG:O	7:H:153:LYS:HD2	1.90	0.72
13:R:117:VAL:HG22	13:R:118:GLU:N	2.05	0.72
13:R:85:PRO:O	13:R:87:TYR:N	2.22	0.72
16:U:66:ASN:HB2	16:U:76:TYR:HB2	1.72	0.72
20:Y:51:VAL:HG13	20:Y:52:SER:N	2.03	0.72
30:8:60:LEU:O	30:8:63:PRO:HD2	1.90	0.71
1:A:1080:C:N4	1:A:1088:A:OP2	2.22	0.71
12:Q:79:LEU:CD2	12:Q:79:LEU:O	2.36	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:26:LEU:O	14:S:26:LEU:HD23	1.90	0.71
15:T:102:ILE:HB	15:T:110:ILE:CD1	2.19	0.71
24:2:29:LYS:HD3	24:2:57:ILE:HD13	1.71	0.71
13:R:3:HIS:O	13:R:5:LYS:N	2.22	0.71
21:Z:111:VAL:HG13	21:Z:112:ARG:N	2.04	0.71
4:E:197:ILE:HD11	4:E:199:ARG:HH12	1.55	0.71
10:O:3:GLN:HB2	10:O:4:PRO:HD2	1.72	0.71
11:P:85:LEU:HA	11:P:88:LEU:HD22	1.71	0.71
16:U:8:VAL:HG23	16:U:11:ARG:NH2	1.99	0.71
18:W:1:MET:HE2	18:W:2:GLU:H	1.55	0.71
22:O:10:THR:HG22	22:O:12:ASN:H	1.53	0.71
4:E:21:VAL:HB	4:E:22:PRO:CB	2.18	0.71
11:P:49:ARG:HD2	30:8:58:ILE:CG2	2.20	0.71
14:S:83:LYS:HG2	14:S:109:GLY:N	2.04	0.71
3:D:244:ARG:HB2	3:D:245:PRO:HD2	1.71	0.71
14:S:67:ARG:O	14:S:71:ARG:HG3	1.89	0.71
17:V:39:LEU:O	17:V:40:LEU:HD23	1.90	0.71
28:6:25:LYS:HD2	30:8:34:TRP:HZ2	1.56	0.71
1:A:2485:G:OP1	12:Q:46:GLN:NE2	2.22	0.71
19:X:12:VAL:HG12	19:X:27:THR:O	1.91	0.71
26:4:29:PRO:O	26:4:30:GLU:HB2	1.89	0.71
1:A:83:G:N2	1:A:103:A:OP2	2.23	0.71
14:S:106:ARG:CA	14:S:110:LEU:HD11	2.19	0.71
4:E:14:ILE:HD11	15:T:14:TYR:OH	1.90	0.71
30:8:58:ILE:HD13	30:8:61:LEU:HD11	1.72	0.71
30:8:60:LEU:C	30:8:63:PRO:HD2	2.11	0.71
7:H:125:VAL:HG12	7:H:126:PRO:HG3	1.70	0.71
11:P:83:VAL:CG1	11:P:112:LEU:HD21	2.21	0.71
9:N:1:MET:CE	16:U:95:LEU:HD21	2.21	0.71
28:6:36:LEU:HD13	28:6:50:ARG:NH1	2.05	0.71
3:D:263:ARG:HB2	3:D:263:ARG:NH1	2.05	0.71
5:F:185:ASP:OD1	5:F:188:ARG:NH1	2.23	0.71
14:S:83:LYS:C	14:S:109:GLY:HA3	2.10	0.71
24:2:41:ILE:C	24:2:41:ILE:HD12	2.10	0.71
1:A:900:A:H3'	1:A:901:A:H8	1.56	0.71
5:F:178:PRO:HB2	5:F:201:VAL:HG11	1.73	0.71
5:F:66:PRO:O	5:F:67:GLN:HB3	1.89	0.71
21:Z:150:LEU:HD21	21:Z:172:ALA:HB3	1.72	0.71
7:H:132:ARG:CB	7:H:132:ARG:HH11	1.97	0.70
17:V:51:VAL:HG12	17:V:52:VAL:N	2.06	0.70
5:F:101:LEU:O	5:F:106:ARG:NH1	2.23	0.70
23:1:80:LEU:C	23:1:81:LYS:HE2	2.10	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1187:G:H5''	17:V:81:TYR:CE2	2.27	0.70
1:A:2111:C:N3	1:A:2118:U:O2'	2.23	0.70
3:D:43:ARG:HB3	3:D:54:ARG:HB2	1.73	0.70
5:F:164:ARG:HG3	5:F:175:THR:OG1	1.92	0.70
11:P:58:THR:O	11:P:61:ARG:CZ	2.38	0.70
30:8:29:LYS:HD3	30:8:44:LYS:HB2	1.71	0.70
7:H:154:PRO:O	7:H:155:SER:HB2	1.91	0.70
14:S:54:LEU:O	14:S:54:LEU:HD13	1.91	0.70
20:Y:48:ALA:O	20:Y:49:VAL:C	2.30	0.70
24:2:7:ARG:HG3	24:2:7:ARG:HH11	1.55	0.70
28:6:29:ASN:OD1	28:6:30:THR:HG22	1.91	0.70
1:A:573:G:N1	1:A:2031:A:OP2	2.16	0.70
1:A:49:A:H5''	1:A:50:U:H3'	1.74	0.70
2:B:15:A:H5'	2:B:16:G:C8	2.26	0.70
5:F:65:TRP:HZ3	5:F:73:ALA:O	1.74	0.70
12:Q:32:TYR:CD1	12:Q:133:ARG:HA	2.27	0.70
14:S:83:LYS:HZ1	14:S:109:GLY:HA2	1.56	0.70
20:Y:45:VAL:HG12	20:Y:60:PHE:CD1	2.27	0.70
1:A:1795:C:O2	3:D:255:LYS:HE2	1.92	0.70
7:H:154:PRO:HG2	7:H:162:ILE:O	1.92	0.70
9:N:89:LYS:O	9:N:93:THR:HG22	1.90	0.70
27:5:40:LYS:HE2	27:5:47:PRO:HD2	1.73	0.70
3:D:65:ILE:HD13	3:D:65:ILE:O	1.91	0.70
5:F:178:PRO:HG2	5:F:179:GLU:OE2	1.90	0.70
20:Y:57:GLN:HE21	20:Y:58:GLY:H	1.37	0.70
23:1:7:ILE:CD1	23:1:70:VAL:HG22	2.21	0.70
23:1:82:LEU:HD13	23:1:83:GLU:N	2.05	0.70
7:H:128:PRO:HD2	7:H:129:THR:H	1.55	0.70
7:H:152:ARG:O	7:H:153:LYS:CB	2.40	0.70
16:U:65:ILE:HG12	16:U:96:ALA:HB1	1.73	0.70
18:W:29:LEU:HD21	18:W:33:ARG:CZ	2.22	0.70
1:A:2343:C:HO2'	1:A:2373:G:HO2'	1.33	0.70
14:S:106:ARG:N	14:S:110:LEU:HD21	2.07	0.70
21:Z:111:VAL:HG22	21:Z:112:ARG:H	1.56	0.70
3:D:65:ILE:HD11	3:D:67:PHE:CD1	2.27	0.70
6:G:131:TYR:O	6:G:159:VAL:HG13	1.92	0.70
23:1:7:ILE:HD12	23:1:70:VAL:HG22	1.73	0.69
24:2:47:ASN:O	24:2:49:LYS:N	2.25	0.69
11:P:64:LYS:C	11:P:66:GLY:H	1.94	0.69
19:X:57:LEU:HD11	19:X:78:LYS:HD2	1.73	0.69
7:H:59:ARG:HH11	7:H:59:ARG:HG3	1.56	0.69
1:A:1509:C:H3'	1:A:1510:A:H5''	1.74	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:52:ARG:HA	8:I:56:LYS:H	1.56	0.69
20:Y:2:ARG:HG2	20:Y:2:ARG:HH11	1.57	0.69
23:1:74:VAL:O	23:1:74:VAL:HG12	1.93	0.69
23:1:82:LEU:HD12	23:1:83:GLU:CA	2.21	0.69
3:D:76:PRO:O	3:D:98:VAL:HG23	1.91	0.69
4:E:103:ASP:OD1	4:E:201:THR:HA	1.92	0.69
6:G:56:ALA:HB2	6:G:153:ARG:HE	1.57	0.69
7:H:103:LEU:HD12	7:H:131:VAL:HG21	1.73	0.69
9:N:46:VAL:O	9:N:47:ALA:HB3	1.92	0.69
11:P:126:VAL:CG1	11:P:147:LEU:HD21	2.16	0.69
11:P:20:GLY:HA2	11:P:27:HIS:O	1.92	0.69
1:A:993:G:OP1	16:U:50:ARG:NH2	2.22	0.69
5:F:103:LYS:HA	5:F:106:ARG:CG	2.21	0.69
7:H:4:ILE:HG13	7:H:6:ARG:NE	2.08	0.69
9:N:120:LEU:HD11	9:N:122:VAL:HG23	1.74	0.69
12:Q:43:THR:OG1	12:Q:46:GLN:HB2	1.91	0.69
23:1:4:VAL:HG23	23:1:10:LYS:O	1.93	0.69
1:A:2680:C:H5'	4:E:189:PRO:HA	1.72	0.69
4:E:7:VAL:HG23	4:E:8:LYS:N	2.07	0.69
8:I:93:THR:HG22	8:I:119:PRO:HB3	1.74	0.69
8:I:57:ARG:O	8:I:60:GLU:HB3	1.93	0.69
8:I:55:ALA:O	8:I:58:LEU:HB3	1.93	0.69
10:O:63:VAL:HG13	10:O:84:ALA:HA	1.72	0.69
23:1:81:LYS:HE2	23:1:81:LYS:CA	2.13	0.69
27:5:4:HIS:HB3	27:5:5:PRO:HD3	1.75	0.69
3:D:89:SER:HB2	3:D:159:ALA:HB2	1.75	0.69
4:E:65:GLY:HA2	4:E:70:ALA:CB	2.23	0.69
11:P:39:LYS:CA	11:P:45:LEU:HD11	2.23	0.69
17:V:41:GLY:HA3	17:V:46:VAL:HG11	1.74	0.69
1:A:2114:A:N6	1:A:2119:A:N7	2.41	0.69
3:D:35:LYS:HB3	3:D:63:ARG:HA	1.75	0.69
9:N:7:LYS:HD3	9:N:9:VAL:HA	1.75	0.69
11:P:64:LYS:HB2	30:8:25:MET:CG	2.22	0.69
15:T:41:ARG:NH2	15:T:43:GLN:HB2	2.06	0.69
27:5:40:LYS:HE2	27:5:47:PRO:CD	2.21	0.69
27:5:40:LYS:HG2	27:5:47:PRO:HD2	1.75	0.69
16:U:90:VAL:O	16:U:92:ARG:N	2.26	0.69
17:V:66:ARG:HH12	17:V:88:ARG:NH1	1.90	0.69
20:Y:29:GLU:HB3	20:Y:38:ILE:HG12	1.75	0.69
23:1:53:VAL:HG22	23:1:74:VAL:HG13	1.74	0.69
28:6:28:ARG:HB3	28:6:30:THR:H	1.56	0.69
6:G:171:ALA:O	6:G:175:LEU:HG	1.93	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:28:VAL:HG23	6:G:29:TRP:CD1	2.28	0.69
9:N:68:GLU:HG2	9:N:88:GLU:OE1	1.92	0.69
12:Q:80:GLU:HG3	12:Q:81:VAL:H	1.58	0.69
14:S:52:SER:O	14:S:56:LEU:HD22	1.93	0.69
1:A:1081:U:H3'	1:A:1082:U:H4'	1.75	0.69
1:A:1454:U:OP1	13:R:77:ARG:NH1	2.26	0.69
1:A:468:G:N7	29:7:39:ARG:NH2	2.40	0.69
11:P:61:ARG:HD2	11:P:61:ARG:H	1.58	0.69
17:V:22:VAL:HG12	17:V:23:GLU:N	2.06	0.69
24:2:23:LYS:O	24:2:27:GLU:OE1	2.11	0.68
28:6:14:THR:HG21	28:6:19:ARG:HH21	1.58	0.68
6:G:16:ARG:HH21	6:G:31:VAL:CG1	2.06	0.68
18:W:6:ILE:HG12	18:W:104:THR:HG23	1.73	0.68
5:F:185:ASP:HA	5:F:188:ARG:CD	2.20	0.68
16:U:65:ILE:HD11	16:U:93:LYS:HA	1.74	0.68
23:1:80:LEU:C	23:1:81:LYS:HD2	2.12	0.68
3:D:17:THR:HG22	3:D:205:VAL:N	2.08	0.68
1:A:2277:G:H5'	12:Q:85:LYS:HG3	1.74	0.68
23:1:83:GLU:HG2	23:1:84:GLY:N	2.09	0.68
6:G:112:PRO:CB	26:4:37:SER:HB2	2.22	0.68
28:6:41:PRO:CG	28:6:45:LYS:H	2.05	0.68
11:P:62:LEU:HD23	30:8:25:MET:HB2	1.74	0.68
1:A:2502:G:H5''	1:A:2503:A:H5''	1.75	0.68
1:A:643:A:N1	1:A:2369:A:O2'	2.26	0.68
10:O:8:LEU:HD22	10:O:8:LEU:N	2.08	0.68
26:4:15:ILE:HD13	26:4:15:ILE:N	2.09	0.68
3:D:17:THR:CG2	3:D:204:ILE:HA	2.23	0.68
1:A:2746:U:H5''	7:H:138:LYS:HE2	1.75	0.68
11:P:15:ARG:O	11:P:16:ARG:C	2.32	0.68
11:P:26:GLY:O	11:P:28:GLY:N	2.27	0.68
20:Y:40:GLU:HA	20:Y:64:GLU:OE1	1.94	0.68
23:1:64:ALA:HA	23:1:67:ILE:HG13	1.75	0.68
27:5:20:ARG:HA	27:5:23:HIS:ND1	2.08	0.68
28:6:7:ILE:HG13	28:6:8:LYS:N	2.06	0.68
1:A:660:G:O3'	5:F:38:ARG:NH2	2.26	0.68
2:B:45:A:O4'	6:G:95:ARG:NH1	2.27	0.68
7:H:126:PRO:HB2	7:H:130:ARG:O	1.93	0.68
9:N:134:ARG:N	9:N:135:PRO:HD3	1.97	0.68
14:S:100:ALA:HA	14:S:103:GLU:HG2	1.75	0.68
15:T:109:GLU:O	15:T:113:LYS:HB2	1.94	0.68
17:V:18:LEU:O	17:V:95:LEU:HA	1.94	0.68
19:X:12:VAL:HG11	19:X:27:THR:OG1	1.93	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:126:PRO:HG2	7:H:127:GLU:H	1.59	0.68
1:A:1012:U:H3	9:N:25:ARG:HH11	1.39	0.68
10:O:25:LEU:HB2	10:O:38:VAL:HG13	1.74	0.68
12:Q:12:GLN:CG	12:Q:73:PRO:HD2	2.21	0.68
13:R:29:LEU:HD23	13:R:79:LEU:HD12	1.75	0.68
15:T:108:ARG:HA	15:T:111:ARG:CZ	2.23	0.68
15:T:50:ILE:HG22	15:T:62:THR:OG1	1.94	0.68
1:A:307:G:H21	1:A:330:A:H62	1.42	0.68
7:H:88:LEU:H	7:H:88:LEU:HD22	1.58	0.68
14:S:57:LYS:H	14:S:57:LYS:HD3	1.58	0.68
21:Z:5:LEU:HD11	21:Z:39:VAL:HB	1.76	0.68
5:F:67:GLN:O	5:F:67:GLN:CG	2.32	0.68
23:1:20:ARG:HG2	23:1:20:ARG:HH11	1.58	0.68
1:A:583:G:H5''	16:U:10:ARG:HH12	1.59	0.68
4:E:116:VAL:O	4:E:117:MET:HB3	1.94	0.68
8:I:5:LEU:HD11	8:I:19:VAL:HG12	1.76	0.68
12:Q:104:PHE:HE1	12:Q:125:LEU:HD11	1.59	0.68
20:Y:49:VAL:O	20:Y:51:VAL:N	2.27	0.68
5:F:184:TYR:O	5:F:188:ARG:HG3	1.93	0.67
12:Q:90:VAL:CG1	12:Q:91:GLU:N	2.57	0.67
28:6:48:VAL:HG13	28:6:49:HIS:H	1.59	0.67
9:N:56:ASN:HD22	9:N:125:GLY:C	1.96	0.67
12:Q:80:GLU:OE1	22:0:7:LEU:HD23	1.92	0.67
1:A:2864:G:OP1	15:T:119:LYS:HD2	1.94	0.67
2:B:44:G:H1'	2:B:47:C:H42	1.60	0.67
4:E:13:ARG:HH11	4:E:13:ARG:CB	2.07	0.67
7:H:89:ILE:HG12	7:H:89:ILE:O	1.93	0.67
12:Q:133:ARG:O	12:Q:134:ARG:HB2	1.94	0.67
12:Q:20:ALA:HB1	12:Q:99:PRO:HD2	1.76	0.67
1:A:259:G:H21	1:A:621:A:H8	1.41	0.67
3:D:135:PHE:N	3:D:135:PHE:CD2	2.62	0.67
12:Q:104:PHE:CE1	12:Q:125:LEU:HD11	2.29	0.67
14:S:35:ILE:HD13	14:S:101:LEU:HD23	1.76	0.67
17:V:25:LEU:H	17:V:92:THR:HG21	1.60	0.67
18:W:29:LEU:HD21	18:W:33:ARG:NE	2.08	0.67
1:A:859:G:O2'	1:A:860:U:O2	2.10	0.67
4:E:10:GLY:H	4:E:25:VAL:HG23	1.59	0.67
4:E:14:ILE:HG12	4:E:15:PHE:N	2.06	0.67
10:O:13:ASN:ND2	10:O:96:THR:O	2.28	0.67
16:U:92:ARG:O	16:U:94:ASN:N	2.25	0.67
26:4:33:VAL:HG12	26:4:34:GLU:N	2.10	0.67
28:6:43:CYS:SG	28:6:44:ARG:HD3	2.35	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2419:U:H5'	28:6:23:THR:HG22	1.75	0.67
7:H:4:ILE:HG13	7:H:6:ARG:NH1	2.09	0.67
24:2:47:ASN:ND2	24:2:47:ASN:H	1.92	0.67
7:H:126:PRO:CD	7:H:127:GLU:H	2.07	0.67
8:I:51:ILE:HG23	8:I:55:ALA:HB2	1.77	0.67
11:P:90:ARG:NE	11:P:91:PHE:HD1	1.93	0.67
12:Q:32:TYR:HD1	12:Q:133:ARG:HA	1.60	0.67
12:Q:81:VAL:C	12:Q:82:ARG:HG2	2.14	0.67
13:R:26:LYS:HE2	13:R:70:LEU:O	1.95	0.67
20:Y:61:ILE:CG2	20:Y:62:GLU:N	2.56	0.67
1:A:2364:C:OP1	22:0:55:ARG:NH1	2.27	0.67
28:6:7:ILE:C	28:6:9:LEU:H	1.98	0.67
4:E:16:ARG:HG3	4:E:16:ARG:O	1.93	0.67
7:H:124:GLU:HB3	7:H:132:ARG:HD2	1.77	0.67
12:Q:66:ILE:HG13	12:Q:67:ARG:H	1.57	0.67
14:S:107:GLU:H	14:S:110:LEU:HD11	1.60	0.67
3:D:35:LYS:CG	3:D:64:ILE:N	2.56	0.67
7:H:125:VAL:CG1	7:H:126:PRO:HG3	2.25	0.67
12:Q:90:VAL:O	12:Q:92:GLY:N	2.25	0.67
21:Z:115:GLY:HA3	21:Z:175:VAL:O	1.89	0.67
11:P:122:PRO:HA	11:P:141:ALA:O	1.95	0.66
20:Y:21:LYS:HG3	20:Y:22:GLY:N	2.09	0.66
23:1:80:LEU:N	23:1:80:LEU:HD23	2.10	0.66
25:3:29:ARG:HB2	25:3:29:ARG:NH1	2.10	0.66
1:A:1021:A:OP2	9:N:65:LYS:NZ	2.28	0.66
1:A:957:A:H5'	12:Q:76:LYS:HD2	1.77	0.66
3:D:241:PRO:O	3:D:243:GLY:N	2.28	0.66
3:D:80:ALA:HB3	3:D:94:LEU:CD1	2.26	0.66
4:E:36:ARG:HH11	4:E:36:ARG:HB3	1.60	0.66
7:H:77:LYS:O	7:H:77:LYS:HG2	1.94	0.66
11:P:66:GLY:O	11:P:67:MET:HB3	1.94	0.66
19:X:57:LEU:HD12	19:X:78:LYS:HB2	1.77	0.66
1:A:1803:A:H4'	3:D:259:THR:HG21	1.76	0.66
5:F:34:TRP:HA	11:P:6:LEU:HD12	1.77	0.66
14:S:67:ARG:CZ	14:S:67:ARG:HB2	2.24	0.66
20:Y:42:VAL:CG1	20:Y:65:ALA:HB3	2.25	0.66
26:4:37:SER:C	26:4:39:CYS:H	1.98	0.66
1:A:2014:A:O2'	27:5:2:ALA:HB2	1.95	0.66
1:A:2832:U:H4'	1:A:2833:G:H5''	1.76	0.66
3:D:145:VAL:HG12	3:D:146:GLU:O	1.96	0.66
8:I:62:LYS:HE3	8:I:134:PRO:HG2	1.75	0.66
10:O:14:THR:O	10:O:51:ALA:HB3	1.94	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:86:ILE:HD12	10:O:86:ILE:H	1.60	0.66
15:T:11:GLU:CD	15:T:11:GLU:N	2.47	0.66
20:Y:89:PHE:C	20:Y:90:LEU:HD13	2.15	0.66
23:1:51:VAL:HG11	23:1:74:VAL:HG21	1.75	0.66
4:E:9:VAL:HB	4:E:25:VAL:HG23	1.75	0.66
6:G:136:ARG:O	6:G:154:GLY:HA3	1.95	0.66
1:A:2745:C:O2	7:H:139:GLN:NE2	2.26	0.66
15:T:50:ILE:CD1	15:T:102:ILE:HD11	2.25	0.66
17:V:44:LYS:O	17:V:46:VAL:N	2.28	0.66
23:1:86:SER:N	23:1:87:PRO:HD2	2.10	0.66
1:A:518:G:H4'	18:W:18:ARG:NH1	2.09	0.66
3:D:68:LYS:HB2	3:D:70:TRP:CZ3	2.31	0.66
4:E:174:ASP:CG	4:E:175:VAL:H	1.98	0.66
7:H:168:PRO:O	7:H:169:VAL:HG12	1.96	0.66
11:P:1:MET:CE	11:P:5:ASP:HB3	2.24	0.66
11:P:81:GLN:NE2	11:P:106:LEU:O	2.29	0.66
12:Q:33:GLY:HA2	12:Q:105:GLU:HA	1.76	0.66
12:Q:88:GLY:C	12:Q:90:VAL:N	2.47	0.66
16:U:88:ILE:N	16:U:88:ILE:HD13	2.10	0.66
20:Y:94:LYS:HE3	20:Y:101:LYS:NZ	2.11	0.66
3:D:44:ASN:HB3	3:D:49:ILE:HG22	1.78	0.66
4:E:101:ARG:CZ	4:E:171:GLU:HB2	2.25	0.66
5:F:175:THR:O	5:F:176:LEU:HB2	1.96	0.66
1:A:2393:A:H4'	11:P:61:ARG:O	1.95	0.66
20:Y:14:LEU:HD23	20:Y:15:VAL:N	2.10	0.66
12:Q:134:ARG:NH2	21:Z:119:GLU:HG3	2.04	0.66
3:D:35:LYS:CA	3:D:64:ILE:HG22	2.25	0.66
4:E:26:ILE:HD13	4:E:27:LEU:N	2.10	0.66
4:E:62:PRO:O	4:E:64:LYS:N	2.28	0.66
9:N:58:ASP:H	9:N:60:ILE:CD1	2.08	0.66
14:S:88:ASP:OD2	14:S:90:GLY:N	2.28	0.66
20:Y:47:LYS:HG2	20:Y:60:PHE:CE1	2.31	0.66
20:Y:75:ILE:HG12	20:Y:76:CYS:N	2.10	0.66
26:4:16:CYS:SG	26:4:33:VAL:HB	2.35	0.66
1:A:84:A:N1	1:A:98:G:O2'	2.26	0.66
14:S:106:ARG:HA	14:S:110:LEU:CD2	2.26	0.66
3:D:121:PRO:HB3	3:D:135:PHE:CE1	2.29	0.66
3:D:183:ARG:HH11	3:D:183:ARG:CG	2.07	0.66
20:Y:99:CYS:SG	20:Y:100:ALA:N	2.69	0.66
24:2:64:LEU:HD22	24:2:68:ARG:HD2	1.76	0.65
30:8:30:ARG:O	30:8:31:HIS:HB2	1.96	0.65
3:D:237:GLU:N	3:D:237:GLU:OE1	2.29	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:61:ARG:NH2	30:8:13:ARG:HD2	2.10	0.65
15:T:22:PHE:CD2	15:T:22:PHE:N	2.63	0.65
10:O:113:LYS:O	10:O:117:LEU:HD12	1.96	0.65
17:V:53:GLU:O	17:V:53:GLU:HG2	1.94	0.65
19:X:65:ARG:N	19:X:65:ARG:HD3	2.12	0.65
20:Y:60:PHE:O	20:Y:61:ILE:HD12	1.95	0.65
11:P:138:LEU:HD11	11:P:144:GLU:HG3	1.78	0.65
3:D:27:THR:CG2	3:D:28:GLU:H	2.09	0.65
17:V:76:LYS:HB2	17:V:81:TYR:HB3	1.79	0.65
18:W:25:ARG:NH1	18:W:25:ARG:HB2	2.11	0.65
1:A:270(T):G:OP1	23:1:97:LEU:HD13	1.97	0.65
1:A:1153:C:OP1	16:U:76:TYR:OH	2.14	0.65
4:E:28:ALA:O	4:E:93:VAL:HG23	1.95	0.65
2:B:55:U:H4'	6:G:28:VAL:CG2	2.26	0.65
7:H:128:PRO:CD	7:H:129:THR:H	2.09	0.65
7:H:150:ALA:C	7:H:152:ARG:N	2.44	0.65
12:Q:59:ARG:C	12:Q:60:ARG:HG3	2.17	0.65
16:U:90:VAL:CG1	16:U:91:ASP:H	2.00	0.65
17:V:43:GLU:HA	17:V:43:GLU:OE2	1.95	0.65
21:Z:114:GLY:HA3	21:Z:177:PRO:HB3	1.78	0.65
1:A:1068:G:O2'	1:A:1096:A:N3	2.30	0.65
1:A:270(U):C:H2'	1:A:270(V):G:H8	1.60	0.65
2:B:40:U:O2'	2:B:45:A:N6	2.28	0.65
3:D:176:ARG:HG2	3:D:176:ARG:HH11	1.60	0.65
11:P:39:LYS:HA	11:P:45:LEU:HD13	1.79	0.65
18:W:18:ARG:HG3	18:W:76:VAL:HG13	1.77	0.65
23:1:29:GLY:O	23:1:30:VAL:HG23	1.97	0.65
26:4:49:PHE:O	26:4:50:VAL:HG23	1.97	0.65
27:5:40:LYS:NZ	27:5:48:GLU:HB2	2.11	0.65
1:A:1542:G:O6	1:A:1543:A:N6	2.30	0.65
2:B:42:C:H41	6:G:91:ARG:HH21	1.43	0.65
5:F:155:LEU:HD13	5:F:174:VAL:CG1	2.27	0.65
10:O:12:ASP:OD1	10:O:14:THR:HG23	1.97	0.65
10:O:7:TYR:CE1	10:O:20:MET:HB2	2.32	0.65
10:O:71:ARG:NH1	15:T:74:ARG:HH21	1.94	0.65
23:1:11:ARG:HH11	23:1:11:ARG:HB3	1.61	0.65
26:4:36:CYS:O	26:4:37:SER:O	2.14	0.65
27:5:56:LYS:CD	27:5:56:LYS:H	2.07	0.65
1:A:2287:A:H62	1:A:2344:U:H3	1.43	0.65
1:A:443:A:N7	5:F:45:ARG:HD2	2.12	0.65
23:1:82:LEU:CD1	23:1:83:GLU:C	2.64	0.65
24:2:69:ARG:HB2	24:2:69:ARG:NH1	2.11	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:145:THR:HG23	26:4:28:LYS:NZ	2.11	0.65
1:A:1899:G:H21	1:A:1902:C:N4	1.94	0.65
1:A:297:C:H5''	20:Y:85:VAL:HG21	1.79	0.65
3:D:122:ASP:CG	3:D:123:ALA:H	2.00	0.65
4:E:37:ARG:HA	4:E:37:ARG:NE	2.11	0.65
5:F:45:ARG:CG	5:F:45:ARG:HH11	2.09	0.65
8:I:31:LEU:HD21	8:I:38:LEU:HG	1.78	0.65
11:P:6:LEU:O	11:P:7:ARG:HG2	1.97	0.65
16:U:74:LEU:HD23	16:U:114:LYS:HD3	1.78	0.65
20:Y:35:TYR:CE1	20:Y:69:ALA:HB3	2.31	0.65
23:1:56:GLN:N	23:1:56:GLN:HE21	1.93	0.65
1:A:242:G:H5'	30:8:62:LEU:CD2	2.25	0.65
1:A:27:G:H22	1:A:512:G:H2'	1.61	0.65
3:D:172:TYR:HB3	3:D:184:LYS:HG2	1.77	0.65
4:E:13:ARG:NH1	4:E:21:VAL:HG12	2.11	0.65
1:A:1252:G:N3	16:U:33:ARG:HD2	2.13	0.64
1:A:819:A:OP2	1:A:1187:G:N2	2.26	0.64
11:P:97:PRO:HD3	11:P:126:VAL:O	1.97	0.64
16:U:65:ILE:HG12	16:U:96:ALA:CB	2.26	0.64
27:5:40:LYS:HD3	27:5:46:CYS:CB	2.26	0.64
1:A:630:G:N2	1:A:633:A:OP2	2.30	0.64
4:E:104:VAL:HG11	4:E:188:VAL:CG2	2.27	0.64
1:A:2635:C:H5''	4:E:78:LEU:HA	1.79	0.64
7:H:105:LEU:CD1	7:H:105:LEU:H	2.09	0.64
7:H:148:ILE:O	7:H:151:ILE:HG12	1.98	0.64
7:H:51:ARG:HH11	7:H:51:ARG:HG3	1.62	0.64
12:Q:81:VAL:O	12:Q:82:ARG:HG2	1.97	0.64
4:E:35:GLN:CG	4:E:37:ARG:HE	2.11	0.64
4:E:50:GLY:HA3	4:E:74:PRO:HG3	1.79	0.64
15:T:11:GLU:N	15:T:11:GLU:OE1	2.27	0.64
21:Z:109:ALA:CB	21:Z:145:GLU:HG2	2.27	0.64
23:1:80:LEU:HD12	23:1:81:LYS:HE3	1.78	0.64
30:8:52:LYS:O	30:8:52:LYS:HG3	1.97	0.64
6:G:81:LYS:O	6:G:82:LEU:HB2	1.96	0.64
6:G:83:ARG:HG3	6:G:86:MET:HE1	1.78	0.64
9:N:15:LEU:HD12	9:N:136:GLU:HB2	1.79	0.64
16:U:102:GLU:HG3	17:V:2:PHE:HE2	1.62	0.64
26:4:71:ARG:CG	26:4:71:ARG:HH11	1.98	0.64
1:A:674:G:C1'	5:F:74:ARG:HD3	2.25	0.64
9:N:57:ALA:HA	9:N:60:ILE:HD11	1.78	0.64
12:Q:10:ARG:O	12:Q:11:LYS:HB2	1.98	0.64
18:W:59:VAL:HG12	18:W:60:ASN:N	2.11	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:56:PRO:HG2	20:Y:57:GLN:OE1	1.98	0.64
30:8:56:GLU:OE1	30:8:56:GLU:N	2.30	0.64
3:D:77:ALA:HB2	3:D:97:TYR:HA	1.77	0.64
13:R:2:ARG:HG2	13:R:5:LYS:NZ	2.13	0.64
1:A:221:A:H4'	1:A:222:A:O5'	1.98	0.64
1:A:587:C:OP2	11:P:21:ARG:NH2	2.31	0.64
1:A:1798:U:H5''	3:D:259:THR:HG22	1.80	0.64
3:D:182:LEU:H	3:D:272:ALA:HB3	1.63	0.64
6:G:82:LEU:HA	6:G:86:MET:SD	2.38	0.64
18:W:86:LEU:HD12	18:W:87:PRO:CD	2.23	0.64
12:Q:23:GLY:HA3	12:Q:101:ARG:NH1	2.12	0.64
19:X:11:PRO:HB3	19:X:92:LEU:HD21	1.78	0.64
1:A:1190:G:OP1	11:P:30:THR:OG1	2.16	0.64
1:A:2404:C:O3'	11:P:77:ARG:NH2	2.31	0.64
23:1:91:LYS:HG3	23:1:92:LYS:H	1.63	0.64
1:A:2392:A:H2	1:A:2424:C:H42	1.46	0.64
6:G:114:ILE:CG2	6:G:117:PHE:HB2	2.28	0.64
7:H:92:ILE:HD12	7:H:92:ILE:H	1.63	0.64
8:I:52:ARG:HB3	8:I:52:ARG:HH11	1.62	0.64
11:P:98:GLU:O	11:P:101:VAL:HG12	1.98	0.64
11:P:105:LEU:O	11:P:106:LEU:CB	2.42	0.64
12:Q:30:GLY:HA3	12:Q:106:VAL:O	1.98	0.64
4:E:201:THR:HG21	4:E:203:LYS:HB3	1.80	0.63
8:I:1:MET:HG3	8:I:23:PRO:HB3	1.79	0.63
9:N:131:GLN:CD	9:N:132:ALA:H	2.01	0.63
10:O:86:ILE:N	10:O:86:ILE:HD12	2.13	0.63
12:Q:104:PHE:O	12:Q:105:GLU:HB3	1.98	0.63
18:W:74:ALA:O	18:W:75:TYR:HB3	1.98	0.63
19:X:63:LYS:O	19:X:64:LYS:HD2	1.98	0.63
7:H:117:PRO:HB3	7:H:123:PHE:CE1	2.33	0.63
9:N:43:THR:HB	9:N:46:VAL:CG1	2.27	0.63
11:P:113:LYS:HG2	11:P:115:LEU:HD23	1.79	0.63
17:V:52:VAL:CG2	17:V:55:ALA:HB3	2.28	0.63
21:Z:150:LEU:HD23	21:Z:171:ILE:HG13	1.78	0.63
1:A:443:A:C5	5:F:45:ARG:HD2	2.33	0.63
1:A:666:G:H4'	11:P:49:ARG:NH1	2.12	0.63
3:D:135:PHE:N	3:D:135:PHE:HD2	1.96	0.63
3:D:35:LYS:HZ1	3:D:65:ILE:HA	1.62	0.63
13:R:28:LEU:HD21	13:R:114:VAL:HG12	1.79	0.63
21:Z:80:ARG:HH21	21:Z:82:ARG:HH12	1.46	0.63
1:A:1403:C:H5''	1:A:1471:A:H1'	1.81	0.63
3:D:147:LEU:CD1	3:D:155:LEU:HD11	2.26	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:230:ASP:O	3:D:231:HIS:HB2	1.98	0.63
5:F:11:VAL:HG12	5:F:12:LEU:N	2.13	0.63
5:F:132:VAL:HG23	5:F:133:ASN:N	2.14	0.63
7:H:3:ARG:NE	7:H:3:ARG:HA	2.12	0.63
9:N:39:ARG:HB3	9:N:41:ASP:OD1	1.98	0.63
11:P:112:LEU:HD11	11:P:114:ILE:HG23	1.80	0.63
24:2:40:SER:C	24:2:42:GLY:H	2.00	0.63
24:2:42:GLY:O	24:2:44:LEU:N	2.30	0.63
28:6:27:LYS:HZ3	28:6:27:LYS:HB2	1.62	0.63
3:D:18:VAL:HG12	3:D:19:ALA:O	1.99	0.63
9:N:61:ARG:HA	9:N:61:ARG:HE	1.63	0.63
12:Q:81:VAL:O	12:Q:82:ARG:HD3	1.98	0.63
15:T:49:VAL:O	15:T:49:VAL:HG13	1.99	0.63
19:X:18:TYR:C	19:X:20:GLY:H	2.02	0.63
4:E:131:ALA:HB1	4:E:135:HIS:CE1	2.34	0.63
7:H:153:LYS:HG3	7:H:161:GLY:HA3	1.81	0.63
9:N:22:THR:CG2	9:N:23:LEU:N	2.61	0.63
12:Q:20:ALA:HB1	12:Q:99:PRO:CB	2.28	0.63
14:S:78:LEU:HD11	14:S:107:GLU:O	1.98	0.63
16:U:102:GLU:HG3	17:V:2:PHE:CE2	2.34	0.63
19:X:49:VAL:HG13	19:X:83:VAL:HG13	1.80	0.63
20:Y:95:LYS:CB	20:Y:100:ALA:HA	2.13	0.63
21:Z:58:VAL:O	21:Z:60:GLU:N	2.32	0.63
23:1:82:LEU:CD1	23:1:83:GLU:CA	2.76	0.63
24:2:46:GLN:OE1	24:2:46:GLN:HA	1.98	0.63
30:8:48:PHE:CD1	30:8:48:PHE:N	2.66	0.63
1:A:270(T):G:H5"	23:1:97:LEU:CD2	2.23	0.63
5:F:28:ILE:HG22	5:F:112:MET:HB3	1.80	0.63
12:Q:66:ILE:CG1	12:Q:67:ARG:H	2.12	0.63
18:W:110:LYS:HG3	18:W:111:HIS:ND1	2.12	0.63
1:A:2466:C:OP1	31:9:4:ARG:HB2	1.98	0.63
3:D:133:LEU:HD21	3:D:191:ALA:CB	2.29	0.63
21:Z:70:LEU:HB2	21:Z:91:LEU:HD21	1.81	0.63
23:1:76:ARG:H	23:1:76:ARG:HD2	1.64	0.63
23:1:87:PRO:O	23:1:88:LYS:C	2.37	0.63
5:F:107:LYS:O	5:F:108:LYS:C	2.36	0.63
5:F:119:ARG:HH11	5:F:119:ARG:HG2	1.64	0.63
12:Q:20:ALA:HB1	12:Q:99:PRO:CD	2.29	0.63
13:R:117:VAL:O	13:R:118:GLU:HB3	1.98	0.63
13:R:63:ARG:NH1	13:R:80:PHE:CD1	2.67	0.63
15:T:16:ARG:HE	15:T:19:LEU:HD21	1.63	0.63
16:U:34:LYS:HA	16:U:34:LYS:CE	2.29	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:86:ARG:O	20:Y:92:ASN:HB2	1.97	0.63
24:2:65:ASN:HB3	24:2:69:ARG:NH1	2.10	0.62
28:6:13:CYS:HB2	28:6:22:ALA:HB3	1.81	0.62
1:A:2112:G:O6	1:A:2169:A:N6	2.31	0.62
7:H:136:ILE:HD12	7:H:136:ILE:H	1.64	0.62
11:P:108:LYS:HD2	11:P:108:LYS:H	1.64	0.62
15:T:111:ARG:C	15:T:113:LYS:H	2.01	0.62
15:T:60:THR:HG22	15:T:77:PRO:HA	1.80	0.62
3:D:44:ASN:HB3	3:D:49:ILE:CA	2.27	0.62
10:O:8:LEU:HB2	10:O:19:ILE:HD11	1.81	0.62
14:S:48:LEU:N	14:S:48:LEU:HD12	2.14	0.62
15:T:24:PRO:O	15:T:94:ALA:HB2	2.00	0.62
24:2:40:SER:C	24:2:42:GLY:N	2.50	0.62
1:A:530:G:C2	1:A:2022:U:OP1	2.52	0.62
5:F:28:ILE:HD13	5:F:30:PRO:HD3	1.80	0.62
15:T:96:ARG:NH1	15:T:96:ARG:HB2	2.14	0.62
30:8:59:LYS:HZ3	30:8:59:LYS:HB3	1.64	0.62
1:A:27:G:HO2'	1:A:28:A:H8	1.46	0.62
7:H:137:ASP:HB3	7:H:140:LYS:HB2	1.81	0.62
11:P:83:VAL:HG12	11:P:112:LEU:HD21	1.80	0.62
14:S:22:GLY:O	14:S:23:ARG:O	2.17	0.62
28:6:41:PRO:HG2	28:6:45:LYS:N	2.10	0.62
1:A:2394:C:OP1	11:P:63:PRO:HD2	1.99	0.62
3:D:134:ARG:HD3	3:D:135:PHE:CE2	2.34	0.62
4:E:35:GLN:CG	4:E:37:ARG:NE	2.62	0.62
6:G:77:ILE:HD13	6:G:82:LEU:CD1	2.29	0.62
6:G:94:LEU:N	6:G:94:LEU:HD23	2.14	0.62
15:T:108:ARG:O	15:T:111:ARG:HG3	2.00	0.62
18:W:60:ASN:C	18:W:61:ASN:HD22	2.03	0.62
19:X:31:HIS:CE1	19:X:33:LYS:HB2	2.34	0.62
1:A:1043:C:N3	1:A:1112:G:N2	2.43	0.62
3:D:72:LYS:HG2	3:D:103:ARG:NH2	2.14	0.62
4:E:13:ARG:HH12	4:E:21:VAL:HG12	1.64	0.62
6:G:68:PRO:HB2	6:G:90:LEU:HD12	1.80	0.62
9:N:96:GLU:O	9:N:98:VAL:N	2.33	0.62
11:P:61:ARG:CD	11:P:61:ARG:H	2.09	0.62
11:P:65:ARG:HH11	11:P:65:ARG:CG	2.06	0.62
17:V:36:PRO:HA	17:V:56:SER:OG	1.98	0.62
23:1:18:ILE:HG12	23:1:37:ILE:HG12	1.81	0.62
1:A:2405:G:O2'	1:A:2406:U:OP2	2.17	0.62
1:A:2867:G:O2'	1:A:2868:A:H8	1.81	0.62
5:F:129:PHE:O	5:F:130:ALA:HB3	1.99	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:32:LEU:CD1	5:F:105:VAL:HG13	2.29	0.62
9:N:26:LEU:O	9:N:30:ILE:HG13	1.99	0.62
9:N:87:LEU:HD23	9:N:87:LEU:O	1.99	0.62
15:T:57:PHE:CD2	15:T:58:ASN:N	2.66	0.62
24:2:69:ARG:CZ	24:2:69:ARG:HB2	2.30	0.62
28:6:18:ARG:O	28:6:18:ARG:HD2	2.00	0.62
1:A:222:A:H3'	1:A:421:U:H5'	1.81	0.62
3:D:70:TRP:CH2	3:D:150:LYS:HA	2.35	0.62
9:N:7:LYS:HD2	9:N:7:LYS:H	1.64	0.62
12:Q:86:GLY:C	12:Q:88:GLY:H	2.03	0.62
14:S:26:LEU:HD22	14:S:87:PHE:HD1	1.63	0.62
20:Y:87:LYS:O	20:Y:88:LYS:NZ	2.31	0.62
2:B:15:A:H5'	2:B:16:G:H8	1.65	0.62
3:D:27:THR:O	3:D:29:PRO:HD2	1.99	0.62
4:E:35:GLN:HG2	4:E:37:ARG:NE	2.14	0.62
11:P:64:LYS:HB2	30:8:25:MET:HG3	1.80	0.62
15:T:22:PHE:HD2	15:T:22:PHE:N	1.97	0.62
15:T:31:SER:HA	15:T:44:ASP:OD2	2.00	0.62
23:1:3:LYS:HD3	23:1:43:TYR:CD2	2.35	0.62
23:1:91:LYS:HE3	23:1:91:LYS:HA	1.82	0.62
24:2:17:SER:HB2	24:2:18:PRO:CA	2.30	0.62
6:G:6:ALA:HB2	26:4:23:GLU:OE2	2.00	0.62
26:4:61:ARG:O	26:4:63:TYR:N	2.33	0.62
3:D:137:PRO:HB2	3:D:140:THR:HG23	1.81	0.62
6:G:9:ARG:HG2	6:G:13:GLU:OE1	2.00	0.62
10:O:78:ARG:HH21	15:T:103:ARG:NH2	1.98	0.62
14:S:100:ALA:HA	14:S:103:GLU:CG	2.30	0.62
14:S:17:ARG:HG3	14:S:18:ILE:N	2.14	0.62
14:S:26:LEU:HD12	14:S:39:ILE:CD1	2.23	0.62
1:A:958:U:OP2	12:Q:14:ARG:NH1	2.25	0.61
3:D:72:LYS:HE3	3:D:75:ILE:HD12	1.82	0.61
6:G:170:ARG:O	6:G:174:GLU:HB2	1.99	0.61
11:P:50:ARG:NH2	11:P:50:ARG:CB	2.57	0.61
20:Y:101:LYS:HE3	20:Y:102:CYS:SG	2.40	0.61
26:4:23:GLU:O	26:4:25:TYR:N	2.33	0.61
26:4:71:ARG:CG	26:4:71:ARG:NH1	2.61	0.61
28:6:44:ARG:O	28:6:45:LYS:HB2	2.00	0.61
3:D:237:GLU:OE1	3:D:237:GLU:CA	2.48	0.61
4:E:201:THR:HG22	4:E:203:LYS:N	2.07	0.61
6:G:111:LEU:HB2	6:G:112:PRO:HD3	1.82	0.61
7:H:86:GLU:O	7:H:87:LEU:HB2	1.99	0.61
10:O:97:ARG:N	10:O:117:LEU:HD22	2.15	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:114:ILE:HD11	11:P:130:PHE:CD1	2.34	0.61
1:A:95:G:O2'	24:2:48:HIS:ND1	2.27	0.61
1:A:1332:G:H21	1:A:1610:A:H8	1.47	0.61
1:A:2438:U:O3'	1:A:2439:A:H3'	2.00	0.61
1:A:2667:C:H1'	7:H:109:PHE:CD2	2.33	0.61
7:H:152:ARG:O	7:H:153:LYS:CD	2.48	0.61
8:I:51:ILE:HG23	8:I:55:ALA:CB	2.30	0.61
1:A:1026:U:H4'	1:A:1027:A:OP1	2.00	0.61
3:D:133:LEU:HD21	3:D:191:ALA:HB2	1.82	0.61
9:N:62:VAL:CG1	9:N:66:LYS:HD2	2.30	0.61
13:R:38:VAL:HB	13:R:39:PRO:HD3	1.81	0.61
16:U:92:ARG:HD3	16:U:94:ASN:HB3	1.83	0.61
20:Y:48:ALA:HB2	20:Y:61:ILE:HD13	1.82	0.61
25:3:29:ARG:HH11	25:3:29:ARG:CB	2.13	0.61
6:G:142:PRO:HB2	26:4:31:ILE:CD1	2.30	0.61
26:4:35:VAL:O	26:4:37:SER:N	2.26	0.61
28:6:25:LYS:HD2	30:8:34:TRP:CZ2	2.36	0.61
14:S:88:ASP:O	14:S:89:ARG:CB	2.49	0.61
18:W:82:LEU:HB2	18:W:98:LYS:HB2	1.82	0.61
3:D:35:LYS:HA	3:D:64:ILE:HG22	1.82	0.61
10:O:104:ARG:CZ	15:T:34:VAL:HG11	2.29	0.61
18:W:5:ALA:O	18:W:50:VAL:HG13	2.00	0.61
19:X:66:LEU:O	19:X:66:LEU:HD23	2.01	0.61
23:1:80:LEU:O	23:1:81:LYS:HD2	2.01	0.61
30:8:29:LYS:HD3	30:8:44:LYS:CB	2.30	0.61
1:A:2712:U:O2'	1:A:2712(A):A:H8	1.82	0.61
3:D:174:ILE:N	3:D:174:ILE:HD12	2.16	0.61
3:D:21:PHE:HB3	3:D:24:ILE:HG13	1.83	0.61
7:H:6:ARG:HG3	7:H:7:LEU:N	2.15	0.61
11:P:65:ARG:HE	30:8:15:LYS:HB2	1.65	0.61
17:V:46:VAL:O	17:V:46:VAL:HG13	2.01	0.61
1:A:1398:C:OP1	19:X:53:LYS:NZ	2.34	0.61
1:A:270(R):G:H1'	23:1:78:LYS:HZ1	1.64	0.61
1:A:1291:C:H5'	1:A:1536:A:H5'	1.83	0.61
1:A:2250:G:C6	12:Q:82:ARG:HD2	2.35	0.61
9:N:7:LYS:CD	9:N:9:VAL:H	2.14	0.61
18:W:65:LEU:HD12	18:W:68:ARG:NH1	2.10	0.61
28:6:41:PRO:HD2	28:6:46:HIS:N	2.16	0.61
3:D:35:LYS:HG2	3:D:64:ILE:CG2	2.31	0.61
5:F:63:LYS:HE2	5:F:67:GLN:HB3	1.83	0.61
8:I:51:ILE:HG22	8:I:55:ALA:HB3	1.83	0.61
9:N:23:LEU:HD12	9:N:99:LEU:HD23	1.82	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:2:41:ILE:HD11	24:2:44:LEU:HG	1.83	0.61
25:3:5:LYS:HB2	25:3:36:VAL:HG12	1.82	0.61
25:3:59:VAL:HG12	25:3:60:GLU:N	2.16	0.61
27:5:52:TYR:O	27:5:53:ALA:HB3	2.01	0.61
1:A:1464:C:HO2'	1:A:1528:A:H8	1.49	0.61
9:N:58:ASP:N	9:N:60:ILE:HD11	2.16	0.61
11:P:96:THR:HG22	11:P:126:VAL:HB	1.82	0.61
12:Q:2:LEU:H	12:Q:2:LEU:HD23	1.65	0.61
16:U:69:CYS:HB3	16:U:106:PHE:CZ	2.36	0.61
17:V:15:GLU:HG3	17:V:16:PRO:HD2	1.83	0.61
19:X:14:SER:O	19:X:17:ALA:N	2.34	0.61
1:A:2022:U:O2'	1:A:2617:C:H5'	2.01	0.60
1:A:862:G:H2'	1:A:863:A:O4'	2.01	0.60
4:E:52:LEU:HB3	4:E:54:GLN:OE1	2.00	0.60
5:F:175:THR:O	5:F:176:LEU:CB	2.49	0.60
6:G:28:VAL:O	6:G:31:VAL:HG12	2.01	0.60
9:N:6:PRO:HG3	9:N:41:ASP:HB2	1.83	0.60
12:Q:88:GLY:C	12:Q:90:VAL:H	2.02	0.60
