



Full wwPDB X-ray Structure Validation Report

Sep 15, 2014 – 01:29 PM EDT

PDB ID : 1VVS
Title : Crystal Structure of Frameshift Suppressor tRNA SufA6 Bound to Codon CCC-A on the Ribosome
Authors : Maehigashi, T.; Dunkle, J.A.; Dunham, C.M.
Deposited on : 2013-06-13
Resolution : 3.90 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>

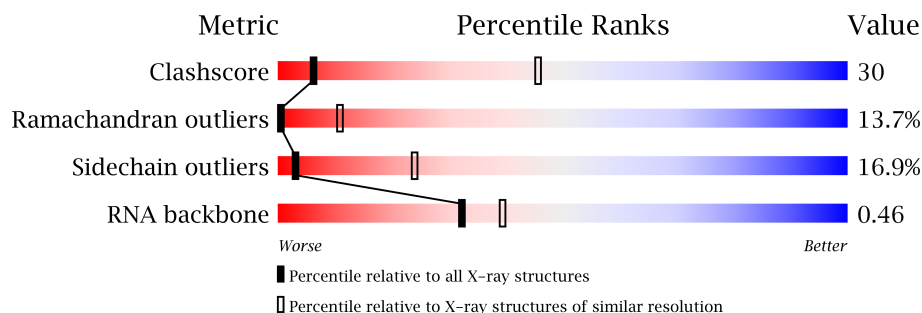
The following versions of software and data (see [references](#)) were used in the production of this report:

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 3.90 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	1173 (4.30-3.50)
Ramachandran outliers	78287	1118 (4.30-3.50)
Sidechain outliers	78261	1107 (4.30-3.50)
RNA backbone	1838	1018 (5.00-2.80)





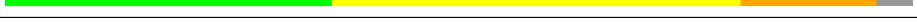

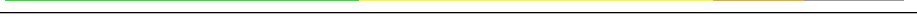

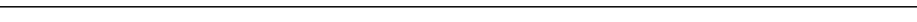
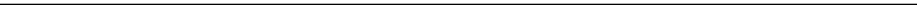




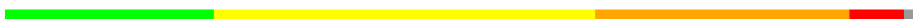



The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The 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 92279 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	2883	Total	C	N	O	P	0	0	0
			62091	27636	11613	19960	2882			

- 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	58	Total	C	N	O	S	0	0	0
			451	283	89	74	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	Q	1	Total	Mg	0	0
			1	1		
33	E	1	Total	Mg	0	0
			1	1		
33	B	3	Total	Mg	0	0
			3	3		
33	7	1	Total	Mg	0	0
			1	1		
33	A	265	Total	Mg	0	0
			265	265		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	5	1	Total	Mg	0	0
			1	1		
33	X	1	Total	Mg	0	0
			1	1		

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

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

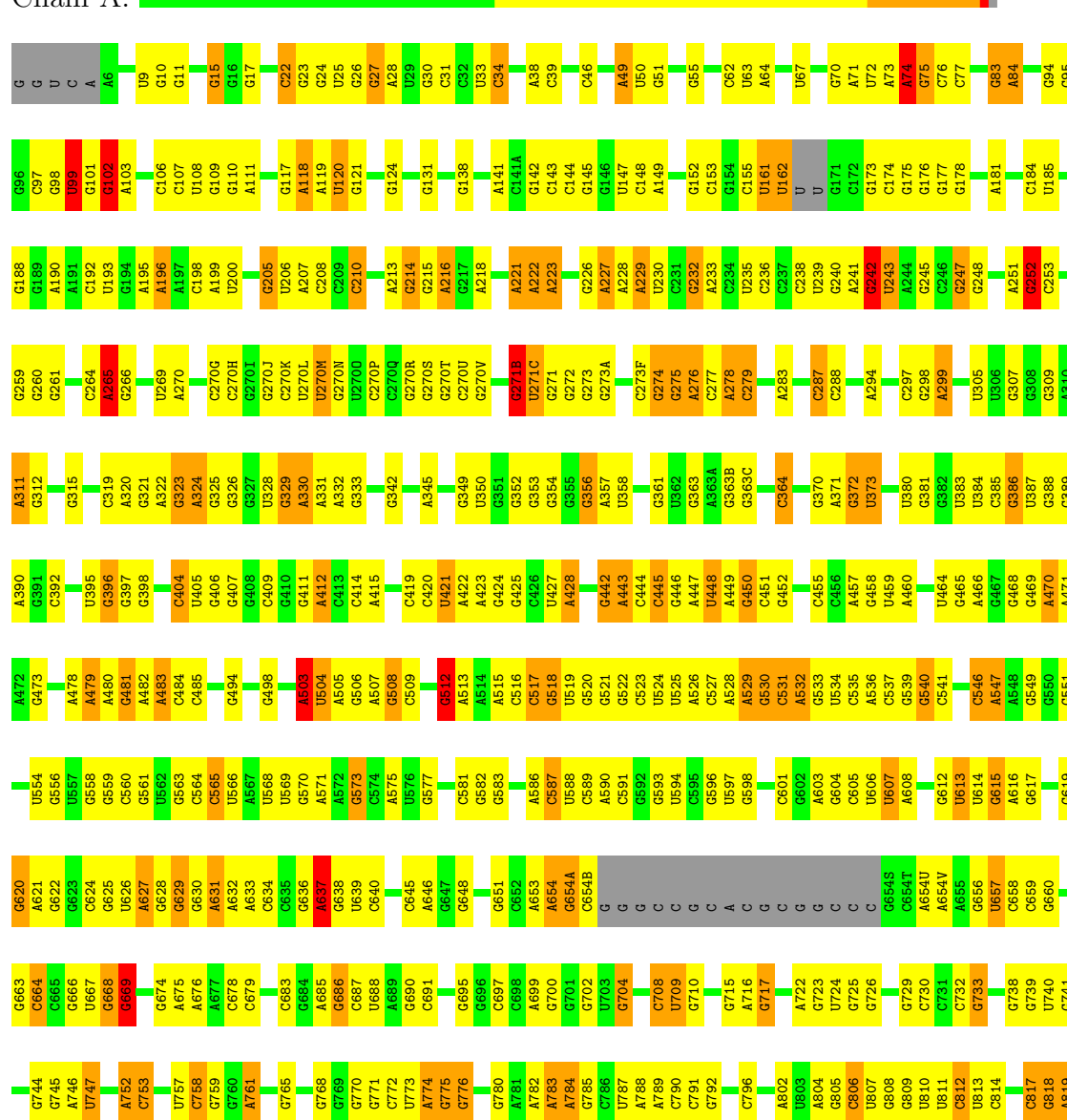
3 Residue-property plots

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

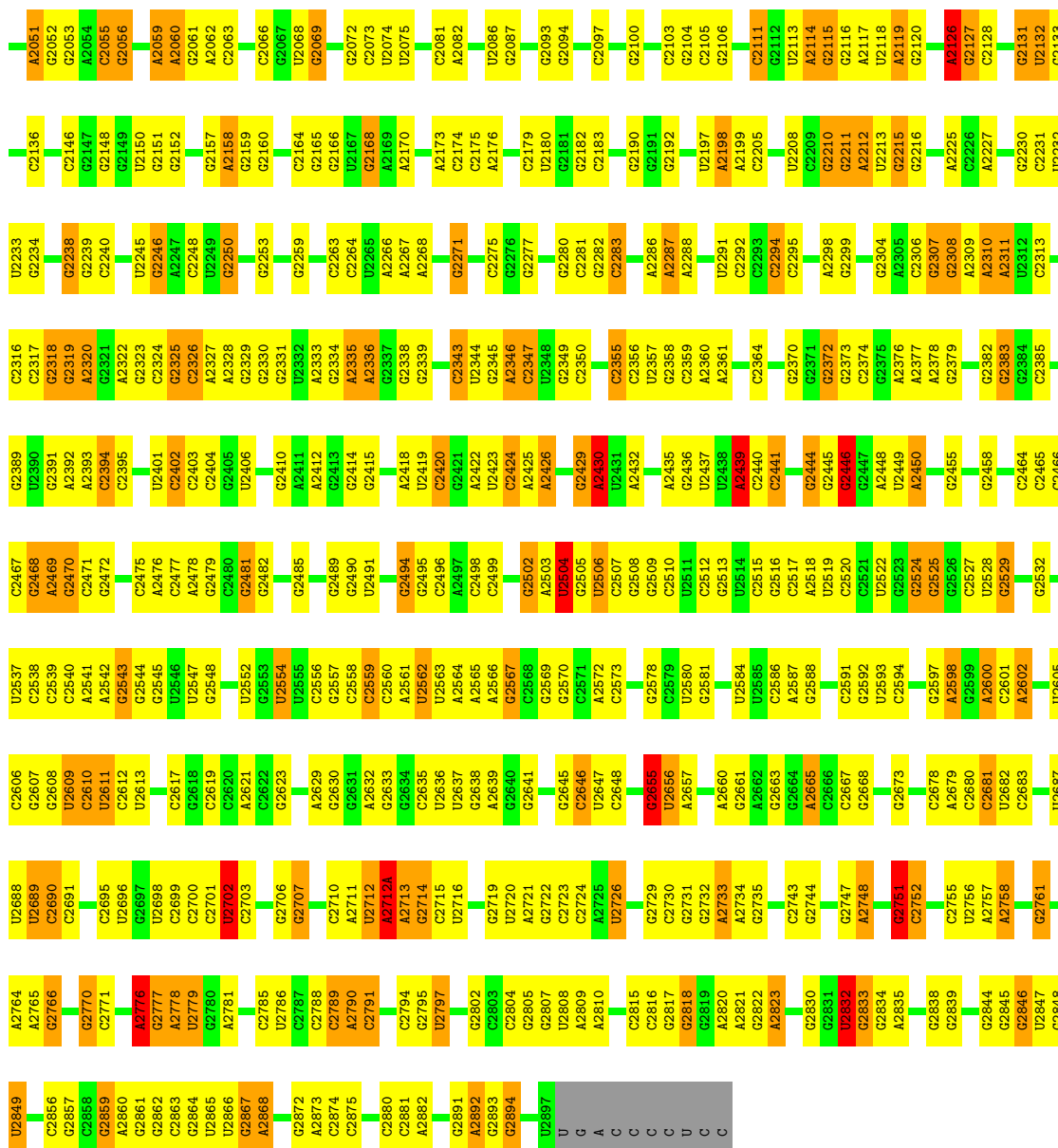
Note EDS was not executed.

• Molecule 1: 23S rRNA

Chain A:

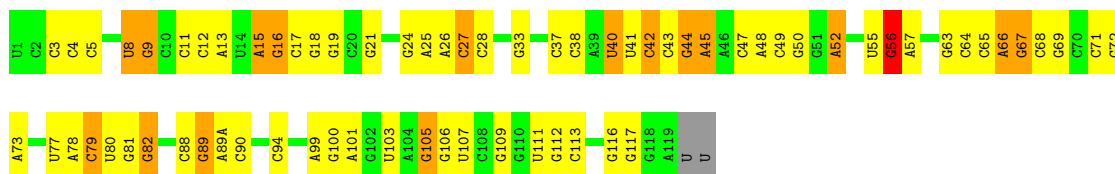


C1965	C1892	C1893	C1894	C1895	C1896	C1897	C1898	C1899	C1900	C1901	C1902	C1903	C1904	C1905	C1906	C1907	C1908	C1909	C1910	C1911	C1912	C1913	C1914	C1915	C1916	C1917	C1918	C1919	C1920	C1921	C1922	C1923	C1924	C1925	C1926	C1927	C1928	C1929	C1930	C1931	C1932	C1933	C1934	C1935	C1936	C1937	C1938	C1939	C1940	C1941	C1942	C1943	C1944	C1945	C1946	C1947	C1948	C1949	C1950	C1951	C1952	C1953	C1954	C1955	C1956	C1957	C1958	C1959	C1960	C1961	C1962	C1963	C1964	C1965	C1966	C1967	C1968	C1969	C1970	C1971	C1972	C1973	C1974	C1975	C1976	C1977	C1978	C1979	C1980	C1981	C1982	C1983	C1984	C1985	C1986	C1987	C1988	C1989	C1990	C1991	C1992	C1993	C1994	C1995	C1996	C1997	C1998	C1999	C2000	C2001	C2002	C2003	C2004	C2005	C2006	C2007	C2008	C2009	C2010	C2011	C2012	C2013	C2014	C2015	C2016	C2017	C2018	C2019	C2020	C2021	C2022	C2023	C2024	C2025	C2026	C2027	C2028	C2029	C2030	C2031	C2032	C2033	C2034	C2035	C2036	C2037	C2038	C2039	C2040	C2041	C2042	C2043	C2044	C2045	C2046	C2047	C2048	C2049	C2050																																																																																																																																																																																																																																																															
A1729	A1730	A1731	A1732	A1733	A1734	A1735	A1736	A1737	A1738	A1739	A1740	A1741	A1742	A1743	A1744	A1745	A1746	A1747	A1748	A1749	A1750	A1751	A1752	A1753	A1754	A1755	A1756	A1757	A1758	A1759	A1760	A1761	A1762	A1763	A1764	A1765	A1766	A1767	A1768	A1769	A1770	A1771	A1772	A1773	A1774	A1775	A1776	A1777	A1778	A1779	A1780	A1781	A1782	A1783	A1784	A1785	A1786	A1787	A1788	A1789	A1790	A1791	A1792	A1793	A1794	A1795	A1796	A1797	A1798	A1799	A1800	A1801	A1802	A1803	A1804	A1805	A1806	A1807	A1808	A1809	A1810	A1811	A1812	A1813	A1814	A1815	A1816	A1817	A1818	A1819	A1820	A1821	A1822	A1823	A1824	A1825	A1826	A1827	A1828	A1829	A1830	A1831	A1832	A1833	A1834	A1835	A1836	A1837	A1838	A1839	A1840	A1841	A1842	A1843	A1844	A1845	A1846	A1847	A1848	A1849	A1850	A1851	A1852	A1853	A1854	A1855	A1856	A1857	A1858	A1859	A1860	A1861	A1862	A1863	A1864	A1865	A1866	A1867	A1868	A1869	A1870	A1871	A1872	A1873	A1874	A1875	A1876	A1877	A1878	A1879	A1880	A1881	A1882	A1883	A1884	A1885	A1886	A1887	A1888	A1889	A1890	A1891	A1892	A1893	A1894	A1895	A1896	A1897	A1898	A1899	A1900	A1901	A1902	A1903	A1904	A1905	A1906	A1907	A1908	A1909	A1910	A1911	A1912	A1913	A1914	A1915	A1916	A1917	A1918	A1919	A1920	A1921	A1922	A1923	A1924	A1925	A1926	A1927	A1928	A1929	A1930	A1931	A1932	A1933	A1934	A1935	A1936	A1937	A1938	A1939	A1940	A1941	A1942	A1943	A1944	A1945	A1946	A1947	A1948	A1949	A1950	A1951	A1952	A1953	A1954	A1955	A1956	A1957	A1958	A1959	A1960	A1961	A1962	A1963	A1964	A1965	A1966	A1967	A1968	A1969	A1970	A1971	A1972	A1973	A1974	A1975	A1976	A1977	A1978	A1979	A1980	A1981	A1982	A1983	A1984	A1985	A1986	A1987	A1988	A1989	A1990	A1991	A1992	A1993	A1994	A1995	A1996	A1997	A1998	A1999	A2000	A2001	A2002	A2003	A2004	A2005	A2006	A2007	A2008	A2009	A2010	A2011	A2012	A2013	A2014	A2015	A2016	A2017	A2018	A2019	A2020	A2021	A2022	A2023	A2024	A2025	A2026	A2027	A2028	A2029	A2030	A2031	A2032	A2033	A2034	A2035	A2036	A2037	A2038	A2039	A2040	A2041	A2042	A2043	A2044	A2045	A2046	A2047	A2048	A2049	A2050																																																																																													
G1636	G1637	G1638	G1639	G1640	G1641	G1642	G1643	G1644	G1645	G1646	G1647	G1648	G1649	G1650	G1651	G1652	G1653	G1654	G1655	G1656	G1657	G1658	G1659	G1660	G1661	G1662	G1663	G1664	G1665	G1666	G1667	G1668	G1669	G1670	G1671	G1672	G1673	G1674	G1675	G1676	G1677	G1678	G1679	G1680	G1681	G1682	G1683	G1684	G1685	G1686	G1687	G1688	G1689	G1690	G1691	G1692	G1693	G1694	G1695	G1696	G1697	G1698	G1699	G1700	G1701	G1702	G1703	G1704	G1705	G1706	G1707	G1708	G1709	G1710	G1711	G1712	G1713	G1714	G1715	G1716	G1717	G1718	G1719	G1720	G1721	G1722	G1723	G1724	G1725	G1726	G1727	G1728	G1729	G1730	G1731	G1732	G1733	G1734	G1735	G1736	G1737	G1738	G1739	G1740	G1741	G1742	G1743	G1744	G1745	G1746	G1747	G1748	G1749	G1750	G1751	G1752	G1753	G1754	G1755	G1756	G1757	G1758	G1759	G1760	G1761	G1762	G1763	G1764	G1765	G1766	G1767	G1768	G1769	G1770	G1771	G1772	G1773	G1774	G1775	G1776	G1777	G1778	G1779	G1780	G1781	G1782	G1783	G1784	G1785	G1786	G1787	G1788	G1789	G1790	G1791	G1792	G1793	G1794	G1795	G1796	G1797	G1798	G1799	G1800	G1801	G1802	G1803	G1804	G1805	G1806	G1807	G1808	G1809	G1810	G1811	G1812	G1813	G1814	G1815	G1816	G1817	G1818	G1819	G1820	G1821	G1822	G1823	G1824	G1825	G1826	G1827	G1828	G1829	G1830	G1831	G1832	G1833	G1834	G1835	G1836	G1837	G1838	G1839	G1840	G1841	G1842	G1843	G1844	G1845	G1846	G1847	G1848	G1849	G1850	G1851	G1852	G1853	G1854	G1855	G1856	G1857	G1858	G1859	G1860	G1861	G1862	G1863	G1864	G1865	G1866	G1867	G1868	G1869	G1870	G1871	G1872	G1873	G1874	G1875	G1876	G1877	G1878	G1879	G1880	G1881	G1882	G1883	G1884	G1885	G1886	G1887	G1888	G1889	G1890	G1891	G1892	G1893	G1894	G1895	G1896	G1897	G1898	G1899	G1900	G1901	G1902	G1903	G1904	G1905	G1906	G1907	G1908	G1909	G1910	G1911	G1912	G1913	G1914	G1915	G1916	G1917	G1918	G1919	G1920	G1921	G1922	G1923	G1924	G1925	G1926	G1927	G1928	G1929	G1930	G1931	G1932	G1933	G1934	G1935	G1936	G1937	G1938	G1939	G1940	G1941	G1942	G1943	G1944	G1945	G1946	G1947	G1948	G1949	G1950	G1951	G1952	G1953	G1954	G1955	G1956	G1957	G1958	G1959	G1960	G1961	G1962	G1963	G1964	G1965	G1966	G1967	G1968	G1969	G1970	G1971	G1972	G1973	G1974	G1975	G1976	G1977	G1978	G1979	G1980	G1981	G1982	G1983	G1984	G1985	G1986	G1987	G1988	G1989	G1990	G1991	G1992	G1993	G1994	G1995	G1996	G1997	G1998	G1999	G2000	G2001	G2002	G2003	G2004	G2005	G2006	G2007	G2008	G2009	G2010	G2011	G2012	G2013	G2014	G2015	G2016	G2017	G2018	G2019	G2020	G2021	G2022	G2023	G2024	G2025	G2026	G2027	G2028	G2029	G2030	G2031	G2032	G2033	G2034	G2035	G2036	G2037	G2038	G2039	G2040	G2041	G2042	G2043	G2044	G2045	G2046	G2047	G2048	G2049	G2050
A1543	A1544	A1545	A1546	A1547	A1548	A1549	A1550	A1551	A1552	A1553	A1554	A1555	A1556	A1557	A1558	A1559	A1560	A1561	A1562	A1563	A1564	A1565	A1566	A1567	A1568	A1569	A1570	A1571	A1572	A1573	A1574	A1575	A1576	A1577	A1578	A1579	A1580	A1581	A1582	A1583	A1584	A1585	A1586	A1587	A1588	A1589	A1590	A1591	A1592	A1593	A1594	A1595	A1596	A1597	A1598	A1599	A1600	A1601	A1602	A1603	A1604	A1605	A1606	A1607	A1608	A1609	A1610	A1611	A1612	A1613	A1614	A1615	A1616	A1617	A1618	A1619	A1620	A1621	A1622	A1623	A1624	A1625	A1626	A1627	A1628	A1629	A1630	A1631	A1632	A1633	A1634	A1635	A1636	A1637	A1638	A1639	A1640	A1641	A1642	A1643	A1644	A1645	A1646	A1647	A1648	A1649	A1650	A1651	A1652	A1653	A1654	A1655	A1656	A1657	A1658	A1659	A1660	A1661	A1662	A1663	A1664	A1665	A1666	A1667	A1668	A1669	A1670	A1671	A1672	A1673	A1674	A1675	A1676	A1677	A1678	A1679	A1680	A1681	A1682	A1683	A1684	A1685	A1686	A1687	A1688	A1689	A1690	A1691	A1692	A1693	A1694	A1695	A1696	A1697	A1698	A1699	A1700	A1701	A1702	A1703	A1704	A1705	A1706	A1707	A1708	A1709	A1710	A1711	A1712	A1713	A1714	A1715	A1716	A1717	A1718	A1719	A1720	A1721	A1722	A1723	A1724	A1725	A1726	A1727	A1728	A1729	A1730	A1731	A1732	A1733	A1734	A1735	A1736	A1737	A1738	A1739	A1740	A1741	A1742	A1743	A1744	A1745	A1746	A1747	A1748	A1749	A1750	A1751	A1752	A1753	A1754	A1755	A1756	A1757	A1758	A1759	A1760	A1761	A1762	A1763	A1764	A1765	A1766	A1767	A1768	A1769	A1770	A1771	A1772	A1773	A1774	A1775	A1776	A1777	A1778	A1779	A1780	A1781	A1782	A1783	A1784	A1785	A1786	A1787	A1788	A1789	A1790	A1791	A1792	A1793	A1794	A1795	A1796	A1797	A1798	A1799	A1800	A1801	A1802	A1803	A1804	A1805	A1806	A1807	A1808	A1809	A1810	A1811	A1812	A1813	A1814	A1815	A1816	A1817	A1818	A1819	A1820	A1821	A1822	A1823	A1824	A1825	A1826	A1827	A1828	A1829	A1830	A1831	A1832	A1833	A1834	A1835	A1836	A1837	A1838	A1839	A1840	A1841	A1842	A1843	A1844	A1845	A1846	A1847	A1848	A1849	A1850	A1851	A1852	A1853	A1854	A1855	A1856	A1857	A1858	A1859	A1860	A1861	A1862	A1863	A1864	A1865	A1866	A1867	A1868	A1869	A1870	A1871	A1872	A1873	A1874	A1875	A1876	A1877	A1878	A1879	A1880	A1881	A1882	A1883	A1884	A1885	A1886	A1887	A1888	A1889	A1890	A1891	A1892	A1893	A1894	A1895	A1896	A1897	A1898	A1899	A1900	A1901	A1902	A1903	A1904	A1905	A1906	A1907	A1908	A1909	A1910	A1911	A1912	A1913	A1914	A1915	A1916	A1917	A1918	A1919	A1920	A1921	A1922	A1923	A1924	A1925	A1926	A1927	A1928	A1929	A1930	A1931	A1932	A1933	A1934	A1935	A1936																					



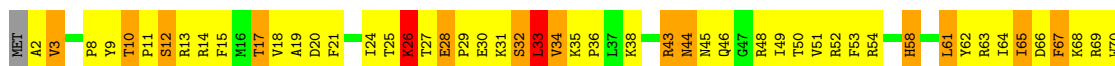
- Molecule 2: 5S rRNA

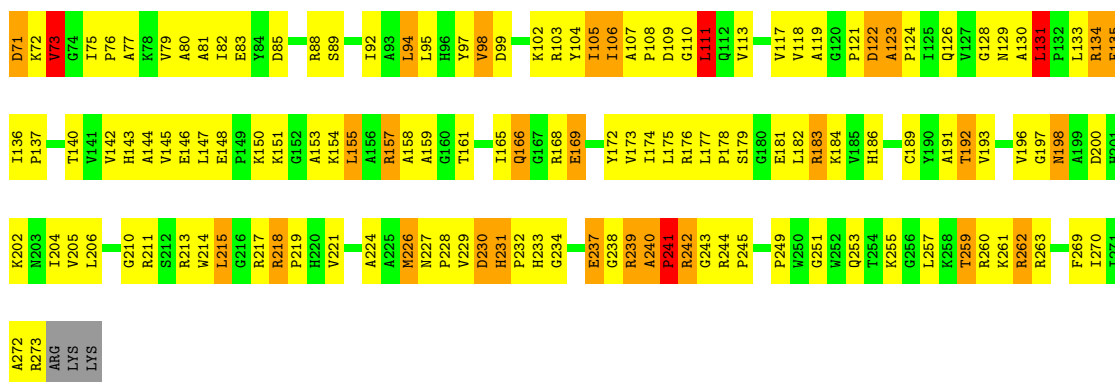
Chain B: 



- Molecule 3: 50S ribosomal protein L2

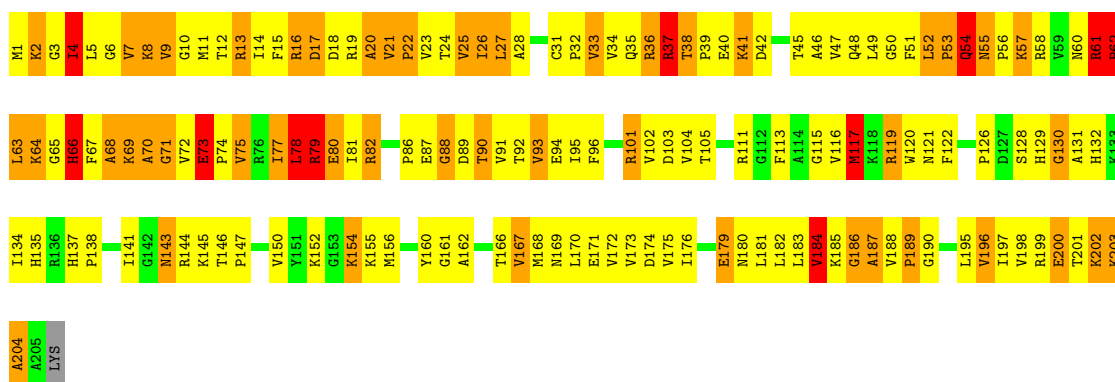
Chain D:





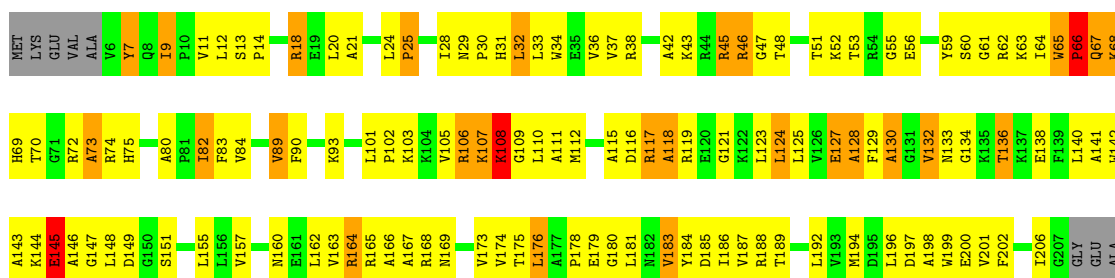
• Molecule 4: 50S ribosomal protein L3

Chain E:



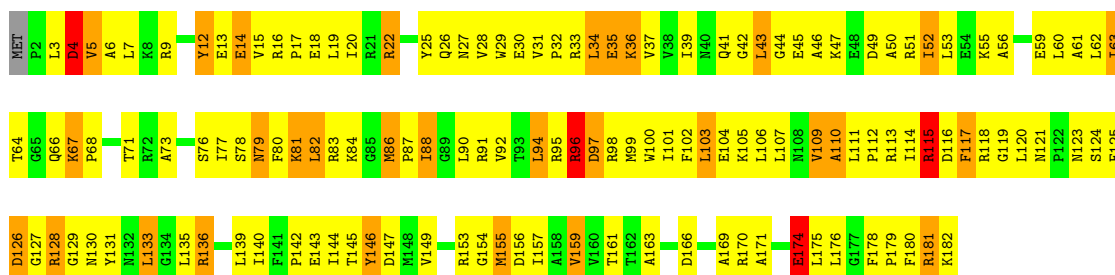
• Molecule 5: 50S ribosomal protein L4

Chain F:



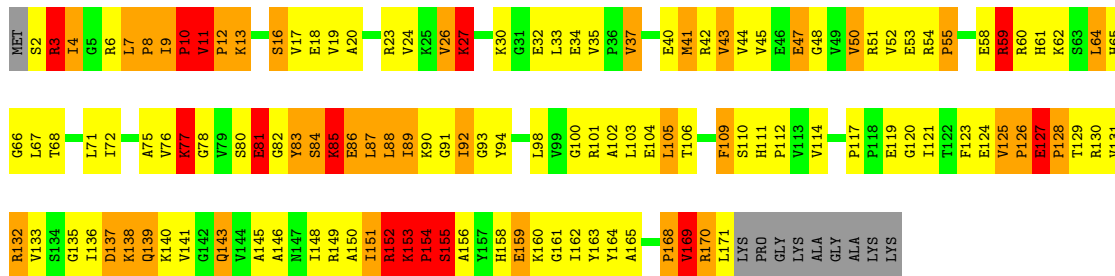
• Molecule 6: 50S ribosomal protein L5

Chain G:



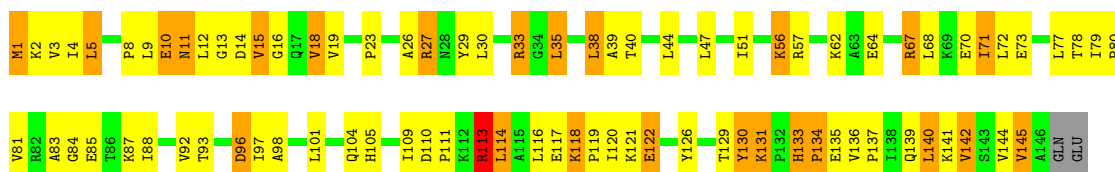
- Molecule 7: 50S ribosomal protein L6

Chain H:



- Molecule 8: 50S ribosomal protein L9

Chain I:



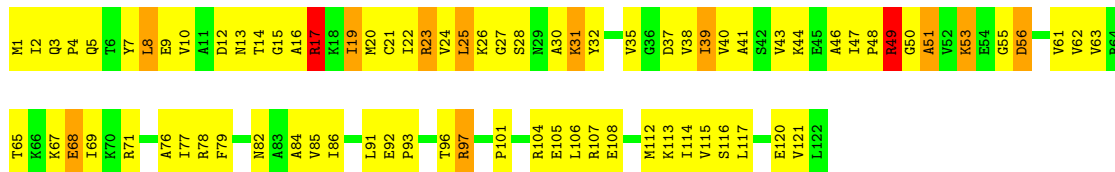
- Molecule 9: 50S ribosomal protein L13

Chain N:



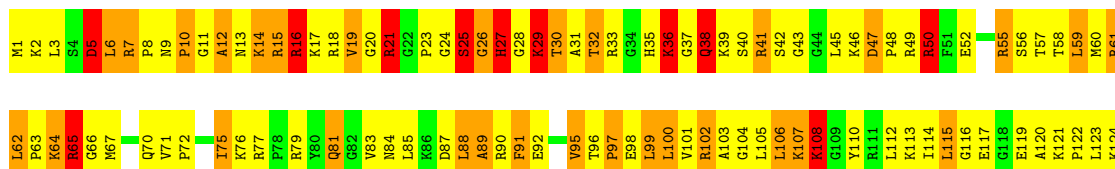
- Molecule 10: 50S ribosomal protein L14

Chain 0:



- Molecule 11: 50S ribosomal protein L15

Chain P:





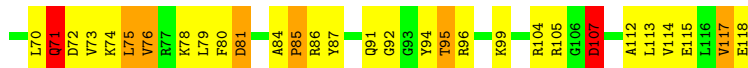
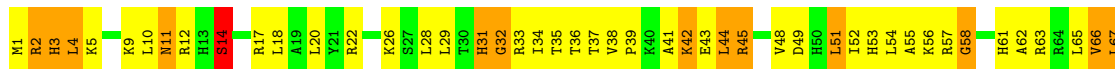
- Molecule 12: 50S ribosomal protein L16

Chain Q:



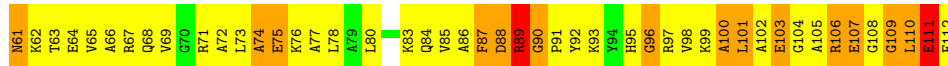
- Molecule 13: 50S ribosomal protein L17

Chain R:



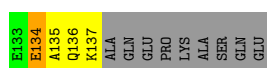
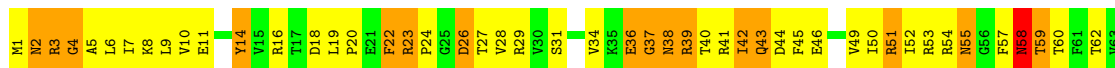
- Molecule 14: 50S ribosomal protein L18

Chain S:



- Molecule 15: 50S ribosomal protein L19

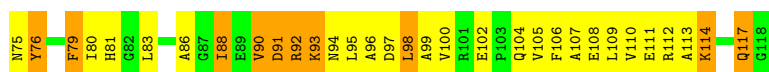
Chain T:



- Molecule 16: 50S ribosomal protein L20

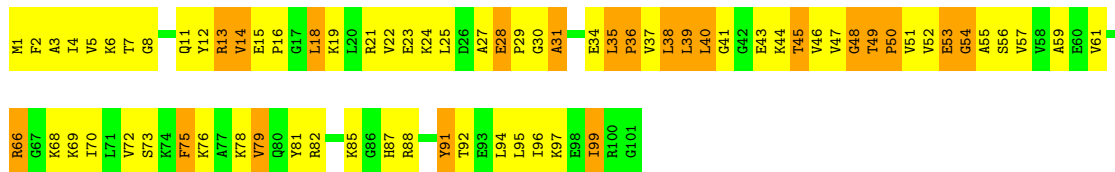
Chain U:





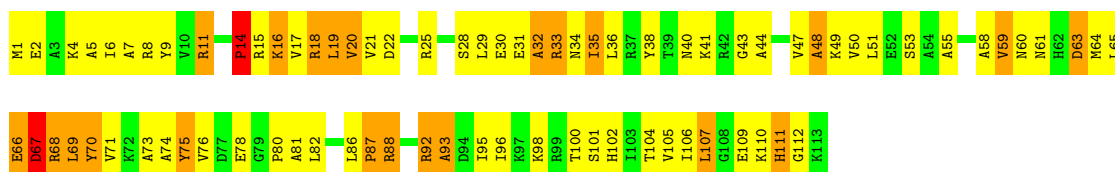
- Molecule 17: 50S ribosomal protein L21

Chain V:



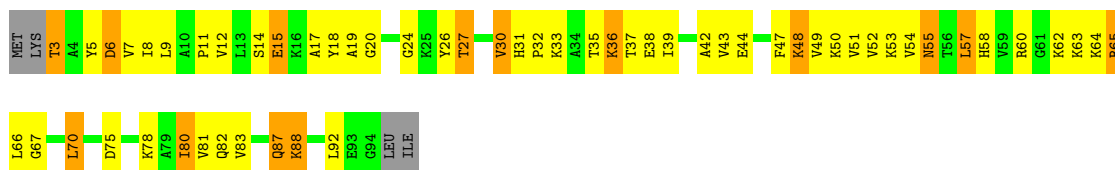
- Molecule 18: 50S ribosomal protein L22

Chain W:



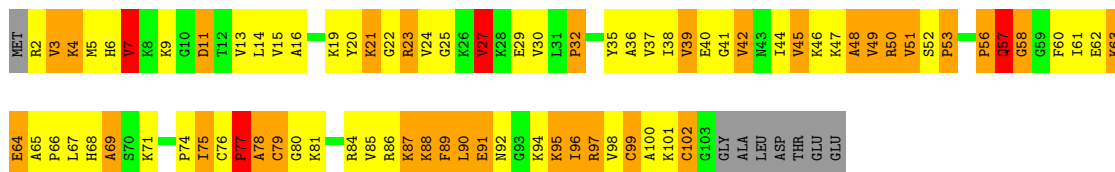
- Molecule 19: 50S ribosomal protein L23

Chain X:



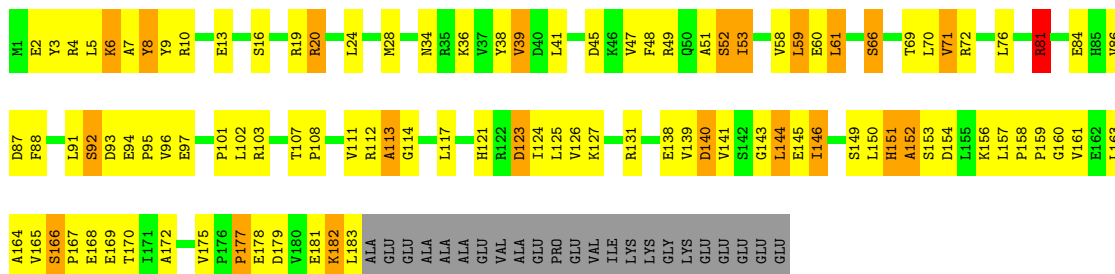
- Molecule 20: 50S ribosomal protein L24

Chain Y:



- Molecule 21: 50S ribosomal protein L25

Chain Z:



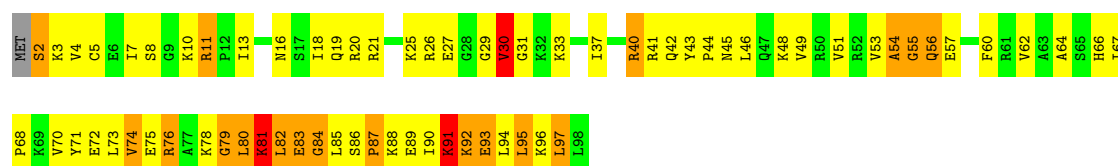
- Molecule 22: 50S ribosomal protein L27

Chain 0: 



- Molecule 23: 50S ribosomal protein L28

Chain 1: 



- Molecule 24: 50S ribosomal protein L29

Chain 2: 



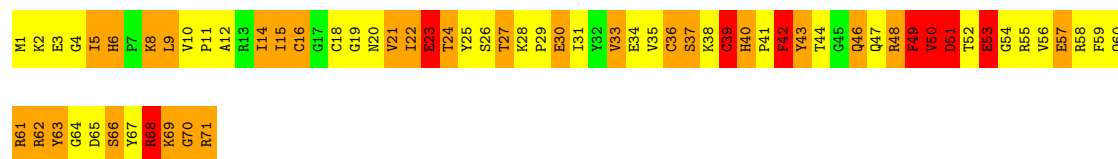
- Molecule 25: 50S ribosomal protein L30

Chain 3: 



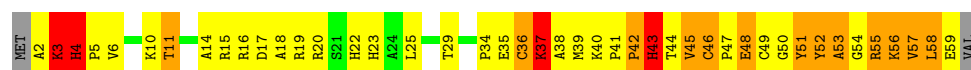
- Molecule 26: 50S ribosomal protein L31

Chain 4: 



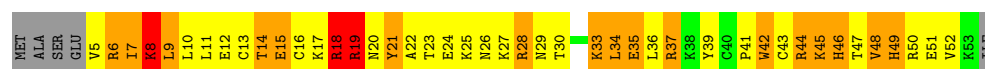
- Molecule 27: 50S ribosomal protein L32

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	210.24Å 446.10Å 623.32Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.68 – 3.90	Depositor
% Data completeness (in resolution range)	99.0 (49.68-3.90)	Depositor
R_{merge}	0.31	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	PHENIX	Depositor
R, R_{free}	0.235 , 0.278	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	92279	wwPDB-VP
Average B, all atoms (Å ²)	51.0	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	0.59	2/69543 (0.0%)	1.12	219/108563 (0.2%)
2	B	0.49	0/2878	1.04	4/4490 (0.1%)
3	D	0.56	1/2165 (0.0%)	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	4/1802 (0.2%)
8	I	0.34	0/1151	0.61	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	0.95	3/1544 (0.2%)
12	Q	0.54	0/1143	0.89	3/1527 (0.2%)
13	R	0.45	0/982	0.80	1/1312 (0.1%)
14	S	0.45	0/892	0.83	1/1187 (0.1%)
15	T	0.46	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	0.36	0/1493	0.62	0/2026
22	0	0.42	0/657	0.65	0/874
23	1	0.49	0/770	0.85	1/1022 (0.1%)
24	2	0.51	0/583	0.84	1/771 (0.1%)
25	3	0.43	0/474	0.71	0/635
26	4	0.38	0/594	0.78	1/795 (0.1%)
27	5	0.50	0/465	0.74	0/629
28	6	0.43	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	0.37	0/310	0.61	0/407
32	a	0.79	0/40	1.83	1/60 (1.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	0.56	3/100197 (0.0%)	1.05	249/150308 (0.2%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1142(A)	A	N9-C4	-6.45	1.33	1.37
1	A	1378	A	N9-C4	-5.14	1.34	1.37
3	D	241	PRO	N-CD	5.05	1.54	1.47