13:R:52:ILE:O	13:R:55:ALA:HB3	2.01	0.60
17:V:35:LEU:HD23	17:V:35:LEU:O	2.01	0.60
18:W:28:SER:O	18:W:31:GLU:N	2.34	0.60
1:A:1340:U:OP2	19:X:78:LYS:NZ	2.34	0.60
1:A:76:C:O2'	24:2:62:THR:HG21	2.00	0.60
1:A:111:A:O3'	24:2:69:ARG:NH2	2.34	0.60
1:A:2636:U:OP1	4:E:79:ARG:HA	2.02	0.60
7:H:44:VAL:O	7:H:44:VAL:HG22	2.01	0.60
10:O:91:LEU:HD22	10:O:91:LEU:N	2.16	0.60
14:S:49:VAL:HG22	14:S:80:LEU:HD12	1.82	0.60
24:2:70:GLN:O	24:2:71:ASN:HB2	2.00	0.60
3:D:35:LYS:NZ	3:D:65:ILE:HA	2.15	0.60
4:E:104:VAL:HG11	4:E:188:VAL:HG23	1.82	0.60
7:H:126:PRO:CD	7:H:127:GLU:N	2.65	0.60
10:O:104:ARG:NH1	10:O:104:ARG:HG2	2.14	0.60
12:Q:66:ILE:CG1	12:Q:67:ARG:N	2.64	0.60
12:Q:86:GLY:C	12:Q:88:GLY:N	2.52	0.60
16:U:96:ALA:C	16:U:98:LEU:H	2.04	0.60
17:V:66:ARG:HH12	17:V:88:ARG:HH11	1.49	0.60
23:1:80:LEU:C	23:1:81:LYS:CD	2.69	0.60
1:A:1251:C:OP1	16:U:10:ARG:HG3	2.02	0.60
1:A:1543:A:HO2'	1:A:1544:C:P	2.24	0.60
3:D:263:ARG:HH11	3:D:263:ARG:CB	2.14	0.60
6:G:50:ALA:O	6:G:53:LEU:HB3	2.01	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:43:VAL:CG1	19:X:51:VAL:HG21	2.31	0.60
23:1:73:LEU:C	23:1:75:GLU:H	2.03	0.60
24:2:41:ILE:HG12	24:2:44:LEU:HD12	1.81	0.60
1:A:1858:G:O2'	1:A:1884:A:N6	2.35	0.60
4:E:4:ILE:C	4:E:5:LEU:HD23	2.22	0.60
1:A:323:G:H2'	5:F:169:ASN:OD1	2.01	0.60
6:G:61:ALA:HB2	6:G:68:PRO:HD2	1.80	0.60
6:G:94:LEU:HD23	6:G:94:LEU:H	1.64	0.60
8:I:56:LYS:HE3	8:I:57:ARG:N	2.17	0.60
12:Q:54:MET:O	12:Q:57:HIS:HB3	2.00	0.60
12:Q:80:GLU:C	12:Q:81:VAL:HG13	2.22	0.60
22:0:68:GLU:HG2	22:0:80:HIS:HB2	1.83	0.60
1:A:1003:G:O2'	1:A:1010:A:N1	2.33	0.60
1:A:2638:G:OP2	4:E:82:ARG:NH2	2.34	0.60
4:E:4:ILE:CD1	4:E:28:ALA:HB1	2.29	0.60
4:E:51:PHE:O	4:E:52:LEU:C	2.38	0.60
6:G:64:THR:HG23	6:G:66:GLN:H	1.67	0.60
9:N:133:GLN:O	9:N:134:ARG:HB3	1.99	0.60
9:N:17:ASP:O	9:N:18:ALA:HB3	2.01	0.60
20:Y:19:LYS:HG3	20:Y:19:LYS:O	2.01	0.60
20:Y:44:ILE:HG13	20:Y:45:VAL:H	1.65	0.60
1:A:2562:U:O2'	10:O:23:ARG:NH1	2.33	0.60
6:G:44:GLY:HA2	6:G:88:ILE:CG1	2.30	0.60
11:P:55:ARG:HD2	11:P:56:SER:O	2.01	0.60
19:X:15:GLU:N	19:X:15:GLU:OE1	2.34	0.60
21:Z:163:LEU:HD12	21:Z:163:LEU:H	1.67	0.60
22:0:68:GLU:OE1	22:0:82:ARG:NH1	2.34	0.60
24:2:32:LEU:HD11	24:2:54:LYS:HG3	1.84	0.60
1:A:1204:A:O2'	1:A:1205:U:O5'	2.20	0.60
3:D:2:ALA:HB3	3:D:20:ASP:HB3	1.83	0.60
5:F:164:ARG:HH11	5:F:164:ARG:HG2	1.66	0.60
5:F:34:TRP:CZ3	11:P:8:PRO:HB3	2.37	0.60
5:F:46:ARG:HH11	5:F:46:ARG:CG	2.04	0.60
6:G:128:ARG:NH2	6:G:128:ARG:HG3	2.17	0.60
6:G:179:PRO:HG3	26:4:38:LYS:HZ2	1.66	0.60
7:H:117:PRO:HB3	7:H:123:PHE:CD1	2.37	0.60
9:N:99:LEU:O	9:N:103:VAL:HG23	2.02	0.60
1:A:2562:U:H1'	10:O:23:ARG:NH1	2.17	0.60
11:P:138:LEU:C	11:P:140:ALA:N	2.55	0.60
13:R:44:LEU:HD22	13:R:48:VAL:HG23	1.82	0.60
1:A:784:A:N7	3:D:229:VAL:HG21	2.16	0.60
3:D:165:ILE:HA	3:D:175:LEU:HD23	1.83	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:25:THR:HG21	3:D:81:ALA:CA	2.31	0.60
3:D:35:LYS:HD3	3:D:63:ARG:CB	2.32	0.60
4:E:37:ARG:CA	4:E:37:ARG:NE	2.64	0.60
4:E:53:PRO:HG2	4:E:54:GLN:NE2	2.16	0.60
6:G:112:PRO:HB3	26:4:37:SER:CB	2.25	0.60
7:H:89:ILE:O	7:H:91:GLY:N	2.35	0.60
11:P:13:ASN:O	11:P:15:ARG:N	2.34	0.60
13:R:44:LEU:O	13:R:48:VAL:HG23	2.02	0.60
13:R:92:GLY:H	13:R:94:TYR:HE2	1.49	0.60
15:T:34:VAL:HG12	15:T:36:GLU:HG2	1.83	0.60
16:U:76:TYR:CZ	16:U:80:ILE:HG13	2.37	0.60
17:V:18:LEU:HB3	17:V:96:ILE:HG12	1.84	0.60
1:A:1287:A:N7	13:R:107:ASP:HB2	2.17	0.60
1:A:210:C:OP2	29:7:29:LYS:NZ	2.34	0.60
1:A:2208:U:H1'	3:D:151:LYS:HE2	1.84	0.60
1:A:2392:A:OP2	1:A:2422:A:N6	2.35	0.60
1:A:2777:G:OP2	1:A:2781:A:O2'	2.19	0.60
4:E:116:VAL:O	4:E:117:MET:CB	2.49	0.60
4:E:131:ALA:HB1	4:E:135:HIS:HE1	1.65	0.60
4:E:95:ILE:HD12	4:E:95:ILE:N	2.15	0.60
7:H:30:LYS:CD	7:H:81:GLU:H	2.15	0.60
20:Y:4:LYS:O	20:Y:5:MET:HB2	2.01	0.60
21:Z:157:LEU:HD23	21:Z:161:VAL:HG12	1.83	0.60
5:F:155:LEU:CD1	5:F:174:VAL:HG13	2.32	0.59
6:G:126:ASP:OD1	6:G:130:ASN:HB2	2.02	0.59
11:P:27:HIS:ND1	11:P:27:HIS:N	2.49	0.59
13:R:75:LEU:HD13	13:R:75:LEU:C	2.22	0.59
14:S:99:LYS:O	14:S:102:ALA:N	2.34	0.59
15:T:107:ASP:O	15:T:110:ILE:HG22	2.02	0.59
23:1:91:LYS:CG	23:1:92:LYS:H	2.15	0.59
1:A:2439:A:C8	1:A:2439:A:H5'	2.37	0.59
3:D:25:THR:HG21	3:D:81:ALA:HA	1.84	0.59
4:E:63:LEU:CD1	4:E:64:LYS:H	2.04	0.59
7:H:4:ILE:N	7:H:4:ILE:HD13	2.18	0.59
9:N:41:ASP:O	9:N:48:MET:HE3	2.01	0.59
11:P:95:VAL:HG13	11:P:100:LEU:HD21	1.83	0.59
12:Q:81:VAL:HG23	12:Q:82:ARG:H	1.67	0.59
14:S:11:LYS:HB2	14:S:91:PRO:HD3	1.84	0.59
17:V:35:LEU:HB2	17:V:37:VAL:HG23	1.85	0.59
1:A:1062:G:H2'	1:A:1063:G:C8	2.37	0.59
1:A:2404:C:H1'	11:P:67:MET:HE1	1.84	0.59
1:A:2416:C:H5''	11:P:64:LYS:HE3	1.83	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:166:GLN:CA	3:D:166:GLN:HE21	2.14	0.59
3:D:236:GLY:C	3:D:237:GLU:OE1	2.39	0.59
4:E:61:ARG:HB2	4:E:62:PRO:CD	2.33	0.59
4:E:68:ALA:O	4:E:69:LYS:HG3	2.02	0.59
4:E:69:LYS:O	4:E:71:GLY:N	2.27	0.59
9:N:16:ILE:O	9:N:55:VAL:HG22	2.01	0.59
1:A:1142(A):A:H4'	9:N:25:ARG:HH22	1.67	0.59
11:P:37:GLY:HA2	11:P:41:ARG:HE	1.68	0.59
16:U:58:ARG:HA	16:U:61:TRP:CE3	2.37	0.59
23:1:87:PRO:O	23:1:91:LYS:N	2.31	0.59
28:6:13:CYS:O	28:6:21:TYR:HA	2.01	0.59
30:8:22:VAL:CG2	30:8:53:PRO:HB2	2.32	0.59
1:A:2790:A:H2'	1:A:2791:C:H5''	1.84	0.59
2:B:48:A:H2'	2:B:49:C:C6	2.37	0.59
3:D:172:TYR:CD1	3:D:186:HIS:HA	2.37	0.59
3:D:35:LYS:HE3	3:D:64:ILE:C	2.21	0.59
6:G:13:GLU:O	6:G:14:GLU:CB	2.44	0.59
7:H:153:LYS:HA	7:H:153:LYS:HZ2	1.67	0.59
11:P:79:ARG:HD3	11:P:110:TYR:HE1	1.67	0.59
12:Q:63:LYS:HE2	12:Q:65:PHE:CE1	2.37	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD13	1.84	0.59
4:E:36:ARG:H	4:E:37:ARG:HH21	1.49	0.59
11:P:106:LEU:O	11:P:107:LYS:CB	2.46	0.59
27:5:40:LYS:NZ	27:5:46:CYS:HB3	2.18	0.59
30:8:22:VAL:HG21	30:8:53:PRO:HB2	1.83	0.59
1:A:49:A:H4'	1:A:50:U:H5''	1.85	0.59
1:A:878:A:N6	1:A:899:A:O2'	2.36	0.59
1:A:898:C:H2'	1:A:899:A:H5'	1.85	0.59
3:D:137:PRO:HB2	3:D:140:THR:CG2	2.33	0.59
3:D:54:ARG:CG	3:D:54:ARG:HH11	2.14	0.59
5:F:123:LEU:HD12	5:F:124:LEU:N	2.17	0.59
7:H:82:GLY:O	7:H:135:GLY:O	2.20	0.59
8:I:130:TYR:HB3	8:I:136:VAL:HG13	1.83	0.59
9:N:78:TYR:CD1	9:N:78:TYR:N	2.70	0.59
18:W:36:LEU:HD11	18:W:47:VAL:HG12	1.83	0.59
18:W:66:GLU:O	18:W:68:ARG:N	2.33	0.59
20:Y:51:VAL:CG1	20:Y:52:SER:H	2.11	0.59
4:E:116:VAL:CG2	4:E:122:PHE:CD2	2.86	0.59
8:I:56:LYS:CG	8:I:57:ARG:N	2.62	0.59
9:N:9:VAL:HG21	9:N:48:MET:HB3	1.85	0.59
1:A:807:U:OP2	11:P:41:ARG:NH1	2.35	0.59
14:S:89:ARG:O	14:S:90:GLY:O	2.19	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:63:TYR:C	26:4:65:ASP:H	2.05	0.59
3:D:12:SER:C	3:D:14:ARG:H	2.06	0.59
4:E:93:VAL:N	4:E:95:ILE:CD1	2.65	0.59
11:P:71:VAL:HG13	11:P:72:PRO:HD3	1.85	0.59
13:R:79:LEU:HD23	13:R:79:LEU:C	2.23	0.59
1:A:330:A:H2	1:A:1210:A:H2'	1.66	0.59
3:D:71:ASP:HB3	3:D:103:ARG:HH22	1.68	0.59
5:F:89:VAL:HG12	5:F:90:PHE:N	2.18	0.59
1:A:2314:C:OP1	6:G:91:ARG:NH1	2.35	0.59
7:H:127:GLU:HG2	7:H:128:PRO:CG	2.33	0.59
9:N:18:ALA:HB3	9:N:55:VAL:O	2.03	0.59
14:S:42:ASP:C	14:S:44:LYS:H	2.06	0.59
16:U:52:ARG:HG2	16:U:52:ARG:NH1	2.18	0.59
1:A:1184:G:OP1	25:3:29:ARG:NH1	2.36	0.59
1:A:49:A:N7	1:A:120:U:H5	2.01	0.59
1:A:507:A:H5''	1:A:508:G:H5'	1.85	0.59
2:B:40:U:O4	26:4:2:LYS:N	2.34	0.59
3:D:44:ASN:N	3:D:44:ASN:ND2	2.42	0.59
7:H:55:PRO:HG2	7:H:61:HIS:CE1	2.37	0.59
7:H:92:ILE:HG22	7:H:93:GLY:N	2.18	0.59
8:I:56:LYS:HE3	8:I:57:ARG:CA	2.33	0.59
11:P:121:LYS:HG3	11:P:122:PRO:HD2	1.84	0.59
11:P:138:LEU:O	11:P:140:ALA:N	2.33	0.59
17:V:1:MET:CE	17:V:43:GLU:HG2	2.32	0.59
19:X:49:VAL:CG1	19:X:83:VAL:HG13	2.33	0.59
24:2:64:LEU:CD2	24:2:68:ARG:HD2	2.33	0.58
26:4:12:ALA:CB	26:4:29:PRO:HA	2.33	0.58
4:E:93:VAL:N	4:E:95:ILE:HD12	2.17	0.58
13:R:72:ASP:O	13:R:76:VAL:HB	2.03	0.58
14:S:88:ASP:CG	14:S:90:GLY:H	2.06	0.58
15:T:36:GLU:HG3	15:T:41:ARG:HD3	1.85	0.58
15:T:66:VAL:HG12	15:T:67:SER:H	1.67	0.58
24:2:16:LEU:O	24:2:17:SER:HB3	2.04	0.58
26:4:65:ASP:O	26:4:66:SER:CB	2.51	0.58
1:A:78:A:H2'	1:A:79:G:H8	1.68	0.58
3:D:92:ILE:HD12	3:D:104:TYR:CD2	2.38	0.58
9:N:114:ARG:O	9:N:115:ARG:HB3	2.03	0.58
9:N:13:TRP:O	9:N:135:PRO:HD2	2.03	0.58
11:P:127:ALA:O	11:P:147:LEU:HD23	2.02	0.58
15:T:102:ILE:HB	15:T:110:ILE:HD11	1.84	0.58
20:Y:81:LYS:HD3	20:Y:97:ARG:CD	2.33	0.58
24:2:17:SER:CB	24:2:18:PRO:HA	2.33	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:42:PHE:CG	26:4:43:TYR:N	2.71	0.58
26:4:48:ARG:NH1	26:4:52:THR:H	2.01	0.58
1:A:310:A:OP1	20:Y:18:GLY:N	2.24	0.58
1:A:857:C:H4'	22:0:23:VAL:HG21	1.84	0.58
4:E:72:VAL:O	4:E:73:GLU:O	2.21	0.58
5:F:63:LYS:HE2	5:F:67:GLN:CB	2.32	0.58
7:H:86:GLU:O	7:H:131:VAL:O	2.20	0.58
10:O:20:MET:O	10:O:41:ALA:HB1	2.04	0.58
24:2:69:ARG:CB	24:2:69:ARG:NH1	2.67	0.58
27:5:60:VAL:HG13	27:5:60:VAL:OXT	2.03	0.58
1:A:1062:G:H2'	1:A:1063:G:H8	1.69	0.58
1:A:2335:A:O2'	1:A:2336:A:O5'	2.21	0.58
3:D:242:ARG:HD2	3:D:242:ARG:N	2.18	0.58
3:D:35:LYS:CG	3:D:64:ILE:H	2.14	0.58
4:E:6:GLY:HA3	4:E:26:ILE:HD11	1.85	0.58
6:G:16:ARG:NH2	6:G:31:VAL:HG11	2.17	0.58
9:N:14:VAL:HG12	9:N:15:LEU:N	2.19	0.58
10:O:71:ARG:HH11	10:O:71:ARG:HG3	1.69	0.58
16:U:92:ARG:NH1	16:U:95:LEU:CD1	2.65	0.58
16:U:92:ARG:HH11	16:U:95:LEU:HD12	1.67	0.58
17:V:41:GLY:H	17:V:46:VAL:HG13	1.67	0.58
20:Y:96:ILE:CD1	20:Y:98:VAL:HG12	2.32	0.58
30:8:46:ARG:O	30:8:47:LYS:HB3	2.03	0.58
1:A:1678:G:N2	1:A:1989:G:H22	2.01	0.58
1:A:626:U:H5''	1:A:627:A:H5'	1.86	0.58
3:D:27:THR:CG2	3:D:28:GLU:N	2.66	0.58
5:F:174:VAL:HG13	5:F:174:VAL:O	2.03	0.58
18:W:95:ILE:O	18:W:95:ILE:HD12	2.04	0.58
24:2:16:LEU:CG	24:2:16:LEU:O	2.49	0.58
5:F:160:ASN:OD1	5:F:162:LEU:HB2	2.04	0.58
26:4:15:ILE:HG22	26:4:19:GLY:O	2.03	0.58
1:A:1301:A:H4'	1:A:1302:A:OP1	2.02	0.58
1:A:1728:G:H3'	1:A:1729:A:H5''	1.85	0.58
1:A:2723:C:H5''	13:R:1:MET:HG2	1.84	0.58
5:F:11:VAL:HG11	5:F:18:ARG:HE	1.67	0.58
7:H:159:GLU:O	7:H:160:LYS:HG2	2.03	0.58
7:H:4:ILE:HG13	7:H:6:ARG:CD	2.33	0.58
1:A:2758:A:C4	7:H:67:LEU:HD21	2.38	0.58
8:I:3:VAL:HG12	8:I:38:LEU:HA	1.85	0.58
10:O:7:TYR:HE1	10:O:20:MET:HE3	1.68	0.58
13:R:117:VAL:CG2	13:R:118:GLU:H	2.15	0.58
20:Y:95:LYS:HD3	20:Y:95:LYS:H	1.67	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:114:GLY:CA	21:Z:177:PRO:HB3	2.34	0.58
26:4:3:GLU:HG3	26:4:4:GLY:N	2.18	0.58
30:8:56:GLU:O	30:8:59:LYS:N	2.35	0.58
1:A:1818:U:H2'	3:D:157:ARG:HG3	1.86	0.58
1:A:2037:G:H2'	1:A:2038:G:C8	2.39	0.58
1:A:558:G:P	9:N:111:PRO:HD2	2.44	0.58
14:S:67:ARG:HB2	14:S:67:ARG:HH11	1.65	0.58
19:X:7:VAL:O	19:X:30:VAL:HG12	2.04	0.58
26:4:22:ILE:HG22	26:4:23:GLU:N	2.18	0.58
26:4:27:THR:O	26:4:28:LYS:HB3	2.04	0.58
26:4:38:LYS:C	26:4:40:HIS:N	2.52	0.58
1:A:1049:C:H2'	1:A:1050:A:H5''	1.85	0.58
1:A:227:A:O2'	1:A:228:A:OP2	2.22	0.58
4:E:51:PHE:CD1	4:E:52:LEU:HG	2.39	0.58
11:P:71:VAL:CG1	11:P:72:PRO:HD3	2.33	0.58
19:X:27:THR:HB	19:X:80:ILE:HB	1.84	0.58
27:5:50:GLY:O	27:5:51:TYR:HB2	2.03	0.58
1:A:1264:G:H5'	27:5:11:THR:HG21	1.84	0.58
1:A:2068:U:N3	1:A:2430:A:H2	1.98	0.58
1:A:2788:C:O2'	1:A:2809:A:N3	2.34	0.58
3:D:27:THR:CG2	3:D:83:GLU:HB3	2.33	0.58
4:E:111:ARG:NE	4:E:160:TYR:HE1	2.01	0.58
5:F:138:GLU:O	5:F:141:ALA:HB3	2.04	0.58
7:H:125:VAL:HG12	7:H:126:PRO:CG	2.34	0.58
7:H:85:LYS:HA	7:H:86:GLU:OE1	2.04	0.58
12:Q:47:ILE:CD1	12:Q:70:PRO:HD3	2.34	0.58
23:1:81:LYS:H	23:1:81:LYS:HE2	1.62	0.57
26:4:39:CYS:O	26:4:40:HIS:HB2	2.03	0.57
1:A:1354:A:OP1	3:D:38:LYS:HE2	2.04	0.57
6:G:53:LEU:C	6:G:53:LEU:HD23	2.25	0.57
7:H:4:ILE:H	7:H:4:ILE:HD13	1.68	0.57
12:Q:90:VAL:C	12:Q:92:GLY:H	2.07	0.57
16:U:24:TYR:HE1	16:U:39:LEU:HD23	1.69	0.57
17:V:35:LEU:HD21	17:V:57:VAL:CG2	2.30	0.57
1:A:25:U:H5''	18:W:80:PRO:HD3	1.85	0.57
24:2:15:LYS:H	24:2:67:LYS:NZ	2.02	0.57
26:4:15:ILE:HG22	26:4:20:ASN:HA	1.86	0.57
27:5:55:ARG:NH1	27:5:58:LEU:HD11	2.19	0.57
3:D:147:LEU:HD13	3:D:155:LEU:CD1	2.29	0.57
3:D:35:LYS:HG2	3:D:64:ILE:CA	2.34	0.57
7:H:84:SER:O	7:H:133:VAL:O	2.22	0.57
14:S:106:ARG:O	14:S:107:GLU:HB2	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:67:ARG:HH11	14:S:67:ARG:CB	2.18	0.57
14:S:26:LEU:CD2	14:S:87:PHE:HD1	2.17	0.57
14:S:95:HIS:CG	14:S:96:GLY:H	2.21	0.57
15:T:82:LEU:N	15:T:82:LEU:HD12	2.19	0.57
17:V:78:LYS:O	17:V:79:VAL:HB	2.04	0.57
18:W:80:PRO:O	18:W:100:THR:HG22	2.03	0.57
21:Z:144:LEU:HG	21:Z:150:LEU:HD12	1.87	0.57
24:2:21:LEU:O	24:2:25:VAL:HG23	2.04	0.57
1:A:1342:A:OP1	19:X:36:LYS:NZ	2.28	0.57
1:A:919:G:N2	1:A:2269:A:OP2	2.34	0.57
3:D:177:LEU:HD11	3:D:183:ARG:HB2	1.85	0.57
1:A:1903:G:OP2	3:D:241:PRO:HB2	2.04	0.57
3:D:25:THR:HG21	3:D:81:ALA:HB1	1.85	0.57
3:D:263:ARG:HH11	3:D:263:ARG:HB2	1.67	0.57
6:G:39:ILE:HG23	6:G:155:MET:HG3	1.86	0.57
7:H:41:MET:HE1	7:H:64:LEU:HB3	1.86	0.57
11:P:59:LEU:HA	11:P:61:ARG:CZ	2.34	0.57
12:Q:66:ILE:HA	12:Q:104:PHE:HA	1.85	0.57
1:A:997:G:OP1	16:U:93:LYS:HD3	2.05	0.57
18:W:1:MET:HA	18:W:1:MET:HE3	1.86	0.57
26:4:37:SER:HB3	26:4:42:PHE:CE1	2.38	0.57
1:A:1138:G:H21	9:N:106:MET:HE3	1.69	0.57
1:A:1332:G:N2	1:A:1609:A:O2'	2.38	0.57
1:A:2795:G:H3'	1:A:2797:U:H5'	1.86	0.57
6:G:16:ARG:HB3	6:G:17:PRO:CD	2.33	0.57
7:H:125:VAL:HA	7:H:126:PRO:CB	2.29	0.57
9:N:35:ARG:O	9:N:37:LYS:N	2.37	0.57
10:O:20:MET:HG2	10:O:21:CYS:N	2.20	0.57
12:Q:55:VAL:HG22	12:Q:56:ARG:N	2.18	0.57
13:R:63:ARG:HG3	13:R:63:ARG:HH11	1.68	0.57
16:U:92:ARG:C	16:U:94:ASN:H	2.05	0.57
28:6:6:ARG:O	28:6:8:LYS:HD2	2.05	0.57
31:9:25:VAL:HB	31:9:34:GLN:HB2	1.86	0.57
1:A:2477:C:H2'	31:9:1:MET:HG3	1.86	0.57
4:E:63:LEU:HD13	4:E:65:GLY:H	1.68	0.57
4:E:74:PRO:HG2	4:E:77:ILE:HG23	1.86	0.57
6:G:107:LEU:HD11	6:G:178:PHE:CE1	2.39	0.57
6:G:63:ILE:HD11	6:G:102:PHE:HE2	1.69	0.57
10:O:40:VAL:HG12	10:O:41:ALA:N	2.19	0.57
9:N:42:TRP:O	16:U:64:ARG:NH2	2.35	0.57
24:2:17:SER:HB2	24:2:18:PRO:HA	1.86	0.57
25:3:22:ALA:O	25:3:25:ALA:HB3	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:566:U:OP1	11:P:29:LYS:HE2	2.05	0.57
4:E:51:PHE:HD1	4:E:52:LEU:HG	1.68	0.57
6:G:39:ILE:CG2	6:G:155:MET:HG3	2.35	0.57
2:B:43:C:O5'	6:G:67:LYS:HE3	2.05	0.57
9:N:133:GLN:O	9:N:134:ARG:CB	2.53	0.57
14:S:103:GLU:O	14:S:106:ARG:CG	2.53	0.57
9:N:40:PRO:HB3	16:U:68:ALA:HB2	1.86	0.57
1:A:996:A:H4'	16:U:92:ARG:HE	1.69	0.57
23:1:70:VAL:O	23:1:74:VAL:HG23	2.05	0.57
23:1:86:SER:H	23:1:87:PRO:CD	2.16	0.57
24:2:15:LYS:H	24:2:67:LYS:CE	2.17	0.57
30:8:33:ASN:O	30:8:34:TRP:C	2.42	0.57
30:8:53:PRO:CD	30:8:54:GLU:H	2.15	0.57
1:A:1303:G:H5''	1:A:1643:G:H1'	1.87	0.57
3:D:239:ARG:O	3:D:240:ALA:HB2	2.05	0.57
1:A:1490:A:O2'	3:D:99:ASP:OD2	2.22	0.57
9:N:7:LYS:HG2	9:N:8:GLN:N	2.20	0.57
13:R:32:GLY:O	13:R:115:GLU:HA	2.04	0.57
16:U:96:ALA:O	16:U:100:VAL:HG23	2.05	0.57
19:X:36:LYS:HE3	19:X:54:VAL:O	2.04	0.57
24:2:31:GLU:O	24:2:35:LEU:HG	2.05	0.57
28:6:11:LEU:HD23	28:6:26:ASN:HB3	1.87	0.57
1:A:1078:U:O2'	1:A:1079:C:OP2	2.20	0.57
1:A:2681:C:O2'	1:A:2682:U:OP2	2.21	0.57
1:A:592:G:H1	1:A:665:C:H42	1.51	0.57
4:E:102:VAL:HG13	4:E:172:VAL:CG2	2.34	0.57
7:H:124:GLU:HB3	7:H:132:ARG:HG3	1.85	0.57
7:H:126:PRO:CG	7:H:127:GLU:N	2.65	0.57
8:I:88:ILE:HG12	8:I:122:GLU:H	1.70	0.57
9:N:131:GLN:CG	9:N:132:ALA:N	2.68	0.57
9:N:14:VAL:HG12	9:N:15:LEU:H	1.69	0.57
10:O:96:THR:O	10:O:97:ARG:HB3	2.04	0.57
25:3:31:LEU:O	25:3:32:GLN:HB2	2.04	0.57
28:6:48:VAL:HG13	28:6:49:HIS:N	2.20	0.57
1:A:1266:G:O5'	18:W:15:ARG:NH2	2.38	0.57
1:A:2655:G:N2	1:A:2665:A:OP2	2.38	0.57
1:A:328:U:H4'	20:Y:68:HIS:CD2	2.40	0.57
1:A:635:C:O2'	1:A:639:U:OP1	2.21	0.57
2:B:57:A:H4'	6:G:30:GLU:HG2	1.86	0.57
4:E:41:LYS:HA	4:E:41:LYS:HE2	1.87	0.57
4:E:63:LEU:HD12	4:E:65:GLY:H	1.69	0.57
20:Y:89:PHE:O	20:Y:90:LEU:HD13	2.05	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:89:GLU:O	23:1:93:GLU:HB2	2.05	0.57
1:A:2507:C:H2'	1:A:2508:G:O4'	2.05	0.57
1:A:1006:C:H1'	9:N:106:MET:HE3	1.87	0.57
9:N:112:LEU:O	9:N:114:ARG:O	2.23	0.57
9:N:63:THR:HG22	9:N:66:LYS:NZ	2.20	0.57
14:S:32:LEU:O	14:S:62:LYS:HE2	2.05	0.57
16:U:79:PHE:C	16:U:79:PHE:CD2	2.78	0.57
21:Z:9:TYR:HE2	21:Z:61:LEU:HD13	1.69	0.57
29:7:19:ARG:HH11	29:7:19:ARG:HG2	1.70	0.56
31:9:1:MET:HB3	31:9:4:ARG:CZ	2.35	0.56
3:D:35:LYS:CE	3:D:104:TYR:HB2	2.35	0.56
1:A:2635:C:OP1	4:E:78:LEU:HD12	2.05	0.56
8:I:54:GLN:O	8:I:58:LEU:HB2	2.05	0.56
9:N:82:LEU:HD12	9:N:83:LYS:H	1.70	0.56
14:S:72:ALA:O	14:S:76:LYS:HG3	2.04	0.56
16:U:68:ALA:O	16:U:71:GLN:HB2	2.05	0.56
29:7:13:ALA:O	29:7:17:GLY:HA3	2.05	0.56
4:E:78:LEU:HD23	4:E:79:ARG:HD2	1.86	0.56
5:F:24:LEU:HB3	5:F:115:ALA:HB2	1.87	0.56
7:H:3:ARG:HA	7:H:3:ARG:HE	1.69	0.56
9:N:56:ASN:N	9:N:125:GLY:O	2.35	0.56
4:E:152:LYS:HG2	9:N:78:TYR:CE1	2.40	0.56
11:P:31:ALA:O	11:P:32:THR:HG23	2.05	0.56
25:3:4:LEU:O	25:3:36:VAL:HA	2.04	0.56
28:6:42:TRP:CD1	28:6:42:TRP:N	2.73	0.56
30:8:52:LYS:H	30:8:53:PRO:HD2	1.66	0.56
1:A:620:G:H4'	1:A:621:A:H5''	1.86	0.56
1:A:1279:G:C4'	13:R:31:HIS:HD2	2.14	0.56
13:R:70:LEU:HD13	13:R:75:LEU:HD11	1.88	0.56
17:V:38:LEU:HD23	17:V:39:LEU:N	2.19	0.56
24:2:51:ARG:HA	24:2:54:LYS:HB2	1.86	0.56
28:6:14:THR:O	28:6:49:HIS:HA	2.06	0.56
1:A:1057:A:H62	1:A:1086:A:H2'	1.70	0.56
1:A:2166:G:N2	1:A:2168:G:OP1	2.38	0.56
3:D:236:GLY:O	3:D:237:GLU:OE1	2.23	0.56
4:E:37:ARG:N	4:E:37:ARG:NE	2.53	0.56
5:F:192:LEU:HD21	5:F:194:MET:CE	2.35	0.56
5:F:198:ALA:CA	5:F:201:VAL:HG12	2.35	0.56
5:F:46:ARG:HG2	5:F:46:ARG:NH1	2.00	0.56
6:G:41:GLN:HB3	6:G:43:LEU:HD13	1.87	0.56
7:H:77:LYS:CB	7:H:77:LYS:HZ3	2.03	0.56
11:P:65:ARG:HH21	30:8:15:LYS:CB	2.17	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:389:G:H1	11:P:70:GLN:HB3	1.71	0.56
23:1:53:VAL:HG12	23:1:54:ALA:N	2.21	0.56
26:4:48:ARG:O	26:4:50:VAL:N	2.38	0.56
26:4:64:GLY:C	26:4:66:SER:H	2.08	0.56
27:5:55:ARG:HD3	27:5:56:LYS:N	2.21	0.56
2:B:42:C:C6	6:G:69:ALA:HB2	2.41	0.56
4:E:174:ASP:CG	4:E:175:VAL:N	2.58	0.56
4:E:183:LEU:HD12	4:E:183:LEU:N	2.20	0.56
4:E:69:LYS:C	4:E:71:GLY:H	2.09	0.56
6:G:180:PHE:C	6:G:182:LYS:H	2.09	0.56
12:Q:59:ARG:C	12:Q:60:ARG:CG	2.74	0.56
14:S:5:THR:HG23	14:S:8:GLU:OE2	2.05	0.56
15:T:26:ASP:CB	15:T:91:ARG:HA	2.36	0.56
17:V:1:MET:HE2	17:V:43:GLU:HG2	1.87	0.56
18:W:65:LEU:O	18:W:66:GLU:C	2.43	0.56
21:Z:108:PRO:C	21:Z:110:GLY:H	2.09	0.56
29:7:12:ARG:NH2	29:7:44:PRO:HB3	2.21	0.56
30:8:50:LEU:HD12	30:8:51:ALA:H	1.70	0.56
31:9:2:LYS:HD2	31:9:33:LYS:O	2.04	0.56
1:A:1486:A:H2'	1:A:1487:G:H8	1.71	0.56
1:A:2219:G:OP1	3:D:172:TYR:OH	2.19	0.56
3:D:183:ARG:HD2	3:D:270:ILE:HG12	1.88	0.56
5:F:32:LEU:HD13	5:F:105:VAL:CG1	2.33	0.56
6:G:179:PRO:HG3	26:4:38:LYS:HZ1	1.67	0.56
10:O:19:ILE:O	10:O:19:ILE:HD13	2.06	0.56
15:T:134:GLU:O	15:T:135:ALA:HB3	2.05	0.56
20:Y:97:ARG:HG2	20:Y:97:ARG:O	2.05	0.56
1:A:1999:C:O2	1:A:2687:U:O2'	2.22	0.56
1:A:263:C:H2'	1:A:264:C:O4'	2.05	0.56
3:D:80:ALA:HB3	3:D:94:LEU:HD13	1.88	0.56
4:E:117:MET:HG3	4:E:117:MET:O	2.06	0.56
4:E:32:PRO:O	4:E:34:VAL:HG13	2.06	0.56
6:G:60:LEU:O	6:G:64:THR:HG22	2.05	0.56
11:P:14:LYS:O	11:P:16:ARG:N	2.39	0.56
12:Q:79:LEU:CG	12:Q:79:LEU:O	2.52	0.56
13:R:84:ALA:HB3	13:R:85:PRO:HD3	1.87	0.56
17:V:27:ALA:O	17:V:28:GLU:O	2.24	0.56
17:V:76:LYS:O	17:V:79:VAL:HG12	2.05	0.56
26:4:41:PRO:O	26:4:42:PHE:CB	2.54	0.56
26:4:48:ARG:HH12	26:4:52:THR:HG22	1.70	0.56
1:A:2159:G:H2'	1:A:2160:G:C8	2.41	0.56
2:B:42:C:H41	6:G:91:ARG:NH2	2.03	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:94:LEU:HD22	3:D:95:LEU:H	1.69	0.56
7:H:153:LYS:CB	7:H:154:PRO:CD	2.69	0.56
10:O:107:ARG:O	10:O:112:MET:HE3	2.05	0.56
19:X:65:ARG:HD3	19:X:65:ARG:H	1.70	0.56
20:Y:95:LYS:O	20:Y:95:LYS:HE3	2.06	0.56
24:2:50:ILE:CD1	24:2:51:ARG:N	2.61	0.56
25:3:59:VAL:CG1	25:3:60:GLU:N	2.69	0.56
1:A:2638:G:P	4:E:82:ARG:HH22	2.29	0.56
5:F:9:ILE:HD11	5:F:125:LEU:CG	2.36	0.56
14:S:5:THR:OG1	14:S:7:TYR:HB3	2.06	0.56
16:U:105:VAL:HA	17:V:44:LYS:HE3	1.88	0.56
19:X:35:THR:HG22	19:X:38:GLU:OE1	2.05	0.56
30:8:30:ARG:O	30:8:31:HIS:CB	2.54	0.56
1:A:2529:G:O6	31:9:31:LYS:NZ	2.39	0.56
3:D:221:VAL:HG22	3:D:226:MET:HE2	1.88	0.56
3:D:69:ARG:C	3:D:71:ASP:H	2.08	0.56
6:G:120:LEU:HB3	6:G:131:TYR:OH	2.05	0.56
10:O:3:GLN:CB	10:O:4:PRO:HD2	2.35	0.56
11:P:15:ARG:O	11:P:17:LYS:N	2.39	0.56
12:Q:12:GLN:OE1	12:Q:72:LYS:HD2	2.06	0.56
14:S:18:ILE:C	14:S:19:LYS:O	2.44	0.56
15:T:105:LEU:C	15:T:107:ASP:H	2.08	0.56
25:3:7:LYS:NZ	25:3:32:GLN:HE21	2.03	0.56
1:A:1462:C:H4'	1:A:2703:C:H5'	1.88	0.56
1:A:479:A:N3	1:A:481:G:H5''	2.21	0.56
1:A:922:U:H2'	1:A:923:C:C6	2.41	0.56
4:E:203:LYS:HE3	4:E:204:ALA:HB2	1.86	0.56
7:H:59:ARG:HH11	7:H:59:ARG:CG	2.19	0.56
12:Q:37:LEU:HD21	12:Q:130:LYS:HE3	1.87	0.56
20:Y:62:GLU:O	20:Y:63:LYS:O	2.24	0.56
1:A:1332:G:N2	1:A:1609:A:HO2'	2.04	0.55
1:A:2563:U:H4'	10:O:28:SER:HA	1.88	0.55
1:A:2724:C:OP1	4:E:118:LYS:NZ	2.37	0.55
2:B:55:U:H2'	2:B:56:G:C8	2.41	0.55
3:D:155:LEU:HD23	3:D:177:LEU:CD2	2.36	0.55
5:F:108:LYS:HZ3	5:F:108:LYS:HA	1.72	0.55
8:I:79:ILE:HB	8:I:142:VAL:HA	1.88	0.55
14:S:14:VAL:HG13	14:S:15:ARG:N	2.21	0.55
16:U:83:LEU:HD12	16:U:113:ALA:HB2	1.86	0.55
1:A:1022:G:H22	1:A:1142(A):A:H2	1.54	0.55
3:D:31:LYS:O	3:D:35:LYS:O	2.24	0.55
3:D:35:LYS:NZ	3:D:64:ILE:O	2.32	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:13:ASN:C	11:P:15:ARG:N	2.54	0.55
21:Z:136:PHE:HE1	21:Z:138:GLU:HB3	1.71	0.55
26:4:9:LEU:H	26:4:27:THR:HG22	1.71	0.55
1:A:1266:G:C5	18:W:15:ARG:NH1	2.74	0.55
1:A:335:C:H4'	20:Y:73:ARG:CZ	2.36	0.55
1:A:848:G:H2'	1:A:849:A:C8	2.41	0.55
3:D:36:PRO:HB2	3:D:61:LEU:HG	1.87	0.55
4:E:4:ILE:HD13	4:E:5:LEU:H	1.71	0.55
8:I:55:ALA:O	8:I:58:LEU:CB	2.55	0.55
11:P:39:LYS:CA	11:P:45:LEU:CD1	2.80	0.55
18:W:14:PRO:HG2	18:W:78:GLU:OE2	2.07	0.55
20:Y:95:LYS:NZ	20:Y:95:LYS:HB2	2.21	0.55
30:8:63:PRO:O	30:8:64:TYR:HB2	2.07	0.55
1:A:1085:A:O2'	1:A:1086:A:OP1	2.25	0.55
1:A:1140:C:P	9:N:66:LYS:HZ3	2.28	0.55
1:A:270(R):G:H2'	1:A:270(S):G:C8	2.42	0.55
1:A:593:G:H2'	1:A:594:U:C6	2.42	0.55
2:B:116:G:H4'	14:S:54:LEU:HD13	1.88	0.55
3:D:69:ARG:HD3	3:D:105:ILE:HD11	1.87	0.55
4:E:26:ILE:C	4:E:26:ILE:HD13	2.26	0.55
17:V:49:THR:CB	17:V:50:PRO:HD2	2.25	0.55
20:Y:21:LYS:HG3	20:Y:22:GLY:H	1.69	0.55
25:3:4:LEU:HD21	25:3:39:ASP:OD1	2.06	0.55
4:E:195:LEU:HD12	4:E:196:VAL:H	1.71	0.55
4:E:67:PHE:O	4:E:69:LYS:N	2.39	0.55
5:F:28:ILE:HD12	5:F:28:ILE:O	2.06	0.55
6:G:114:ILE:HD11	6:G:140:ILE:HD12	1.89	0.55
11:P:115:LEU:HD12	11:P:116:GLY:N	2.21	0.55
17:V:52:VAL:O	17:V:54:GLY:N	2.39	0.55
18:W:1:MET:C	18:W:64:MET:HE1	2.27	0.55
18:W:88:ARG:HB3	18:W:92:ARG:HB3	1.89	0.55
28:6:20:ASN:CG	28:6:21:TYR:H	2.09	0.55
1:A:28:A:N6	1:A:512:G:H1'	2.22	0.55
3:D:118:VAL:HG22	3:D:119:ALA:H	1.72	0.55
5:F:129:PHE:O	5:F:130:ALA:CB	2.55	0.55
10:O:68:GLU:HA	10:O:78:ARG:HB3	1.89	0.55
10:O:79:PHE:HD2	15:T:72:VAL:HG22	1.72	0.55
11:P:88:LEU:C	11:P:90:ARG:N	2.60	0.55
12:Q:25:ASP:N	12:Q:102:VAL:HG23	2.21	0.55
4:E:14:ILE:HD11	15:T:14:TYR:CZ	2.42	0.55
16:U:104:GLN:OE1	16:U:104:GLN:N	2.35	0.55
16:U:27:LEU:O	16:U:29:SER:N	2.40	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:65:ASP:O	26:4:66:SER:HB3	2.07	0.55
28:6:27:LYS:HB2	28:6:27:LYS:HZ2	1.69	0.55
3:D:28:GLU:O	3:D:29:PRO:C	2.45	0.55
3:D:2:ALA:O	3:D:3:VAL:HB	2.06	0.55
4:E:3:GLY:HA3	4:E:81:ILE:HD12	1.88	0.55
8:I:51:ILE:CG2	8:I:55:ALA:CB	2.85	0.55
13:R:12:ARG:HH11	13:R:12:ARG:HG3	1.71	0.55
15:T:6:LEU:O	15:T:7:ILE:C	2.44	0.55
16:U:92:ARG:NH1	17:V:11:GLN:HB2	2.22	0.55
24:2:41:ILE:HD11	24:2:44:LEU:CG	2.36	0.55
1:A:1863:G:HO2'	1:A:2411:A:HO2'	1.50	0.55
1:A:2074:U:H2'	1:A:2075:U:C6	2.42	0.55
1:A:2233:U:H2'	1:A:2234:G:C8	2.41	0.55
1:A:2291:U:H2'	1:A:2292:C:C6	2.42	0.55
1:A:270(L):U:H2'	8:I:50:ARG:HD2	1.89	0.55
5:F:118:ALA:O	5:F:121:GLY:N	2.33	0.55
2:B:33:G:O5'	6:G:2:PRO:HG3	2.07	0.55
6:G:3:LEU:HD12	6:G:4:ASP:N	2.19	0.55
9:N:109:LYS:N	9:N:109:LYS:HD2	2.22	0.55
1:A:558:G:OP1	9:N:111:PRO:HD2	2.06	0.55
11:P:2:LYS:O	11:P:5:ASP:HB2	2.06	0.55
14:S:13:ARG:HD2	14:S:13:ARG:O	2.06	0.55
14:S:36:TYR:HD2	14:S:52:SER:CB	2.18	0.55
16:U:74:LEU:HD13	16:U:79:PHE:HB2	1.89	0.55
20:Y:48:ALA:H	20:Y:60:PHE:HA	1.72	0.55
24:2:47:ASN:ND2	24:2:47:ASN:N	2.54	0.55
1:A:1210:A:H8	1:A:1210:A:H5''	1.71	0.55
1:A:458:G:O2'	1:A:469:G:O6	2.22	0.55
1:A:947:G:H2'	1:A:948:G:C8	2.42	0.55
5:F:147:GLY:O	5:F:148:LEU:HD23	2.07	0.55
9:N:101:HIS:CD2	9:N:101:HIS:C	2.79	0.55
10:O:1:MET:HE2	10:O:67:LYS:HG2	1.89	0.55
11:P:39:LYS:N	11:P:45:LEU:HD11	2.21	0.55
14:S:74:ALA:HB1	14:S:107:GLU:HB3	1.89	0.55
1:A:2150:U:H2'	1:A:2151:G:C8	2.41	0.55
6:G:7:LEU:HD12	6:G:104:GLU:HA	1.88	0.55
6:G:135:LEU:N	6:G:135:LEU:HD12	2.21	0.55
7:H:12:PRO:O	7:H:13:LYS:HB2	2.07	0.55
7:H:8:PRO:O	7:H:9:ILE:HG23	2.07	0.55
11:P:84:ASN:ND2	11:P:115:LEU:HD12	2.22	0.55
16:U:58:ARG:O	16:U:62:ILE:HG13	2.06	0.55
16:U:6:THR:O	16:U:9:VAL:HG23	2.07	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:99:ILE:N	17:V:99:ILE:CD1	2.65	0.55
25:3:8:LEU:HD22	25:3:31:LEU:CD2	2.36	0.54
29:7:48:LYS:HG2	29:7:49:ARG:N	2.19	0.54
11:P:65:ARG:HH21	30:8:15:LYS:HB2	1.72	0.54
1:A:1927:A:H2'	1:A:1928:A:C8	2.42	0.54
7:H:128:PRO:CD	7:H:129:THR:N	2.71	0.54
9:N:44:PRO:HG2	9:N:45:ASN:H	1.71	0.54
11:P:106:LEU:O	11:P:107:LYS:HD3	2.07	0.54
11:P:24:GLY:O	11:P:25:SER:HB3	2.06	0.54
11:P:49:ARG:NE	30:8:59:LYS:HG2	2.22	0.54
11:P:59:LEU:HD23	11:P:59:LEU:O	2.06	0.54
12:Q:58:PHE:O	12:Q:59:ARG:C	2.43	0.54
15:T:107:ASP:O	15:T:111:ARG:NH1	2.39	0.54
16:U:73:GLY:O	16:U:74:LEU:HB3	2.07	0.54
17:V:49:THR:CB	17:V:50:PRO:CD	2.83	0.54
17:V:29:PRO:HA	17:V:61:VAL:CG2	2.37	0.54
18:W:80:PRO:O	18:W:100:THR:CG2	2.55	0.54
18:W:25:ARG:CB	18:W:25:ARG:HH11	2.20	0.54
18:W:70:TYR:CD2	18:W:70:TYR:N	2.75	0.54
21:Z:115:GLY:O	21:Z:116:VAL:HB	2.07	0.54
29:7:18:PHE:C	29:7:18:PHE:CD2	2.81	0.54
1:A:2469:A:H4'	1:A:2469:A:OP1	2.06	0.54
3:D:43:ARG:CB	3:D:54:ARG:HB2	2.37	0.54
3:D:25:THR:HG21	3:D:81:ALA:CB	2.38	0.54
4:E:21:VAL:HG23	4:E:22:PRO:HD3	1.89	0.54
5:F:197:ASP:O	5:F:199:TRP:N	2.38	0.54
8:I:129:THR:HA	8:I:137:PRO:HA	1.90	0.54
16:U:58:ARG:NH1	16:U:93:LYS:HE2	2.22	0.54
23:1:53:VAL:O	23:1:54:ALA:C	2.45	0.54
1:A:2848:G:O2'	1:A:2849:U:OP2	2.25	0.54
5:F:62:ARG:HB3	5:F:62:ARG:NH1	2.22	0.54
6:G:116:ASP:O	6:G:117:PHE:CB	2.51	0.54
7:H:86:GLU:HG3	7:H:165:ALA:CB	2.38	0.54
12:Q:39:PRO:HB3	12:Q:99:PRO:HD3	1.90	0.54
14:S:107:GLU:N	14:S:110:LEU:HD11	2.22	0.54
15:T:16:ARG:HG2	15:T:18:ASP:OD1	2.07	0.54
17:V:22:VAL:CG1	17:V:23:GLU:N	2.71	0.54
18:W:20:VAL:C	18:W:22:ASP:H	2.10	0.54
19:X:5:TYR:HE2	24:2:30:ARG:HH11	1.56	0.54
23:1:83:GLU:CG	23:1:84:GLY:N	2.71	0.54
23:1:91:LYS:CE	23:1:91:LYS:HA	2.38	0.54
26:4:37:SER:HB3	26:4:42:PHE:CD1	2.43	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2291:U:O2'	1:A:2374:C:O2	2.23	0.54
1:A:2893:G:H5''	1:A:2894:G:H5'	1.88	0.54
1:A:336:C:O2'	20:Y:35:TYR:OH	2.26	0.54
4:E:186:GLY:O	4:E:188:VAL:N	2.41	0.54
5:F:197:ASP:O	5:F:198:ALA:HB3	2.07	0.54
10:O:53:LYS:HD2	10:O:56:ASP:OD1	2.08	0.54
12:Q:21:THR:O	12:Q:22:LYS:O	2.25	0.54
15:T:29:ARG:HH11	15:T:29:ARG:HB2	1.72	0.54