All (249) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	761	A	N1-C6-N6	11.29	125.37	118.60
4	E	21	VAL	C-N-CD	-10.09	98.39	120.60
1	A	196	A	N1-C6-N6	9.24	124.14	118.60
12	Q	81	VAL	CB-CA-C	-8.71	94.84	111.40
1	A	2506	U	N3-C2-O2	-8.58	116.20	122.20
1	A	1378	A	C8-N9-C4	8.39	109.16	105.80
1	A	2294	C	C6-N1-C2	-8.13	117.05	120.30
1	A	761	A	C5-C6-N6	-8.10	117.22	123.70
2	B	94	C	C6-N1-C2	-8.05	117.08	120.30
1	A	2506	U	N1-C2-O2	7.88	128.31	122.80
23	1	79	GLY	N-CA-C	-7.83	93.53	113.10
1	A	761	A	C6-C5-N7	-7.80	126.84	132.30
1	A	761	A	C4-C5-N7	7.59	114.49	110.70
1	A	2248	C	C6-N1-C2	-7.58	117.27	120.30
1	A	1908	C	C6-N1-C2	-7.56	117.28	120.30
1	A	783	A	C5-N7-C8	-7.56	100.12	103.90
1	A	2856	C	C6-N1-C2	-7.41	117.34	120.30
1	A	2506	U	C2-N1-C1'	7.37	126.54	117.70
1	A	2420	C	O5'-P-OP1	-7.33	99.11	105.70
11	P	59	LEU	N-CA-C	-7.27	91.38	111.00
1	A	1221	C	C6-N1-C2	-7.27	117.39	120.30
1	A	1950	G	C4-N9-C1'	7.25	135.92	126.50
1	A	1950	G	O4'-C1'-N9	7.15	113.92	108.20
1	A	1974	C	C6-N1-C2	-7.13	117.45	120.30
1	A	761	A	N9-C4-C5	-7.12	102.95	105.80
12	Q	81	VAL	N-CA-C	7.08	130.10	111.00
2	B	56	G	C8-N9-C4	-7.04	103.58	106.40
1	A	1799	G	P-O3'-C3'	6.98	128.07	119.70
1	A	1695	G	C4-N9-C1'	6.97	135.56	126.50
1	A	196	A	C5-C6-N6	-6.94	118.15	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	796	C	C6-N1-C2	6.92	123.07	120.30
1	A	530	G	N3-C2-N2	6.91	124.74	119.90
1	A	2318	G	O4'-C1'-N9	6.90	113.72	108.20
32	a	74	C	N1-C2-O2	6.82	122.99	118.90
1	A	1396	U	N1-C2-O2	6.82	127.57	122.80
1	A	2681	C	P-O3'-C3'	6.81	127.87	119.70
1	A	2712(A)	A	N7-C8-N9	6.75	117.18	113.80
1	A	1654	A	N1-C6-N6	-6.68	114.59	118.60
1	A	196	A	C6-C5-N7	-6.66	127.64	132.30
1	A	2559	C	C2-N1-C1'	6.66	126.13	118.80
1	A	1979	C	C6-N1-C2	-6.63	117.65	120.30
1	A	1950	G	N3-C2-N2	6.63	124.54	119.90
1	A	2335	A	O4'-C1'-N9	6.60	113.48	108.20
1	A	783	A	C4-C5-N7	6.57	113.98	110.70
1	A	2609	U	C2-N1-C1'	-6.54	109.85	117.70
1	A	2468	G	C8-N9-C4	-6.52	103.79	106.40
1	A	205	G	P-O3'-C3'	6.51	127.52	119.70
3	D	131	LEU	CA-CB-CG	6.50	130.26	115.30
1	A	1359	A	N9-C4-C5	-6.50	103.20	105.80
1	A	761	A	C5-N7-C8	-6.50	100.65	103.90
1	A	2318	G	C8-N9-C4	-6.49	103.81	106.40
1	A	783	A	C6-C5-N7	-6.46	127.78	132.30
1	A	1992	G	P-O3'-C3'	6.46	127.45	119.70
1	A	2702	U	C2-N1-C1'	6.43	125.42	117.70
1	A	530	G	N1-C2-N2	-6.42	110.42	116.20
1	A	523	C	C6-N1-C2	-6.42	117.73	120.30
1	A	1835	G	C4-N9-C1'	6.40	134.81	126.50
1	A	1191	G	C8-N9-C4	6.36	108.94	106.40
1	A	62	C	C6-N1-C2	6.34	122.84	120.30
1	A	1130	U	P-O3'-C3'	6.34	127.31	119.70
1	A	1653	G	N3-C4-C5	-6.34	125.43	128.60
1	A	265	A	O4'-C1'-N9	6.32	113.26	108.20
1	A	1835	G	N3-C4-C5	-6.32	125.44	128.60
1	A	830	G	N3-C4-C5	-6.28	125.46	128.60
1	A	783	A	N7-C8-N9	6.26	116.93	113.80
1	A	1626	G	C8-N9-C4	-6.25	103.90	106.40
1	A	1658	C	C6-N1-C2	-6.22	117.81	120.30
1	A	1141	U	O5'-P-OP2	6.18	118.11	110.70
1	A	2584	U	N3-C2-O2	-6.18	117.88	122.20
1	A	789	A	N1-C6-N6	-6.17	114.90	118.60
1	A	1965	C	C6-N1-C2	6.15	122.76	120.30
1	A	565	C	N3-C4-C5	6.15	124.36	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	697	C	C6-N1-C2	-6.14	117.84	120.30
1	A	2240	C	C6-N1-C2	6.13	122.75	120.30
1	A	196	A	C4-C5-N7	6.12	113.76	110.70
1	A	1941	C	C6-N1-C2	-6.12	117.85	120.30
1	A	517	C	C6-N1-C2	-6.09	117.86	120.30
1	A	982	C	C6-N1-C2	-6.08	117.87	120.30
1	A	2318	G	N7-C8-N9	6.07	116.14	113.10
1	A	828	U	C2-N1-C1'	6.05	124.96	117.70
1	A	1022	G	P-O3'-C3'	6.03	126.94	119.70
1	A	1694	C	P-O3'-C3'	6.03	126.93	119.70
1	A	2681	C	C6-N1-C2	-6.01	117.90	120.30
1	A	333	G	C4-N9-C1'	6.01	134.31	126.50
3	D	240	ALA	C-N-CD	5.99	140.99	128.40
13	R	9	LYS	N-CA-C	-5.99	94.83	111.00
1	A	783	A	N1-C6-N6	5.98	122.19	118.60
1	A	1929	G	C6-C5-N7	-5.96	126.82	130.40
1	A	198	C	C6-N1-C2	5.94	122.68	120.30
1	A	404	C	P-O3'-C3'	5.93	126.81	119.70
1	A	1695	G	C8-N9-C1'	-5.92	119.31	127.00
1	A	2751	G	N7-C8-N9	5.91	116.06	113.10
1	A	828	U	N3-C2-O2	-5.89	118.08	122.20
7	H	125	VAL	C-N-CD	-5.88	107.67	120.60
1	A	1935	G	N1-C6-O6	5.88	123.42	119.90
2	B	79	C	C6-N1-C2	-5.87	117.95	120.30
1	A	1950	G	C8-N9-C1'	-5.86	119.38	127.00
1	A	22	C	C6-N1-C2	-5.85	117.96	120.30
1	A	828	U	N1-C2-O2	5.84	126.89	122.80
1	A	1359	A	C5-C6-N6	-5.84	119.03	123.70
4	E	58	ARG	N-CA-C	-5.83	95.25	111.00
1	A	1396	U	C2-N1-C1'	5.82	124.68	117.70
11	P	26	GLY	N-CA-C	-5.81	98.57	113.10
1	A	1314	C	C2-N1-C1'	5.80	125.18	118.80
1	A	102	G	P-O3'-C3'	5.80	126.66	119.70
1	A	1396	U	N3-C2-O2	-5.78	118.16	122.20
1	A	1929	G	N1-C6-O6	5.78	123.36	119.90
24	2	16	LEU	N-CA-C	-5.76	95.45	111.00
1	A	2751	G	P-O3'-C3'	5.75	126.60	119.70
1	A	1950	G	N7-C8-N9	5.75	115.97	113.10
1	A	503	A	P-O3'-C3'	5.74	126.59	119.70
1	A	1695	G	C6-C5-N7	-5.74	126.96	130.40
1	A	591	C	C6-N1-C2	-5.73	118.01	120.30
1	A	2446	G	C8-N9-C4	-5.72	104.11	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	637	A	C8-N9-C4	-5.72	103.51	105.80
1	A	2439	A	O4'-C1'-N9	-5.71	103.63	108.20
1	A	2271	G	N3-C4-N9	5.69	129.41	126.00
1	A	494	G	C4-N9-C1'	5.68	133.88	126.50
1	A	1974	C	N3-C2-O2	-5.66	117.94	121.90
1	A	2468	G	O4'-C1'-N9	5.62	112.69	108.20
1	A	1658	C	C5-C6-N1	5.61	123.80	121.00
1	A	450	G	C6-C5-N7	-5.60	127.04	130.40
1	A	2032	G	C4-C5-N7	5.59	113.04	110.80
1	A	1598	C	C6-N1-C2	-5.59	118.07	120.30
1	A	1786	A	N1-C6-N6	5.58	121.95	118.60
1	A	445	C	C2-N1-C1'	5.57	124.92	118.80
1	A	2444	G	O5'-P-OP2	-5.57	100.69	105.70
1	A	2032	G	N3-C4-C5	5.56	131.38	128.60
1	A	517	C	C5-C6-N1	5.55	123.78	121.00
1	A	806	C	C2-N1-C1'	5.54	124.89	118.80
26	4	39	CYS	N-CA-C	-5.54	96.06	111.00
1	A	15	G	N1-C6-O6	5.53	123.22	119.90
9	N	114	ARG	N-CA-C	-5.52	96.10	111.00
1	A	1822	G	N3-C4-N9	-5.51	122.69	126.00
1	A	2006	C	C6-N1-C2	5.51	122.50	120.30
1	A	2439	A	P-O3'-C3'	5.51	126.31	119.70
1	A	2318	G	C4-N9-C1'	5.50	133.65	126.50
1	A	2776	A	P-O3'-C3'	5.49	126.29	119.70
1	A	210	C	C6-N1-C2	5.49	122.49	120.30
1	A	2051	A	C2-N3-C4	-5.48	107.86	110.60
1	A	2053	G	C5-C6-O6	-5.47	125.32	128.60
7	H	127	GLU	N-CA-C	-5.46	96.25	111.00
1	A	1012	U	OP2-P-O3'	5.46	117.22	105.20
1	A	1378	A	N7-C8-N9	-5.45	111.07	113.80
1	A	333	G	C8-N9-C4	-5.45	104.22	106.40
3	D	251	GLY	N-CA-C	5.44	126.70	113.10
1	A	830	G	C8-N9-C4	-5.44	104.22	106.40
1	A	2468	G	N7-C8-N9	5.43	115.82	113.10
1	A	733	G	C8-N9-C4	-5.43	104.23	106.40
1	A	856	C	C6-N1-C2	-5.42	118.13	120.30
1	A	1955	U	P-O3'-C3'	5.41	126.19	119.70
11	P	25	SER	N-CA-C	-5.41	96.39	111.00
1	A	530	G	N1-C6-O6	-5.41	116.66	119.90
1	A	242	G	P-O3'-C3'	5.40	126.18	119.70
1	A	2600	A	C4-C5-C6	5.40	119.70	117.00
1	A	1438	U	C5-C6-N1	5.39	125.40	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2481	G	P-O3'-C3'	5.39	126.17	119.70
3	D	111	LEU	CA-CB-CG	5.39	127.69	115.30
1	A	2584	U	C6-N1-C2	-5.38	117.77	121.00
1	A	2712(A)	A	C5-N7-C8	-5.38	101.21	103.90
1	A	74	A	O4'-C1'-N9	-5.38	103.89	108.20
1	A	2832	U	P-O3'-C3'	5.37	126.15	119.70
1	A	2253	G	C5-C6-O6	-5.37	125.38	128.60
1	A	1899	G	N1-C2-N2	-5.36	111.38	116.20
7	H	100	GLY	N-CA-C	-5.36	99.70	113.10
1	A	1795	C	C6-N1-C2	-5.36	118.16	120.30
1	A	1026	U	OP1-P-O3'	5.36	116.98	105.20
1	A	2504	U	C5-C6-N1	5.36	125.38	122.70
1	A	2495	G	N1-C6-O6	5.35	123.11	119.90
1	A	2655	G	P-O3'-C3'	5.35	126.12	119.70
1	A	271(B)	G	P-O3'-C3'	5.34	126.11	119.70
1	A	1964	G	C4-C5-N7	5.34	112.94	110.80
1	A	2559	C	C5-C6-N1	5.33	123.67	121.00
1	A	669	G	C4-N9-C1'	5.33	133.42	126.50
1	A	2430	A	N1-C2-N3	5.33	131.96	129.30
1	A	2496	C	C6-N1-C2	5.32	122.43	120.30
1	A	522	G	C8-N9-C4	5.32	108.53	106.40
1	A	99	U	P-O3'-C3'	5.31	126.07	119.70
1	A	1426	G	N3-C4-C5	-5.31	125.94	128.60
1	A	196	A	C5-N7-C8	-5.31	101.25	103.90
1	A	247	G	N7-C8-N9	-5.31	110.45	113.10
1	A	2468	G	C4-N9-C1'	5.30	133.38	126.50
30	8	36	LYS	N-CA-C	-5.29	96.72	111.00
1	A	252	G	N1-C6-O6	-5.28	116.73	119.90
1	A	1695	G	N3-C4-N9	5.28	129.17	126.00
1	A	2481	G	OP2-P-O3'	5.28	116.81	105.20
2	B	56	G	N7-C8-N9	5.28	115.74	113.10
1	A	1024	G	N3-C4-N9	5.27	129.16	126.00
1	A	450	G	C4-N9-C1'	5.26	133.34	126.50
1	A	1024	G	C6-C5-N7	-5.25	127.25	130.40
1	A	2126	A	P-O3'-C3'	5.25	126.00	119.70
1	A	1476	C	C6-N1-C2	-5.24	118.20	120.30
1	A	752	A	P-O3'-C3'	5.24	125.99	119.70
1	A	759	G	N1-C6-O6	5.24	123.04	119.90
1	A	1822	G	N3-C4-C5	5.23	131.22	128.60
1	A	1955	U	C6-N1-C2	-5.23	117.86	121.00
12	Q	5	ARG	N-CA-C	-5.21	96.93	111.00
1	A	2015	A	C2-N3-C4	5.21	113.21	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	512	G	O4'-C1'-N9	5.21	112.37	108.20
1	A	560	C	C6-N1-C2	5.21	122.38	120.30
1	A	1903	G	O5'-P-OP2	-5.20	101.02	105.70
1	A	789	A	C4-C5-N7	-5.19	108.11	110.70
1	A	522	G	N9-C4-C5	-5.18	103.33	105.40
1	A	1929	G	C4-C5-N7	5.18	112.87	110.80
14	S	110	LEU	CA-CB-CG	5.18	127.21	115.30
1	A	517	C	C2-N1-C1'	5.18	124.49	118.80
1	A	2250	G	C8-N9-C4	-5.17	104.33	106.40
1	A	1672	C	C6-N1-C2	5.17	122.37	120.30
1	A	758	C	C6-N1-C2	-5.16	118.24	120.30
1	A	1359	A	N1-C6-N6	5.16	121.69	118.60
1	A	1238	G	C8-N9-C4	5.15	108.46	106.40
1	A	2598	A	N1-C6-N6	5.14	121.68	118.60
1	A	2031	A	O4'-C1'-N9	5.14	112.31	108.20
1	A	193	U	OP2-P-O3'	5.13	116.48	105.20
1	A	1935	G	C5-C6-O6	-5.13	125.52	128.60
1	A	494	G	C8-N9-C4	-5.12	104.35	106.40
1	A	2032	G	C5-N7-C8	-5.12	101.74	104.30
1	A	2506	U	C6-N1-C2	-5.12	117.93	121.00
1	A	2358	G	N9-C4-C5	5.12	107.45	105.40
1	A	1935	G	N9-C4-C5	-5.11	103.36	105.40
1	A	1654	A	N9-C4-C5	5.10	107.84	105.80
1	A	2066	C	C6-N1-C2	-5.10	118.26	120.30
1	A	2358	G	C8-N9-C4	-5.10	104.36	106.40
1	A	776	G	N3-C4-C5	5.09	131.15	128.60
1	A	283	A	C8-N9-C4	5.08	107.83	105.80
1	A	2779	U	C6-N1-C2	-5.08	117.95	121.00
1	A	912	C	C6-N1-C2	-5.08	118.27	120.30
15	T	59	THR	N-CA-C	-5.07	97.31	111.00
15	T	123	GLN	N-CA-C	-5.07	97.31	111.00
1	A	226	G	O4'-C1'-N9	5.07	112.25	108.20
1	A	445	C	C6-N1-C2	-5.06	118.27	120.30
1	A	356	G	N3-C4-C5	-5.06	126.07	128.60
1	A	1313	U	C5-C6-N1	5.06	125.23	122.70
1	A	1776	G	C8-N9-C1'	-5.06	120.42	127.00
1	A	587	C	C6-N1-C2	-5.06	118.28	120.30
1	A	1950	G	N1-C2-N2	-5.06	111.65	116.20
1	A	1964	G	C5-C6-O6	-5.05	125.57	128.60
1	A	1965	C	N3-C4-C5	5.05	123.92	121.90
7	H	127	GLU	C-N-CD	-5.05	109.50	120.60
1	A	1304	C	C6-N1-C2	5.04	122.32	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1496	A	N7-C8-N9	5.03	116.32	113.80
1	A	1786	A	N9-C4-C5	-5.02	103.79	105.80
1	A	2250	G	C5-C6-O6	5.02	131.61	128.60
1	A	356	G	N3-C4-N9	5.02	129.01	126.00
1	A	2702	U	C5-C6-N1	5.01	125.21	122.70
1	A	1964	G	N1-C6-O6	5.01	122.91	119.90
1	A	1695	G	N3-C4-C5	-5.01	126.10	128.60
1	A	974	G	N7-C8-N9	5.00	115.60	113.10
1	A	1314	C	N1-C2-O2	5.00	121.90	118.90

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	62091	0	31295	1254	0
2	B	2573	0	1306	57	0
3	D	2115	0	2195	316	0
4	E	1568	0	1634	272	0
5	F	1585	0	1632	179	0
6	G	1474	0	1535	184	0
7	H	1307	0	1382	227	3
8	I	1136	0	1223	56	0
9	N	1104	0	1180	186	0
10	O	933	0	996	129	0
11	P	1145	0	1228	239	0
12	Q	1122	0	1178	149	0
13	R	968	0	1033	114	0
14	S	882	0	943	159	0
15	T	1141	0	1202	150	0
16	U	964	0	1022	134	0
17	V	779	0	852	128	0
18	W	900	0	964	102	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	154	3
21	Z	1461	0	1493	70	0
22	0	648	0	672	39	0
23	1	763	0	848	140	0
24	2	581	0	629	79	0
25	3	469	0	518	44	0
26	4	581	0	574	133	0
27	5	451	0	471	68	0
28	6	424	0	450	90	0
29	7	430	0	480	44	0
30	8	517	0	582	102	0
31	9	307	0	336	20	0
32	a	74	0	51	0	0
33	5	1	0	0	0	0
33	7	1	0	0	0	0
33	A	265	0	0	0	0
33	B	3	0	0	0	0
33	E	1	0	0	0	0
33	P	2	0	0	0	0
33	Q	1	0	0	0	0
33	X	1	0	0	0	0
34	9	1	0	0	0	0
All	All	92279	0	61560	4640	3

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 30.

All (4640) 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	1.35	1.52
23:1:81:LYS:NZ	23:1:81:LYS:HA	1.42	1.34
23:1:81:LYS:HE2	23:1:81:LYS:N	1.50	1.26
7:H:127:GLU:HG2	7:H:128:PRO:CD	1.69	1.21
7:H:127:GLU:CB	7:H:128:PRO:HD3	1.69	1.21
23:1:82:LEU:HD12	23:1:82:LEU:C	1.66	1.16
20:Y:76:CYS:HB3	20:Y:96:ILE:HD13	1.17	1.16
20:Y:95:LYS:HB3	20:Y:100:ALA:HA	1.20	1.16
1:A:518:G:H4'	18:W:18:ARG:HH12	1.07	1.14
23:1:82:LEU:CD1	23:1:83:GLU:O	1.97	1.12
11:P:50:ARG:HB3	11:P:50:ARG:HH21	1.13	1.11
4:E:179:GLU:HB3	4:E:181:LEU:HD23	1.31	1.11

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:44:ASN:HB2	3:D:48:ARG:O	1.51	1.11
16:U:8:VAL:HG23	16:U:11:ARG:HH21	1.14	1.11
7:H:132:ARG:HH11	7:H:132:ARG:HB2	1.10	1.11
23:1:82:LEU:HD12	23:1:83:GLU:N	1.66	1.11
5:F:101:LEU:HD12	5:F:102:PRO:HD2	1.21	1.11
4:E:50:GLY:HA2	4:E:77:ILE:HA	1.31	1.10
1:A:483:A:H4'	20:Y:49:VAL:HA	1.32	1.09
9:N:134:ARG:H	9:N:135:PRO:HD3	1.11	1.09
7:H:152:ARG:HG3	7:H:153:LYS:HE2	1.34	1.08
3:D:131:LEU:HB2	3:D:136:ILE:HD11	1.35	1.08
7:H:86:GLU:HG3	7:H:165:ALA:H	1.06	1.08
23:1:81:LYS:HZ3	23:1:81:LYS:CA	1.65	1.07
11:P:126:VAL:HG12	11:P:147:LEU:HD21	1.30	1.07
23:1:82:LEU:CD1	23:1:83:GLU:N	2.18	1.06
26:4:71:ARG:HG3	26:4:71:ARG:HH11	1.13	1.06
11:P:59:LEU:HA	11:P:61:ARG:NH2	1.69	1.06
30:8:52:LYS:H	30:8:53:PRO:CD	1.69	1.06
7:H:153:LYS:HB3	7:H:154:PRO:HD2	1.07	1.06
4:E:63:LEU:HD12	4:E:64:LYS:H	1.18	1.05
4:E:21:VAL:HB	4:E:22:PRO:HB3	1.37	1.05
11:P:19:VAL:HG22	11:P:20:GLY:H	1.15	1.05
17:V:49:THR:HB	17:V:50:PRO:HD2	1.39	1.04
7:H:127:GLU:CG	7:H:128:PRO:CD	2.30	1.04
16:U:90:VAL:HG12	16:U:91:ASP:H	1.18	1.04
14:S:106:ARG:HA	14:S:110:LEU:HD11	1.39	1.03
14:S:83:LYS:O	14:S:109:GLY:HA3	1.57	1.03
7:H:127:GLU:CB	7:H:128:PRO:CD	2.35	1.03
10:O:53:LYS:H	10:O:53:LYS:HD2	1.23	1.03
3:D:35:LYS:HG2	3:D:64:ILE:N	1.72	1.02
5:F:67:GLN:O	5:F:68:LYS:HB2	1.56	1.02
12:Q:65:PHE:O	12:Q:66:ILE:HG12	1.59	1.02
12:Q:12:GLN:HG2	12:Q:73:PRO:HD2	1.42	1.02
12:Q:81:VAL:O	12:Q:82:ARG:CD	2.06	1.02
5:F:46:ARG:HH11	5:F:46:ARG:HG2	1.20	1.02
6:G:13:GLU:O	6:G:14:GLU:HB2	1.60	1.01
20:Y:97:ARG:HH21	20:Y:98:VAL:HB	1.26	1.01
13:R:67:LEU:HD13	13:R:76:VAL:HG21	1.39	1.01
5:F:67:GLN:HG3	5:F:67:GLN:O	1.58	1.01
9:N:96:GLU:HG2	9:N:97:ARG:H	1.26	1.00
12:Q:80:GLU:O	12:Q:81:VAL:HG13	1.59	1.00
13:R:54:LEU:HD23	13:R:66:VAL:HG23	1.44	1.00
28:6:7:ILE:HG13	28:6:8:LYS:H	1.25	1.00

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:26:LEU:HD12	14:S:39:ILE:HD11	1.40	1.00
5:F:185:ASP:HA	5:F:188:ARG:HD3	1.41	0.99
4:E:201:THR:HG22	4:E:203:LYS:H	1.26	0.99
7:H:153:LYS:HB3	7:H:154:PRO:CD	1.92	0.99
24:2:50:ILE:HD12	24:2:51:ARG:N	1.76	0.99
1:A:2701:C:H3'	1:A:2702:U:H5''	1.40	0.99
11:P:105:LEU:O	11:P:106:LEU:HB2	1.60	0.99
12:Q:81:VAL:O	12:Q:82:ARG:NE	1.94	0.98
11:P:50:ARG:HH21	11:P:50:ARG:CB	1.76	0.98
7:H:86:GLU:HG3	7:H:165:ALA:N	1.79	0.97
12:Q:79:LEU:HD13	12:Q:79:LEU:O	1.63	0.97
15:T:62:THR:HG22	15:T:75:ILE:HG12	1.46	0.97
28:6:41:PRO:HG2	28:6:45:LYS:H	1.30	0.97
3:D:44:ASN:HB3	3:D:49:ILE:HA	1.45	0.97
14:S:83:LYS:NZ	14:S:109:GLY:HA2	1.77	0.97
24:2:50:ILE:HD12	24:2:51:ARG:H	1.24	0.97
12:Q:79:LEU:HD22	12:Q:79:LEU:O	1.64	0.97
18:W:86:LEU:HD12	18:W:87:PRO:HD2	1.45	0.97
1:A:83:G:HO2'	1:A:84:A:H8	0.98	0.97
1:A:265:A:N6	1:A:427:U:O2'	1.97	0.96
1:A:620:G:H4'	1:A:621:A:H5''	1.46	0.96
1:A:2015:A:H1'	27:5:2:ALA:HA	1.47	0.96
20:Y:84:ARG:HH12	20:Y:97:ARG:HB2	1.28	0.96
6:G:112:PRO:HB3	26:4:37:SER:HB2	1.47	0.96
4:E:20:ALA:O	4:E:21:VAL:HG22	1.65	0.96
26:4:56:VAL:HA	26:4:60:GLN:HB2	1.43	0.95
5:F:101:LEU:HD12	5:F:102:PRO:CD	1.96	0.95
27:5:56:LYS:H	27:5:56:LYS:HD2	1.30	0.95
3:D:227:ASN:HB3	3:D:228:PRO:HD2	1.44	0.95
1:A:1359:A:N6	1:A:1372:U:O4	2.00	0.95
1:A:674:G:H1'	5:F:74:ARG:HD3	1.47	0.95
5:F:103:LYS:HA	5:F:106:ARG:HG3	1.48	0.95
11:P:62:LEU:HD22	11:P:62:LEU:N	1.82	0.95
23:1:81:LYS:N	23:1:81:LYS:CE	2.30	0.95
17:V:99:ILE:HD13	17:V:99:ILE:H	1.32	0.95
4:E:78:LEU:HG	4:E:79:ARG:HE	1.30	0.94
24:2:13:ALA:HA	24:2:16:LEU:HD23	1.48	0.94
7:H:153:LYS:CB	7:H:154:PRO:HD2	1.98	0.94
23:1:81:LYS:CA	23:1:81:LYS:CE	2.45	0.94
17:V:35:LEU:HD21	17:V:57:VAL:HG22	1.47	0.94
20:Y:51:VAL:HG13	20:Y:52:SER:H	1.31	0.94
3:D:28:GLU:HB2	3:D:29:PRO:CD	1.98	0.94

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:47:THR:HG22	28:6:48:VAL:HG12	1.45	0.94
7:H:77:LYS:NZ	7:H:77:LYS:HB3	1.82	0.93
15:T:11:GLU:CD	15:T:11:GLU:H	1.71	0.93
7:H:127:GLU:HB3	7:H:128:PRO:CD	1.99	0.93
9:N:134:ARG:H	9:N:135:PRO:CD	1.81	0.93
7:H:77:LYS:HB3	7:H:77:LYS:HZ3	1.31	0.93
3:D:108:PRO:HB3	3:D:143:HIS:CE1	2.05	0.93
13:R:33:ARG:NH2	27:5:55:ARG:HG2	1.84	0.93
19:X:57:LEU:CD1	19:X:78:LYS:HB2	1.98	0.93
3:D:108:PRO:HB3	3:D:143:HIS:HE1	1.32	0.92
11:P:65:ARG:HH11	11:P:65:ARG:HG3	1.35	0.92
4:E:14:ILE:HG12	4:E:15:PHE:H	1.33	0.92
14:S:59:LYS:HG2	14:S:60:GLY:H	1.31	0.92
23:1:81:LYS:CE	23:1:81:LYS:HA	2.00	0.91
1:A:1021:A:OP2	9:N:65:LYS:NZ	2.01	0.91
12:Q:34:LEU:HD11	12:Q:129:THR:HB	1.50	0.91
14:S:67:ARG:HB2	14:S:67:ARG:NH1	1.85	0.91
20:Y:30:VAL:HG22	20:Y:37:VAL:HG12	1.53	0.91
6:G:37:VAL:HG22	6:G:159:VAL:HA	1.52	0.91
16:U:92:ARG:O	16:U:92:ARG:HG2	1.70	0.91
3:D:10:THR:HG23	3:D:13:ARG:HB3	1.51	0.91
11:P:1:MET:HE2	11:P:5:ASP:HB3	1.50	0.91
23:1:80:LEU:O	23:1:81:LYS:HB2	1.71	0.91
10:O:2:ILE:HD11	10:O:82:ASN:HD22	1.33	0.90
20:Y:38:ILE:HG22	20:Y:66:PRO:HA	1.54	0.90
17:V:24:LYS:HA	17:V:92:THR:HG23	1.52	0.90
11:P:106:LEU:O	11:P:107:LYS:HB2	1.71	0.90
24:2:65:ASN:HB3	24:2:69:ARG:HH12	1.34	0.90
3:D:147:LEU:HD13	3:D:155:LEU:HD11	1.51	0.90
7:H:4:ILE:HG13	7:H:6:ARG:CZ	2.01	0.90
17:V:44:LYS:O	17:V:46:VAL:HG12	1.72	0.90
27:5:3:LYS:HE3	27:5:3:LYS:HA	1.54	0.90
7:H:26:VAL:HG13	7:H:27:LYS:H	1.35	0.90
3:D:44:ASN:H	3:D:44:ASN:HD22	1.19	0.89
3:D:69:ARG:HH21	3:D:130:ALA:HB2	1.37	0.89
3:D:183:ARG:HH11	3:D:183:ARG:HG2	1.34	0.89
18:W:65:LEU:HD12	18:W:68:ARG:HH11	1.36	0.89
27:5:40:LYS:HZ1	27:5:48:GLU:HB2	1.36	0.89
30:8:52:LYS:H	30:8:53:PRO:HD3	1.35	0.89
30:8:59:LYS:HB2	30:8:59:LYS:NZ	1.87	0.89
11:P:88:LEU:HD12	11:P:95:VAL:HG11	1.52	0.89
6:G:116:ASP:O	6:G:117:PHE:HB3	1.72	0.89

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:63:LEU:HD12	4:E:64:LYS:N	1.87	0.89
11:P:58:THR:O	11:P:61:ARG:NE	2.05	0.89
1:A:1496:A:H8	1:A:1577:C:HO2'	1.19	0.89
7:H:10:PRO:HD2	7:H:50:VAL:O	1.72	0.89
6:G:88:ILE:O	6:G:88:ILE:HD13	1.72	0.88
11:P:64:LYS:O	11:P:66:GLY:N	2.07	0.88
14:S:106:ARG:NH1	14:S:106:ARG:HB2	1.88	0.88
20:Y:76:CYS:SG	20:Y:77:PRO:HD2	2.13	0.88
9:N:22:THR:HG22	9:N:23:LEU:N	1.88	0.88
1:A:994:C:H3'	16:U:54:LYS:HE3	1.54	0.88
11:P:49:ARG:HD2	30:8:58:ILE:HG22	1.54	0.88
1:A:2068:U:H3	1:A:2430:A:H2	1.18	0.88
1:A:498:G:N3	20:Y:47:LYS:NZ	2.22	0.88
4:E:77:ILE:HD12	4:E:78:LEU:N	1.89	0.88
1:A:518:G:H4'	18:W:18:ARG:NH1	1.89	0.87
3:D:44:ASN:CB	3:D:49:ILE:HA	2.04	0.87
21:Z:151:HIS:HB3	21:Z:170:THR:HA	1.53	0.87
23:1:82:LEU:HD13	23:1:83:GLU:O	1.74	0.87
1:A:819:A:OP2	1:A:1187:G:N2	2.07	0.87
3:D:27:THR:HG23	3:D:28:GLU:H	1.38	0.87
12:Q:64:ILE:HA	12:Q:106:VAL:HG12	1.54	0.87
23:1:82:LEU:HD11	23:1:83:GLU:O	1.75	0.87
3:D:181:GLU:HA	3:D:272:ALA:HB3	1.57	0.87
5:F:29:ASN:H	5:F:112:MET:HE3	1.40	0.87
5:F:7:TYR:HB3	5:F:21:ALA:HB1	1.53	0.87
6:G:145:THR:HG23	26:4:28:LYS:HZ1	1.38	0.86
6:G:101:ILE:HG13	6:G:102:PHE:N	1.86	0.86
11:P:18:ARG:O	11:P:19:VAL:HB	1.75	0.86
6:G:161:THR:HG22	6:G:163:ALA:H	1.39	0.86
3:D:35:LYS:HG2	3:D:64:ILE:H	1.40	0.86
16:U:92:ARG:HD2	17:V:11:GLN:NE2	1.91	0.86
17:V:19:LYS:HD2	17:V:95:LEU:HD23	1.55	0.86
21:Z:145:GLU:HG3	21:Z:146:ILE:HG12	1.56	0.86
7:H:127:GLU:HG2	7:H:128:PRO:HD3	0.86	0.86
14:S:106:ARG:HH11	14:S:106:ARG:HB2	1.39	0.86
1:A:443:A:N7	5:F:45:ARG:HD2	1.89	0.85
12:Q:75:THR:HA	12:Q:88:GLY:O	1.76	0.85
15:T:111:ARG:O	15:T:112:ARG:HG3	1.76	0.85
6:G:67:LYS:HE2	26:4:6:HIS:NE2	1.91	0.85
1:A:1607:C:N4	1:A:1622:G:OP2	2.09	0.85
11:P:101:VAL:HG23	11:P:107:LYS:H	1.41	0.85
20:Y:51:VAL:O	20:Y:56:PRO:HA	1.76	0.85

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:28:GLU:HB2	3:D:29:PRO:HD2	1.56	0.85
11:P:75:ILE:H	11:P:75:ILE:HD13	1.39	0.85
7:H:89:ILE:HD11	7:H:129:THR:HB	1.59	0.85
1:A:888:C:H3'	1:A:889:C:H4'	1.59	0.85
5:F:82:ILE:HG13	5:F:82:ILE:O	1.73	0.84
1:A:958:U:OP2	12:Q:14:ARG:NH1	2.10	0.84
14:S:83:LYS:HG2	14:S:109:GLY:CA	2.07	0.84
1:A:2056:G:N2	27:5:4:HIS:O	2.10	0.84
3:D:17:THR:HG22	3:D:205:VAL:H	1.41	0.84
6:G:98:ARG:HA	6:G:101:ILE:HG12	1.59	0.84
14:S:106:ARG:HA	14:S:110:LEU:CD1	2.07	0.84
17:V:49:THR:HB	17:V:50:PRO:CD	2.07	0.84
4:E:81:ILE:O	4:E:82:ARG:HB2	1.75	0.84
27:5:40:LYS:HD3	27:5:46:CYS:HB3	1.60	0.84
1:A:2419:U:H5'	28:6:23:THR:HG22	1.60	0.84
10:O:26:LYS:HB2	10:O:30:ALA:HB2	1.59	0.84
4:E:61:ARG:O	4:E:63:LEU:HG	1.77	0.84
4:E:95:ILE:HD12	4:E:95:ILE:H	1.42	0.84
7:H:54:ARG:NH1	7:H:62:LYS:HG2	1.92	0.84
5:F:53:THR:HG23	5:F:56:GLU:OE1	1.77	0.84
11:P:62:LEU:CD2	30:8:25:MET:HB2	2.08	0.84
12:Q:30:GLY:HA2	12:Q:107:ALA:HB2	1.60	0.84
20:Y:57:GLN:NE2	20:Y:58:GLY:H	1.76	0.84
14:S:89:ARG:HD2	14:S:92:TYR:O	1.78	0.84
13:R:117:VAL:HG22	13:R:118:GLU:H	1.43	0.84
1:A:443:A:C5	5:F:45:ARG:HD2	2.13	0.84
5:F:32:LEU:HD13	5:F:105:VAL:HG13	1.59	0.84
15:T:3:ARG:HG3	15:T:7:ILE:HG12	1.60	0.84
23:1:92:LYS:HG3	23:1:96:LYS:HB2	1.58	0.83
7:H:13:LYS:HE2	7:H:13:LYS:HA	1.60	0.83
27:5:39:MET:O	27:5:40:LYS:HG3	1.77	0.83
28:6:27:LYS:NZ	28:6:27:LYS:HB2	1.94	0.83
4:E:7:VAL:HG23	4:E:8:LYS:H	1.43	0.83
11:P:126:VAL:HG22	11:P:145:PRO:HG2	1.61	0.83
9:N:131:GLN:NE2	9:N:132:ALA:H	1.75	0.83
11:P:59:LEU:HA	11:P:61:ARG:HH21	1.44	0.83
15:T:24:PRO:HA	15:T:49:VAL:HG13	1.59	0.83
15:T:53:ARG:O	15:T:59:THR:HG23	1.78	0.83
9:N:133:GLN:HB2	9:N:135:PRO:HD3	1.59	0.82
20:Y:81:LYS:HD3	20:Y:97:ARG:HE	1.43	0.82
16:U:88:ILE:H	16:U:88:ILE:HD13	1.44	0.82
3:D:25:THR:CG2	3:D:82:ILE:H	1.93	0.82

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:15:PHE:CE1	4:E:20:ALA:HB2	2.14	0.82
7:H:105:LEU:H	7:H:105:LEU:HD13	1.42	0.82
7:H:153:LYS:HG2	7:H:162:ILE:HG13	1.61	0.82
16:U:64:ARG:HG2	16:U:64:ARG:HH21	1.42	0.82
3:D:35:LYS:NZ	3:D:104:TYR:HB2	1.93	0.82
24:2:16:LEU:HG	24:2:16:LEU:O	1.78	0.82
9:N:22:THR:HG22	9:N:23:LEU:H	1.45	0.82
15:T:102:ILE:HA	15:T:105:LEU:HD21	1.62	0.82
10:O:14:THR:HG21	10:O:86:ILE:HB	1.62	0.82
11:P:39:LYS:HA	11:P:45:LEU:CD1	2.10	0.82
14:S:19:LYS:O	14:S:20:ARG:HB3	1.80	0.82
26:4:36:CYS:O	26:4:39:CYS:HB2	1.80	0.82
26:4:71:ARG:NH1	26:4:71:ARG:HG3	1.90	0.82
6:G:179:PRO:HG3	26:4:38:LYS:NZ	1.95	0.81
1:A:637:A:H2'	11:P:117:GLU:OE2	1.79	0.81
6:G:67:LYS:HE2	26:4:6:HIS:CE1	2.14	0.81
12:Q:90:VAL:HG13	12:Q:91:GLU:N	1.95	0.81
14:S:88:ASP:O	14:S:89:ARG:HB3	1.78	0.81
17:V:66:ARG:NH1	17:V:88:ARG:HD3	1.94	0.81
4:E:24:THR:HG21	4:E:188:VAL:HG11	1.59	0.81
7:H:10:PRO:O	7:H:11:VAL:HG13	1.80	0.81
29:7:48:LYS:HG2	29:7:49:ARG:H	1.46	0.81
6:G:47:LYS:HD3	6:G:81:LYS:HB2	1.63	0.81
1:A:1728:G:N1	1:A:1730:U:OP2	2.13	0.81
24:2:43:GLN:O	24:2:44:LEU:HG	1.81	0.81
30:8:59:LYS:NZ	30:8:59:LYS:CB	2.39	0.81
9:N:35:ARG:HG3	9:N:37:LYS:HG3	1.63	0.81
4:E:116:VAL:HG21	4:E:122:PHE:CD2	2.16	0.81
4:E:50:GLY:CA	4:E:77:ILE:HA	2.10	0.81
8:I:92:VAL:HG13	8:I:120:ILE:HG23	1.63	0.81
9:N:43:THR:HB	9:N:46:VAL:HG12	1.63	0.81
15:T:39:ARG:HG2	15:T:40:THR:H	1.46	0.81
1:A:1264:G:H3'	1:A:1265:A:H5''	1.61	0.81
1:A:1021:A:N6	1:A:1141:U:O2	2.14	0.80
5:F:155:LEU:HD13	5:F:174:VAL:HG13	1.62	0.80
14:S:36:TYR:HD2	14:S:52:SER:HB3	1.46	0.80
7:H:8:PRO:C	7:H:9:ILE:HG12	2.00	0.80
1:A:2361:A:O5'	30:8:27:THR:OG1	1.98	0.80
1:A:1899:G:H21	1:A:1902:C:N4	1.79	0.80
1:A:242:G:H5'	30:8:62:LEU:HD22	1.63	0.80
1:A:1454:U:H5'	13:R:63:ARG:HE	1.44	0.80
3:D:27:THR:HG23	3:D:28:GLU:N	1.96	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:6:HIS:O	20:Y:7:VAL:HG13	1.81	0.80
12:Q:80:GLU:O	12:Q:81:VAL:CG1	2.30	0.80
20:Y:76:CYS:HB3	20:Y:96:ILE:CD1	2.07	0.80
30:8:52:LYS:N	30:8:53:PRO:CD	2.43	0.80
4:E:52:LEU:HB2	4:E:75:VAL:HG23	1.61	0.80
4:E:35:GLN:HG2	4:E:37:ARG:HE	1.44	0.80
4:E:3:GLY:O	4:E:4:ILE:HB	1.81	0.80
5:F:198:ALA:HA	5:F:201:VAL:HG12	1.62	0.80
26:4:33:VAL:HG12	26:4:34:GLU:H	1.44	0.80
4:E:201:THR:CG2	4:E:203:LYS:HB3	2.12	0.80
7:H:152:ARG:O	7:H:153:LYS:HB2	1.80	0.80
10:O:31:LYS:HG3	10:O:32:TYR:CE2	2.17	0.80
14:S:106:ARG:CA	14:S:110:LEU:HD21	2.10	0.80
27:5:4:HIS:HB3	27:5:5:PRO:CD	2.11	0.80
1:A:2306:C:H2'	1:A:2307:G:H21	1.45	0.80
1:A:593:G:O3'	30:8:61:LEU:HD22	1.81	0.80
6:G:61:ALA:HB2	6:G:68:PRO:CD	2.12	0.80
3:D:68:LYS:HB2	3:D:70:TRP:CH2	2.17	0.80
1:A:222:A:H3'	1:A:421:U:H5'	1.63	0.79
3:D:121:PRO:HB3	3:D:135:PHE:HE1	1.47	0.79
17:V:99:ILE:N	17:V:99:ILE:HD13	1.95	0.79
3:D:34:VAL:O	3:D:34:VAL:HG13	1.81	0.79
12:Q:79:LEU:HD12	22:0:5:LYS:HD3	1.65	0.79
15:T:62:THR:CG2	15:T:75:ILE:HG12	2.11	0.79
16:U:105:VAL:HG22	17:V:44:LYS:HD2	1.65	0.79
1:A:2593:U:H2'	1:A:2594:C:H6	1.48	0.79
6:G:77:ILE:HD13	6:G:82:LEU:HD12	1.64	0.79
7:H:126:PRO:CG	7:H:127:GLU:H	1.95	0.79
7:H:169:VAL:HG22	7:H:170:ARG:H	1.48	0.79
11:P:14:LYS:O	11:P:16:ARG:HG2	1.83	0.79
12:Q:81:VAL:O	12:Q:82:ARG:CG	2.31	0.79
25:3:56:VAL:HG12	25:3:57:GLU:H	1.48	0.79
4:E:24:THR:HG21	4:E:188:VAL:CG1	2.13	0.79
7:H:26:VAL:HG13	7:H:27:LYS:N	1.96	0.79
11:P:65:ARG:NH1	11:P:65:ARG:HG3	1.90	0.79
3:D:17:THR:CG2	3:D:205:VAL:H	1.96	0.79
15:T:102:ILE:HA	15:T:105:LEU:CD2	2.13	0.79
23:1:11:ARG:NH1	23:1:11:ARG:HB3	1.98	0.79
1:A:2114:A:N6	1:A:2119:A:N7	2.31	0.79
7:H:153:LYS:CG	7:H:162:ILE:H	1.96	0.79
1:A:2245:U:H5'	1:A:2246:G:H5'	1.64	0.79
1:A:2298:A:H62	1:A:2318:G:H8	1.27	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:86:ARG:HB2	20:Y:95:LYS:HD2	1.64	0.79
26:4:58:ARG:O	26:4:63:TYR:HB2	1.84	0.78
10:O:53:LYS:N	10:O:53:LYS:HD2	1.96	0.78
11:P:47:ASP:OD2	11:P:49:ARG:HG2	1.82	0.78
3:D:27:THR:HG21	3:D:83:GLU:HB3	1.64	0.78
7:H:150:ALA:O	7:H:152:ARG:N	2.14	0.78
16:U:90:VAL:HG12	16:U:91:ASP:N	1.98	0.78
1:A:247:G:O6	30:8:12:LYS:NZ	2.14	0.78
12:Q:59:ARG:H	12:Q:59:ARG:HD3	1.48	0.78
1:A:1279:G:H4'	13:R:31:HIS:HD2	1.48	0.78
3:D:54:ARG:HG3	3:D:54:ARG:NH1	1.98	0.78
4:E:137:HIS:HB3	4:E:138:PRO:HD2	1.64	0.78
10:O:97:ARG:H	10:O:117:LEU:HD22	1.48	0.78
19:X:70:LEU:HD23	19:X:70:LEU:N	1.99	0.78
1:A:2131:G:H4'	1:A:2132:U:H4'	1.63	0.78
1:A:2810:A:O3'	4:E:61:ARG:HG3	1.84	0.78
6:G:128:ARG:HH21	6:G:128:ARG:HG3	1.48	0.78
8:I:27:ARG:HD3	23:1:71:TYR:HE1	1.46	0.78
17:V:47:VAL:HG13	17:V:48:GLY:H	1.49	0.78
1:A:994:C:O2'	1:A:996:A:OP1	2.01	0.78
3:D:34:VAL:HG21	3:D:103:ARG:HA	1.66	0.78
6:G:97:ASP:H	6:G:100:TRP:HD1	1.31	0.78
11:P:19:VAL:HG22	11:P:20:GLY:N	1.97	0.78
5:F:145:GLU:HG3	5:F:145:GLU:O	1.81	0.78
3:D:94:LEU:HD22	3:D:95:LEU:N	1.98	0.78
4:E:4:ILE:HD12	4:E:28:ALA:HB1	1.66	0.78
22:O:10:THR:HG22	22:O:12:ASN:H	1.49	0.77
10:O:47:ILE:HD12	10:O:48:PRO:HD2	1.66	0.77
1:A:1190:G:OP1	11:P:30:THR:OG1	2.01	0.77
1:A:451:C:H4'	5:F:52:LYS:NZ	2.00	0.77
7:H:132:ARG:NH1	7:H:132:ARG:HB2	1.95	0.77
11:P:84:ASN:ND2	11:P:116:GLY:HA3	1.99	0.77
16:U:66:ASN:O	16:U:70:ARG:HB2	1.84	0.77
1:A:392:C:H5''	1:A:409:C:H5''	1.65	0.77
5:F:11:VAL:HB	5:F:18:ARG:HG3	1.64	0.77
5:F:20:LEU:HD12	5:F:21:ALA:H	1.49	0.77
3:D:25:THR:HG22	3:D:82:ILE:H	1.46	0.77
6:G:127:GLY:HA2	6:G:166:ASP:CG	2.05	0.77
7:H:152:ARG:HG3	7:H:153:LYS:CE	2.14	0.77
9:N:71:ILE:HG21	9:N:84:LYS:HB3	1.65	0.77
13:R:74:LYS:O	13:R:75:LEU:HB3	1.84	0.77
28:6:15:GLU:CD	28:6:41:PRO:HB3	2.04	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:79:CYS:SG	20:Y:80:GLY:N	2.57	0.77
23:1:13:ILE:HD11	23:1:42:GLN:OE1	1.84	0.77
3:D:44:ASN:N	3:D:44:ASN:HD22	1.79	0.77
18:W:65:LEU:CD1	18:W:68:ARG:HH11	1.97	0.77
26:4:22:ILE:O	26:4:24:THR:HG23	1.84	0.77
30:8:59:LYS:HZ3	30:8:59:LYS:CB	1.96	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
14:S:106:ARG:HA	14:S:110:LEU:HD21	1.64	0.77
25:3:35:ARG:HB3	25:3:37:LEU:HD21	1.66	0.77
3:D:25:THR:O	3:D:27:THR:N	2.17	0.77
18:W:18:ARG:HG3	18:W:76:VAL:CG1	2.16	0.77
24:2:47:ASN:HD22	24:2:47:ASN:H	1.33	0.76
1:A:531:C:OP1	1:A:561:G:N1	2.18	0.76
3:D:153:ALA:O	3:D:154:LYS:HG3	1.85	0.76
11:P:114:ILE:HD11	11:P:130:PHE:CE1	2.19	0.76
12:Q:59:ARG:H	12:Q:59:ARG:CD	1.99	0.76
27:5:40:LYS:CD	27:5:46:CYS:HB3	2.15	0.76
12:Q:119:ARG:HG2	12:Q:119:ARG:HH11	1.48	0.76
12:Q:66:ILE:HG13	12:Q:67:ARG:N	1.99	0.76
12:Q:20:ALA:HB1	12:Q:99:PRO:HB2	1.65	0.76
14:S:60:GLY:O	14:S:61:ASN:HB3	1.84	0.76
6:G:142:PRO:HB2	26:4:31:ILE:HD13	1.68	0.76
26:4:1:MET:HB2	26:4:6:HIS:NE2	2.00	0.76
6:G:61:ALA:HB2	6:G:68:PRO:HD3	1.65	0.76
7:H:153:LYS:NZ	7:H:153:LYS:HA	2.00	0.76
10:O:104:ARG:HG2	10:O:104:ARG:HH11	1.50	0.76
4:E:111:ARG:HE	4:E:160:TYR:HE1	1.31	0.76
6:G:127:GLY:O	6:G:128:ARG:HG2	1.85	0.76
11:P:138:LEU:C	11:P:140:ALA:H	1.85	0.76
12:Q:90:VAL:HG13	12:Q:91:GLU:H	1.49	0.76
20:Y:94:LYS:O	20:Y:101:LYS:HB3	1.85	0.76
5:F:29:ASN:H	5:F:112:MET:CE	1.97	0.76
9:N:62:VAL:HG12	9:N:66:LYS:HD2	1.65	0.76
20:Y:81:LYS:HD3	20:Y:97:ARG:NE	2.00	0.76
20:Y:95:LYS:HB3	20:Y:100:ALA:CA	2.10	0.76
1:A:1918:A:O2'	1:A:1920:C:N4	2.18	0.76
1:A:1490:A:O2'	3:D:99:ASP:OD2	2.04	0.76
18:W:73:ALA:HB3	18:W:106:ILE:HG12	1.68	0.76
5:F:101:LEU:CD1	5:F:102:PRO:HD2	2.11	0.76
1:A:2680:C:H5'	4:E:189:PRO:HA	1.68	0.76
6:G:76:SER:OG	6:G:83:ARG:HA	1.85	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:69:ARG:HH21	3:D:130:ALA:CB	1.99	0.76
5:F:29:ASN:HB3	5:F:112:MET:HE1	1.68	0.76
28:6:34:LEU:HD13	28:6:34:LEU:H	1.50	0.76
7:H:125:VAL:HA	7:H:126:PRO:HB3	1.68	0.76
11:P:97:PRO:O	11:P:98:GLU:HB3	1.83	0.76
15:T:111:ARG:O	15:T:113:LYS:N	2.17	0.76
26:4:34:GLU:HG3	26:4:35:VAL:H	1.51	0.75
4:E:23:VAL:HG21	4:E:183:LEU:HD23	1.68	0.75
4:E:36:ARG:HH21	4:E:88:GLY:HA2	1.51	0.75
4:E:63:LEU:CD1	4:E:65:GLY:H	1.99	0.75
6:G:101:ILE:HG13	6:G:102:PHE:H	1.49	0.75
11:P:62:LEU:N	11:P:62:LEU:CD2	2.46	0.75
15:T:50:ILE:HD12	15:T:102:ILE:HD11	1.68	0.75
23:1:86:SER:N	23:1:87:PRO:CD	2.48	0.75
1:A:2789:C:H1'	1:A:2892:A:H2	1.50	0.75
11:P:62:LEU:HD21	30:8:25:MET:HB2	1.69	0.75
1:A:270(T):G:H5''	23:1:97:LEU:HD22	1.67	0.75
6:G:3:LEU:HD12	6:G:4:ASP:H	1.52	0.75
10:O:47:ILE:CD1	10:O:48:PRO:HD2	2.16	0.75
16:U:88:ILE:HG22	16:U:90:VAL:HG23	1.68	0.75
30:8:59:LYS:HB2	30:8:59:LYS:HZ2	1.49	0.75
31:9:1:MET:HB3	31:9:4:ARG:NH1	2.01	0.75
16:U:92:ARG:HH11	16:U:95:LEU:CD1	2.00	0.75
20:Y:44:ILE:HG13	20:Y:45:VAL:N	2.00	0.75
20:Y:97:ARG:HH21	20:Y:98:VAL:CB	1.98	0.75
1:A:2712:U:HO2'	1:A:2712(A):A:H8	1.32	0.75
3:D:142:VAL:HG23	3:D:193:VAL:HA	1.67	0.75
17:V:52:VAL:HG21	17:V:55:ALA:HB3	1.68	0.75
23:1:56:GLN:N	23:1:56:GLN:NE2	2.34	0.75
3:D:146:GLU:HB2	3:D:189:CYS:HB3	1.67	0.75
15:T:43:GLN:HG2	15:T:44:ASP:N	1.99	0.75
19:X:57:LEU:HD11	19:X:78:LYS:HB2	1.68	0.75
20:Y:90:LEU:N	20:Y:90:LEU:HD22	2.01	0.75
17:V:35:LEU:H	17:V:35:LEU:HD22	1.51	0.75
23:1:80:LEU:O	23:1:81:LYS:CB	2.35	0.75
23:1:81:LYS:CA	23:1:81:LYS:NZ	2.30	0.75
1:A:1019:U:H3	1:A:1142(A):A:H62	1.34	0.75
5:F:7:TYR:HB3	5:F:21:ALA:CB	2.16	0.75
11:P:75:ILE:N	11:P:75:ILE:HD13	2.00	0.75
17:V:51:VAL:HG12	17:V:52:VAL:H	1.52	0.75
27:5:47:PRO:O	27:5:48:GLU:HG3	1.86	0.75
7:H:150:ALA:C	7:H:152:ARG:H	1.88	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:73:VAL:O	13:R:76:VAL:HG12	1.87	0.75
18:W:40:ASN:O	18:W:41:LYS:HG2	1.86	0.75
20:Y:97:ARG:NH2	20:Y:98:VAL:HB	2.01	0.75
1:A:571:A:O2'	17:V:78:LYS:NZ	2.19	0.74
4:E:61:ARG:HB2	4:E:62:PRO:HD3	1.69	0.74
8:I:1:MET:HG3	8:I:23:PRO:HB3	1.69	0.74
13:R:33:ARG:HH22	27:5:55:ARG:HG2	1.51	0.74
1:A:2393:A:H4'	11:P:61:ARG:O	1.87	0.74
3:D:30:GLU:HG3	3:D:63:ARG:CZ	2.17	0.74
12:Q:81:VAL:HG23	22:0:7:LEU:HD21	1.69	0.74
16:U:52:ARG:HG2	16:U:52:ARG:HH11	1.51	0.74
1:A:1859:A:N6	1:A:1883:G:O2'	2.20	0.74
3:D:54:ARG:HG3	3:D:54:ARG:HH11	1.49	0.74
15:T:26:ASP:HB3	15:T:91:ARG:HA	1.69	0.74
15:T:78:LEU:HD13	15:T:78:LEU:O	1.87	0.74
1:A:24:G:O2'	18:W:78:GLU:O	2.04	0.74
20:Y:51:VAL:HG13	20:Y:52:SER:N	2.03	0.74
25:3:7:LYS:HB2	25:3:34:GLU:HG2	1.69	0.74
12:Q:79:LEU:CD2	12:Q:79:LEU:O	2.36	0.74
5:F:136:THR:HG22	5:F:166:ALA:O	1.87	0.74
16:U:64:ARG:CG	16:U:64:ARG:HH21	2.00	0.74
23:1:26:ARG:HD2	23:1:26:ARG:O	1.86	0.74
5:F:129:PHE:HA	5:F:142:TRP:NE1	2.02	0.74
7:H:153:LYS:HG2	7:H:162:ILE:H	1.52	0.74
9:N:96:GLU:HG2	9:N:97:ARG:N	2.01	0.74
14:S:36:TYR:CD2	14:S:52:SER:HB3	2.23	0.74
15:T:54:ARG:HH11	15:T:54:ARG:HG2	1.52	0.74
25:3:29:ARG:HH11	25:3:29:ARG:HB2	1.53	0.74
1:A:1814:G:H4'	3:D:51:VAL:HG21	1.68	0.74
21:Z:19:ARG:NH1	21:Z:84:GLU:O	2.21	0.74
4:E:78:LEU:HG	4:E:79:ARG:NE	2.03	0.74
17:V:15:GLU:O	17:V:18:LEU:HB2	1.86	0.74
3:D:131:LEU:HB2	3:D:136:ILE:CD1	2.17	0.74
26:4:41:PRO:O	26:4:42:PHE:HB3	1.87	0.73
9:N:1:MET:HE1	16:U:95:LEU:HD21	1.70	0.73
7:H:153:LYS:HG3	7:H:161:GLY:CA	2.18	0.73
10:O:26:LYS:HB2	10:O:30:ALA:CB	2.18	0.73
15:T:102:ILE:HB	15:T:110:ILE:CD1	2.19	0.73
1:A:210:C:OP2	29:7:29:LYS:NZ	2.21	0.73
14:S:62:LYS:HB3	14:S:97:ARG:HD3	1.68	0.73
26:4:29:PRO:O	26:4:30:GLU:HB2	1.89	0.73
4:E:77:ILE:HD12	4:E:78:LEU:H	1.51	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:7:LEU:HD21	6:G:176:LEU:HD22	1.70	0.73
24:2:29:LYS:HD3	24:2:57:ILE:HD13	1.71	0.73
1:A:607:U:H3	1:A:621:A:H2	1.35	0.73
1:A:1803:A:H4'	3:D:259:THR:CG2	2.19	0.73
27:5:40:LYS:CE	27:5:46:CYS:HB3	2.19	0.73
30:8:16:ILE:HD11	30:8:57:ARG:HG2	1.69	0.73
4:E:203:LYS:O	4:E:203:LYS:HD2	1.88	0.73
4:E:55:ASN:C	4:E:57:LYS:H	1.91	0.73
28:6:13:CYS:HA	28:6:50:ARG:O	1.89	0.73
30:8:61:LEU:O	30:8:62:LEU:HB2	1.88	0.73
12:Q:79:LEU:O	12:Q:79:LEU:CD1	2.35	0.73
1:A:666:G:H4'	11:P:49:ARG:NH1	2.04	0.72
3:D:77:ALA:CB	3:D:97:TYR:HA	2.18	0.72
8:I:5:LEU:HD12	8:I:5:LEU:H	1.52	0.72
9:N:58:ASP:H	9:N:60:ILE:HD11	1.53	0.72
12:Q:79:LEU:C	12:Q:79:LEU:HD22	2.07	0.72
13:R:3:HIS:O	13:R:5:LYS:N	2.22	0.72
30:8:29:LYS:HD3	30:8:44:LYS:HB2	1.71	0.72
3:D:35:LYS:HZ1	3:D:65:ILE:HA	1.52	0.72
7:H:125:VAL:HG12	7:H:126:PRO:HG3	1.71	0.72
7:H:152:ARG:O	7:H:153:LYS:HD2	1.90	0.72
11:P:88:LEU:C	11:P:90:ARG:H	1.92	0.72
14:S:83:LYS:HG2	14:S:109:GLY:N	2.04	0.72
25:3:56:VAL:HG12	25:3:57:GLU:N	2.04	0.72
6:G:146:TYR:O	6:G:149:VAL:HG22	1.89	0.72
9:N:89:LYS:O	9:N:93:THR:HG22	1.90	0.72
11:P:126:VAL:CG1	11:P:147:LEU:HD21	2.17	0.72
13:R:117:VAL:HG22	13:R:118:GLU:N	2.05	0.72
16:U:98:LEU:HD23	16:U:99:ALA:N	2.04	0.72
23:1:3:LYS:HD3	23:1:43:TYR:HD2	1.52	0.72
2:B:15:A:H5'	2:B:16:G:C8	2.24	0.72
12:Q:90:VAL:CG1	12:Q:91:GLU:H	2.02	0.72
1:A:2713:A:OP1	13:R:14:SER:OG	2.07	0.72
14:S:83:LYS:C	14:S:109:GLY:HA3	2.10	0.72
14:S:83:LYS:HZ2	14:S:109:GLY:HA2	1.53	0.72
17:V:39:LEU:O	17:V:40:LEU:HD23	1.90	0.72
20:Y:52:SER:OG	20:Y:53:PRO:HD3	1.88	0.72
13:R:85:PRO:O	13:R:87:TYR:N	2.22	0.72
4:E:14:ILE:HD11	15:T:14:TYR:OH	1.90	0.72
1:A:1210:A:H8	1:A:1210:A:H5'	1.53	0.72
4:E:21:VAL:HB	4:E:22:PRO:CB	2.18	0.72
5:F:124:LEU:HD12	5:F:125:LEU:N	2.04	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:54:ARG:HH12	7:H:62:LYS:HG2	1.54	0.72
14:S:26:LEU:O	14:S:26:LEU:HD23	1.90	0.72
23:1:80:LEU:HB2	23:1:81:LYS:HE2	1.71	0.72
29:7:10:ARG:O	29:7:14:LYS:HB2	1.89	0.72
5:F:157:VAL:HB	5:F:194:MET:HB3	1.70	0.72
7:H:132:ARG:CB	7:H:132:ARG:HH11	1.97	0.72
16:U:34:LYS:HA	16:U:34:LYS:HE2	1.69	0.72
24:2:27:GLU:N	24:2:27:GLU:OE1	2.19	0.72
1:A:26:G:H1'	1:A:515:A:H61	1.53	0.72
4:E:201:THR:HG22	4:E:203:LYS:HB3	1.69	0.72
5:F:32:LEU:HD12	5:F:32:LEU:O	1.90	0.72
7:H:128:PRO:HD2	7:H:129:THR:H	1.55	0.72
4:E:13:ARG:HA	4:E:22:PRO:HA	1.71	0.72
4:E:56:PRO:O	4:E:57:LYS:HB2	1.89	0.72
5:F:9:ILE:HD11	5:F:125:LEU:HG	1.70	0.72
20:Y:57:GLN:HE21	20:Y:58:GLY:H	1.38	0.72
21:Z:60:GLU:HA	21:Z:66:SER:HA	1.72	0.72
23:1:76:ARG:HG2	23:1:76:ARG:HH11	1.53	0.72
30:8:60:LEU:C	30:8:63:PRO:HD2	2.11	0.72
4:E:197:ILE:HD11	4:E:199:ARG:HH12	1.55	0.72
5:F:32:LEU:C	5:F:32:LEU:HD12	2.10	0.72
7:H:26:VAL:CG1	7:H:27:LYS:H	2.02	0.72
11:P:127:ALA:C	11:P:147:LEU:HD23	2.10	0.72
18:W:70:TYR:H	18:W:70:TYR:HD2	1.37	0.72
15:T:117:ASP:O	15:T:121:ILE:HG13	1.89	0.71
23:1:80:LEU:C	23:1:81:LYS:HE2	2.10	0.71
7:H:30:LYS:HD2	7:H:81:GLU:H	1.54	0.71
16:U:69:CYS:HB3	16:U:106:PHE:HZ	1.55	0.71
24:2:41:ILE:C	24:2:41:ILE:HD12	2.10	0.71
27:5:2:ALA:O	27:5:3:LYS:HB2	1.88	0.71
29:7:5:TRP:NE1	29:7:7:PRO:HG3	2.04	0.71
30:8:58:ILE:HD13	30:8:61:LEU:HD11	1.72	0.71
30:8:60:LEU:O	30:8:63:PRO:HD2	1.90	0.71
7:H:84:SER:O	7:H:85:LYS:HB2	1.89	0.71
10:O:3:GLN:HB2	10:O:4:PRO:HD2	1.72	0.71
14:S:103:GLU:O	14:S:106:ARG:HG3	1.90	0.71
21:Z:144:LEU:HD11	21:Z:149:SER:HA	1.70	0.71
28:6:28:ARG:HB3	28:6:30:THR:H	1.56	0.71
5:F:185:ASP:OD1	5:F:188:ARG:NH1	2.23	0.71
11:P:85:LEU:HA	11:P:88:LEU:HD22	1.71	0.71
14:S:67:ARG:O	14:S:71:ARG:HG3	1.90	0.71
1:A:2111:C:N3	1:A:2118:U:O2'	2.23	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2287:A:H62	1:A:2344:U:H3	1.38	0.71
1:A:674:G:C1'	5:F:74:ARG:HD3	2.21	0.71
5:F:185:ASP:HA	5:F:188:ARG:CD	2.20	0.71
11:P:58:THR:O	11:P:61:ARG:CZ	2.38	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
2:B:52:A:H62	14:S:33:LYS:HG3	1.55	0.71
14:S:83:LYS:HZ1	14:S:109:GLY:HA2	1.52	0.71
19:X:12:VAL:HG12	19:X:27:THR:O	1.90	0.71
1:A:2033:A:O2'	1:A:2035:G:OP2	2.08	0.71
1:A:2610:C:H4'	1:A:2611:U:OP2	1.90	0.71
3:D:263:ARG:NH1	3:D:263:ARG:HB2	2.06	0.71
4:E:93:VAL:H	4:E:95:ILE:HD12	1.54	0.71
15:T:23:ARG:HB2	15:T:24:PRO:HD2	1.70	0.71
24:2:7:ARG:HG3	24:2:7:ARG:HH11	1.55	0.71
28:6:29:ASN:OD1	28:6:30:THR:HG22	1.91	0.71
1:A:2788:C:O2'	1:A:2809:A:N3	2.23	0.71
7:H:80:SER:O	7:H:81:GLU:HB2	1.89	0.71
11:P:49:ARG:HD2	30:8:58:ILE:CG2	2.20	0.71
21:Z:182:LYS:HG3	21:Z:183:LEU:HD23	1.72	0.71
27:5:40:LYS:HE2	27:5:47:PRO:HD2	1.73	0.71
18:W:6:ILE:HG12	18:W:104:THR:HG23	1.73	0.71
23:1:80:LEU:C	23:1:81:LYS:HD2	2.12	0.70
1:A:2311:A:C8	6:G:82:LEU:HD11	2.25	0.70
7:H:59:ARG:HH11	7:H:59:ARG:HG3	1.56	0.70
10:O:113:LYS:HG2	10:O:117:LEU:HD11	1.71	0.70
3:D:244:ARG:HB2	3:D:245:PRO:HD2	1.72	0.70
5:F:66:PRO:O	5:F:67:GLN:HB3	1.90	0.70
8:I:144:VAL:HG13	8:I:145:VAL:HG13	1.72	0.70
4:E:14:ILE:HG12	4:E:15:PHE:N	2.06	0.70
7:H:89:ILE:CD1	7:H:129:THR:HB	2.20	0.70
11:P:20:GLY:HA2	11:P:27:HIS:O	1.92	0.70
23:1:81:LYS:HE2	23:1:81:LYS:CA	2.13	0.70
4:E:28:ALA:HB3	4:E:93:VAL:HG22	1.72	0.70
7:H:103:LEU:HD12	7:H:131:VAL:HG21	1.73	0.70
14:S:42:ASP:O	14:S:43:GLU:HB2	1.90	0.70
23:1:7:ILE:CD1	23:1:70:VAL:HG22	2.21	0.70
1:A:1169:G:H1	1:A:1180:C:H42	1.38	0.70
5:F:178:PRO:HG2	5:F:179:GLU:OE2	1.90	0.70
7:H:152:ARG:O	7:H:153:LYS:CB	2.39	0.70
16:U:65:ILE:HG12	16:U:96:ALA:HB1	1.73	0.70
17:V:22:VAL:HG12	17:V:23:GLU:N	2.06	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1833:U:O2'	1:A:1969:A:N1	2.18	0.70
1:A:2446:G:N2	1:A:2449:U:O2	2.24	0.70
5:F:101:LEU:O	5:F:106:ARG:NH1	2.23	0.70
1:A:2747:G:OP1	7:H:138:LYS:NZ	2.24	0.70
12:Q:32:TYR:CD1	12:Q:133:ARG:HA	2.27	0.70
15:T:41:ARG:NH2	15:T:43:GLN:HB2	2.06	0.70
16:U:66:ASN:HB2	16:U:76:TYR:HB2	1.72	0.70
28:6:25:LYS:HD2	30:8:34:TRP:HZ2	1.56	0.70
1:A:2306:C:H3'	1:A:2307:G:H5''	1.74	0.70
1:A:2636:U:OP1	4:E:79:ARG:HA	1.91	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	1.91	0.70
5:F:178:PRO:HB2	5:F:201:VAL:HG11	1.73	0.70
7:H:154:PRO:HG2	7:H:162:ILE:O	1.92	0.70
15:T:57:PHE:C	15:T:58:ASN:HD22	1.93	0.70
18:W:29:LEU:HD21	18:W:33:ARG:CZ	2.22	0.70
27:5:40:LYS:HE2	27:5:47:PRO:CD	2.21	0.70
1:A:1509:C:H3'	1:A:1510:A:H5''	1.73	0.70
7:H:86:GLU:CG	7:H:165:ALA:H	1.94	0.70
10:O:63:VAL:HG13	10:O:84:ALA:HA	1.72	0.70
12:Q:43:THR:OG1	12:Q:46:GLN:HB2	1.91	0.70
18:W:1:MET:HA	18:W:1:MET:HE3	1.72	0.70
4:E:103:ASP:OD1	4:E:201:THR:HA	1.92	0.70
3:D:65:ILE:HD13	3:D:65:ILE:O	1.91	0.70
6:G:131:TYR:O	6:G:159:VAL:HG13	1.92	0.70
11:P:114:ILE:HD13	11:P:125:VAL:HG21	1.72	0.70
17:V:51:VAL:HG12	17:V:52:VAL:N	2.06	0.70
19:X:57:LEU:HD11	19:X:78:LYS:HD2	1.73	0.70
23:1:82:LEU:HD12	23:1:83:GLU:CA	2.21	0.69
11:P:83:VAL:CG1	11:P:112:LEU:HD21	2.21	0.69
23:1:7:ILE:HD12	23:1:70:VAL:HG22	1.73	0.69
14:S:54:LEU:O	14:S:54:LEU:HD13	1.91	0.69
17:V:41:GLY:HA3	17:V:46:VAL:HG11	1.74	0.69
10:O:8:LEU:HD22	10:O:8:LEU:N	2.07	0.69
11:P:64:LYS:C	11:P:66:GLY:H	1.94	0.69
23:1:53:VAL:HG22	23:1:74:VAL:HG13	1.74	0.69
1:A:2086:U:H2'	1:A:2087:G:C8	2.27	0.69
1:A:83:G:O2'	1:A:84:A:O5'	2.10	0.69
3:D:65:ILE:HD11	3:D:67:PHE:CD1	2.27	0.69
1:A:1006:C:H1'	9:N:106:MET:HE3	1.74	0.69
11:P:61:ARG:HD2	11:P:61:ARG:H	1.58	0.69
11:P:64:LYS:HB2	30:8:25:MET:CG	2.22	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:66:ARG:HH12	17:V:88:ARG:NH1	1.90	0.69
18:W:86:LEU:HD12	18:W:87:PRO:CD	2.23	0.69
23:1:82:LEU:HD13	23:1:83:GLU:N	2.05	0.69
24:2:47:ASN:O	24:2:49:LYS:N	2.25	0.69
3:D:89:SER:HB2	3:D:159:ALA:HB2	1.75	0.69
1:A:1006:C:H1'	9:N:106:MET:CE	2.22	0.69
9:N:120:LEU:HD11	9:N:122:VAL:HG23	1.74	0.69
23:1:64:ALA:HA	23:1:67:ILE:HG13	1.75	0.69
1:A:551:G:H5'	1:A:1220:A:H1'	1.73	0.69
1:A:601:C:O2'	1:A:605:C:OP1	2.10	0.69
4:E:7:VAL:HG23	4:E:8:LYS:N	2.06	0.69
5:F:65:TRP:HZ3	5:F:73:ALA:O	1.74	0.69
9:N:68:GLU:HG2	9:N:88:GLU:OE1	1.92	0.69
11:P:62:LEU:HD22	11:P:62:LEU:H	1.53	0.69
27:5:40:LYS:HG2	27:5:47:PRO:HD2	1.75	0.69
7:H:150:ALA:C	7:H:152:ARG:N	2.44	0.69
9:N:56:ASN:HD22	9:N:125:GLY:C	1.96	0.69
20:Y:45:VAL:HG12	20:Y:60:PHE:CD1	2.27	0.69
28:6:14:THR:HG21	28:6:19:ARG:HH21	1.58	0.69
1:A:2701:C:H3'	1:A:2702:U:C5'	2.21	0.69
1:A:2864:G:OP1	15:T:119:LYS:HD2	1.92	0.69
6:G:16:ARG:HH21	6:G:31:VAL:CG1	2.05	0.69
7:H:154:PRO:O	7:H:155:SER:HB2	1.91	0.69
11:P:29:LYS:HD2	11:P:30:THR:HG22	1.72	0.69
11:P:50:ARG:HB3	11:P:50:ARG:NH2	1.98	0.69
3:D:17:THR:HG22	3:D:205:VAL:N	2.08	0.69
3:D:76:PRO:O	3:D:98:VAL:HG23	1.92	0.69
6:G:28:VAL:HG23	6:G:29:TRP:CD1	2.28	0.69
7:H:89:ILE:HG12	7:H:89:ILE:O	1.93	0.69
13:R:29:LEU:HD23	13:R:79:LEU:HD12	1.75	0.69
14:S:106:ARG:N	14:S:110:LEU:HD21	2.07	0.69
14:S:106:ARG:CA	14:S:110:LEU:HD11	2.19	0.69
21:Z:182:LYS:HG3	21:Z:183:LEU:HA	1.73	0.69
11:P:62:LEU:HD23	30:8:25:MET:HB2	1.74	0.69
1:A:922:U:H2'	1:A:923:C:C6	2.27	0.69
3:D:17:THR:CG2	3:D:204:ILE:HA	2.23	0.69
3:D:35:LYS:HB3	3:D:63:ARG:HA	1.75	0.69
6:G:56:ALA:HB2	6:G:153:ARG:HE	1.57	0.69
16:U:65:ILE:HD11	16:U:93:LYS:HA	1.74	0.69
1:A:2848:G:O2'	1:A:2867:G:N2	2.26	0.69
9:N:7:LYS:HD3	9:N:9:VAL:HA	1.75	0.69
16:U:8:VAL:HG23	16:U:11:ARG:NH2	1.99	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:12:VAL:HG11	19:X:27:THR:OG1	1.93	0.69
4:E:65:GLY:HA2	4:E:70:ALA:CB	2.23	0.68
20:Y:48:ALA:O	20:Y:49:VAL:C	2.30	0.68
28:6:41:PRO:CG	28:6:45:LYS:H	2.05	0.68
14:S:57:LYS:H	14:S:57:LYS:HD3	1.58	0.68
20:Y:2:ARG:HG2	20:Y:2:ARG:HH11	1.57	0.68
20:Y:61:ILE:CG2	20:Y:62:GLU:N	2.56	0.68
15:T:109:GLU:O	15:T:113:LYS:HB2	1.94	0.68
20:Y:29:GLU:HB3	20:Y:38:ILE:HG12	1.74	0.68
1:A:2392:A:C8	11:P:60:MET:HG3	2.28	0.68
1:A:275:G:H21	1:A:276:A:H62	1.41	0.68
7:H:4:ILE:HG13	7:H:6:ARG:NE	2.08	0.68
14:S:100:ALA:HA	14:S:103:GLU:HG2	1.75	0.68
17:V:18:LEU:O	17:V:95:LEU:HA	1.94	0.68
23:1:4:VAL:HG23	23:1:10:LYS:O	1.93	0.68
27:5:20:ARG:HA	27:5:23:HIS:ND1	2.08	0.68
1:A:458:G:N2	1:A:470:A:OP2	2.27	0.68
4:E:16:ARG:HG3	4:E:16:ARG:O	1.92	0.68
7:H:126:PRO:HB2	7:H:130:ARG:O	1.93	0.68
9:N:46:VAL:O	9:N:47:ALA:HB3	1.92	0.68
12:Q:80:GLU:HG3	12:Q:81:VAL:H	1.58	0.68
6:G:112:PRO:CB	26:4:37:SER:HB2	2.22	0.68
7:H:126:PRO:CD	7:H:127:GLU:H	2.07	0.68
15:T:50:ILE:HG22	15:T:62:THR:OG1	1.94	0.68
18:W:29:LEU:HD21	18:W:33:ARG:NE	2.09	0.68
20:Y:40:GLU:HA	20:Y:64:GLU:OE1	1.94	0.68
24:2:23:LYS:O	24:2:27:GLU:OE1	2.11	0.68
3:D:35:LYS:HZ1	3:D:104:TYR:HB2	1.57	0.68
4:E:9:VAL:HB	4:E:25:VAL:HG23	1.76	0.68
7:H:126:PRO:HG2	7:H:127:GLU:H	1.59	0.68
7:H:4:ILE:HG13	7:H:6:ARG:NH1	2.09	0.68
1:A:993:G:OP1	16:U:50:ARG:NH2	2.26	0.68
23:1:74:VAL:O	23:1:74:VAL:HG12	1.93	0.68
26:4:15:ILE:HD13	26:4:15:ILE:N	2.09	0.68
3:D:241:PRO:O	3:D:243:GLY:N	2.27	0.68
6:G:171:ALA:O	6:G:175:LEU:HG	1.93	0.68
11:P:15:ARG:O	11:P:16:ARG:C	2.32	0.68
11:P:39:LYS:CA	11:P:45:LEU:HD11	2.23	0.68
12:Q:133:ARG:O	12:Q:134:ARG:HB2	1.94	0.68
12:Q:90:VAL:CG1	12:Q:91:GLU:N	2.57	0.68
23:1:20:ARG:HG2	23:1:20:ARG:HH11	1.58	0.68
24:2:64:LEU:HD22	24:2:68:ARG:HD2	1.77	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1820:U:C2	3:D:202:LYS:HB3	2.28	0.68
1:A:1980:G:O2'	1:A:1982:C:OP2	2.12	0.67
7:H:77:LYS:O	7:H:77:LYS:HG2	1.94	0.67
12:Q:66:ILE:HG13	12:Q:67:ARG:H	1.58	0.67
14:S:35:ILE:HD13	14:S:101:LEU:HD23	1.76	0.67
9:N:96:GLU:CG	9:N:97:ARG:H	2.00	0.67
10:O:14:THR:O	10:O:51:ALA:HB3	1.95	0.67
12:Q:104:PHE:CE1	12:Q:125:LEU:HD11	2.29	0.67
12:Q:33:GLY:HA2	12:Q:105:GLU:HA	1.76	0.67
20:Y:21:LYS:HG3	20:Y:22:GLY:N	2.09	0.67
1:A:2364:C:OP1	22:O:55:ARG:NH1	2.26	0.67
1:A:469:G:O6	29:7:37:LYS:HE2	1.94	0.67
11:P:65:ARG:HH11	11:P:65:ARG:CG	2.06	0.67
15:T:50:ILE:CD1	15:T:102:ILE:HD11	2.25	0.67
26:4:33:VAL:HG12	26:4:34:GLU:N	2.10	0.67
1:A:2502:G:H5''	1:A:2503:A:H5''	1.76	0.67
1:A:900:A:H5'	1:A:901:A:OP2	1.94	0.67
3:D:44:ASN:N	3:D:44:ASN:ND2	2.42	0.67
11:P:26:GLY:O	11:P:28:GLY:N	2.26	0.67
12:Q:12:GLN:CG	12:Q:73:PRO:HD2	2.21	0.67
12:Q:90:VAL:O	12:Q:92:GLY:N	2.25	0.67
14:S:67:ARG:CZ	14:S:67:ARG:HB2	2.24	0.67
20:Y:14:LEU:HD23	20:Y:15:VAL:N	2.10	0.67
23:1:51:VAL:HG11	23:1:74:VAL:HG21	1.76	0.67
1:A:1057:A:H62	1:A:1086:A:H2'	1.58	0.67
1:A:1271:G:N2	1:A:1617:C:O4'	2.26	0.67
4:E:116:VAL:O	4:E:117:MET:HB3	1.94	0.67
10:O:25:LEU:HB2	10:O:38:VAL:HG13	1.74	0.67
20:Y:49:VAL:O	20:Y:51:VAL:N	2.27	0.67
1:A:102:G:OP2	24:2:7:ARG:NH2	2.27	0.67
1:A:1416:G:H2'	1:A:1417:C:C6	2.29	0.67
4:E:13:ARG:HH11	4:E:13:ARG:CB	2.07	0.67
14:S:52:SER:O	14:S:56:LEU:HD22	1.93	0.67
17:V:25:LEU:H	17:V:92:THR:HG21	1.60	0.67
21:Z:70:LEU:HB2	21:Z:91:LEU:HD21	1.77	0.67
27:5:4:HIS:HB3	27:5:5:PRO:HD3	1.75	0.67
28:6:48:VAL:HG13	28:6:49:HIS:H	1.60	0.67
1:A:780:G:H21	1:A:783:A:H62	1.39	0.67
4:E:26:ILE:HD13	4:E:27:LEU:N	2.10	0.67
12:Q:104:PHE:HE1	12:Q:125:LEU:HD11	1.58	0.67
12:Q:81:VAL:C	12:Q:82:ARG:HG2	2.15	0.67
15:T:108:ARG:HA	15:T:111:ARG:CZ	2.24	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:90:VAL:O	16:U:92:ARG:N	2.26	0.67
25:3:29:ARG:HB2	25:3:29:ARG:NH1	2.10	0.67
26:4:16:CYS:SG	26:4:33:VAL:HB	2.35	0.67
4:E:62:PRO:O	4:E:64:LYS:N	2.28	0.67
5:F:184:TYR:O	5:F:188:ARG:HG3	1.94	0.67
5:F:34:TRP:HA	11:P:6:LEU:HD12	1.77	0.67
10:O:13:ASN:ND2	10:O:96:THR:O	2.28	0.67
17:V:44:LYS:O	17:V:46:VAL:N	2.28	0.67
23:1:86:SER:N	23:1:87:PRO:HD2	2.10	0.67
3:D:35:LYS:CA	3:D:64:ILE:HG22	2.25	0.67