20:Y:47:LYS:O	20:Y:49:VAL:HG23	2.07	0.54
20:Y:95:LYS:N	20:Y:95:LYS:HD3	2.23	0.54
23:1:60:PHE:HE2	23:1:91:LYS:HZ1	1.54	0.54
18:W:38:TYR:OH	27:5:47:PRO:HG3	2.08	0.54
1:A:530:G:N1	1:A:2022:U:OP1	2.40	0.54
1:A:298:G:P	20:Y:85:VAL:HG22	2.47	0.54
3:D:233:HIS:N	3:D:233:HIS:CD2	2.75	0.54
5:F:67:GLN:O	5:F:68:LYS:CB	2.39	0.54
6:G:139:LEU:HD22	6:G:146:TYR:HD1	1.73	0.54
8:I:13:GLY:HA3	8:I:17:GLN:CD	2.28	0.54
15:T:123:GLN:O	15:T:125:ARG:N	2.40	0.54
15:T:3:ARG:HG3	15:T:7:ILE:CG1	2.36	0.54
20:Y:61:ILE:HG23	20:Y:62:GLU:H	1.71	0.54
21:Z:60:GLU:HA	21:Z:66:SER:HA	1.87	0.54
25:3:35:ARG:HB3	25:3:37:LEU:CD2	2.37	0.54
6:G:111:LEU:HB2	26:4:38:LYS:HZ3	1.72	0.54
28:6:12:GLU:HG2	28:6:52:VAL:O	2.07	0.54
29:7:31:LEU:O	29:7:32:LYS:C	2.43	0.54
30:8:32:LEU:O	30:8:36:LYS:HE3	2.07	0.54
1:A:1444(A):A:H4'	1:A:1460:A:O2'	2.07	0.54
1:A:251:A:C5	1:A:252:G:H1'	2.42	0.54
1:A:2645:G:H3'	1:A:2646:C:H5'	1.90	0.54
1:A:27:G:N2	1:A:512:G:H2'	2.23	0.54
2:B:13:A:O2'	2:B:14:U:H3'	2.08	0.54
3:D:227:ASN:HB3	3:D:228:PRO:CD	2.30	0.54
4:E:176:ILE:HG22	4:E:179:GLU:H	1.71	0.54
18:W:9:TYR:H	18:W:102:HIS:CE1	2.26	0.54
20:Y:91:GLU:HG3	20:Y:92:ASN:H	1.72	0.54
24:2:31:GLU:HB2	24:2:53:LEU:HD11	1.89	0.54
27:5:55:ARG:HD3	27:5:56:LYS:H	1.73	0.54
3:D:183:ARG:NH1	3:D:183:ARG:HG2	2.11	0.54
4:E:101:ARG:HB3	4:E:201:THR:OG1	2.08	0.54
1:A:2633:G:H1'	4:E:62:PRO:HG2	1.90	0.54
8:I:51:ILE:CG2	8:I:55:ALA:HB3	2.37	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:125:VAL:O	11:P:145:PRO:HD2	2.08	0.54
16:U:95:LEU:HD12	17:V:11:GLN:HE21	1.72	0.54
17:V:45:THR:O	17:V:45:THR:HG22	2.08	0.54
1:A:2475:C:H42	1:A:2529:G:H22	1.56	0.54
2:B:38:C:H42	2:B:44:G:H1	1.56	0.54
3:D:158:ALA:HB3	3:D:161:THR:HG21	1.90	0.54
8:I:52:ARG:CA	8:I:56:LYS:HG2	2.37	0.54
11:P:124:LYS:HA	11:P:143:GLY:O	2.08	0.54
12:Q:60:ARG:HH12	12:Q:113:GLN:HE22	1.55	0.54
13:R:1:MET:O	13:R:2:ARG:HG3	2.08	0.54
13:R:45:ARG:HA	13:R:95:THR:HG21	1.87	0.54
14:S:111:GLU:HA	14:S:111:GLU:OE1	2.07	0.54
14:S:67:ARG:NH1	14:S:67:ARG:CB	2.64	0.54
23:1:83:GLU:OE1	23:1:85:LEU:HD23	2.07	0.54
26:4:51:ASP:OD1	26:4:51:ASP:O	2.25	0.54
28:6:17:LYS:O	28:6:18:ARG:HB2	2.08	0.54
1:A:1264:G:H3'	1:A:1265:A:H5''	1.89	0.54
1:A:2335:A:HO2'	1:A:2336:A:P	2.31	0.54
1:A:27:G:O2'	1:A:28:A:H8	1.91	0.54
1:A:517:C:O2'	18:W:18:ARG:NH2	2.41	0.54
3:D:227:ASN:CB	3:D:228:PRO:HD2	2.24	0.54
3:D:25:THR:CG2	3:D:81:ALA:HB1	2.38	0.54
4:E:53:PRO:O	4:E:74:PRO:HA	2.07	0.54
4:E:54:GLN:NE2	4:E:54:GLN:N	2.55	0.54
5:F:179:GLU:H	5:F:179:GLU:CD	2.11	0.54
7:H:26:VAL:CG1	7:H:27:LYS:N	2.64	0.54
8:I:56:LYS:HE3	8:I:57:ARG:HA	1.90	0.54
10:O:4:PRO:O	10:O:5:GLN:HB2	2.06	0.54
11:P:112:LEU:HD13	11:P:112:LEU:C	2.29	0.54
13:R:38:VAL:HG22	13:R:112:ALA:HB2	1.90	0.54
15:T:14:TYR:H	15:T:14:TYR:HD1	1.56	0.54
9:N:42:TRP:CD1	16:U:63:VAL:HG11	2.42	0.54
20:Y:87:LYS:HB2	20:Y:87:LYS:NZ	2.23	0.54
23:1:92:LYS:O	23:1:94:LEU:N	2.41	0.54
1:A:1348:G:H2'	1:A:1349:A:H5''	1.90	0.54
1:A:969:U:H2'	1:A:970:C:C6	2.43	0.54
4:E:51:PHE:O	4:E:74:PRO:HB3	2.08	0.54
7:H:91:GLY:O	7:H:94:TYR:HB2	2.08	0.54
11:P:64:LYS:HG3	30:8:25:MET:SD	2.48	0.54
12:Q:81:VAL:C	12:Q:82:ARG:CG	2.76	0.54
21:Z:19:ARG:NH1	21:Z:84:GLU:O	2.41	0.54
24:2:43:GLN:O	24:2:44:LEU:CG	2.54	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:60:VAL:CG1	27:5:60:VAL:OXT	2.56	0.53
1:A:1300:U:H4'	1:A:1301:A:H5''	1.90	0.53
1:A:184:C:H2'	1:A:185:U:C6	2.43	0.53
1:A:2853:C:H2'	1:A:2854:G:H8	1.72	0.53
1:A:900:A:H3'	1:A:901:A:C8	2.41	0.53
3:D:211:ARG:HD2	3:D:214:TRP:CZ3	2.43	0.53
9:N:137:LYS:HG3	9:N:138:LEU:N	2.23	0.53
10:O:113:LYS:HG2	10:O:117:LEU:CD1	2.38	0.53
11:P:140:ALA:O	11:P:141:ALA:HB2	2.08	0.53
11:P:37:GLY:HA2	11:P:41:ARG:NE	2.23	0.53
13:R:53:HIS:HA	13:R:56:LYS:HD3	1.90	0.53
15:T:88:ILE:C	15:T:88:ILE:HD12	2.29	0.53
16:U:24:TYR:O	16:U:29:SER:HB3	2.08	0.53
16:U:47:TYR:C	16:U:47:TYR:CD2	2.81	0.53
21:Z:146:ILE:HG22	21:Z:174:VAL:HG12	1.90	0.53
29:7:10:ARG:NH1	29:7:14:LYS:HE3	2.23	0.53
1:A:270(F):U:H2'	1:A:270(G):C:C6	2.43	0.53
1:A:593:G:O3'	30:8:61:LEU:HD22	2.08	0.53
4:E:14:ILE:CG1	4:E:15:PHE:H	2.08	0.53
7:H:139:GLN:O	7:H:143:GLN:HB2	2.09	0.53
7:H:153:LYS:CE	7:H:153:LYS:HA	2.38	0.53
9:N:109:LYS:HD2	9:N:109:LYS:H	1.74	0.53
9:N:70:LYS:C	9:N:71:ILE:HD13	2.28	0.53
10:O:78:ARG:O	15:T:73:GLU:HG3	2.08	0.53
22:0:25:ARG:HD2	22:0:29:GLN:NE2	2.24	0.53
26:4:37:SER:C	26:4:39:CYS:N	2.62	0.53
30:8:58:ILE:O	30:8:61:LEU:HG	2.08	0.53
3:D:124:PRO:HB2	3:D:126:GLN:NE2	2.22	0.53
3:D:206:LEU:O	3:D:211:ARG:NH1	2.38	0.53
3:D:85:ASP:OD2	3:D:88:ARG:HG2	2.07	0.53
5:F:116:ASP:OD1	5:F:119:ARG:NH2	2.41	0.53
5:F:53:THR:C	5:F:55:GLY:H	2.11	0.53
6:G:81:LYS:O	6:G:82:LEU:CB	2.56	0.53
11:P:37:GLY:C	11:P:41:ARG:HD3	2.29	0.53
13:R:28:LEU:HD13	13:R:28:LEU:O	2.08	0.53
19:X:53:LYS:NZ	19:X:55:ASN:HD21	2.06	0.53
20:Y:44:ILE:CG1	20:Y:45:VAL:N	2.70	0.53
21:Z:109:ALA:O	21:Z:112:ARG:CB	2.50	0.53
27:5:16:ARG:NH1	27:5:17:ASP:OD1	2.41	0.53
27:5:44:THR:O	27:5:46:CYS:N	2.41	0.53
30:8:29:LYS:HB2	30:8:44:LYS:HG2	1.90	0.53
1:A:586:A:H5'	5:F:89:VAL:HG21	1.91	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:134:ILE:HD12	4:E:134:ILE:C	2.28	0.53
10:O:49:ARG:HB3	10:O:49:ARG:NH1	2.23	0.53
17:V:7:THR:CG2	17:V:22:VAL:HG11	2.39	0.53
17:V:66:ARG:HH11	17:V:66:ARG:CB	2.20	0.53
25:3:2:PRO:O	25:3:3:ARG:O	2.25	0.53
1:A:1262:A:N3	27:5:10:LYS:HE3	2.23	0.53
28:6:13:CYS:O	28:6:14:THR:HB	2.08	0.53
1:A:1416:G:H2'	1:A:1417:C:C6	2.43	0.53
1:A:1496:A:H8	1:A:1577:C:O2'	1.81	0.53
1:A:242:G:C8	30:8:5:LYS:HG2	2.43	0.53
3:D:25:THR:O	3:D:25:THR:HG23	2.07	0.53
5:F:32:LEU:HD12	5:F:36:VAL:HG23	1.90	0.53
8:I:49:ALA:O	8:I:52:ARG:HG3	2.08	0.53
10:O:12:ASP:OD1	10:O:85:VAL:HG13	2.08	0.53
10:O:7:TYR:C	10:O:8:LEU:HD22	2.29	0.53
5:F:34:TRP:CH2	11:P:8:PRO:HB3	2.43	0.53
13:R:91:GLN:HG2	13:R:91:GLN:O	2.08	0.53
17:V:81:TYR:C	17:V:82:ARG:HG3	2.27	0.53
19:X:60:ARG:NH1	29:7:47:ARG:HH22	2.07	0.53
20:Y:84:ARG:NH1	20:Y:97:ARG:HB2	2.11	0.53
26:4:15:ILE:HD13	26:4:15:ILE:H	1.74	0.53
28:6:11:LEU:CD1	28:6:51:GLU:HG3	2.39	0.53
1:A:1007:C:OP1	9:N:35:ARG:NH1	2.41	0.53
1:A:2758:A:C5	7:H:67:LEU:HD21	2.43	0.53
9:N:78:TYR:HD1	9:N:78:TYR:N	2.07	0.53
12:Q:119:ARG:NH1	12:Q:119:ARG:HG2	2.20	0.53
14:S:10:ARG:O	14:S:14:VAL:HG12	2.09	0.53
14:S:25:ARG:CB	14:S:25:ARG:HH11	2.22	0.53
15:T:98:LYS:HB3	15:T:100:TYR:CE1	2.43	0.53
15:T:105:LEU:O	15:T:107:ASP:N	2.41	0.53
16:U:86:ALA:HB1	16:U:88:ILE:HD11	1.90	0.53
18:W:43:GLY:O	18:W:44:ALA:C	2.46	0.53
19:X:36:LYS:HA	19:X:39:ILE:HD12	1.90	0.53
20:Y:97:ARG:NH2	20:Y:98:VAL:CB	2.65	0.53
28:6:9:LEU:HD13	28:6:26:ASN:ND2	2.24	0.53
1:A:140:A:H8	1:A:1408:C:HO2'	1.57	0.53
1:A:1579:A:H2'	1:A:1580:A:C8	2.43	0.53
1:A:320:A:N3	5:F:169:ASN:ND2	2.56	0.53
1:A:654:A:O2'	1:A:654(A):G:N7	2.37	0.53
1:A:2784:C:H5''	4:E:41:LYS:NZ	2.24	0.53
9:N:120:LEU:CD1	9:N:122:VAL:HG23	2.39	0.53
9:N:19:GLU:HA	9:N:59:LYS:HB2	1.91	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:12:ASP:CG	10:O:14:THR:HG23	2.29	0.53
10:O:14:THR:HG21	10:O:86:ILE:HD13	1.91	0.53
4:E:25:VAL:HG11	15:T:11:GLU:HG2	1.90	0.53
17:V:48:GLY:O	17:V:49:THR:O	2.26	0.53
21:Z:151:HIS:HA	21:Z:170:THR:HA	1.91	0.53
24:2:41:ILE:HD11	24:2:44:LEU:HB2	1.90	0.53
30:8:52:LYS:N	30:8:53:PRO:HD2	2.22	0.53
1:A:1077:A:H5'	1:A:1078:U:H5''	1.91	0.53
1:A:747:U:N3	27:5:2:ALA:N	2.57	0.53
3:D:34:VAL:C	3:D:35:LYS:HG3	2.29	0.53
3:D:36:PRO:HA	3:D:62:TYR:O	2.09	0.53
1:A:1814:G:H4'	3:D:51:VAL:HG21	1.90	0.53
4:E:14:ILE:HG23	4:E:15:PHE:N	2.22	0.53
4:E:20:ALA:O	4:E:21:VAL:CG2	2.48	0.53
5:F:129:PHE:O	5:F:142:TRP:CD1	2.62	0.53
8:I:116:LEU:O	8:I:118:LYS:N	2.42	0.53
20:Y:95:LYS:HA	20:Y:101:LYS:H	1.72	0.53
22:0:11:ARG:O	22:0:14:ARG:NH2	2.41	0.53
26:4:54:GLY:O	26:4:71:ARG:HA	2.08	0.53
28:6:25:LYS:HE2	28:6:27:LYS:HE3	1.91	0.53
1:A:1204:A:H2	1:A:1241:A:N1	2.07	0.53
1:A:642:G:H21	1:A:646:A:H2	1.57	0.53
3:D:43:ARG:NH1	3:D:44:ASN:OD1	2.42	0.53
3:D:25:THR:HG21	3:D:82:ILE:H	1.70	0.53
6:G:125:PHE:C	6:G:127:GLY:H	2.12	0.53
7:H:126:PRO:HD2	7:H:127:GLU:H	1.72	0.53
7:H:40:GLU:O	7:H:41:MET:HB2	2.08	0.53
8:I:60:GLU:O	8:I:64:GLU:N	2.41	0.53
17:V:51:VAL:CG1	17:V:52:VAL:H	2.22	0.53
18:W:14:PRO:O	18:W:17:VAL:N	2.42	0.53
18:W:8:ARG:HG3	18:W:8:ARG:HH11	1.73	0.53
1:A:96:G:H4'	24:2:48:HIS:NE2	2.24	0.53
26:4:47:GLN:O	26:4:48:ARG:HB2	2.07	0.53
1:A:1061:U:H3'	1:A:1062:G:H5''	1.90	0.53
1:A:2121:G:O6	1:A:2176:A:N6	2.43	0.53
3:D:155:LEU:N	3:D:155:LEU:CD1	2.71	0.53
3:D:34:VAL:O	3:D:34:VAL:CG1	2.50	0.53
7:H:76:VAL:C	7:H:78:GLY:H	2.13	0.53
11:P:125:VAL:HG13	11:P:125:VAL:O	2.09	0.53
11:P:79:ARG:HD3	11:P:110:TYR:CE1	2.43	0.53
13:R:33:ARG:NH2	27:5:55:ARG:CG	2.66	0.53
23:1:85:LEU:HA	23:1:87:PRO:HD2	1.91	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:55:ARG:HG3	27:5:57:VAL:H	1.74	0.52
1:A:1991:U:H2'	1:A:1992:G:H5''	1.89	0.52
1:A:2815:C:H5'	27:5:29:THR:HG21	1.91	0.52
1:A:469:G:O6	29:7:37:LYS:HE2	2.09	0.52
11:P:92:GLU:HA	11:P:123:LEU:CD2	2.38	0.52
12:Q:76:LYS:O	12:Q:88:GLY:HA3	2.09	0.52
14:S:106:ARG:HA	14:S:110:LEU:CG	2.39	0.52
14:S:56:LEU:O	14:S:58:LEU:HD22	2.09	0.52
15:T:55:ASN:O	15:T:57:PHE:O	2.26	0.52
25:3:9:VAL:HG12	25:3:32:GLN:HE22	1.74	0.52
4:E:61:ARG:O	4:E:63:LEU:N	2.42	0.52
4:E:7:VAL:O	4:E:196:VAL:HG13	2.09	0.52
7:H:12:PRO:HG3	7:H:48:GLY:O	2.09	0.52
7:H:44:VAL:CG2	7:H:44:VAL:O	2.57	0.52
9:N:12:ARG:NH1	9:N:50:ASP:OD2	2.40	0.52
15:T:100:TYR:HB3	15:T:103:ARG:NH1	2.25	0.52
15:T:110:ILE:HG23	15:T:111:ARG:N	2.24	0.52
26:4:49:PHE:N	26:4:49:PHE:CD1	2.76	0.52
1:A:1028:A:N6	1:A:1125:G:H2'	2.25	0.52
1:A:483:A:H4'	20:Y:49:VAL:CA	2.36	0.52
5:F:125:LEU:HA	5:F:194:MET:O	2.10	0.52
9:N:94:HIS:O	9:N:95:PRO:O	2.27	0.52
9:N:7:LYS:HD3	9:N:9:VAL:CA	2.38	0.52
12:Q:29:PHE:HB3	12:Q:65:PHE:CZ	2.44	0.52
14:S:89:ARG:HH11	14:S:89:ARG:HG2	1.74	0.52
15:T:14:TYR:N	15:T:14:TYR:CD1	2.77	0.52
23:1:20:ARG:HG2	23:1:20:ARG:NH1	2.24	0.52
23:1:4:VAL:HG22	23:1:5:CYS:N	2.25	0.52
25:3:21:ALA:O	25:3:25:ALA:N	2.41	0.52
26:4:48:ARG:CZ	26:4:51:ASP:HA	2.40	0.52
1:A:1543:A:O2'	1:A:1544:C:O5'	2.24	0.52
1:A:2286:A:H2'	28:6:31:PRO:HG2	1.90	0.52
1:A:78:A:H2'	1:A:79:G:C8	2.44	0.52
3:D:77:ALA:HB2	3:D:97:TYR:CG	2.44	0.52
2:B:42:C:N4	6:G:91:ARG:HH21	2.07	0.52
14:S:86:ALA:O	14:S:87:PHE:HB3	2.10	0.52
16:U:88:ILE:CD1	16:U:88:ILE:H	2.05	0.52
21:Z:7:ALA:HB2	21:Z:39:VAL:HG12	1.92	0.52
21:Z:97:GLU:HB3	21:Z:125:LEU:HD11	1.92	0.52
25:3:56:VAL:CG1	25:3:57:GLU:H	2.19	0.52
26:4:63:TYR:C	26:4:65:ASP:N	2.61	0.52
1:A:1149:G:H2'	1:A:1150:C:C6	2.45	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2304:G:H1	1:A:2312:U:H3	1.58	0.52
1:A:395:U:H2'	1:A:396:G:N7	2.25	0.52
1:A:483:A:H3'	1:A:484:C:H6	1.74	0.52
3:D:134:ARG:HB2	3:D:135:PHE:HD2	1.75	0.52
3:D:210:GLY:O	3:D:213:ARG:N	2.43	0.52
5:F:140:LEU:O	5:F:143:ALA:HB3	2.09	0.52
5:F:192:LEU:HD21	5:F:194:MET:HE2	1.91	0.52
6:G:124:SER:HB2	6:G:131:TYR:CE1	2.44	0.52
6:G:16:ARG:HG2	6:G:16:ARG:HH11	1.74	0.52
9:N:103:VAL:O	9:N:106:MET:N	2.42	0.52
14:S:83:LYS:O	14:S:109:GLY:CA	2.46	0.52
15:T:23:ARG:HG2	15:T:120:ARG:HH12	1.75	0.52
15:T:94:ALA:O	15:T:95:ARG:HB3	2.09	0.52
1:A:2331:G:O2'	22:O:43:THR:HG22	2.10	0.52
1:A:281:G:O2'	1:A:282:A:O4'	2.24	0.52
3:D:133:LEU:HG	3:D:189:CYS:O	2.10	0.52
3:D:35:LYS:HG2	3:D:64:ILE:HG22	1.92	0.52
4:E:170:LEU:CD2	4:E:185:LYS:HB2	2.40	0.52
4:E:39:PRO:HG2	4:E:40:GLU:OE1	2.09	0.52
4:E:55:ASN:C	4:E:57:LYS:N	2.62	0.52
7:H:24:VAL:O	7:H:24:VAL:HG23	2.09	0.52
9:N:112:LEU:HD23	9:N:112:LEU:C	2.30	0.52
1:A:1006:C:H5'	9:N:28:THR:HG23	1.92	0.52
16:U:92:ARG:NH2	16:U:94:ASN:HD22	2.07	0.52
17:V:34:GLU:O	17:V:36:PRO:HD3	2.10	0.52
25:3:7:LYS:HE2	25:3:32:GLN:NE2	2.25	0.52
25:3:6:VAL:HG12	25:3:56:VAL:HG22	1.91	0.52
1:A:2311:A:O2'	1:A:2312:U:O4'	2.23	0.52
1:A:2517:C:N3	1:A:2542:A:N6	2.57	0.52
1:A:2698:U:H2'	1:A:2699:C:C6	2.45	0.52
1:A:270(R):G:H2'	1:A:270(S):G:H8	1.75	0.52
2:B:50:G:OP1	14:S:63:THR:HG23	2.10	0.52
6:G:97:ASP:N	6:G:100:TRP:HD1	2.05	0.52
7:H:4:ILE:O	7:H:6:ARG:N	2.43	0.52
11:P:13:ASN:O	11:P:14:LYS:C	2.48	0.52
13:R:56:LYS:C	13:R:58:GLY:N	2.62	0.52
17:V:41:GLY:HA3	17:V:46:VAL:CG1	2.38	0.52
24:2:9:GLN:O	24:2:12:GLU:HB3	2.10	0.52
26:4:50:VAL:O	26:4:51:ASP:C	2.48	0.52
28:6:30:THR:O	28:6:30:THR:HG23	2.09	0.52
29:7:38:GLY:O	29:7:39:ARG:C	2.48	0.52
31:9:27:CYS:SG	31:9:28:GLU:N	2.83	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:483:A:H4'	20:Y:49:VAL:HG13	1.92	0.52
3:D:35:LYS:HD3	3:D:63:ARG:CA	2.39	0.52
3:D:66:ASP:OD2	3:D:69:ARG:HG2	2.09	0.52
4:E:116:VAL:HG22	4:E:122:PHE:HB2	1.91	0.52
4:E:179:GLU:OE1	4:E:179:GLU:HA	2.10	0.52
7:H:121:ILE:HG12	7:H:135:GLY:HA3	1.91	0.52
7:H:2:SER:O	7:H:3:ARG:C	2.47	0.52
9:N:57:ALA:O	9:N:58:ASP:HB3	2.09	0.52
14:S:95:HIS:CG	14:S:96:GLY:N	2.77	0.52
12:Q:83:MET:HB2	22:O:7:LEU:HD12	1.91	0.52
23:1:76:ARG:NH1	23:1:76:ARG:HG2	2.19	0.52
26:4:54:GLY:HA2	26:4:57:GLU:HG2	1.92	0.52
1:A:270(R):G:H1'	23:1:78:LYS:NZ	2.25	0.52
4:E:54:GLN:NE2	4:E:54:GLN:H	2.08	0.52
4:E:54:GLN:O	4:E:55:ASN:HB2	2.09	0.52
9:N:114:ARG:C	9:N:116:LEU:H	2.13	0.52
10:O:4:PRO:O	10:O:5:GLN:CB	2.58	0.52
11:P:88:LEU:HD23	11:P:89:ALA:N	2.24	0.52
15:T:16:ARG:HD3	15:T:19:LEU:HG	1.92	0.52
16:U:107:ALA:O	16:U:111:GLU:OE1	2.28	0.52
17:V:3:ALA:HB3	17:V:14:VAL:HG23	1.92	0.52
20:Y:91:GLU:HG3	20:Y:92:ASN:N	2.25	0.52
21:Z:111:VAL:HG13	21:Z:112:ARG:H	1.74	0.52
1:A:2344:U:C2	28:6:37:ARG:HD3	2.45	0.52
1:A:2198:A:HO2'	1:A:2199:A:P	2.32	0.52
1:A:593:G:H2'	1:A:594:U:H6	1.75	0.52
1:A:639:U:H2'	1:A:640:C:C6	2.44	0.52
1:A:704:G:H1'	1:A:727:A:N6	2.25	0.52
1:A:864:G:H1'	1:A:914:C:H42	1.74	0.52
2:B:45:A:H1'	6:G:95:ARG:HH22	1.74	0.52
5:F:108:LYS:O	5:F:112:MET:HG3	2.10	0.52
10:O:23:ARG:O	10:O:39:ILE:HB	2.10	0.52
11:P:147:LEU:O	11:P:148:LEU:CB	2.57	0.52
13:R:41:ALA:O	13:R:43:GLU:N	2.43	0.52
16:U:39:LEU:O	16:U:40:PHE:C	2.48	0.52
19:X:52:VAL:O	19:X:52:VAL:HG12	2.09	0.52
25:3:49:LYS:O	25:3:49:LYS:HG2	2.10	0.51
26:4:14:ILE:O	26:4:14:ILE:HG23	2.10	0.51
26:4:40:HIS:N	26:4:41:PRO:CD	2.73	0.51
1:A:753:C:H6	1:A:753:C:O5'	1.92	0.51
3:D:174:ILE:N	3:D:174:ILE:CD1	2.73	0.51
5:F:162:LEU:HD23	5:F:165:ARG:NH2	2.25	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:55:PRO:HG2	7:H:61:HIS:ND1	2.26	0.51
10:O:2:ILE:HD12	10:O:2:ILE:N	2.24	0.51
13:R:52:ILE:CG2	13:R:94:TYR:HD1	2.22	0.51
18:W:28:SER:HB3	18:W:31:GLU:HB2	1.91	0.51
19:X:47:PHE:CD1	19:X:47:PHE:N	2.78	0.51
20:Y:75:ILE:HD13	20:Y:75:ILE:C	2.30	0.51
20:Y:9:LYS:O	20:Y:9:LYS:HG2	2.10	0.51
25:3:17:LYS:HA	25:3:20:LYS:HD2	1.93	0.51
27:5:40:LYS:HD3	27:5:46:CYS:SG	2.50	0.51
4:E:105:THR:HB	4:E:197:ILE:HG12	1.92	0.51
4:E:64:LYS:C	4:E:66:HIS:H	2.12	0.51
6:G:34:LEU:HD13	6:G:34:LEU:C	2.30	0.51
6:G:97:ASP:O	6:G:101:ILE:HG23	2.10	0.51
7:H:126:PRO:HD2	7:H:127:GLU:N	2.25	0.51
9:N:108:PRO:O	9:N:113:GLY:HA3	2.10	0.51
9:N:16:ILE:HG22	9:N:17:ASP:N	2.26	0.51
10:O:24:VAL:HG21	10:O:32:TYR:O	2.10	0.51
11:P:112:LEU:HD11	11:P:114:ILE:CG2	2.40	0.51
11:P:112:LEU:HD22	11:P:113:LYS:N	2.26	0.51
11:P:31:ALA:C	11:P:32:THR:HG23	2.31	0.51
15:T:20:PRO:HD2	15:T:86:ILE:HG23	1.92	0.51
16:U:59:ARG:O	16:U:63:VAL:HG23	2.11	0.51
17:V:75:PHE:C	17:V:75:PHE:CD1	2.83	0.51
19:X:65:ARG:CD	19:X:65:ARG:H	2.23	0.51
21:Z:72:ARG:NH2	21:Z:97:GLU:O	2.40	0.51
1:A:1693:U:H1'	3:D:14:ARG:NH2	2.26	0.51
1:A:1695:G:H1'	3:D:8:PRO:O	2.10	0.51
7:H:89:ILE:CG1	7:H:89:ILE:O	2.57	0.51
9:N:12:ARG:NH1	9:N:50:ASP:OD1	2.43	0.51
10:O:43:VAL:HG23	10:O:56:ASP:O	2.10	0.51
1:A:2404:C:H1'	11:P:67:MET:CE	2.40	0.51
12:Q:64:ILE:HA	12:Q:106:VAL:CG1	2.33	0.51
15:T:99:LEU:HB2	15:T:101:PHE:CE1	2.45	0.51
15:T:42:ILE:HD12	15:T:42:ILE:N	2.25	0.51
17:V:29:PRO:O	17:V:61:VAL:O	2.29	0.51
20:Y:61:ILE:HG23	20:Y:62:GLU:N	2.24	0.51
24:2:15:LYS:H	24:2:67:LYS:HE2	1.73	0.51
26:4:36:CYS:O	26:4:39:CYS:CB	2.55	0.51
1:A:102:G:H4'	1:A:103:A:O5'	2.10	0.51
1:A:1578:U:H2'	1:A:1579:A:H5'	1.92	0.51
1:A:2277:G:OP1	12:Q:85:LYS:HB2	2.10	0.51
1:A:554:U:HO2'	1:A:556:G:H8	1.59	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:105:THR:HG23	4:E:166:THR:OG1	2.10	0.51
5:F:198:ALA:C	5:F:200:GLU:N	2.62	0.51
10:O:79:PHE:CD2	15:T:72:VAL:HG22	2.45	0.51
11:P:112:LEU:HD22	11:P:113:LYS:H	1.75	0.51
12:Q:25:ASP:HA	12:Q:100:GLY:O	2.11	0.51
13:R:117:VAL:CG2	13:R:118:GLU:N	2.74	0.51
13:R:28:LEU:CD2	13:R:114:VAL:HG12	2.41	0.51
17:V:38:LEU:HD13	17:V:55:ALA:HB3	1.91	0.51
23:1:8:SER:HB3	23:1:66:HIS:CE1	2.46	0.51
1:A:247:G:H4'	1:A:386:G:C5	2.45	0.51
1:A:568:U:H5'	1:A:945:A:N1	2.26	0.51
1:A:95:G:HO2'	24:2:48:HIS:CE1	2.23	0.51
2:B:80:U:H2'	2:B:81:G:H21	1.75	0.51
5:F:127:GLU:OE1	5:F:127:GLU:HA	2.07	0.51
5:F:127:GLU:O	5:F:129:PHE:N	2.40	0.51
5:F:32:LEU:O	5:F:36:VAL:HG23	2.11	0.51
6:G:114:ILE:CG2	6:G:115:ARG:N	2.73	0.51
9:N:131:GLN:CG	9:N:132:ALA:H	2.20	0.51
1:A:252:G:OP2	11:P:50:ARG:NH1	2.43	0.51
14:S:87:PHE:O	14:S:88:ASP:O	2.29	0.51
15:T:34:VAL:CG1	15:T:36:GLU:HG2	2.39	0.51
18:W:20:VAL:C	18:W:22:ASP:N	2.59	0.51
18:W:25:ARG:HH11	18:W:25:ARG:HB2	1.74	0.51
18:W:7:ALA:HB2	18:W:50:VAL:CG2	2.40	0.51
20:Y:75:ILE:CG1	20:Y:76:CYS:N	2.73	0.51
20:Y:95:LYS:O	20:Y:96:ILE:O	2.28	0.51
23:1:94:LEU:O	23:1:95:LEU:HG	2.11	0.51
26:4:12:ALA:HB1	26:4:30:GLU:H	1.76	0.51
1:A:1165:U:H2'	1:A:1166:C:C6	2.45	0.51
1:A:2012:G:H4'	18:W:96:ILE:HD11	1.92	0.51
1:A:2295:C:OP1	14:S:10:ARG:HD2	2.11	0.51
3:D:67:PHE:CE1	3:D:157:ARG:NH2	2.79	0.51
3:D:259:THR:O	3:D:260:ARG:C	2.49	0.51
4:E:77:ILE:O	4:E:78:LEU:C	2.48	0.51
6:G:44:GLY:CA	6:G:88:ILE:HD11	2.40	0.51
1:A:1006:C:H1'	9:N:106:MET:CE	2.40	0.51
9:N:134:ARG:O	9:N:136:GLU:N	2.43	0.51
18:W:9:TYR:CD2	18:W:102:HIS:HE1	2.28	0.51
23:1:87:PRO:O	23:1:91:LYS:HB2	2.11	0.51
30:8:10:ALA:O	30:8:14:VAL:HG12	2.11	0.51
1:A:774:A:H2	1:A:787:U:O2'	1.91	0.51
4:E:119:ARG:HD3	4:E:160:TYR:HB2	1.92	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:26:LEU:HG	9:N:30:ILE:HD11	1.93	0.51
9:N:6:PRO:HG2	9:N:43:THR:OG1	2.11	0.51
10:O:15:GLY:O	10:O:46:ALA:HB1	2.10	0.51
17:V:5:VAL:HG22	17:V:14:VAL:HG22	1.93	0.51
26:4:61:ARG:C	26:4:63:TYR:H	2.14	0.51
28:6:9:LEU:HB3	28:6:26:ASN:O	2.11	0.51
29:7:36:GLN:HG2	29:7:36:GLN:O	2.10	0.51
1:A:1430:C:H2'	1:A:1431:U:C6	2.46	0.51
1:A:2415:G:H4'	11:P:67:MET:N	2.26	0.51
1:A:247:G:O6	30:8:12:LYS:NZ	2.27	0.51
1:A:2591:C:OP2	3:D:238:GLY:HA3	2.10	0.51
4:E:7:VAL:HG11	15:T:1:MET:HE3	1.93	0.51
6:G:51:ARG:HB3	6:G:51:ARG:HH11	1.76	0.51
7:H:131:VAL:CG1	7:H:132:ARG:N	2.74	0.51
10:O:113:LYS:O	10:O:116:SER:HB3	2.11	0.51
10:O:35:VAL:HG23	10:O:35:VAL:O	2.11	0.51
10:O:16:ALA:HA	10:O:46:ALA:HB2	1.92	0.51
19:X:5:TYR:CE2	24:2:30:ARG:HG3	2.45	0.51
24:2:36:ARG:O	24:2:40:SER:HB2	2.11	0.51
26:4:42:PHE:O	26:4:44:THR:N	2.44	0.51
1:A:2286:A:OP1	28:6:28:ARG:NE	2.43	0.51
1:A:195:A:H61	1:A:198:C:H3'	1.76	0.51
3:D:76:PRO:HA	3:D:118:VAL:HG23	1.93	0.51
4:E:37:ARG:N	4:E:37:ARG:HE	2.09	0.51
5:F:65:TRP:HZ2	5:F:72:ARG:NH2	2.08	0.51
7:H:6:ARG:C	7:H:8:PRO:HD2	2.30	0.51
8:I:128:LEU:N	8:I:138:ILE:O	2.44	0.51
14:S:89:ARG:O	14:S:89:ARG:HD2	2.11	0.51
20:Y:46:LYS:HE3	20:Y:63:LYS:HB3	1.93	0.51
23:1:92:LYS:C	23:1:94:LEU:N	2.62	0.51
30:8:61:LEU:O	30:8:62:LEU:CB	2.57	0.51
1:A:2795:G:H3'	1:A:2797:U:C5'	2.40	0.51
1:A:706:A:H2'	1:A:707:G:O4'	2.11	0.51
9:N:112:LEU:HD23	9:N:113:GLY:N	2.26	0.51
10:O:20:MET:HG2	10:O:21:CYS:O	2.11	0.51
10:O:23:ARG:HG2	10:O:23:ARG:HH11	1.76	0.51
10:O:2:ILE:CD1	10:O:82:ASN:HD22	2.14	0.51
12:Q:36:ALA:HB1	12:Q:127:ILE:HD12	1.93	0.51
23:1:4:VAL:HG23	23:1:10:LYS:C	2.32	0.50
1:A:1113:U:OP1	7:H:2:SER:N	2.44	0.50
1:A:118:A:N3	1:A:178:G:H1'	2.26	0.50
1:A:392:C:H5"	1:A:409:C:H5"	1.93	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:30:GLU:HG3	3:D:63:ARG:NH2	2.25	0.50
4:E:137:HIS:HB3	4:E:138:PRO:CD	2.37	0.50
7:H:72:ILE:O	7:H:75:ALA:HB3	2.11	0.50
9:N:7:LYS:HD3	9:N:9:VAL:N	2.25	0.50
13:R:1:MET:O	13:R:2:ARG:CB	2.60	0.50
15:T:57:PHE:CG	15:T:58:ASN:N	2.79	0.50
17:V:14:VAL:HA	17:V:18:LEU:HD12	1.93	0.50
18:W:88:ARG:HB3	18:W:92:ARG:CB	2.41	0.50
20:Y:2:ARG:NH1	20:Y:2:ARG:HG2	2.22	0.50
1:A:857:C:OP2	22:O:77:ARG:NH2	2.44	0.50
23:1:91:LYS:CA	23:1:91:LYS:HE3	2.40	0.50
27:5:37:LYS:O	27:5:37:LYS:HD2	2.12	0.50
1:A:2208:U:O2'	3:D:151:LYS:HG2	2.11	0.50
1:A:2306:C:H2'	1:A:2307:G:H21	1.76	0.50
3:D:94:LEU:HD13	3:D:94:LEU:C	2.31	0.50
6:G:92:VAL:O	6:G:92:VAL:HG13	2.12	0.50
1:A:2653:U:O2'	7:H:110:SER:HB2	2.11	0.50
7:H:153:LYS:HG3	7:H:161:GLY:HA2	1.91	0.50
10:O:47:ILE:CG1	10:O:48:PRO:HD2	2.42	0.50
11:P:101:VAL:HA	11:P:105:LEU:O	2.10	0.50
12:Q:133:ARG:HG2	12:Q:134:ARG:N	2.26	0.50
14:S:35:ILE:CD1	14:S:101:LEU:HD23	2.41	0.50
16:U:112:ARG:HG2	16:U:112:ARG:HH11	1.76	0.50
17:V:35:LEU:CD2	17:V:57:VAL:HG22	2.32	0.50
1:A:64:A:C4	19:X:66:LEU:HD13	2.46	0.50
1:A:1021:A:H8	1:A:1022:G:H5''	1.75	0.50
1:A:74:A:H4'	1:A:75:G:O5'	2.11	0.50
4:E:37:ARG:H	4:E:37:ARG:HE	1.59	0.50
5:F:45:ARG:CG	5:F:45:ARG:NH1	2.71	0.50
7:H:151:ILE:C	7:H:152:ARG:O	2.49	0.50
7:H:152:ARG:C	7:H:153:LYS:HE2	2.32	0.50
11:P:104:GLY:C	11:P:105:LEU:HD12	2.31	0.50
11:P:95:VAL:HG13	11:P:100:LEU:CD2	2.40	0.50
20:Y:44:ILE:CG1	20:Y:45:VAL:H	2.25	0.50
20:Y:74:PRO:O	20:Y:80:GLY:HA2	2.10	0.50
27:5:48:GLU:HA	27:5:59:GLU:HG2	1.94	0.50
1:A:1728:G:H5'	1:A:1729:A:OP2	2.12	0.50
1:A:1820:U:C2	3:D:202:LYS:HB3	2.46	0.50
5:F:108:LYS:HA	5:F:108:LYS:NZ	2.27	0.50
7:H:169:VAL:HG13	7:H:170:ARG:N	2.26	0.50
10:O:24:VAL:O	10:O:24:VAL:HG13	2.11	0.50
1:A:389:G:N1	11:P:70:GLN:HB3	2.26	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:70:LEU:O	13:R:72:ASP:N	2.42	0.50
14:S:62:LYS:HB3	14:S:97:ARG:CD	2.39	0.50
15:T:54:ARG:NH1	15:T:54:ARG:HG2	2.24	0.50
21:Z:110:GLY:H	21:Z:111:VAL:HG12	1.75	0.50
28:6:9:LEU:HD13	28:6:26:ASN:HD22	1.76	0.50
1:A:2415:G:H4'	11:P:66:GLY:C	2.31	0.50
1:A:2437:U:H2'	1:A:2438:U:C6	2.47	0.50
1:A:265:A:O2'	1:A:266:G:H4'	2.11	0.50
1:A:49:A:H5'	1:A:51:G:O4'	2.11	0.50
4:E:203:LYS:HE3	4:E:204:ALA:CB	2.40	0.50
4:E:61:ARG:CB	4:E:62:PRO:HD3	2.41	0.50
6:G:43:LEU:O	6:G:88:ILE:HG12	2.12	0.50
7:H:16:SER:O	7:H:17:VAL:HG23	2.12	0.50
14:S:26:LEU:CD2	14:S:87:PHE:CD1	2.94	0.50
15:T:51:ARG:HG3	15:T:98:LYS:HG3	1.93	0.50
1:A:994:C:H3'	16:U:54:LYS:HE3	1.93	0.50
23:1:80:LEU:HB2	23:1:81:LYS:CE	2.41	0.50
1:A:2015:A:N3	27:5:2:ALA:N	2.60	0.50
30:8:56:GLU:O	30:8:57:ARG:C	2.50	0.50
1:A:177:G:H5'	1:A:178:G:C8	2.47	0.50
1:A:2151:G:H2'	1:A:2152:G:H8	1.77	0.50
1:A:2212:A:H1'	1:A:2215:G:C4	2.46	0.50
3:D:35:LYS:HD2	3:D:104:TYR:CD1	2.45	0.50
3:D:2:ALA:CB	3:D:20:ASP:CB	2.89	0.50
7:H:143:GLN:HE21	7:H:143:GLN:C	2.15	0.50
9:N:87:LEU:C	9:N:87:LEU:HD23	2.32	0.50
10:O:107:ARG:HA	10:O:112:MET:HE1	1.94	0.50
12:Q:108:GLY:O	12:Q:109:VAL:HG23	2.12	0.50
14:S:83:LYS:HG2	14:S:109:GLY:HA2	1.90	0.50
16:U:92:ARG:NH1	16:U:95:LEU:HD11	2.26	0.50
18:W:22:ASP:HA	18:W:25:ARG:HH12	1.75	0.50
20:Y:88:LYS:HA	20:Y:88:LYS:NZ	2.27	0.50
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ1	1.76	0.50
24:2:16:LEU:O	24:2:17:SER:CB	2.56	0.50
26:4:1:MET:HG3	26:4:1:MET:O	2.12	0.50
27:5:50:GLY:O	27:5:51:TYR:CB	2.59	0.50
1:A:1803:A:O2'	3:D:259:THR:HG21	2.12	0.50
3:D:28:GLU:OE1	3:D:29:PRO:HD2	2.11	0.50
3:D:32:SER:O	3:D:33:LEU:CB	2.60	0.50
4:E:176:ILE:HG22	4:E:176:ILE:O	2.10	0.50
4:E:2:LYS:HG2	4:E:95:ILE:CG2	2.42	0.50
7:H:133:VAL:HG12	7:H:141:VAL:HG13	1.93	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:82:ARG:HG2	8:I:146:ALA:HB3	1.93	0.50
9:N:137:LYS:HG3	9:N:138:LEU:H	1.77	0.50
9:N:46:VAL:O	9:N:47:ALA:CB	2.57	0.50
11:P:114:ILE:HD13	11:P:125:VAL:CG2	2.41	0.50
13:R:92:GLY:N	13:R:94:TYR:HE2	2.09	0.50
20:Y:48:ALA:HB2	20:Y:61:ILE:CD1	2.41	0.50
21:Z:5:LEU:HD23	21:Z:47:VAL:HG21	1.92	0.50
28:6:34:LEU:HD23	28:6:36:LEU:HD22	1.92	0.50
28:6:41:PRO:HD2	28:6:46:HIS:H	1.77	0.50
1:A:1937:A:N7	1:A:1939:U:H2'	2.27	0.50
1:A:589:C:H2'	1:A:590:A:C8	2.46	0.50
3:D:237:GLU:OE1	3:D:237:GLU:HA	2.12	0.50
6:G:109:VAL:O	6:G:113:ARG:HG3	2.10	0.50
11:P:6:LEU:N	11:P:6:LEU:CD2	2.75	0.50
12:Q:2:LEU:N	12:Q:2:LEU:HD23	2.27	0.50
13:R:96:ARG:NH2	13:R:117:VAL:HG23	2.27	0.50
15:T:23:ARG:CB	15:T:24:PRO:HD2	2.40	0.50
10:O:104:ARG:NE	15:T:34:VAL:HG11	2.26	0.50
15:T:38:ASN:O	15:T:39:ARG:O	2.30	0.50
20:Y:16:ALA:O	20:Y:21:LYS:HD3	2.11	0.50
26:4:10:VAL:HG23	26:4:11:PRO:HD2	1.93	0.50
29:7:12:ARG:NH1	29:7:12:ARG:HG3	2.27	0.50
29:7:46:VAL:HG12	29:7:47:ARG:N	2.27	0.50
31:9:7:VAL:HG12	31:9:25:VAL:HG21	1.94	0.50
1:A:49:A:H61	1:A:177:G:H2'	1.76	0.50
4:E:119:ARG:HD3	4:E:160:TYR:CD2	2.47	0.50
6:G:103:LEU:HD21	6:G:178:PHE:CZ	2.47	0.50
6:G:111:LEU:N	6:G:112:PRO:CD	2.75	0.50
7:H:103:LEU:CD1	7:H:131:VAL:HG21	2.41	0.50
7:H:19:VAL:HG13	7:H:43:VAL:HG23	1.93	0.50
12:Q:80:GLU:HG3	12:Q:81:VAL:N	2.27	0.50
1:A:2009:G:OP1	18:W:41:LYS:HE2	2.11	0.50
20:Y:90:LEU:H	20:Y:90:LEU:HD22	1.73	0.50
21:Z:45:ASP:O	21:Z:49:ARG:HG2	2.12	0.50
28:6:20:ASN:O	28:6:21:TYR:CB	2.59	0.49
1:A:1309:G:OP1	29:7:9:ARG:HD3	2.12	0.49
3:D:218:ARG:HB3	3:D:219:PRO:HD2	1.94	0.49
3:D:35:LYS:HE2	3:D:104:TYR:HB2	1.94	0.49
5:F:11:VAL:CG1	5:F:12:LEU:N	2.75	0.49
1:A:1257:C:O2'	5:F:84:VAL:HG12	2.12	0.49
7:H:153:LYS:O	7:H:154:PRO:O	2.30	0.49
17:V:41:GLY:N	17:V:46:VAL:HG13	2.26	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:81:LYS:HD3	20:Y:97:ARG:HD3	1.94	0.49
25:3:7:LYS:CB	25:3:34:GLU:HG2	2.41	0.49
26:4:23:GLU:C	26:4:24:THR:HG1	2.16	0.49
26:4:9:LEU:H	26:4:27:THR:CG2	2.25	0.49
1:A:1140:C:H5''	9:N:66:LYS:HZ1	1.77	0.49
3:D:123:ALA:HB3	3:D:131:LEU:HG	1.94	0.49
4:E:61:ARG:O	4:E:62:PRO:C	2.51	0.49
7:H:19:VAL:HG13	7:H:43:VAL:CG2	2.41	0.49
9:N:42:TRP:HA	9:N:48:MET:CE	2.42	0.49
9:N:73:THR:HG22	9:N:82:LEU:HD11	1.93	0.49
11:P:61:ARG:HH21	30:8:13:ARG:HD2	1.77	0.49
14:S:60:GLY:O	14:S:61:ASN:CB	2.55	0.49
18:W:29:LEU:O	18:W:29:LEU:HD23	2.13	0.49
19:X:18:TYR:C	19:X:20:GLY:N	2.64	0.49
21:Z:129:SER:O	21:Z:131:ARG:N	2.39	0.49
23:1:83:GLU:CD	23:1:85:LEU:H	2.15	0.49
26:4:57:GLU:O	26:4:61:ARG:O	2.30	0.49
1:A:623:G:H2'	1:A:624:C:C6	2.48	0.49
3:D:25:THR:O	3:D:27:THR:HG22	2.12	0.49
3:D:35:LYS:CG	3:D:64:ILE:HG22	2.42	0.49
3:D:72:LYS:O	3:D:73:VAL:C	2.50	0.49
8:I:127:VAL:HA	8:I:139:GLN:HA	1.94	0.49
11:P:114:ILE:HD11	11:P:130:PHE:HE1	1.70	0.49
1:A:2009:G:H1'	13:R:107:ASP:O	2.12	0.49
13:R:118:GLU:OXT	13:R:118:GLU:HG3	2.11	0.49
19:X:70:LEU:CD2	19:X:70:LEU:N	2.72	0.49
21:Z:129:SER:C	21:Z:131:ARG:H	2.15	0.49
24:2:41:ILE:HD11	24:2:44:LEU:CB	2.42	0.49
1:A:1224:G:OP2	17:V:66:ARG:NH2	2.46	0.49
3:D:10:THR:HG23	3:D:13:ARG:CB	2.34	0.49
4:E:23:VAL:HG12	4:E:173:VAL:HG21	1.94	0.49
4:E:179:GLU:O	4:E:180:ASN:HB2	2.12	0.49
5:F:196:LEU:C	5:F:197:ASP:O	2.50	0.49
7:H:120:GLY:HA3	7:H:140:LYS:NZ	2.28	0.49
11:P:49:ARG:HE	30:8:59:LYS:HG2	1.76	0.49
13:R:67:LEU:HD13	13:R:76:VAL:CG2	2.27	0.49
16:U:79:PHE:HE2	16:U:83:LEU:HD22	1.78	0.49
17:V:76:LYS:HG3	17:V:81:TYR:CD1	2.48	0.49
20:Y:77:PRO:O	20:Y:78:ALA:HB2	2.11	0.49
24:2:33:MET:O	24:2:37:PHE:HD1	1.95	0.49
26:4:22:ILE:H	26:4:22:ILE:HD12	1.77	0.49