5:F:46:ARG:HH11	5:F:46:ARG:CG	2.04	0.67
7:H:88:LEU:H	7:H:88:LEU:HD22	1.59	0.67
28:6:43:CYS:SG	28:6:44:ARG:HD3	2.35	0.67
1:A:1068:G:O2'	1:A:1096:A:N3	2.28	0.67
5:F:103:LYS:HA	5:F:106:ARG:CG	2.21	0.67
11:P:61:ARG:CD	11:P:61:ARG:H	2.08	0.67
12:Q:88:GLY:C	12:Q:90:VAL:N	2.47	0.67
20:Y:60:PHE:O	20:Y:61:ILE:HD12	1.95	0.67
11:P:122:PRO:HA	11:P:141:ALA:O	1.95	0.66
21:Z:45:ASP:OD1	21:Z:49:ARG:NE	2.24	0.66
23:1:83:GLU:HG2	23:1:84:GLY:N	2.09	0.66
27:5:56:LYS:CD	27:5:56:LYS:H	2.07	0.66
6:G:179:PRO:HG3	26:4:38:LYS:HZ2	1.59	0.66
18:W:18:ARG:HG3	18:W:76:VAL:HG13	1.77	0.66
20:Y:75:ILE:HG12	20:Y:76:CYS:N	2.10	0.66
20:Y:89:PHE:C	20:Y:90:LEU:HD13	2.15	0.66
23:1:56:GLN:N	23:1:56:GLN:HE21	1.93	0.66
24:2:65:ASN:HB3	24:2:69:ARG:NH1	2.10	0.66
2:B:5:C:O2'	2:B:27:C:O2	2.13	0.66
9:N:57:ALA:HA	9:N:60:ILE:HD11	1.78	0.66
4:E:28:ALA:O	4:E:93:VAL:HG23	1.96	0.66
9:N:58:ASP:H	9:N:60:ILE:CD1	2.09	0.66
12:Q:32:TYR:HD1	12:Q:133:ARG:HA	1.61	0.66
16:U:88:ILE:N	16:U:88:ILE:HD13	2.10	0.66
17:V:53:GLU:O	17:V:53:GLU:HG2	1.94	0.66
27:5:40:LYS:NZ	27:5:48:GLU:HB2	2.10	0.66
3:D:68:LYS:HB2	3:D:70:TRP:CZ3	2.31	0.66
4:E:37:ARG:HA	4:E:37:ARG:NE	2.11	0.66
6:G:136:ARG:O	6:G:154:GLY:HA3	1.95	0.66
11:P:81:GLN:NE2	11:P:106:LEU:O	2.29	0.66
19:X:11:PRO:HB3	19:X:92:LEU:HD21	1.78	0.66
30:8:30:ARG:O	30:8:31:HIS:HB2	1.96	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1286:A:H1'	1:A:1288:U:OP2	1.96	0.66
3:D:172:TYR:HB3	3:D:184:LYS:HG2	1.77	0.66
4:E:174:ASP:CG	4:E:175:VAL:H	1.98	0.66
11:P:66:GLY:O	11:P:67:MET:HB3	1.94	0.66
14:S:106:ARG:HA	14:S:110:LEU:CD2	2.25	0.66
14:S:107:GLU:H	14:S:110:LEU:HD11	1.60	0.66
24:2:47:ASN:ND2	24:2:47:ASN:H	1.92	0.66
1:A:2593:U:H2'	1:A:2594:C:C6	2.31	0.66
3:D:135:PHE:N	3:D:135:PHE:CD2	2.62	0.66
11:P:61:ARG:NH2	30:8:13:ARG:HD2	2.10	0.66
1:A:1794:U:H2'	1:A:1795:C:H6	1.61	0.66
16:U:65:ILE:HG12	16:U:96:ALA:CB	2.26	0.66
23:1:11:ARG:HH11	23:1:11:ARG:HB3	1.61	0.66
23:1:80:LEU:N	23:1:80:LEU:HD23	2.10	0.66
1:A:1077:A:H5'	1:A:1078:U:H5''	1.78	0.66
6:G:145:THR:HG23	26:4:28:LYS:NZ	2.11	0.66
7:H:125:VAL:CG1	7:H:126:PRO:HG3	2.25	0.66
20:Y:94:LYS:HE3	20:Y:101:LYS:NZ	2.11	0.66
3:D:183:ARG:HH11	3:D:183:ARG:CG	2.07	0.66
4:E:13:ARG:NH1	4:E:21:VAL:HG12	2.11	0.66
9:N:134:ARG:N	9:N:135:PRO:HD3	1.97	0.66
12:Q:20:ALA:HB1	12:Q:99:PRO:HD2	1.77	0.66
20:Y:47:LYS:HG2	20:Y:60:PHE:CE1	2.31	0.66
1:A:2729:G:H1'	4:E:187:ALA:HB2	1.78	0.65
2:B:12:C:O2'	22:0:74:ARG:HG3	1.95	0.65
3:D:121:PRO:HB3	3:D:135:PHE:CE1	2.30	0.65
10:O:71:ARG:NH1	15:T:74:ARG:HH21	1.94	0.65
10:O:86:ILE:HD12	10:O:86:ILE:H	1.61	0.65
14:S:88:ASP:OD2	14:S:90:GLY:N	2.28	0.65
21:Z:103:ARG:HB2	21:Z:138:GLU:HG2	1.77	0.65
28:6:7:ILE:C	28:6:9:LEU:H	1.98	0.65
4:E:101:ARG:CZ	4:E:171:GLU:HB2	2.25	0.65
4:E:36:ARG:HH11	4:E:36:ARG:HB3	1.60	0.65
7:H:124:GLU:HB3	7:H:132:ARG:HD2	1.77	0.65
10:O:113:LYS:O	10:O:117:LEU:HD12	1.96	0.65
13:R:26:LYS:HE2	13:R:70:LEU:O	1.95	0.65
18:W:65:LEU:HD12	18:W:68:ARG:NH1	2.10	0.65
19:X:65:ARG:N	19:X:65:ARG:HD3	2.12	0.65
20:Y:35:TYR:CE1	20:Y:69:ALA:HB3	2.31	0.65
21:Z:102:LEU:HG	21:Z:123:ASP:HA	1.78	0.65
1:A:2308:G:H22	1:A:2311:A:H2	1.43	0.65
3:D:145:VAL:HG12	3:D:146:GLU:O	1.96	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:80:ALA:HB3	3:D:94:LEU:CD1	2.25	0.65
20:Y:42:VAL:CG1	20:Y:65:ALA:HB3	2.26	0.65
1:A:1434:A:H61	1:A:1558:A:N6	1.94	0.65
3:D:27:THR:CG2	3:D:28:GLU:H	2.08	0.65
7:H:168:PRO:O	7:H:169:VAL:HG12	1.96	0.65
11:P:39:LYS:HA	11:P:45:LEU:HD13	1.79	0.65
24:2:42:GLY:O	24:2:44:LEU:N	2.30	0.65
1:A:2030:A:H4'	1:A:2031:A:H8	1.61	0.65
1:A:583:G:OP2	16:U:10:ARG:NH1	2.30	0.65
2:B:18:G:H1	2:B:65:C:H42	1.44	0.65
11:P:90:ARG:NE	11:P:91:PHE:HD1	1.93	0.65
1:A:1251:C:OP1	16:U:10:ARG:HG3	1.96	0.65
1:A:84:A:N1	1:A:98:G:O2'	2.25	0.65
4:E:201:THR:HG22	4:E:203:LYS:N	2.07	0.65
30:8:52:LYS:O	30:8:52:LYS:HG3	1.97	0.65
1:A:1316:U:H2'	1:A:1317:A:H8	1.60	0.65
1:A:2250:G:C6	12:Q:82:ARG:HD2	2.31	0.65
4:E:10:GLY:H	4:E:25:VAL:HG23	1.60	0.65
15:T:11:GLU:N	15:T:11:GLU:OE1	2.27	0.65
20:Y:99:CYS:SG	20:Y:100:ALA:N	2.69	0.65
1:A:1535:U:H5''	1:A:1537:C:C4	2.31	0.65
1:A:704:G:H2'	1:A:726:G:N2	2.10	0.65
7:H:128:PRO:CD	7:H:129:THR:H	2.09	0.65
8:I:79:ILE:HB	8:I:142:VAL:HA	1.77	0.65
9:N:43:THR:HB	9:N:46:VAL:CG1	2.27	0.65
11:P:113:LYS:HG2	11:P:115:LEU:HD23	1.79	0.65
24:2:69:ARG:HB2	24:2:69:ARG:NH1	2.11	0.65
30:8:56:GLU:OE1	30:8:56:GLU:N	2.30	0.65
1:A:1341:U:OP2	1:A:1394:U:O2'	2.12	0.65
1:A:984:A:H5''	1:A:985:C:H5	1.60	0.65
1:A:1903:G:OP2	3:D:241:PRO:HB2	1.96	0.65
3:D:44:ASN:HB3	3:D:49:ILE:HG22	1.78	0.65
11:P:138:LEU:HD11	11:P:144:GLU:HG3	1.78	0.65
11:P:6:LEU:O	11:P:7:ARG:HG2	1.97	0.65
1:A:1265:A:C8	1:A:1267:U:C2	2.85	0.65
1:A:812:C:HO2'	1:A:1227:A:HO2'	1.45	0.65
11:P:97:PRO:HD3	11:P:126:VAL:O	1.97	0.65
12:Q:23:GLY:HA3	12:Q:101:ARG:NH1	2.12	0.65
13:R:28:LEU:HD21	13:R:114:VAL:HG12	1.79	0.65
16:U:74:LEU:HD23	16:U:114:LYS:HD3	1.78	0.65
18:W:25:ARG:NH1	18:W:25:ARG:HB2	2.11	0.65
18:W:59:VAL:HG12	18:W:60:ASN:N	2.11	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:40:LYS:HD3	27:5:46:CYS:CB	2.26	0.64
1:A:1113:U:OP1	7:H:2:SER:N	2.31	0.64
1:A:1530:G:O6	1:A:1542:G:N2	2.30	0.64
1:A:583:G:H5'	16:U:10:ARG:HH12	1.62	0.64
3:D:176:ARG:HG2	3:D:176:ARG:HH11	1.61	0.64
3:D:77:ALA:HB2	3:D:97:TYR:HA	1.77	0.64
1:A:2882:A:OP1	13:R:96:ARG:NH1	2.29	0.64
15:T:22:PHE:CD2	15:T:22:PHE:N	2.63	0.64
24:2:40:SER:C	24:2:42:GLY:H	2.01	0.64
8:I:8:PRO:HG3	8:I:14:ASP:HB2	1.78	0.64
26:4:36:CYS:O	26:4:37:SER:O	2.14	0.64
7:H:117:PRO:HB3	7:H:123:PHE:CE1	2.33	0.64
11:P:98:GLU:O	11:P:101:VAL:HG12	1.98	0.64
16:U:102:GLU:HG3	17:V:2:PHE:HE2	1.62	0.64
17:V:43:GLU:HA	17:V:43:GLU:OE2	1.95	0.64
17:V:76:LYS:HB2	17:V:81:TYR:HB3	1.79	0.64
23:1:29:GLY:O	23:1:30:VAL:HG23	1.97	0.64
23:1:82:LEU:CD1	23:1:83:GLU:C	2.64	0.64
26:4:37:SER:C	26:4:39:CYS:H	1.99	0.64
1:A:2022:U:O2'	1:A:2617:C:H5'	1.97	0.64
6:G:114:ILE:CG2	6:G:117:PHE:HB2	2.27	0.64
7:H:105:LEU:CD1	7:H:105:LEU:H	2.09	0.64
12:Q:81:VAL:O	12:Q:82:ARG:HG2	1.97	0.64
14:S:78:LEU:HD11	14:S:107:GLU:O	1.98	0.64
26:4:35:VAL:O	26:4:37:SER:N	2.26	0.64
1:A:942:G:O2'	1:A:1189:A:N3	2.26	0.64
1:A:910:A:N3	1:A:2264:C:O2'	2.29	0.64
4:E:104:VAL:HG11	4:E:188:VAL:CG2	2.27	0.64
5:F:155:LEU:HD13	5:F:174:VAL:CG1	2.27	0.64
5:F:175:THR:O	5:F:176:LEU:HB2	1.95	0.64
6:G:82:LEU:HA	6:G:86:MET:SD	2.38	0.64
15:T:11:GLU:CD	15:T:11:GLU:N	2.47	0.64
20:Y:56:PRO:HG2	20:Y:57:GLN:OE1	1.98	0.64
1:A:1022:G:H22	1:A:1142(A):A:H2	1.44	0.64
5:F:11:VAL:HG12	5:F:12:LEU:N	2.13	0.64
6:G:81:LYS:O	6:G:82:LEU:HB2	1.96	0.64
7:H:51:ARG:HH11	7:H:51:ARG:HG3	1.61	0.64
9:N:15:LEU:HD12	9:N:136:GLU:HB2	1.79	0.64
10:O:12:ASP:OD1	10:O:14:THR:HG23	1.97	0.64
12:Q:81:VAL:O	12:Q:82:ARG:HD3	1.98	0.64
1:A:259:G:H21	1:A:621:A:H8	1.43	0.64
3:D:122:ASP:CG	3:D:123:ALA:H	2.00	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:69:LYS:O	4:E:71:GLY:N	2.27	0.64
5:F:45:ARG:CG	5:F:45:ARG:HH11	2.09	0.64
7:H:92:ILE:HD12	7:H:92:ILE:H	1.63	0.64
20:Y:86:ARG:O	20:Y:92:ASN:HB2	1.97	0.64
23:1:80:LEU:HD12	23:1:81:LYS:HE3	1.78	0.64
1:A:1681:G:OP2	1:A:1681:G:H8	1.80	0.64
7:H:148:ILE:O	7:H:151:ILE:HG12	1.97	0.64
10:O:7:TYR:CE1	10:O:20:MET:HB2	2.32	0.64
1:A:2392:A:H8	11:P:60:MET:HG3	1.61	0.64
14:S:26:LEU:HD22	14:S:87:PHE:HD1	1.63	0.64
3:D:135:PHE:HD2	3:D:135:PHE:N	1.96	0.64
13:R:2:ARG:HG2	13:R:5:LYS:NZ	2.13	0.64
17:V:36:PRO:HA	17:V:56:SER:OG	1.98	0.64
23:1:82:LEU:CD1	23:1:83:GLU:CA	2.76	0.64
26:4:49:PHE:O	26:4:50:VAL:HG23	1.97	0.64
30:8:48:PHE:CD1	30:8:48:PHE:N	2.66	0.64
1:A:918:A:N3	2:B:80:U:O2'	2.30	0.64
3:D:18:VAL:HG12	3:D:19:ALA:O	1.98	0.64
5:F:46:ARG:HG2	5:F:46:ARG:NH1	2.00	0.64
7:H:3:ARG:NE	7:H:3:ARG:HA	2.12	0.64
1:A:2758:A:C4	7:H:67:LEU:HD21	2.33	0.64
9:N:39:ARG:HB3	9:N:41:ASP:OD1	1.98	0.64
1:A:1336:A:H2'	1:A:1337:G:H8	1.63	0.63
1:A:852:G:H1	1:A:925:C:H42	1.45	0.63
4:E:14:ILE:CG1	4:E:15:PHE:H	2.08	0.63
10:O:104:ARG:NH1	10:O:104:ARG:HG2	2.14	0.63
12:Q:104:PHE:O	12:Q:105:GLU:HB3	1.98	0.63
16:U:92:ARG:O	16:U:94:ASN:N	2.25	0.63
19:X:57:LEU:HD12	19:X:78:LYS:HB2	1.77	0.63
23:1:91:LYS:HG3	23:1:92:LYS:H	1.62	0.63
1:A:566:U:OP1	11:P:29:LYS:HE2	1.98	0.63
9:N:131:GLN:CD	9:N:132:ALA:H	2.01	0.63
13:R:117:VAL:O	13:R:118:GLU:HB3	1.99	0.63
1:A:184:C:H2'	1:A:185:U:C6	2.32	0.63
1:A:483:A:H4'	20:Y:49:VAL:CA	2.21	0.63
4:E:201:THR:HG21	4:E:203:LYS:HB3	1.80	0.63
4:E:50:GLY:HA3	4:E:74:PRO:HG3	1.79	0.63
15:T:111:ARG:C	15:T:113:LYS:H	2.01	0.63
18:W:110:LYS:HG3	18:W:111:HIS:ND1	2.13	0.63
11:P:106:LEU:O	11:P:107:LYS:CB	2.46	0.63
19:X:18:TYR:C	19:X:20:GLY:H	2.02	0.63
24:2:40:SER:C	24:2:42:GLY:N	2.51	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1853:A:N3	1:A:2233:U:O2'	2.30	0.63
1:A:2723:C:H5''	13:R:1:MET:HG2	1.79	0.63
3:D:230:ASP:O	3:D:231:HIS:HB2	1.98	0.63
1:A:2751:G:H8	1:A:2751:G:O5'	1.81	0.63
3:D:72:LYS:HG2	3:D:103:ARG:NH2	2.13	0.63
6:G:68:PRO:HB2	6:G:90:LEU:HD12	1.80	0.63
10:O:86:ILE:N	10:O:86:ILE:HD12	2.13	0.63
15:T:16:ARG:HE	15:T:19:LEU:HD21	1.62	0.63
24:2:46:GLN:OE1	24:2:46:GLN:HA	1.97	0.63
26:4:71:ARG:CG	26:4:71:ARG:HH11	1.98	0.63
5:F:67:GLN:O	5:F:67:GLN:CG	2.32	0.63
7:H:86:GLU:O	7:H:87:LEU:HB2	1.99	0.63
14:S:22:GLY:O	14:S:23:ARG:O	2.17	0.63
15:T:60:THR:HG22	15:T:77:PRO:HA	1.80	0.63
30:8:59:LYS:HZ3	30:8:59:LYS:HB3	1.62	0.63
1:A:451:C:H4'	5:F:52:LYS:HZ1	1.63	0.63
4:E:13:ARG:HH12	4:E:21:VAL:HG12	1.64	0.63
4:E:35:GLN:CG	4:E:37:ARG:NE	2.62	0.63
6:G:61:ALA:HB2	6:G:68:PRO:HD2	1.81	0.63
9:N:61:ARG:HA	9:N:61:ARG:HE	1.63	0.63
9:N:7:LYS:HD2	9:N:7:LYS:H	1.64	0.63
9:N:87:LEU:HD23	9:N:87:LEU:O	1.99	0.63
11:P:64:LYS:HB2	30:8:25:MET:HG3	1.80	0.63
12:Q:30:GLY:HA3	12:Q:106:VAL:O	1.98	0.63
12:Q:20:ALA:HB1	12:Q:99:PRO:CB	2.28	0.63
18:W:74:ALA:O	18:W:75:TYR:HB3	1.98	0.63
23:1:18:ILE:HG12	23:1:37:ILE:HG12	1.81	0.63
1:A:2233:U:H2'	1:A:2234:G:C8	2.33	0.63
7:H:153:LYS:HG3	7:H:161:GLY:HA3	1.81	0.63
11:P:83:VAL:HG12	11:P:112:LEU:HD21	1.81	0.63
11:P:114:ILE:HD11	11:P:130:PHE:CD1	2.34	0.63
20:Y:87:LYS:O	20:Y:88:LYS:NZ	2.32	0.63
1:A:1062:G:H2'	1:A:1063:G:C8	2.34	0.62
1:A:1266:G:C5	18:W:15:ARG:NH1	2.67	0.62
4:E:4:ILE:CD1	4:E:28:ALA:HB1	2.29	0.62
12:Q:10:ARG:O	12:Q:11:LYS:HB2	1.98	0.62
15:T:49:VAL:O	15:T:49:VAL:HG13	1.99	0.62
16:U:34:LYS:HA	16:U:34:LYS:CE	2.29	0.62
19:X:49:VAL:HG13	19:X:83:VAL:HG13	1.80	0.62
1:A:1270:C:H5''	1:A:1271:G:H5'	1.81	0.62
5:F:129:PHE:O	5:F:130:ALA:HB3	1.99	0.62
15:T:22:PHE:HD2	15:T:22:PHE:N	1.97	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:31:HIS:CE1	19:X:33:LYS:HB2	2.34	0.62
21:Z:126:VAL:HG12	21:Z:163:LEU:HA	1.80	0.62
5:F:132:VAL:HG23	5:F:133:ASN:N	2.14	0.62
6:G:94:LEU:HD23	6:G:94:LEU:H	1.64	0.62
11:P:1:MET:CE	11:P:5:ASP:HB3	2.25	0.62
15:T:96:ARG:NH1	15:T:96:ARG:HB2	2.14	0.62
19:X:63:LYS:O	19:X:64:LYS:HD2	1.98	0.62
21:Z:125:LEU:HG	21:Z:164:ALA:HB3	1.81	0.62
22:0:11:ARG:O	22:0:14:ARG:NH2	2.32	0.62
28:6:44:ARG:O	28:6:45:LYS:HB2	2.00	0.62
1:A:1336:A:H2'	1:A:1337:G:C8	2.34	0.62
1:A:1430:C:H2'	1:A:1431:U:C6	2.34	0.62
3:D:35:LYS:HA	3:D:64:ILE:HG22	1.81	0.62
7:H:136:ILE:HD12	7:H:136:ILE:H	1.64	0.62
9:N:26:LEU:O	9:N:30:ILE:HG13	1.99	0.62
11:P:65:ARG:HE	30:8:15:LYS:HB2	1.64	0.62
13:R:63:ARG:NH1	13:R:80:PHE:CD1	2.67	0.62
14:S:48:LEU:N	14:S:48:LEU:HD12	2.14	0.62
24:2:41:ILE:HG12	24:2:44:LEU:HD12	1.82	0.62
1:A:1372:U:H2'	1:A:1373:A:H5'	1.81	0.62
1:A:503:A:H4'	1:A:504:U:H5'	1.82	0.62
5:F:107:LYS:O	5:F:108:LYS:C	2.36	0.62
9:N:133:GLN:O	9:N:134:ARG:HB3	1.99	0.62
14:S:100:ALA:HA	14:S:103:GLU:CG	2.30	0.62
17:V:52:VAL:CG2	17:V:55:ALA:HB3	2.28	0.62
23:1:91:LYS:HA	23:1:91:LYS:HE3	1.82	0.62
24:2:69:ARG:CZ	24:2:69:ARG:HB2	2.29	0.62
24:2:70:GLN:O	24:2:71:ASN:HB2	2.00	0.62
1:A:2529:G:O6	31:9:31:LYS:NZ	2.33	0.62
1:A:2580:U:H4'	4:E:130:GLY:HA3	1.79	0.62
11:P:105:LEU:O	11:P:106:LEU:CB	2.42	0.62
10:O:104:ARG:CZ	15:T:34:VAL:HG11	2.29	0.62
28:6:13:CYS:HB2	28:6:22:ALA:HB3	1.81	0.62
28:6:27:LYS:HZ3	28:6:27:LYS:HB2	1.65	0.62
1:A:1600:C:OP1	19:X:58:HIS:NE2	2.27	0.62
1:A:10:G:N2	1:A:2802:G:OP1	2.31	0.62
1:A:699:A:H2'	1:A:700:G:O4'	2.00	0.62
1:A:878:A:N6	1:A:899:A:O2'	2.33	0.62
4:E:131:ALA:HB1	4:E:135:HIS:CE1	2.34	0.62
5:F:28:ILE:HD13	5:F:30:PRO:HD3	1.80	0.62
6:G:112:PRO:HB3	26:4:37:SER:CB	2.25	0.62
6:G:170:ARG:O	6:G:174:GLU:HB2	2.00	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:94:LEU:N	6:G:94:LEU:HD23	2.14	0.62
11:P:112:LEU:HD11	11:P:114:ILE:HG23	1.80	0.62
15:T:108:ARG:O	15:T:111:ARG:HG3	2.00	0.62
20:Y:48:ALA:HB2	20:Y:61:ILE:HD13	1.82	0.62
26:4:61:ARG:O	26:4:63:TYR:N	2.33	0.62
3:D:133:LEU:HD21	3:D:191:ALA:CB	2.29	0.62
8:I:93:THR:N	8:I:96:ASP:OD1	2.26	0.62
10:O:7:TYR:HE1	10:O:20:MET:HE3	1.65	0.62
1:A:1140:C:H5''	9:N:66:LYS:HZ1	1.65	0.62
1:A:1697:G:O2'	1:A:1978:A:OP1	2.16	0.62
1:A:2040:C:H2'	1:A:2041:U:C6	2.35	0.62
1:A:1803:A:H4'	3:D:259:THR:HG21	1.82	0.62
3:D:182:LEU:H	3:D:272:ALA:HB3	1.63	0.62
4:E:104:VAL:HG11	4:E:188:VAL:HG23	1.82	0.62
5:F:28:ILE:HG22	5:F:112:MET:HB3	1.80	0.62
18:W:60:ASN:C	18:W:61:ASN:HD22	2.03	0.62
24:2:17:SER:HB2	24:2:18:PRO:CA	2.30	0.62
6:G:142:PRO:HB2	26:4:31:ILE:CD1	2.30	0.62
1:A:1537:C:H2'	1:A:1538:G:C8	2.35	0.62
1:A:2607:G:H2'	1:A:2608:G:O4'	1.99	0.62
1:A:507:A:H5''	1:A:508:G:H5'	1.82	0.62
3:D:134:ARG:HD3	3:D:135:PHE:CE2	2.35	0.62
1:A:558:G:P	9:N:111:PRO:HD2	2.39	0.62
23:1:87:PRO:O	23:1:88:LYS:C	2.37	0.61
1:A:1178:C:H2'	1:A:1179:C:C6	2.35	0.61
2:B:40:U:H3	2:B:43:C:H5''	1.65	0.61
4:E:51:PHE:O	4:E:52:LEU:C	2.38	0.61
12:Q:54:MET:O	12:Q:57:HIS:HB3	2.00	0.61
12:Q:88:GLY:C	12:Q:90:VAL:H	2.02	0.61
16:U:102:GLU:HG3	17:V:2:PHE:CE2	2.34	0.61
23:1:76:ARG:H	23:1:76:ARG:HD2	1.64	0.61
1:A:2014:A:O2'	27:5:2:ALA:HB2	2.00	0.61
1:A:746:A:C6	1:A:2611:U:H5''	2.35	0.61
5:F:32:LEU:CD1	5:F:105:VAL:HG13	2.29	0.61
11:P:50:ARG:NH2	11:P:50:ARG:CB	2.58	0.61
12:Q:86:GLY:C	12:Q:88:GLY:N	2.52	0.61
23:1:73:LEU:C	23:1:75:GLU:H	2.03	0.61
28:6:18:ARG:O	28:6:18:ARG:HD2	2.00	0.61
8:I:104:GLN:O	8:I:105:HIS:ND1	2.29	0.61
15:T:31:SER:HA	15:T:44:ASP:OD2	2.00	0.61
6:G:6:ALA:HB2	26:4:23:GLU:OE2	1.99	0.61
3:D:227:ASN:CB	3:D:228:PRO:HD2	2.24	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:27:THR:O	3:D:29:PRO:HD2	1.99	0.61
7:H:6:ARG:HG3	7:H:7:LEU:N	2.15	0.61
10:O:8:LEU:HB2	10:O:19:ILE:HD11	1.81	0.61
10:O:78:ARG:HH21	15:T:103:ARG:NH2	1.97	0.61
11:P:108:LYS:HD2	11:P:108:LYS:H	1.64	0.61
12:Q:66:ILE:CG1	12:Q:67:ARG:H	2.12	0.61
14:S:17:ARG:HG3	14:S:18:ILE:N	2.14	0.61
18:W:5:ALA:O	18:W:50:VAL:HG13	2.00	0.61
26:4:23:GLU:O	26:4:25:TYR:N	2.33	0.61
30:8:22:VAL:HG21	30:8:53:PRO:HB2	1.83	0.61
30:8:29:LYS:HD3	30:8:44:LYS:CB	2.30	0.61
1:A:277:C:H3'	1:A:278:A:C5'	2.31	0.61
1:A:862:G:H2'	1:A:863:A:O4'	2.01	0.61
1:A:890:A:HO2'	1:A:892:G:H8	1.48	0.61
2:B:44:G:H1'	2:B:47:C:N4	2.15	0.61
3:D:137:PRO:HB2	3:D:140:THR:HG23	1.81	0.61
4:E:35:GLN:HG2	4:E:37:ARG:NE	2.14	0.61
7:H:152:ARG:O	7:H:153:LYS:CD	2.48	0.61
9:N:62:VAL:CG1	9:N:66:LYS:HD2	2.30	0.61
9:N:96:GLU:O	9:N:98:VAL:N	2.33	0.61
12:Q:2:LEU:H	12:Q:2:LEU:HD23	1.65	0.61
17:V:46:VAL:O	17:V:46:VAL:HG13	2.01	0.61
19:X:15:GLU:N	19:X:15:GLU:OE1	2.34	0.61
24:2:41:ILE:HD11	24:2:44:LEU:HG	1.82	0.61
1:A:675:A:C8	1:A:804:A:C6	2.89	0.61
3:D:35:LYS:HE3	3:D:64:ILE:C	2.21	0.61
3:D:70:TRP:CH2	3:D:150:LYS:HA	2.35	0.61
6:G:77:ILE:HD13	6:G:82:LEU:CD1	2.29	0.61
15:T:24:PRO:O	15:T:94:ALA:HB2	2.00	0.61
20:Y:44:ILE:HG13	20:Y:45:VAL:H	1.64	0.61
1:A:1264:G:H5'	27:5:11:THR:HG21	1.83	0.61
1:A:1484:G:H1	1:A:1505:C:H42	1.46	0.61
1:A:628:G:H2'	1:A:629:G:H8	1.65	0.61
3:D:25:THR:HG21	3:D:81:ALA:CA	2.31	0.61
4:E:52:LEU:HB3	4:E:54:GLN:OE1	2.00	0.61
7:H:137:ASP:HB3	7:H:140:LYS:HB2	1.81	0.61
8:I:113:ARG:HB3	8:I:131:LYS:HD3	1.82	0.61
13:R:38:VAL:HB	13:R:39:PRO:HD3	1.81	0.61
14:S:49:VAL:HG22	14:S:80:LEU:HD12	1.83	0.61
18:W:28:SER:O	18:W:31:GLU:N	2.34	0.61
20:Y:19:LYS:HG3	20:Y:19:LYS:O	2.01	0.61
1:A:1310:G:OP2	29:7:9:ARG:NH1	2.34	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:2:ALA:HB3	3:D:20:ASP:HB3	1.83	0.61
4:E:95:ILE:HD12	4:E:95:ILE:N	2.15	0.61
5:F:164:ARG:HH11	5:F:164:ARG:HG2	1.66	0.61
10:O:91:LEU:HD22	10:O:91:LEU:N	2.16	0.61
11:P:96:THR:HG22	11:P:126:VAL:HB	1.82	0.61
16:U:88:ILE:CD1	16:U:88:ILE:H	2.05	0.61
25:3:5:LYS:HB2	25:3:36:VAL:HG12	1.82	0.61
1:A:2655:G:N2	1:A:2665:A:OP2	2.33	0.61
3:D:133:LEU:HD21	3:D:191:ALA:HB2	1.82	0.61
4:E:35:GLN:CG	4:E:37:ARG:HE	2.11	0.61
5:F:119:ARG:HH11	5:F:119:ARG:HG2	1.64	0.61
9:N:7:LYS:CD	9:N:9:VAL:H	2.14	0.61
12:Q:20:ALA:HB1	12:Q:99:PRO:CD	2.30	0.61
13:R:44:LEU:HD22	13:R:48:VAL:HG23	1.83	0.61
19:X:14:SER:O	19:X:17:ALA:N	2.34	0.61
19:X:66:LEU:HD23	19:X:66:LEU:O	2.01	0.61
25:3:59:VAL:HG12	25:3:60:GLU:N	2.16	0.61
28:6:7:ILE:HG13	28:6:8:LYS:N	2.06	0.61
1:A:1637:A:H4'	1:A:2711:A:O2'	2.01	0.61
1:A:363(B):G:H2'	1:A:363(C):G:H8	1.65	0.61
3:D:147:LEU:CD1	3:D:155:LEU:HD11	2.26	0.61
4:E:131:ALA:HB1	4:E:135:HIS:HE1	1.65	0.61
6:G:44:GLY:HA2	6:G:88:ILE:CG1	2.31	0.61
11:P:27:HIS:ND1	11:P:27:HIS:N	2.49	0.61
14:S:89:ARG:O	14:S:90:GLY:O	2.19	0.61
21:Z:91:LEU:HD12	21:Z:96:VAL:HG11	1.82	0.61
28:6:41:PRO:HD2	28:6:46:HIS:N	2.16	0.60
1:A:1287:A:N7	13:R:107:ASP:HB2	2.16	0.60
1:A:2306:C:H2'	1:A:2307:G:N2	2.14	0.60
3:D:35:LYS:NZ	3:D:65:ILE:HA	2.15	0.60
3:D:54:ARG:CG	3:D:54:ARG:HH11	2.14	0.60
9:N:99:LEU:O	9:N:103:VAL:HG23	2.01	0.60
9:N:17:ASP:O	9:N:18:ALA:HB3	2.01	0.60
17:V:41:GLY:H	17:V:46:VAL:HG13	1.66	0.60
18:W:82:LEU:HB2	18:W:98:LYS:HB2	1.82	0.60
1:A:270(R):G:N3	23:1:78:LYS:NZ	2.48	0.60
1:A:787:U:H5''	1:A:788:A:H5'	1.83	0.60
12:Q:66:ILE:CG1	12:Q:67:ARG:N	2.64	0.60
20:Y:101:LYS:HE3	20:Y:102:CYS:SG	2.40	0.60
23:1:3:LYS:HD3	23:1:43:TYR:CD2	2.35	0.60
1:A:1103:A:H5'	1:A:1104:C:H5	1.67	0.60
1:A:2757:A:OP1	31:9:19:ARG:HA	2.02	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:263:ARG:HH11	3:D:263:ARG:CB	2.15	0.60
4:E:37:ARG:CA	4:E:37:ARG:NE	2.64	0.60
15:T:34:VAL:HG12	15:T:36:GLU:HG2	1.84	0.60
16:U:69:CYS:HB3	16:U:106:PHE:CZ	2.36	0.60
28:6:13:CYS:O	28:6:21:TYR:HA	2.02	0.60
4:E:53:PRO:HG2	4:E:54:GLN:NE2	2.17	0.60
5:F:34:TRP:CZ3	11:P:8:PRO:HB3	2.36	0.60
11:P:13:ASN:O	11:P:15:ARG:N	2.34	0.60
14:S:99:LYS:O	14:S:102:ALA:N	2.34	0.60
23:1:80:LEU:O	23:1:81:LYS:HD2	2.00	0.60
27:5:52:TYR:O	27:5:53:ALA:HB3	2.02	0.60
3:D:166:GLN:CA	3:D:166:GLN:HE21	2.14	0.60
3:D:35:LYS:NZ	3:D:64:ILE:O	2.32	0.60
3:D:25:THR:HG21	3:D:81:ALA:HA	1.83	0.60
4:E:63:LEU:CD1	4:E:64:LYS:H	2.04	0.60
6:G:28:VAL:O	6:G:31:VAL:HG12	2.01	0.60
7:H:44:VAL:O	7:H:44:VAL:HG22	2.01	0.60
1:A:558:G:OP1	9:N:111:PRO:HD2	2.02	0.60
9:N:16:ILE:O	9:N:55:VAL:HG22	2.01	0.60
13:R:52:ILE:O	13:R:55:ALA:HB3	2.01	0.60
14:S:11:LYS:HB2	14:S:91:PRO:HD3	1.84	0.60
18:W:36:LEU:HD11	18:W:47:VAL:HG12	1.83	0.60
1:A:2287:A:N6	1:A:2344:U:H3	1.99	0.60
3:D:35:LYS:HG2	3:D:64:ILE:CG2	2.31	0.60
10:O:97:ARG:N	10:O:117:LEU:HD22	2.15	0.60
16:U:90:VAL:CG1	16:U:91:ASP:H	2.00	0.60
17:V:35:LEU:HD23	17:V:35:LEU:O	2.01	0.60
3:D:147:LEU:HD13	3:D:155:LEU:CD1	2.29	0.60
3:D:35:LYS:HD3	3:D:63:ARG:CB	2.32	0.60
4:E:93:VAL:N	4:E:95:ILE:HD12	2.17	0.60
9:N:23:LEU:HD12	9:N:99:LEU:HD23	1.82	0.60
16:U:92:ARG:NH1	16:U:95:LEU:CD1	2.65	0.60
17:V:99:ILE:N	17:V:99:ILE:CD1	2.65	0.60
19:X:43:VAL:CG1	19:X:51:VAL:HG21	2.31	0.60
23:1:80:LEU:C	23:1:81:LYS:CD	2.69	0.60
1:A:1543:A:O2'	1:A:1544:C:O5'	2.18	0.60
1:A:2414:G:H21	11:P:67:MET:HE1	1.66	0.60
3:D:21:PHE:HB3	3:D:24:ILE:HG13	1.83	0.60
3:D:72:LYS:HE3	3:D:75:ILE:HD12	1.82	0.60
5:F:175:THR:O	5:F:176:LEU:CB	2.49	0.60
11:P:79:ARG:HD3	11:P:110:TYR:HE1	1.67	0.60
30:8:53:PRO:CD	30:8:54:GLU:H	2.15	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2086:U:H2'	1:A:2087:G:H8	1.66	0.60
1:A:2543:G:H2'	1:A:2544:G:C8	2.35	0.60
3:D:35:LYS:CG	3:D:64:ILE:N	2.56	0.60
4:E:93:VAL:N	4:E:95:ILE:CD1	2.65	0.60
5:F:63:LYS:HE2	5:F:67:GLN:HB3	1.83	0.60
6:G:9:ARG:HG2	6:G:13:GLU:OE1	2.01	0.60
11:P:121:LYS:HG3	11:P:122:PRO:HD2	1.84	0.60
11:P:138:LEU:C	11:P:140:ALA:N	2.55	0.60
12:Q:63:LYS:HE2	12:Q:65:PHE:CE1	2.37	0.60
13:R:75:LEU:HD13	13:R:75:LEU:C	2.22	0.60
15:T:107:ASP:O	15:T:110:ILE:HG22	2.02	0.60
17:V:66:ARG:HH12	17:V:88:ARG:HH11	1.49	0.60
23:1:81:LYS:HZ3	23:1:81:LYS:HA	0.70	0.60
4:E:68:ALA:O	4:E:69:LYS:HG3	2.02	0.60
6:G:50:ALA:O	6:G:53:LEU:HB3	2.01	0.60
1:A:2562:U:O2'	10:O:23:ARG:NH1	2.33	0.59
1:A:2698:U:H2'	1:A:2699:C:C6	2.36	0.59
6:G:111:LEU:HB2	6:G:112:PRO:HD3	1.82	0.59
16:U:92:ARG:HD3	16:U:94:ASN:HB3	1.82	0.59
17:V:35:LEU:HB2	17:V:37:VAL:HG23	1.84	0.59
28:6:25:LYS:HD2	30:8:34:TRP:CZ2	2.36	0.59
28:6:41:PRO:HG2	28:6:45:LYS:N	2.10	0.59
30:8:22:VAL:CG2	30:8:53:PRO:HB2	2.32	0.59
30:8:56:GLU:O	30:8:59:LYS:N	2.35	0.59
1:A:1542:G:O6	1:A:1543:A:N6	2.35	0.59
7:H:30:LYS:CD	7:H:81:GLU:H	2.15	0.59
12:Q:80:GLU:C	12:Q:81:VAL:HG13	2.22	0.59
15:T:57:PHE:CD2	15:T:58:ASN:N	2.66	0.59
16:U:96:ALA:C	16:U:98:LEU:H	2.04	0.59
17:V:1:MET:CE	17:V:43:GLU:HG2	2.32	0.59
3:D:172:TYR:CD1	3:D:186:HIS:HA	2.37	0.59
5:F:123:LEU:HD12	5:F:124:LEU:N	2.17	0.59
7:H:55:PRO:HG2	7:H:61:HIS:CE1	2.37	0.59
9:N:18:ALA:HB3	9:N:55:VAL:O	2.03	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD13	1.84	0.59
9:N:42:TRP:O	16:U:64:ARG:NH2	2.35	0.59
20:Y:96:ILE:CD1	20:Y:98:VAL:HG12	2.32	0.59
1:A:2023:G:H5'	1:A:2617:C:H4'	1.83	0.59
4:E:116:VAL:O	4:E:117:MET:CB	2.49	0.59
4:E:51:PHE:HD1	4:E:52:LEU:HG	1.68	0.59
5:F:11:VAL:HG11	5:F:18:ARG:HE	1.67	0.59
7:H:86:GLU:O	7:H:131:VAL:O	2.20	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:159:GLU:O	7:H:160:LYS:HG2	2.03	0.59
11:P:127:ALA:O	11:P:147:LEU:HD23	2.02	0.59
11:P:55:ARG:HD2	11:P:56:SER:O	2.01	0.59
12:Q:86:GLY:C	12:Q:88:GLY:H	2.03	0.59
25:3:29:ARG:HH11	25:3:29:ARG:CB	2.13	0.59
1:A:2466:C:OP1	31:9:4:ARG:HB2	2.03	0.59
1:A:528:A:C2	1:A:2042:A:H2'	2.37	0.59
1:A:1129:A:N6	1:A:2491:U:OP1	2.35	0.59
3:D:12:SER:C	3:D:14:ARG:H	2.06	0.59
3:D:174:ILE:N	3:D:174:ILE:HD12	2.16	0.59
9:N:78:TYR:CD1	9:N:78:TYR:N	2.70	0.59
11:P:95:VAL:HG13	11:P:100:LEU:HD21	1.84	0.59
13:R:92:GLY:H	13:R:94:TYR:HE2	1.49	0.59
16:U:58:ARG:HA	16:U:61:TRP:CE3	2.37	0.59
16:U:76:TYR:CZ	16:U:80:ILE:HG13	2.37	0.59
16:U:92:ARG:C	16:U:94:ASN:H	2.05	0.59
20:Y:4:LYS:O	20:Y:5:MET:HB2	2.01	0.59
20:Y:95:LYS:HD3	20:Y:95:LYS:H	1.67	0.59
1:A:459:U:H2'	1:A:460:A:C8	2.37	0.59
1:A:451:C:H4'	5:F:52:LYS:HZ2	1.67	0.59
6:G:16:ARG:NH2	6:G:31:VAL:HG11	2.17	0.59
7:H:4:ILE:N	7:H:4:ILE:HD13	2.18	0.59
9:N:58:ASP:N	9:N:60:ILE:HD11	2.16	0.59
9:N:6:PRO:HG3	9:N:41:ASP:HB2	1.83	0.59
16:U:92:ARG:HH11	16:U:95:LEU:HD12	1.67	0.59
26:4:48:ARG:NH1	26:4:52:THR:H	2.01	0.59
8:I:3:VAL:HG12	8:I:38:LEU:HA	1.84	0.59
1:A:2562:U:H1'	10:O:23:ARG:NH1	2.17	0.59
11:P:39:LYS:CA	11:P:45:LEU:CD1	2.80	0.59
12:Q:81:VAL:HG23	12:Q:82:ARG:H	1.67	0.59
13:R:72:ASP:O	13:R:76:VAL:HB	2.03	0.59
17:V:15:GLU:HG3	17:V:16:PRO:HD2	1.83	0.59
26:4:15:ILE:HG22	26:4:19:GLY:O	2.03	0.59
26:4:22:ILE:HG22	26:4:23:GLU:N	2.18	0.59
3:D:177:LEU:HD11	3:D:183:ARG:HB2	1.85	0.59
3:D:27:THR:CG2	3:D:83:GLU:HB3	2.33	0.59
4:E:36:ARG:H	4:E:37:ARG:HH21	1.49	0.59
7:H:124:GLU:HB3	7:H:132:ARG:HG3	1.85	0.59
7:H:82:GLY:O	7:H:135:GLY:O	2.20	0.59
14:S:88:ASP:O	14:S:89:ARG:CB	2.49	0.59
21:Z:95:PRO:HG2	21:Z:127:LYS:HD3	1.85	0.59
24:2:64:LEU:CD2	24:2:68:ARG:HD2	2.33	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:3:GLU:HG3	26:4:4:GLY:N	2.18	0.59
1:A:2867:G:HO2'	1:A:2868:A:H8	1.50	0.59
3:D:137:PRO:HB2	3:D:140:THR:CG2	2.33	0.59
4:E:4:ILE:C	4:E:5:LEU:HD23	2.23	0.59
4:E:61:ARG:HB2	4:E:62:PRO:CD	2.33	0.59
7:H:126:PRO:CD	7:H:127:GLU:N	2.64	0.59
11:P:138:LEU:O	11:P:140:ALA:N	2.33	0.59
13:R:63:ARG:HG3	13:R:63:ARG:HH11	1.68	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD11	1.84	0.59
19:X:49:VAL:CG1	19:X:83:VAL:HG13	2.33	0.59
5:F:174:VAL:HG13	5:F:174:VAL:O	2.03	0.59
6:G:126:ASP:OD1	6:G:130:ASN:HB2	2.02	0.59
8:I:120:ILE:HD11	8:I:126:TYR:CZ	2.38	0.59
17:V:18:LEU:HB3	17:V:96:ILE:HG12	1.84	0.59
24:2:32:LEU:HD11	24:2:54:LYS:HG3	1.84	0.58
26:4:39:CYS:O	26:4:40:HIS:HB2	2.03	0.58
27:5:40:LYS:NZ	27:5:46:CYS:HB3	2.18	0.58
1:A:2291:U:H2'	1:A:2292:C:C6	2.38	0.58
3:D:27:THR:CG2	3:D:28:GLU:N	2.66	0.58
5:F:63:LYS:HE2	5:F:67:GLN:CB	2.32	0.58
7:H:4:ILE:HG13	7:H:6:ARG:CD	2.33	0.58
7:H:89:ILE:O	7:H:91:GLY:N	2.35	0.58
7:H:92:ILE:HG22	7:H:93:GLY:N	2.18	0.58
11:P:37:GLY:HA2	11:P:41:ARG:HE	1.67	0.58
15:T:66:VAL:HG12	15:T:67:SER:H	1.67	0.58
18:W:80:PRO:O	18:W:100:THR:HG22	2.03	0.58
26:4:63:TYR:C	26:4:65:ASP:H	2.05	0.58
27:5:50:GLY:O	27:5:51:TYR:HB2	2.02	0.58
2:B:28:C:OP1	14:S:36:TYR:OH	2.15	0.58
6:G:16:ARG:HB3	6:G:17:PRO:CD	2.33	0.58
11:P:71:VAL:HG13	11:P:72:PRO:HD3	1.84	0.58
12:Q:66:ILE:HA	12:Q:104:PHE:HA	1.85	0.58
13:R:44:LEU:O	13:R:48:VAL:HG23	2.02	0.58
15:T:36:GLU:HG3	15:T:41:ARG:HD3	1.85	0.58
1:A:630:G:N2	1:A:633:A:OP2	2.20	0.58
1:A:839:U:H2'	1:A:840:C:C6	2.38	0.58
3:D:44:ASN:HB3	3:D:49:ILE:CA	2.27	0.58
1:A:2277:G:H5'	12:Q:85:LYS:HG3	1.85	0.58
17:V:49:THR:CB	17:V:50:PRO:HD2	2.25	0.58
24:2:51:ARG:HA	24:2:54:LYS:HB2	1.86	0.58
28:6:27:LYS:HB2	28:6:27:LYS:HZ2	1.66	0.58
1:A:1316:U:H2'	1:A:1317:A:C8	2.38	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2414:G:H21	11:P:67:MET:CE	2.17	0.58
1:A:704:G:H2'	1:A:726:G:H22	1.67	0.58
6:G:64:THR:HG23	6:G:66:GLN:H	1.67	0.58
9:N:9:VAL:HG21	9:N:48:MET:HB3	1.85	0.58
11:P:65:ARG:HH21	30:8:15:LYS:CB	2.17	0.58
26:4:65:ASP:O	26:4:66:SER:CB	2.51	0.58
1:A:2761:G:H1'	7:H:143:GLN:OE1	2.03	0.58
3:D:165:ILE:HA	3:D:175:LEU:HD23	1.83	0.58
5:F:89:VAL:HG12	5:F:90:PHE:N	2.18	0.58
7:H:117:PRO:HB3	7:H:123:PHE:CD1	2.37	0.58
7:H:85:LYS:HA	7:H:86:GLU:OE1	2.03	0.58
10:O:40:VAL:HG12	10:O:41:ALA:N	2.19	0.58
12:Q:55:VAL:HG22	12:Q:56:ARG:N	2.18	0.58
18:W:66:GLU:O	18:W:68:ARG:N	2.33	0.58
19:X:36:LYS:HE3	19:X:54:VAL:O	2.04	0.58
24:2:17:SER:CB	24:2:18:PRO:HA	2.33	0.58
9:N:41:ASP:O	9:N:48:MET:HE3	2.03	0.58
12:Q:90:VAL:C	12:Q:92:GLY:H	2.07	0.58
13:R:2:ARG:HG2	13:R:5:LYS:HZ1	1.68	0.58
14:S:88:ASP:CG	14:S:90:GLY:H	2.06	0.58
20:Y:81:LYS:HD3	20:Y:97:ARG:CD	2.33	0.58
25:3:22:ALA:O	25:3:25:ALA:HB3	2.04	0.58
26:4:12:ALA:CB	26:4:29:PRO:HA	2.33	0.58
1:A:278:A:H2'	1:A:279:C:C6	2.39	0.58
2:B:80:U:H2'	2:B:81:G:H21	1.68	0.58
4:E:51:PHE:CD1	4:E:52:LEU:HG	2.38	0.58
7:H:41:MET:HE1	7:H:64:LEU:HB3	1.86	0.58
8:I:4:ILE:HG12	8:I:18:VAL:HG22	1.84	0.58
11:P:71:VAL:CG1	11:P:72:PRO:HD3	2.33	0.58
17:V:38:LEU:HD23	17:V:39:LEU:N	2.19	0.58
18:W:95:ILE:O	18:W:95:ILE:HD12	2.04	0.58
20:Y:51:VAL:CG1	20:Y:52:SER:H	2.11	0.58
21:Z:48:PHE:HE2	21:Z:71:VAL:HG11	1.69	0.58
24:2:15:LYS:H	24:2:67:LYS:CE	2.17	0.58
24:2:69:ARG:CB	24:2:69:ARG:NH1	2.67	0.58
1:A:2683:C:O2'	4:E:13:ARG:NH2	2.37	0.58
4:E:63:LEU:HD13	4:E:65:GLY:H	1.68	0.58
4:E:72:VAL:O	4:E:73:GLU:O	2.21	0.58
4:E:78:LEU:HD23	4:E:79:ARG:HD2	1.86	0.58
5:F:138:GLU:O	5:F:141:ALA:HB3	2.03	0.58
9:N:13:TRP:O	9:N:135:PRO:HD2	2.03	0.58
19:X:7:VAL:O	19:X:30:VAL:HG12	2.04	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:52:SER:OG	21:Z:52:SER:O	2.21	0.58
1:A:1972:A:H2'	1:A:1973:G:H8	1.69	0.58
3:D:242:ARG:HD2	3:D:242:ARG:N	2.18	0.58
11:P:13:ASN:C	11:P:15:ARG:N	2.54	0.58
12:Q:47:ILE:CD1	12:Q:70:PRO:HD3	2.34	0.58
13:R:117:VAL:CG2	13:R:118:GLU:H	2.15	0.58
14:S:42:ASP:C	14:S:44:LYS:H	2.06	0.58
1:A:2862:G:H2'	1:A:2863:C:H6	1.69	0.58
4:E:111:ARG:NE	4:E:160:TYR:HE1	2.01	0.58
6:G:39:ILE:HG23	6:G:155:MET:HG3	1.86	0.58
7:H:127:GLU:HG2	7:H:128:PRO:CG	2.32	0.58
9:N:114:ARG:O	9:N:115:ARG:HB3	2.03	0.58
9:N:35:ARG:O	9:N:37:LYS:N	2.37	0.58
14:S:26:LEU:CD2	14:S:87:PHE:HD1	2.17	0.58
15:T:82:LEU:N	15:T:82:LEU:HD12	2.19	0.58
24:2:21:LEU:O	24:2:25:VAL:HG23	2.04	0.57
26:4:37:SER:HB3	26:4:42:PHE:CE1	2.38	0.57
2:B:101:A:OP2	2:B:101:A:H8	1.86	0.57
5:F:160:ASN:OD1	5:F:162:LEU:HB2	2.04	0.57
7:H:4:ILE:H	7:H:4:ILE:HD13	1.68	0.57
14:S:95:HIS:CG	14:S:96:GLY:H	2.21	0.57
1:A:141:A:C8	1:A:1408:C:H1'	2.39	0.57
3:D:71:ASP:HB3	3:D:103:ARG:HH22	1.68	0.57
4:E:203:LYS:HE3	4:E:204:ALA:HB2	1.86	0.57
4:E:6:GLY:HA3	4:E:26:ILE:HD11	1.85	0.57
8:I:26:ALA:HA	8:I:30:LEU:HB2	1.86	0.57
12:Q:79:LEU:CD1	22:0:5:LYS:HD3	2.33	0.57
14:S:67:ARG:NH1	14:S:67:ARG:CB	2.64	0.57
19:X:27:THR:HB	19:X:80:ILE:HB	1.85	0.57
1:A:1257:C:H5'	5:F:75:HIS:CE1	2.40	0.57
4:E:116:VAL:CG2	4:E:122:PHE:CD2	2.86	0.57
4:E:41:LYS:HA	4:E:41:LYS:HE2	1.86	0.57
4:E:63:LEU:HD12	4:E:65:GLY:H	1.69	0.57
5:F:192:LEU:HD21	5:F:194:MET:CE	2.35	0.57
13:R:32:GLY:O	13:R:115:GLU:HA	2.04	0.57
17:V:78:LYS:O	17:V:79:VAL:HB	2.04	0.57
24:2:16:LEU:O	24:2:17:SER:HB3	2.04	0.57
25:3:4:LEU:O	25:3:36:VAL:HA	2.04	0.57
1:A:2346:A:H5''	1:A:2383:G:H1'	1.86	0.57
3:D:35:LYS:HG2	3:D:64:ILE:CA	2.34	0.57
6:G:53:LEU:C	6:G:53:LEU:HD23	2.25	0.57
9:N:14:VAL:HG12	9:N:15:LEU:N	2.18	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:20:MET:O	10:O:41:ALA:HB1	2.04	0.57
10:O:71:ARG:HH11	10:O:71:ARG:HG3	1.69	0.57
1:A:1454:U:H5'	13:R:63:ARG:NE	2.16	0.57
16:U:24:TYR:HE1	16:U:39:LEU:HD23	1.70	0.57
30:8:46:ARG:O	30:8:47:LYS:HB3	2.03	0.57
1:A:1024:G:OP2	1:A:1025:G:H3'	2.03	0.57
1:A:1799:G:N1	1:A:1819:A:OP2	2.37	0.57
1:A:1932:A:H3'	1:A:1933:G:H8	1.70	0.57
1:A:2298:A:H2'	1:A:2299:G:O4'	2.04	0.57
1:A:570:G:H2'	1:A:2030:A:C5	2.39	0.57
1:A:594:U:H5'	30:8:61:LEU:HD21	1.85	0.57
4:E:7:VAL:HG11	15:T:1:MET:HE3	1.85	0.57
6:G:107:LEU:HD11	6:G:178:PHE:CE1	2.40	0.57
6:G:63:ILE:HD11	6:G:102:PHE:HE2	1.69	0.57
9:N:14:VAL:HG12	9:N:15:LEU:H	1.69	0.57
10:O:107:ARG:O	10:O:112:MET:HE3	2.05	0.57
13:R:79:LEU:HD23	13:R:79:LEU:C	2.23	0.57
14:S:106:ARG:O	14:S:107:GLU:HB2	2.04	0.57
14:S:26:LEU:HD12	14:S:39:ILE:CD1	2.23	0.57
25:3:31:LEU:O	25:3:32:GLN:HB2	2.04	0.57
26:4:42:PHE:CG	26:4:43:TYR:N	2.72	0.57
27:5:55:ARG:NH1	27:5:58:LEU:HD11	2.19	0.57
1:A:2723:C:OP1	13:R:3:HIS:HD2	1.88	0.57
9:N:133:GLN:O	9:N:134:ARG:CB	2.53	0.57
9:N:63:THR:HG22	9:N:66:LYS:NZ	2.20	0.57
4:E:152:LYS:HG2	9:N:78:TYR:CE1	2.39	0.57
14:S:5:THR:HG23	14:S:8:GLU:OE2	2.05	0.57
16:U:52:ARG:HG2	16:U:52:ARG:NH1	2.17	0.57
20:Y:97:ARG:HG2	20:Y:97:ARG:O	2.05	0.57
23:1:86:SER:H	23:1:87:PRO:CD	2.16	0.57
1:A:1441:G:H2'	1:A:1442:G:H8	1.70	0.57
1:A:2563:U:H4'	10:O:28:SER:HA	1.87	0.57
1:A:271(B):G:H8	1:A:271(B):G:H5''	1.70	0.57
1:A:2777:G:OP2	1:A:2781:A:O2'	2.20	0.57
3:D:34:VAL:O	3:D:34:VAL:CG1	2.51	0.57
5:F:32:LEU:HD13	5:F:105:VAL:CG1	2.33	0.57
7:H:3:ARG:HA	7:H:3:ARG:HE	1.69	0.57
3:D:36:PRO:HB2	3:D:61:LEU:HG	1.87	0.57
3:D:69:ARG:C	3:D:71:ASP:H	2.08	0.57
4:E:102:VAL:HG13	4:E:172:VAL:CG2	2.34	0.57
9:N:7:LYS:HG2	9:N:8:GLN:N	2.20	0.57
14:S:72:ALA:O	14:S:76:LYS:HG3	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:70:VAL:O	23:1:74:VAL:HG23	2.04	0.57
29:7:31:LEU:O	29:7:32:LYS:C	2.43	0.57
1:A:1045:A:N3	1:A:1047:G:N2	2.53	0.57
1:A:1693:U:H1'	3:D:14:ARG:NH2	2.20	0.57
10:O:96:THR:O	10:O:97:ARG:HB3	2.04	0.57
11:P:64:LYS:C	11:P:66:GLY:N	2.57	0.57
14:S:67:ARG:HH11	14:S:67:ARG:CB	2.18	0.57
16:U:79:PHE:C	16:U:79:PHE:CD2	2.78	0.57
16:U:83:LEU:HD12	16:U:113:ALA:HB2	1.86	0.57
20:Y:21:LYS:HG3	20:Y:22:GLY:H	1.69	0.57
1:A:2477:C:H2'	31:9:1:MET:HG3	1.86	0.57
1:A:2560:C:H2'	1:A:2561:A:C8	2.40	0.57
1:A:330:A:HO2'	1:A:331:A:H8	1.52	0.57
3:D:25:THR:HG21	3:D:81:ALA:HB1	1.86	0.57
3:D:25:THR:HG21	3:D:82:ILE:H	1.70	0.57
11:P:59:LEU:HA	11:P:61:ARG:CZ	2.34	0.57
26:4:27:THR:O	26:4:28:LYS:HB3	2.04	0.56
1:A:2015:A:N3	27:5:2:ALA:N	2.53	0.56
28:6:14:THR:O	28:6:49:HIS:HA	2.06	0.56
29:7:48:LYS:HG2	29:7:49:ARG:N	2.19	0.56
1:A:1022:G:O2'	1:A:1023:U:OP2	2.17	0.56
1:A:1952:A:C5	10:O:22:ILE:HD12	2.40	0.56
3:D:92:ILE:HD12	3:D:104:TYR:CD2	2.39	0.56
3:D:69:ARG:HD3	3:D:105:ILE:HD11	1.87	0.56
5:F:118:ALA:O	5:F:121:GLY:N	2.33	0.56
6:G:60:LEU:O	6:G:64:THR:HG22	2.05	0.56
7:H:84:SER:O	7:H:133:VAL:O	2.22	0.56
8:I:40:THR:O	8:I:44:LEU:HB2	2.04	0.56
13:R:45:ARG:HA	13:R:95:THR:HG21	1.87	0.56
15:T:105:LEU:C	15:T:107:ASP:H	2.08	0.56
19:X:35:THR:HG22	19:X:38:GLU:OE1	2.04	0.56
24:2:17:SER:HB2	24:2:18:PRO:HA	1.86	0.56
25:3:7:LYS:NZ	25:3:32:GLN:HE21	2.03	0.56
30:8:33:ASN:O	30:8:34:TRP:C	2.42	0.56
1:A:309:G:N3	1:A:329:G:O2'	2.38	0.56
2:B:44:G:OP1	26:4:1:MET:N	2.33	0.56
6:G:39:ILE:CG2	6:G:155:MET:HG3	2.35	0.56
15:T:134:GLU:O	15:T:135:ALA:HB3	2.05	0.56
16:U:104:GLN:OE1	16:U:104:GLN:N	2.35	0.56
16:U:68:ALA:O	16:U:71:GLN:HB2	2.04	0.56
23:1:89:GLU:O	23:1:93:GLU:HB2	2.04	0.56
12:Q:37:LEU:HD21	12:Q:130:LYS:HE3	1.87	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:103:GLU:O	14:S:106:ARG:CG	2.52	0.56
26:4:15:ILE:HG22	26:4:20:ASN:HA	1.86	0.56
31:9:2:LYS:HD2	31:9:33:LYS:O	2.05	0.56
1:A:1049:C:H2'	1:A:1050:A:H5''	1.87	0.56
1:A:185:U:H4'	1:A:218:A:H4'	1.87	0.56
1:A:232:G:OP2	1:A:232:G:H8	1.87	0.56
1:A:27:G:N2	1:A:513:A:OP2	2.37	0.56
1:A:389:G:H1	11:P:71:VAL:HG12	1.70	0.56
1:A:589:C:H2'	1:A:590:A:C8	2.41	0.56
2:B:8:U:H3	2:B:112:G:H1	1.52	0.56
3:D:183:ARG:HD2	3:D:270:ILE:HG12	1.88	0.56
4:E:32:PRO:O	4:E:34:VAL:HG13	2.06	0.56
4:E:69:LYS:C	4:E:71:GLY:H	2.08	0.56
9:N:82:LEU:HD12	9:N:83:LYS:H	1.70	0.56
12:Q:79:LEU:CG	12:Q:79:LEU:O	2.52	0.56
14:S:32:LEU:O	14:S:62:LYS:HE2	2.05	0.56
15:T:26:ASP:CB	15:T:91:ARG:HA	2.36	0.56
23:1:76:ARG:NH1	23:1:76:ARG:HG2	2.20	0.56
24:2:31:GLU:O	24:2:35:LEU:HG	2.05	0.56
26:4:64:GLY:C	26:4:66:SER:H	2.07	0.56
29:7:12:ARG:NH2	29:7:44:PRO:HB3	2.21	0.56
31:9:25:VAL:HB	31:9:34:GLN:HB2	1.87	0.56
1:A:1826:G:O2'	3:D:242:ARG:NH2	2.38	0.56
1:A:888:C:H3'	1:A:889:C:C4'	2.34	0.56
7:H:125:VAL:HG12	7:H:126:PRO:CG	2.34	0.56
9:N:56:ASN:N	9:N:125:GLY:O	2.35	0.56
10:O:3:GLN:CB	10:O:4:PRO:HD2	2.35	0.56
17:V:76:LYS:O	17:V:79:VAL:HG12	2.05	0.56
30:8:50:LEU:HD12	30:8:51:ALA:H	1.70	0.56
1:A:1311:G:H21	1:A:1603:A:H62	1.53	0.56
1:A:2591:C:OP2	3:D:238:GLY:HA3	2.05	0.56
3:D:2:ALA:O	3:D:3:VAL:HB	2.06	0.56
4:E:74:PRO:HG2	4:E:77:ILE:HG23	1.87	0.56
7:H:77:LYS:CB	7:H:77:LYS:HZ3	2.11	0.56
11:P:59:LEU:HD23	11:P:59:LEU:O	2.06	0.56
12:Q:60:ARG:HH11	21:Z:113:ALA:HB3	1.69	0.56
24:2:41:ILE:HD11	24:2:44:LEU:CG	2.36	0.56
26:4:38:LYS:C	26:4:40:HIS:N	2.52	0.56
28:6:11:LEU:HD23	28:6:26:ASN:HB3	1.87	0.56
28:6:6:ARG:O	28:6:8:LYS:HD2	2.05	0.56
1:A:631:A:OP2	30:8:46:ARG:NH2	2.33	0.56
1:A:31:C:O3'	1:A:1238:G:H5''	2.06	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:239:ARG:O	3:D:240:ALA:HB2	2.05	0.56
4:E:37:ARG:N	4:E:37:ARG:NE	2.54	0.56
9:N:112:LEU:O	9:N:114:ARG:O	2.23	0.56
11:P:115:LEU:HD12	11:P:116:GLY:N	2.21	0.56
1:A:636:G:OP1	11:P:132:LYS:HB2	2.05	0.56
14:S:14:VAL:HG13	14:S:15:ARG:N	2.21	0.56
29:7:13:ALA:O	29:7:17:GLY:HA3	2.05	0.56
1:A:1785:A:N1	1:A:1787:A:H1'	2.21	0.56
4:E:195:LEU:HD12	4:E:196:VAL:H	1.71	0.56
1:A:323:G:H2'	5:F:169:ASN:OD1	2.05	0.56
5:F:197:ASP:O	5:F:199:TRP:N	2.38	0.56
6:G:128:ARG:NH2	6:G:128:ARG:HG3	2.17	0.56
9:N:40:PRO:HB3	16:U:68:ALA:HB2	1.87	0.56
1:A:64:A:C4	19:X:66:LEU:HD13	2.41	0.56
20:Y:95:LYS:O	20:Y:95:LYS:HE3	2.06	0.56
1:A:1657:C:H2'	1:A:1658:C:C6	2.40	0.56
1:A:1799:G:OP1	3:D:260:ARG:HB2	2.05	0.56
1:A:229:A:OP1	1:A:229:A:H4'	2.05	0.56
1:A:2489:G:N2	1:A:2491:U:O4	2.38	0.56
1:A:971:C:O2'	1:A:983:A:N3	2.36	0.56
3:D:35:LYS:CE	3:D:104:TYR:HB2	2.35	0.56
5:F:155:LEU:CD1	5:F:174:VAL:HG13	2.32	0.56
7:H:126:PRO:CG	7:H:127:GLU:N	2.65	0.56
14:S:5:THR:OG1	14:S:7:TYR:HB3	2.06	0.56
21:Z:10:ARG:HH11	21:Z:36:LYS:HD3	1.71	0.56
26:4:41:PRO:O	26:4:42:PHE:CB	2.54	0.56
26:4:48:ARG:O	26:4:50:VAL:N	2.38	0.56
28:6:48:VAL:HG13	28:6:49:HIS:N	2.20	0.56
1:A:1729:A:N6	1:A:1731:G:C2	2.73	0.56
4:E:183:LEU:HD12	4:E:183:LEU:N	2.20	0.56
16:U:96:ALA:O	16:U:100:VAL:HG23	2.05	0.56
20:Y:84:ARG:NH1	20:Y:97:ARG:HB2	2.11	0.56
24:2:15:LYS:H	24:2:67:LYS:NZ	2.02	0.56
24:2:43:GLN:O	24:2:44:LEU:CG	2.54	0.56
25:3:4:LEU:HD21	25:3:39:ASP:OD1	2.06	0.56
25:3:59:VAL:CG1	25:3:60:GLU:N	2.69	0.56
1:A:2377:A:H2'	1:A:2378:A:C8	2.41	0.56
1:A:270(M):U:H1'	1:A:270(N):G:C6	2.41	0.56
11:P:15:ARG:O	11:P:17:LYS:N	2.39	0.56
18:W:1:MET:C	18:W:64:MET:HE1	2.26	0.56
1:A:25:U:H5''	18:W:80:PRO:HD3	1.88	0.56
22:0:23:VAL:HA	22:0:38:VAL:HG22	1.87	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2330:G:H2'	1:A:2331:G:O4'	2.06	0.55
1:A:482:A:H4'	20:Y:47:LYS:HD2	1.89	0.55
2:B:116:G:H4'	14:S:54:LEU:HD13	1.88	0.55
4:E:117:MET:HG3	4:E:117:MET:O	2.06	0.55
5:F:198:ALA:CA	5:F:201:VAL:HG12	2.34	0.55
6:G:135:LEU:N	6:G:135:LEU:HD12	2.21	0.55
11:P:14:LYS:O	11:P:16:ARG:N	2.39	0.55
16:U:105:VAL:HA	17:V:44:LYS:HE3	1.88	0.55
20:Y:48:ALA:H	20:Y:60:PHE:HA	1.71	0.55
20:Y:62:GLU:O	20:Y:63:LYS:O	2.24	0.55
25:3:35:ARG:HB3	25:3:37:LEU:CD2	2.37	0.55
25:3:8:LEU:HD22	25:3:31:LEU:CD2	2.36	0.55
1:A:2875:C:H4'	15:T:5:ALA:HB2	1.86	0.55
1:A:658:C:H2'	1:A:659:C:C6	2.41	0.55
4:E:174:ASP:CG	4:E:175:VAL:N	2.58	0.55
6:G:120:LEU:HB3	6:G:131:TYR:OH	2.05	0.55
8:I:11:ASN:O	8:I:12:LEU:HB2	2.07	0.55
11:P:19:VAL:CG2	11:P:20:GLY:H	1.99	0.55
11:P:31:ALA:O	11:P:32:THR:HG23	2.05	0.55
12:Q:12:GLN:OE1	12:Q:72:LYS:HD2	2.06	0.55
16:U:92:ARG:NH1	17:V:11:GLN:HB2	2.22	0.55
18:W:20:VAL:C	18:W:22:ASP:N	2.60	0.55
20:Y:89:PHE:O	20:Y:90:LEU:HD13	2.05	0.55
23:1:91:LYS:CG	23:1:92:LYS:H	2.15	0.55
6:G:180:PHE:C	6:G:182:LYS:H	2.09	0.55
9:N:101:HIS:CD2	9:N:101:HIS:C	2.79	0.55
12:Q:25:ASP:N	12:Q:102:VAL:HG23	2.22	0.55
15:T:107:ASP:O	15:T:111:ARG:NH1	2.39	0.55
18:W:65:LEU:O	18:W:66:GLU:C	2.43	0.55
1:A:1291:C:H2'	1:A:1292:U:C6	2.42	0.55
1:A:330:A:H2	1:A:1210:A:HO2'	1.53	0.55
9:N:131:GLN:CG	9:N:132:ALA:N	2.68	0.55
11:P:39:LYS:N	11:P:45:LEU:HD11	2.21	0.55
13:R:84:ALA:HB3	13:R:85:PRO:HD3	1.88	0.55
18:W:14:PRO:HG2	18:W:78:GLU:OE2	2.07	0.55
1:A:518:G:C4'	18:W:18:ARG:HH12	1.99	0.55
20:Y:91:GLU:HG3	20:Y:92:ASN:H	1.72	0.55
2:B:12:C:O2	22:0:74:ARG:HD2	2.06	0.55
1:A:1204:A:H1'	1:A:1206:G:C8	2.41	0.55
1:A:873:G:H1	1:A:904:C:H42	1.53	0.55
11:P:49:ARG:NE	30:8:59:LYS:HG2	2.22	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)
16:U:73:GLY:O	16:U:74:LEU:HB3	2.07	0.55
28:6:42:TRP:CD1	28:6:42:TRP:N	2.73	0.55
1:A:1252:G:N3	16:U:33:ARG:HD2	2.21	0.55
1:A:1728:G:H8	1:A:1732:A:H62	1.53	0.55
1:A:2867:G:O2'	1:A:2868:A:H8	1.89	0.55
1:A:861:A:N3	2:B:79:C:O2'	2.39	0.55
3:D:221:VAL:HG22	3:D:226:MET:HE2	1.88	0.55
4:E:20:ALA:O	4:E:21:VAL:CG2	2.48	0.55
4:E:26:ILE:C	4:E:26:ILE:HD13	2.26	0.55
4:E:3:GLY:HA3	4:E:81:ILE:HD12	1.88	0.55
5:F:24:LEU:HB3	5:F:115:ALA:HB2	1.87	0.55
9:N:44:PRO:HG2	9:N:45:ASN:H	1.71	0.55
10:O:19:ILE:O	10:O:19:ILE:HD13	2.06	0.55
14:S:18:ILE:C	14:S:19:LYS:O	2.44	0.55
16:U:58:ARG:O	16:U:62:ILE:HG13	2.06	0.55
17:V:29:PRO:HA	17:V:61:VAL:CG2	2.37	0.55
18:W:88:ARG:HB3	18:W:92:ARG:HB3	1.88	0.55
20:Y:95:LYS:CB	20:Y:100:ALA:HA	2.13	0.55
26:4:48:ARG:HH12	26:4:52:THR:HG22	1.71	0.55
27:5:55:ARG:HD3	27:5:56:LYS:N	2.21	0.55
29:7:19:ARG:HH11	29:7:19:ARG:HG2	1.71	0.55
1:A:513:A:O2'	1:A:1217:C:OP1	2.20	0.55
1:A:2131:G:N2	1:A:2158:A:N7	2.54	0.55
1:A:459:U:H2'	1:A:460:A:H8	1.72	0.55
1:A:685:A:C4'	1:A:687:C:H41	2.20	0.55
1:A:1693:U:H1'	3:D:14:ARG:HH22	1.71	0.55
3:D:43:ARG:CB	3:D:54:ARG:HB2	2.37	0.55
4:E:53:PRO:O	4:E:74:PRO:HA	2.07	0.55
1:A:2635:C:H5'	4:E:77:ILE:HD13	1.87	0.55
5:F:28:ILE:HD12	5:F:28:ILE:O	2.06	0.55
10:O:20:MET:HG2	10:O:21:CYS:N	2.20	0.55
14:S:107:GLU:N	14:S:110:LEU:HD11	2.22	0.55
14:S:59:LYS:CG	14:S:60:GLY:H	2.11	0.55
15:T:123:GLN:O	15:T:125:ARG:N	2.40	0.55
15:T:16:ARG:HG2	15:T:18:ASP:OD1	2.06	0.55
20:Y:61:ILE:HG23	20:Y:62:GLU:H	1.71	0.55
23:1:83:GLU:OE1	23:1:85:LEU:HD23	2.07	0.55
26:4:51:ASP:OD1	26:4:51:ASP:O	2.25	0.55
1:A:1164:G:H2'	1:A:1165:U:C6	2.42	0.55
1:A:2469:A:H5''	1:A:2470:G:C8	2.41	0.55
1:A:690:G:H2'	1:A:691:C:C6	2.42	0.55
1:A:70:G:H21	1:A:71:A:N6	2.05	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:4:ILE:HD13	4:E:5:LEU:H	1.71	0.55
4:E:67:PHE:O	4:E:69:LYS:N	2.39	0.55
8:I:130:TYR:HB3	8:I:136:VAL:HG13	1.88	0.55
9:N:109:LYS:N	9:N:109:LYS:HD2	2.22	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
14:S:111:GLU:HA	14:S:111:GLU:OE1	2.07	0.55
18:W:20:VAL:C	18:W:22:ASP:H	2.10	0.55
18:W:25:ARG:CB	18:W:25:ARG:HH11	2.20	0.55
26:4:9:LEU:H	26:4:27:THR:HG22	1.71	0.55
28:6:20:ASN:CG	28:6:21:TYR:H	2.09	0.55
1:A:1061:U:H3'	1:A:1062:G:H5''	1.88	0.55
1:A:1564:C:O2'	1:A:1565:C:H5'	2.07	0.55
1:A:1651:G:H1	1:A:2006:C:H42	1.53	0.55
1:A:2059:A:H5'	1:A:2060:A:OP2	2.07	0.55
1:A:2182:G:H2'	1:A:2183:C:C6	2.42	0.55
2:B:15:A:H5'	2:B:16:G:H8	1.69	0.55
4:E:21:VAL:HG23	4:E:22:PRO:HD3	1.89	0.55
6:G:114:ILE:HD11	6:G:140:ILE:HD12	1.89	0.55
10:O:4:PRO:O	10:O:5:GLN:HB2	2.06	0.55
12:Q:21:THR:O	12:Q:22:LYS:O	2.25	0.55
12:Q:64:ILE:HA	12:Q:106:VAL:CG1	2.33	0.55
16:U:27:LEU:O	16:U:29:SER:N	2.40	0.55
1:A:1614:A:H62	18:W:93:ALA:HB2	1.72	0.55
21:Z:72:ARG:NH2	21:Z:97:GLU:O	2.32	0.55
26:4:71:ARG:CG	26:4:71:ARG:NH1	2.61	0.55
1:A:1094:U:O2'	1:A:1096:A:OP1	2.15	0.55
1:A:2250:G:C5	12:Q:82:ARG:HD2	2.42	0.55
1:A:484:C:H2'	1:A:485:C:C6	2.41	0.55
3:D:94:LEU:HD22	3:D:95:LEU:H	1.70	0.55
5:F:32:LEU:HD12	5:F:36:VAL:HG23	1.89	0.55
7:H:26:VAL:CG1	7:H:27:LYS:N	2.63	0.55
11:P:2:LYS:O	11:P:5:ASP:HB2	2.06	0.55
14:S:36:TYR:HD2	14:S:52:SER:CB	2.18	0.55
15:T:29:ARG:HH11	15:T:29:ARG:HB2	1.72	0.55
20:Y:95:LYS:HA	20:Y:101:LYS:H	1.72	0.55
20:Y:95:LYS:N	20:Y:95:LYS:HD3	2.22	0.55
20:Y:95:LYS:NZ	20:Y:95:LYS:HB2	2.21	0.55
24:2:31:GLU:HB2	24:2:53:LEU:HD11	1.89	0.54
30:8:30:ARG:O	30:8:31:HIS:CB	2.55	0.54
1:A:1308:A:H2'	1:A:1309:G:O4'	2.06	0.54
1:A:2115:G:N2	1:A:2165:G:N7	2.49	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2695:C:H2'	1:A:2696:U:H6	1.71	0.54
1:A:639:U:H2'	1:A:640:C:C6	2.42	0.54
3:D:155:LEU:HD23	3:D:177:LEU:CD2	2.36	0.54
3:D:31:LYS:O	3:D:35:LYS:O	2.24	0.54
4:E:54:GLN:NE2	4:E:54:GLN:N	2.56	0.54
6:G:41:GLN:HB3	6:G:43:LEU:HD13	1.87	0.54
1:A:1338:G:N7	19:X:62:LYS:NZ	2.49	0.54
1:A:2074:U:H2'	1:A:2075:U:C6	2.42	0.54
1:A:2611:U:OP2	1:A:2611:U:H6	1.90	0.54
1:A:619:G:H5''	1:A:620:G:OP2	2.07	0.54
1:A:962:G:H2'	1:A:963:U:H6	1.72	0.54
4:E:176:ILE:HG22	4:E:179:GLU:H	1.72	0.54
15:T:98:LYS:HB3	15:T:100:TYR:CE1	2.43	0.54
15:T:6:LEU:O	15:T:7:ILE:C	2.44	0.54
16:U:95:LEU:HD12	17:V:11:GLN:HE21	1.72	0.54
17:V:49:THR:CB	17:V:50:PRO:CD	2.83	0.54
18:W:9:TYR:H	18:W:102:HIS:CE1	2.25	0.54
20:Y:2:ARG:HG2	20:Y:2:ARG:NH1	2.22	0.54
21:Z:5:LEU:HD11	21:Z:39:VAL:HB	1.88	0.54
23:1:53:VAL:O	23:1:54:ALA:C	2.45	0.54
23:1:92:LYS:O	23:1:94:LEU:N	2.41	0.54
27:5:55:ARG:HD3	27:5:56:LYS:H	1.73	0.54
30:8:32:LEU:O	30:8:36:LYS:HE3	2.06	0.54
1:A:323:G:HO2'	1:A:1205:U:H3	1.55	0.54
1:A:1210:A:C8	1:A:1210:A:H5'	2.39	0.54
1:A:2537:U:H2'	1:A:2538:C:C6	2.41	0.54
6:G:83:ARG:HG3	6:G:86:MET:HE1	1.89	0.54
7:H:86:GLU:HG3	7:H:165:ALA:CB	2.38	0.54
13:R:12:ARG:HH11	13:R:12:ARG:HG3	1.71	0.54
9:N:42:TRP:CD1	16:U:63:VAL:HG11	2.42	0.54
17:V:52:VAL:O	17:V:54:GLY:N	2.39	0.54
19:X:65:ARG:HD3	19:X:65:ARG:H	1.70	0.54
20:Y:97:ARG:NH2	20:Y:98:VAL:CB	2.65	0.54
1:A:1364:G:N7	23:1:2:SER:N	2.55	0.54
23:1:53:VAL:HG12	23:1:54:ALA:N	2.21	0.54
26:4:47:GLN:O	26:4:48:ARG:HB2	2.07	0.54
11:P:65:ARG:HH21	30:8:15:LYS:HB2	1.72	0.54
1:A:1826:G:OP1	3:D:224:ALA:N	2.38	0.54
1:A:1667:G:H2'	1:A:1991:U:O4	2.08	0.54
1:A:287:C:H2'	1:A:288:C:C6	2.42	0.54
5:F:129:PHE:O	5:F:130:ALA:CB	2.55	0.54
7:H:8:PRO:O	7:H:9:ILE:HG23	2.08	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:53:LYS:HD2	10:O:56:ASP:OD1	2.08	0.54
11:P:106:LEU:O	11:P:107:LYS:HD3	2.07	0.54
11:P:114:ILE:HD11	11:P:130:PHE:HE1	1.70	0.54
11:P:140:ALA:O	11:P:141:ALA:HB2	2.08	0.54
16:U:58:ARG:NH1	16:U:93:LYS:HE2	2.22	0.54
18:W:80:PRO:O	18:W:100:THR:CG2	2.55	0.54
1:A:1364:G:C8	23:1:2:SER:N	2.76	0.54
27:5:44:THR:O	27:5:46:CYS:N	2.41	0.54
28:6:17:LYS:O	28:6:18:ARG:HB2	2.08	0.54
29:7:18:PHE:C	29:7:18:PHE:CD2	2.81	0.54
1:A:1053:C:H42	1:A:1106:G:H1	1.56	0.54
1:A:1257:C:H4'	5:F:83:PHE:CE2	2.43	0.54
1:A:67:U:H3	1:A:74:A:H2	1.56	0.54
3:D:211:ARG:HD2	3:D:214:TRP:CZ3	2.43	0.54
3:D:25:THR:O	3:D:25:THR:HG23	2.07	0.54
4:E:14:ILE:HG23	4:E:15:PHE:N	2.23	0.54
17:V:27:ALA:O	17:V:28:GLU:O	2.24	0.54
20:Y:47:LYS:O	20:Y:49:VAL:HG23	2.08	0.54
21:Z:149:SER:HB2	21:Z:172:ALA:O	2.08	0.54
25:3:2:PRO:O	25:3:3:ARG:O	2.25	0.54
26:4:65:ASP:O	26:4:66:SER:HB3	2.07	0.54
1:A:1795:C:O2	3:D:255:LYS:HE2	2.08	0.54
1:A:2471:C:H3'	1:A:2472:G:H8	1.73	0.54
1:A:74:A:H4'	1:A:75:G:O5'	2.08	0.54
3:D:118:VAL:HG22	3:D:119:ALA:H	1.72	0.54
3:D:124:PRO:HB2	3:D:126:GLN:NE2	2.22	0.54
5:F:127:GLU:O	5:F:129:PHE:N	2.39	0.54
7:H:126:PRO:HD2	7:H:127:GLU:H	1.72	0.54
7:H:153:LYS:CE	7:H:153:LYS:HA	2.38	0.54
1:A:2469:A:H5''	1:A:2470:G:H8	1.72	0.54
1:A:2556:C:H2'	1:A:2557:G:O4'	2.08	0.54
1:A:273(F):C:H2'	1:A:274:G:H5''	1.90	0.54
1:A:414:C:O2	1:A:1864:U:O2'	2.24	0.54
3:D:206:LEU:O	3:D:211:ARG:NH1	2.38	0.54
1:A:1824:G:O3'	3:D:249:PRO:HD3	2.07	0.54
12:Q:39:PRO:HB3	12:Q:99:PRO:HD3	1.90	0.54
13:R:28:LEU:HD13	13:R:28:LEU:O	2.08	0.54
20:Y:87:LYS:HB2	20:Y:87:LYS:NZ	2.23	0.54
25:3:56:VAL:CG1	25:3:57:GLU:H	2.19	0.54
31:9:1:MET:HB3	31:9:4:ARG:CZ	2.37	0.54
1:A:353:G:H2'	1:A:354:G:H8	1.72	0.54
1:A:519:U:H2'	1:A:520:G:C8	2.42	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:841:A:H2'	1:A:842:G:C8	2.43	0.54
3:D:28:GLU:O	3:D:29:PRO:C	2.45	0.54
4:E:51:PHE:O	4:E:74:PRO:HB3	2.08	0.54
5:F:53:THR:C	5:F:55:GLY:H	2.11	0.54
5:F:62:ARG:HB3	5:F:62:ARG:NH1	2.23	0.54
6:G:7:LEU:HD12	6:G:104:GLU:HA	1.88	0.54
6:G:3:LEU:HD12	6:G:4:ASP:N	2.19	0.54
6:G:81:LYS:O	6:G:82:LEU:CB	2.56	0.54
7:H:91:GLY:O	7:H:94:TYR:HB2	2.08	0.54
11:P:112:LEU:HD13	11:P:112:LEU:C	2.29	0.54
11:P:84:ASN:ND2	11:P:115:LEU:HD12	2.22	0.54
11:P:124:LYS:HA	11:P:143:GLY:O	2.08	0.54
13:R:38:VAL:HG22	13:R:112:ALA:HB2	1.90	0.54
4:E:25:VAL:HG11	15:T:11:GLU:HG2	1.90	0.54
15:T:55:ASN:O	15:T:57:PHE:O	2.26	0.54
10:O:78:ARG:O	15:T:73:GLU:HG3	2.08	0.54
16:U:24:TYR:O	16:U:29:SER:HB3	2.08	0.54
16:U:86:ALA:HB1	16:U:88:ILE:HD11	1.90	0.54
24:2:47:ASN:ND2	24:2:47:ASN:N	2.54	0.54
1:A:2712:U:O2'	1:A:2712(A):A:H8	1.89	0.54
1:A:771:G:OP1	29:7:10:ARG:NH1	2.41	0.54
2:B:40:U:O2'	2:B:45:A:N6	2.37	0.54
3:D:34:VAL:C	3:D:35:LYS:HG3	2.28	0.54
4:E:134:ILE:HD12	4:E:134:ILE:C	2.28	0.54
4:E:101:ARG:HB3	4:E:201:THR:OG1	2.08	0.54
8:I:56:LYS:HE3	8:I:57:ARG:HG2	1.89	0.54
9:N:7:LYS:HD3	9:N:9:VAL:CA	2.38	0.54
10:O:49:ARG:HB3	10:O:49:ARG:NH1	2.23	0.54
10:O:68:GLU:HA	10:O:78:ARG:HB3	1.89	0.54
11:P:92:GLU:HA	11:P:123:LEU:CD2	2.38	0.54
11:P:24:GLY:O	11:P:25:SER:HB3	2.06	0.54
11:P:37:GLY:C	11:P:41:ARG:HD3	2.29	0.54
13:R:91:GLN:HG2	13:R:91:GLN:O	2.08	0.54
4:E:14:ILE:HD11	15:T:14:TYR:CZ	2.42	0.54
23:1:91:LYS:CE	23:1:91:LYS:HA	2.37	0.54
26:4:63:TYR:C	26:4:65:ASP:N	2.61	0.54
1:A:1169:G:H1	1:A:1180:C:N4	2.05	0.54
1:A:2105:C:H2'	1:A:2106:G:H8	1.73	0.54
1:A:26:G:H1'	1:A:515:A:N6	2.23	0.54
1:A:275:G:N2	1:A:276:A:H62	2.04	0.54
1:A:395:U:H2'	1:A:396:G:N7	2.23	0.54
5:F:147:GLY:O	5:F:148:LEU:HD23	2.08	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:197:ASP:O	5:F:198:ALA:HB3	2.06	0.54
14:S:13:ARG:HD2	14:S:13:ARG:O	2.07	0.54
14:S:74:ALA:HB1	14:S:107:GLU:HB3	1.89	0.54
17:V:45:THR:O	17:V:45:THR:HG22	2.08	0.54
17:V:66:ARG:HH11	17:V:66:ARG:CB	2.20	0.54
19:X:5:TYR:HE2	24:2:30:ARG:HH11	1.56	0.54
21:Z:58:VAL:O	21:Z:60:GLU:N	2.39	0.54
24:2:41:ILE:HD11	24:2:44:LEU:HB2	1.90	0.53
1:A:76:C:O2'	24:2:62:THR:HG21	2.07	0.53
29:7:10:ARG:NH1	29:7:14:LYS:HE3	2.23	0.53
1:A:2347:C:OP1	28:6:39:TYR:HE2	1.92	0.53
1:A:2667:C:H1'	7:H:109:PHE:HD2	1.72	0.53
1:A:83:G:H1	1:A:102:G:H1'	1.73	0.53
3:D:158:ALA:HB3	3:D:161:THR:HG21	1.90	0.53
3:D:183:ARG:NH1	3:D:183:ARG:HG2	2.12	0.53
3:D:80:ALA:HB3	3:D:94:LEU:HD13	1.88	0.53
4:E:186:GLY:O	4:E:188:VAL:N	2.41	0.53
10:O:12:ASP:OD1	10:O:85:VAL:HG13	2.08	0.53
1:A:2467:C:H4'	12:Q:123:HIS:CD2	2.43	0.53
15:T:105:LEU:O	15:T:107:ASP:N	2.41	0.53
15:T:88:ILE:C	15:T:88:ILE:HD12	2.29	0.53
16:U:74:LEU:HD13	16:U:79:PHE:HB2	1.89	0.53
20:Y:5:MET:HE1	20:Y:32:PRO:HB3	1.91	0.53
23:1:87:PRO:O	23:1:91:LYS:N	2.31	0.53
28:6:11:LEU:CD1	28:6:51:GLU:HG3	2.38	0.53
28:6:12:GLU:HG2	28:6:52:VAL:O	2.07	0.53
1:A:1533:C:H42	1:A:1538:G:H1	1.56	0.53
1:A:1754:C:H2'	1:A:1755:A:C8	2.43	0.53
1:A:2277:G:OP1	12:Q:85:LYS:HB2	2.08	0.53
1:A:2605:U:H2'	1:A:2606:C:C6	2.43	0.53
1:A:297:C:H5''	20:Y:85:VAL:HG21	1.90	0.53
3:D:35:LYS:CG	3:D:64:ILE:H	2.15	0.53
3:D:85:ASP:OD2	3:D:88:ARG:HG2	2.07	0.53
6:G:139:LEU:HD22	6:G:146:TYR:HD1	1.73	0.53
7:H:125:VAL:HA	7:H:126:PRO:CB	2.29	0.53
9:N:70:LYS:C	9:N:71:ILE:HD13	2.28	0.53
10:O:12:ASP:CG	10:O:14:THR:HG23	2.29	0.53
10:O:7:TYR:C	10:O:8:LEU:HD22	2.29	0.53
13:R:70:LEU:HD13	13:R:75:LEU:HD11	1.88	0.53
17:V:35:LEU:N	17:V:35:LEU:HD22	2.23	0.53
17:V:81:TYR:C	17:V:82:ARG:HG3	2.27	0.53