27:5:20:ARG:C	27:5:22:HIS:H	2.14	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:37:ARG:HA	28:6:37:ARG:HE	1.77	0.49
1:A:2224:G:OP1	3:D:268:ARG:HD3	2.12	0.49
1:A:270(U):C:H2'	1:A:270(V):G:C8	2.46	0.49
1:A:2779:U:O2'	1:A:2781:A:N7	2.45	0.49
1:A:504:U:H5''	1:A:505:A:H5'	1.95	0.49
4:E:55:ASN:O	4:E:57:LYS:N	2.45	0.49
6:G:107:LEU:HD11	6:G:178:PHE:CD1	2.48	0.49
6:G:49:ASP:OD1	6:G:51:ARG:HG3	2.12	0.49
6:G:83:ARG:HH11	6:G:83:ARG:HG2	1.76	0.49
7:H:128:PRO:HD2	7:H:129:THR:N	2.25	0.49
7:H:23:ARG:HD2	7:H:34:GLU:OE2	2.12	0.49
8:I:92:VAL:HG13	8:I:120:ILE:HG23	1.93	0.49
9:N:120:LEU:HD11	9:N:122:VAL:CG2	2.42	0.49
10:O:69:ILE:O	10:O:76:ALA:HA	2.12	0.49
11:P:147:LEU:O	11:P:148:LEU:HB2	2.11	0.49
12:Q:132:VAL:HG12	12:Q:133:ARG:N	2.27	0.49
13:R:18:LEU:HD13	13:R:18:LEU:C	2.33	0.49
13:R:2:ARG:HG2	13:R:5:LYS:HZ2	1.75	0.49
17:V:91:TYR:HD1	17:V:91:TYR:C	2.16	0.49
23:1:67:ILE:N	23:1:68:PRO:CD	2.76	0.49
26:4:42:PHE:O	26:4:44:THR:O	2.31	0.49
26:4:68:ARG:HD3	26:4:69:LYS:HG2	1.92	0.49
1:A:1203:G:H3'	1:A:1204:A:H5''	1.95	0.49
1:A:1754:C:OP1	15:T:96:ARG:NH1	2.36	0.49
3:D:2:ALA:CB	3:D:20:ASP:HB3	2.42	0.49
6:G:35:GLU:CD	6:G:35:GLU:C	2.71	0.49
7:H:103:LEU:H	7:H:103:LEU:HD23	1.77	0.49
9:N:30:ILE:O	9:N:34:LEU:HD23	2.13	0.49
10:O:105:GLU:O	10:O:108:GLU:HB2	2.12	0.49
10:O:8:LEU:CD2	10:O:8:LEU:N	2.76	0.49
11:P:101:VAL:CG1	11:P:102:ARG:N	2.75	0.49
11:P:64:LYS:C	11:P:66:GLY:N	2.56	0.49
12:Q:29:PHE:N	12:Q:105:GLU:OE2	2.41	0.49
14:S:18:ILE:O	14:S:19:LYS:O	2.31	0.49
15:T:94:ALA:O	15:T:95:ARG:CB	2.61	0.49
16:U:92:ARG:CD	16:U:94:ASN:HB3	2.42	0.49
19:X:51:VAL:HG13	19:X:81:VAL:HG23	1.93	0.49
20:Y:35:TYR:CD1	20:Y:69:ALA:HB3	2.48	0.49
1:A:328:U:H4'	20:Y:68:HIS:CE1	2.48	0.49
23:1:40:ARG:NH2	23:1:42:GLN:HG2	2.27	0.49
6:G:113:ARG:HD2	26:4:33:VAL:CG1	2.43	0.49
29:7:9:ARG:HH12	29:7:47:ARG:HG3	1.76	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:99:U:H4'	1:A:101:G:C5'	2.42	0.49
1:A:1312:U:H6	1:A:1312:U:H5'	1.78	0.49
1:A:2839:G:H5'	13:R:46:GLY:HA2	1.95	0.49
1:A:2853:C:H2'	1:A:2854:G:C8	2.47	0.49
4:E:119:ARG:HD3	4:E:160:TYR:HD2	1.78	0.49
4:E:95:ILE:CD1	4:E:95:ILE:H	2.18	0.49
7:H:54:ARG:HD3	7:H:65:HIS:ND1	2.27	0.49
7:H:98:LEU:HD12	7:H:102:ALA:O	2.13	0.49
9:N:95:PRO:O	9:N:97:ARG:N	2.46	0.49
13:R:71:GLN:HA	13:R:71:GLN:HE21	1.77	0.49
14:S:99:LYS:O	14:S:101:LEU:N	2.45	0.49
15:T:16:ARG:NE	15:T:19:LEU:HD21	2.28	0.49
20:Y:84:ARG:HD3	20:Y:86:ARG:NH1	2.28	0.49
21:Z:166:SER:H	21:Z:167:PRO:HA	1.77	0.49
26:4:10:VAL:CG2	26:4:11:PRO:HD2	2.43	0.49
6:G:6:ALA:H	26:4:23:GLU:CG	2.25	0.49
27:5:2:ALA:O	27:5:3:LYS:CB	2.60	0.49
27:5:48:GLU:HA	27:5:59:GLU:CG	2.43	0.49
28:6:7:ILE:C	28:6:9:LEU:N	2.65	0.49
30:8:33:ASN:O	30:8:35:GLN:N	2.46	0.49
1:A:747:U:C4	1:A:2613:U:C4	3.01	0.49
2:B:11:C:H3'	2:B:12:C:H6	1.76	0.49
3:D:182:LEU:H	3:D:272:ALA:CB	2.25	0.49
6:G:114:ILE:HG21	6:G:117:PHE:HB2	1.93	0.49
6:G:143:GLU:HA	26:4:28:LYS:HD3	1.95	0.49
9:N:73:THR:CG2	9:N:82:LEU:HD11	2.43	0.49
12:Q:23:GLY:O	12:Q:24:GLY:O	2.30	0.49
17:V:7:THR:HG23	17:V:22:VAL:HG11	1.94	0.49
18:W:30:GLU:O	18:W:34:ASN:ND2	2.46	0.49
20:Y:19:LYS:CG	20:Y:19:LYS:O	2.60	0.49
20:Y:95:LYS:N	20:Y:95:LYS:CD	2.76	0.49
23:1:19:GLN:HA	23:1:19:GLN:OE1	2.12	0.49
1:A:2232:U:P	23:1:40:ARG:HH12	2.36	0.49
27:5:52:TYR:O	27:5:53:ALA:CB	2.60	0.49
28:6:7:ILE:O	28:6:9:LEU:N	2.46	0.49
30:8:41:ILE:HG13	30:8:42:ARG:N	2.28	0.49
1:A:1062:G:N3	1:A:1077:A:N6	2.61	0.49
1:A:195:A:OP1	11:P:46:LYS:HE2	2.12	0.49
1:A:2405:G:HO2'	1:A:2406:U:P	2.35	0.49
1:A:2420:C:N4	30:8:30:ARG:HD2	2.28	0.49
1:A:241:A:H4'	1:A:242:G:OP1	2.13	0.49
1:A:2721:A:H1'	1:A:2873:A:O2'	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:483:A:H3'	1:A:484:C:C6	2.47	0.49
1:A:662:G:H5''	11:P:15:ARG:O	2.13	0.49
2:B:44:G:H1'	2:B:47:C:N4	2.25	0.49
2:B:55:U:C5'	6:G:28:VAL:HG21	2.43	0.49
5:F:45:ARG:HG2	5:F:45:ARG:NH1	2.28	0.49
7:H:12:PRO:HD3	7:H:48:GLY:O	2.13	0.49
7:H:124:GLU:HB3	7:H:132:ARG:CG	2.43	0.49
7:H:137:ASP:CB	7:H:140:LYS:HB2	2.43	0.49
7:H:24:VAL:HG21	7:H:72:ILE:HG12	1.94	0.49
11:P:47:ASP:OD1	11:P:49:ARG:NH1	2.46	0.49
12:Q:86:GLY:O	12:Q:88:GLY:N	2.46	0.49
13:R:52:ILE:CG2	13:R:94:TYR:CD1	2.96	0.49
15:T:111:ARG:O	15:T:112:ARG:CG	2.55	0.49
23:1:25:LYS:C	23:1:27:GLU:H	2.16	0.49
23:1:81:LYS:O	23:1:82:LEU:O	2.30	0.49
27:5:45:VAL:O	27:5:45:VAL:HG12	2.13	0.49
28:6:20:ASN:CG	28:6:21:TYR:N	2.66	0.49
28:6:27:LYS:NZ	28:6:27:LYS:CB	2.73	0.49
28:6:44:ARG:O	28:6:45:LYS:CB	2.60	0.49
28:6:8:LYS:O	28:6:27:LYS:HA	2.13	0.49
30:8:58:ILE:O	30:8:61:LEU:HD12	2.13	0.49
1:A:550:G:O2'	1:A:1220:A:N3	2.40	0.49
1:A:2845:G:H5''	15:T:55:ASN:HA	1.94	0.49
1:A:583:G:OP2	16:U:10:ARG:NH1	2.46	0.49
4:E:38:THR:O	4:E:42:ASP:HB2	2.13	0.49
4:E:46:ALA:HB1	4:E:80:GLU:HB2	1.94	0.49
5:F:129:PHE:CD2	5:F:163:VAL:HG21	2.48	0.49
6:G:115:ARG:HG2	6:G:115:ARG:NH1	2.27	0.49
8:I:4:ILE:HG12	8:I:18:VAL:HG22	1.95	0.49
10:O:55:GLY:O	10:O:56:ASP:C	2.50	0.49
11:P:30:THR:O	11:P:33:ARG:HB2	2.12	0.49
11:P:36:LYS:HB2	11:P:40:SER:HB3	1.94	0.49
13:R:44:LEU:HD22	13:R:48:VAL:CG2	2.42	0.49
14:S:48:LEU:N	14:S:48:LEU:CD1	2.76	0.49
15:T:16:ARG:HD3	15:T:19:LEU:CG	2.43	0.49
10:O:107:ARG:NH1	15:T:36:GLU:OE1	2.46	0.49
17:V:29:PRO:O	17:V:61:VAL:HG22	2.12	0.49
18:W:51:LEU:HD23	18:W:105:VAL:HG11	1.95	0.49
19:X:44:GLU:OE1	19:X:50:LYS:HD2	2.13	0.49
20:Y:101:LYS:O	20:Y:102:CYS:SG	2.66	0.49
20:Y:6:HIS:O	20:Y:7:VAL:CG1	2.59	0.49
26:4:47:GLN:O	26:4:48:ARG:CB	2.61	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2361:A:O5'	30:8:27:THR:OG1	2.30	0.48
1:A:1454:U:H5'	13:R:63:ARG:NE	2.24	0.48
1:A:1436:G:H1'	1:A:1477:A:O2'	2.13	0.48
1:A:288:C:H2'	1:A:289:A:H8	1.78	0.48
3:D:233:HIS:H	3:D:233:HIS:CD2	2.29	0.48
5:F:155:LEU:HD23	5:F:186:ILE:HA	1.95	0.48
6:G:36:LYS:HA	6:G:95:ARG:HG2	1.95	0.48
6:G:77:ILE:O	6:G:81:LYS:O	2.31	0.48
7:H:42:ARG:O	7:H:52:VAL:HA	2.12	0.48
12:Q:31:ASP:O	12:Q:32:TYR:CG	2.66	0.48
17:V:18:LEU:HB3	17:V:96:ILE:CG1	2.43	0.48
17:V:79:VAL:HG22	17:V:79:VAL:O	2.12	0.48
17:V:91:TYR:C	17:V:91:TYR:CD1	2.87	0.48
1:A:153:C:P	23:1:88:LYS:HE2	2.52	0.48
23:1:93:GLU:O	23:1:97:LEU:HD11	2.12	0.48
29:7:12:ARG:HH11	29:7:12:ARG:HG3	1.78	0.48
1:A:1210:A:C8	1:A:1210:A:H5''	2.47	0.48
7:H:123:PHE:O	7:H:125:VAL:HG23	2.13	0.48
11:P:35:HIS:O	11:P:36:LYS:O	2.31	0.48
11:P:52:GLU:OE2	11:P:57:THR:HA	2.13	0.48
12:Q:112:GLU:CD	12:Q:112:GLU:H	2.17	0.48
14:S:11:LYS:HG2	14:S:11:LYS:O	2.12	0.48
16:U:81:HIS:CE1	16:U:117:GLN:HG3	2.48	0.48
17:V:22:VAL:HG12	17:V:23:GLU:H	1.76	0.48
17:V:35:LEU:HD22	17:V:57:VAL:O	2.13	0.48
18:W:36:LEU:CD1	18:W:47:VAL:HG12	2.43	0.48
19:X:11:PRO:HB3	19:X:92:LEU:CD2	2.43	0.48
20:Y:5:MET:HE1	20:Y:32:PRO:HB3	1.94	0.48
20:Y:81:LYS:HZ2	20:Y:98:VAL:CG1	2.25	0.48
1:A:1079:C:H2'	1:A:1080:C:O4'	2.13	0.48
1:A:709:U:H2'	1:A:710:G:C8	2.49	0.48
4:E:78:LEU:CD2	4:E:79:ARG:HD2	2.43	0.48
6:G:115:ARG:HG2	6:G:115:ARG:HH11	1.77	0.48
6:G:125:PHE:HB3	6:G:166:ASP:HB2	1.95	0.48
7:H:10:PRO:C	7:H:11:VAL:HG22	2.34	0.48
9:N:12:ARG:NH1	9:N:50:ASP:CG	2.67	0.48
13:R:42:LYS:HA	13:R:45:ARG:HD2	1.96	0.48
13:R:70:LEU:C	13:R:72:ASP:H	2.16	0.48
14:S:33:LYS:HB3	14:S:34:HIS:CD2	2.48	0.48
19:X:35:THR:O	19:X:37:THR:N	2.47	0.48
24:2:69:ARG:HH11	24:2:69:ARG:HB3	1.79	0.48
28:6:14:THR:OG1	28:6:19:ARG:NE	2.40	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1069:A:H4'	1:A:1070:A:H5''	1.95	0.48
1:A:1414:G:O6	1:A:1587:A:N6	2.45	0.48
1:A:2776:A:H3'	1:A:2776:A:OP1	2.13	0.48
1:A:372:G:O2'	1:A:373:U:P	2.72	0.48
5:F:128:ALA:O	5:F:129:PHE:HB2	2.13	0.48
8:I:85:GLU:OE1	8:I:86:THR:OG1	2.28	0.48
9:N:95:PRO:O	9:N:96:GLU:C	2.51	0.48
14:S:59:LYS:HG2	14:S:60:GLY:N	2.13	0.48
15:T:132:LYS:O	15:T:136:GLN:HG3	2.14	0.48
20:Y:47:LYS:C	20:Y:49:VAL:H	2.16	0.48
23:1:80:LEU:C	23:1:81:LYS:CE	2.77	0.48
24:2:69:ARG:HH11	24:2:69:ARG:CB	2.25	0.48
1:A:928:G:O2'	25:3:43:ILE:HD11	2.14	0.48
27:5:56:LYS:N	27:5:56:LYS:HD2	2.13	0.48
28:6:27:LYS:O	28:6:28:ARG:HG2	2.13	0.48
30:8:35:GLN:HA	30:8:35:GLN:OE1	2.13	0.48
30:8:56:GLU:O	30:8:58:ILE:N	2.47	0.48
1:A:363(B):G:H2'	1:A:363(C):G:H8	1.78	0.48
1:A:607:U:H3	1:A:621:A:H2	1.59	0.48
2:B:88:C:H2'	2:B:89:G:O4'	2.13	0.48
3:D:35:LYS:HD2	3:D:104:TYR:CE1	2.49	0.48
4:E:77:ILE:CD1	4:E:78:LEU:N	2.70	0.48
5:F:198:ALA:O	5:F:201:VAL:HG12	2.13	0.48
6:G:16:ARG:HB3	6:G:17:PRO:HD3	1.94	0.48
2:B:42:C:O2	6:G:92:VAL:HA	2.13	0.48
9:N:10:GLU:HA	9:N:11:PRO:HD3	1.73	0.48
11:P:101:VAL:C	11:P:103:ALA:H	2.17	0.48
11:P:112:LEU:HD12	11:P:127:ALA:CB	2.44	0.48
14:S:46:VAL:HG12	14:S:47:THR:N	2.28	0.48
17:V:6:LYS:HD3	17:V:11:GLN:HG2	1.96	0.48
19:X:53:LYS:HZ2	19:X:55:ASN:HD21	1.62	0.48
26:4:42:PHE:O	26:4:43:TYR:C	2.51	0.48
1:A:1068:G:N2	1:A:1095:A:O2'	2.46	0.48
1:A:2558:C:H2'	1:A:2559:C:O4'	2.13	0.48
1:A:49:A:H5''	1:A:51:G:H5'	1.96	0.48
2:B:32:C:H2'	2:B:33:G:H5''	1.96	0.48
3:D:198:ASN:C	3:D:198:ASN:HD22	2.17	0.48
3:D:48:ARG:HG3	3:D:48:ARG:HH11	1.78	0.48
3:D:65:ILE:C	3:D:65:ILE:HD13	2.32	0.48
5:F:107:LYS:O	5:F:110:LEU:N	2.47	0.48
5:F:51:THR:O	5:F:93:LYS:NZ	2.38	0.48
6:G:136:ARG:O	6:G:154:GLY:CA	2.62	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2311:A:H1'	6:G:82:LEU:HD11	1.95	0.48
7:H:104:GLU:HG3	7:H:114:VAL:HG22	1.96	0.48
11:P:14:LYS:O	11:P:15:ARG:C	2.51	0.48
12:Q:34:LEU:HD23	12:Q:104:PHE:HD1	1.77	0.48
12:Q:87:LYS:O	12:Q:89:ASN:N	2.43	0.48
20:Y:57:GLN:O	20:Y:58:GLY:O	2.32	0.48
20:Y:44:ILE:O	20:Y:62:GLU:O	2.32	0.48
1:A:1688:U:O2	1:A:1700:A:H5''	2.14	0.48
1:A:1796:U:H2'	1:A:1797:C:C6	2.49	0.48
1:A:384:U:H2'	1:A:385:C:H6	1.79	0.48
2:B:56:G:P	6:G:27:ASN:HD21	2.37	0.48
3:D:25:THR:O	3:D:26:LYS:C	2.52	0.48
1:A:1812:A:O2'	3:D:45:ASN:HB2	2.13	0.48
4:E:93:VAL:H	4:E:95:ILE:CD1	2.23	0.48
5:F:155:LEU:HA	5:F:174:VAL:HG12	1.95	0.48
7:H:7:LEU:N	7:H:8:PRO:CD	2.77	0.48
1:A:1138:G:H21	9:N:106:MET:CE	2.26	0.48
9:N:34:LEU:O	9:N:49:GLY:HA3	2.13	0.48
11:P:138:LEU:HD11	11:P:144:GLU:CG	2.42	0.48
11:P:144:GLU:OE1	11:P:144:GLU:O	2.31	0.48
11:P:71:VAL:HG13	11:P:72:PRO:CD	2.43	0.48
12:Q:21:THR:HB	12:Q:22:LYS:H	1.42	0.48
12:Q:19:GLY:O	12:Q:98:LYS:HD3	2.14	0.48
13:R:61:HIS:O	13:R:65:LEU:HD13	2.14	0.48
23:1:56:GLN:H	23:1:56:GLN:NE2	2.10	0.48
26:4:60:GLN:O	26:4:63:TYR:HB3	2.13	0.48
27:5:49:CYS:SG	27:5:58:LEU:HB2	2.53	0.48
1:A:31:C:O2'	1:A:1238:G:H5'	2.14	0.48
1:A:2749:A:H4'	7:H:62:LYS:HB3	1.95	0.48
3:D:130:ALA:C	3:D:131:LEU:HD12	2.33	0.48
3:D:130:ALA:HA	3:D:192:THR:HA	1.96	0.48
4:E:61:ARG:CB	4:E:62:PRO:CD	2.90	0.48
9:N:18:ALA:O	9:N:19:GLU:C	2.52	0.48
9:N:75:TYR:C	9:N:76:SER:O	2.52	0.48
15:T:57:PHE:O	15:T:59:THR:N	2.46	0.48
1:A:1019:U:O2'	1:A:1021:A:H2	1.97	0.48
1:A:2632:A:O2'	1:A:2811:G:O2'	2.19	0.48
1:A:981:A:N1	1:A:2027:G:O2'	2.39	0.48
4:E:93:VAL:C	4:E:95:ILE:H	2.17	0.48
5:F:34:TRP:HD1	11:P:6:LEU:HB3	1.79	0.48
6:G:3:LEU:HD21	26:4:25:TYR:CE1	2.48	0.48
7:H:131:VAL:HG12	7:H:132:ARG:N	2.29	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:133:HIS:HB2	8:I:134:PRO:HD2	1.96	0.48
9:N:82:LEU:HD12	9:N:83:LYS:N	2.27	0.48
12:Q:119:ARG:O	12:Q:123:HIS:HD2	1.97	0.48
13:R:107:ASP:C	13:R:107:ASP:OD2	2.52	0.48
14:S:56:LEU:C	14:S:56:LEU:HD23	2.34	0.48
15:T:135:ALA:C	15:T:137:LYS:H	2.16	0.48
20:Y:11:ASP:HB2	20:Y:27:VAL:HG11	1.94	0.48
30:8:43:GLN:C	30:8:44:LYS:HD2	2.34	0.48
1:A:2146:C:H4'	1:A:2147:G:C8	2.49	0.48
1:A:2410:G:C2	1:A:2411:A:H1'	2.49	0.48
4:E:64:LYS:C	4:E:66:HIS:N	2.68	0.48
1:A:2635:C:H5'	4:E:77:ILE:HD13	1.96	0.48
6:G:12:TYR:O	6:G:16:ARG:HB3	2.14	0.48
12:Q:81:VAL:HG23	22:O:7:LEU:HD11	1.95	0.48
13:R:63:ARG:NH1	13:R:63:ARG:HG3	2.29	0.48
16:U:79:PHE:HE2	16:U:83:LEU:CD2	2.26	0.48
17:V:35:LEU:O	17:V:37:VAL:N	2.47	0.48
1:A:1291:C:H2'	1:A:1292:U:C6	2.49	0.47
3:D:145:VAL:O	3:D:153:ALA:HA	2.14	0.47
3:D:35:LYS:CG	3:D:64:ILE:CG2	2.92	0.47
6:G:106:LEU:HA	6:G:110:ALA:HB3	1.95	0.47
7:H:154:PRO:CG	7:H:162:ILE:O	2.61	0.47
9:N:113:GLY:O	9:N:116:LEU:HB2	2.14	0.47
9:N:56:ASN:ND2	9:N:125:GLY:C	2.66	0.47
9:N:137:LYS:CG	9:N:138:LEU:N	2.77	0.47
9:N:57:ALA:O	9:N:58:ASP:CB	2.61	0.47
10:O:8:LEU:HB2	10:O:19:ILE:CD1	2.43	0.47
11:P:47:ASP:OD1	11:P:50:ARG:NH2	2.47	0.47
12:Q:42:ILE:HD12	12:Q:42:ILE:N	2.29	0.47
16:U:92:ARG:CZ	16:U:94:ASN:HD22	2.27	0.47
17:V:48:GLY:O	17:V:49:THR:C	2.52	0.47
18:W:32:ALA:O	18:W:33:ARG:C	2.52	0.47
20:Y:56:PRO:O	20:Y:58:GLY:N	2.47	0.47
21:Z:104:PHE:HB3	21:Z:141:VAL:CG1	2.44	0.47
21:Z:102:LEU:HD11	21:Z:124:ILE:HG22	1.95	0.47
27:5:57:VAL:HG13	27:5:57:VAL:O	2.13	0.47
30:8:53:PRO:CD	30:8:54:GLU:N	2.77	0.47
1:A:1178:C:H2'	1:A:1179:C:C6	2.49	0.47
1:A:1292:U:H2'	1:A:1293:C:C6	2.49	0.47
1:A:2277:G:P	12:Q:85:LYS:HB2	2.53	0.47
1:A:27:G:H1'	1:A:513:A:H62	1.80	0.47
4:E:120:TRP:O	4:E:121:ASN:HB2	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:174:ASP:O	4:E:182:LEU:HD12	2.14	0.47
5:F:53:THR:C	5:F:55:GLY:N	2.68	0.47
8:I:57:ARG:O	8:I:60:GLU:N	2.47	0.47
9:N:131:GLN:HE21	9:N:132:ALA:H	1.58	0.47
9:N:67:LEU:O	9:N:88:GLU:HG3	2.14	0.47
9:N:4:TYR:OH	9:N:7:LYS:NZ	2.46	0.47
11:P:6:LEU:O	11:P:7:ARG:O	2.31	0.47
11:P:75:ILE:CD1	11:P:75:ILE:H	2.14	0.47
13:R:10:LEU:O	13:R:12:ARG:HG3	2.14	0.47
14:S:55:ALA:O	14:S:56:LEU:HB3	2.13	0.47
16:U:107:ALA:O	16:U:110:VAL:HB	2.14	0.47
16:U:91:ASP:O	16:U:92:ARG:C	2.53	0.47
17:V:4:ILE:HA	17:V:12:TYR:O	2.14	0.47
20:Y:97:ARG:HG2	20:Y:97:ARG:NH1	2.28	0.47
23:1:8:SER:OG	23:1:10:LYS:HG3	2.13	0.47
26:4:36:CYS:O	26:4:37:SER:C	2.52	0.47
26:4:50:VAL:O	26:4:50:VAL:CG1	2.63	0.47
1:A:1535:U:H2'	1:A:1536:A:C8	2.49	0.47
1:A:1728:G:N1	1:A:1730:U:OP2	2.47	0.47
1:A:2283:C:P	28:6:5:VAL:HG13	2.54	0.47
7:H:124:GLU:HB3	7:H:132:ARG:CD	2.44	0.47
7:H:45:VAL:O	7:H:45:VAL:HG13	2.14	0.47
7:H:82:GLY:O	7:H:83:TYR:O	2.32	0.47
8:I:144:VAL:HG22	8:I:145:VAL:H	1.79	0.47
9:N:68:GLU:HG2	9:N:88:GLU:CD	2.33	0.47
9:N:97:ARG:HA	9:N:100:GLU:HB3	1.97	0.47
11:P:126:VAL:HA	11:P:145:PRO:HD2	1.95	0.47
12:Q:57:HIS:ND1	12:Q:58:PHE:N	2.62	0.47
13:R:41:ALA:C	13:R:43:GLU:N	2.68	0.47
14:S:40:ILE:HG22	14:S:41:ASP:N	2.28	0.47
17:V:66:ARG:NH1	17:V:88:ARG:NH1	2.61	0.47
17:V:21:ARG:HD2	17:V:91:TYR:CZ	2.49	0.47
18:W:66:GLU:O	18:W:69:LEU:HG	2.15	0.47
20:Y:75:ILE:HG12	20:Y:76:CYS:H	1.79	0.47
20:Y:81:LYS:NZ	20:Y:98:VAL:HB	2.29	0.47
23:1:29:GLY:C	23:1:30:VAL:CG2	2.82	0.47
23:1:94:LEU:O	23:1:95:LEU:CB	2.62	0.47
26:4:55:ARG:C	26:4:59:PHE:HB3	2.35	0.47
1:A:1359:A:C6	1:A:1372:U:O4	2.68	0.47
1:A:2723:C:OP1	13:R:3:HIS:HD2	1.97	0.47
1:A:910:A:N3	1:A:2264:C:O2'	2.40	0.47
2:B:33:G:H5''	2:B:33:G:H8	1.80	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:129:HIS:O	4:E:130:GLY:C	2.53	0.47
4:E:195:LEU:HD12	4:E:196:VAL:N	2.29	0.47
4:E:56:PRO:O	4:E:57:LYS:CB	2.61	0.47
5:F:162:LEU:HD23	5:F:165:ARG:HH21	1.79	0.47
6:G:106:LEU:HA	6:G:110:ALA:CB	2.44	0.47
9:N:118:LYS:O	9:N:120:LEU:N	2.43	0.47
11:P:19:VAL:CG2	11:P:20:GLY:H	1.98	0.47
15:T:96:ARG:NH1	15:T:96:ARG:CB	2.77	0.47
17:V:16:PRO:HA	17:V:96:ILE:O	2.14	0.47
17:V:2:PHE:CD2	17:V:13:ARG:NH2	2.83	0.47
23:1:7:ILE:HD12	23:1:62:VAL:HG11	1.96	0.47
28:6:8:LYS:O	28:6:27:LYS:HG2	2.15	0.47
1:A:249:C:O2	30:8:12:LYS:HE3	2.14	0.47
1:A:1009:A:OP1	9:N:37:LYS:NZ	2.47	0.47
1:A:1041:C:H2'	1:A:1042:G:H8	1.78	0.47
1:A:1588:C:H2'	1:A:1589:C:C6	2.49	0.47
1:A:864:G:C6	1:A:865:C:N4	2.82	0.47
3:D:134:ARG:HB2	3:D:135:PHE:CD2	2.49	0.47
4:E:3:GLY:HA3	4:E:81:ILE:HG21	1.97	0.47
6:G:13:GLU:HG3	6:G:13:GLU:O	2.14	0.47
6:G:5:VAL:HG22	26:4:25:TYR:CE2	2.50	0.47
7:H:67:LEU:O	7:H:71:LEU:HB2	2.14	0.47
19:X:6:ASP:OD1	24:2:29:LYS:NZ	2.47	0.47
20:Y:19:LYS:HE3	20:Y:20:TYR:CE1	2.49	0.47
21:Z:111:VAL:HG22	21:Z:112:ARG:N	2.26	0.47
1:A:2432:A:C8	23:1:33:LYS:HE2	2.49	0.47
1:A:1264:G:H5'	27:5:11:THR:CG2	2.44	0.47
31:9:1:MET:SD	31:9:31:LYS:O	2.72	0.47
1:A:2284:C:C5	28:6:27:LYS:HE2	2.50	0.47
1:A:898:C:C2'	1:A:899:A:H5'	2.44	0.47
1:A:974(A):C:H4'	1:A:975:G:O5'	2.14	0.47
2:B:3:C:H2'	2:B:4:C:C6	2.49	0.47
3:D:72:LYS:CG	3:D:103:ARG:NH2	2.77	0.47
6:G:56:ALA:HB2	6:G:153:ARG:NE	2.28	0.47
8:I:13:GLY:HA3	8:I:17:GLN:OE1	2.14	0.47
12:Q:66:ILE:H	12:Q:104:PHE:HA	1.80	0.47
13:R:117:VAL:O	13:R:118:GLU:CB	2.62	0.47
14:S:108:GLY:O	14:S:110:LEU:N	2.48	0.47
14:S:25:ARG:HH12	14:S:42:ASP:CG	2.16	0.47
17:V:38:LEU:HD23	17:V:39:LEU:H	1.79	0.47
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ3	1.77	0.47
20:Y:39:VAL:O	20:Y:40:GLU:OE2	2.32	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:3:GLU:HG3	26:4:4:GLY:H	1.79	0.47
28:6:20:ASN:ND2	28:6:42:TRP:CZ2	2.82	0.47
30:8:44:LYS:HD2	30:8:44:LYS:N	2.30	0.47
1:A:1417:C:H2'	1:A:1418:G:O4'	2.13	0.47
1:A:1797:C:H2'	1:A:1798:U:H5'	1.97	0.47
9:N:137:LYS:CG	9:N:138:LEU:H	2.27	0.47
9:N:57:ALA:CA	9:N:60:ILE:HD11	2.44	0.47
10:O:120:GLU:OE1	15:T:67:SER:OG	2.24	0.47
10:O:37:ASP:O	10:O:62:VAL:HG23	2.15	0.47
11:P:147:LEU:HD22	11:P:147:LEU:N	2.29	0.47
13:R:74:LYS:O	13:R:76:VAL:N	2.45	0.47
17:V:2:PHE:CD1	17:V:2:PHE:C	2.88	0.47
1:A:1364:G:N7	23:1:2:SER:N	2.63	0.47
26:4:8:LYS:O	26:4:9:LEU:CB	2.62	0.47
1:A:2126:A:H4'	1:A:2127:G:O5'	2.15	0.47
1:A:2168:G:N3	1:A:2168:G:H2'	2.30	0.47
1:A:588:U:H2'	1:A:589:C:C6	2.50	0.47
1:A:958:U:OP1	12:Q:74:TYR:OH	2.25	0.47
2:B:24:G:N7	2:B:56:G:H2'	2.29	0.47
4:E:197:ILE:CD1	4:E:199:ARG:HH12	2.26	0.47
5:F:184:TYR:CD2	5:F:188:ARG:HD2	2.50	0.47
1:A:2445:G:OP1	5:F:74:ARG:NH2	2.48	0.47
6:G:44:GLY:HA2	6:G:88:ILE:HG12	1.96	0.47
11:P:12:ALA:C	11:P:14:LYS:H	2.17	0.47
11:P:37:GLY:O	11:P:41:ARG:HD3	2.15	0.47
1:A:2275:C:O2	12:Q:83:MET:HG3	2.14	0.47
17:V:36:PRO:HA	17:V:56:SER:CB	2.44	0.47
20:Y:61:ILE:HG22	20:Y:62:GLU:N	2.28	0.47
1:A:2122:U:H2'	1:A:2123:G:H8	1.79	0.47
1:A:2250:G:C4	12:Q:82:ARG:HG3	2.50	0.47
1:A:2556:C:H2'	1:A:2557:G:O4'	2.15	0.47
1:A:2892:A:H2'	1:A:2893:G:O4'	2.14	0.47
3:D:165:ILE:C	3:D:166:GLN:HE21	2.18	0.47
4:E:17:ASP:OD2	4:E:17:ASP:N	2.46	0.47
4:E:65:GLY:HA2	4:E:70:ALA:HB3	1.95	0.47
16:U:8:VAL:O	16:U:9:VAL:C	2.53	0.47
19:X:26:TYR:HB3	19:X:92:LEU:HD12	1.96	0.47
24:2:17:SER:CB	24:2:18:PRO:CA	2.92	0.47
27:5:20:ARG:C	27:5:22:HIS:N	2.68	0.47
1:A:1041:C:H2'	1:A:1042:G:C8	2.49	0.47
1:A:2032:G:H21	4:E:146:THR:HG23	1.79	0.47
3:D:205:VAL:O	3:D:206:LEU:C	2.52	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:63:LEU:O	4:E:64:LYS:CB	2.62	0.47
5:F:65:TRP:CH2	5:F:72:ARG:HB3	2.50	0.47
7:H:18:GLU:HA	7:H:18:GLU:OE2	2.14	0.47
7:H:41:MET:HG3	7:H:54:ARG:HA	1.96	0.47
8:I:94:ALA:HB1	8:I:114:LEU:HD23	1.96	0.47
10:O:53:LYS:CD	10:O:56:ASP:OD1	2.63	0.47
11:P:98:GLU:HG2	11:P:99:LEU:N	2.30	0.47
13:R:56:LYS:C	13:R:58:GLY:H	2.18	0.47
14:S:61:ASN:O	14:S:65:VAL:HG23	2.15	0.47
26:4:53:GLU:O	26:4:57:GLU:HG3	2.14	0.47
28:6:48:VAL:O	28:6:49:HIS:HB2	2.15	0.47
1:A:2283:C:OP1	28:6:5:VAL:HG13	2.15	0.47
29:7:25:PRO:HA	29:7:28:ARG:CZ	2.45	0.47
31:9:19:ARG:NH2	31:9:26:ILE:HD11	2.29	0.47
1:A:1007:C:O3'	9:N:108:PRO:HB3	2.14	0.47
1:A:2250:G:C5	12:Q:82:ARG:HD2	2.49	0.47
3:D:102:LYS:O	3:D:103:ARG:HG3	2.15	0.47
6:G:16:ARG:NH2	6:G:28:VAL:O	2.48	0.47
9:N:134:ARG:N	9:N:135:PRO:CD	2.58	0.47
12:Q:34:LEU:HD11	12:Q:129:THR:CB	2.35	0.47
14:S:83:LYS:HG2	14:S:109:GLY:H	1.76	0.47
20:Y:68:HIS:O	20:Y:71:LYS:HB2	2.15	0.47
24:2:7:ARG:NH1	24:2:7:ARG:HG3	2.25	0.46
29:7:2:LYS:HG2	29:7:3:ARG:N	2.30	0.46
1:A:1113:U:H2'	1:A:1114:G:C8	2.49	0.46
1:A:1826:G:OP1	3:D:224:ALA:N	2.39	0.46
1:A:2517:C:C2	1:A:2542:A:N6	2.82	0.46
1:A:2867:G:HO2'	1:A:2868:A:P	2.38	0.46
1:A:592:G:H1	1:A:665:C:N4	2.12	0.46
3:D:18:VAL:CG1	3:D:19:ALA:N	2.78	0.46
3:D:231:HIS:ND1	3:D:232:PRO:HD2	2.30	0.46
11:P:23:PRO:HG2	11:P:23:PRO:O	2.15	0.46
15:T:57:PHE:O	15:T:58:ASN:C	2.53	0.46
23:1:76:ARG:N	23:1:76:ARG:HD2	2.29	0.46
30:8:29:LYS:HE3	30:8:41:ILE:O	2.15	0.46
1:A:140:A:C8	1:A:1408:C:O2'	2.66	0.46
1:A:1882:C:H5'	1:A:1883:G:OP2	2.15	0.46
1:A:2529:G:H5''	1:A:2530:A:H5''	1.97	0.46
1:A:443:A:H1'	1:A:1201:C:O4'	2.15	0.46
3:D:183:ARG:NH1	3:D:183:ARG:CG	2.69	0.46
3:D:27:THR:O	3:D:29:PRO:CD	2.62	0.46
4:E:87:GLU:O	4:E:89:ASP:N	2.48	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:98:ARG:CA	6:G:101:ILE:HG12	2.40	0.46
7:H:4:ILE:H	7:H:4:ILE:CD1	2.25	0.46
9:N:9:VAL:HG21	9:N:48:MET:CB	2.45	0.46
13:R:78:LYS:O	13:R:78:LYS:HG2	2.15	0.46
13:R:56:LYS:HE2	13:R:94:TYR:OH	2.15	0.46
14:S:66:ALA:HA	14:S:69:VAL:HG12	1.96	0.46
10:O:104:ARG:HD3	15:T:36:GLU:OE2	2.15	0.46
17:V:30:GLY:O	17:V:31:ALA:O	2.34	0.46
23:1:49:VAL:HG12	23:1:51:VAL:CG2	2.45	0.46
25:3:56:VAL:CG1	25:3:57:GLU:N	2.74	0.46
27:5:43:HIS:ND1	27:5:43:HIS:N	2.63	0.46
1:A:1252:G:N7	16:U:36:ARG:NH1	2.63	0.46
1:A:1657:C:H2'	1:A:1658:C:H6	1.81	0.46
1:A:1833:U:O2'	1:A:1969:A:N1	2.39	0.46
1:A:2032:G:H21	4:E:146:THR:CG2	2.28	0.46
1:A:2197:U:H1'	1:A:2198:A:C8	2.50	0.46
1:A:2693:A:H2'	1:A:2694:G:H8	1.80	0.46
1:A:2734:A:N6	1:A:2770:G:O2'	2.49	0.46
1:A:297:C:H5''	20:Y:85:VAL:CG2	2.44	0.46
3:D:35:LYS:HD3	3:D:63:ARG:HB3	1.96	0.46
4:E:188:VAL:HG13	4:E:188:VAL:O	2.15	0.46
4:E:47:VAL:O	4:E:48:GLN:C	2.51	0.46
5:F:31:HIS:O	5:F:34:TRP:HB3	2.15	0.46
6:G:95:ARG:O	6:G:96:ARG:C	2.54	0.46
7:H:153:LYS:HG3	7:H:162:ILE:H	1.78	0.46
7:H:9:ILE:O	7:H:10:PRO:O	2.33	0.46
10:O:112:MET:O	10:O:115:VAL:CG2	2.64	0.46
12:Q:133:ARG:CG	12:Q:134:ARG:N	2.78	0.46
13:R:85:PRO:C	13:R:87:TYR:H	2.18	0.46
14:S:52:SER:O	14:S:56:LEU:CD2	2.60	0.46
15:T:29:ARG:NH1	15:T:46:GLU:OE1	2.48	0.46
19:X:12:VAL:O	19:X:12:VAL:HG13	2.15	0.46
23:1:79:GLY:N	23:1:80:LEU:HD23	2.30	0.46
24:2:15:LYS:H	24:2:67:LYS:HZ3	1.63	0.46
1:A:1263:U:H2'	1:A:1264:G:C8	2.51	0.46
1:A:1797:C:C2'	1:A:1798:U:H5'	2.46	0.46
1:A:2335:A:O2'	1:A:2336:A:H2'	2.14	0.46
1:A:2712:U:H1'	1:A:2712(A):A:C8	2.50	0.46
1:A:57:C:H2'	1:A:58:G:O4'	2.16	0.46
1:A:1824:G:O3'	3:D:249:PRO:HD3	2.16	0.46
4:E:54:GLN:HE21	4:E:54:GLN:CA	2.27	0.46
5:F:132:VAL:O	5:F:133:ASN:C	2.52	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:127:GLU:OE2	7:H:130:ARG:NH2	2.47	0.46
8:I:29:TYR:O	8:I:33:ARG:HB2	2.15	0.46
9:N:46:VAL:HG13	9:N:47:ALA:N	2.30	0.46
13:R:29:LEU:N	13:R:29:LEU:CD1	2.79	0.46
13:R:75:LEU:HA	13:R:78:LYS:HB3	1.97	0.46
14:S:26:LEU:HD22	14:S:87:PHE:CD1	2.46	0.46
14:S:28:VAL:HG11	14:S:98:VAL:HG12	1.97	0.46
9:N:1:MET:HE3	16:U:95:LEU:HD21	1.97	0.46
18:W:4:LYS:HA	18:W:106:ILE:HA	1.97	0.46
19:X:24:GLY:O	19:X:82:GLN:HA	2.16	0.46
20:Y:15:VAL:O	20:Y:21:LYS:HA	2.16	0.46
20:Y:35:TYR:O	20:Y:35:TYR:CD1	2.69	0.46
23:1:83:GLU:OE1	23:1:85:LEU:HB2	2.15	0.46
28:6:18:ARG:O	28:6:19:ARG:O	2.33	0.46
30:8:52:LYS:O	30:8:52:LYS:CG	2.64	0.46
1:A:1427:A:H4'	1:A:1428:C:O5'	2.15	0.46
1:A:185:U:H4'	1:A:218:A:H4'	1.96	0.46
1:A:859:G:O2'	1:A:860:U:P	2.73	0.46
1:A:675:A:H4'	5:F:67:GLN:OE1	2.16	0.46
7:H:86:GLU:O	7:H:132:ARG:HA	2.15	0.46
11:P:81:GLN:HB3	11:P:110:TYR:HB3	1.97	0.46
1:A:2250:G:C2	12:Q:82:ARG:HB3	2.50	0.46
14:S:13:ARG:O	14:S:14:VAL:HB	2.16	0.46
15:T:36:GLU:O	15:T:37:GLY:C	2.53	0.46
19:X:8:ILE:CD1	19:X:42:ALA:HB1	2.46	0.46
25:3:18:ASP:O	25:3:21:ALA:N	2.49	0.46
1:A:1046:A:N3	1:A:1046:A:H3'	2.31	0.46
1:A:155:C:H5'	1:A:161:U:OP2	2.15	0.46
1:A:2283:C:H2'	1:A:2284:C:O4'	2.15	0.46
1:A:2760:C:H2'	1:A:2761:G:H5''	1.96	0.46
1:A:571:A:N6	1:A:2499:C:O3'	2.49	0.46
1:A:947:G:H2'	1:A:948:G:H8	1.80	0.46
3:D:61:LEU:HB3	3:D:63:ARG:NH1	2.31	0.46
3:D:69:ARG:C	3:D:71:ASP:N	2.69	0.46
4:E:103:ASP:OD2	4:E:168:MET:HG2	2.15	0.46
4:E:20:ALA:C	4:E:21:VAL:HG13	2.35	0.46
4:E:89:ASP:O	4:E:90:THR:O	2.33	0.46
4:E:33:VAL:HG12	4:E:90:THR:H	1.81	0.46
9:N:30:ILE:O	9:N:34:LEU:CD2	2.63	0.46
10:O:101:PRO:HA	10:O:120:GLU:O	2.16	0.46
11:P:45:LEU:CD1	11:P:45:LEU:N	2.79	0.46
11:P:90:ARG:HB3	11:P:91:PHE:H	1.60	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:109:VAL:HG13	12:Q:113:GLN:OE1	2.16	0.46
12:Q:66:ILE:O	12:Q:104:PHE:N	2.49	0.46
15:T:118:ARG:NH2	15:T:121:ILE:HD12	2.31	0.46
15:T:51:ARG:CG	15:T:98:LYS:HG3	2.44	0.46
15:T:96:ARG:CB	15:T:96:ARG:HH11	2.29	0.46
20:Y:56:PRO:O	20:Y:57:GLN:C	2.53	0.46
25:3:59:VAL:CG1	25:3:60:GLU:H	2.29	0.46
26:4:15:ILE:HG22	26:4:20:ASN:CA	2.45	0.46
26:4:50:VAL:O	26:4:50:VAL:HG13	2.15	0.46
1:A:1297:C:H2'	1:A:1298:C:H6	1.80	0.46
1:A:1588:C:H2'	1:A:1589:C:H6	1.81	0.46
3:D:117:VAL:CG2	3:D:128:GLY:C	2.84	0.46
3:D:136:ILE:N	3:D:136:ILE:HD12	2.30	0.46
4:E:50:GLY:CA	4:E:74:PRO:HG3	2.46	0.46
6:G:37:VAL:HG22	6:G:159:VAL:CA	2.34	0.46
6:G:88:ILE:CD1	6:G:88:ILE:O	2.54	0.46
7:H:59:ARG:CG	7:H:59:ARG:NH1	2.79	0.46
9:N:36:GLY:O	9:N:42:TRP:HE3	1.98	0.46
11:P:6:LEU:N	11:P:6:LEU:HD22	2.31	0.46
14:S:56:LEU:O	14:S:57:LYS:C	2.53	0.46
15:T:58:ASN:HD22	15:T:58:ASN:N	2.10	0.46
17:V:47:VAL:O	17:V:48:GLY:O	2.34	0.46
19:X:35:THR:HG23	19:X:35:THR:O	2.16	0.46
19:X:43:VAL:HG11	19:X:51:VAL:HG21	1.97	0.46
21:Z:69:THR:HB	21:Z:88:PHE:HB3	1.98	0.46
23:1:60:PHE:CE2	23:1:91:LYS:NZ	2.84	0.46
26:4:38:LYS:C	26:4:40:HIS:H	2.07	0.46
1:A:2563:U:H1'	1:A:2566:A:N6	2.31	0.46
1:A:956:G:H2'	1:A:957:A:H2'	1.98	0.46
4:E:7:VAL:HG11	15:T:1:MET:CE	2.45	0.46
6:G:104:GLU:OE1	26:4:23:GLU:HB3	2.15	0.46
6:G:111:LEU:HD22	6:G:120:LEU:HD21	1.97	0.46
6:G:135:LEU:HD11	6:G:157:ILE:HD12	1.98	0.46
6:G:14:GLU:O	6:G:17:PRO:HG2	2.15	0.46
6:G:52:ILE:O	6:G:52:ILE:HG22	2.15	0.46
10:O:86:ILE:CD1	10:O:86:ILE:H	2.28	0.46
11:P:1:MET:O	11:P:2:LYS:HG3	2.16	0.46
11:P:85:LEU:HD23	11:P:88:LEU:HD22	1.97	0.46
12:Q:23:GLY:O	12:Q:24:GLY:C	2.54	0.46
1:A:2292:C:P	14:S:17:ARG:HH22	2.38	0.46
14:S:24:LEU:HB2	14:S:85:VAL:HG12	1.98	0.46
15:T:76:PHE:HA	15:T:77:PRO:HD3	1.75	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:106:PHE:O	16:U:109:LEU:HB2	2.15	0.46
16:U:27:LEU:HD12	16:U:31:SER:HB3	1.98	0.46
16:U:69:CYS:O	16:U:74:LEU:HD12	2.16	0.46
22:0:24:LYS:O	22:0:25:ARG:HD3	2.15	0.46
1:A:1826:G:H4'	3:D:242:ARG:NH2	2.25	0.46
1:A:2123:G:H2'	1:A:2124:G:H8	1.81	0.46
1:A:2212:A:H1'	1:A:2215:G:C5	2.51	0.46
1:A:2577:A:H5''	1:A:2578:G:H5'	1.97	0.46
1:A:311:A:C6	1:A:328:U:C4	3.03	0.46
1:A:464:U:H4'	29:7:5:TRP:CZ3	2.50	0.46
1:A:995:C:N4	9:N:2:LYS:HG3	2.31	0.46
2:B:28:C:OP2	14:S:33:LYS:HE3	2.16	0.46
4:E:172:VAL:HG13	4:E:182:LEU:HD11	1.98	0.46
4:E:61:ARG:O	4:E:63:LEU:CG	2.57	0.46
6:G:121:ASN:C	6:G:123:ASN:H	2.19	0.46
6:G:14:GLU:O	6:G:17:PRO:HD2	2.16	0.46
7:H:4:ILE:HG13	7:H:6:ARG:HD3	1.97	0.46
9:N:112:LEU:O	9:N:116:LEU:HG	2.16	0.46
9:N:73:THR:HA	9:N:83:LYS:O	2.15	0.46
10:O:7:TYR:CD1	10:O:20:MET:HB2	2.50	0.46
12:Q:26:TYR:O	12:Q:27:VAL:O	2.33	0.46
1:A:747:U:C2	27:5:2:ALA:HB3	2.51	0.46
27:5:41:PRO:HA	27:5:42:PRO:HD3	1.82	0.46
28:6:15:GLU:OE2	28:6:44:ARG:NH1	2.49	0.46
30:8:40:GLU:C	30:8:42:ARG:N	2.68	0.46
1:A:1636:C:H2'	1:A:1637:A:C8	2.51	0.46
1:A:1869:G:H5'	1:A:1870:C:OP2	2.15	0.46
1:A:2215:G:H2'	1:A:2216:G:H8	1.80	0.46
1:A:2401:U:H2'	1:A:2402:C:H5''	1.98	0.46
1:A:2630:G:O4'	1:A:2894:G:H1'	2.15	0.46
1:A:586:A:N1	1:A:809:G:O2'	2.38	0.46
3:D:35:LYS:HE3	3:D:65:ILE:N	2.31	0.46
3:D:80:ALA:O	3:D:113:VAL:HG13	2.16	0.46
4:E:47:VAL:HG23	4:E:47:VAL:O	2.16	0.46
7:H:37:VAL:HG11	7:H:68:THR:HG23	1.98	0.46
7:H:88:LEU:HD22	7:H:163:TYR:O	2.17	0.46
10:O:61:VAL:O	10:O:84:ALA:HB1	2.16	0.46
11:P:21:ARG:HB3	11:P:22:GLY:H	1.65	0.46
11:P:46:LYS:O	11:P:48:PRO:N	2.48	0.46
14:S:109:GLY:O	14:S:110:LEU:HB2	2.16	0.46
14:S:89:ARG:O	14:S:90:GLY:C	2.54	0.46
16:U:79:PHE:CE2	16:U:83:LEU:HD13	2.51	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:98:LEU:HD23	16:U:98:LEU:C	2.35	0.46
20:Y:90:LEU:N	20:Y:90:LEU:CD2	2.73	0.46
23:1:85:LEU:HD22	23:1:85:LEU:N	2.31	0.45
25:3:7:LYS:HE2	25:3:32:GLN:HA	1.98	0.45
26:4:56:VAL:HA	26:4:60:GLN:CB	2.28	0.45
31:9:25:VAL:HG11	31:9:34:GLN:HE21	1.79	0.45
1:A:1154:G:O5'	1:A:1154:G:H8	1.99	0.45
1:A:1534:G:H2'	1:A:1534:G:N3	2.31	0.45
1:A:1930:G:H2'	1:A:1968:G:N1	2.30	0.45
1:A:2061:G:OP2	1:A:2502:G:H5'	2.16	0.45
1:A:828:U:H4'	1:A:831:G:N1	2.30	0.45
3:D:105:ILE:HG23	3:D:106:ILE:O	2.15	0.45
4:E:15:PHE:CD1	4:E:20:ALA:HB2	2.50	0.45
4:E:95:ILE:O	4:E:95:ILE:HG22	2.16	0.45
6:G:76:SER:CB	6:G:83:ARG:HA	2.46	0.45
7:H:13:LYS:HE2	7:H:13:LYS:CA	2.40	0.45
8:I:128:LEU:O	8:I:138:ILE:N	2.28	0.45
11:P:115:LEU:CD1	11:P:116:GLY:N	2.78	0.45
1:A:389:G:H22	11:P:72:PRO:CG	2.28	0.45
12:Q:63:LYS:HE2	12:Q:65:PHE:CZ	2.51	0.45
12:Q:85:LYS:HD3	12:Q:86:GLY:H	1.80	0.45
12:Q:87:LYS:HG2	12:Q:87:LYS:O	2.15	0.45
13:R:1:MET:O	13:R:2:ARG:HB2	2.15	0.45
18:W:28:SER:C	18:W:30:GLU:N	2.69	0.45
25:3:60:GLU:HG2	25:3:60:GLU:O	2.16	0.45
27:5:54:GLY:O	27:5:55:ARG:C	2.54	0.45
28:6:7:ILE:O	28:6:8:LYS:HG2	2.16	0.45
1:A:2086:U:H2'	1:A:2087:G:C8	2.50	0.45
1:A:605:C:O2	1:A:657:U:O2'	2.34	0.45
3:D:198:ASN:C	3:D:198:ASN:ND2	2.69	0.45
3:D:211:ARG:HH11	3:D:211:ARG:HG2	1.80	0.45
7:H:137:ASP:HB2	7:H:140:LYS:HE3	1.98	0.45
7:H:151:ILE:O	7:H:152:ARG:O	2.34	0.45
7:H:89:ILE:H	7:H:89:ILE:HD13	1.81	0.45
9:N:17:ASP:O	9:N:55:VAL:O	2.34	0.45
12:Q:104:PHE:O	12:Q:105:GLU:CB	2.65	0.45
12:Q:81:VAL:HG23	12:Q:82:ARG:N	2.32	0.45
16:U:73:GLY:O	16:U:74:LEU:CB	2.64	0.45
20:Y:47:LYS:O	20:Y:49:VAL:N	2.48	0.45
20:Y:75:ILE:HA	20:Y:80:GLY:HA2	1.99	0.45
20:Y:81:LYS:CD	20:Y:97:ARG:HE	2.20	0.45
25:3:43:ILE:O	25:3:47:VAL:HG23	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:36:CYS:C	27:5:38:ALA:H	2.19	0.45
28:6:20:ASN:O	28:6:21:TYR:HB2	2.15	0.45
30:8:48:PHE:HD1	30:8:48:PHE:N	2.14	0.45
1:A:1105:U:H2'	1:A:1106:G:H8	1.81	0.45
1:A:1799:G:O2'	3:D:270:ILE:HD11	2.16	0.45
1:A:1999:C:H4'	1:A:2723:C:O2	2.17	0.45
1:A:2053:G:O6	1:A:2614:A:H2	1.99	0.45
1:A:669:G:H2'	1:A:669:G:N3	2.31	0.45
2:B:24:G:H5''	2:B:25:A:OP1	2.16	0.45
3:D:31:LYS:C	3:D:32:SER:O	2.54	0.45
4:E:1:MET:HA	4:E:200:GLU:OE2	2.16	0.45
8:I:11:ASN:O	8:I:12:LEU:HB2	2.16	0.45
9:N:129:PRO:C	9:N:131:GLN:H	2.20	0.45
12:Q:30:GLY:CA	12:Q:107:ALA:HB2	2.39	0.45
14:S:74:ALA:O	14:S:75:GLU:C	2.54	0.45
15:T:6:LEU:O	15:T:10:VAL:HG23	2.16	0.45
15:T:24:PRO:HD3	15:T:52:ILE:HD12	1.99	0.45
16:U:57:PHE:O	16:U:59:ARG:N	2.50	0.45
18:W:34:ASN:O	18:W:35:ILE:C	2.55	0.45
18:W:40:ASN:C	18:W:41:LYS:HG2	2.36	0.45
19:X:35:THR:O	19:X:36:LYS:C	2.55	0.45
27:5:16:ARG:O	27:5:20:ARG:HG3	2.16	0.45
1:A:1534:G:N2	1:A:1537:C:O2	2.50	0.45
1:A:229:A:OP1	1:A:229:A:H4'	2.14	0.45
1:A:553:U:H2'	1:A:554:U:O4'	2.16	0.45
3:D:148:GLU:HB2	3:D:151:LYS:HD2	1.98	0.45
3:D:145:VAL:HB	3:D:155:LEU:HB2	1.99	0.45
3:D:166:GLN:CA	3:D:166:GLN:NE2	2.78	0.45
3:D:2:ALA:HB1	3:D:20:ASP:CB	2.46	0.45
3:D:65:ILE:HD11	3:D:67:PHE:CE1	2.51	0.45
4:E:21:VAL:HG23	4:E:22:PRO:CD	2.46	0.45
4:E:22:PRO:CG	4:E:22:PRO:O	2.63	0.45
6:G:14:GLU:HB3	6:G:15:VAL:H	1.56	0.45
6:G:20:ILE:HD13	6:G:25:TYR:HB2	1.98	0.45
6:G:51:ARG:NH2	6:G:52:ILE:HD11	2.32	0.45
7:H:106:THR:HG22	7:H:112:PRO:HB3	1.97	0.45
7:H:109:PHE:CE1	7:H:152:ARG:NH1	2.84	0.45
7:H:94:TYR:CD1	7:H:94:TYR:N	2.82	0.45
9:N:22:THR:O	9:N:60:ILE:HG22	2.16	0.45
10:O:104:ARG:HG2	10:O:121:VAL:HG12	1.97	0.45
12:Q:5:ARG:O	12:Q:6:ARG:O	2.35	0.45
14:S:5:THR:OG1	14:S:8:GLU:HG3	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:36:GLU:CG	15:T:41:ARG:HD3	2.46	0.45
16:U:92:ARG:C	16:U:94:ASN:N	2.69	0.45
22:O:56:ASP:OD2	22:O:58:THR:OG1	2.20	0.45
1:A:483:A:C5'	20:Y:49:VAL:HG13	2.46	0.45
1:A:551:G:H5'	1:A:1220:A:H1'	1.98	0.45
3:D:213:ARG:HD2	3:D:213:ARG:HA	1.60	0.45
1:A:1902:C:H5'	3:D:246:PRO:HD3	1.97	0.45
7:H:86:GLU:O	7:H:87:LEU:CB	2.64	0.45
9:N:5:VAL:O	9:N:5:VAL:HG13	2.16	0.45
10:O:47:ILE:HG13	10:O:48:PRO:HD2	1.99	0.45
11:P:92:GLU:HA	11:P:123:LEU:HD23	1.98	0.45
11:P:21:ARG:HA	11:P:21:ARG:HE	1.82	0.45
11:P:31:ALA:C	11:P:32:THR:CG2	2.85	0.45
1:A:1030:G:OP2	12:Q:128:LYS:HE2	2.16	0.45
18:W:48:ALA:O	18:W:49:LYS:C	2.53	0.45
1:A:1187:G:H5''	17:V:81:TYR:HE2	1.80	0.45
1:A:2537:U:H2'	1:A:2538:C:C6	2.52	0.45
1:A:345:A:H2'	1:A:347:A:H62	1.82	0.45
1:A:389:G:H1	11:P:71:VAL:HG12	1.82	0.45
1:A:620:G:H4'	1:A:621:A:C5'	2.46	0.45
3:D:36:PRO:HB3	3:D:62:TYR:O	2.16	0.45
5:F:123:LEU:HD12	5:F:124:LEU:H	1.82	0.45
9:N:128:HIS:HB2	9:N:129:PRO:CD	2.46	0.45
9:N:96:GLU:O	9:N:99:LEU:N	2.34	0.45
10:O:40:VAL:CG1	10:O:41:ALA:N	2.80	0.45
11:P:62:LEU:H	11:P:62:LEU:CD2	2.19	0.45
11:P:81:GLN:CD	11:P:106:LEU:O	2.55	0.45
11:P:88:LEU:O	11:P:90:ARG:N	2.50	0.45
12:Q:93:TYR:CD1	12:Q:93:TYR:N	2.85	0.45
16:U:53:ARG:C	16:U:55:ARG:H	2.19	0.45
16:U:76:TYR:C	16:U:76:TYR:CD2	2.90	0.45
17:V:59:ALA:HB2	17:V:96:ILE:HD13	1.97	0.45
23:1:73:LEU:C	23:1:75:GLU:N	2.70	0.45
24:2:28:LYS:HB3	24:2:57:ILE:HG12	1.98	0.45
25:3:28:LEU:HA	25:3:33:GLN:OE1	2.16	0.45
28:6:11:LEU:H	28:6:25:LYS:HA	1.81	0.45
1:A:246:C:N4	30:8:8:LYS:HG3	2.32	0.45
1:A:2638:G:P	4:E:82:ARG:NH2	2.90	0.45
1:A:2665:A:H2'	1:A:2666:C:O4'	2.16	0.45
1:A:2870:C:H2'	1:A:2871:C:O4'	2.17	0.45
3:D:109:ASP:HB2	3:D:197:GLY:CA	2.46	0.45
9:N:35:ARG:HG3	9:N:35:ARG:O	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:79:PHE:HD2	16:U:79:PHE:C	2.18	0.45
18:W:14:PRO:O	18:W:16:LYS:N	2.50	0.45
18:W:65:LEU:CD1	18:W:68:ARG:NH1	2.75	0.45
20:Y:2:ARG:O	20:Y:3:VAL:C	2.55	0.45
20:Y:36:ALA:HB1	20:Y:67:LEU:O	2.16	0.45
21:Z:52:SER:O	21:Z:53:ILE:HG13	2.17	0.45
23:1:80:LEU:CB	23:1:81:LYS:HE2	2.44	0.45
23:1:82:LEU:HD13	23:1:83:GLU:C	2.36	0.45
27:5:15:ARG:HA	27:5:18:ALA:HB3	1.99	0.45
28:6:17:LYS:O	28:6:18:ARG:CB	2.64	0.45
30:8:36:LYS:HB3	30:8:40:GLU:HG2	1.99	0.45
1:A:1204:A:H1'	1:A:1206:G:C4	2.51	0.45
1:A:2126:A:H1'	1:A:2127:G:OP2	2.17	0.45
1:A:2576:G:O2'	1:A:2579:C:OP2	2.28	0.45
1:A:2648:C:H2'	1:A:2649:U:C6	2.52	0.45
2:B:54:G:H21	6:G:29:TRP:HZ2	1.63	0.45
3:D:118:VAL:O	3:D:129:ASN:HA	2.16	0.45
3:D:14:ARG:HG3	3:D:15:PHE:N	2.31	0.45
4:E:2:LYS:HG2	4:E:95:ILE:HG22	1.99	0.45
4:E:2:LYS:O	4:E:199:ARG:HA	2.17	0.45
5:F:119:ARG:HH11	5:F:119:ARG:CG	2.29	0.45
6:G:102:PHE:HA	6:G:105:LYS:HE3	1.98	0.45
6:G:36:LYS:O	6:G:37:VAL:HG23	2.16	0.45
9:N:118:LYS:C	9:N:120:LEU:H	2.20	0.45
9:N:57:ALA:HA	9:N:60:ILE:CD1	2.43	0.45
10:O:2:ILE:HD11	10:O:82:ASN:ND2	2.16	0.45
11:P:144:GLU:N	11:P:144:GLU:OE1	2.48	0.45
11:P:88:LEU:HD23	11:P:88:LEU:C	2.37	0.45
11:P:96:THR:HG22	11:P:126:VAL:CB	2.47	0.45
13:R:17:ARG:O	13:R:20:LEU:HB3	2.17	0.45
16:U:97:ASP:HA	16:U:100:VAL:CG2	2.47	0.45
17:V:5:VAL:HG13	17:V:14:VAL:HG21	1.98	0.45
1:A:138:G:N2	19:X:44:GLU:OE2	2.35	0.45
21:Z:45:ASP:OD1	21:Z:49:ARG:NE	2.39	0.45
23:1:49:VAL:HG12	23:1:51:VAL:HG23	1.99	0.45
28:6:11:LEU:HD11	28:6:51:GLU:HG3	1.98	0.45
30:8:16:ILE:CD1	30:8:57:ARG:HG2	2.42	0.45
1:A:1021:A:H3'	1:A:1022:G:H5''	1.98	0.45
1:A:1169:G:H1	1:A:1180:C:H42	1.65	0.45
1:A:2351:G:HO2'	1:A:2352:A:H8	1.63	0.45
1:A:2518:A:H4'	1:A:2519:U:OP1	2.15	0.45
1:A:601:C:O2	1:A:605:C:H4'	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:15:A:H1'	2:B:109:G:N9	2.32	0.45
2:B:83:G:H1	2:B:93:C:H42	1.63	0.45
3:D:68:LYS:HD2	3:D:70:TRP:CZ2	2.52	0.45
5:F:184:TYR:CE2	5:F:188:ARG:HD2	2.52	0.45
5:F:196:LEU:O	5:F:200:GLU:HG2	2.17	0.45
8:I:52:ARG:O	8:I:56:LYS:HG3	2.16	0.45
11:P:115:LEU:CB	11:P:131:SER:HB2	2.47	0.45
12:Q:11:LYS:HE2	12:Q:87:LYS:HA	1.98	0.45
17:V:4:ILE:HG22	17:V:39:LEU:HD23	1.98	0.45
17:V:61:VAL:HA	17:V:94:LEU:HD23	1.97	0.45
19:X:47:PHE:O	19:X:48:LYS:C	2.55	0.45
23:1:48:LYS:HA	23:1:60:PHE:O	2.17	0.45
23:1:60:PHE:HZ	23:1:90:ILE:HG21	1.82	0.45
6:G:67:LYS:CE	26:4:6:HIS:NE2	2.74	0.45
28:6:9:LEU:CD1	28:6:26:ASN:ND2	2.79	0.45
1:A:1220:A:H5'	1:A:1221:C:OP2	2.15	0.45
1:A:1429:G:H2'	1:A:1430:C:C6	2.52	0.45
1:A:2875:C:H4'	15:T:5:ALA:HB2	1.99	0.45
3:D:166:GLN:HA	3:D:166:GLN:NE2	2.32	0.45
3:D:198:ASN:O	3:D:198:ASN:ND2	2.50	0.45
3:D:79:VAL:HG21	3:D:111:LEU:HD21	1.97	0.45
3:D:92:ILE:HD12	3:D:104:TYR:HD2	1.81	0.45
4:E:36:ARG:HH11	4:E:36:ARG:CB	2.28	0.45
4:E:77:ILE:O	4:E:78:LEU:O	2.34	0.45
10:O:22:ILE:HG12	10:O:41:ALA:HA	1.98	0.45
11:P:115:LEU:HA	11:P:134:ALA:CB	2.47	0.45
12:Q:10:ARG:O	12:Q:11:LYS:CB	2.64	0.45
12:Q:119:ARG:CG	12:Q:119:ARG:HH11	2.25	0.45
12:Q:90:VAL:C	12:Q:92:GLY:N	2.70	0.45
17:V:5:VAL:HG22	17:V:14:VAL:CG2	2.46	0.45
17:V:69:LYS:HG3	17:V:87:HIS:O	2.17	0.45
18:W:67:ASP:N	18:W:67:ASP:OD2	2.50	0.45
20:Y:84:ARG:HD3	20:Y:86:ARG:HH11	1.82	0.45
21:Z:140:ASP:O	21:Z:142:SER:N	2.50	0.45
23:1:94:LEU:O	23:1:95:LEU:HB2	2.18	0.44
29:7:24:THR:O	29:7:28:ARG:HG3	2.16	0.44
30:8:9:GLY:O	30:8:13:ARG:HG2	2.16	0.44
1:A:1190:G:H5'	11:P:32:THR:HA	2.00	0.44
1:A:1310:G:OP2	29:7:9:ARG:NH1	2.50	0.44
1:A:2477:C:H2'	31:9:1:MET:CG	2.47	0.44
1:A:2847:U:OP1	15:T:98:LYS:HD3	2.17	0.44
1:A:868:U:H2'	1:A:869:G:O4'	2.17	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:44:ASN:HB2	3:D:49:ILE:HA	1.93	0.44
4:E:101:ARG:HD2	4:E:171:GLU:HA	1.98	0.44
5:F:155:LEU:HA	5:F:174:VAL:CG1	2.46	0.44
6:G:129:GLY:O	6:G:130:ASN:OD1	2.34	0.44
6:G:16:ARG:CZ	6:G:31:VAL:HG11	2.47	0.44
7:H:149:ARG:HA	7:H:162:ILE:HG21	1.99	0.44
7:H:53:GLU:OE1	7:H:53:GLU:HA	2.16	0.44
10:O:78:ARG:HH21	15:T:103:ARG:HH22	1.64	0.44
13:R:10:LEU:O	13:R:11:ASN:C	2.54	0.44
16:U:86:ALA:CB	16:U:88:ILE:HD11	2.48	0.44
22:O:27:GLU:HG3	22:O:68:GLU:HA	1.99	0.44
24:2:41:ILE:HD12	24:2:41:ILE:O	2.16	0.44
27:5:56:LYS:O	27:5:58:LEU:N	2.50	0.44
30:8:15:LYS:C	30:8:15:LYS:HD3	2.37	0.44
30:8:17:THR:O	30:8:20:GLY:N	2.46	0.44
1:A:704:G:HO2'	1:A:705:A:P	2.40	0.44
3:D:143:HIS:HD2	3:D:144:ALA:HB2	1.83	0.44
3:D:145:VAL:HG12	3:D:146:GLU:N	2.32	0.44
3:D:176:ARG:HH11	3:D:176:ARG:CG	2.30	0.44
1:A:784:A:C5	3:D:229:VAL:HG21	2.52	0.44
3:D:241:PRO:O	3:D:242:ARG:C	2.55	0.44
3:D:48:ARG:HG3	3:D:48:ARG:NH1	2.31	0.44
4:E:4:ILE:HG12	4:E:91:VAL:HG11	1.99	0.44
5:F:7:TYR:CD1	5:F:7:TYR:N	2.85	0.44
6:G:6:ALA:HB3	6:G:104:GLU:OE2	2.16	0.44
7:H:51:ARG:NH1	7:H:51:ARG:HG3	2.30	0.44
7:H:7:LEU:HD12	7:H:7:LEU:C	2.37	0.44
9:N:120:LEU:C	9:N:120:LEU:HD13	2.37	0.44
10:O:19:ILE:HD13	10:O:19:ILE:H	1.83	0.44
11:P:75:ILE:HG12	11:P:77:ARG:HH12	1.82	0.44
14:S:78:LEU:HD21	14:S:108:GLY:CA	2.47	0.44
10:O:104:ARG:NH2	15:T:34:VAL:HG11	2.32	0.44
17:V:61:VAL:HG22	17:V:61:VAL:O	2.16	0.44
18:W:21:VAL:HG12	18:W:21:VAL:O	2.17	0.44
20:Y:73:ARG:HB3	20:Y:73:ARG:HE	1.51	0.44
23:1:54:ALA:O	23:1:55:GLY:O	2.35	0.44
26:4:15:ILE:CD1	26:4:15:ILE:N	2.78	0.44
26:4:15:ILE:CG2	26:4:20:ASN:ND2	2.81	0.44
30:8:47:LYS:HD2	30:8:48:PHE:N	2.33	0.44
1:A:194:G:H2'	1:A:195:A:O4'	2.17	0.44
1:A:2567:G:H2'	1:A:2568:C:C6	2.52	0.44
1:A:27:G:O2'	1:A:28:A:O5'	2.35	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:459:U:H2'	1:A:460:A:H8	1.82	0.44
6:G:44:GLY:HA2	6:G:88:ILE:HD11	1.99	0.44
9:N:36:GLY:O	9:N:42:TRP:CE3	2.69	0.44
9:N:20:GLY:HA2	9:N:61:ARG:HD2	1.99	0.44
9:N:67:LEU:HA	9:N:87:LEU:HD13	2.00	0.44
9:N:7:LYS:HD3	9:N:9:VAL:H	1.81	0.44
15:T:49:VAL:CG1	15:T:49:VAL:O	2.64	0.44
18:W:74:ALA:O	18:W:75:TYR:CB	2.65	0.44
18:W:88:ARG:HG2	18:W:88:ARG:HH11	1.82	0.44
1:A:1614:A:H62	18:W:93:ALA:HB2	1.82	0.44
20:Y:95:LYS:HB2	20:Y:99:CYS:O	2.18	0.44
22:O:74:ARG:HD3	22:O:74:ARG:C	2.38	0.44
23:1:10:LYS:HD2	23:1:66:HIS:HE1	1.82	0.44
29:7:32:LYS:O	29:7:33:ARG:C	2.56	0.44
1:A:2527:C:H5''	31:9:30:PRO:HB2	1.99	0.44
1:A:1657:C:H2'	1:A:1658:C:C6	2.53	0.44
1:A:2395:C:H2'	1:A:2396:G:O4'	2.17	0.44
1:A:2481:G:O2'	1:A:2482:G:P	2.75	0.44
1:A:2667:C:O2	7:H:109:PHE:HB3	2.17	0.44
1:A:923:C:H2'	1:A:924:C:C6	2.53	0.44
3:D:155:LEU:HD12	3:D:155:LEU:N	2.32	0.44
5:F:132:VAL:HG23	5:F:133:ASN:H	1.82	0.44
5:F:117:ARG:NH2	5:F:189:THR:O	2.50	0.44
6:G:129:GLY:HA2	6:G:169:ALA:HB2	1.99	0.44
11:P:45:LEU:N	11:P:45:LEU:HD12	2.32	0.44
16:U:66:ASN:CB	16:U:76:TYR:HB2	2.44	0.44
19:X:70:LEU:HD23	19:X:70:LEU:H	1.77	0.44
19:X:87:GLN:HE21	19:X:87:GLN:HB2	1.55	0.44
20:Y:88:LYS:HB3	20:Y:90:LEU:CD2	2.48	0.44
26:4:68:ARG:HH11	26:4:69:LYS:HG2	1.82	0.44
1:A:1239:G:H2'	1:A:1240:U:O4'	2.17	0.44
1:A:1316:U:H2'	1:A:1317:A:C8	2.53	0.44
1:A:2134:A:H62	1:A:2157:G:H1'	1.83	0.44
1:A:299:A:H5'	20:Y:84:ARG:HH21	1.83	0.44
3:D:30:GLU:HG3	3:D:63:ARG:NE	2.32	0.44
3:D:95:LEU:HD12	3:D:95:LEU:O	2.17	0.44
4:E:143:ASN:ND2	4:E:143:ASN:N	2.65	0.44
5:F:174:VAL:CG1	5:F:174:VAL:O	2.65	0.44
9:N:57:ALA:O	9:N:124:ALA:HA	2.18	0.44
11:P:101:VAL:HA	11:P:106:LEU:HB2	1.99	0.44
11:P:83:VAL:HG11	11:P:112:LEU:HD21	1.97	0.44
15:T:135:ALA:C	15:T:137:LYS:N	2.71	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:29:LEU:HD11	18:W:55:ALA:HB2	1.98	0.44
20:Y:97:ARG:HH11	20:Y:97:ARG:HG2	1.82	0.44
1:A:153:C:OP2	23:1:88:LYS:HE2	2.17	0.44
23:1:8:SER:CB	23:1:66:HIS:CE1	3.01	0.44
24:2:4:SER:OG	24:2:5:GLU:OE2	2.26	0.44
28:6:34:LEU:O	28:6:36:LEU:HD22	2.17	0.44
29:7:48:LYS:CG	29:7:49:ARG:H	2.23	0.44
1:A:1113:U:H2'	1:A:1114:G:H8	1.82	0.44
1:A:942:G:O2'	1:A:1189:A:N3	2.39	0.44
1:A:1263:U:O2'	27:5:11:THR:HG23	2.17	0.44
1:A:1401:G:H2'	1:A:1402:C:O4'	2.18	0.44
1:A:1899:G:O2'	1:A:1900:A:H5''	2.17	0.44
1:A:2181:G:H2'	1:A:2182:G:H8	1.83	0.44
1:A:298:G:O2'	1:A:322:A:N1	2.43	0.44
1:A:337:C:O3'	20:Y:4:LYS:HG3	2.17	0.44
1:A:838:C:H2'	1:A:839:U:H6	1.83	0.44
3:D:52:ARG:HB2	3:D:53:PHE:CD2	2.53	0.44
3:D:30:GLU:CD	3:D:63:ARG:HE	2.21	0.44
7:H:84:SER:OG	7:H:85:LYS:N	2.51	0.44
8:I:83:ALA:HA	8:I:88:ILE:HA	1.99	0.44
9:N:96:GLU:CG	9:N:97:ARG:N	2.72	0.44
10:O:77:ILE:O	10:O:77:ILE:HG23	2.17	0.44
10:O:91:LEU:N	10:O:91:LEU:CD2	2.80	0.44
11:P:81:GLN:HG3	11:P:82:GLY:N	2.33	0.44
13:R:3:HIS:C	13:R:5:LYS:H	2.16	0.44
14:S:3:ARG:O	14:S:4:LEU:O	2.35	0.44
17:V:35:LEU:N	17:V:35:LEU:HD22	2.23	0.44
25:3:50:VAL:HB	25:3:53:LEU:HD12	2.00	0.44
26:4:33:VAL:CG1	26:4:34:GLU:H	2.22	0.44
28:6:11:LEU:HD12	28:6:51:GLU:HG3	2.00	0.44
1:A:1061:U:H5'	1:A:1070:A:O2'	2.18	0.44
1:A:1327:C:O3'	13:R:105:ARG:NH2	2.50	0.44
1:A:1871:A:H2'	1:A:1872:A:C8	2.53	0.44
1:A:2359:C:H2'	1:A:2360:A:O4'	2.18	0.44
3:D:10:THR:O	3:D:11:PRO:C	2.56	0.44
3:D:12:SER:C	3:D:14:ARG:N	2.70	0.44
3:D:237:GLU:HB3	3:D:238:GLY:H	1.49	0.44
3:D:45:ASN:CG	3:D:46:GLN:N	2.68	0.44
4:E:11:MET:O	4:E:12:THR:HB	2.18	0.44
6:G:67:LYS:N	6:G:67:LYS:HD2	2.33	0.44
8:I:53:ALA:O	8:I:57:ARG:CD	2.64	0.44
13:R:33:ARG:HA	13:R:114:VAL:O	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:79:LEU:HD23	13:R:79:LEU:O	2.16	0.44
14:S:78:LEU:HD21	14:S:108:GLY:HA2	1.98	0.44
16:U:52:ARG:NH1	16:U:52:ARG:CG	2.76	0.44
1:A:2355:C:H4'	22:0:36:ILE:HD11	2.00	0.44
26:4:39:CYS:HB3	26:4:41:PRO:HD2	2.00	0.44
27:5:3:LYS:O	27:5:4:HIS:C	2.56	0.44
27:5:52:TYR:CD1	27:5:52:TYR:N	2.85	0.44
1:A:458:G:O2'	29:7:39:ARG:HD3	2.18	0.44
1:A:1258:C:O4'	5:F:84:VAL:HG11	2.18	0.44
1:A:1329:U:H5''	1:A:1330:C:H5	1.82	0.44
1:A:2102:U:H2'	1:A:2103:C:C6	2.52	0.44
1:A:2183:C:H2'	1:A:2184:G:H8	1.82	0.44
1:A:2439:A:O2'	1:A:2440:C:OP2	2.28	0.44
1:A:363(B):G:H2'	1:A:363(C):G:C8	2.53	0.44
3:D:12:SER:O	3:D:14:ARG:N	2.51	0.44
4:E:199:ARG:HH11	4:E:199:ARG:HG3	1.82	0.44
5:F:65:TRP:CZ2	5:F:72:ARG:NH2	2.86	0.44
8:I:124:GLY:H	8:I:142:VAL:HG23	1.83	0.44
10:O:104:ARG:NH1	15:T:36:GLU:CD	2.71	0.44
12:Q:34:LEU:HB2	12:Q:118:LEU:HD22	1.99	0.44
13:R:12:ARG:NH1	13:R:12:ARG:HG3	2.32	0.44
13:R:41:ALA:C	13:R:43:GLU:H	2.21	0.44
15:T:114:LEU:HA	15:T:114:LEU:HD23	1.74	0.44
26:4:39:CYS:O	26:4:40:HIS:CB	2.66	0.44
28:6:15:GLU:HB3	28:6:16:CYS:H	1.46	0.44
1:A:1930:G:H2'	1:A:1968:G:H1	1.82	0.44
1:A:2224:G:H4'	1:A:2226:C:C2	2.53	0.44
1:A:38:A:N3	5:F:48:THR:OG1	2.45	0.44
1:A:629:G:H5'	1:A:650:C:O2'	2.18	0.44
3:D:11:PRO:O	3:D:12:SER:CB	2.65	0.44
3:D:155:LEU:HD23	3:D:177:LEU:HD21	2.00	0.44
3:D:206:LEU:HA	3:D:206:LEU:HD23	1.49	0.44
3:D:25:THR:O	3:D:25:THR:CG2	2.65	0.44
3:D:44:ASN:H	3:D:44:ASN:ND2	1.97	0.44
4:E:13:ARG:HH11	4:E:13:ARG:HB3	1.82	0.44
4:E:52:LEU:HB2	4:E:75:VAL:CG2	2.40	0.44
1:A:2636:U:OP2	4:E:79:ARG:NH1	2.51	0.44
5:F:24:LEU:HD12	5:F:24:LEU:N	2.33	0.44
1:A:451:C:H4'	5:F:52:LYS:NZ	2.33	0.44
7:H:109:PHE:C	7:H:111:HIS:H	2.21	0.44
7:H:119:GLU:CD	7:H:120:GLY:H	2.22	0.44
7:H:125:VAL:CG1	7:H:126:PRO:CG	2.94	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:114:ARG:O	9:N:115:ARG:CB	2.65	0.44
10:O:63:VAL:O	10:O:63:VAL:HG23	2.18	0.44
14:S:110:LEU:HA	14:S:112:PHE:CE1	2.53	0.44
15:T:105:LEU:C	15:T:107:ASP:OD1	2.56	0.44
16:U:79:PHE:CE2	16:U:83:LEU:CD1	3.00	0.44
17:V:66:ARG:NH1	17:V:88:ARG:CD	2.74	0.44
17:V:72:VAL:HG13	17:V:85:LYS:HB3	2.00	0.44
18:W:14:PRO:HB3	18:W:18:ARG:HE	1.83	0.44
18:W:70:TYR:HD2	18:W:70:TYR:N	2.06	0.44
19:X:14:SER:HB2	19:X:15:GLU:OE1	2.18	0.44
19:X:3:THR:HA	19:X:6:ASP:OD2	2.18	0.44
20:Y:15:VAL:HB	20:Y:20:TYR:O	2.17	0.44
26:4:48:ARG:C	26:4:49:PHE:HD1	2.22	0.43
30:8:40:GLU:O	30:8:43:GLN:N	2.50	0.43
30:8:58:ILE:O	30:8:61:LEU:CG	2.66	0.43
1:A:1660:C:H2'	1:A:1661:G:H8	1.82	0.43
1:A:222:A:HO2'	1:A:223:A:P	2.40	0.43
1:A:2437:U:H2'	1:A:2438:U:H6	1.82	0.43
1:A:1693:U:H1'	3:D:14:ARG:HH22	1.82	0.43
3:D:17:THR:HG22	3:D:204:ILE:HA	1.97	0.43
3:D:227:ASN:CB	3:D:228:PRO:CD	2.93	0.43
4:E:3:GLY:CA	4:E:81:ILE:HG21	2.48	0.43
9:N:30:ILE:HG22	9:N:34:LEU:CD2	2.48	0.43
15:T:111:ARG:C	15:T:113:LYS:N	2.64	0.43
15:T:29:ARG:HA	15:T:45:PHE:O	2.17	0.43
15:T:99:LEU:CD1	15:T:99:LEU:O	2.65	0.43
19:X:31:HIS:HA	19:X:32:PRO:HD3	1.88	0.43
20:Y:11:ASP:HB2	20:Y:27:VAL:CG1	2.46	0.43
20:Y:25:GLY:HA3	20:Y:39:VAL:CG1	2.47	0.43
20:Y:88:LYS:HA	20:Y:88:LYS:HZ2	1.83	0.43
23:1:80:LEU:O	23:1:81:LYS:CD	2.65	0.43
26:4:42:PHE:C	26:4:42:PHE:CD1	2.90	0.43
29:7:5:TRP:CD1	29:7:7:PRO:HG3	2.53	0.43
30:8:58:ILE:O	30:8:61:LEU:CD1	2.67	0.43
1:A:1444(A):A:O2'	1:A:1460:A:N3	2.50	0.43
1:A:1486:A:H2'	1:A:1487:G:C8	2.52	0.43
1:A:1799:G:H5'	1:A:1819:A:H61	1.83	0.43
1:A:2010:G:H5''	18:W:42:ARG:HB2	2.00	0.43
1:A:2420:C:H6	1:A:2420:C:O5'	2.00	0.43
1:A:2645:G:C3'	1:A:2646:C:H5'	2.48	0.43
1:A:492:A:H2'	1:A:493:G:O4'	2.18	0.43
2:B:65:C:H41	2:B:108:C:H2'	1.83	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:24:G:O6	2:B:56:G:O2'	2.32	0.43
3:D:102:LYS:O	3:D:103:ARG:CG	2.66	0.43
5:F:144:LYS:C	5:F:146:ALA:H	2.20	0.43
5:F:167:ALA:HB1	5:F:173:VAL:HG11	1.99	0.43
5:F:63:LYS:CE	5:F:67:GLN:HB2	2.48	0.43
2:B:57:A:C4	6:G:29:TRP:CB	3.02	0.43
10:O:97:ARG:HA	10:O:117:LEU:HD22	2.00	0.43
11:P:101:VAL:HG13	11:P:102:ARG:N	2.33	0.43
11:P:75:ILE:HG12	11:P:77:ARG:NH1	2.32	0.43
12:Q:27:VAL:HG13	12:Q:28:ALA:N	2.32	0.43
14:S:38:GLN:CG	14:S:47:THR:HG21	2.48	0.43
14:S:86:ALA:O	14:S:87:PHE:CB	2.65	0.43
19:X:7:VAL:O	19:X:30:VAL:CG1	2.66	0.43
20:Y:48:ALA:CB	20:Y:61:ILE:HD13	2.45	0.43
20:Y:95:LYS:HA	20:Y:101:LYS:N	2.33	0.43
23:1:53:VAL:CG1	23:1:54:ALA:N	2.81	0.43
26:4:49:PHE:HD1	26:4:49:PHE:N	2.16	0.43
28:6:20:ASN:O	28:6:21:TYR:CG	2.71	0.43
28:6:7:ILE:HG23	28:6:8:LYS:N	2.32	0.43
1:A:1012:U:O2'	1:A:1013:C:OP2	2.28	0.43
1:A:1083:U:O2'	1:A:1085:A:H5''	2.18	0.43
1:A:1578:U:C2'	1:A:1579:A:H5'	2.47	0.43
1:A:1771:C:O2'	1:A:1786:A:H8	2.02	0.43
1:A:2336:A:H61	22:0:43:THR:CG2	2.31	0.43
1:A:746:A:C5	1:A:2611:U:H5''	2.52	0.43
1:A:1050:A:H8	1:A:2751:G:HO2'	1.66	0.43
1:A:67:U:H3	1:A:74:A:H2	1.63	0.43
1:A:826:U:H2'	1:A:828:U:O4'	2.19	0.43
4:E:16:ARG:O	4:E:18:ASP:O	2.36	0.43
4:E:31:CYS:HB3	4:E:49:LEU:HG	2.01	0.43
4:E:51:PHE:CD1	4:E:52:LEU:N	2.76	0.43
5:F:149:ASP:OD2	5:F:151:SER:HB3	2.17	0.43
5:F:201:VAL:HG13	5:F:202:PHE:N	2.33	0.43
6:G:131:TYR:HE2	6:G:133:LEU:HD22	1.84	0.43
6:G:139:LEU:HA	6:G:144:ILE:HG21	2.00	0.43
6:G:19:LEU:HA	6:G:22:ARG:HB2	1.99	0.43
7:H:136:ILE:HD12	7:H:136:ILE:N	2.31	0.43
7:H:137:ASP:OD1	7:H:138:LYS:N	2.51	0.43
8:I:79:ILE:HG21	8:I:142:VAL:HG12	1.99	0.43
11:P:107:LYS:HB2	11:P:110:TYR:HD2	1.83	0.43
11:P:81:GLN:HB2	11:P:81:GLN:HE21	1.59	0.43
1:A:1278:A:O3'	13:R:34:ILE:HG23	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:81:ASP:OD2	13:R:81:ASP:N	2.50	0.43
14:S:14:VAL:CG1	14:S:15:ARG:N	2.81	0.43
16:U:64:ARG:NH2	16:U:64:ARG:CG	2.70	0.43
17:V:25:LEU:H	17:V:92:THR:CG2	2.28	0.43
19:X:14:SER:O	19:X:15:GLU:C	2.57	0.43
23:1:92:LYS:O	23:1:93:GLU:C	2.56	0.43
1:A:1204:A:H1'	1:A:1206:G:C8	2.52	0.43
3:D:69:ARG:NH2	3:D:130:ALA:HB2	2.19	0.43
4:E:36:ARG:NH1	4:E:36:ARG:HB3	2.31	0.43
4:E:69:LYS:C	4:E:71:GLY:N	2.71	0.43
5:F:101:LEU:HD12	5:F:102:PRO:N	2.33	0.43
6:G:83:ARG:HG3	6:G:86:MET:CE	2.46	0.43
7:H:92:ILE:CD1	7:H:160:LYS:HD3	2.48	0.43
8:I:78:THR:HG22	8:I:141:LYS:HD2	2.01	0.43
1:A:2882:A:OP1	13:R:96:ARG:NH1	2.52	0.43
14:S:110:LEU:HD23	14:S:112:PHE:CE2	2.53	0.43
15:T:105:LEU:O	15:T:105:LEU:HG	2.19	0.43
15:T:89:VAL:O	15:T:90:GLN:HB2	2.19	0.43
17:V:15:GLU:O	17:V:96:ILE:HB	2.19	0.43
20:Y:6:HIS:N	20:Y:6:HIS:ND1	2.66	0.43
20:Y:81:LYS:HZ2	20:Y:98:VAL:HB	1.83	0.43
21:Z:107:THR:OG1	21:Z:111:VAL:HB	2.19	0.43
1:A:1020:A:N1	1:A:1141:U:O2'	2.49	0.43
1:A:1047:G:H2'	1:A:1110:G:N1	2.34	0.43
1:A:1889:A:N1	1:A:2234:G:H1'	2.34	0.43
1:A:2114:A:N6	1:A:2119:A:H62	2.16	0.43
1:A:1782:C:H1'	1:A:2609:U:H5''	2.00	0.43
1:A:2816:C:H2'	1:A:2817:G:H8	1.82	0.43
1:A:690:G:H2'	1:A:691:C:C6	2.54	0.43
1:A:952:G:P	12:Q:16:ARG:HH12	2.41	0.43
1:A:2599:G:OP2	3:D:236:GLY:HA2	2.19	0.43
4:E:52:LEU:O	4:E:74:PRO:HA	2.18	0.43
6:G:59:GLU:O	6:G:62:LEU:HB3	2.19	0.43
9:N:103:VAL:O	9:N:104:LYS:C	2.57	0.43
10:O:51:ALA:O	10:O:53:LYS:HE3	2.19	0.43
1:A:389:G:H22	11:P:72:PRO:CD	2.32	0.43
14:S:56:LEU:O	14:S:57:LYS:O	2.36	0.43
14:S:57:LYS:O	14:S:58:LEU:HB3	2.18	0.43
16:U:88:ILE:HG22	16:U:90:VAL:CG2	2.44	0.43
23:1:44:PRO:O	23:1:46:LEU:N	2.51	0.43
30:8:40:GLU:O	30:8:41:ILE:C	2.56	0.43
31:9:7:VAL:HG21	31:9:36:GLN:HB2	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1204:A:H1'	1:A:1206:G:N9	2.34	0.43
1:A:222:A:H5''	1:A:421:U:OP1	2.19	0.43
1:A:234:C:H2'	1:A:235:U:C6	2.53	0.43
1:A:2593:U:H2'	1:A:2594:C:C6	2.54	0.43
1:A:2811:G:H8	1:A:2811:G:OP2	2.01	0.43
1:A:298:G:OP2	20:Y:85:VAL:HG22	2.18	0.43
1:A:278:A:H61	1:A:362:U:H3	1.66	0.43
1:A:593:G:O2'	30:8:61:LEU:HD13	2.18	0.43
1:A:948:G:H2'	1:A:949:C:C6	2.54	0.43
3:D:177:LEU:O	3:D:179:SER:N	2.50	0.43
4:E:120:TRP:CE3	4:E:155:LYS:HD3	2.53	0.43
5:F:62:ARG:CB	5:F:62:ARG:NH1	2.82	0.43
2:B:42:C:O4'	6:G:69:ALA:HB2	2.19	0.43
11:P:70:GLN:OE1	11:P:70:GLN:N	2.51	0.43
13:R:54:LEU:O	13:R:62:ALA:HB1	2.19	0.43
16:U:95:LEU:HD13	17:V:4:ILE:HD12	1.98	0.43
26:4:68:ARG:O	26:4:69:LYS:HB2	2.17	0.43
1:A:1090:U:H3	1:A:1102:C:H1'	1.83	0.43
1:A:1497:U:H5''	1:A:1498:C:H5	1.84	0.43
1:A:2349:G:OP2	30:8:42:ARG:HD3	2.19	0.43
1:A:51:G:OP2	1:A:51:G:H8	2.01	0.43
4:E:51:PHE:O	4:E:74:PRO:CB	2.67	0.43
1:A:588:U:C2	5:F:90:PHE:CE1	3.06	0.43
2:B:55:U:C4'	6:G:28:VAL:HG21	2.44	0.43
6:G:51:ARG:HB3	6:G:51:ARG:NH1	2.33	0.43
7:H:35:VAL:CG2	7:H:75:ALA:HB2	2.48	0.43
8:I:96:ASP:OD2	8:I:96:ASP:N	2.50	0.43
9:N:42:TRP:HA	9:N:48:MET:HE1	1.99	0.43
9:N:61:ARG:HA	9:N:61:ARG:NE	2.33	0.43
9:N:96:GLU:O	9:N:97:ARG:C	2.57	0.43
15:T:6:LEU:HD12	15:T:9:LEU:HD12	2.01	0.43
1:A:994:C:O2	17:V:10:LYS:HE2	2.18	0.43
26:4:59:PHE:CE1	26:4:70:GLY:N	2.87	0.43
29:7:19:ARG:HG2	29:7:19:ARG:NH1	2.33	0.43
1:A:242:G:O3'	30:8:6:THR:HG23	2.19	0.43
1:A:1027:A:N6	1:A:1126:A:C4	2.87	0.43
1:A:1161:C:O2'	17:V:8:GLY:HA2	2.18	0.43
1:A:1645:G:H5''	1:A:1646:C:H5'	2.01	0.43
1:A:537:C:O2	9:N:45:ASN:ND2	2.51	0.43
3:D:44:ASN:HB3	3:D:49:ILE:CG2	2.47	0.43
3:D:44:ASN:CB	3:D:49:ILE:HG22	2.46	0.43
3:D:76:PRO:O	3:D:98:VAL:CG2	2.65	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:203:LYS:HD2	4:E:203:LYS:C	2.39	0.43
6:G:25:TYR:CZ	6:G:32:PRO:HD3	2.54	0.43
7:H:6:ARG:CG	7:H:7:LEU:N	2.81	0.43
8:I:135:GLU:HB2	8:I:136:VAL:H	1.66	0.43
8:I:14:ASP:O	8:I:16:GLY:N	2.52	0.43
8:I:74:ASN:OD1	8:I:74:ASN:N	2.50	0.43
9:N:1:MET:HG3	9:N:1:MET:O	2.19	0.43
9:N:63:THR:HG23	9:N:66:LYS:HE3	2.00	0.43
11:P:135:LEU:HD13	11:P:139:LYS:HE3	2.01	0.43
11:P:18:ARG:O	11:P:19:VAL:CB	2.52	0.43
13:R:10:LEU:O	13:R:12:ARG:N	2.52	0.43
14:S:105:ALA:C	14:S:110:LEU:HD21	2.38	0.43
1:A:2377:A:H2	14:S:18:ILE:HD11	1.83	0.43
15:T:107:ASP:OD2	15:T:109:GLU:HB2	2.18	0.43
18:W:19:LEU:O	18:W:22:ASP:HB2	2.19	0.43
20:Y:95:LYS:HZ1	20:Y:95:LYS:HB2	1.82	0.43
21:Z:141:VAL:HA	21:Z:144:LEU:HD23	2.01	0.43
26:4:48:ARG:NH1	26:4:51:ASP:HA	2.34	0.43
28:6:50:ARG:HH11	28:6:50:ARG:HG2	1.84	0.43
30:8:28:GLY:O	30:8:29:LYS:O	2.36	0.43
1:A:1084:A:N1	1:A:1085:A:N6	2.64	0.43
1:A:1093:G:OP1	7:H:170:ARG:HD2	2.18	0.43
1:A:2629:A:O2'	1:A:2630:G:H5''	2.19	0.43
1:A:345:A:O2'	1:A:347:A:N7	2.51	0.43
1:A:270:A:N1	1:A:366:C:H4'	2.33	0.43
1:A:825:C:H2'	1:A:826:U:O4'	2.19	0.43
1:A:890:A:O2'	1:A:892:G:H8	2.02	0.43
1:A:99:U:H4'	1:A:101:G:O5'	2.19	0.43
1:A:1819:A:H5''	3:D:158:ALA:CB	2.48	0.43
4:E:18:ASP:O	4:E:19:ARG:C	2.56	0.43
5:F:176:LEU:HD11	5:F:180:GLY:O	2.19	0.43
5:F:183:VAL:O	5:F:184:TYR:C	2.57	0.43
9:N:90:MET:O	9:N:91:LEU:C	2.57	0.43
10:O:17:ARG:HH11	10:O:17:ARG:HG2	1.84	0.43
10:O:61:VAL:O	10:O:61:VAL:HG13	2.18	0.43
11:P:120:ALA:HB1	11:P:138:LEU:CB	2.49	0.43
11:P:13:ASN:C	11:P:15:ARG:H	2.21	0.43
11:P:19:VAL:HG22	11:P:21:ARG:H	1.83	0.43
11:P:52:GLU:OE2	11:P:58:THR:N	2.52	0.43
13:R:48:VAL:O	13:R:49:ASP:C	2.57	0.43
15:T:64:ARG:HH11	15:T:64:ARG:HG2	1.84	0.43
17:V:72:VAL:O	17:V:72:VAL:HG13	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:111:HIS:CG	18:W:112:GLY:H	2.37	0.43
18:W:28:SER:O	18:W:30:GLU:N	2.50	0.43
21:Z:146:ILE:HG22	21:Z:174:VAL:C	2.39	0.43
21:Z:6:LYS:HE3	21:Z:6:LYS:HB2	1.87	0.43
22:O:5:LYS:HE2	22:O:5:LYS:HB3	1.79	0.43
23:1:13:ILE:CG1	23:1:42:GLN:HB2	2.49	0.43
29:7:17:GLY:O	29:7:20:ALA:HB3	2.19	0.43
1:A:1059:G:H3'	1:A:1060:U:H5''	2.00	0.43
1:A:2123:G:H2'	1:A:2124:G:C8	2.54	0.43
1:A:2712:U:O2'	1:A:2712(A):A:P	2.76	0.43
3:D:71:ASP:CB	3:D:103:ARG:HH22	2.32	0.43
4:E:48:GLN:HB3	4:E:48:GLN:HE21	1.55	0.43
5:F:20:LEU:HD12	5:F:21:ALA:N	2.26	0.43
6:G:31:VAL:O	6:G:31:VAL:HG13	2.18	0.43
6:G:4:ASP:O	6:G:5:VAL:HB	2.19	0.43
7:H:16:SER:OG	7:H:17:VAL:N	2.50	0.43
7:H:53:GLU:CD	7:H:54:ARG:H	2.21	0.43
9:N:7:LYS:HD2	9:N:7:LYS:N	2.29	0.43
9:N:87:LEU:C	9:N:87:LEU:CD2	2.86	0.43
14:S:110:LEU:HA	14:S:112:PHE:CZ	2.53	0.43
14:S:52:SER:HB2	14:S:55:ALA:CB	2.49	0.43
14:S:29:PHE:HD2	14:S:92:TYR:HH	1.66	0.43
24:2:62:THR:O	24:2:65:ASN:HB2	2.19	0.42
24:2:6:VAL:O	24:2:7:ARG:C	2.57	0.42
26:4:22:ILE:CG2	26:4:23:GLU:N	2.81	0.42
26:4:43:TYR:O	26:4:46:GLN:HA	2.19	0.42
27:5:3:LYS:CE	27:5:3:LYS:HA	2.36	0.42
1:A:1188:U:O2'	1:A:1189:A:H5'	2.18	0.42
1:A:1889:A:O2'	1:A:2087:G:H5'	2.18	0.42
1:A:2031:A:N3	1:A:2455:G:O2'	2.42	0.42
1:A:2056:G:H2'	1:A:2056:G:N3	2.33	0.42
3:D:134:ARG:HG3	3:D:134:ARG:H	1.55	0.42
3:D:17:THR:HG21	3:D:204:ILE:HA	1.99	0.42