24:2:16:LEU:CG	24:2:16:LEU:O	2.49	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:16:ARG:NH1	27:5:17:ASP:OD1	2.41	0.53
28:6:13:CYS:O	28:6:14:THR:HB	2.08	0.53
30:8:63:PRO:O	30:8:64:TYR:HB2	2.07	0.53
7:H:59:ARG:HH11	7:H:59:ARG:CG	2.20	0.53
8:I:88:ILE:HG12	8:I:122:GLU:H	1.74	0.53
15:T:110:ILE:HG23	15:T:111:ARG:N	2.24	0.53
16:U:47:TYR:C	16:U:47:TYR:CD2	2.81	0.53
20:Y:90:LEU:H	20:Y:90:LEU:HD22	1.73	0.53
26:4:37:SER:C	26:4:39:CYS:N	2.62	0.53
1:A:1790:C:H5''	1:A:1791:A:OP1	2.08	0.53
1:A:2335:A:O2'	1:A:2336:A:O5'	2.27	0.53
1:A:2881:C:H2'	1:A:2882:A:H8	1.74	0.53
5:F:179:GLU:H	5:F:179:GLU:CD	2.11	0.53
9:N:137:LYS:HG3	9:N:138:LEU:N	2.23	0.53
18:W:28:SER:HB3	18:W:31:GLU:HB2	1.91	0.53
30:8:58:ILE:O	30:8:61:LEU:HG	2.08	0.53
1:A:1344:G:H4'	1:A:1384:A:C5	2.44	0.53
1:A:1803:A:N6	1:A:1814:G:O2'	2.31	0.53
1:A:2286:A:H4'	1:A:2287:A:O4'	2.09	0.53
1:A:242:G:H5'	30:8:62:LEU:CD2	2.37	0.53
1:A:2532:G:O2'	1:A:2657:A:N1	2.38	0.53
1:A:466:A:N3	1:A:683:C:H1'	2.24	0.53
3:D:263:ARG:HH11	3:D:263:ARG:HB2	1.68	0.53
7:H:12:PRO:O	7:H:13:LYS:HB2	2.07	0.53
17:V:22:VAL:CG1	17:V:23:GLU:N	2.71	0.53
17:V:41:GLY:HA3	17:V:46:VAL:CG1	2.38	0.53
26:4:37:SER:HB3	26:4:42:PHE:CD1	2.43	0.53
3:D:25:THR:HG21	3:D:81:ALA:CB	2.38	0.53
7:H:12:PRO:HG3	7:H:48:GLY:O	2.09	0.53
7:H:40:GLU:O	7:H:41:MET:HB2	2.08	0.53
11:P:79:ARG:HD3	11:P:110:TYR:CE1	2.43	0.53
11:P:88:LEU:HD23	11:P:89:ALA:N	2.24	0.53
12:Q:76:LYS:O	12:Q:88:GLY:HA3	2.09	0.53
21:Z:28:MET:O	21:Z:34:ASN:HA	2.09	0.53
26:4:49:PHE:N	26:4:49:PHE:CD1	2.77	0.53
1:A:1214:A:N6	1:A:1235:G:O2'	2.40	0.53
1:A:1728:G:H5''	1:A:1728:G:N3	2.24	0.53
1:A:2168:G:N2	1:A:2170:A:N7	2.56	0.53
1:A:2319:G:N7	14:S:3:ARG:HB3	2.23	0.53
1:A:524:U:H2'	1:A:525:U:H6	1.74	0.53
1:A:676:A:H8	1:A:2069:G:H21	1.56	0.53
4:E:119:ARG:HD3	4:E:160:TYR:HB2	1.91	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:125:PHE:C	6:G:127:GLY:H	2.12	0.53
7:H:128:PRO:CD	7:H:129:THR:N	2.71	0.53
9:N:19:GLU:HA	9:N:59:LYS:HB2	1.91	0.53
10:O:2:ILE:HD12	10:O:2:ILE:N	2.23	0.53
11:P:125:VAL:O	11:P:145:PRO:HD2	2.08	0.53
11:P:64:LYS:HG3	30:8:25:MET:SD	2.48	0.53
23:1:20:ARG:HG2	23:1:20:ARG:NH1	2.24	0.53
26:4:56:VAL:HA	26:4:60:GLN:CB	2.28	0.53
28:6:7:ILE:CG1	28:6:8:LYS:H	2.07	0.53
28:6:9:LEU:HD13	28:6:26:ASN:ND2	2.24	0.53
1:A:1407:C:H42	1:A:1595:G:H1	1.56	0.53
3:D:77:ALA:HB2	3:D:97:TYR:CG	2.44	0.53
5:F:116:ASP:OD1	5:F:119:ARG:NH2	2.41	0.53
9:N:134:ARG:N	9:N:135:PRO:CD	2.58	0.53
9:N:22:THR:CG2	9:N:23:LEU:N	2.61	0.53
13:R:1:MET:O	13:R:2:ARG:HG3	2.08	0.53
13:R:67:LEU:HD13	13:R:76:VAL:CG2	2.27	0.53
14:S:56:LEU:O	14:S:58:LEU:HD22	2.09	0.53
17:V:48:GLY:O	17:V:49:THR:O	2.26	0.53
18:W:43:GLY:O	18:W:44:ALA:C	2.46	0.53
19:X:60:ARG:NH1	29:7:47:ARG:HH22	2.07	0.53
24:2:50:ILE:CD1	24:2:51:ARG:N	2.60	0.53
28:6:25:LYS:HE2	28:6:27:LYS:HE3	1.91	0.53
1:A:2756:U:OP2	31:9:19:ARG:NH2	2.41	0.53
1:A:848:G:H2'	1:A:849:A:C8	2.43	0.53
3:D:25:THR:CG2	3:D:81:ALA:HB1	2.38	0.53
4:E:64:LYS:C	4:E:66:HIS:H	2.11	0.53
7:H:139:GLN:O	7:H:143:GLN:HB2	2.09	0.53
14:S:10:ARG:O	14:S:14:VAL:HG12	2.09	0.53
15:T:34:VAL:CG1	15:T:36:GLU:HG2	2.39	0.53
16:U:92:ARG:NH2	16:U:94:ASN:HD22	2.07	0.53
17:V:38:LEU:HD13	17:V:55:ALA:HB3	1.91	0.53
1:A:2432:A:C8	23:1:33:LYS:HE2	2.44	0.53
6:G:111:LEU:HB2	26:4:38:LYS:HZ3	1.72	0.53
5:F:9:ILE:HD11	5:F:125:LEU:CG	2.36	0.53
9:N:131:GLN:CG	9:N:132:ALA:H	2.20	0.53
11:P:125:VAL:HG13	11:P:125:VAL:O	2.09	0.53
13:R:56:LYS:C	13:R:58:GLY:N	2.61	0.53
15:T:3:ARG:HG3	15:T:7:ILE:CG1	2.36	0.53
16:U:39:LEU:O	16:U:40:PHE:C	2.48	0.53
17:V:7:THR:CG2	17:V:22:VAL:HG11	2.39	0.53
17:V:35:LEU:HD21	17:V:57:VAL:CG2	2.30	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:1:MET:HE2	18:W:2:GLU:H	1.74	0.53
19:X:53:LYS:NZ	19:X:55:ASN:HD21	2.06	0.53
21:Z:121:HIS:ND1	21:Z:123:ASP:O	2.41	0.53
18:W:38:TYR:OH	27:5:47:PRO:HG3	2.08	0.52
28:6:14:THR:OG1	28:6:19:ARG:NE	2.41	0.52
1:A:1026:U:H1'	1:A:1027:A:O5'	2.09	0.52
1:A:1824:G:OP1	3:D:52:ARG:HD3	2.08	0.52
1:A:2349:G:OP2	30:8:42:ARG:HD3	2.10	0.52
1:A:270(U):C:H2'	1:A:270(V):G:H8	1.74	0.52
1:A:483:A:C5'	20:Y:49:VAL:HG13	2.39	0.52
1:A:612:G:O2'	1:A:616:A:N1	2.32	0.52
1:A:628:G:H2'	1:A:629:G:C8	2.44	0.52
4:E:7:VAL:O	4:E:196:VAL:HG13	2.09	0.52
5:F:129:PHE:O	5:F:142:TRP:CD1	2.62	0.52
5:F:140:LEU:O	5:F:143:ALA:HB3	2.09	0.52
6:G:16:ARG:HG2	6:G:16:ARG:HH11	1.74	0.52
7:H:2:SER:O	7:H:3:ARG:C	2.47	0.52
7:H:76:VAL:C	7:H:78:GLY:H	2.13	0.52
11:P:147:LEU:O	11:P:148:LEU:CB	2.57	0.52
5:F:34:TRP:CH2	11:P:8:PRO:HB3	2.43	0.52
12:Q:29:PHE:HB3	12:Q:65:PHE:CZ	2.44	0.52
13:R:70:LEU:O	13:R:72:ASP:N	2.43	0.52
25:3:6:VAL:HG12	25:3:56:VAL:HG22	1.92	0.52
1:A:1109:C:O2'	1:A:1110:G:OP1	2.26	0.52
1:A:1278:A:OP1	13:R:36:THR:HG22	2.09	0.52
1:A:2552:U:H2'	1:A:2554:U:OP2	2.10	0.52
1:A:685:A:OP1	29:7:11:LYS:NZ	2.36	0.52
3:D:35:LYS:HD3	3:D:63:ARG:CA	2.39	0.52
4:E:39:PRO:HG2	4:E:40:GLU:OE1	2.09	0.52
5:F:192:LEU:HD21	5:F:194:MET:HE2	1.91	0.52
7:H:121:ILE:HG12	7:H:135:GLY:HA3	1.91	0.52
7:H:44:VAL:CG2	7:H:44:VAL:O	2.58	0.52
11:P:37:GLY:HA2	11:P:41:ARG:NE	2.23	0.52
15:T:94:ALA:O	15:T:95:ARG:HB3	2.09	0.52
18:W:25:ARG:HH11	18:W:25:ARG:HB2	1.74	0.52
18:W:7:ALA:HB2	18:W:50:VAL:CG2	2.40	0.52
26:4:15:ILE:HD13	26:4:15:ILE:H	1.73	0.52
26:4:40:HIS:N	26:4:41:PRO:CD	2.73	0.52
1:A:594:U:H5'	30:8:61:LEU:CD2	2.39	0.52
1:A:1026:U:H4'	1:A:1027:A:OP1	2.09	0.52
1:A:1796:U:H2'	1:A:1797:C:C6	2.43	0.52
1:A:2857:G:N2	1:A:2859:G:H3'	2.25	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:155:LEU:N	3:D:155:LEU:CD1	2.71	0.52
4:E:137:HIS:HB3	4:E:138:PRO:CD	2.37	0.52
4:E:7:VAL:CG2	4:E:8:LYS:H	2.10	0.52
5:F:162:LEU:HD23	5:F:165:ARG:NH2	2.25	0.52
6:G:179:PRO:HG3	26:4:38:LYS:HZ1	1.74	0.52
7:H:89:ILE:CG1	7:H:89:ILE:O	2.57	0.52
9:N:109:LYS:HD2	9:N:109:LYS:H	1.74	0.52
9:N:57:ALA:O	9:N:58:ASP:HB3	2.09	0.52
18:W:8:ARG:HG3	18:W:8:ARG:HH11	1.73	0.52
20:Y:61:ILE:HG23	20:Y:62:GLU:N	2.24	0.52
23:1:4:VAL:HG22	23:1:5:CYS:N	2.25	0.52
1:A:2420:C:N4	30:8:30:ARG:HD2	2.24	0.52
3:D:233:HIS:N	3:D:233:HIS:CD2	2.75	0.52
3:D:36:PRO:HA	3:D:62:TYR:O	2.09	0.52
3:D:66:ASP:OD2	3:D:69:ARG:HG2	2.09	0.52
7:H:24:VAL:O	7:H:24:VAL:HG23	2.09	0.52
24:2:7:ARG:NH1	24:2:7:ARG:HG3	2.25	0.52
26:4:54:GLY:O	26:4:71:ARG:HA	2.08	0.52
30:8:61:LEU:O	30:8:62:LEU:CB	2.57	0.52
1:A:1543:A:HO2'	1:A:1544:C:P	2.32	0.52
1:A:2012:G:H4'	18:W:96:ILE:HD11	1.91	0.52
1:A:2159:G:H2'	1:A:2160:G:C8	2.44	0.52
1:A:656:G:H2'	1:A:657:U:O4'	2.10	0.52
6:G:124:SER:HB2	6:G:131:TYR:CE1	2.44	0.52
9:N:103:VAL:O	9:N:106:MET:N	2.42	0.52
9:N:114:ARG:C	9:N:116:LEU:H	2.13	0.52
10:O:79:PHE:CD2	15:T:72:VAL:HG22	2.45	0.52
13:R:53:HIS:HA	13:R:56:LYS:HD3	1.90	0.52
15:T:100:TYR:HB3	15:T:103:ARG:NH1	2.25	0.52
17:V:34:GLU:O	17:V:36:PRO:HD3	2.10	0.52
20:Y:91:GLU:HG3	20:Y:92:ASN:N	2.25	0.52
26:4:48:ARG:CZ	26:4:51:ASP:HA	2.40	0.52
28:6:30:THR:O	28:6:30:THR:HG23	2.09	0.52
1:A:1479:G:N7	1:A:1510:A:N6	2.56	0.52
1:A:1952:A:OP1	10:O:44:LYS:NZ	2.26	0.52
1:A:2748:A:C4	1:A:2757:A:C6	2.98	0.52
9:N:112:LEU:HD23	9:N:112:LEU:C	2.30	0.52
10:O:113:LYS:HG2	10:O:117:LEU:CD1	2.38	0.52
13:R:52:ILE:CG2	13:R:94:TYR:HD1	2.22	0.52
14:S:25:ARG:CB	14:S:25:ARG:HH11	2.22	0.52
14:S:62:LYS:HB3	14:S:97:ARG:CD	2.39	0.52
15:T:23:ARG:HG2	15:T:120:ARG:HH12	1.75	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:3:9:VAL:HG12	25:3:32:GLN:HE22	1.74	0.52
29:7:38:GLY:O	29:7:39:ARG:C	2.48	0.52
1:A:2361:A:P	30:8:27:THR:HG1	2.32	0.52
1:A:1196:C:HO2'	1:A:1228:G:HO2'	1.48	0.52
1:A:811:U:O2	1:A:1250:G:H3'	2.10	0.52
1:A:1268:A:H2'	1:A:1269:A:O4'	2.10	0.52
1:A:1438:U:H2'	1:A:1439:A:C8	2.45	0.52
1:A:1825:A:H2'	1:A:1826:G:C8	2.45	0.52
1:A:242:G:H5''	30:8:3:LYS:HE3	1.91	0.52
1:A:279:C:H42	1:A:361:G:H1	1.58	0.52
3:D:174:ILE:N	3:D:174:ILE:CD1	2.73	0.52
4:E:176:ILE:O	4:E:176:ILE:HG22	2.10	0.52
9:N:12:ARG:NH1	9:N:50:ASP:OD1	2.43	0.52
9:N:7:LYS:HD3	9:N:9:VAL:N	2.25	0.52
10:O:2:ILE:CD1	10:O:82:ASN:HD22	2.14	0.52
15:T:99:LEU:HB2	15:T:101:PHE:CE1	2.45	0.52
18:W:9:TYR:CD2	18:W:102:HIS:HE1	2.28	0.52
21:Z:72:ARG:NH2	21:Z:97:GLU:HB2	2.24	0.52
1:A:1055:G:H1	1:A:1104:C:H42	1.58	0.52
1:A:111:A:O3'	24:2:69:ARG:NH2	2.43	0.52
1:A:1020:A:N1	1:A:1141:U:H2'	2.24	0.52
1:A:1187:G:H5''	17:V:81:TYR:CE2	2.45	0.52
1:A:1520:U:H2'	1:A:1521:G:O4'	2.10	0.52
1:A:1636:C:H2'	1:A:1637:A:C8	2.44	0.52
1:A:2208:U:H1'	3:D:151:LYS:HE2	1.91	0.52
1:A:71:A:N3	1:A:73:A:N6	2.58	0.52
3:D:43:ARG:NH1	3:D:44:ASN:OD1	2.42	0.52
4:E:170:LEU:CD2	4:E:185:LYS:HB2	2.40	0.52
4:E:55:ASN:C	4:E:57:LYS:N	2.62	0.52
4:E:61:ARG:O	4:E:63:LEU:N	2.43	0.52
5:F:108:LYS:O	5:F:112:MET:HG3	2.10	0.52
5:F:67:GLN:O	5:F:68:LYS:CB	2.39	0.52
14:S:83:LYS:O	14:S:109:GLY:CA	2.46	0.52
15:T:16:ARG:HD3	15:T:19:LEU:HG	1.92	0.52
15:T:42:ILE:HD12	15:T:42:ILE:N	2.25	0.52
20:Y:9:LYS:O	20:Y:9:LYS:HG2	2.10	0.52
23:1:83:GLU:CG	23:1:84:GLY:N	2.71	0.52
27:5:55:ARG:HG3	27:5:57:VAL:H	1.74	0.52
1:A:459:U:OP2	1:A:469:G:N1	2.31	0.52
1:A:503:A:H4'	1:A:504:U:C5'	2.40	0.52
3:D:133:LEU:HG	3:D:189:CYS:O	2.10	0.52
4:E:54:GLN:O	4:E:55:ASN:HB2	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:34:LEU:HD13	6:G:34:LEU:C	2.30	0.52
8:I:88:ILE:HG12	8:I:122:GLU:N	2.24	0.52
10:O:43:VAL:HG23	10:O:56:ASP:O	2.10	0.52
1:A:389:G:H22	11:P:72:PRO:CG	2.23	0.52
13:R:41:ALA:O	13:R:43:GLU:N	2.43	0.52
17:V:35:LEU:CD2	17:V:57:VAL:HG22	2.32	0.52
23:1:91:LYS:CA	23:1:91:LYS:HE3	2.40	0.52
1:A:77:C:O3'	24:2:14:ARG:NH2	2.43	0.52
26:4:14:ILE:O	26:4:14:ILE:HG23	2.10	0.52
26:4:68:ARG:HD3	26:4:69:LYS:HG2	1.92	0.52
1:A:2028:U:H2'	1:A:2029:G:C8	2.45	0.52
1:A:695:G:OP1	1:A:1380:G:O2'	2.20	0.52
1:A:830:G:H22	1:A:2446:G:H5'	1.75	0.52
1:A:855:G:C6	1:A:856:C:C4	2.97	0.52
3:D:35:LYS:HG2	3:D:64:ILE:HG22	1.92	0.52
10:O:16:ALA:HA	10:O:46:ALA:HB2	1.92	0.52
16:U:107:ALA:O	16:U:111:GLU:OE1	2.28	0.52
16:U:59:ARG:O	16:U:63:VAL:HG23	2.10	0.52
1:A:484:C:OP1	20:Y:51:VAL:HG11	2.10	0.52
1:A:2395:C:O2'	23:1:30:VAL:HG12	2.10	0.51
25:3:49:LYS:O	25:3:49:LYS:HG2	2.10	0.51
1:A:1434:A:H61	1:A:1558:A:H62	1.57	0.51
1:A:2401:U:H2'	1:A:2402:C:H5''	1.92	0.51
1:A:2794:C:N4	1:A:2795:G:O6	2.43	0.51
1:A:30:G:H2'	1:A:31:C:C6	2.44	0.51
7:H:153:LYS:HG3	7:H:161:GLY:HA2	1.91	0.51
14:S:106:ARG:HA	14:S:110:LEU:CG	2.39	0.51
14:S:67:ARG:HB2	14:S:67:ARG:HH11	1.65	0.51
19:X:52:VAL:O	19:X:52:VAL:HG12	2.09	0.51
20:Y:74:PRO:O	20:Y:80:GLY:HA2	2.10	0.51
24:2:15:LYS:H	24:2:67:LYS:HE2	1.73	0.51
28:6:34:LEU:HD23	28:6:36:LEU:HD22	1.93	0.51
30:8:52:LYS:N	30:8:53:PRO:HD2	2.21	0.51
1:A:1161:C:O2'	17:V:8:GLY:HA2	2.11	0.51
1:A:1344:G:H4'	1:A:1384:A:N7	2.25	0.51
1:A:1657:C:H2'	1:A:1658:C:H6	1.75	0.51
1:A:1957:C:H2'	1:A:1958:C:C6	2.45	0.51
3:D:67:PHE:CE1	3:D:157:ARG:NH2	2.79	0.51
4:E:203:LYS:HE3	4:E:204:ALA:CB	2.40	0.51
5:F:125:LEU:HA	5:F:194:MET:O	2.10	0.51
7:H:6:ARG:C	7:H:8:PRO:HD2	2.30	0.51
9:N:120:LEU:CD1	9:N:122:VAL:HG23	2.38	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:94:HIS:O	9:N:95:PRO:O	2.27	0.51
10:O:23:ARG:O	10:O:39:ILE:HB	2.09	0.51
12:Q:119:ARG:NH1	12:Q:119:ARG:HG2	2.20	0.51
14:S:89:ARG:HH11	14:S:89:ARG:HG2	1.75	0.51
1:A:99:U:H1'	1:A:102:G:C6	2.44	0.51
1:A:2504:U:O5'	1:A:2504:U:H6	1.94	0.51
3:D:35:LYS:HD2	3:D:104:TYR:CD1	2.45	0.51
3:D:259:THR:O	3:D:260:ARG:C	2.49	0.51
3:D:30:GLU:HG3	3:D:63:ARG:NH2	2.26	0.51
6:G:37:VAL:HG22	6:G:159:VAL:CA	2.34	0.51
6:G:97:ASP:O	6:G:101:ILE:HG23	2.10	0.51
9:N:134:ARG:O	9:N:136:GLU:N	2.43	0.51
10:O:14:THR:HG21	10:O:86:ILE:HD13	1.91	0.51
11:P:112:LEU:HD22	11:P:113:LYS:H	1.75	0.51
15:T:111:ARG:O	15:T:112:ARG:CG	2.55	0.51
17:V:14:VAL:HA	17:V:18:LEU:HD12	1.93	0.51
27:5:40:LYS:HD3	27:5:46:CYS:SG	2.50	0.51
1:A:2126:A:H4'	1:A:2127:G:O5'	2.11	0.51
1:A:2485:G:OP1	12:Q:46:GLN:NE2	2.31	0.51
1:A:2822:G:H2'	1:A:2823:A:H5''	1.91	0.51
4:E:77:ILE:O	4:E:78:LEU:C	2.48	0.51
5:F:65:TRP:HZ2	5:F:72:ARG:NH2	2.09	0.51
6:G:44:GLY:CA	6:G:88:ILE:HD11	2.40	0.51
10:O:4:PRO:O	10:O:5:GLN:CB	2.58	0.51
17:V:75:PHE:C	17:V:75:PHE:CD1	2.83	0.51
18:W:14:PRO:O	18:W:17:VAL:N	2.42	0.51
20:Y:101:LYS:O	20:Y:102:CYS:SG	2.67	0.51
20:Y:75:ILE:HD13	20:Y:75:ILE:C	2.31	0.51
1:A:1291:C:H5'	1:A:1536:A:H5'	1.91	0.51
1:A:2308:G:N3	1:A:2308:G:H2'	2.24	0.51
1:A:2600:A:N7	3:D:237:GLU:OE2	2.44	0.51
1:A:443:A:H1'	1:A:1201:C:O4'	2.10	0.51
3:D:134:ARG:HB2	3:D:135:PHE:HD2	1.75	0.51
4:E:51:PHE:CD1	4:E:52:LEU:N	2.76	0.51
4:E:95:ILE:CD1	4:E:95:ILE:H	2.19	0.51
8:I:47:LEU:O	8:I:51:ILE:N	2.39	0.51
9:N:12:ARG:NH1	9:N:50:ASP:OD2	2.40	0.51
11:P:101:VAL:HA	11:P:105:LEU:O	2.10	0.51
11:P:112:LEU:HD11	11:P:114:ILE:CG2	2.40	0.51
15:T:14:TYR:H	15:T:14:TYR:HD1	1.56	0.51
17:V:1:MET:HE2	17:V:43:GLU:HG2	1.92	0.51
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ1	1.75	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:0:53:MET:HB3	22:0:59:LEU:HD23	1.91	0.51
26:4:42:PHE:O	26:4:44:THR:N	2.44	0.51
27:5:20:ARG:C	27:5:22:HIS:H	2.14	0.51
30:8:29:LYS:HB2	30:8:44:LYS:HG2	1.91	0.51
1:A:2862:G:H2'	1:A:2863:C:C6	2.46	0.51
7:H:55:PRO:HG2	7:H:61:HIS:ND1	2.26	0.51
15:T:14:TYR:N	15:T:14:TYR:CD1	2.77	0.51
19:X:18:TYR:C	19:X:20:GLY:N	2.64	0.51
19:X:36:LYS:HA	19:X:39:ILE:HD12	1.91	0.51
19:X:65:ARG:CD	19:X:65:ARG:H	2.23	0.51
20:Y:77:PRO:O	20:Y:78:ALA:HB2	2.10	0.51
23:1:92:LYS:C	23:1:94:LEU:N	2.62	0.51
26:4:50:VAL:O	26:4:51:ASP:C	2.48	0.51
1:A:1059:G:H3'	1:A:1060:U:H5''	1.91	0.51
1:A:1078:U:HO2'	1:A:1088:A:H2	1.57	0.51
1:A:1350:C:N3	1:A:1382:G:N2	2.58	0.51
1:A:1517:G:H2'	1:A:1518:C:C6	2.46	0.51
1:A:1443:G:N2	1:A:1549:C:C2	2.78	0.51
1:A:2751:G:H8	1:A:2751:G:P	2.33	0.51
3:D:28:GLU:OE1	3:D:29:PRO:HD2	2.11	0.51
6:G:114:ILE:CG2	6:G:115:ARG:N	2.73	0.51
8:I:133:HIS:HB2	8:I:134:PRO:HD2	1.92	0.51
9:N:108:PRO:O	9:N:113:GLY:HA3	2.10	0.51
11:P:95:VAL:HG13	11:P:100:LEU:CD2	2.41	0.51
18:W:70:TYR:HD2	18:W:70:TYR:N	2.06	0.51
26:4:54:GLY:HA2	26:4:57:GLU:HG2	1.92	0.51
28:6:20:ASN:O	28:6:21:TYR:CB	2.59	0.51
1:A:2562:U:H2'	1:A:2563:U:O4'	2.10	0.51
1:A:530:G:C5	1:A:2022:U:H5''	2.46	0.51
3:D:210:GLY:O	3:D:213:ARG:N	2.43	0.51
3:D:94:LEU:HD13	3:D:94:LEU:C	2.31	0.51
4:E:37:ARG:N	4:E:37:ARG:HE	2.09	0.51
6:G:109:VAL:O	6:G:113:ARG:HG3	2.10	0.51
6:G:51:ARG:HB3	6:G:51:ARG:HH11	1.76	0.51
7:H:19:VAL:HG13	7:H:43:VAL:CG2	2.41	0.51
7:H:72:ILE:O	7:H:75:ALA:HB3	2.11	0.51
9:N:78:TYR:HD1	9:N:78:TYR:N	2.07	0.51
10:O:24:VAL:HG21	10:O:32:TYR:O	2.11	0.51
11:P:13:ASN:O	11:P:14:LYS:C	2.49	0.51
11:P:31:ALA:C	11:P:32:THR:HG23	2.31	0.51
13:R:118:GLU:OXT	13:R:118:GLU:HG3	2.11	0.51
14:S:87:PHE:O	14:S:88:ASP:O	2.28	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:41:GLY:N	17:V:46:VAL:HG13	2.26	0.51
19:X:47:PHE:CD1	19:X:47:PHE:N	2.78	0.51
19:X:5:TYR:CE2	24:2:30:ARG:HG3	2.45	0.51
12:Q:83:MET:HB2	22:0:7:LEU:HD22	1.93	0.51
26:4:12:ALA:HB1	26:4:30:GLU:H	1.76	0.51
1:A:1021:A:H8	1:A:1021:A:H3'	1.76	0.51
1:A:1952:A:C2	10:O:22:ILE:HG23	2.45	0.51
1:A:950:G:C6	1:A:951:C:C4	2.99	0.51
4:E:54:GLN:NE2	4:E:54:GLN:H	2.08	0.51
9:N:16:ILE:HG22	9:N:17:ASP:N	2.25	0.51
10:O:23:ARG:HG2	10:O:23:ARG:HH11	1.76	0.51
10:O:24:VAL:O	10:O:24:VAL:HG13	2.11	0.51
11:P:49:ARG:HE	30:8:59:LYS:HG2	1.76	0.51
12:Q:58:PHE:O	12:Q:58:PHE:HD1	1.94	0.51
24:2:36:ARG:O	24:2:40:SER:HB2	2.10	0.51
25:3:56:VAL:CG1	25:3:57:GLU:N	2.74	0.51
1:A:1221:C:OP1	17:V:68:LYS:HE2	2.10	0.51
1:A:1794:U:H2'	1:A:1795:C:C6	2.44	0.51
1:A:1871:A:H2'	1:A:1872:A:C8	2.46	0.51
1:A:2055:C:H4'	1:A:2056:G:H5''	1.93	0.51
1:A:2552:U:C2	1:A:2554:U:H5''	2.46	0.51
1:A:554:U:H2'	1:A:556:G:C8	2.45	0.51
3:D:10:THR:CG2	3:D:13:ARG:HB3	2.35	0.51
5:F:198:ALA:C	5:F:200:GLU:N	2.62	0.51
8:I:9:LEU:O	8:I:10:GLU:HG3	2.11	0.51
9:N:118:LYS:O	9:N:120:LEU:N	2.43	0.51
10:O:113:LYS:O	10:O:116:SER:HB3	2.11	0.51
12:Q:25:ASP:HA	12:Q:100:GLY:O	2.11	0.51
12:Q:133:ARG:HG2	12:Q:134:ARG:N	2.26	0.51
15:T:51:ARG:HG3	15:T:98:LYS:HG3	1.93	0.51
1:A:1200:C:H1'	16:U:2:PRO:HG2	1.91	0.51
23:1:83:GLU:CD	23:1:85:LEU:H	2.15	0.50
23:1:85:LEU:HA	23:1:87:PRO:HD2	1.91	0.50
25:3:7:LYS:HE2	25:3:32:GLN:NE2	2.25	0.50
1:A:2478:A:OP1	31:9:31:LYS:HD3	2.10	0.50
1:A:1062:G:H2'	1:A:1063:G:H8	1.74	0.50
1:A:2712:U:C5	1:A:2713:A:H5''	2.46	0.50
1:A:357:A:H2'	1:A:358:U:C6	2.46	0.50
4:E:116:VAL:HG22	4:E:122:PHE:HB2	1.91	0.50
5:F:108:LYS:HA	5:F:108:LYS:NZ	2.27	0.50
7:H:126:PRO:HD2	7:H:127:GLU:N	2.25	0.50
7:H:103:LEU:CD1	7:H:131:VAL:HG21	2.41	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:4:ILE:O	7:H:6:ARG:N	2.43	0.50
9:N:26:LEU:HG	9:N:30:ILE:HD11	1.93	0.50
11:P:62:LEU:H	11:P:62:LEU:CD2	2.19	0.50
13:R:92:GLY:N	13:R:94:TYR:HE2	2.09	0.50
14:S:26:LEU:CD2	14:S:87:PHE:CD1	2.94	0.50
14:S:95:HIS:CG	14:S:96:GLY:N	2.77	0.50
1:A:1398:C:OP1	19:X:53:LYS:NZ	2.45	0.50
20:Y:95:LYS:O	20:Y:96:ILE:O	2.28	0.50
29:7:36:GLN:HG2	29:7:36:GLN:O	2.09	0.50
1:A:1339:G:H21	1:A:1603:A:H1'	1.76	0.50
1:A:299:A:H1'	1:A:322:A:N6	2.26	0.50
1:A:724:U:H2'	1:A:725:G:O4'	2.11	0.50
3:D:10:THR:HG23	3:D:13:ARG:CB	2.34	0.50
4:E:105:THR:HG23	4:E:166:THR:OG1	2.10	0.50
9:N:73:THR:HG22	9:N:82:LEU:HD11	1.93	0.50
11:P:114:ILE:HD13	11:P:125:VAL:CG2	2.41	0.50
14:S:86:ALA:O	14:S:87:PHE:HB3	2.09	0.50
15:T:57:PHE:CG	15:T:58:ASN:N	2.79	0.50
16:U:112:ARG:HG2	16:U:112:ARG:HH11	1.76	0.50
17:V:5:VAL:HG22	17:V:14:VAL:HG22	1.93	0.50
20:Y:75:ILE:CG1	20:Y:76:CYS:N	2.73	0.50
23:1:4:VAL:HG23	23:1:10:LYS:C	2.32	0.50
26:4:61:ARG:C	26:4:63:TYR:H	2.14	0.50
27:5:56:LYS:N	27:5:56:LYS:HD2	2.13	0.50
1:A:1869:G:H5'	1:A:1870:C:OP2	2.12	0.50
1:A:957:A:N1	1:A:2458:G:H4'	2.25	0.50
1:A:2795:G:H3'	1:A:2797:U:C5'	2.42	0.50
5:F:32:LEU:O	5:F:36:VAL:HG23	2.11	0.50
14:S:83:LYS:HG2	14:S:109:GLY:HA2	1.90	0.50
15:T:20:PRO:HD2	15:T:86:ILE:HG23	1.92	0.50
18:W:22:ASP:HA	18:W:25:ARG:HH12	1.75	0.50
21:Z:101:PRO:HA	21:Z:123:ASP:HB3	1.94	0.50
23:1:87:PRO:O	23:1:91:LYS:HB2	2.10	0.50
23:1:94:LEU:O	23:1:95:LEU:HG	2.11	0.50
25:3:17:LYS:HA	25:3:20:LYS:HD2	1.92	0.50
26:4:10:VAL:HG23	26:4:11:PRO:HD2	1.94	0.50
1:A:1103:A:H5'	1:A:1104:C:C5	2.45	0.50
1:A:144:C:H2'	1:A:145:G:H8	1.76	0.50
7:H:131:VAL:CG1	7:H:132:ARG:N	2.74	0.50
7:H:169:VAL:HG13	7:H:170:ARG:N	2.26	0.50
9:N:112:LEU:HD23	9:N:113:GLY:N	2.26	0.50
20:Y:46:LYS:HE3	20:Y:63:LYS:HB3	1.93	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:80:LEU:HB2	23:1:81:LYS:CE	2.41	0.50
24:2:41:ILE:HD11	24:2:44:LEU:CB	2.42	0.50
1:A:1354:A:OP1	3:D:38:LYS:HE2	2.12	0.50
1:A:2532:G:H1'	1:A:2663:G:N2	2.25	0.50
1:A:2712:U:OP1	1:A:2714:G:H4'	2.10	0.50
1:A:900:A:H3'	1:A:901:A:H8	1.75	0.50
6:G:111:LEU:N	6:G:112:PRO:CD	2.75	0.50
7:H:143:GLN:HE21	7:H:143:GLN:C	2.15	0.50
7:H:152:ARG:C	7:H:153:LYS:HE2	2.32	0.50
8:I:29:TYR:O	8:I:33:ARG:HB2	2.11	0.50
10:O:15:GLY:O	10:O:46:ALA:HB1	2.10	0.50
11:P:104:GLY:C	11:P:105:LEU:HD12	2.31	0.50
12:Q:132:VAL:HG12	12:Q:133:ARG:N	2.27	0.50
13:R:117:VAL:CG2	13:R:118:GLU:N	2.74	0.50
14:S:26:LEU:HD22	14:S:87:PHE:CD1	2.46	0.50
25:3:7:LYS:CB	25:3:34:GLU:HG2	2.41	0.50
6:G:6:ALA:H	26:4:23:GLU:CG	2.25	0.50
26:4:57:GLU:O	26:4:61:ARG:O	2.30	0.50
1:A:458:G:O2'	1:A:469:G:O6	2.24	0.50
1:A:546:C:OP1	1:A:547:A:N6	2.45	0.50
3:D:182:LEU:H	3:D:272:ALA:CB	2.25	0.50
6:G:43:LEU:O	6:G:88:ILE:HG12	2.12	0.50
7:H:133:VAL:HG12	7:H:141:VAL:HG13	1.93	0.50
7:H:24:VAL:HG21	7:H:72:ILE:HG12	1.94	0.50
9:N:87:LEU:C	9:N:87:LEU:HD23	2.32	0.50
10:O:35:VAL:HG23	10:O:35:VAL:O	2.11	0.50
11:P:138:LEU:HD11	11:P:144:GLU:CG	2.42	0.50
17:V:51:VAL:CG1	17:V:52:VAL:H	2.22	0.50
17:V:51:VAL:CG1	17:V:52:VAL:N	2.75	0.50
17:V:29:PRO:O	17:V:61:VAL:O	2.29	0.50
18:W:70:TYR:CD2	18:W:70:TYR:N	2.75	0.50
21:Z:8:TYR:HD1	21:Z:38:TYR:CZ	2.29	0.50
24:2:9:GLN:O	24:2:12:GLU:HB3	2.10	0.50
28:6:9:LEU:HB3	28:6:26:ASN:O	2.12	0.50
29:7:46:VAL:HG12	29:7:47:ARG:N	2.27	0.50
29:7:9:ARG:HH12	29:7:47:ARG:HG3	1.76	0.50
1:A:2524:G:H5'	1:A:2525:G:OP2	2.11	0.50
2:B:24:G:O6	2:B:56:G:O2'	2.26	0.50
6:G:49:ASP:OD1	6:G:51:ARG:HG3	2.12	0.50
7:H:16:SER:O	7:H:17:VAL:HG23	2.12	0.50
12:Q:36:ALA:HB1	12:Q:127:ILE:HD12	1.93	0.50
13:R:28:LEU:CD2	13:R:114:VAL:HG12	2.41	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:35:ILE:CD1	14:S:101:LEU:HD23	2.41	0.50
14:S:89:ARG:O	14:S:89:ARG:HD2	2.11	0.50
10:O:104:ARG:NE	15:T:34:VAL:HG11	2.26	0.50
21:Z:158:PRO:O	21:Z:160:GLY:N	2.44	0.50
26:4:22:ILE:H	26:4:22:ILE:HD12	1.77	0.50
27:5:37:LYS:O	27:5:37:LYS:HD2	2.12	0.50
1:A:1266:G:O5'	18:W:15:ARG:NH2	2.45	0.50
1:A:1728:G:H3'	1:A:1729:A:H5''	1.94	0.50
1:A:1785:A:C6	1:A:1787:A:H1'	2.46	0.50
2:B:55:U:O2'	2:B:57:A:N7	2.44	0.50
3:D:218:ARG:HB3	3:D:219:PRO:HD2	1.94	0.50
3:D:233:HIS:H	3:D:233:HIS:CD2	2.29	0.50
4:E:105:THR:HB	4:E:197:ILE:HG12	1.92	0.50
4:E:2:LYS:HG2	4:E:95:ILE:CG2	2.42	0.50
6:G:16:ARG:HB3	6:G:17:PRO:HD3	1.94	0.50
6:G:35:GLU:CD	6:G:35:GLU:C	2.71	0.50
10:O:105:GLU:O	10:O:108:GLU:HB2	2.12	0.50
12:Q:108:GLY:O	12:Q:109:VAL:HG23	2.12	0.50
16:U:92:ARG:CD	16:U:94:ASN:HB3	2.42	0.50
20:Y:48:ALA:HB2	20:Y:61:ILE:CD1	2.42	0.50
27:5:50:GLY:O	27:5:51:TYR:CB	2.59	0.50
29:7:12:ARG:NH1	29:7:12:ARG:HG3	2.27	0.50
30:8:56:GLU:O	30:8:57:ARG:C	2.50	0.50
1:A:1929:G:H8	1:A:1929:G:H3'	1.77	0.50
1:A:2688:U:H1'	1:A:2721:A:N6	2.26	0.50
3:D:35:LYS:HE2	3:D:104:TYR:HB2	1.94	0.50
3:D:65:ILE:C	3:D:65:ILE:HD13	2.32	0.50
6:G:114:ILE:HG21	6:G:117:PHE:HB2	1.93	0.50
11:P:112:LEU:HD22	11:P:113:LYS:N	2.26	0.50
11:P:147:LEU:O	11:P:148:LEU:HB2	2.11	0.50
20:Y:19:LYS:CG	20:Y:19:LYS:O	2.60	0.50
23:1:81:LYS:O	23:1:82:LEU:O	2.30	0.49
28:6:44:ARG:O	28:6:45:LYS:CB	2.60	0.49
1:A:117:G:OP2	1:A:119:A:O2'	2.28	0.49
1:A:1397:U:OP2	1:A:1398:C:N4	2.35	0.49
1:A:1899:G:H21	1:A:1902:C:H42	1.58	0.49
1:A:2756:U:H4'	1:A:2757:A:OP1	2.12	0.49
1:A:380:U:H2'	1:A:381:G:H8	1.76	0.49
1:A:383:U:H5''	1:A:384:U:OP2	2.12	0.49
1:A:507:A:C5'	1:A:508:G:H5'	2.42	0.49
2:B:89:G:C6	2:B:89(A):A:C6	3.00	0.49
5:F:11:VAL:CG1	5:F:12:LEU:N	2.75	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:443:A:H3'	5:F:45:ARG:NH1	2.27	0.49
6:G:103:LEU:HD21	6:G:178:PHE:CZ	2.47	0.49
6:G:83:ARG:HH11	6:G:83:ARG:HG2	1.76	0.49
9:N:137:LYS:HG3	9:N:138:LEU:H	1.77	0.49
10:O:55:GLY:O	10:O:56:ASP:C	2.50	0.49
11:P:36:LYS:HB2	11:P:40:SER:HB3	1.94	0.49
14:S:52:SER:O	14:S:56:LEU:CD2	2.60	0.49
20:Y:16:ALA:O	20:Y:21:LYS:HD3	2.11	0.49
23:1:93:GLU:O	23:1:97:LEU:HD11	2.12	0.49
26:4:36:CYS:O	26:4:39:CYS:CB	2.55	0.49
1:A:1125:G:H5'	31:9:37:GLY:HA2	1.94	0.49
1:A:1488:G:C6	1:A:1489:U:C4	2.99	0.49
1:A:1576:U:H2'	1:A:1577:C:H6	1.77	0.49
1:A:1742:C:H5'	1:A:1743:G:OP2	2.12	0.49
1:A:2179:C:H2'	1:A:2180:U:C6	2.48	0.49
1:A:2335:A:O2'	1:A:2336:A:H2'	2.12	0.49
1:A:2441:C:OP2	1:A:2586:C:O2'	2.27	0.49
1:A:2695:C:H2'	1:A:2696:U:C6	2.46	0.49
1:A:2764:A:N7	1:A:2766:G:C6	2.80	0.49
1:A:297:C:H2'	1:A:298:G:O4'	2.12	0.49
1:A:17:G:H21	1:A:554:U:H5'	1.76	0.49
1:A:1567:A:H4'	3:D:58:HIS:CE1	2.47	0.49
4:E:37:ARG:HE	4:E:37:ARG:H	1.59	0.49
4:E:46:ALA:HB1	4:E:80:GLU:HB2	1.94	0.49
9:N:6:PRO:HG2	9:N:43:THR:OG1	2.11	0.49
10:O:47:ILE:CG1	10:O:48:PRO:HD2	2.42	0.49
10:O:69:ILE:O	10:O:76:ALA:HA	2.12	0.49
14:S:60:GLY:O	14:S:61:ASN:CB	2.55	0.49
14:S:5:THR:HG1	14:S:7:TYR:HB3	1.75	0.49
16:U:92:ARG:NH1	16:U:95:LEU:HD11	2.26	0.49
17:V:3:ALA:HB3	17:V:14:VAL:HG23	1.92	0.49
23:1:40:ARG:NH2	23:1:42:GLN:HG2	2.27	0.49
23:1:8:SER:HB3	23:1:66:HIS:CE1	2.46	0.49
23:1:67:ILE:N	23:1:68:PRO:CD	2.76	0.49
25:3:21:ALA:O	25:3:25:ALA:N	2.41	0.49
1:A:931:G:O3'	25:3:24:LYS:NZ	2.45	0.49
26:4:9:LEU:H	26:4:27:THR:CG2	2.26	0.49
30:8:10:ALA:O	30:8:14:VAL:HG12	2.11	0.49
1:A:2688:U:H5	1:A:2720:U:OP2	1.94	0.49
1:A:270(R):G:H2'	1:A:270(S):G:C8	2.47	0.49
3:D:76:PRO:HA	3:D:118:VAL:HG23	1.93	0.49
3:D:2:ALA:CB	3:D:20:ASP:HB3	2.42	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:227:ASN:HB3	3:D:228:PRO:CD	2.30	0.49
1:A:1812:A:O2'	3:D:45:ASN:HB2	2.11	0.49
1:A:1567:A:H5'	3:D:58:HIS:ND1	2.27	0.49
4:E:61:ARG:CB	4:E:62:PRO:CD	2.90	0.49
7:H:103:LEU:H	7:H:103:LEU:HD23	1.77	0.49
9:N:46:VAL:O	9:N:47:ALA:CB	2.57	0.49
9:N:73:THR:CG2	9:N:82:LEU:HD11	2.43	0.49
9:N:82:LEU:HD12	9:N:83:LYS:N	2.27	0.49
12:Q:29:PHE:N	12:Q:105:GLU:OE2	2.41	0.49
12:Q:2:LEU:N	12:Q:2:LEU:HD23	2.27	0.49
1:A:1252:G:O4'	16:U:33:ARG:HD3	2.13	0.49
18:W:29:LEU:O	18:W:29:LEU:HD23	2.13	0.49
18:W:51:LEU:HD23	18:W:105:VAL:HG11	1.95	0.49
20:Y:88:LYS:HA	20:Y:88:LYS:NZ	2.27	0.49
20:Y:81:LYS:CD	20:Y:97:ARG:HE	2.20	0.49
21:Z:124:ILE:HG23	21:Z:165:VAL:HG21	1.95	0.49