4:E:155:LYS:O	4:E:156:MET:HG3	2.19	0.42
4:E:23:VAL:HG12	4:E:184:VAL:O	2.19	0.42
4:E:25:VAL:HG21	15:T:8:LYS:HG3	2.00	0.42
5:F:64:ILE:HG23	5:F:65:TRP:CD1	2.54	0.42
2:B:57:A:N9	6:G:29:TRP:HB2	2.34	0.42
9:N:15:LEU:HD13	9:N:15:LEU:C	2.39	0.42
10:O:31:LYS:O	10:O:32:TYR:HD2	2.02	0.42
11:P:112:LEU:CD1	11:P:114:ILE:HG23	2.47	0.42
11:P:119:GLU:HA	11:P:119:GLU:OE1	2.18	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:49:ARG:HH11	11:P:49:ARG:HG2	1.84	0.42
13:R:51:LEU:HD13	13:R:66:VAL:HG22	2.01	0.42
16:U:27:LEU:O	16:U:30:LYS:N	2.41	0.42
16:U:98:LEU:O	16:U:102:GLU:N	2.49	0.42
18:W:88:ARG:CB	18:W:92:ARG:HB3	2.47	0.42
21:Z:153:SER:HB2	21:Z:167:PRO:HB3	2.01	0.42
1:A:207:A:H2'	1:A:208:C:O4'	2.19	0.42
1:A:2781:A:H5''	1:A:2782:G:H5'	2.00	0.42
1:A:507:A:C5'	1:A:508:G:H5'	2.48	0.42
1:A:749:C:O2	1:A:1618:A:H2'	2.18	0.42
1:A:900:A:H5'	1:A:901:A:OP2	2.19	0.42
3:D:108:PRO:HG2	3:D:111:LEU:HB2	2.01	0.42
3:D:33:LEU:O	3:D:35:LYS:N	2.52	0.42
4:E:188:VAL:HA	4:E:189:PRO:HD2	1.79	0.42
6:G:114:ILE:O	6:G:116:ASP:N	2.51	0.42
9:N:30:ILE:HG22	9:N:34:LEU:HD21	2.01	0.42
13:R:2:ARG:HG2	13:R:5:LYS:HZ1	1.82	0.42
15:T:50:ILE:HD11	15:T:102:ILE:HG12	2.01	0.42
16:U:91:ASP:O	16:U:95:LEU:N	2.43	0.42
29:7:47:ARG:HB2	29:7:48:LYS:H	1.64	0.42
1:A:1335:U:OP2	19:X:65:ARG:NH2	2.53	0.42
1:A:1709:U:H2'	1:A:1710:C:C6	2.54	0.42
1:A:1796:U:H2'	1:A:1797:C:H6	1.82	0.42
1:A:2481:G:HO2'	1:A:2482:G:P	2.42	0.42
1:A:1786:A:C2	1:A:2606:C:H1'	2.54	0.42
2:B:52:A:H62	14:S:33:LYS:HG3	1.84	0.42
3:D:33:LEU:HB3	3:D:34:VAL:H	1.48	0.42
4:E:3:GLY:HA3	4:E:81:ILE:CD1	2.47	0.42
4:E:54:GLN:CD	4:E:54:GLN:N	2.73	0.42
6:G:41:GLN:NE2	6:G:154:GLY:O	2.52	0.42
6:G:27:ASN:HB3	6:G:30:GLU:OE2	2.19	0.42
6:G:63:ILE:HG12	6:G:64:THR:N	2.32	0.42
9:N:10:GLU:OE2	9:N:11:PRO:CD	2.67	0.42
10:O:2:ILE:CD1	10:O:2:ILE:N	2.82	0.42
11:P:114:ILE:CD1	11:P:130:PHE:CE1	2.98	0.42
13:R:10:LEU:C	13:R:12:ARG:N	2.72	0.42
13:R:44:LEU:HD23	13:R:44:LEU:HA	1.79	0.42
17:V:44:LYS:HB3	17:V:45:THR:H	1.56	0.42
18:W:8:ARG:NH1	18:W:8:ARG:HG3	2.34	0.42
1:A:328:U:H4'	20:Y:68:HIS:CG	2.54	0.42
25:3:46:ASN:O	25:3:50:VAL:HG22	2.19	0.42
27:5:20:ARG:HA	27:5:23:HIS:CE1	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:33:LYS:C	28:6:35:GLU:H	2.22	0.42
28:6:7:ILE:O	28:6:8:LYS:CG	2.68	0.42
1:A:1021:A:H61	1:A:1142(A):A:H61	1.67	0.42
1:A:1359:A:N6	1:A:1372:U:C4	2.87	0.42
1:A:262:A:H2'	1:A:263:C:O4'	2.20	0.42
1:A:612:G:H2'	1:A:613:U:O2	2.19	0.42
1:A:817:C:O2'	1:A:839:U:H5''	2.19	0.42
2:B:24:G:H2'	2:B:56:G:N7	2.34	0.42
3:D:14:ARG:CG	3:D:15:PHE:N	2.83	0.42
3:D:43:ARG:CZ	3:D:49:ILE:HG21	2.49	0.42
1:A:588:U:H1'	5:F:90:PHE:CD1	2.53	0.42
6:G:109:VAL:C	6:G:112:PRO:HD2	2.39	0.42
6:G:145:THR:O	6:G:146:TYR:HB3	2.19	0.42
7:H:120:GLY:O	7:H:136:ILE:HD12	2.19	0.42
7:H:26:VAL:CG1	7:H:33:LEU:HB2	2.50	0.42
7:H:58:GLU:O	7:H:60:ARG:N	2.53	0.42
7:H:89:ILE:CD1	7:H:89:ILE:H	2.32	0.42
9:N:26:LEU:HG	9:N:30:ILE:CD1	2.49	0.42
15:T:80:SER:HA	15:T:81:PRO:HD3	1.73	0.42
16:U:92:ARG:NH2	17:V:11:GLN:O	2.53	0.42
20:Y:42:VAL:HG11	20:Y:65:ALA:HB3	2.02	0.42
23:1:60:PHE:HE2	23:1:91:LYS:NZ	2.16	0.42
24:2:59:ARG:O	24:2:62:THR:HG23	2.18	0.42
1:A:2356:C:H2'	1:A:2357:U:O4'	2.19	0.42
1:A:250:G:C6	1:A:251:A:C6	3.07	0.42
1:A:264:C:C2'	1:A:265:A:H5''	2.49	0.42
1:A:389:G:H22	11:P:72:PRO:HD3	1.84	0.42
1:A:753:C:H2'	1:A:754:C:H6	1.83	0.42
2:B:45:A:H2'	2:B:46:A:O4'	2.19	0.42
4:E:121:ASN:O	4:E:122:PHE:C	2.57	0.42
4:E:28:ALA:HB3	4:E:93:VAL:CG2	2.46	0.42
5:F:164:ARG:NH1	5:F:164:ARG:HG2	2.34	0.42
6:G:55:LYS:O	6:G:59:GLU:HB2	2.19	0.42
7:H:125:VAL:HG12	7:H:126:PRO:CD	2.49	0.42
11:P:37:GLY:O	11:P:38:GLN:C	2.58	0.42
13:R:29:LEU:HD11	13:R:48:VAL:CG1	2.50	0.42
14:S:95:HIS:O	14:S:96:GLY:C	2.57	0.42
15:T:24:PRO:HA	15:T:49:VAL:CG1	2.39	0.42
16:U:79:PHE:CD2	16:U:83:LEU:HD13	2.54	0.42
21:Z:111:VAL:CG1	21:Z:112:ARG:N	2.73	0.42
23:1:74:VAL:O	23:1:74:VAL:CG1	2.64	0.42
26:4:54:GLY:HA2	26:4:57:GLU:CG	2.50	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:19:ARG:HD2	28:6:19:ARG:HA	1.76	0.42
1:A:1257:C:H5'	5:F:75:HIS:CE1	2.54	0.42
1:A:1266:G:O2'	1:A:2012:G:O6	2.30	0.42
1:A:2067:G:O2'	1:A:2069:G:H5''	2.20	0.42
1:A:2543:G:H2'	1:A:2544:G:C8	2.54	0.42
1:A:2695:C:H2'	1:A:2696:U:C6	2.55	0.42
1:A:2745:C:H1'	7:H:143:GLN:HG2	2.02	0.42
1:A:724:U:H2'	1:A:725:G:O4'	2.20	0.42
4:E:101:ARG:C	4:E:201:THR:OG1	2.58	0.42
4:E:137:HIS:CB	4:E:138:PRO:HD2	2.42	0.42
4:E:104:VAL:CG1	4:E:188:VAL:HG23	2.49	0.42
4:E:24:THR:HB	4:E:184:VAL:HG23	2.02	0.42
4:E:35:GLN:HB3	4:E:48:GLN:HB2	2.01	0.42
5:F:132:VAL:CG2	5:F:133:ASN:N	2.80	0.42
5:F:63:LYS:HE2	5:F:67:GLN:HB2	2.00	0.42
6:G:121:ASN:HA	6:G:181:ARG:NH2	2.34	0.42
2:B:45:A:OP2	6:G:96:ARG:HD2	2.20	0.42
7:H:136:ILE:O	7:H:137:ASP:O	2.38	0.42
9:N:43:THR:HA	9:N:44:PRO:HD2	1.92	0.42
9:N:75:TYR:HA	9:N:82:LEU:HA	2.01	0.42
10:O:1:MET:HG2	10:O:67:LYS:HG2	2.01	0.42
1:A:1250:G:OP2	11:P:21:ARG:HD3	2.20	0.42
16:U:91:ASP:OD2	16:U:96:ALA:HB2	2.19	0.42
18:W:14:PRO:O	18:W:15:ARG:C	2.58	0.42
18:W:81:ALA:C	18:W:82:LEU:HD12	2.40	0.42
20:Y:20:TYR:CE1	20:Y:42:VAL:HA	2.55	0.42
1:A:483:A:C4'	20:Y:49:VAL:HA	2.41	0.42
23:1:72:GLU:O	23:1:75:GLU:HB2	2.20	0.42
1:A:1682:G:OP2	1:A:1699:G:N2	2.50	0.42
1:A:2419:U:OP1	28:6:23:THR:HG21	2.20	0.42
1:A:2564:A:OP1	1:A:2648:C:H4'	2.20	0.42
1:A:2630:G:N3	1:A:2894:G:N2	2.68	0.42
1:A:39:C:H2'	1:A:40:C:C6	2.55	0.42
1:A:460:A:H2'	1:A:461:C:O4'	2.20	0.42
3:D:182:LEU:N	3:D:272:ALA:HB3	2.32	0.42
4:E:143:ASN:HB2	4:E:147:PRO:HD2	2.01	0.42
8:I:93:THR:N	8:I:96:ASP:OD1	2.35	0.42
10:O:50:GLY:O	10:O:51:ALA:C	2.57	0.42
10:O:97:ARG:CA	10:O:117:LEU:HD22	2.50	0.42
12:Q:27:VAL:HG11	12:Q:134:ARG:HG3	2.00	0.42
14:S:102:ALA:C	14:S:104:GLY:N	2.73	0.42
15:T:110:ILE:CG2	15:T:111:ARG:N	2.82	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:3:ARG:O	15:T:4:GLY:C	2.58	0.42
15:T:89:VAL:O	15:T:90:GLN:CB	2.67	0.42
17:V:59:ALA:HA	17:V:95:LEU:O	2.19	0.42
20:Y:60:PHE:CD2	20:Y:60:PHE:N	2.87	0.42
21:Z:53:ILE:HG22	21:Z:71:VAL:HG13	2.00	0.42
25:3:37:LEU:HD12	25:3:43:ILE:CG2	2.50	0.42
26:4:2:LYS:HA	26:4:2:LYS:HD2	1.61	0.42
27:5:40:LYS:HE2	27:5:47:PRO:HG2	2.02	0.42
30:8:56:GLU:C	30:8:58:ILE:N	2.73	0.42
31:9:2:LYS:HD2	31:9:2:LYS:HA	1.93	0.42
1:A:1928:A:C2'	1:A:1929:G:H5'	2.50	0.42
1:A:1998:G:OP2	4:E:136:ARG:NH2	2.49	0.42
1:A:1131:G:C8	1:A:2025:C:H4'	2.54	0.42
1:A:2811:G:P	4:E:61:ARG:HG3	2.58	0.42
1:A:738:G:C6	1:A:739:G:C2	3.08	0.42
1:A:845:G:OP2	1:A:845:G:H8	2.02	0.42
3:D:9:TYR:CZ	3:D:13:ARG:HD3	2.54	0.42
1:A:1818:U:C2'	3:D:157:ARG:HG3	2.49	0.42
3:D:158:ALA:HB3	3:D:161:THR:CG2	2.49	0.42
3:D:196:VAL:O	3:D:196:VAL:CG1	2.68	0.42
4:E:10:GLY:HA3	15:T:8:LYS:HD3	2.02	0.42
4:E:117:MET:HA	4:E:122:PHE:N	2.35	0.42
4:E:128:SER:O	4:E:129:HIS:HB2	2.19	0.42
5:F:192:LEU:HD21	5:F:194:MET:HE3	2.01	0.42
5:F:198:ALA:HA	5:F:201:VAL:CG1	2.41	0.42
6:G:16:ARG:NE	6:G:31:VAL:HG11	2.34	0.42
6:G:51:ARG:CB	6:G:51:ARG:NH1	2.83	0.42
7:H:169:VAL:HG22	7:H:170:ARG:N	2.26	0.42
11:P:107:LYS:O	11:P:108:LYS:C	2.57	0.42
11:P:115:LEU:HB3	11:P:131:SER:HB2	2.02	0.42
11:P:98:GLU:O	11:P:99:LEU:C	2.57	0.42
12:Q:65:PHE:O	12:Q:66:ILE:CG1	2.48	0.42
14:S:83:LYS:HE3	14:S:84:GLN:HG3	2.02	0.42
15:T:134:GLU:OE1	15:T:135:ALA:N	2.53	0.42
16:U:97:ASP:HA	16:U:100:VAL:HG23	2.02	0.42
16:U:39:LEU:O	16:U:42:ALA:N	2.53	0.42
18:W:71:VAL:HA	18:W:107:LEU:HD12	2.02	0.42
26:4:38:LYS:HG3	26:4:44:THR:OG1	2.20	0.42
26:4:68:ARG:HB2	26:4:69:LYS:H	1.35	0.42
27:5:56:LYS:O	27:5:57:VAL:C	2.57	0.42
29:7:25:PRO:HA	29:7:28:ARG:NH2	2.35	0.42
1:A:1265:A:OP1	1:A:1265:A:H8	2.03	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1862:G:O2'	1:A:1863:G:H5'	2.20	0.42
1:A:2327:A:H2'	1:A:2328:A:C8	2.55	0.42
1:A:412:A:N7	1:A:2411:A:H2	2.18	0.42
1:A:2462:U:H2'	1:A:2463:C:C6	2.54	0.42
1:A:2646:C:H2'	1:A:2647:U:O4'	2.19	0.42
2:B:12:C:O2'	22:0:74:ARG:HG3	2.20	0.42
2:B:14:U:H5'	2:B:71:C:O4'	2.20	0.42
3:D:165:ILE:O	3:D:166:GLN:NE2	2.53	0.42
3:D:168:ARG:O	3:D:169:GLU:HB2	2.19	0.42
4:E:144:ARG:HB3	4:E:145:LYS:H	1.58	0.42
4:E:176:ILE:HD12	4:E:176:ILE:N	2.35	0.42
5:F:61:GLY:O	5:F:62:ARG:C	2.58	0.42
6:G:78:SER:O	6:G:80:PHE:N	2.53	0.42
6:G:34:LEU:HD11	6:G:99:MET:CE	2.49	0.42
6:G:99:MET:O	6:G:103:LEU:HB2	2.20	0.42
7:H:86:GLU:CD	7:H:86:GLU:H	2.16	0.42
9:N:62:VAL:HG12	9:N:66:LYS:HB2	2.01	0.42
12:Q:118:LEU:HA	12:Q:118:LEU:HD23	1.87	0.42
13:R:55:ALA:HA	13:R:80:PHE:CE2	2.55	0.42
14:S:51:ALA:HB3	14:S:73:LEU:HD23	2.01	0.42
14:S:83:LYS:HE3	14:S:84:GLN:CG	2.49	0.42
14:S:30:ARG:NH2	14:S:92:TYR:HD1	2.17	0.42
16:U:99:ALA:HA	16:U:106:PHE:HB2	2.01	0.42
16:U:43:GLY:HA3	17:V:73:SER:OG	2.19	0.42
19:X:54:VAL:C	19:X:55:ASN:HD22	2.24	0.42
19:X:57:LEU:H	19:X:57:LEU:HD12	1.85	0.42
21:Z:111:VAL:CG2	21:Z:112:ARG:H	2.26	0.42
21:Z:69:THR:HG22	21:Z:90:VAL:HG22	2.01	0.42
12:Q:83:MET:SD	22:0:7:LEU:HD12	2.60	0.42
23:1:76:ARG:H	23:1:76:ARG:CD	2.29	0.42
24:2:41:ILE:C	24:2:41:ILE:CD1	2.81	0.42
24:2:50:ILE:HG13	24:2:50:ILE:H	1.64	0.42
25:3:37:LEU:HD23	25:3:37:LEU:N	2.35	0.42
26:4:26:SER:C	26:4:27:THR:O	2.58	0.42
29:7:9:ARG:NH1	29:7:47:ARG:HG3	2.35	0.42
19:X:60:ARG:HH12	29:7:47:ARG:HH22	1.67	0.42
1:A:1655:A:O3'	4:E:115:GLY:HA3	2.19	0.42
1:A:2151:G:H2'	1:A:2152:G:C8	2.54	0.42
1:A:2238:G:H2'	1:A:2238:G:N3	2.35	0.42
1:A:1637:A:H4'	1:A:2711:A:O2'	2.20	0.42
1:A:935:C:H2'	1:A:936:C:C6	2.55	0.42
3:D:110:GLY:O	3:D:111:LEU:C	2.59	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:7:VAL:CG2	4:E:8:LYS:H	2.11	0.42
5:F:118:ALA:HA	5:F:123:LEU:HB3	2.02	0.42
7:H:66:GLY:O	7:H:67:LEU:C	2.58	0.42
8:I:93:THR:O	8:I:97:ILE:HG12	2.20	0.42
9:N:27:ALA:O	9:N:28:THR:C	2.57	0.42
10:O:31:LYS:HD3	10:O:31:LYS:HA	1.92	0.42
14:S:99:LYS:C	14:S:101:LEU:N	2.72	0.42
14:S:99:LYS:HE2	14:S:103:GLU:OE2	2.20	0.42
14:S:49:VAL:HG21	14:S:77:ALA:HA	2.02	0.42
10:O:71:ARG:HH11	15:T:74:ARG:HH21	1.65	0.42
17:V:21:ARG:HD2	17:V:91:TYR:CE2	2.55	0.42
19:X:87:GLN:C	19:X:88:LYS:HG3	2.40	0.42
1:A:336:C:HO2'	20:Y:35:TYR:HH	1.55	0.42
20:Y:91:GLU:CG	20:Y:92:ASN:N	2.83	0.42
21:Z:110:GLY:CA	21:Z:111:VAL:C	2.85	0.42
21:Z:27:VAL:HG12	21:Z:87:ASP:HB3	2.02	0.42
23:1:29:GLY:O	23:1:31:GLY:N	2.49	0.41
23:1:81:LYS:N	23:1:81:LYS:CD	2.83	0.41
26:4:61:ARG:C	26:4:63:TYR:N	2.73	0.41
28:6:25:LYS:HE2	28:6:27:LYS:CD	2.49	0.41
1:A:1607:C:H5''	1:A:1608:A:H5'	2.02	0.41
1:A:2696:U:H2'	1:A:2697:G:C8	2.55	0.41
1:A:2828:C:O2'	1:A:2829:C:H5'	2.20	0.41
1:A:806:C:OP2	11:P:41:ARG:NE	2.53	0.41
4:E:94:GLU:C	4:E:96:PHE:N	2.73	0.41
5:F:42:ALA:O	5:F:45:ARG:HB2	2.18	0.41
1:A:451:C:H4'	5:F:52:LYS:HZ2	1.85	0.41
6:G:22:ARG:HH22	6:G:175:LEU:HD21	1.85	0.41
6:G:73:ALA:O	6:G:84:LYS:O	2.38	0.41
7:H:128:PRO:CG	7:H:129:THR:H	2.33	0.41
7:H:146:ALA:HA	7:H:164:TYR:OH	2.20	0.41
9:N:131:GLN:HE21	9:N:131:GLN:HB3	1.57	0.41
10:O:16:ALA:HA	10:O:46:ALA:CB	2.50	0.41
11:P:125:VAL:C	11:P:145:PRO:HD2	2.39	0.41
11:P:144:GLU:HA	11:P:145:PRO:HD3	1.76	0.41
5:F:34:TRP:CA	11:P:6:LEU:HD12	2.46	0.41
12:Q:20:ALA:HA	12:Q:98:LYS:HB3	2.02	0.41
15:T:96:ARG:CZ	15:T:96:ARG:HB2	2.49	0.41
16:U:35:ALA:O	16:U:39:LEU:HG	2.19	0.41
17:V:35:LEU:HB2	17:V:37:VAL:CG2	2.49	0.41
19:X:60:ARG:HA	19:X:75:ASP:OD2	2.20	0.41
27:5:40:LYS:HE2	27:5:47:PRO:CG	2.49	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:41:PRO:HG3	28:6:44:ARG:HB2	2.01	0.41
1:A:515:A:H1'	1:A:581:C:H1'	2.02	0.41
1:A:704:G:O2'	1:A:705:A:P	2.78	0.41
3:D:35:LYS:HB3	3:D:36:PRO:HA	2.00	0.41
4:E:152:LYS:HG2	9:N:78:TYR:CD1	2.55	0.41
6:G:60:LEU:C	6:G:60:LEU:HD23	2.41	0.41
10:O:86:ILE:N	10:O:86:ILE:CD1	2.83	0.41
11:P:18:ARG:HD2	11:P:27:HIS:CD2	2.56	0.41
15:T:39:ARG:CG	15:T:40:THR:H	2.22	0.41
16:U:83:LEU:HG	16:U:88:ILE:HG13	2.02	0.41
17:V:16:PRO:HB3	17:V:97:LYS:O	2.20	0.41
17:V:81:TYR:C	17:V:82:ARG:CG	2.89	0.41
24:2:61:LEU:HD23	24:2:64:LEU:HD12	2.03	0.41
26:4:64:GLY:C	26:4:66:SER:N	2.73	0.41
30:8:16:ILE:HD11	30:8:57:ARG:CG	2.44	0.41
1:A:1935:G:H1'	1:A:1964:G:N2	2.35	0.41
1:A:579:G:O2'	1:A:2019:A:OP1	2.27	0.41
1:A:2543:G:N3	1:A:2765:A:H2'	2.35	0.41
1:A:686:G:N2	1:A:788:A:H61	2.18	0.41
1:A:747:U:N1	27:5:2:ALA:HB3	2.35	0.41
1:A:760:G:H2'	1:A:761:A:O4'	2.21	0.41
1:A:83:G:HO2'	1:A:84:A:H8	1.57	0.41
3:D:13:ARG:HG2	3:D:13:ARG:O	2.20	0.41
4:E:13:ARG:HB2	4:E:13:ARG:HH11	1.81	0.41
4:E:35:GLN:HG3	4:E:37:ARG:NH2	2.35	0.41
1:A:2784:C:H4'	4:E:41:LYS:O	2.21	0.41
5:F:53:THR:O	5:F:55:GLY:N	2.53	0.41
7:H:105:LEU:N	7:H:105:LEU:CD1	2.81	0.41
8:I:27:ARG:HB3	23:1:71:TYR:CE1	2.54	0.41
9:N:114:ARG:C	9:N:116:LEU:N	2.74	0.41
14:S:53:SER:HA	14:S:56:LEU:CD2	2.50	0.41
4:E:25:VAL:CG1	15:T:11:GLU:HG2	2.50	0.41
15:T:134:GLU:O	15:T:135:ALA:CB	2.69	0.41
17:V:38:LEU:CD1	17:V:55:ALA:HB1	2.50	0.41
21:Z:19:ARG:HD3	21:Z:25:PRO:HD2	2.02	0.41
28:6:6:ARG:NE	28:6:6:ARG:HA	2.35	0.41
1:A:1086:A:H3'	1:A:1086:A:N3	2.35	0.41
1:A:1405:U:H2'	1:A:1406:U:C6	2.55	0.41
1:A:2466:C:H5'	31:9:5:ALA:HB3	2.01	0.41
1:A:2648:C:H2'	1:A:2649:U:H6	1.84	0.41
1:A:2836:U:C4	1:A:2883:A:N6	2.88	0.41
1:A:863:A:O2'	1:A:864:G:H5'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:569:U:O2'	1:A:983:A:N1	2.43	0.41
3:D:269:PHE:CD2	3:D:269:PHE:N	2.88	0.41
4:E:111:ARG:NE	4:E:160:TYR:CE1	2.76	0.41
4:E:179:GLU:CB	4:E:181:LEU:HD23	2.24	0.41
6:G:53:LEU:CD1	6:G:87:PRO:HB2	2.51	0.41
7:H:86:GLU:HG3	7:H:165:ALA:CA	2.49	0.41
9:N:21:LYS:O	9:N:22:THR:O	2.39	0.41
9:N:52:VAL:CG1	9:N:53:VAL:N	2.82	0.41
9:N:62:VAL:CG1	9:N:66:LYS:HB2	2.51	0.41
11:P:64:LYS:HG3	30:8:25:MET:CE	2.50	0.41
1:A:870:A:OP1	12:Q:6:ARG:NH2	2.53	0.41
13:R:28:LEU:C	13:R:28:LEU:HD13	2.40	0.41
16:U:91:ASP:OD2	16:U:96:ALA:CA	2.68	0.41
17:V:38:LEU:CD2	17:V:39:LEU:N	2.82	0.41
17:V:38:LEU:CD1	17:V:55:ALA:CB	2.99	0.41
18:W:19:LEU:HA	18:W:19:LEU:HD12	1.79	0.41
18:W:55:ALA:O	18:W:58:ALA:HB3	2.21	0.41
1:A:686:G:O6	29:7:12:ARG:HG3	2.21	0.41
30:8:26:LYS:HD3	30:8:26:LYS:HA	1.86	0.41
1:A:1101:U:H2'	1:A:1102:C:H6	1.86	0.41
1:A:140:A:H8	1:A:1408:C:O2'	2.01	0.41
1:A:2287:A:H2	1:A:2346:A:N1	2.18	0.41
2:B:37:C:O2	14:S:95:HIS:NE2	2.49	0.41
3:D:2:ALA:O	3:D:3:VAL:CB	2.68	0.41
3:D:75:ILE:HG21	3:D:99:ASP:HB2	2.02	0.41
5:F:111:ALA:O	5:F:112:MET:C	2.59	0.41
6:G:117:PHE:CE1	6:G:119:GLY:CA	3.03	0.41
6:G:135:LEU:CD1	6:G:135:LEU:N	2.84	0.41
12:Q:34:LEU:HD23	12:Q:104:PHE:CD1	2.55	0.41
13:R:47:PHE:O	13:R:51:LEU:HD23	2.21	0.41
17:V:22:VAL:CG1	17:V:23:GLU:H	2.32	0.41
18:W:17:VAL:O	18:W:18:ARG:C	2.57	0.41
20:Y:13:VAL:O	20:Y:24:VAL:HA	2.20	0.41
23:1:94:LEU:HD23	23:1:94:LEU:HA	1.82	0.41
24:2:41:ILE:HD12	24:2:43:GLN:N	2.35	0.41
26:4:12:ALA:HB1	26:4:30:GLU:N	2.35	0.41
26:4:4:GLY:O	26:4:5:ILE:C	2.59	0.41
1:A:2420:C:H41	30:8:30:ARG:HD2	1.86	0.41
1:A:1278:A:OP1	13:R:36:THR:HG22	2.20	0.41
1:A:1412:A:H2'	1:A:1413:G:O4'	2.20	0.41
1:A:1930:G:HO2'	1:A:1931:U:P	2.43	0.41
1:A:2469:A:H5''	1:A:2470:G:C8	2.56	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2528:U:H2'	1:A:2530:A:O5'	2.21	0.41
1:A:275:G:H3'	1:A:276:A:H5''	2.02	0.41
1:A:2779:U:O2'	1:A:2781:A:C5	2.67	0.41
2:B:8:U:H3	2:B:112:G:H1	1.67	0.41
3:D:158:ALA:O	3:D:196:VAL:HG11	2.21	0.41
3:D:68:LYS:O	3:D:68:LYS:HG3	2.20	0.41
4:E:167:VAL:CG1	4:E:189:PRO:HD3	2.50	0.41
4:E:93:VAL:HG21	4:E:180:ASN:HA	2.03	0.41
13:R:1:MET:SD	13:R:1:MET:N	2.75	0.41
13:R:28:LEU:HD12	13:R:29:LEU:HD12	2.01	0.41
14:S:42:ASP:C	14:S:44:LYS:N	2.72	0.41
14:S:64:GLU:O	14:S:68:GLN:HG3	2.19	0.41
17:V:61:VAL:O	17:V:61:VAL:CG2	2.68	0.41
18:W:29:LEU:C	18:W:29:LEU:HD23	2.41	0.41
20:Y:2:ARG:O	20:Y:3:VAL:O	2.38	0.41
20:Y:97:ARG:HH21	20:Y:98:VAL:CG2	2.32	0.41
21:Z:143:GLY:C	21:Z:144:LEU:HD22	2.41	0.41
26:4:14:ILE:HA	26:4:31:ILE:O	2.21	0.41
28:6:8:LYS:O	28:6:9:LEU:HB2	2.20	0.41
30:8:14:VAL:CG1	30:8:60:LEU:HD11	2.50	0.41
30:8:64:TYR:HB3	30:8:65:GLU:H	1.40	0.41
1:A:1728:G:H3'	1:A:1729:A:C5'	2.51	0.41
1:A:2377:A:H4'	14:S:111:GLU:O	2.21	0.41
1:A:270(S):G:O2'	1:A:270(T):G:H5'	2.20	0.41
1:A:2758:A:C2	1:A:2759:G:H1'	2.56	0.41
1:A:327:G:N2	20:Y:70:SER:OG	2.53	0.41
2:B:3:C:H2'	2:B:4:C:H6	1.85	0.41
4:E:197:ILE:HD11	4:E:199:ARG:NH1	2.30	0.41
5:F:183:VAL:HG22	5:F:184:TYR:N	2.35	0.41
5:F:46:ARG:CG	5:F:46:ARG:NH1	2.72	0.41
6:G:44:GLY:C	6:G:46:ALA:N	2.73	0.41
6:G:77:ILE:H	6:G:82:LEU:HB2	1.84	0.41
7:H:45:VAL:O	7:H:45:VAL:CG1	2.69	0.41
8:I:112:LYS:H	8:I:112:LYS:HG2	1.58	0.41
10:O:48:PRO:O	10:O:50:GLY:N	2.54	0.41
1:A:2684:U:O2'	10:O:68:GLU:HG3	2.21	0.41
11:P:55:ARG:HG2	11:P:55:ARG:NH2	2.36	0.41
12:Q:20:ALA:HB1	12:Q:99:PRO:CG	2.51	0.41
14:S:15:ARG:O	14:S:19:LYS:HD3	2.20	0.41
16:U:76:TYR:O	16:U:80:ILE:HG12	2.21	0.41
18:W:14:PRO:C	18:W:18:ARG:HD2	2.41	0.41
18:W:1:MET:HG3	18:W:2:GLU:N	2.36	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:96:ILE:O	18:W:96:ILE:CG2	2.68	0.41
19:X:83:VAL:CG1	19:X:87:GLN:HB2	2.50	0.41
23:1:18:ILE:O	23:1:18:ILE:HG22	2.21	0.41
24:2:18:PRO:C	24:2:20:GLU:N	2.73	0.41
1:A:1278:A:H2'	1:A:1279:G:C8	2.56	0.41
1:A:1421:G:C2	1:A:1422:G:C8	3.09	0.41
1:A:1791:A:N6	1:A:1828:G:O2'	2.52	0.41
1:A:2064:C:H2'	1:A:2065:C:C6	2.56	0.41
1:A:2683:C:OP1	15:T:53:ARG:NH2	2.45	0.41
1:A:2692:C:H2'	1:A:2693:A:O4'	2.20	0.41
1:A:270(D):C:H2'	1:A:270(E):G:C8	2.55	0.41
1:A:1750:G:O2'	1:A:2860:A:N1	2.48	0.41
1:A:687:C:H4'	29:7:3:ARG:O	2.21	0.41
1:A:704:G:C2'	1:A:726:G:H22	2.33	0.41
3:D:134:ARG:HD3	3:D:135:PHE:HE2	1.82	0.41
3:D:177:LEU:C	3:D:179:SER:H	2.23	0.41
3:D:197:GLY:O	3:D:198:ASN:HB3	2.21	0.41
4:E:4:ILE:HG22	4:E:198:VAL:HB	2.02	0.41
6:G:47:LYS:HB2	6:G:47:LYS:HE3	1.80	0.41
7:H:137:ASP:HB2	7:H:140:LYS:CE	2.51	0.41
10:O:10:VAL:HG21	10:O:16:ALA:HB3	2.03	0.41
10:O:2:ILE:HG12	10:O:8:LEU:HD11	2.02	0.41
12:Q:139:GLU:CG	12:Q:140:ALA:N	2.84	0.41
15:T:28:VAL:HG23	15:T:87:ASP:O	2.21	0.41
16:U:33:ARG:O	16:U:37:GLU:HB2	2.21	0.41
16:U:6:THR:HG21	16:U:10:ARG:CZ	2.50	0.41
17:V:67:GLY:O	17:V:68:LYS:C	2.59	0.41
18:W:50:VAL:O	18:W:53:SER:N	2.50	0.41
20:Y:43:ASN:OD1	20:Y:43:ASN:O	2.39	0.41
21:Z:109:ALA:C	21:Z:111:VAL:HG12	2.41	0.41
21:Z:11:GLU:HG3	21:Z:12:GLY:N	2.36	0.41
21:Z:96:VAL:N	21:Z:128:VAL:O	2.44	0.41
24:2:65:ASN:O	24:2:66:GLU:C	2.59	0.41
1:A:1024:G:O5'	1:A:1024:G:H8	2.04	0.41
1:A:1111:A:O2'	1:A:1112:G:H4'	2.20	0.41
1:A:1285:G:N2	1:A:1329:U:OP1	2.24	0.41
1:A:459:U:H5''	29:7:40:TRP:CD2	2.56	0.41
1:A:745:G:O2'	1:A:750:A:N6	2.53	0.41
2:B:40:U:H1'	2:B:45:A:N6	2.36	0.41
3:D:145:VAL:CG1	3:D:146:GLU:N	2.83	0.41
3:D:154:LYS:C	3:D:155:LEU:HD12	2.41	0.41
3:D:147:LEU:CD1	3:D:155:LEU:HD21	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:263:ARG:CB	3:D:263:ARG:NH1	2.75	0.41
4:E:9:VAL:HB	4:E:10:GLY:H	1.71	0.41
2:B:57:A:C4	6:G:29:TRP:HB2	2.56	0.41
6:G:61:ALA:CB	6:G:67:LYS:HA	2.50	0.41
6:G:67:LYS:NZ	26:4:6:HIS:CD2	2.89	0.41
9:N:10:GLU:OE2	9:N:11:PRO:HD2	2.21	0.41
9:N:133:GLN:C	9:N:134:ARG:HG2	2.41	0.41
9:N:133:GLN:CB	9:N:135:PRO:HD3	2.42	0.41
11:P:9:ASN:HB2	11:P:10:PRO:HD2	2.03	0.41
13:R:55:ALA:O	13:R:58:GLY:HA3	2.21	0.41
14:S:66:ALA:HA	14:S:69:VAL:CG1	2.51	0.41
15:T:84:GLN:HG2	15:T:85:LYS:N	2.36	0.41
16:U:83:LEU:CD1	16:U:113:ALA:HB2	2.50	0.41
16:U:57:PHE:O	16:U:60:LEU:N	2.54	0.41
1:A:1162:G:H1'	17:V:23:GLU:OE2	2.20	0.41
18:W:14:PRO:HG3	18:W:101:SER:OG	2.21	0.41
1:A:336:C:H5''	20:Y:6:HIS:CD2	2.56	0.41
20:Y:86:ARG:HA	20:Y:86:ARG:HD2	1.91	0.41
21:Z:5:LEU:O	21:Z:6:LYS:HB2	2.21	0.41
24:2:48:HIS:O	24:2:49:LYS:C	2.57	0.41
6:G:143:GLU:C	26:4:28:LYS:HZ2	2.24	0.41
26:4:63:TYR:O	26:4:65:ASP:N	2.54	0.41
1:A:467:G:OP1	29:7:33:ARG:NH1	2.54	0.41
30:8:3:LYS:HB3	30:8:3:LYS:HE2	1.82	0.41
1:A:2018:G:H2'	1:A:2019:A:O4'	2.20	0.41
1:A:2372:G:H4'	28:6:46:HIS:NE2	2.35	0.41
1:A:859:G:O2'	1:A:860:U:O5'	2.39	0.41
4:E:147:PRO:HB2	4:E:149:ARG:HG2	2.03	0.41
6:G:95:ARG:HA	6:G:99:MET:HB3	2.03	0.41
7:H:145:ALA:O	7:H:148:ILE:HB	2.21	0.41
9:N:56:ASN:ND2	9:N:126:PRO:N	2.69	0.41
9:N:58:ASP:HB3	9:N:95:PRO:HB3	2.02	0.41
11:P:101:VAL:HG23	11:P:106:LEU:HB3	2.03	0.41
11:P:66:GLY:O	11:P:67:MET:CB	2.63	0.41
12:Q:139:GLU:HG2	12:Q:140:ALA:N	2.36	0.41
12:Q:27:VAL:HG22	12:Q:105:GLU:CD	2.41	0.41
12:Q:39:PRO:HA	12:Q:97:VAL:O	2.21	0.41
12:Q:52:VAL:O	12:Q:53:ALA:C	2.59	0.41
13:R:94:TYR:N	13:R:94:TYR:CD2	2.87	0.41
14:S:6:ALA:O	14:S:10:ARG:HD3	2.21	0.41
15:T:39:ARG:HG2	15:T:40:THR:N	2.25	0.41
16:U:27:LEU:C	16:U:29:SER:N	2.74	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:130:PRO:HA	21:Z:133:ILE:HD11	2.02	0.41
21:Z:151:HIS:HB3	21:Z:170:THR:HG22	2.02	0.41
21:Z:73:GLN:HB3	21:Z:87:ASP:OD1	2.21	0.41
29:7:24:THR:HB	29:7:25:PRO:HD2	2.03	0.41
1:A:1064:C:C2	1:A:1065:U:H1'	2.56	0.41
1:A:695:G:H4'	1:A:1380:G:H5'	2.03	0.41
1:A:1430:C:H2'	1:A:1431:U:H6	1.86	0.41
1:A:1791:A:H3'	1:A:1792:G:H8	1.86	0.41
1:A:2328:A:H2'	1:A:2329:G:C8	2.56	0.41
1:A:38:A:H2'	1:A:39:C:C6	2.56	0.41
1:A:704:G:H2'	1:A:726:G:H22	1.86	0.41
1:A:58:G:O2'	1:A:73:A:N1	2.45	0.41
3:D:272:ALA:HB1	3:D:273:ARG:H	1.58	0.41
3:D:31:LYS:O	3:D:32:SER:O	2.39	0.41
4:E:161:GLY:O	4:E:162:ALA:HB3	2.20	0.41
4:E:51:PHE:CG	4:E:52:LEU:N	2.89	0.41
5:F:13:SER:OG	5:F:14:PRO:HD2	2.21	0.41
6:G:7:LEU:CD2	6:G:176:LEU:HD22	2.45	0.41
6:G:95:ARG:CA	6:G:99:MET:HB3	2.50	0.41
9:N:137:LYS:HA	9:N:137:LYS:HD2	1.89	0.41
9:N:23:LEU:CD1	9:N:99:LEU:HD23	2.51	0.41
10:O:20:MET:O	10:O:41:ALA:CB	2.67	0.41
10:O:31:LYS:C	10:O:32:TYR:CD2	2.94	0.41
11:P:65:ARG:C	11:P:66:GLY:O	2.59	0.41
14:S:106:ARG:CZ	14:S:106:ARG:HB2	2.49	0.41
20:Y:87:LYS:HZ2	20:Y:87:LYS:HB2	1.85	0.41
1:A:2365:G:H4'	22:O:60:PHE:CZ	2.56	0.40
23:1:85:LEU:CD2	23:1:85:LEU:N	2.84	0.40
24:2:11:GLU:HA	24:2:14:ARG:HD2	2.02	0.40
24:2:32:LEU:HD23	24:2:32:LEU:O	2.21	0.40
26:4:42:PHE:CZ	26:4:43:TYR:HB3	2.57	0.40
29:7:5:TRP:HE1	29:7:7:PRO:HG3	1.85	0.40
1:A:1228:G:OP2	16:U:16:LYS:NZ	2.32	0.40
1:A:2749:A:H3'	1:A:2750:A:H2'	2.01	0.40
1:A:288:C:H2'	1:A:289:A:C8	2.55	0.40
1:A:634:C:H2'	1:A:635:C:C6	2.56	0.40
3:D:117:VAL:HG22	3:D:118:VAL:N	2.35	0.40
4:E:62:PRO:O	4:E:63:LEU:C	2.59	0.40
5:F:128:ALA:O	5:F:129:PHE:CB	2.67	0.40
5:F:144:LYS:C	5:F:146:ALA:N	2.75	0.40
8:I:124:GLY:N	8:I:142:VAL:HG23	2.37	0.40
8:I:46:ALA:O	8:I:50:ARG:HB2	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:84:ASN:HB2	11:P:87:ASP:OD2	2.22	0.40
12:Q:76:LYS:HB3	12:Q:90:VAL:CG1	2.51	0.40
13:R:22:ARG:O	13:R:26:LYS:HG3	2.21	0.40
14:S:100:ALA:CA	14:S:103:GLU:HG2	2.49	0.40
14:S:12:PHE:HA	14:S:12:PHE:HD2	1.80	0.40
17:V:55:ALA:O	17:V:56:SER:OG	2.31	0.40
23:1:96:LYS:HG2	23:1:96:LYS:O	2.21	0.40
28:6:50:ARG:NH1	28:6:50:ARG:HG2	2.36	0.40
31:9:10:ILE:HD12	31:9:32:HIS:CG	2.56	0.40
1:A:2320:A:N3	1:A:2320:A:H2'	2.35	0.40
1:A:328:U:H4'	20:Y:68:HIS:NE2	2.35	0.40
1:A:583:G:H5''	16:U:10:ARG:NH1	2.32	0.40
4:E:119:ARG:HG2	4:E:160:TYR:HB2	2.03	0.40
5:F:68:LYS:O	5:F:69:HIS:HB2	2.21	0.40
5:F:80:ALA:O	5:F:83:PHE:HB2	2.20	0.40
7:H:26:VAL:HG12	7:H:33:LEU:HB2	2.03	0.40
17:V:38:LEU:O	17:V:51:VAL:HA	2.21	0.40
18:W:14:PRO:C	18:W:16:LYS:N	2.73	0.40
19:X:60:ARG:HH22	29:7:47:ARG:HH12	1.68	0.40
20:Y:49:VAL:O	20:Y:50:ARG:C	2.59	0.40
20:Y:95:LYS:HA	20:Y:101:LYS:CB	2.51	0.40
22:O:25:ARG:HD2	22:O:29:GLN:HE22	1.86	0.40
23:1:82:LEU:HD13	23:1:83:GLU:CA	2.49	0.40
26:4:21:VAL:O	26:4:22:ILE:O	2.40	0.40
26:4:26:SER:O	26:4:27:THR:O	2.40	0.40
30:8:32:LEU:HD23	30:8:32:LEU:HA	1.94	0.40
30:8:53:PRO:HD2	30:8:54:GLU:H	1.84	0.40
30:8:53:PRO:CG	30:8:54:GLU:N	2.84	0.40
1:A:2052:G:C6	1:A:2053:G:N7	2.89	0.40
1:A:2342:C:O2	1:A:2374:C:H4'	2.21	0.40
1:A:2431:U:H2'	1:A:2433:A:OP2	2.21	0.40
1:A:265:A:H2'	1:A:266:G:O4'	2.20	0.40
1:A:861:A:H2'	1:A:862:G:O4'	2.21	0.40
5:F:36:VAL:HG11	5:F:183:VAL:HG11	2.04	0.40
5:F:62:ARG:HB3	5:F:62:ARG:CZ	2.52	0.40
6:G:41:GLN:HB3	6:G:43:LEU:CD1	2.51	0.40
7:H:20:ALA:HB3	7:H:23:ARG:HG2	2.03	0.40
10:O:47:ILE:HD12	10:O:48:PRO:CD	2.43	0.40
10:O:92:GLU:O	10:O:93:PRO:C	2.58	0.40
11:P:19:VAL:HG22	11:P:21:ARG:N	2.36	0.40
11:P:65:ARG:HH21	30:8:15:LYS:HB3	1.85	0.40
11:P:65:ARG:O	11:P:66:GLY:C	2.60	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:66:ILE:O	12:Q:67:ARG:HB2	2.22	0.40
13:R:14:SER:HB2	13:R:15:SER:H	1.72	0.40
14:S:42:ASP:O	14:S:43:GLU:CB	2.62	0.40
14:S:52:SER:HB2	14:S:55:ALA:HB3	2.03	0.40
14:S:62:LYS:HD3	14:S:97:ARG:CZ	2.52	0.40
18:W:1:MET:CE	18:W:2:GLU:H	2.31	0.40
20:Y:57:GLN:O	20:Y:58:GLY:C	2.60	0.40
23:1:86:SER:O	23:1:89:GLU:HB2	2.21	0.40
24:2:53:LEU:O	24:2:57:ILE:HG13	2.21	0.40
6:G:112:PRO:CA	26:4:37:SER:HB2	2.51	0.40
28:6:24:GLU:HB3	28:6:25:LYS:H	1.56	0.40
28:6:36:LEU:CD1	28:6:50:ARG:NH1	2.82	0.40
30:8:40:GLU:O	30:8:42:ARG:N	2.54	0.40
1:A:1022:G:C6	1:A:1140:C:C4	3.09	0.40
1:A:1403:C:H5''	1:A:1471:A:C1'	2.49	0.40
1:A:2369:A:H2'	1:A:2370:G:C8	2.56	0.40
1:A:2643:G:H2'	1:A:2644:G:O4'	2.21	0.40
3:D:228:PRO:HD3	3:D:234:GLY:O	2.21	0.40
4:E:5:LEU:O	4:E:28:ALA:HA	2.22	0.40
4:E:92:THR:HB	4:E:93:VAL:H	1.57	0.40
6:G:78:SER:O	6:G:79:ASN:C	2.59	0.40
9:N:101:HIS:HD2	9:N:102:ALA:N	2.19	0.40
9:N:28:THR:O	9:N:29:LYS:C	2.59	0.40
10:O:13:ASN:HD21	10:O:97:ARG:HB3	1.87	0.40
13:R:34:ILE:HG22	13:R:35:THR:N	2.35	0.40
13:R:84:ALA:O	13:R:85:PRO:C	2.59	0.40
1:A:2295:C:P	14:S:10:ARG:HD2	2.61	0.40
14:S:20:ARG:HE	14:S:21:THR:HA	1.87	0.40
15:T:10:VAL:O	15:T:11:GLU:C	2.59	0.40
15:T:23:ARG:O	15:T:49:VAL:HG11	2.21	0.40
15:T:54:ARG:HA	15:T:59:THR:HG23	2.02	0.40
18:W:100:THR:HG23	18:W:100:THR:O	2.22	0.40
18:W:88:ARG:HD2	18:W:88:ARG:HA	1.92	0.40
20:Y:90:LEU:HB2	20:Y:91:GLU:H	1.53	0.40
22:O:36:ILE:HD13	22:O:36:ILE:O	2.22	0.40
28:6:36:LEU:HD23	28:6:36:LEU:N	2.37	0.40
28:6:37:ARG:O	28:6:48:VAL:O	2.39	0.40
28:6:7:ILE:CG1	28:6:8:LYS:N	2.75	0.40
1:A:1085:A:O2'	1:A:1086:A:P	2.80	0.40
1:A:1520:U:H2'	1:A:1521:G:O4'	2.22	0.40
1:A:1688:U:O2	1:A:1700:A:H8	2.05	0.40
1:A:1790:C:H5''	1:A:1791:A:OP1	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1853:A:H2'	1:A:1854:A:C8	2.56	0.40
1:A:2298:A:H2'	1:A:2299:G:O4'	2.21	0.40
1:A:2707:G:H2'	1:A:2708:G:C8	2.57	0.40
1:A:513:A:H5'	1:A:1216:G:O2'	2.20	0.40
2:B:15:A:H1'	2:B:109:G:C4	2.56	0.40
3:D:92:ILE:CD1	3:D:104:TYR:CD2	3.05	0.40
3:D:185:VAL:HG12	3:D:186:HIS:N	2.37	0.40
3:D:72:LYS:HG3	3:D:97:TYR:CE2	2.56	0.40
5:F:33:LEU:O	5:F:37:VAL:HG23	2.21	0.40
5:F:64:ILE:HD12	5:F:64:ILE:HA	1.89	0.40
6:G:114:ILE:HG22	6:G:117:PHE:HB2	2.01	0.40
7:H:52:VAL:HG21	7:H:68:THR:HG22	2.03	0.40
9:N:63:THR:HG22	9:N:66:LYS:HZ1	1.86	0.40
9:N:75:TYR:O	9:N:76:SER:O	2.40	0.40
10:O:97:ARG:H	10:O:117:LEU:CD2	2.24	0.40
11:P:2:LYS:O	11:P:5:ASP:CB	2.70	0.40
13:R:18:LEU:HD11	13:R:22:ARG:NE	2.36	0.40
14:S:83:LYS:CE	14:S:109:GLY:HA2	2.47	0.40
14:S:24:LEU:N	14:S:24:LEU:HD22	2.37	0.40
14:S:89:ARG:NH1	14:S:89:ARG:HG2	2.36	0.40
14:S:92:TYR:HB2	14:S:98:VAL:HG11	2.02	0.40
16:U:15:LYS:O	16:U:16:LYS:C	2.60	0.40
16:U:62:ILE:HG23	16:U:76:TYR:CE1	2.57	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	D	270/276 (98%)	203 (75%)	48 (18%)	19 (7%)	2	14
4	E	203/206 (98%)	120 (59%)	41 (20%)	42 (21%)	0	0
5	F	200/210 (95%)	144 (72%)	36 (18%)	20 (10%)	1	7

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	G	179/182 (98%)	119 (66%)	39 (22%)	21 (12%)	1	4
7	H	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0	0
8	I	144/148 (97%)	101 (70%)	26 (18%)	17 (12%)	1	4
9	N	136/140 (97%)	84 (62%)	30 (22%)	22 (16%)	0	1
10	O	120/122 (98%)	90 (75%)	21 (18%)	9 (8%)	2	12
11	P	148/150 (99%)	97 (66%)	19 (13%)	32 (22%)	0	0
12	Q	139/141 (99%)	95 (68%)	30 (22%)	14 (10%)	1	7
13	R	116/118 (98%)	82 (71%)	20 (17%)	14 (12%)	1	4
14	S	109/112 (97%)	62 (57%)	28 (26%)	19 (17%)	0	1
15	T	135/146 (92%)	83 (62%)	32 (24%)	20 (15%)	0	1
16	U	115/118 (98%)	86 (75%)	20 (17%)	9 (8%)	1	11
17	V	99/101 (98%)	73 (74%)	16 (16%)	10 (10%)	1	7
18	W	111/113 (98%)	75 (68%)	22 (20%)	14 (13%)	0	3
19	X	90/96 (94%)	77 (86%)	8 (9%)	5 (6%)	3	23
20	Y	100/110 (91%)	58 (58%)	16 (16%)	26 (26%)	0	0
21	Z	181/206 (88%)	118 (65%)	39 (22%)	24 (13%)	0	2
22	0	80/85 (94%)	69 (86%)	8 (10%)	3 (4%)	5	34
23	1	95/98 (97%)	64 (67%)	20 (21%)	11 (12%)	1	4
24	2	67/72 (93%)	47 (70%)	11 (16%)	9 (13%)	0	2
25	3	57/60 (95%)	45 (79%)	9 (16%)	3 (5%)	3	24
26	4	69/71 (97%)	23 (33%)	20 (29%)	26 (38%)	0	0
27	5	57/60 (95%)	33 (58%)	9 (16%)	15 (26%)	0	0
28	6	47/54 (87%)	15 (32%)	18 (38%)	14 (30%)	0	0
29	7	47/49 (96%)	37 (79%)	7 (15%)	3 (6%)	2	17
30	8	62/65 (95%)	36 (58%)	15 (24%)	11 (18%)	0	1
31	9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	3379/3526 (96%)	2261 (67%)	648 (19%)	470 (14%)	0	2