24:2:69:ARG:HH11	24:2:69:ARG:CB	2.25	0.49
26:4:42:PHE:O	26:4:43:TYR:C	2.51	0.49
28:6:7:ILE:C	28:6:9:LEU:N	2.65	0.49
1:A:2335:A:HO2'	1:A:2336:A:P	2.36	0.49
1:A:2336:A:H61	22:0:43:THR:CG2	2.25	0.49
7:H:153:LYS:HZ3	7:H:153:LYS:HA	1.75	0.49
7:H:19:VAL:HG13	7:H:43:VAL:HG23	1.93	0.49
9:N:68:GLU:HG2	9:N:88:GLU:CD	2.33	0.49
14:S:99:LYS:O	14:S:101:LEU:N	2.45	0.49
15:T:39:ARG:CG	15:T:40:THR:H	2.22	0.49
16:U:81:HIS:CE1	16:U:117:GLN:HG3	2.48	0.49
17:V:91:TYR:HD1	17:V:91:TYR:C	2.16	0.49
20:Y:44:ILE:CG1	20:Y:45:VAL:H	2.24	0.49
1:A:483:A:H5'	20:Y:49:VAL:HG13	1.95	0.49
21:Z:182:LYS:CG	21:Z:183:LEU:HA	2.42	0.49
23:1:19:GLN:HA	23:1:19:GLN:OE1	2.12	0.49
26:4:47:GLN:O	26:4:48:ARG:CB	2.60	0.49
31:9:7:VAL:HG12	31:9:25:VAL:HG21	1.94	0.49
1:A:1021:A:H3'	1:A:1021:A:C8	2.47	0.49
1:A:1036:G:C2	1:A:1120:G:C6	3.00	0.49
1:A:141:A:N6	1:A:1595:G:O2'	2.41	0.49
1:A:1885:A:H5'	1:A:1886:C:OP2	2.13	0.49
1:A:1975:G:H2'	1:A:1976:U:O4'	2.12	0.49
1:A:2527:C:C4	1:A:2528:U:C4	3.00	0.49
1:A:2591:C:H2'	1:A:2592:G:C8	2.47	0.49
1:A:2660:A:H2'	1:A:2661:G:O4'	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2849:U:H4'	1:A:2868:A:C2	2.47	0.49
1:A:878:A:H61	1:A:899:A:H1'	1.77	0.49
1:A:852:G:H1	1:A:925:C:N4	2.07	0.49
3:D:2:ALA:CB	3:D:20:ASP:CB	2.90	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	2.51	0.49
4:E:17:ASP:OD2	4:E:17:ASP:N	2.46	0.49
6:G:107:LEU:HD11	6:G:178:PHE:CD1	2.48	0.49
9:N:95:PRO:O	9:N:97:ARG:N	2.46	0.49
13:R:18:LEU:HD13	13:R:18:LEU:C	2.33	0.49
15:T:38:ASN:O	15:T:39:ARG:O	2.30	0.49
1:A:138:G:N2	19:X:44:GLU:OE2	2.35	0.49
19:X:51:VAL:HG13	19:X:81:VAL:HG23	1.93	0.49
23:1:60:PHE:HE2	23:1:91:LYS:HZ1	1.57	0.49
26:4:1:MET:HG3	26:4:1:MET:O	2.12	0.49
28:6:20:ASN:CG	28:6:21:TYR:N	2.66	0.49
30:8:52:LYS:H	30:8:53:PRO:HD2	1.66	0.49
30:8:16:ILE:CD1	30:8:57:ARG:HG2	2.42	0.49
1:A:1043:C:H42	1:A:1112:G:H1	1.59	0.49
1:A:173:G:C6	1:A:174:C:C4	3.01	0.49
1:A:2051:A:H5'	1:A:2578:G:O4'	2.12	0.49
1:A:2360:A:H2'	1:A:2361:A:O4'	2.13	0.49
1:A:2751:G:O2'	1:A:2752:C:O5'	2.28	0.49
1:A:657:U:OP2	1:A:657:U:H6	1.95	0.49
1:A:678:C:H2'	1:A:679:C:C6	2.48	0.49
3:D:130:ALA:C	3:D:131:LEU:HD12	2.33	0.49
1:A:1971:A:H1'	3:D:240:ALA:O	2.12	0.49
4:E:179:GLU:OE1	4:E:179:GLU:HA	2.10	0.49
6:G:56:ALA:HB2	6:G:153:ARG:NE	2.27	0.49
7:H:153:LYS:O	7:H:154:PRO:O	2.30	0.49
10:O:1:MET:HE3	10:O:67:LYS:HE2	1.93	0.49
11:P:30:THR:O	11:P:33:ARG:HB2	2.12	0.49
13:R:1:MET:O	13:R:2:ARG:CB	2.60	0.49
13:R:33:ARG:NH2	27:5:55:ARG:CG	2.66	0.49
17:V:29:PRO:O	17:V:61:VAL:HG22	2.12	0.49
20:Y:61:ILE:HG22	20:Y:62:GLU:N	2.28	0.49
20:Y:84:ARG:HD3	20:Y:86:ARG:NH1	2.28	0.49
1:A:928:G:O2'	25:3:43:ILE:HD11	2.12	0.49
27:5:2:ALA:O	27:5:3:LYS:CB	2.60	0.49
30:8:58:ILE:O	30:8:61:LEU:HD12	2.13	0.49
1:A:1436:G:H2'	1:A:1437:C:O4'	2.13	0.49
1:A:1729:A:H2'	1:A:1730:U:H5''	1.94	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2086:U:H3	1:A:2233:U:H3	1.58	0.49
1:A:2159:G:H2'	1:A:2160:G:H8	1.77	0.49
1:A:34:C:H41	1:A:447:A:H61	1.59	0.49
1:A:422:A:C6	1:A:423:A:C6	3.01	0.49
1:A:519:U:H2'	1:A:520:G:H8	1.76	0.49
1:A:817:C:O2'	1:A:839:U:OP1	2.23	0.49
4:E:179:GLU:O	4:E:180:ASN:HB2	2.12	0.49
4:E:61:ARG:O	4:E:62:PRO:C	2.51	0.49
1:A:442:G:H1'	5:F:48:THR:HG21	1.95	0.49
5:F:51:THR:O	5:F:93:LYS:NZ	2.38	0.49
7:H:98:LEU:HD12	7:H:102:ALA:O	2.13	0.49
10:O:20:MET:HG2	10:O:21:CYS:O	2.11	0.49
13:R:96:ARG:NH2	13:R:117:VAL:HG23	2.27	0.49
14:S:11:LYS:HG2	14:S:11:LYS:O	2.12	0.49
15:T:57:PHE:O	15:T:59:THR:N	2.46	0.49
1:A:1139:G:O2'	1:A:1143:A:N1	2.38	0.49
1:A:1203:G:H3'	1:A:1204:A:H5''	1.93	0.49
1:A:1258:C:O4'	5:F:84:VAL:HG11	2.13	0.49
1:A:1270:C:H5''	1:A:1271:G:C5'	2.42	0.49
1:A:1790:C:H2'	1:A:1791:A:C4	2.48	0.49
1:A:2464:C:H2'	1:A:2465:C:H6	1.76	0.49
1:A:524:U:H2'	1:A:525:U:C6	2.47	0.49
1:A:565:C:H2'	1:A:566:U:O4'	2.13	0.49
1:A:962:G:OP1	1:A:963:U:OP2	2.31	0.49
3:D:123:ALA:HB3	3:D:131:LEU:HG	1.94	0.49
4:E:119:ARG:HD3	4:E:160:TYR:CD2	2.47	0.49
7:H:151:ILE:C	7:H:152:ARG:O	2.49	0.49
9:N:56:ASN:ND2	9:N:125:GLY:C	2.65	0.49
14:S:25:ARG:HH12	14:S:42:ASP:CG	2.16	0.49
17:V:79:VAL:HG22	17:V:79:VAL:O	2.12	0.49
20:Y:95:LYS:N	20:Y:95:LYS:CD	2.76	0.49
23:1:80:LEU:C	23:1:81:LYS:CE	2.77	0.49
27:5:49:CYS:SG	27:5:58:LEU:HB2	2.53	0.49
28:6:9:LEU:HD13	28:6:26:ASN:HD22	1.76	0.49
28:6:37:ARG:HA	28:6:37:ARG:HE	1.77	0.49
1:A:1036:G:OP1	7:H:59:ARG:HB2	2.12	0.49
1:A:1638:C:OP1	1:A:2710:C:O2'	2.28	0.49
1:A:1803:A:O2'	3:D:259:THR:HG21	2.13	0.49
1:A:2025:C:H2'	1:A:2026:C:C6	2.48	0.49
1:A:38:A:H2'	1:A:39:C:C6	2.47	0.49
1:A:483:A:H5''	1:A:484:C:OP2	2.13	0.49
3:D:44:ASN:H	3:D:44:ASN:ND2	1.97	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:3:LEU:HD21	26:4:25:TYR:CE1	2.48	0.49
7:H:124:GLU:HB3	7:H:132:ARG:CG	2.43	0.49
7:H:54:ARG:HD3	7:H:65:HIS:ND1	2.27	0.49
8:I:5:LEU:CD1	8:I:5:LEU:H	2.24	0.49
11:P:14:LYS:O	11:P:15:ARG:C	2.51	0.49
11:P:52:GLU:OE2	11:P:57:THR:HA	2.13	0.49
16:U:64:ARG:NH2	16:U:64:ARG:CG	2.70	0.49
17:V:91:TYR:C	17:V:91:TYR:CD1	2.87	0.49
18:W:88:ARG:HB3	18:W:92:ARG:CB	2.41	0.49
20:Y:81:LYS:HD3	20:Y:97:ARG:HD3	1.94	0.49
1:A:270(T):G:OP1	23:1:97:LEU:HD13	2.13	0.49
26:4:53:GLU:O	26:4:57:GLU:HG3	2.13	0.49
1:A:1310:G:OP2	29:7:9:ARG:CZ	2.60	0.49
30:8:35:GLN:HA	30:8:35:GLN:OE1	2.12	0.49
1:A:1484:G:H1	1:A:1505:C:N4	2.10	0.49
1:A:1931:U:H6	1:A:1932:A:C8	2.31	0.49
6:G:115:ARG:HG2	6:G:115:ARG:HH11	1.77	0.49
6:G:143:GLU:HA	26:4:28:LYS:HD3	1.95	0.49
12:Q:23:GLY:O	12:Q:24:GLY:O	2.30	0.49
14:S:48:LEU:N	14:S:48:LEU:CD1	2.76	0.49
14:S:55:ALA:O	14:S:56:LEU:HB3	2.13	0.49
17:V:35:LEU:HD22	17:V:57:VAL:O	2.13	0.49
1:A:2356:C:O3'	22:0:20:ARG:HD3	2.13	0.48
6:G:113:ARG:HD2	26:4:33:VAL:CG1	2.43	0.48
28:6:7:ILE:O	28:6:9:LEU:N	2.46	0.48
30:8:33:ASN:O	30:8:35:GLN:N	2.46	0.48
1:A:1788:C:O2'	1:A:1789:A:H5'	2.13	0.48
1:A:1805:U:O2	3:D:50:THR:HB	2.13	0.48
1:A:540:G:H5'	1:A:541:C:OP2	2.13	0.48
1:A:962:G:H2'	1:A:963:U:C6	2.48	0.48
1:A:988:A:OP1	25:3:11:SER:N	2.43	0.48
3:D:25:THR:O	3:D:27:THR:HG22	2.12	0.48
6:G:77:ILE:O	6:G:81:LYS:O	2.31	0.48
7:H:153:LYS:CB	7:H:154:PRO:CD	2.69	0.48
9:N:4:TYR:OH	9:N:7:LYS:NZ	2.46	0.48
10:O:107:ARG:HA	10:O:112:MET:HE1	1.94	0.48
11:P:101:VAL:CG1	11:P:102:ARG:N	2.75	0.48
11:P:144:GLU:OE1	11:P:144:GLU:O	2.31	0.48
11:P:47:ASP:OD1	11:P:49:ARG:NH1	2.46	0.48
11:P:6:LEU:O	11:P:7:ARG:O	2.31	0.48
12:Q:34:LEU:HD23	12:Q:104:PHE:HD1	1.77	0.48
12:Q:86:GLY:O	12:Q:88:GLY:N	2.46	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:71:GLN:HA	13:R:71:GLN:HE21	1.77	0.48
17:V:76:LYS:HG3	17:V:81:TYR:CD1	2.48	0.48
12:Q:80:GLU:OE1	22:0:7:LEU:HG	2.13	0.48
1:A:1140:C:H5''	9:N:66:LYS:NZ	2.28	0.48
1:A:1213:A:OP2	1:A:1235:G:N1	2.41	0.48
1:A:239:U:H2'	1:A:240:G:O4'	2.13	0.48
3:D:198:ASN:C	3:D:198:ASN:HD22	2.16	0.48
4:E:38:THR:O	4:E:42:ASP:HB2	2.13	0.48
6:G:92:VAL:O	6:G:92:VAL:HG13	2.12	0.48
7:H:13:LYS:HE2	7:H:13:LYS:CA	2.40	0.48
7:H:42:ARG:O	7:H:52:VAL:HA	2.13	0.48
14:S:33:LYS:HB3	14:S:34:HIS:CD2	2.48	0.48
16:U:91:ASP:O	16:U:95:LEU:N	2.42	0.48
17:V:18:LEU:HB3	17:V:96:ILE:CG1	2.43	0.48
20:Y:47:LYS:C	20:Y:49:VAL:H	2.16	0.48
20:Y:97:ARG:HG2	20:Y:97:ARG:NH1	2.28	0.48
24:2:16:LEU:O	24:2:17:SER:CB	2.56	0.48
28:6:27:LYS:O	28:6:28:ARG:HG2	2.13	0.48
29:7:48:LYS:CG	29:7:49:ARG:H	2.23	0.48
1:A:2151:G:H2'	1:A:2152:G:H8	1.78	0.48
1:A:2373:G:H2'	1:A:2374:C:C6	2.48	0.48
1:A:2547:U:H2'	1:A:2548:G:H8	1.78	0.48
1:A:630:G:N2	1:A:632:A:H3'	2.28	0.48
4:E:47:VAL:O	4:E:48:GLN:C	2.52	0.48
5:F:128:ALA:O	5:F:129:PHE:HB2	2.13	0.48
6:G:115:ARG:HG2	6:G:115:ARG:NH1	2.27	0.48
7:H:12:PRO:HD3	7:H:48:GLY:O	2.13	0.48
7:H:137:ASP:CB	7:H:140:LYS:HB2	2.43	0.48
8:I:27:ARG:HD3	23:1:71:TYR:CE1	2.37	0.48
9:N:30:ILE:O	9:N:34:LEU:HD23	2.13	0.48
11:P:71:VAL:HG13	11:P:72:PRO:CD	2.43	0.48
12:Q:112:GLU:CD	12:Q:112:GLU:H	2.17	0.48
15:T:16:ARG:HD3	15:T:19:LEU:CG	2.43	0.48
15:T:58:ASN:HD22	15:T:58:ASN:N	2.10	0.48
16:U:52:ARG:NH1	16:U:52:ARG:CG	2.76	0.48
17:V:7:THR:HG23	17:V:22:VAL:HG11	1.94	0.48
1:A:2277:G:OP2	22:0:12:ASN:ND2	2.45	0.48
1:A:2232:U:P	23:1:40:ARG:HH12	2.36	0.48
23:1:56:GLN:H	23:1:56:GLN:NE2	2.10	0.48
27:5:48:GLU:HA	27:5:59:GLU:HG2	1.94	0.48
1:A:177:G:H3'	1:A:178:G:C8	2.48	0.48
1:A:372:G:O2'	1:A:373:U:P	2.72	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:464:U:H2'	1:A:465:G:O4'	2.14	0.48
3:D:48:ARG:HG3	3:D:48:ARG:HH11	1.78	0.48
5:F:107:LYS:O	5:F:110:LEU:N	2.47	0.48
5:F:155:LEU:HD23	5:F:186:ILE:HA	1.95	0.48
14:S:18:ILE:O	14:S:19:LYS:O	2.31	0.48
15:T:135:ALA:C	15:T:137:LYS:H	2.16	0.48
27:5:52:TYR:O	27:5:53:ALA:CB	2.61	0.48
1:A:1799:G:H4'	1:A:1800:C:O5'	2.13	0.48
1:A:2105:C:H2'	1:A:2106:G:C8	2.48	0.48
1:A:2415:G:H4'	11:P:67:MET:N	2.28	0.48
1:A:2498:C:O2'	1:A:2499:C:H5'	2.14	0.48
1:A:666:G:H4'	11:P:49:ARG:HH12	1.77	0.48
1:A:869:G:H2'	1:A:870:A:H8	1.77	0.48
3:D:35:LYS:HD2	3:D:104:TYR:CE1	2.48	0.48
4:E:174:ASP:O	4:E:182:LEU:HD12	2.14	0.48
7:H:23:ARG:HD2	7:H:34:GLU:OE2	2.12	0.48
7:H:82:GLY:O	7:H:83:TYR:O	2.31	0.48
9:N:42:TRP:HA	9:N:48:MET:CE	2.42	0.48
11:P:6:LEU:N	11:P:6:LEU:CD2	2.75	0.48
13:R:52:ILE:CG2	13:R:94:TYR:CD1	2.96	0.48
20:Y:35:TYR:CD1	20:Y:69:ALA:HB3	2.48	0.48
21:Z:53:ILE:HG22	21:Z:71:VAL:HG13	1.96	0.48
26:4:42:PHE:O	26:4:44:THR:O	2.31	0.48
1:A:1535:U:OP2	1:A:1537:C:N4	2.47	0.48
1:A:1543:A:O2'	1:A:1544:C:P	2.71	0.48
1:A:2266:A:H4'	1:A:2267:A:N3	2.28	0.48
1:A:2394:C:OP1	11:P:63:PRO:HD2	2.13	0.48
1:A:2467:C:C2'	1:A:2468:G:H5'	2.44	0.48
1:A:1783:A:H5'	1:A:2608:G:H4'	1.95	0.48
1:A:270(U):C:H2'	1:A:270(V):G:C8	2.47	0.48
1:A:49:A:H4'	1:A:50:U:H5''	1.96	0.48
1:A:855:G:C6	1:A:856:C:N4	2.81	0.48
1:A:821:A:C2	1:A:946:G:H1'	2.48	0.48
2:B:71:C:C2	2:B:72:G:C8	3.01	0.48
1:A:1789:A:OP1	3:D:221:VAL:HA	2.14	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:125:PHE:HB3	6:G:166:ASP:HB2	1.95	0.48
7:H:7:LEU:N	7:H:8:PRO:CD	2.77	0.48
1:A:1203:G:H5'	11:P:3:LEU:HD12	1.96	0.48
12:Q:19:GLY:O	12:Q:98:LYS:HD3	2.14	0.48
15:T:96:ARG:NH1	15:T:96:ARG:CB	2.77	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:2:33:MET:O	24:2:37:PHE:HD1	1.95	0.48
26:4:36:CYS:O	26:4:37:SER:C	2.52	0.48
29:7:12:ARG:HG3	29:7:12:ARG:HH11	1.78	0.48
1:A:1259:G:H2'	1:A:1260:G:H8	1.77	0.48
1:A:1870:C:H2'	1:A:1871:A:O4'	2.14	0.48
1:A:2715:C:H2'	1:A:2716:U:H6	1.79	0.48
1:A:2863:C:H2'	1:A:2864:G:H8	1.77	0.48
1:A:869:G:H2'	1:A:870:A:C8	2.49	0.48
1:A:898:C:H2'	1:A:899:A:H5'	1.95	0.48
3:D:25:THR:O	3:D:26:LYS:C	2.52	0.48
1:A:2786:U:O2'	4:E:62:PRO:O	2.32	0.48
4:E:93:VAL:C	4:E:95:ILE:H	2.17	0.48
7:H:120:GLY:HA3	7:H:140:LYS:NZ	2.27	0.48
7:H:124:GLU:HB3	7:H:132:ARG:CD	2.44	0.48
9:N:95:PRO:O	9:N:96:GLU:C	2.51	0.48
11:P:101:VAL:C	11:P:103:ALA:H	2.17	0.48
11:P:35:HIS:O	11:P:36:LYS:O	2.31	0.48
12:Q:31:ASP:O	12:Q:32:TYR:CG	2.66	0.48
19:X:44:GLU:OE1	19:X:50:LYS:HD2	2.13	0.48
20:Y:11:ASP:HB2	20:Y:27:VAL:HG11	1.94	0.48
1:A:270(R):G:H1'	23:1:78:LYS:HZ1	1.79	0.48
26:4:8:LYS:O	26:4:9:LEU:CB	2.62	0.48
28:6:41:PRO:HD2	28:6:46:HIS:H	1.78	0.48
28:6:8:LYS:O	28:6:27:LYS:HA	2.13	0.48
1:A:1138:G:H21	9:N:106:MET:HE3	1.77	0.48
1:A:1385:G:H1'	1:A:1386:C:C6	2.49	0.48
1:A:1427:A:H4'	1:A:1428:C:O5'	2.13	0.48
1:A:1818:U:H2'	3:D:157:ARG:HG3	1.96	0.48
1:A:1889:A:N1	1:A:2234:G:H1'	2.29	0.48
1:A:2356:C:H2'	1:A:2357:U:O4'	2.12	0.48
1:A:27:G:N2	1:A:512:G:H2'	2.28	0.48
1:A:442:G:O4'	5:F:46:ARG:HD3	2.14	0.48
1:A:757:U:H2'	1:A:758:C:H6	1.79	0.48
3:D:35:LYS:CG	3:D:64:ILE:CG2	2.92	0.48
4:E:23:VAL:HG12	4:E:173:VAL:HG21	1.94	0.48
4:E:64:LYS:C	4:E:66:HIS:N	2.67	0.48
5:F:45:ARG:HG2	5:F:45:ARG:NH1	2.28	0.48
9:N:34:LEU:O	9:N:49:GLY:HA3	2.13	0.48
13:R:107:ASP:C	13:R:107:ASP:OD2	2.52	0.48
13:R:42:LYS:HA	13:R:45:ARG:HD2	1.95	0.48
14:S:66:ALA:HA	14:S:69:VAL:HG12	1.96	0.48
15:T:16:ARG:NE	15:T:19:LEU:HD21	2.27	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:97:GLU:HB3	21:Z:125:LEU:HD11	1.95	0.48
23:1:8:SER:OG	23:1:10:LYS:HG3	2.14	0.48
23:1:76:ARG:N	23:1:76:ARG:HD2	2.29	0.48
24:2:69:ARG:HH11	24:2:69:ARG:HB3	1.79	0.48
26:4:10:VAL:CG2	26:4:11:PRO:HD2	2.43	0.48
1:A:141:A:H8	1:A:1408:C:H1'	1.78	0.48
1:A:152:G:H2'	1:A:153:C:C6	2.48	0.48
1:A:1798:U:C5'	3:D:259:THR:HG22	2.43	0.48
1:A:1827:C:H2'	1:A:1828:G:O4'	2.14	0.48
1:A:1916:A:H2'	1:A:1917:U:O4'	2.14	0.48
1:A:1930:G:O2'	1:A:1931:U:O5'	2.31	0.48
1:A:218:A:C2	1:A:235:U:H4'	2.49	0.48
1:A:2722:G:H4'	13:R:4:LEU:HB2	1.95	0.48
1:A:2052:G:OP1	4:E:141:ILE:HG12	2.14	0.48
4:E:119:ARG:HD3	4:E:160:TYR:HD2	1.78	0.48
4:E:55:ASN:O	4:E:57:LYS:N	2.44	0.48
5:F:129:PHE:CD2	5:F:163:VAL:HG21	2.48	0.48
5:F:34:TRP:HD1	11:P:6:LEU:HB3	1.79	0.48
7:H:127:GLU:HB3	7:H:128:PRO:HD2	1.92	0.48
13:R:44:LEU:HD22	13:R:48:VAL:CG2	2.43	0.48
14:S:56:LEU:C	14:S:56:LEU:HD23	2.34	0.48
15:T:94:ALA:O	15:T:95:ARG:CB	2.61	0.48
17:V:21:ARG:HD2	17:V:91:TYR:CZ	2.49	0.48
19:X:6:ASP:OD1	24:2:29:LYS:NZ	2.47	0.48
21:Z:124:ILE:HG23	21:Z:165:VAL:CG2	2.44	0.48
21:Z:69:THR:HB	21:Z:88:PHE:HB3	1.96	0.48
30:8:53:PRO:CD	30:8:54:GLU:N	2.77	0.48
1:A:83:G:N1	1:A:102:G:H1'	2.29	0.48
1:A:1403:C:H5''	1:A:1471:A:H1'	1.96	0.48
1:A:1408:C:C2	1:A:1595:G:N2	2.82	0.48
1:A:235:U:H2'	1:A:236:C:C6	2.49	0.48
1:A:2789:C:H1'	1:A:2892:A:C2	2.39	0.48
3:D:130:ALA:HA	3:D:192:THR:HA	1.95	0.48
3:D:27:THR:O	3:D:29:PRO:CD	2.62	0.48
7:H:10:PRO:C	7:H:11:VAL:HG22	2.34	0.48
7:H:45:VAL:O	7:H:45:VAL:HG13	2.14	0.48
9:N:120:LEU:HD11	9:N:122:VAL:CG2	2.42	0.48
9:N:137:LYS:CG	9:N:138:LEU:H	2.27	0.48
12:Q:42:ILE:HD12	12:Q:42:ILE:N	2.29	0.48
13:R:63:ARG:NH1	13:R:63:ARG:HG3	2.29	0.48
13:R:70:LEU:C	13:R:72:ASP:H	2.16	0.48
10:O:107:ARG:NH1	15:T:36:GLU:OE1	2.46	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:79:PHE:HE2	16:U:83:LEU:CD2	2.27	0.48
19:X:11:PRO:HB3	19:X:92:LEU:CD2	2.43	0.48
20:Y:81:LYS:HZ2	20:Y:98:VAL:CG1	2.27	0.48
23:1:94:LEU:O	23:1:95:LEU:CB	2.62	0.47
28:6:20:ASN:ND2	28:6:42:TRP:CZ2	2.82	0.47
1:A:1019:U:H3	1:A:1142(A):A:N6	2.08	0.47
1:A:120:U:C5	1:A:149:A:N6	2.82	0.47
1:A:729:G:C4	1:A:1775:U:O2	2.67	0.47
1:A:570:G:H2'	1:A:2030:A:C6	2.48	0.47
1:A:2639:A:H1'	1:A:2778:A:C2	2.49	0.47
4:E:15:PHE:CD1	4:E:20:ALA:HB2	2.49	0.47
4:E:61:ARG:CB	4:E:62:PRO:HD3	2.41	0.47
7:H:41:MET:HG3	7:H:54:ARG:HA	1.96	0.47
9:N:18:ALA:O	9:N:19:GLU:C	2.53	0.47
9:N:57:ALA:O	9:N:58:ASP:CB	2.61	0.47
9:N:75:TYR:C	9:N:76:SER:O	2.52	0.47
10:O:8:LEU:HB2	10:O:19:ILE:CD1	2.43	0.47
11:P:61:ARG:HH21	30:8:13:ARG:HD2	1.77	0.47
12:Q:60:ARG:HB2	12:Q:60:ARG:NH2	2.28	0.47
1:A:559:G:H22	16:U:49:HIS:CE1	2.32	0.47
16:U:79:PHE:HE2	16:U:83:LEU:HD22	1.78	0.47
17:V:38:LEU:HD23	17:V:39:LEU:H	1.79	0.47
18:W:30:GLU:O	18:W:34:ASN:ND2	2.46	0.47
20:Y:57:GLN:O	20:Y:58:GLY:O	2.32	0.47
21:Z:4:ARG:HH12	21:Z:58:VAL:HG11	1.79	0.47
23:1:25:LYS:C	23:1:27:GLU:H	2.17	0.47
26:4:60:GLN:O	26:4:63:TYR:HB3	2.14	0.47
29:7:25:PRO:HA	29:7:28:ARG:CZ	2.45	0.47
30:8:41:ILE:HG13	30:8:42:ARG:N	2.28	0.47
30:8:56:GLU:O	30:8:58:ILE:N	2.47	0.47
1:A:1259:G:H2'	1:A:1260:G:C8	2.50	0.47
1:A:1550:C:H2'	1:A:1551:C:H6	1.79	0.47
1:A:1858:G:O2'	1:A:1884:A:N6	2.47	0.47
1:A:2150:U:H2'	1:A:2151:G:C8	2.49	0.47
1:A:2306:C:C2	1:A:2307:G:N2	2.82	0.47
1:A:2667:C:H2'	1:A:2668:G:O4'	2.14	0.47
1:A:663:G:C6	1:A:664:C:C4	3.02	0.47
5:F:132:VAL:O	5:F:133:ASN:C	2.51	0.47
5:F:196:LEU:C	5:F:197:ASP:O	2.50	0.47
6:G:97:ASP:N	6:G:100:TRP:HD1	2.05	0.47
6:G:111:LEU:HD22	6:G:120:LEU:HD21	1.96	0.47
6:G:83:ARG:HB2	6:G:86:MET:HE3	1.97	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:78:THR:HG22	8:I:141:LYS:HD2	1.96	0.47
13:R:117:VAL:O	13:R:118:GLU:CB	2.62	0.47
13:R:1:MET:SD	13:R:1:MET:N	2.75	0.47
14:S:46:VAL:HG12	14:S:47:THR:N	2.28	0.47
22:0:18:ALA:O	22:0:20:ARG:NH1	2.47	0.47
23:1:7:ILE:HD12	23:1:62:VAL:HG11	1.96	0.47
24:2:17:SER:CB	24:2:18:PRO:CA	2.92	0.47
31:9:27:CYS:SG	31:9:28:GLU:N	2.87	0.47
1:A:2031:A:N3	1:A:2455:G:O2'	2.44	0.47
1:A:2215:G:H2'	1:A:2216:G:H8	1.80	0.47
1:A:2515:C:O2	1:A:2570:G:C2	2.67	0.47
1:A:2711:A:OP1	1:A:2712(A):A:P	2.72	0.47
1:A:516:C:H2'	1:A:517:C:H6	1.80	0.47
1:A:534:U:H5'	16:U:42:ALA:HB1	1.96	0.47
1:A:740:U:H2'	1:A:741:G:C8	2.49	0.47
2:B:16:G:H1	2:B:68:C:H42	1.62	0.47
2:B:27:C:H5'	2:B:28:C:OP2	2.14	0.47
8:I:68:LEU:HA	8:I:71:ILE:HG22	1.96	0.47
9:N:9:VAL:HG21	9:N:48:MET:CB	2.44	0.47
11:P:112:LEU:HD12	11:P:127:ALA:CB	2.44	0.47
11:P:47:ASP:OD1	11:P:50:ARG:NH2	2.47	0.47
12:Q:63:LYS:HD2	21:Z:175:VAL:HG21	1.97	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
15:T:132:LYS:O	15:T:136:GLN:HG3	2.13	0.47
15:T:36:GLU:O	15:T:37:GLY:C	2.53	0.47
17:V:2:PHE:CD2	17:V:13:ARG:NH2	2.82	0.47
17:V:35:LEU:O	17:V:37:VAL:N	2.47	0.47
18:W:32:ALA:O	18:W:33:ARG:C	2.52	0.47
22:0:38:VAL:O	22:0:58:THR:HG23	2.14	0.47
22:0:70:GLN:NE2	22:0:72:ARG:HD3	2.30	0.47
27:5:48:GLU:HA	27:5:59:GLU:CG	2.43	0.47
1:A:1374:G:H2'	1:A:1375:C:O4'	2.14	0.47
1:A:1614:A:H2'	1:A:1615:C:H5'	1.96	0.47
1:A:1907:G:C6	1:A:1908:C:C4	3.03	0.47
1:A:2309:A:H2'	1:A:2310:A:O4'	2.14	0.47
1:A:2324:C:H5''	1:A:2325:G:H5'	1.96	0.47
1:A:264:C:C2'	1:A:265:A:H5''	2.44	0.47
1:A:2815:C:H5'	27:5:29:THR:HG21	1.97	0.47
1:A:747:U:C4	1:A:2613:U:C4	3.03	0.47
1:A:957:A:H5'	12:Q:76:LYS:HD2	1.96	0.47
3:D:134:ARG:HB2	3:D:135:PHE:CD2	2.49	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:33:LEU:HB3	3:D:34:VAL:H	1.49	0.47
5:F:155:LEU:HA	5:F:174:VAL:HG12	1.95	0.47
6:G:12:TYR:O	6:G:16:ARG:HB3	2.15	0.47
7:H:123:PHE:O	7:H:125:VAL:HG23	2.13	0.47
7:H:127:GLU:OE2	7:H:130:ARG:NH2	2.48	0.47
9:N:12:ARG:NH1	9:N:50:ASP:CG	2.67	0.47
13:R:10:LEU:O	13:R:12:ARG:HG3	2.14	0.47
13:R:56:LYS:HE2	13:R:94:TYR:OH	2.14	0.47
26:4:50:VAL:O	26:4:50:VAL:CG1	2.62	0.47
1:A:1666:G:H2'	1:A:1667:G:H1'	1.97	0.47
1:A:627:A:H4'	1:A:628:G:H5'	1.96	0.47
1:A:860:U:H5	1:A:917:A:C2	2.32	0.47
3:D:35:LYS:HD3	3:D:63:ARG:HB3	1.96	0.47
4:E:65:GLY:HA2	4:E:70:ALA:HB3	1.95	0.47
5:F:53:THR:C	5:F:55:GLY:N	2.68	0.47
6:G:5:VAL:HG22	26:4:25:TYR:CE2	2.50	0.47
7:H:131:VAL:HG12	7:H:132:ARG:N	2.29	0.47
7:H:154:PRO:CG	7:H:162:ILE:O	2.61	0.47
9:N:137:LYS:CG	9:N:138:LEU:N	2.77	0.47
9:N:57:ALA:HA	9:N:60:ILE:CD1	2.43	0.47
9:N:67:LEU:O	9:N:88:GLU:HG3	2.14	0.47
11:P:147:LEU:HD22	11:P:147:LEU:N	2.29	0.47
16:U:92:ARG:CZ	16:U:94:ASN:HD22	2.27	0.47
17:V:59:ALA:HB2	17:V:96:ILE:HD13	1.97	0.47
20:Y:44:ILE:CG1	20:Y:45:VAL:N	2.70	0.47
26:4:38:LYS:C	26:4:40:HIS:H	2.07	0.47
26:4:50:VAL:O	26:4:50:VAL:HG13	2.15	0.47
1:A:1019:U:HO2'	1:A:1021:A:H2	1.62	0.47
1:A:1655:A:O3'	4:E:115:GLY:HA3	2.15	0.47
1:A:2619:C:H1'	4:E:156:MET:HE1	1.96	0.47
1:A:2227:A:H5''	3:D:263:ARG:NH1	2.29	0.47
3:D:32:SER:O	3:D:33:LEU:CB	2.60	0.47
4:E:56:PRO:O	4:E:57:LYS:CB	2.61	0.47
6:G:106:LEU:HA	6:G:110:ALA:CB	2.44	0.47
6:G:14:GLU:O	6:G:17:PRO:HG2	2.15	0.47
6:G:16:ARG:NH2	6:G:28:VAL:O	2.48	0.47
12:Q:59:ARG:CD	12:Q:59:ARG:N	2.73	0.47
14:S:56:LEU:O	14:S:57:LYS:C	2.53	0.47
16:U:106:PHE:O	16:U:109:LEU:HB2	2.15	0.47
17:V:36:PRO:HA	17:V:56:SER:CB	2.45	0.47
22:O:12:ASN:HA	22:O:14:ARG:HH21	1.80	0.47
23:1:29:GLY:C	23:1:30:VAL:CG2	2.82	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:81:LYS:H	23:1:81:LYS:HE2	1.62	0.47
1:A:1357:U:H2'	1:A:1358:G:O4'	2.15	0.47
1:A:2151:G:H2'	1:A:2152:G:C8	2.49	0.47
1:A:2478:A:H2'	1:A:2479:G:O4'	2.14	0.47
1:A:324:A:C2	1:A:325:G:H1'	2.50	0.47
2:B:81:G:C6	2:B:82:G:C5	3.03	0.47
3:D:72:LYS:CG	3:D:103:ARG:NH2	2.76	0.47
4:E:52:LEU:HB2	4:E:75:VAL:CG2	2.40	0.47
4:E:89:ASP:O	4:E:90:THR:O	2.33	0.47
6:G:88:ILE:CD1	6:G:88:ILE:O	2.54	0.47
11:P:126:VAL:HA	11:P:145:PRO:HD2	1.95	0.47
15:T:29:ARG:NH1	15:T:46:GLU:OE1	2.48	0.47
15:T:51:ARG:CG	15:T:98:LYS:HG3	2.44	0.47
16:U:107:ALA:O	16:U:110:VAL:HB	2.14	0.47
1:A:993:G:OP1	16:U:50:ARG:NH1	2.47	0.47
17:V:48:GLY:O	17:V:49:THR:C	2.52	0.47
18:W:66:GLU:O	18:W:69:LEU:HG	2.14	0.47
19:X:35:THR:O	19:X:37:THR:N	2.47	0.47
21:Z:169:GLU:HG2	21:Z:170:THR:N	2.30	0.47
26:4:33:VAL:CG1	26:4:34:GLU:H	2.22	0.47
1:A:1007:C:O3'	9:N:108:PRO:HB3	2.14	0.47
1:A:1113:U:H2'	1:A:1114:G:C8	2.50	0.47
1:A:1042:G:H1	1:A:1113:U:H3	1.63	0.47
1:A:152:G:H2'	1:A:153:C:H6	1.80	0.47
1:A:1885:A:H3'	1:A:1886:C:H6	1.80	0.47
1:A:2283:C:P	28:6:5:VAL:HG13	2.55	0.47
1:A:2326:C:H5''	1:A:2327:A:OP2	2.15	0.47
1:A:2743:C:OP2	1:A:2755:C:N4	2.48	0.47
1:A:2881:C:H2'	1:A:2882:A:C8	2.50	0.47
1:A:443:A:OP2	1:A:615:G:N2	2.42	0.47
1:A:863:A:O2'	1:A:864:G:H5'	2.15	0.47
4:E:78:LEU:CD2	4:E:79:ARG:HD2	2.43	0.47
5:F:127:GLU:OE1	5:F:127:GLU:HA	2.07	0.47
5:F:162:LEU:HD23	5:F:165:ARG:HH21	1.79	0.47
6:G:36:LYS:HA	6:G:95:ARG:HG2	1.95	0.47
11:P:81:GLN:HB3	11:P:110:TYR:HB3	1.97	0.47
10:O:104:ARG:HD3	15:T:36:GLU:OE2	2.15	0.47
16:U:104:GLN:CD	16:U:104:GLN:H	2.16	0.47
16:U:91:ASP:O	16:U:92:ARG:C	2.52	0.47
17:V:4:ILE:HA	17:V:12:TYR:O	2.14	0.47
19:X:43:VAL:HG11	19:X:51:VAL:HG21	1.97	0.47
20:Y:19:LYS:HE3	20:Y:20:TYR:CE1	2.49	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:39:VAL:O	20:Y:40:GLU:OE2	2.32	0.47
20:Y:44:ILE:O	20:Y:62:GLU:O	2.32	0.47
20:Y:81:LYS:NZ	20:Y:98:VAL:HB	2.29	0.47
23:1:83:GLU:OE1	23:1:85:LEU:HB2	2.15	0.47
27:5:57:VAL:HG13	27:5:57:VAL:O	2.14	0.47
30:8:43:GLN:C	30:8:44:LYS:HD2	2.35	0.47
1:A:1547:C:O2'	1:A:1548:C:H5'	2.15	0.47
1:A:1705:G:C6	1:A:1706:U:C4	3.03	0.47
1:A:2020:A:O2'	1:A:2021:C:H2'	2.14	0.47
1:A:227:A:OP1	11:P:76:LYS:HE3	2.15	0.47
1:A:272:G:H2'	1:A:273:G:H8	1.80	0.47
1:A:807:U:H2'	1:A:808:G:H8	1.80	0.47
3:D:231:HIS:ND1	3:D:232:PRO:HD2	2.30	0.47
4:E:22:PRO:CG	4:E:22:PRO:O	2.63	0.47
7:H:104:GLU:HG3	7:H:114:VAL:HG22	1.96	0.47
7:H:67:LEU:O	7:H:71:LEU:HB2	2.15	0.47
9:N:57:ALA:CA	9:N:60:ILE:HD11	2.44	0.47
9:N:73:THR:HA	9:N:83:LYS:O	2.15	0.47
11:P:115:LEU:CD1	11:P:116:GLY:N	2.78	0.47
16:U:66:ASN:CB	16:U:76:TYR:HB2	2.44	0.47
20:Y:56:PRO:O	20:Y:57:GLN:C	2.53	0.47
20:Y:56:PRO:O	20:Y:58:GLY:N	2.47	0.47
28:6:20:ASN:O	28:6:21:TYR:HB2	2.15	0.47
28:6:8:LYS:O	28:6:27:LYS:HG2	2.15	0.47
1:A:147:U:H2'	1:A:148:C:C6	2.50	0.47
1:A:2103:C:H2'	1:A:2104:G:C8	2.50	0.47
1:A:2343:C:O2'	1:A:2373:G:O2'	2.28	0.47
1:A:2688:U:H1'	1:A:2721:A:H61	1.80	0.47
1:A:30:G:H2'	1:A:31:C:O4'	2.15	0.47
1:A:34:C:N4	1:A:447:A:H61	2.13	0.47
3:D:145:VAL:O	3:D:153:ALA:HA	2.14	0.47
3:D:205:VAL:O	3:D:206:LEU:C	2.52	0.47
4:E:120:TRP:O	4:E:121:ASN:HB2	2.15	0.47
4:E:61:ARG:O	4:E:63:LEU:CG	2.57	0.47
6:G:106:LEU:HA	6:G:110:ALA:HB3	1.95	0.47
6:G:52:ILE:HG22	6:G:52:ILE:O	2.15	0.47
8:I:62:LYS:HE3	8:I:134:PRO:HG2	1.97	0.47
12:Q:80:GLU:HG3	12:Q:81:VAL:N	2.27	0.47
16:U:27:LEU:O	16:U:30:LYS:N	2.41	0.47
19:X:53:LYS:HZ2	19:X:55:ASN:HD21	1.62	0.47
26:4:15:ILE:HG22	26:4:20:ASN:CA	2.45	0.47
26:4:55:ARG:C	26:4:59:PHE:HB3	2.35	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:8:9:GLY:O	30:8:13:ARG:HG2	2.15	0.47
1:A:1222:C:H2'	1:A:1223:C:H6	1.80	0.47
1:A:195:A:H4'	1:A:251:A:O2'	2.14	0.47
1:A:397:G:H2'	1:A:398:G:H8	1.79	0.47
1:A:455:C:N3	1:A:473:G:H5'	2.29	0.47
3:D:136:ILE:N	3:D:136:ILE:HD12	2.30	0.47
4:E:101:ARG:HD2	4:E:171:GLU:HA	1.97	0.47
4:E:188:VAL:HG13	4:E:188:VAL:O	2.15	0.47
4:E:20:ALA:C	4:E:21:VAL:HG13	2.35	0.47
1:A:2635:C:H5''	4:E:78:LEU:HA	1.97	0.47
5:F:46:ARG:CG	5:F:46:ARG:NH1	2.71	0.47
6:G:135:LEU:HD11	6:G:157:ILE:HD12	1.97	0.47
7:H:18:GLU:HA	7:H:18:GLU:OE2	2.15	0.47
9:N:35:ARG:HG3	9:N:35:ARG:O	2.15	0.47
10:O:37:ASP:O	10:O:62:VAL:HG23	2.14	0.47
10:O:53:LYS:CD	10:O:56:ASP:OD1	2.63	0.47
12:Q:34:LEU:HD11	12:Q:129:THR:CB	2.35	0.47
14:S:59:LYS:HG2	14:S:60:GLY:N	2.13	0.47
15:T:111:ARG:C	15:T:113:LYS:N	2.64	0.47
17:V:5:VAL:HG13	17:V:14:VAL:HG21	1.97	0.47
24:2:4:SER:OG	24:2:5:GLU:OE2	2.26	0.46
27:5:45:VAL:O	27:5:45:VAL:HG12	2.13	0.46
1:A:1838:C:H4'	1:A:1839:G:C8	2.49	0.46
1:A:2035:G:H4'	1:A:2036:C:OP2	2.14	0.46
1:A:22:C:H2'	1:A:23:G:O4'	2.15	0.46
1:A:593:G:H2'	1:A:594:U:C6	2.50	0.46
3:D:183:ARG:NH1	3:D:183:ARG:CG	2.69	0.46
4:E:103:ASP:OD2	4:E:168:MET:HG2	2.15	0.46
6:G:104:GLU:OE1	26:4:23:GLU:HB3	2.15	0.46
7:H:89:ILE:H	7:H:89:ILE:HD13	1.80	0.46
7:H:94:TYR:CD1	7:H:94:TYR:N	2.82	0.46
7:H:9:ILE:O	7:H:10:PRO:O	2.33	0.46
9:N:46:VAL:HG13	9:N:47:ALA:N	2.31	0.46
12:Q:87:LYS:O	12:Q:89:ASN:N	2.43	0.46
13:R:56:LYS:C	13:R:58:GLY:H	2.18	0.46
13:R:61:HIS:O	13:R:65:LEU:HD13	2.14	0.46
17:V:6:LYS:HD3	17:V:11:GLN:HG2	1.96	0.46
18:W:4:LYS:HA	18:W:106:ILE:HA	1.98	0.46
20:Y:68:HIS:O	20:Y:71:LYS:HB2	2.14	0.46
23:1:76:ARG:CD	23:1:76:ARG:H	2.29	0.46