All (470) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	26	LYS
3	D	28	GLU

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Mol	Chain	Res	Type
3	D	123	ALA
3	D	231	HIS
4	E	4	ILE
4	E	7	VAL
4	E	9	VAL
4	E	22	PRO
4	E	54	GLN
4	E	57	LYS
4	E	60	ASN
4	E	63	LEU
4	E	64	LYS
4	E	68	ALA
4	E	70	ALA
4	E	73	GLU
4	E	90	THR
4	E	92	THR
4	E	93	VAL
4	E	169	ASN
4	E	187	ALA
4	E	189	PRO
5	F	25	PRO
5	F	66	PRO
5	F	68	LYS
5	F	73	ALA
5	F	89	VAL
5	F	128	ALA
5	F	176	LEU
6	G	4	ASP
6	G	14	GLU
6	G	79	ASN
6	G	86	MET
7	H	10	PRO
7	H	12	PRO
7	H	83	TYR
7	H	85	LYS
7	H	86	GLU
7	H	87	LEU
7	H	90	LYS
7	H	92	ILE
7	H	126	PRO
7	H	127	GLU
7	H	128	PRO

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Mol	Chain	Res	Type
7	H	137	ASP
7	H	138	LYS
7	H	153	LYS
7	H	154	PRO
7	H	155	SER
7	H	169	VAL
8	I	10	GLU
8	I	115	ALA
8	I	133	HIS
9	N	6	PRO
9	N	9	VAL
9	N	22	THR
9	N	36	GLY
9	N	58	ASP
9	N	95	PRO
9	N	97	ARG
9	N	119	ARG
9	N	131	GLN
9	N	133	GLN
9	N	134	ARG
10	O	49	ARG
11	P	5	ASP
11	P	10	PRO
11	P	15	ARG
11	P	19	VAL
11	P	21	ARG
11	P	25	SER
11	P	27	HIS
11	P	36	LYS
11	P	38	GLN
11	P	42	SER
11	P	65	ARG
11	P	95	VAL
11	P	106	LEU
11	P	107	LYS
11	P	141	ALA
11	P	148	LEU
12	Q	6	ARG
12	Q	18	LYS
12	Q	22	LYS
12	Q	27	VAL
12	Q	81	VAL

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Mol	Chain	Res	Type
12	Q	90	VAL
12	Q	134	ARG
13	R	2	ARG
13	R	3	HIS
13	R	4	LEU
13	R	14	SER
13	R	58	GLY
13	R	86	ARG
13	R	117	VAL
14	S	4	LEU
14	S	12	PHE
14	S	14	VAL
14	S	23	ARG
14	S	56	LEU
14	S	57	LYS
14	S	88	ASP
14	S	89	ARG
14	S	90	GLY
14	S	107	GLU
15	T	2	ASN
15	T	3	ARG
15	T	39	ARG
15	T	55	ASN
15	T	58	ASN
15	T	90	GLN
15	T	94	ALA
15	T	97	ALA
15	T	106	SER
15	T	107	ASP
17	V	28	GLU
17	V	31	ALA
17	V	45	THR
17	V	48	GLY
17	V	49	THR
17	V	50	PRO
17	V	53	GLU
17	V	79	VAL
18	W	59	VAL
18	W	67	ASP
18	W	75	TYR
18	W	111	HIS
19	X	36	LYS

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Mol	Chain	Res	Type
20	Y	3	VAL
20	Y	23	ARG
20	Y	48	ALA
20	Y	49	VAL
20	Y	50	ARG
20	Y	53	PRO
20	Y	58	GLY
20	Y	63	LYS
20	Y	77	PRO
20	Y	78	ALA
20	Y	96	ILE
21	Z	6	LYS
21	Z	112	ARG
23	1	30	VAL
23	1	54	ALA
23	1	81	LYS
23	1	82	LEU
23	1	95	LEU
24	2	16	LEU
24	2	43	GLN
24	2	47	ASN
24	2	48	HIS
24	2	71	ASN
25	3	3	ARG
26	4	5	ILE
26	4	14	ILE
26	4	16	CYS
26	4	22	ILE
26	4	23	GLU
26	4	36	CYS
26	4	37	SER
26	4	40	HIS
26	4	42	PHE
26	4	43	TYR
26	4	49	PHE
26	4	50	VAL
26	4	51	ASP
26	4	53	GLU
26	4	62	ARG
26	4	66	SER
26	4	68	ARG
27	5	3	LYS

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Mol	Chain	Res	Type
27	5	4	HIS
27	5	35	GLU
27	5	51	TYR
27	5	53	ALA
28	6	7	ILE
28	6	14	THR
28	6	15	GLU
28	6	19	ARG
28	6	21	TYR
28	6	33	LYS
28	6	45	LYS
28	6	48	VAL
30	8	29	LYS
30	8	31	HIS
30	8	34	TRP
30	8	52	LYS
30	8	62	LEU
3	D	3	VAL
3	D	32	SER
3	D	58	HIS
3	D	122	ASP
3	D	169	GLU
4	E	8	LYS
4	E	20	ALA
4	E	37	ARG
4	E	53	PRO
4	E	61	ARG
4	E	78	LEU
4	E	88	GLY
4	E	186	GLY
4	E	190	GLY
4	E	204	ALA
5	F	18	ARG
5	F	107	LYS
5	F	108	LYS
5	F	111	ALA
5	F	132	VAL
5	F	134	GLY
5	F	168	ARG
6	G	36	LYS
6	G	81	LYS
6	G	82	LEU

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Mol	Chain	Res	Type
6	G	96	ARG
6	G	110	ALA
6	G	115	ARG
6	G	126	ASP
6	G	136	ARG
7	H	3	ARG
7	H	8	PRO
7	H	55	PRO
7	H	59	ARG
7	H	84	SER
7	H	151	ILE
7	H	156	ALA
7	H	168	PRO
8	I	9	LEU
8	I	11	ASN
8	I	13	GLY
8	I	117	GLU
8	I	145	VAL
9	N	23	LEU
9	N	76	SER
10	O	51	ALA
10	O	56	ASP
10	O	68	GLU
11	P	6	LEU
11	P	11	GLY
11	P	12	ALA
11	P	16	ARG
12	Q	13	GLN
12	Q	24	GLY
12	Q	28	ALA
12	Q	57	HIS
13	R	11	ASN
14	S	87	PHE
14	S	96	GLY
14	S	100	ALA
14	S	109	GLY
14	S	111	GLU
15	T	4	GLY
15	T	36	GLU
15	T	43	GLN
15	T	67	SER
15	T	124	ASP

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Mol	Chain	Res	Type
16	U	9	VAL
16	U	28	ARG
16	U	73	GLY
16	U	90	VAL
18	W	63	ASP
18	W	66	GLU
19	X	67	GLY
20	Y	4	LYS
20	Y	41	GLY
20	Y	56	PRO
20	Y	57	GLN
20	Y	99	CYS
21	Z	7	ALA
21	Z	59	LEU
21	Z	111	VAL
21	Z	130	PRO
21	Z	177	PRO
23	1	45	ASN
23	1	55	GLY
23	1	84	GLY
24	2	24	LEU
24	2	44	LEU
24	2	70	GLN
26	4	9	LEU
26	4	24	THR
27	5	43	HIS
27	5	55	ARG
29	7	39	ARG
3	D	111	LEU
3	D	242	ARG
3	D	262	ARG
4	E	62	PRO
4	E	69	LYS
4	E	71	GLY
4	E	82	ARG
4	E	117	MET
4	E	130	GLY
4	E	132	HIS
6	G	5	VAL
6	G	128	ARG
6	G	174	GLU
7	H	50	VAL

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Mol	Chain	Res	Type
7	H	81	GLU
7	H	152	ARG
8	I	72	LEU
8	I	118	LYS
9	N	45	ASN
9	N	130	HIS
9	N	132	ALA
9	N	135	PRO
11	P	7	ARG
11	P	14	LYS
11	P	43	GLY
11	P	89	ALA
11	P	102	ARG
11	P	115	LEU
12	Q	88	GLY
12	Q	91	GLU
13	R	42	LYS
13	R	45	ARG
13	R	71	GLN
13	R	107	ASP
14	S	19	LYS
14	S	61	ASN
14	S	74	ALA
14	S	75	GLU
15	T	78	LEU
15	T	112	ARG
16	U	46	ALA
16	U	58	ARG
16	U	93	LYS
17	V	54	GLY
18	W	68	ARG
18	W	93	ALA
19	X	48	LYS
19	X	87	GLN
20	Y	21	LYS
20	Y	39	VAL
20	Y	42	VAL
20	Y	69	ALA
20	Y	91	GLU
20	Y	102	CYS
21	Z	13	GLU
21	Z	92	SER

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Mol	Chain	Res	Type
21	Z	108	PRO
21	Z	166	SER
21	Z	181	GLU
22	0	18	ALA
23	1	74	VAL
23	1	91	LYS
23	1	93	GLU
26	4	27	THR
26	4	46	GLN
28	6	18	ARG
29	7	32	LYS
30	8	46	ARG
30	8	47	LYS
3	D	12	SER
3	D	73	VAL
3	D	238	GLY
4	E	66	HIS
4	E	126	PRO
5	F	43	LYS
5	F	130	ALA
5	F	136	THR
5	F	145	GLU
6	G	12	TYR
6	G	117	PHE
6	G	146	TYR
7	H	13	LYS
7	H	109	PHE
7	H	159	GLU
8	I	15	VAL
9	N	96	GLU
9	N	127	ASP
10	O	17	ARG
10	O	97	ARG
11	P	29	LYS
11	P	47	ASP
11	P	139	LYS
15	T	37	GLY
15	T	95	ARG
16	U	74	LEU
18	W	14	PRO
18	W	48	ALA
21	Z	81	ARG

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Mol	Chain	Res	Type
21	Z	141	VAL
21	Z	146	ILE
22	0	3	HIS
26	4	8	LYS
27	5	14	ALA
27	5	37	LYS
27	5	45	VAL
27	5	48	GLU
28	6	8	LYS
28	6	9	LEU
28	6	10	LEU
28	6	49	HIS
30	8	25	MET
30	8	53	PRO
30	8	57	ARG
3	D	33	LEU
4	E	79	ARG
5	F	47	GLY
5	F	118	ALA
7	H	11	VAL
7	H	27	LYS
7	H	47	GLU
7	H	77	LYS
7	H	170	ARG
9	N	29	LYS
9	N	104	LYS
9	N	128	HIS
10	O	25	LEU
11	P	50	ARG
11	P	97	PRO
11	P	108	LYS
13	R	85	PRO
16	U	91	ASP
18	W	32	ALA
20	Y	7	VAL
21	Z	31	ARG
21	Z	51	ALA
21	Z	53	ILE
21	Z	109	ALA
21	Z	116	VAL
22	0	57	PHE
25	3	13	ILE

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Mol	Chain	Res	Type
26	4	30	GLU
27	5	42	PRO
28	6	35	GLU
30	8	64	TYR
3	D	178	PRO
6	G	109	VAL
6	G	181	ARG
7	H	7	LEU
7	H	26	VAL
8	I	18	VAL
8	I	80	PRO
8	I	122	GLU
15	T	38	ASN
18	W	11	ARG
18	W	33	ARG
19	X	19	ALA
21	Z	61	LEU
21	Z	168	GLU
26	4	33	VAL
26	4	69	LYS
26	4	70	GLY
27	5	57	VAL
29	7	44	PRO
4	E	86	PRO
4	E	184	VAL
12	Q	86	GLY
13	R	32	GLY
17	V	36	PRO
18	W	35	ILE
3	D	241	PRO
8	I	71	ILE
8	I	84	GLY
20	Y	27	VAL
20	Y	32	PRO
21	Z	165	VAL
27	5	46	CYS
3	D	34	VAL
6	G	52	ILE
10	O	114	ILE
20	Y	51	VAL
21	Z	114	GLY
27	5	34	PRO

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Mol	Chain	Res	Type
4	E	52	LEU
4	E	55	ASN
8	I	110	ASP
10	O	27	GLY
25	3	40	THR
24	2	18	PRO

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	D	214/218 (98%)	177 (83%)	37 (17%)	3	13
4	E	165/166 (99%)	127 (77%)	38 (23%)	1	5
5	F	161/166 (97%)	140 (87%)	21 (13%)	6	28
6	G	155/156 (99%)	130 (84%)	25 (16%)	3	16
7	H	142/148 (96%)	114 (80%)	28 (20%)	2	9
8	I	122/124 (98%)	94 (77%)	28 (23%)	1	5
9	N	117/119 (98%)	98 (84%)	19 (16%)	3	15
10	O	100/100 (100%)	90 (90%)	10 (10%)	11	41
11	P	116/116 (100%)	89 (77%)	27 (23%)	1	5
12	Q	111/111 (100%)	93 (84%)	18 (16%)	3	15
13	R	101/101 (100%)	84 (83%)	17 (17%)	3	14
14	S	87/88 (99%)	74 (85%)	13 (15%)	4	20
15	T	120/127 (94%)	97 (81%)	23 (19%)	2	10
16	U	93/94 (99%)	80 (86%)	13 (14%)	5	24
17	V	82/82 (100%)	71 (87%)	11 (13%)	6	26
18	W	92/92 (100%)	77 (84%)	15 (16%)	3	15
19	X	74/78 (95%)	63 (85%)	11 (15%)	4	20
20	Y	85/91 (93%)	70 (82%)	15 (18%)	3	13
21	Z	162/179 (90%)	140 (86%)	22 (14%)	5	26
22	0	65/67 (97%)	60 (92%)	5 (8%)	18	59

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
23	1	82/83 (99%)	67 (82%)	15 (18%)	2	12
24	2	64/67 (96%)	57 (89%)	7 (11%)	9	37
25	3	51/52 (98%)	40 (78%)	11 (22%)	1	7
26	4	63/63 (100%)	44 (70%)	19 (30%)	0	1
27	5	51/52 (98%)	39 (76%)	12 (24%)	1	4
28	6	48/52 (92%)	38 (79%)	10 (21%)	2	8
29	7	42/42 (100%)	39 (93%)	3 (7%)	21	63
30	8	54/55 (98%)	39 (72%)	15 (28%)	0	2
31	9	34/34 (100%)	32 (94%)	2 (6%)	28	72
All	All	2853/2923 (98%)	2363 (83%)	490 (17%)	3	14

All (490) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	10	THR
3	D	17	THR
3	D	26	LYS
3	D	33	LEU
3	D	43	ARG
3	D	44	ASN
3	D	61	LEU
3	D	65	ILE
3	D	67	PHE
3	D	71	ASP
3	D	73	VAL
3	D	94	LEU
3	D	98	VAL
3	D	105	ILE
3	D	106	ILE
3	D	131	LEU
3	D	134	ARG
3	D	135	PHE
3	D	155	LEU
3	D	157	ARG
3	D	166	GLN
3	D	173	VAL
3	D	183	ARG
3	D	192	THR
3	D	198	ASN

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Mol	Chain	Res	Type
3	D	200	ASP
3	D	215	LEU
3	D	217	ARG
3	D	218	ARG
3	D	226	MET
3	D	230	ASP
3	D	237	GLU
3	D	257	LEU
3	D	259	THR
3	D	261	LYS
3	D	262	ARG
3	D	271	ILE
4	E	2	LYS
4	E	4	ILE
4	E	13	ARG
4	E	16	ARG
4	E	17	ASP
4	E	25	VAL
4	E	26	ILE
4	E	27	LEU
4	E	33	VAL
4	E	36	ARG
4	E	37	ARG
4	E	38	THR
4	E	41	LYS
4	E	45	THR
4	E	54	GLN
4	E	61	ARG
4	E	62	PRO
4	E	66	HIS
4	E	73	GLU
4	E	75	VAL
4	E	77	ILE
4	E	78	LEU
4	E	79	ARG
4	E	80	GLU
4	E	101	ARG
4	E	113	PHE
4	E	117	MET
4	E	119	ARG
4	E	143	ASN
4	E	146	THR

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Mol	Chain	Res	Type
4	E	154	LYS
4	E	167	VAL
4	E	179	GLU
4	E	184	VAL
4	E	196	VAL
4	E	200	GLU
4	E	202	LYS
4	E	203	LYS
5	F	7	TYR
5	F	9	ILE
5	F	25	PRO
5	F	32	LEU
5	F	45	ARG
5	F	46	ARG
5	F	65	TRP
5	F	66	PRO
5	F	67	GLN
5	F	70	THR
5	F	82	ILE
5	F	106	ARG
5	F	108	LYS
5	F	117	ARG
5	F	124	LEU
5	F	127	GLU
5	F	145	GLU
5	F	164	ARG
5	F	181	LEU
5	F	183	VAL
5	F	206	ILE
6	G	4	ASP
6	G	22	ARG
6	G	26	GLN
6	G	33	ARG
6	G	34	LEU
6	G	35	GLU
6	G	43	LEU
6	G	45	GLU
6	G	63	ILE
6	G	67	LYS
6	G	71	THR
6	G	88	ILE
6	G	94	LEU

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Mol	Chain	Res	Type
6	G	96	ARG
6	G	97	ASP
6	G	103	LEU
6	G	115	ARG
6	G	118	ARG
6	G	133	LEU
6	G	147	ASP
6	G	155	MET
6	G	156	ASP
6	G	159	VAL
6	G	167	GLU
6	G	174	GLU
7	H	3	ARG
7	H	4	ILE
7	H	9	ILE
7	H	10	PRO
7	H	11	VAL
7	H	16	SER
7	H	27	LYS
7	H	32	GLU
7	H	37	VAL
7	H	41	MET
7	H	43	VAL
7	H	59	ARG
7	H	64	LEU
7	H	77	LYS
7	H	81	GLU
7	H	85	LYS
7	H	88	LEU
7	H	89	ILE
7	H	105	LEU
7	H	132	ARG
7	H	139	GLN
7	H	143	GLN
7	H	152	ARG
7	H	153	LYS
7	H	154	PRO
7	H	155	SER
7	H	158	HIS
7	H	169	VAL
8	I	1	MET
8	I	2	LYS

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Mol	Chain	Res	Type
8	I	7	GLU
8	I	27	ARG
8	I	33	ARG
8	I	38	LEU
8	I	40	THR
8	I	44	LEU
8	I	52	ARG
8	I	56	LYS
8	I	57	ARG
8	I	67	ARG
8	I	70	GLU
8	I	85	GLU
8	I	86	THR
8	I	88	ILE
8	I	92	VAL
8	I	96	ASP
8	I	105	HIS
8	I	113	ARG
8	I	118	LYS
8	I	128	LEU
8	I	131	LYS
8	I	134	PRO
8	I	135	GLU
8	I	138	ILE
8	I	139	GLN
8	I	142	VAL
9	N	2	LYS
9	N	7	LYS
9	N	43	THR
9	N	48	MET
9	N	60	ILE
9	N	61	ARG
9	N	65	LYS
9	N	73	THR
9	N	78	TYR
9	N	90	MET
9	N	93	THR
9	N	94	HIS
9	N	101	HIS
9	N	109	LYS
9	N	112	LEU
9	N	120	LEU

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Mol	Chain	Res	Type
9	N	127	ASP
9	N	131	GLN
9	N	136	GLU
10	O	8	LEU
10	O	9	GLU
10	O	17	ARG
10	O	19	ILE
10	O	23	ARG
10	O	31	LYS
10	O	39	ILE
10	O	49	ARG
10	O	53	LYS
10	O	65	THR
11	P	5	ASP
11	P	9	ASN
11	P	10	PRO
11	P	16	ARG
11	P	21	ARG
11	P	27	HIS
11	P	29	LYS
11	P	30	THR
11	P	32	THR
11	P	36	LYS
11	P	38	GLN
11	P	41	ARG
11	P	50	ARG
11	P	55	ARG
11	P	61	ARG
11	P	62	LEU
11	P	64	LYS
11	P	65	ARG
11	P	75	ILE
11	P	81	GLN
11	P	88	LEU
11	P	91	PHE
11	P	99	LEU
11	P	100	LEU
11	P	108	LYS
11	P	144	GLU
11	P	146	VAL
12	Q	2	LEU
12	Q	25	ASP

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Mol	Chain	Res	Type
12	Q	26	TYR
12	Q	27	VAL
12	Q	45	GLN
12	Q	46	GLN
12	Q	54	MET
12	Q	55	VAL
12	Q	58	PHE
12	Q	60	ARG
12	Q	79	LEU
12	Q	83	MET
12	Q	89	ASN
12	Q	90	VAL
12	Q	91	GLU
12	Q	130	LYS
12	Q	135	ASP
12	Q	139	GLU
13	R	14	SER
13	R	31	HIS
13	R	37	THR
13	R	44	LEU
13	R	51	LEU
13	R	57	ARG
13	R	66	VAL
13	R	67	LEU
13	R	71	GLN
13	R	75	LEU
13	R	76	VAL
13	R	81	ASP
13	R	95	THR
13	R	104	ARG
13	R	105	ARG
13	R	107	ASP
13	R	113	LEU
14	S	4	LEU
14	S	12	PHE
14	S	17	ARG
14	S	18	ILE
14	S	20	ARG
14	S	44	LYS
14	S	56	LEU
14	S	57	LYS
14	S	89	ARG

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Mol	Chain	Res	Type
14	S	101	LEU
14	S	103	GLU
14	S	106	ARG
14	S	111	GLU
15	T	2	ASN
15	T	14	TYR
15	T	22	PHE
15	T	23	ARG
15	T	26	ASP
15	T	27	THR
15	T	42	ILE
15	T	51	ARG
15	T	58	ASN
15	T	65	LYS
15	T	73	GLU
15	T	78	LEU
15	T	86	ILE
15	T	87	ASP
15	T	99	LEU
15	T	100	TYR
15	T	104	ASN
15	T	107	ASP
15	T	111	ARG
15	T	112	ARG
15	T	115	ARG
15	T	128	GLU
15	T	134	GLU
16	U	5	LYS
16	U	9	VAL
16	U	31	SER
16	U	52	ARG
16	U	74	LEU
16	U	76	TYR
16	U	79	PHE
16	U	88	ILE
16	U	92	ARG
16	U	98	LEU
16	U	108	GLU
16	U	114	LYS
16	U	117	GLN
17	V	13	ARG
17	V	14	VAL

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Mol	Chain	Res	Type
17	V	18	LEU
17	V	35	LEU
17	V	38	LEU
17	V	39	LEU
17	V	40	LEU
17	V	66	ARG
17	V	75	PHE
17	V	91	TYR
17	V	99	ILE
18	W	11	ARG
18	W	14	PRO
18	W	16	LYS
18	W	18	ARG
18	W	19	LEU
18	W	20	VAL
18	W	63	ASP
18	W	67	ASP
18	W	69	LEU
18	W	70	TYR
18	W	87	PRO
18	W	88	ARG
18	W	92	ARG
18	W	107	LEU
18	W	109	GLU
19	X	3	THR
19	X	6	ASP
19	X	15	GLU
19	X	27	THR
19	X	30	VAL
19	X	55	ASN
19	X	57	LEU
19	X	65	ARG
19	X	70	LEU
19	X	80	ILE
19	X	88	LYS
20	Y	7	VAL
20	Y	11	ASP
20	Y	27	VAL
20	Y	45	VAL
20	Y	57	GLN
20	Y	64	GLU
20	Y	75	ILE

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Mol	Chain	Res	Type
20	Y	77	PRO
20	Y	79	CYS
20	Y	87	LYS
20	Y	88	LYS
20	Y	89	PHE
20	Y	90	LEU
20	Y	95	LYS
20	Y	97	ARG
21	Z	2	GLU
21	Z	20	ARG
21	Z	31	ARG
21	Z	60	GLU
21	Z	72	ARG
21	Z	76	LEU
21	Z	81	ARG
21	Z	87	ASP
21	Z	92	SER
21	Z	93	ASP
21	Z	94	GLU
21	Z	111	VAL
21	Z	112	ARG
21	Z	119	GLU
21	Z	123	ASP
21	Z	128	VAL
21	Z	145	GLU
21	Z	150	LEU
21	Z	166	SER
21	Z	168	GLU
21	Z	182	LYS
21	Z	183	LEU
22	0	7	LEU
22	0	11	ARG
22	0	36	ILE
22	0	55	ARG
22	0	74	ARG
23	1	2	SER
23	1	11	ARG
23	1	21	ARG
23	1	30	VAL
23	1	40	ARG
23	1	41	ARG
23	1	56	GLN

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Mol	Chain	Res	Type
23	1	76	ARG
23	1	80	LEU
23	1	81	LYS
23	1	83	GLU
23	1	87	PRO
23	1	91	LYS
23	1	92	LYS
23	1	97	LEU
24	2	7	ARG
24	2	9	GLN
24	2	16	LEU
24	2	24	LEU
24	2	53	LEU
24	2	62	THR
24	2	64	LEU
25	3	4	LEU
25	3	8	LEU
25	3	9	VAL
25	3	10	LYS
25	3	17	LYS
25	3	30	ARG
25	3	31	LEU
25	3	32	GLN
25	3	37	LEU
25	3	40	THR
25	3	44	ARG
26	4	6	HIS
26	4	15	ILE
26	4	18	CYS
26	4	21	VAL
26	4	23	GLU
26	4	39	CYS
26	4	42	PHE
26	4	48	ARG
26	4	49	PHE
26	4	50	VAL
26	4	51	ASP
26	4	53	GLU
26	4	57	GLU
26	4	61	ARG
26	4	62	ARG
26	4	63	TYR

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Mol	Chain	Res	Type
26	4	67	TYR
26	4	68	ARG
26	4	71	ARG
27	5	3	LYS
27	5	4	HIS
27	5	6	VAL
27	5	11	THR
27	5	19	ARG
27	5	25	LEU
27	5	36	CYS
27	5	37	LYS
27	5	43	HIS
27	5	52	TYR
27	5	56	LYS
27	5	58	LEU
28	6	6	ARG
28	6	8	LYS
28	6	18	ARG
28	6	19	ARG
28	6	28	ARG
28	6	34	LEU
28	6	37	ARG
28	6	42	TRP
28	6	44	ARG
28	6	46	HIS
29	7	1	MET
29	7	9	ARG
29	7	43	THR
30	8	15	LYS
30	8	16	ILE
30	8	30	ARG
30	8	35	GLN
30	8	39	LYS
30	8	43	GLN
30	8	44	LYS
30	8	47	LYS
30	8	48	PHE
30	8	49	VAL
30	8	52	LYS
30	8	53	PRO
30	8	62	LEU
30	8	63	PRO

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Mol	Chain	Res	Type
30	8	65	GLU
31	9	1	MET
31	9	17	ILE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (31) such sidechains are listed below:

Mol	Chain	Res	Type
3	D	44	ASN
3	D	143	HIS
3	D	166	GLN
3	D	198	ASN
4	E	48	GLN
7	H	143	GLN
7	H	147	ASN
9	N	56	ASN
9	N	101	HIS
9	N	131	GLN
10	O	5	GLN
10	O	82	ASN
11	P	81	GLN
11	P	84	ASN
12	Q	123	HIS
13	R	3	HIS
15	T	55	ASN
15	T	58	ASN
16	U	94	ASN
17	V	11	GLN
18	W	61	ASN
19	X	55	ASN
19	X	87	GLN
20	Y	57	GLN
21	Z	54	HIS
22	0	29	GLN
23	1	56	GLN
24	2	9	GLN
24	2	47	ASN
25	3	19	GLN
25	3	32	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2879/2916 (98%)	623 (21%)	73 (2%)
2	B	119/122 (97%)	25 (21%)	2 (1%)
32	a	1/3 (33%)	0	0
All	All	2999/3041 (98%)	648 (21%)	75 (2%)

All (648) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	U
1	A	11	G
1	A	15	G
1	A	28	A
1	A	34	C
1	A	35	G
1	A	46	C
1	A	51	G
1	A	55	G
1	A	72	U
1	A	74	A
1	A	75	G
1	A	84	A
1	A	95	G
1	A	96	G
1	A	99	U
1	A	101	G
1	A	102	G
1	A	103	A
1	A	118	A
1	A	120	U
1	A	131	G
1	A	138	G
1	A	161	U
1	A	177	G
1	A	181	A
1	A	196	A
1	A	199	A
1	A	205	G
1	A	206	U
1	A	214	G
1	A	215	G
1	A	216	A
1	A	221	A
1	A	222	A

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Mol	Chain	Res	Type
1	A	223	A
1	A	224	G
1	A	228	A
1	A	229	A
1	A	230	U
1	A	232	G
1	A	242	G
1	A	243	U
1	A	248	G
1	A	249	C
1	A	250	G
1	A	252	G
1	A	265	A
1	A	266	G
1	A	267	C
1	A	268	C
1	A	270(L)	U
1	A	270(M)	U
1	A	270(N)	G
1	A	270(P)	C
1	A	271(C)	U
1	A	271	G
1	A	275	G
1	A	276	A
1	A	277	C
1	A	278	A
1	A	299	A
1	A	306	U
1	A	311	A
1	A	316	C
1	A	323	G
1	A	324	A
1	A	327	G
1	A	329	G
1	A	330	A
1	A	332	A
1	A	333	G
1	A	335	C
1	A	342	G
1	A	343	C
1	A	346	A
1	A	352	G

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Mol	Chain	Res	Type
1	A	361	G
1	A	364	C
1	A	371	A
1	A	372	G
1	A	373	U
1	A	386	G
1	A	405	U
1	A	411	G
1	A	412	A
1	A	421	U
1	A	428	A
1	A	441	U
1	A	444	C
1	A	448	U
1	A	454	A
1	A	455	C
1	A	456	C
1	A	457	A
1	A	470	A
1	A	481	G
1	A	494	G
1	A	504	U
1	A	505	A
1	A	509	C
1	A	512	G
1	A	513	A
1	A	518	G
1	A	527	C
1	A	529	A
1	A	532	A
1	A	533	G
1	A	537	C
1	A	539	G
1	A	540	G
1	A	546	C
1	A	547	A
1	A	549	G
1	A	556	G
1	A	563	G
1	A	573	G
1	A	574	C
1	A	575	A

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Mol	Chain	Res	Type
1	A	588	U
1	A	603	A
1	A	604	G
1	A	607	U
1	A	609(A)	G
1	A	614	U
1	A	615	G
1	A	617	G
1	A	621	A
1	A	627	A
1	A	637	A
1	A	638	G
1	A	645	C
1	A	646	A
1	A	650	C
1	A	651	G
1	A	652	C
1	A	654	A
1	A	654(A)	G
1	A	654(B)	C
1	A	668	G
1	A	686	G
1	A	702	G
1	A	705	A
1	A	717	G
1	A	722	A
1	A	730	C
1	A	747	U
1	A	753	C
1	A	764	A
1	A	765	G
1	A	775	G
1	A	776	G
1	A	782	A
1	A	784	A
1	A	785	G
1	A	789	A
1	A	790	C
1	A	791	C
1	A	792	G
1	A	800	A
1	A	805	G

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Mol	Chain	Res	Type
1	A	812	C
1	A	819	A
1	A	827	U
1	A	828	U
1	A	847	U
1	A	856	C
1	A	857	C
1	A	859	G
1	A	860	U
1	A	869	G
1	A	880	G
1	A	881	G
1	A	882	G
1	A	884	C
1	A	885	C
1	A	886	C
1	A	888	C
1	A	889	C
1	A	893	C
1	A	896	A
1	A	897	C
1	A	899	A
1	A	900	A
1	A	901	A
1	A	904	C
1	A	906	G
1	A	907	U
1	A	910	A
1	A	917	A
1	A	932	G
1	A	938	G
1	A	941	A
1	A	945	A
1	A	946	G
1	A	959	A
1	A	961	C
1	A	974	G
1	A	974(A)	C
1	A	975	G
1	A	983	A
1	A	990	A
1	A	991	C

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Mol	Chain	Res	Type
1	A	996	A
1	A	1003	G
1	A	1005	C
1	A	1010	A
1	A	1011	G
1	A	1012	U
1	A	1013	C
1	A	1015	G
1	A	1020	A
1	A	1022	G
1	A	1023	U
1	A	1025	G
1	A	1026	U
1	A	1027	A
1	A	1033	U
1	A	1044	G
1	A	1045	A
1	A	1046	A
1	A	1050	A
1	A	1054	A
1	A	1055	G
1	A	1057	A
1	A	1059	G
1	A	1060	U
1	A	1061	U
1	A	1066	U
1	A	1067	A
1	A	1068	G
1	A	1070	A
1	A	1071	G
1	A	1076	C
1	A	1077	A
1	A	1078	U
1	A	1079	C
1	A	1082	U
1	A	1083	U
1	A	1084	A
1	A	1085	A
1	A	1086	A
1	A	1087	G
1	A	1088	A
1	A	1093	G

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Mol	Chain	Res	Type
1	A	1095	A
1	A	1096	A
1	A	1099	G
1	A	1103	A
1	A	1104	C
1	A	1110	G
1	A	1111	A
1	A	1112	G
1	A	1122	G
1	A	1129	A
1	A	1130	U
1	A	1131	G
1	A	1135	C
1	A	1136	G
1	A	1142	U
1	A	1142(A)	A
1	A	1151	G
1	A	1155	A
1	A	1170	G
1	A	1173	G
1	A	1174	A
1	A	1175	U
1	A	1176	G
1	A	1178	C
1	A	1179	C
1	A	1180	C
1	A	1195	G
1	A	1204	A
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	1238	G
1	A	1252	G
1	A	1253	A
1	A	1256	G
1	A	1265	A
1	A	1271	G
1	A	1272	A
1	A	1273	U

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Mol	Chain	Res	Type
1	A	1300	U
1	A	1301	A
1	A	1302	A
1	A	1303	G
1	A	1306	C
1	A	1312	U
1	A	1313	U
1	A	1314	C
1	A	1319	G
1	A	1321	A
1	A	1329	U
1	A	1349	A
1	A	1365	A
1	A	1368	G
1	A	1370	C
1	A	1379	A
1	A	1380	G
1	A	1384	A
1	A	1385	G
1	A	1386	C
1	A	1395	A
1	A	1407	C
1	A	1408	C
1	A	1411	C
1	A	1416	G
1	A	1419	A
1	A	1420	U
1	A	1421	G
1	A	1428	C
1	A	1444(A)	A
1	A	1445	C
1	A	1449	A
1	A	1449(A)	G
1	A	1455	G
1	A	1458	C
1	A	1459	G
1	A	1460	A
1	A	1461	G
1	A	1467	C
1	A	1471	A
1	A	1482	U
1	A	1483	G

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Mol	Chain	Res	Type
1	A	1485	G
1	A	1493	C
1	A	1497	U
1	A	1505	C
1	A	1506	C
1	A	1507	A
1	A	1508	A
1	A	1510	A
1	A	1511	A
1	A	1514	U
1	A	1515	C
1	A	1520	U
1	A	1522	G
1	A	1525	G
1	A	1535	U
1	A	1536	A
1	A	1537	C
1	A	1538	G
1	A	1543	A
1	A	1544	C
1	A	1545	A
1	A	1547	C
1	A	1554	A
1	A	1558	A
1	A	1559	G
1	A	1560	G
1	A	1569	A
1	A	1578	U
1	A	1579	A
1	A	1580	A
1	A	1581	G
1	A	1585	C
1	A	1586	A
1	A	1591	G
1	A	1598	C
1	A	1608	A
1	A	1609	A
1	A	1610	A
1	A	1616	A
1	A	1617	C
1	A	1618	A
1	A	1640	C

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Mol	Chain	Res	Type
1	A	1648	C
1	A	1654	A
1	A	1667	G
1	A	1668	A
1	A	1674	G
1	A	1694	C
1	A	1695	G
1	A	1699	G
1	A	1700	A
1	A	1701	A
1	A	1725	G
1	A	1729	A
1	A	1731	G
1	A	1733	G
1	A	1742	C
1	A	1743	G
1	A	1754	C
1	A	1756	G
1	A	1758	G
1	A	1763	G
1	A	1764	G
1	A	1773	A
1	A	1780	A
1	A	1782	C
1	A	1787	A
1	A	1791	A
1	A	1799	G
1	A	1800	C
1	A	1801	G
1	A	1803	A
1	A	1811	G
1	A	1816	G
1	A	1820	U
1	A	1829	A
1	A	1835	G
1	A	1839	G
1	A	1847	A
1	A	1848	A
1	A	1850	G
1	A	1858	G
1	A	1869	G
1	A	1870	C

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Mol	Chain	Res	Type
1	A	1872	A
1	A	1878	G
1	A	1882	C
1	A	1885	A
1	A	1889	A
1	A	1896	G
1	A	1903	G
1	A	1905	C
1	A	1906	G
1	A	1913	A
1	A	1924	C
1	A	1926	U
1	A	1927	A
1	A	1930	G
1	A	1931	U
1	A	1937	A
1	A	1938	A
1	A	1939	U
1	A	1940	U
1	A	1947	C
1	A	1955	U
1	A	1963	U
1	A	1964	G
1	A	1967	C
1	A	1969	A
1	A	1970	A
1	A	1971	A
1	A	1972	A
1	A	1981	A
1	A	1982	C
1	A	1991	U
1	A	1992	G
1	A	1993	U
1	A	2023	G
1	A	2031	A
1	A	2033	A
1	A	2043	C
1	A	2055	C
1	A	2056	G
1	A	2059	A
1	A	2060	A
1	A	2061	G

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Mol	Chain	Res	Type
1	A	2062	A
1	A	2069	G
1	A	2099	U
1	A	2108	C
1	A	2111	C
1	A	2113	U
1	A	2114	A
1	A	2115	G
1	A	2116	G
1	A	2117	A
1	A	2120	G
1	A	2126	A
1	A	2127	G
1	A	2128	C
1	A	2131	G
1	A	2132	U
1	A	2133	G
1	A	2136	C
1	A	2146	C
1	A	2147	G
1	A	2148	G
1	A	2157	G
1	A	2158	A
1	A	2166	G
1	A	2168	G
1	A	2173	A
1	A	2176	A
1	A	2190	G
1	A	2192	G
1	A	2198	A
1	A	2199	A
1	A	2210	G
1	A	2211	G
1	A	2212	A
1	A	2215	G
1	A	2225	A
1	A	2239	G
1	A	2243	U
1	A	2246	G
1	A	2275	C
1	A	2283	C
1	A	2287	A

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Mol	Chain	Res	Type
1	A	2288	A
1	A	2294	C
1	A	2305	A
1	A	2307	G
1	A	2308	G
1	A	2319	G
1	A	2320	A
1	A	2325	G
1	A	2326	C
1	A	2342	C
1	A	2345	G
1	A	2346	A
1	A	2347	C
1	A	2350	C
1	A	2372	G
1	A	2377	A
1	A	2382	G
1	A	2383	G
1	A	2385	C
1	A	2388	A
1	A	2394	C
1	A	2397	G
1	A	2398	U
1	A	2402	C
1	A	2403	C
1	A	2406	U
1	A	2423	U
1	A	2424	C
1	A	2425	A
1	A	2426	A
1	A	2429	G
1	A	2430	A
1	A	2435	A
1	A	2439	A
1	A	2440	C
1	A	2441	C
1	A	2448	A
1	A	2450	A
1	A	2469	A
1	A	2470	G
1	A	2474	C
1	A	2476	A

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Mol	Chain	Res	Type
1	A	2482	G
1	A	2483	C
1	A	2484	G
1	A	2494	G
1	A	2502	G
1	A	2505	G
1	A	2506	U
1	A	2507	C
1	A	2519	U
1	A	2529	G
1	A	2542	A
1	A	2543	G
1	A	2554	U
1	A	2566	A
1	A	2567	G
1	A	2569	G
1	A	2573	C
1	A	2582	G
1	A	2585	U
1	A	2586	C
1	A	2602	A
1	A	2609	U
1	A	2610	C
1	A	2611	U
1	A	2612	C
1	A	2614	A
1	A	2623	G
1	A	2629	A
1	A	2632	A
1	A	2638	G
1	A	2646	C
1	A	2655	G
1	A	2665	A
1	A	2673	G
1	A	2675	A
1	A	2682	U
1	A	2689	U
1	A	2690	C
1	A	2702	U
1	A	2703	C
1	A	2707	G
1	A	2712	U

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Mol	Chain	Res	Type
1	A	2712(A)	A
1	A	2713	A
1	A	2714	G
1	A	2724	C
1	A	2726	U
1	A	2733	A
1	A	2734	A
1	A	2748	A
1	A	2752	C
1	A	2754	U
1	A	2758	A
1	A	2761	G
1	A	2764	A
1	A	2765	A
1	A	2770	G
1	A	2777	G
1	A	2778	A
1	A	2779	U
1	A	2780	G
1	A	2789	C
1	A	2790	A
1	A	2791	C
1	A	2797	U
1	A	2799	A
1	A	2807	G
1	A	2818	G
1	A	2820	A
1	A	2821	A
1	A	2823	A
1	A	2833	G
1	A	2834	G
1	A	2835	A
1	A	2846	G
1	A	2849	U
1	A	2867	G
1	A	2868	A
1	A	2872	G
1	A	2873	A
1	A	2880	C
1	A	2891	G
1	A	2892	A
1	A	2894	G

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Mol	Chain	Res	Type
2	B	8	U
2	B	9	G
2	B	12	C
2	B	13	A
2	B	15	A
2	B	16	G
2	B	19	G
2	B	21	G
2	B	25	A
2	B	27	C
2	B	32	C
2	B	33	G
2	B	41	U
2	B	42	C
2	B	45	A
2	B	52	A
2	B	53	A
2	B	56	G
2	B	57	A
2	B	67	G
2	B	73	A
2	B	81	G
2	B	105	G
2	B	109	G
2	B	112	G

All (75) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	27	G
1	A	74	A
1	A	99	U
1	A	102	G
1	A	196	A
1	A	205	G
1	A	221	A
1	A	222	A
1	A	227	A
1	A	229	A
1	A	241	A
1	A	242	G
1	A	271(B)	G

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Mol	Chain	Res	Type
1	A	271(C)	U
1	A	277	C
1	A	345	A
1	A	372	G
1	A	404	C
1	A	503	A
1	A	512	G
1	A	587	C
1	A	637	A
1	A	653	A
1	A	704	G
1	A	752	A
1	A	774	A
1	A	846	C
1	A	856	C
1	A	859	G
1	A	945	A
1	A	974(A)	C
1	A	1012	U
1	A	1022	G
1	A	1026	U
1	A	1045	A
1	A	1078	U
1	A	1085	A
1	A	1130	U
1	A	1178	C
1	A	1204	A
1	A	1210	A
1	A	1301	A
1	A	1312	U
1	A	1427	A
1	A	1460	A
1	A	1543	A
1	A	1558	A
1	A	1653	G
1	A	1694	C
1	A	1698	A
1	A	1799	G
1	A	1819	A
1	A	1929	G
1	A	1930	G
1	A	1936	A

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Mol	Chain	Res	Type
1	A	1980	G
1	A	1992	G
1	A	2060	A
1	A	2126	A
1	A	2198	A
1	A	2405	G
1	A	2439	A
1	A	2481	G
1	A	2518	A
1	A	2566	A
1	A	2610	C
1	A	2689	U
1	A	2712	U
1	A	2726	U
1	A	2776	A
1	A	2832	U
1	A	2848	G
1	A	2867	G
2	B	24	G
2	B	66	A

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
32	PPU	a	76	1,32	38,40,41	2.43	9 (23%)	54,57,60	2.61	14 (25%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	PPU	a	76	1,32	-	0/26/43/44	0/4/4/4

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	a	76	PPU	O-C	9.24	1.41	1.23
32	a	76	PPU	C9-N6	-5.45	1.31	1.45
32	a	76	PPU	C-N3'	5.40	1.46	1.34
32	a	76	PPU	C10-N6	-5.13	1.32	1.45
32	a	76	PPU	C4-N9	-3.14	1.33	1.37
32	a	76	PPU	C8-N9	-3.03	1.32	1.36
32	a	76	PPU	O4'-C1'	2.91	1.44	1.41
32	a	76	PPU	C6-C5	-2.54	1.40	1.44
32	a	76	PPU	C5-N7	-2.01	1.32	1.39

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	a	76	PPU	N3-C2-N1	-8.49	121.42	128.89
32	a	76	PPU	C3'-N3'-C	-8.15	110.21	123.19
32	a	76	PPU	C5-C4-N3	-6.35	119.79	125.98
32	a	76	PPU	C2'-C1'-N9	-5.44	98.52	113.35
32	a	76	PPU	C2'-C3'-N3'	5.17	125.09	113.08
32	a	76	PPU	C2-N1-C6	4.71	121.72	111.52
32	a	76	PPU	C4'-O4'-C1'	-4.01	105.31	109.72
32	a	76	PPU	N3-C4-N9	3.90	132.08	125.39
32	a	76	PPU	C4-C5-N7	-3.57	105.96	109.41
32	a	76	PPU	CM-OC-CZ	-3.19	110.11	117.54
32	a	76	PPU	C4'-C3'-N3'	-2.67	107.94	113.56
32	a	76	PPU	O4'-C1'-N9	-2.66	102.30	108.10
32	a	76	PPU	C2-N3-C4	2.63	120.85	113.27
32	a	76	PPU	CA-C-N3'	2.06	121.74	115.94

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

Of 255 ligands modelled in this entry, 255 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

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 ⓘ

EDS was not executed - this section will therefore be empty.

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

EDS was not executed - this section will therefore be empty.

6.3 Carbohydrates ⓘ

EDS was not executed - this section will therefore be empty.

6.4 Ligands ⓘ

EDS was not executed - this section will therefore be empty.

6.5 Other polymers ⓘ

EDS was not executed - this section will therefore be empty.