30:8:29:LYS:HE3	30:8:41:ILE:O	2.15	0.46
1:A:1311:G:N2	1:A:1603:A:H62	2.13	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2562:U:H1'	10:O:23:ARG:HH12	1.79	0.46
1:A:278:A:O2'	1:A:279:C:O4'	2.24	0.46
1:A:581:C:H2'	1:A:582:G:H8	1.80	0.46
1:A:674:G:N2	1:A:2445:G:OP1	2.48	0.46
1:A:708:C:H42	1:A:723:G:H1	1.62	0.46
2:B:9:G:H1	2:B:111:U:H3	1.64	0.46
3:D:165:ILE:C	3:D:166:GLN:HE21	2.18	0.46
6:G:13:GLU:HG3	6:G:13:GLU:O	2.14	0.46
7:H:86:GLU:O	7:H:132:ARG:HA	2.16	0.46
10:O:61:VAL:O	10:O:84:ALA:HB1	2.16	0.46
11:P:12:ALA:C	11:P:14:LYS:H	2.16	0.46
11:P:46:LYS:O	11:P:48:PRO:N	2.48	0.46
15:T:96:ARG:CB	15:T:96:ARG:HH11	2.29	0.46
17:V:2:PHE:CD1	17:V:2:PHE:C	2.88	0.46
1:A:2336:A:H61	22:O:43:THR:HG21	1.80	0.46
30:8:40:GLU:C	30:8:42:ARG:N	2.68	0.46
31:9:19:ARG:NH2	31:9:26:ILE:HD11	2.31	0.46
1:A:1055:G:O2'	1:A:1085:A:N1	2.33	0.46
1:A:1689:A:H62	1:A:1698:A:H2	1.64	0.46
1:A:2197:U:O3'	1:A:2198:A:H8	1.98	0.46
1:A:294:A:C5	1:A:345:A:C6	3.03	0.46
1:A:200:U:O2	1:A:386:G:N2	2.48	0.46
1:A:607:U:N3	1:A:621:A:H2	2.09	0.46
2:B:63:G:C2	2:B:64:C:C2	3.04	0.46
4:E:3:GLY:HA3	4:E:81:ILE:HG21	1.97	0.46
5:F:108:LYS:HZ3	5:F:108:LYS:HA	1.79	0.46
1:A:443:A:H3'	5:F:45:ARG:HH12	1.80	0.46
6:G:20:ILE:HD13	6:G:25:TYR:HB2	1.98	0.46
11:P:37:GLY:O	11:P:41:ARG:HD3	2.15	0.46
13:R:1:MET:O	13:R:2:ARG:HB2	2.15	0.46
14:S:61:ASN:O	14:S:65:VAL:HG23	2.15	0.46
14:S:28:VAL:HG11	14:S:98:VAL:HG12	1.97	0.46
16:U:8:VAL:O	16:U:9:VAL:C	2.53	0.46
19:X:26:TYR:HB3	19:X:92:LEU:HD12	1.97	0.46
1:A:2391:G:OP2	30:8:32:LEU:HD13	2.15	0.46
1:A:1324:G:C4	1:A:1328:G:O6	2.68	0.46
1:A:1955:U:O4	1:A:2554:U:H5	1.98	0.46
1:A:2011:U:OP2	18:W:16:LYS:NZ	2.47	0.46
1:A:593:G:O2'	30:8:61:LEU:HD13	2.15	0.46
3:D:117:VAL:CG2	3:D:128:GLY:C	2.84	0.46
3:D:198:ASN:C	3:D:198:ASN:ND2	2.69	0.46
5:F:184:TYR:CD2	5:F:188:ARG:HD2	2.50	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:102:PHE:HA	6:G:105:LYS:HE3	1.98	0.46
7:H:86:GLU:O	7:H:87:LEU:CB	2.64	0.46
9:N:30:ILE:O	9:N:34:LEU:CD2	2.63	0.46
9:N:96:GLU:O	9:N:99:LEU:N	2.34	0.46
10:O:101:PRO:HA	10:O:120:GLU:O	2.16	0.46
10:O:7:TYR:CD1	10:O:20:MET:HB2	2.50	0.46
11:P:144:GLU:N	11:P:144:GLU:OE1	2.48	0.46
11:P:85:LEU:HD23	11:P:88:LEU:HD22	1.96	0.46
12:Q:109:VAL:HG13	12:Q:113:GLN:OE1	2.16	0.46
12:Q:66:ILE:H	12:Q:104:PHE:HA	1.79	0.46
16:U:73:GLY:O	16:U:74:LEU:CB	2.63	0.46
18:W:36:LEU:CD1	18:W:47:VAL:HG12	2.44	0.46
19:X:12:VAL:O	19:X:12:VAL:HG13	2.15	0.46
25:3:28:LEU:HA	25:3:33:GLN:OE1	2.16	0.46
27:5:54:GLY:O	27:5:55:ARG:C	2.54	0.46
1:A:1190:G:H5'	11:P:32:THR:HA	1.97	0.46
1:A:2507:C:H2'	1:A:2508:G:H8	1.81	0.46
1:A:2540:C:H2'	1:A:2541:A:O4'	2.14	0.46
1:A:26:G:C6	1:A:27:G:N1	2.83	0.46
1:A:483:A:H5'	20:Y:49:VAL:HG22	1.98	0.46
1:A:669:G:H2'	1:A:669:G:N3	2.31	0.46
1:A:780:G:N2	1:A:783:A:H62	2.12	0.46
3:D:102:LYS:O	3:D:103:ARG:HG3	2.15	0.46
3:D:105:ILE:HG23	3:D:106:ILE:O	2.15	0.46
3:D:18:VAL:CG1	3:D:19:ALA:N	2.78	0.46
3:D:206:LEU:HD23	3:D:206:LEU:HA	1.49	0.46
3:D:211:ARG:HH11	3:D:211:ARG:HG2	1.80	0.46
3:D:35:LYS:HE3	3:D:65:ILE:N	2.31	0.46
6:G:116:ASP:O	6:G:117:PHE:CB	2.50	0.46
6:G:36:LYS:O	6:G:37:VAL:HG23	2.15	0.46
7:H:106:THR:HG22	7:H:112:PRO:HB3	1.98	0.46
7:H:4:ILE:HG13	7:H:6:ARG:HD3	1.97	0.46
7:H:53:GLU:OE1	7:H:53:GLU:HA	2.16	0.46
1:A:1006:C:H1'	9:N:106:MET:HE2	1.95	0.46
9:N:97:ARG:HA	9:N:100:GLU:HB3	1.97	0.46
10:O:104:ARG:HG2	10:O:121:VAL:HG12	1.97	0.46
10:O:8:LEU:CD2	10:O:8:LEU:N	2.76	0.46
11:P:1:MET:O	11:P:2:LYS:HG3	2.16	0.46
13:R:79:LEU:HD23	13:R:79:LEU:O	2.16	0.46
14:S:24:LEU:HB2	14:S:85:VAL:HG12	1.98	0.46
15:T:118:ARG:NH2	15:T:121:ILE:HD12	2.31	0.46
16:U:98:LEU:HD23	16:U:98:LEU:C	2.36	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:16:PRO:HA	17:V:96:ILE:O	2.14	0.46
17:V:61:VAL:HA	17:V:94:LEU:HD23	1.97	0.46
19:X:65:ARG:N	19:X:65:ARG:CD	2.79	0.46
20:Y:15:VAL:O	20:Y:21:LYS:HA	2.15	0.46
21:Z:5:LEU:HD23	21:Z:47:VAL:HG21	1.96	0.46
27:5:20:ARG:C	27:5:22:HIS:N	2.68	0.46
27:5:36:CYS:C	27:5:38:ALA:H	2.19	0.46
28:6:15:GLU:HB3	28:6:16:CYS:H	1.46	0.46
1:A:2295:C:OP1	14:S:10:ARG:HD2	2.15	0.46
1:A:2563:U:H2'	1:A:2565:A:OP2	2.16	0.46
1:A:1783:A:C6	1:A:2587:A:C2	3.04	0.46
1:A:2645:G:H3'	1:A:2646:C:H5'	1.97	0.46
2:B:18:G:H1	2:B:65:C:N4	2.12	0.46
7:H:151:ILE:O	7:H:152:ARG:O	2.34	0.46
9:N:36:GLY:O	9:N:42:TRP:HE3	1.98	0.46
13:R:75:LEU:HA	13:R:78:LYS:HB3	1.97	0.46
13:R:78:LYS:O	13:R:78:LYS:HG2	2.15	0.46
15:T:6:LEU:O	15:T:10:VAL:HG23	2.16	0.46
18:W:48:ALA:O	18:W:49:LYS:C	2.53	0.46
23:1:80:LEU:CB	23:1:81:LYS:HE2	2.43	0.46
25:3:43:ILE:O	25:3:47:VAL:HG23	2.16	0.46
25:3:59:VAL:CG1	25:3:60:GLU:H	2.29	0.46
30:8:48:PHE:HD1	30:8:48:PHE:N	2.14	0.46
1:A:1028:A:N6	1:A:1125:G:H2'	2.30	0.46
1:A:1779:U:OP2	1:A:1784:A:N6	2.35	0.46
1:A:2168:G:N3	1:A:2168:G:H2'	2.31	0.46
1:A:270(G):C:H2'	1:A:270(H):C:C6	2.50	0.46
3:D:48:ARG:HG3	3:D:48:ARG:NH1	2.31	0.46
3:D:61:LEU:HB3	3:D:63:ARG:NH1	2.31	0.46
3:D:79:VAL:HG21	3:D:111:LEU:HD21	1.98	0.46
4:E:188:VAL:HA	4:E:189:PRO:HD2	1.79	0.46
4:E:195:LEU:HD12	4:E:196:VAL:N	2.29	0.46
4:E:63:LEU:O	4:E:64:LYS:CB	2.62	0.46
4:E:7:VAL:HG11	15:T:1:MET:CE	2.45	0.46
6:G:14:GLU:O	6:G:17:PRO:HD2	2.16	0.46
8:I:79:ILE:N	8:I:141:LYS:O	2.49	0.46
9:N:128:HIS:HB2	9:N:129:PRO:CD	2.46	0.46
9:N:131:GLN:HE21	9:N:132:ALA:H	1.58	0.46
11:P:144:GLU:HA	11:P:145:PRO:HD3	1.76	0.46
11:P:23:PRO:HG2	11:P:23:PRO:O	2.15	0.46
12:Q:11:LYS:HE2	12:Q:87:LYS:HA	1.98	0.46
12:Q:63:LYS:HE2	12:Q:65:PHE:CZ	2.51	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:87:LYS:HG2	12:Q:87:LYS:O	2.15	0.46
14:S:13:ARG:O	14:S:14:VAL:HB	2.15	0.46
16:U:69:CYS:O	16:U:74:LEU:HD12	2.16	0.46
19:X:35:THR:HG23	19:X:35:THR:O	2.16	0.46
25:3:18:ASP:O	25:3:21:ALA:N	2.49	0.46
1:A:1339:G:N2	1:A:1603:A:H1'	2.31	0.46
1:A:1930:G:HO2'	1:A:1931:U:P	2.39	0.46
1:A:1930:G:H2'	1:A:1968:G:N1	2.30	0.46
1:A:2308:G:N2	1:A:2311:A:H2	2.12	0.46
1:A:414:C:H2'	1:A:415:A:C8	2.50	0.46
3:D:148:GLU:HB2	3:D:151:LYS:HD2	1.98	0.46
4:E:137:HIS:CB	4:E:138:PRO:HD2	2.41	0.46
4:E:87:GLU:O	4:E:89:ASP:N	2.48	0.46
6:G:95:ARG:O	6:G:96:ARG:C	2.54	0.46
7:H:128:PRO:HD2	7:H:129:THR:N	2.25	0.46
7:H:88:LEU:HD22	7:H:163:TYR:O	2.16	0.46
9:N:36:GLY:O	9:N:42:TRP:CE3	2.69	0.46
11:P:98:GLU:HG2	11:P:99:LEU:N	2.30	0.46
14:S:108:GLY:O	14:S:110:LEU:N	2.48	0.46
14:S:74:ALA:O	14:S:75:GLU:C	2.54	0.46
17:V:22:VAL:HG12	17:V:23:GLU:H	1.76	0.46
17:V:36:PRO:HA	17:V:56:SER:HG	1.81	0.46
18:W:28:SER:C	18:W:30:GLU:N	2.69	0.46
21:Z:152:ALA:HB2	21:Z:168:GLU:HA	1.98	0.46
21:Z:48:PHE:CE2	21:Z:71:VAL:HG11	2.49	0.46
23:1:79:GLY:N	23:1:80:LEU:HD23	2.30	0.46
28:6:11:LEU:HD11	28:6:51:GLU:HG3	1.98	0.46
30:8:44:LYS:HD2	30:8:44:LYS:N	2.30	0.46
1:A:1405:U:H2'	1:A:1406:U:O4'	2.16	0.46
1:A:1418:G:O2'	1:A:1580:A:N6	2.40	0.46
1:A:1532:C:H2'	1:A:1533:C:O4'	2.16	0.46
1:A:177:G:H3'	1:A:178:G:H8	1.81	0.46
1:A:2072:G:C6	1:A:2073:C:C4	3.04	0.46
1:A:242:G:H4'	1:A:243:U:O5'	2.16	0.46
1:A:2790:A:H2'	1:A:2791:C:H5''	1.97	0.46
1:A:27:G:H22	1:A:512:G:H2'	1.79	0.46
1:A:2881:C:C2	1:A:2882:A:C8	3.04	0.46
3:D:14:ARG:HG3	3:D:15:PHE:N	2.31	0.46
3:D:36:PRO:HB3	3:D:62:TYR:O	2.16	0.46
4:E:129:HIS:O	4:E:130:GLY:C	2.53	0.46
13:R:3:HIS:C	13:R:5:LYS:H	2.17	0.46
15:T:107:ASP:HB2	15:T:108:ARG:H	1.48	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:11:ASP:HB2	20:Y:27:VAL:CG1	2.46	0.46
21:Z:182:LYS:HB2	21:Z:182:LYS:HE3	1.80	0.46
25:3:7:LYS:HE2	25:3:32:GLN:HA	1.98	0.46
31:9:1:MET:SD	31:9:31:LYS:O	2.74	0.46
1:A:1221:C:H2'	1:A:1222:C:H6	1.81	0.46
1:A:1798:U:C2	1:A:1822:G:N2	2.84	0.46
1:A:1929:G:H4'	1:A:1930:G:OP1	2.15	0.46
1:A:526:A:O2'	1:A:2043:C:O2	2.28	0.46
1:A:2439:A:C8	1:A:2439:A:H5'	2.51	0.46
1:A:27:G:HO2'	1:A:28:A:H8	1.61	0.46
1:A:33:U:O2'	1:A:446:G:N2	2.49	0.46
1:A:483:A:H3'	1:A:484:C:H6	1.81	0.46
1:A:941:A:H2'	1:A:942:G:O4'	2.15	0.46
3:D:2:ALA:HB1	3:D:20:ASP:CB	2.46	0.46
4:E:111:ARG:NE	4:E:160:TYR:CE1	2.76	0.46
4:E:77:ILE:O	4:E:78:LEU:O	2.34	0.46
6:G:129:GLY:O	6:G:130:ASN:OD1	2.34	0.46
7:H:51:ARG:NH1	7:H:51:ARG:HG3	2.30	0.46
10:O:1:MET:HE2	10:O:67:LYS:HG2	1.98	0.46
11:P:115:LEU:HA	11:P:134:ALA:CB	2.46	0.46
15:T:54:ARG:NH1	15:T:54:ARG:HG2	2.23	0.46
17:V:5:VAL:HG22	17:V:14:VAL:CG2	2.46	0.46
1:A:2331:G:H4'	22:0:43:THR:H	1.82	0.45
26:4:3:GLU:HG3	26:4:4:GLY:H	1.79	0.45
28:6:17:LYS:O	28:6:18:ARG:CB	2.64	0.45
1:A:1069:A:H4'	1:A:1070:A:H5''	1.98	0.45
1:A:1164:G:H2'	1:A:1165:U:H6	1.79	0.45
1:A:1204:A:H2	1:A:1241:A:N1	2.14	0.45
1:A:1503:U:H2'	1:A:1504:C:C6	2.51	0.45
1:A:1517:G:C6	1:A:1518:C:C4	3.04	0.45
1:A:1533:C:H2'	1:A:1534:G:N7	2.31	0.45
1:A:1682:G:C2	1:A:1683:C:C2	3.04	0.45
1:A:1826:G:H4'	3:D:242:ARG:HH21	1.82	0.45
1:A:2420:C:H6	1:A:2420:C:O5'	1.99	0.45
1:A:2844:G:C6	1:A:2845:G:C4	3.04	0.45
2:B:38:C:H42	2:B:44:G:H1	1.62	0.45
2:B:48:A:H2'	2:B:49:C:C6	2.51	0.45
3:D:118:VAL:O	3:D:129:ASN:HA	2.16	0.45
3:D:11:PRO:O	3:D:12:SER:CB	2.65	0.45
3:D:241:PRO:O	3:D:242:ARG:C	2.53	0.45
4:E:1:MET:HA	4:E:200:GLU:OE2	2.16	0.45
5:F:31:HIS:O	5:F:34:TRP:HB3	2.15	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:6:ALA:HB3	6:G:104:GLU:OE2	2.16	0.45
8:I:114:LEU:HD13	8:I:130:TYR:CD1	2.50	0.45
8:I:129:THR:HA	8:I:137:PRO:HA	1.98	0.45
10:O:112:MET:O	10:O:115:VAL:CG2	2.64	0.45
10:O:86:ILE:CD1	10:O:86:ILE:H	2.28	0.45
11:P:36:LYS:HG3	11:P:36:LYS:HZ3	1.39	0.45
16:U:92:ARG:C	16:U:94:ASN:N	2.69	0.45
20:Y:35:TYR:O	20:Y:35:TYR:CD1	2.69	0.45
27:5:16:ARG:O	27:5:20:ARG:HG3	2.16	0.45
27:5:43:HIS:ND1	27:5:43:HIS:N	2.63	0.45
28:6:45:LYS:HA	28:6:45:LYS:HD3	1.79	0.45
31:9:25:VAL:HG11	31:9:34:GLN:HE21	1.81	0.45
1:A:1826:G:H5''	3:D:224:ALA:HB2	1.99	0.45
1:A:460:A:C2	1:A:470:A:C4	3.04	0.45
1:A:94:G:H2'	1:A:95:G:O4'	2.17	0.45
3:D:65:ILE:HD11	3:D:67:PHE:CE1	2.51	0.45
4:E:54:GLN:HE21	4:E:54:GLN:CA	2.27	0.45
5:F:65:TRP:CH2	5:F:72:ARG:HB3	2.50	0.45
5:F:7:TYR:CD1	5:F:7:TYR:N	2.84	0.45
6:G:14:GLU:HB3	6:G:15:VAL:H	1.56	0.45
6:G:76:SER:CB	6:G:83:ARG:HA	2.47	0.45
7:H:109:PHE:CE1	7:H:152:ARG:NH1	2.84	0.45
9:N:120:LEU:HD13	9:N:120:LEU:C	2.37	0.45
13:R:85:PRO:C	13:R:87:TYR:H	2.18	0.45
17:V:47:VAL:O	17:V:48:GLY:O	2.34	0.45
19:X:24:GLY:O	19:X:82:GLN:HA	2.16	0.45
19:X:8:ILE:CD1	19:X:42:ALA:HB1	2.46	0.45
20:Y:48:ALA:CB	20:Y:61:ILE:HD13	2.45	0.45
23:1:49:VAL:HG12	23:1:51:VAL:CG2	2.45	0.45
26:4:42:PHE:C	26:4:42:PHE:CD1	2.90	0.45
1:A:459:U:OP1	29:7:39:ARG:HA	2.15	0.45
1:A:1434:A:H2'	1:A:1435:G:C8	2.51	0.45
1:A:1641:A:H2'	1:A:1642:G:O4'	2.16	0.45
1:A:2320:A:C8	1:A:2333:A:N6	2.85	0.45
1:A:2560:C:H2'	1:A:2561:A:H8	1.82	0.45
1:A:320:A:H1'	5:F:169:ASN:HD22	1.81	0.45
1:A:568:U:N3	1:A:571:A:OP2	2.31	0.45
1:A:571:A:H1'	1:A:573:G:C8	2.51	0.45
1:A:860:U:C5	1:A:917:A:C2	3.05	0.45
4:E:13:ARG:HH11	4:E:13:ARG:HB3	1.82	0.45
4:E:51:PHE:HD1	4:E:52:LEU:H	1.59	0.45
5:F:167:ALA:HB1	5:F:173:VAL:HG11	1.99	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:16:SER:OG	7:H:17:VAL:N	2.50	0.45
9:N:113:GLY:O	9:N:116:LEU:HB2	2.14	0.45
12:Q:26:TYR:O	12:Q:27:VAL:O	2.34	0.45
12:Q:85:LYS:HD3	12:Q:86:GLY:H	1.81	0.45
14:S:5:THR:OG1	14:S:8:GLU:HG3	2.16	0.45
17:V:4:ILE:HG22	17:V:39:LEU:HD23	1.98	0.45
18:W:40:ASN:C	18:W:41:LYS:HG2	2.36	0.45
23:1:54:ALA:O	23:1:55:GLY:O	2.35	0.45
23:1:85:LEU:HD22	23:1:85:LEU:N	2.31	0.45
23:1:60:PHE:CE2	23:1:91:LYS:NZ	2.84	0.45
29:7:24:THR:O	29:7:28:ARG:HG3	2.16	0.45
1:A:565:C:H4'	1:A:1253:A:C6	2.51	0.45
1:A:783:A:H8	1:A:784:A:H4'	1.81	0.45
1:A:83:G:O2'	1:A:84:A:P	2.74	0.45
3:D:69:ARG:C	3:D:71:ASP:N	2.69	0.45
6:G:44:GLY:HA2	6:G:88:ILE:HG12	1.97	0.45
12:Q:104:PHE:O	12:Q:105:GLU:CB	2.65	0.45
12:Q:30:GLY:CA	12:Q:107:ALA:HB2	2.39	0.45
12:Q:23:GLY:O	12:Q:24:GLY:C	2.54	0.45
13:R:10:LEU:O	13:R:11:ASN:C	2.55	0.45
1:A:1654:A:OP1	13:R:1:MET:O	2.34	0.45
14:S:109:GLY:O	14:S:110:LEU:HB2	2.16	0.45
1:A:2846:G:P	15:T:54:ARG:HB2	2.57	0.45
16:U:95:LEU:HD13	17:V:4:ILE:HD12	1.98	0.45
21:Z:10:ARG:HD2	21:Z:36:LYS:HB3	1.99	0.45
24:2:28:LYS:HB3	24:2:57:ILE:HG12	1.97	0.45
28:6:11:LEU:H	28:6:25:LYS:HA	1.81	0.45
28:6:9:LEU:CD1	28:6:26:ASN:ND2	2.80	0.45
1:A:117:G:C6	1:A:119:A:C6	3.05	0.45
1:A:1256:G:C2	1:A:1257:C:C2	3.05	0.45
1:A:1357:U:C4	1:A:1358:G:C5	3.05	0.45
1:A:1991:U:H2'	1:A:1992:G:H5''	1.99	0.45
1:A:2355:C:H5''	1:A:2356:C:OP2	2.16	0.45
1:A:1639:U:H4'	1:A:2699:C:H4'	1.98	0.45
1:A:753:C:H6	1:A:753:C:O5'	2.00	0.45
2:B:15:A:H3'	2:B:16:G:H5'	1.98	0.45
3:D:109:ASP:HB2	3:D:197:GLY:CA	2.46	0.45
3:D:198:ASN:O	3:D:198:ASN:ND2	2.50	0.45
3:D:68:LYS:HD2	3:D:70:TRP:CZ2	2.52	0.45
4:E:47:VAL:HG23	4:E:47:VAL:O	2.16	0.45
4:E:95:ILE:O	4:E:95:ILE:HG22	2.16	0.45
6:G:51:ARG:NH2	6:G:52:ILE:HD11	2.32	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:114:ARG:O	9:N:115:ARG:CB	2.65	0.45
9:N:20:GLY:HA2	9:N:61:ARG:HD2	1.99	0.45
1:A:389:G:H22	11:P:72:PRO:HD3	1.82	0.45
12:Q:65:PHE:O	12:Q:66:ILE:CG1	2.48	0.45
13:R:29:LEU:N	13:R:29:LEU:CD1	2.79	0.45
20:Y:2:ARG:O	20:Y:3:VAL:C	2.55	0.45
20:Y:75:ILE:HA	20:Y:80:GLY:HA2	1.99	0.45
22:O:57:PHE:CD2	22:O:57:PHE:N	2.85	0.45
1:A:1231:G:H2'	1:A:1232:G:C8	2.51	0.45
1:A:1396:U:H2'	1:A:1396:U:O2	2.16	0.45
1:A:2056:G:H2'	1:A:2056:G:N3	2.31	0.45
1:A:858:U:O2	1:A:2268:A:H2'	2.17	0.45
1:A:2347:C:OP1	28:6:39:TYR:CE2	2.69	0.45
1:A:242:G:C8	30:8:5:LYS:HG2	2.52	0.45
1:A:419:C:H2'	1:A:420:C:O4'	2.17	0.45
3:D:25:THR:O	3:D:25:THR:CG2	2.65	0.45
1:A:2572:A:H62	4:E:145:LYS:HG3	1.82	0.45
5:F:117:ARG:NH2	5:F:189:THR:O	2.50	0.45
5:F:45:ARG:CG	5:F:45:ARG:NH1	2.71	0.45
7:H:7:LEU:HD12	7:H:7:LEU:C	2.37	0.45
8:I:144:VAL:O	8:I:145:VAL:HG22	2.16	0.45
9:N:10:GLU:HA	9:N:11:PRO:HD3	1.73	0.45
14:S:78:LEU:HD21	14:S:108:GLY:HA2	1.99	0.45
14:S:83:LYS:HG2	14:S:109:GLY:H	1.76	0.45
17:V:30:GLY:O	17:V:31:ALA:O	2.34	0.45
18:W:88:ARG:CB	18:W:92:ARG:HB3	2.47	0.45
20:Y:97:ARG:HH11	20:Y:97:ARG:HG2	1.82	0.45
26:4:68:ARG:O	26:4:69:LYS:HB2	2.17	0.45
29:7:2:LYS:HG2	29:7:3:ARG:N	2.31	0.45
30:8:52:LYS:O	30:8:52:LYS:CG	2.64	0.45
1:A:1124:C:H1'	31:9:36:GLN:OE1	2.17	0.45
1:A:1206:G:C6	1:A:1207:C:C4	3.05	0.45
1:A:2259:G:C2	1:A:2282:G:N1	2.84	0.45
1:A:270(J):G:H2'	1:A:270(K):C:O4'	2.17	0.45
2:B:89:G:H8	2:B:89:G:OP2	2.00	0.45
3:D:92:ILE:HD12	3:D:104:TYR:HD2	1.82	0.45
4:E:199:ARG:HH11	4:E:199:ARG:HG3	1.82	0.45
4:E:2:LYS:O	4:E:199:ARG:HA	2.17	0.45
4:E:33:VAL:HG12	4:E:90:THR:H	1.81	0.45
9:N:22:THR:O	9:N:60:ILE:HG22	2.16	0.45
14:S:89:ARG:O	14:S:90:GLY:C	2.54	0.45
15:T:24:PRO:HD3	15:T:52:ILE:HD12	1.98	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:104:ARG:NH2	15:T:34:VAL:HG11	2.32	0.45
16:U:27:LEU:HD12	16:U:31:SER:HB3	1.98	0.45
16:U:76:TYR:C	16:U:76:TYR:CD2	2.90	0.45
16:U:79:PHE:CE2	16:U:83:LEU:HD13	2.51	0.45
18:W:21:VAL:HG12	18:W:21:VAL:O	2.17	0.45
19:X:47:PHE:O	19:X:48:LYS:C	2.55	0.45
21:Z:112:ARG:O	21:Z:114:GLY:N	2.50	0.45
21:Z:53:ILE:HG22	21:Z:71:VAL:HG22	1.99	0.45
28:6:15:GLU:OE2	28:6:44:ARG:NH1	2.49	0.45
28:6:48:VAL:O	28:6:49:HIS:HB2	2.15	0.45
30:8:36:LYS:HB3	30:8:40:GLU:HG2	1.98	0.45
1:A:1651:G:N7	13:R:11:ASN:ND2	2.65	0.45
1:A:1782:C:O2	1:A:2608:G:O2'	2.22	0.45
1:A:210:C:P	29:7:29:LYS:NZ	2.90	0.45
1:A:2735:G:N2	1:A:2770:G:H1'	2.32	0.45
1:A:2864:G:H2'	1:A:2865:U:O4'	2.15	0.45
1:A:688:U:H5'	1:A:1780:A:C2	2.52	0.45
1:A:83:G:O2'	1:A:84:A:C8	2.62	0.45
3:D:166:GLN:CA	3:D:166:GLN:NE2	2.78	0.45
5:F:155:LEU:HA	5:F:174:VAL:CG1	2.46	0.45
10:O:22:ILE:HG12	10:O:41:ALA:HA	1.98	0.45
10:O:97:ARG:H	10:O:117:LEU:CD2	2.24	0.45
11:P:92:GLU:HA	11:P:123:LEU:HD23	1.99	0.45
11:P:45:LEU:CD1	11:P:45:LEU:N	2.79	0.45
11:P:81:GLN:CD	11:P:106:LEU:O	2.55	0.45
11:P:88:LEU:HD23	11:P:88:LEU:C	2.37	0.45
12:Q:58:PHE:O	12:Q:58:PHE:CD1	2.70	0.45
13:R:12:ARG:NH1	13:R:12:ARG:HG3	2.32	0.45
1:A:997:G:OP1	16:U:93:LYS:HD3	2.16	0.45
1:A:1264:G:C3'	1:A:1265:A:H5''	2.42	0.45
1:A:1368:G:C2	1:A:1369:G:C8	3.05	0.45
1:A:1646:C:H5''	1:A:1647:G:H5''	1.98	0.45
1:A:1726:G:C6	1:A:1727:U:C4	3.04	0.45
1:A:1892:C:H2'	1:A:1893:C:O4'	2.16	0.45
1:A:1928:A:C2'	1:A:1929:G:H5'	2.47	0.45
1:A:2210:G:H5'	1:A:2211:G:C5	2.51	0.45
1:A:2250:G:C4	12:Q:82:ARG:HG3	2.52	0.45
1:A:2246:G:H1'	1:A:2426:A:C2	2.52	0.45
1:A:2678:C:H2'	1:A:2679:A:O4'	2.16	0.45
1:A:2818:G:OP2	13:R:42:LYS:NZ	2.42	0.45
1:A:774:A:H2	1:A:787:U:O2'	2.00	0.45
3:D:45:ASN:CG	3:D:46:GLN:N	2.68	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:18:ASP:O	4:E:19:ARG:C	2.55	0.45
4:E:4:ILE:HG12	4:E:91:VAL:HG11	1.99	0.45
5:F:196:LEU:O	5:F:200:GLU:HG2	2.17	0.45
6:G:121:ASN:C	6:G:123:ASN:H	2.20	0.45
9:N:7:LYS:HD3	9:N:9:VAL:H	1.81	0.45
10:O:53:LYS:CD	10:O:53:LYS:N	2.69	0.45
11:P:75:ILE:HG12	11:P:77:ARG:HH12	1.82	0.45
11:P:75:ILE:HG12	11:P:77:ARG:NH1	2.32	0.45
12:Q:133:ARG:CG	12:Q:134:ARG:N	2.78	0.45
12:Q:34:LEU:HB2	12:Q:118:LEU:HD22	1.99	0.45
14:S:83:LYS:CE	14:S:109:GLY:HA2	2.47	0.45
15:T:57:PHE:O	15:T:58:ASN:C	2.53	0.45
20:Y:25:GLY:HA3	20:Y:39:VAL:CG1	2.47	0.45
27:5:56:LYS:O	27:5:58:LEU:N	2.50	0.45
28:6:7:ILE:HG23	28:6:8:LYS:N	2.32	0.45
28:6:7:ILE:O	28:6:8:LYS:HG2	2.16	0.45
1:A:1022:G:N2	1:A:1024:G:C2	2.84	0.45
1:A:1651:G:H1	1:A:2006:C:N4	2.15	0.45
1:A:2587:A:H8	1:A:2587:A:O5'	2.00	0.45
1:A:271(B):G:O2'	1:A:271(C):U:OP2	2.31	0.45
3:D:145:VAL:HG12	3:D:146:GLU:N	2.32	0.45
4:E:21:VAL:HG23	4:E:22:PRO:CD	2.46	0.45
5:F:144:LYS:C	5:F:146:ALA:H	2.21	0.45
6:G:83:ARG:HG3	6:G:86:MET:CE	2.46	0.45
7:H:137:ASP:HB2	7:H:140:LYS:HE3	1.98	0.45
9:N:5:VAL:O	9:N:5:VAL:HG13	2.16	0.45
14:S:78:LEU:HD21	14:S:108:GLY:CA	2.47	0.45
15:T:23:ARG:CB	15:T:24:PRO:HD2	2.40	0.45
18:W:14:PRO:O	18:W:16:LYS:N	2.50	0.45
28:6:18:ARG:O	28:6:19:ARG:O	2.33	0.44
1:A:1662:C:O2'	1:A:2687:U:H5''	2.16	0.44
1:A:2313:C:H5''	6:G:91:ARG:HD3	1.99	0.44
1:A:2507:C:H2'	1:A:2508:G:C8	2.52	0.44
1:A:2588:G:C6	1:A:2607:G:C2	3.04	0.44
1:A:963:U:H2'	1:A:964:C:C6	2.52	0.44
3:D:166:GLN:HA	3:D:166:GLN:NE2	2.32	0.44
3:D:52:ARG:HB2	3:D:53:PHE:CD2	2.53	0.44
9:N:112:LEU:O	9:N:116:LEU:HG	2.16	0.44
10:O:97:ARG:HA	10:O:117:LEU:HD22	1.99	0.44
10:O:19:ILE:HD13	10:O:19:ILE:H	1.83	0.44
11:P:112:LEU:CD1	11:P:114:ILE:HG23	2.47	0.44
12:Q:5:ARG:O	12:Q:6:ARG:O	2.35	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:93:TYR:CD1	12:Q:93:TYR:N	2.85	0.44
13:R:17:ARG:O	13:R:20:LEU:HB3	2.17	0.44
14:S:3:ARG:O	14:S:4:LEU:O	2.35	0.44
15:T:36:GLU:CG	15:T:41:ARG:HD3	2.46	0.44
17:V:69:LYS:HG3	17:V:87:HIS:O	2.17	0.44
23:1:48:LYS:HA	23:1:60:PHE:O	2.17	0.44
26:4:15:ILE:CG2	26:4:20:ASN:ND2	2.81	0.44
30:8:15:LYS:C	30:8:15:LYS:HD3	2.37	0.44
1:A:1945:G:C6	1:A:1946:U:C4	3.05	0.44
1:A:1977:A:H2'	1:A:1978:A:O4'	2.17	0.44
1:A:2422:A:C5	1:A:2424:C:N4	2.86	0.44
1:A:238:C:C2	1:A:260:G:C2	3.05	0.44
3:D:177:LEU:O	3:D:179:SER:N	2.51	0.44
3:D:80:ALA:O	3:D:113:VAL:HG13	2.16	0.44
6:G:129:GLY:HA2	6:G:169:ALA:HB2	1.99	0.44
6:G:19:LEU:HA	6:G:22:ARG:HB2	1.99	0.44
10:O:104:ARG:NH1	15:T:36:GLU:CD	2.71	0.44
11:P:21:ARG:HA	11:P:21:ARG:HE	1.82	0.44
17:V:61:VAL:HG22	17:V:61:VAL:O	2.17	0.44
21:Z:5:LEU:HB3	21:Z:59:LEU:HD23	1.98	0.44
23:1:10:LYS:HD2	23:1:66:HIS:HE1	1.82	0.44
25:3:60:GLU:HG2	25:3:60:GLU:O	2.16	0.44
28:6:19:ARG:HD2	28:6:19:ARG:HA	1.77	0.44
1:A:110:G:C2	1:A:111:A:C8	3.06	0.44
1:A:1222:C:H2'	1:A:1223:C:C6	2.52	0.44
1:A:1517:G:C6	1:A:1518:C:N4	2.84	0.44
1:A:1535:U:N3	1:A:1537:C:H1'	2.32	0.44
1:A:1676:A:H2'	1:A:1677:A:O4'	2.17	0.44
1:A:2294:C:OP2	14:S:13:ARG:NH1	2.50	0.44
1:A:2377:A:H4'	14:S:111:GLU:O	2.18	0.44
1:A:2601:C:H2'	1:A:2602:A:OP2	2.18	0.44
1:A:2732:G:H3'	1:A:2733:A:O4'	2.18	0.44
1:A:330:A:H2	1:A:1210:A:O2'	2.00	0.44
1:A:589:C:H2'	1:A:590:A:H8	1.83	0.44
3:D:12:SER:C	3:D:14:ARG:N	2.70	0.44
3:D:226:MET:HG2	3:D:226:MET:H	1.53	0.44
6:G:16:ARG:CZ	6:G:31:VAL:HG11	2.47	0.44
6:G:63:ILE:HG12	6:G:64:THR:N	2.33	0.44
2:B:42:C:N4	6:G:91:ARG:HH21	2.14	0.44
1:A:1138:G:H21	9:N:106:MET:CE	2.30	0.44
10:O:40:VAL:CG1	10:O:41:ALA:N	2.80	0.44
11:P:45:LEU:N	11:P:45:LEU:HD12	2.32	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:66:ILE:O	12:Q:104:PHE:N	2.49	0.44
15:T:80:SER:HA	15:T:81:PRO:HD3	1.73	0.44
22:0:12:ASN:HB2	22:0:13:GLY:H	1.46	0.44
23:1:60:PHE:HE2	23:1:91:LYS:NZ	2.16	0.44
26:4:33:VAL:CG1	26:4:34:GLU:N	2.80	0.44
26:4:39:CYS:HB3	26:4:41:PRO:HD2	2.00	0.44
27:5:40:LYS:HZ1	27:5:48:GLU:CB	2.19	0.44
30:8:47:LYS:HD2	30:8:48:PHE:N	2.33	0.44
1:A:2419:U:OP1	28:6:23:THR:HG21	2.18	0.44
1:A:903:C:H2'	1:A:904:C:O4'	2.18	0.44
1:A:1655:A:H4'	4:E:115:GLY:N	2.32	0.44
4:E:50:GLY:CA	4:E:74:PRO:HG3	2.46	0.44
1:A:2635:C:OP1	4:E:78:LEU:HD12	2.17	0.44
5:F:116:ASP:OD2	11:P:1:MET:N	2.44	0.44
5:F:149:ASP:OD2	5:F:151:SER:HB3	2.17	0.44
5:F:201:VAL:HG13	5:F:202:PHE:N	2.33	0.44
11:P:31:ALA:C	11:P:32:THR:CG2	2.85	0.44
11:P:6:LEU:N	11:P:6:LEU:HD22	2.31	0.44
12:Q:21:THR:HB	12:Q:22:LYS:H	1.42	0.44
12:Q:60:ARG:HB2	12:Q:60:ARG:HH21	1.82	0.44
14:S:56:LEU:O	14:S:57:LYS:O	2.36	0.44
16:U:53:ARG:C	16:U:55:ARG:H	2.20	0.44
16:U:57:PHE:O	16:U:59:ARG:N	2.50	0.44
17:V:72:VAL:HG13	17:V:85:LYS:HB3	2.00	0.44
18:W:28:SER:O	18:W:30:GLU:N	2.51	0.44
18:W:1:MET:CE	18:W:2:GLU:H	2.31	0.44
24:2:41:ILE:HD12	24:2:41:ILE:O	2.16	0.44
26:4:23:GLU:O	26:4:24:THR:OG1	2.34	0.44
1:A:1207:C:H2'	1:A:1208:C:H6	1.82	0.44
1:A:1423:G:H2'	1:A:1424:G:H8	1.83	0.44
1:A:1798:U:C4	1:A:1819:A:C2	3.05	0.44
1:A:1825:A:H2'	1:A:1826:G:H8	1.83	0.44
1:A:2038:G:H2'	1:A:2039:C:O4'	2.18	0.44
1:A:2418:A:H2'	1:A:2419:U:C6	2.53	0.44
1:A:2464:C:H2'	1:A:2465:C:C6	2.51	0.44
1:A:2865:U:C4	1:A:2866:U:N3	2.85	0.44
1:A:424:G:C2	1:A:425:G:C8	3.06	0.44
4:E:172:VAL:HG13	4:E:182:LEU:HD11	1.98	0.44
5:F:24:LEU:HD12	5:F:24:LEU:N	2.33	0.44
9:N:63:THR:HG23	9:N:66:LYS:HE3	2.00	0.44
1:A:389:G:N1	11:P:71:VAL:HG12	2.32	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)
26:4:68:ARG:HH11	26:4:69:LYS:HG2	1.82	0.44
1:A:2370:G:H21	28:6:45:LYS:NZ	2.14	0.44
1:A:1443:G:H1	1:A:1548:C:H42	1.66	0.44
1:A:2655:G:O2'	1:A:2656:U:OP2	2.36	0.44
1:A:974(A):C:H4'	1:A:975:G:C5'	2.47	0.44
3:D:145:VAL:HB	3:D:155:LEU:HB2	1.99	0.44
3:D:44:ASN:CB	3:D:49:ILE:HG22	2.46	0.44
6:G:16:ARG:NH2	6:G:31:VAL:CG1	2.75	0.44
6:G:51:ARG:HB3	6:G:51:ARG:NH1	2.33	0.44
7:H:37:VAL:HG11	7:H:68:THR:HG23	1.98	0.44
8:I:30:LEU:HA	8:I:35:LEU:HD12	2.00	0.44
10:O:120:GLU:OE1	15:T:67:SER:OG	2.24	0.44
11:P:107:LYS:HB2	11:P:110:TYR:HD2	1.83	0.44
14:S:110:LEU:HA	14:S:112:PHE:CE1	2.53	0.44
16:U:86:ALA:CB	16:U:88:ILE:HD11	2.48	0.44
16:U:97:ASP:HA	16:U:100:VAL:CG2	2.47	0.44
18:W:14:PRO:HB3	18:W:18:ARG:HE	1.83	0.44
20:Y:36:ALA:HB1	20:Y:67:LEU:O	2.16	0.44
20:Y:88:LYS:HB3	20:Y:90:LEU:CD2	2.48	0.44
21:Z:152:ALA:O	21:Z:154:ASP:N	2.48	0.44
6:G:67:LYS:CE	26:4:6:HIS:NE2	2.74	0.44
28:6:34:LEU:O	28:6:36:LEU:HD22	2.17	0.44
1:A:1000:A:C6	1:A:1155:A:C8	3.05	0.44
1:A:49:A:C6	1:A:118:A:C5	3.06	0.44
1:A:1469:A:C4	1:A:1470:G:C8	3.06	0.44
1:A:1305:C:C2	1:A:1624:G:C2	3.06	0.44
1:A:1728:G:H3'	1:A:1729:A:C5'	2.48	0.44
1:A:1936:A:C8	1:A:1945:G:C8	3.06	0.44
1:A:2093:G:H2'	1:A:2094:G:H8	1.82	0.44
1:A:2356:C:C5	1:A:2357:U:C4	3.05	0.44
1:A:270(T):G:C2	1:A:270(U):C:C2	3.06	0.44
1:A:265:A:C6	1:A:428:A:C4	3.05	0.44
1:A:774:A:HO2'	1:A:775:G:P	2.40	0.44
3:D:143:HIS:HD2	3:D:144:ALA:HB2	1.82	0.44
3:D:17:THR:HG21	3:D:204:ILE:HA	1.99	0.44
4:E:120:TRP:CE3	4:E:155:LYS:HD3	2.53	0.44
1:A:2633:G:H1'	4:E:62:PRO:HG2	2.00	0.44
5:F:65:TRP:CZ2	5:F:72:ARG:NH2	2.86	0.44
1:A:2316:C:H1'	6:G:128:ARG:HH22	1.82	0.44
7:H:6:ARG:CG	7:H:7:LEU:N	2.81	0.44
9:N:109:LYS:H	9:N:109:LYS:CD	2.26	0.44
1:A:1006:C:H5'	9:N:28:THR:HG23	1.99	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:115:LEU:CB	11:P:131:SER:HB2	2.47	0.44
11:P:13:ASN:C	11:P:15:ARG:H	2.21	0.44
12:Q:81:VAL:HG23	12:Q:82:ARG:N	2.32	0.44
14:S:110:LEU:HA	14:S:112:PHE:CZ	2.53	0.44
15:T:99:LEU:CD1	15:T:99:LEU:O	2.65	0.44
19:X:35:THR:O	19:X:36:LYS:C	2.55	0.44
21:Z:107:THR:HA	21:Z:108:PRO:HD3	1.89	0.44
26:4:39:CYS:O	26:4:40:HIS:CB	2.66	0.44
1:A:1333:C:H2'	1:A:1334:G:H8	1.83	0.44
1:A:2558:C:H2'	1:A:2559:C:O4'	2.17	0.44
1:A:2689:U:P	1:A:2719:G:H22	2.40	0.44
1:A:744:G:H2'	1:A:745:G:O4'	2.18	0.44
1:A:809:G:H2'	1:A:810:U:C6	2.53	0.44
1:A:868:U:C4	1:A:869:G:N7	2.86	0.44
2:B:112:G:H2'	2:B:113:C:H6	1.82	0.44
3:D:155:LEU:HD12	3:D:155:LEU:N	2.33	0.44
3:D:213:ARG:HD2	3:D:213:ARG:HA	1.59	0.44
3:D:44:ASN:HB2	3:D:49:ILE:HA	1.93	0.44
3:D:95:LEU:HD12	3:D:95:LEU:O	2.17	0.44
4:E:48:GLN:HB3	4:E:48:GLN:HE21	1.55	0.44
5:F:184:TYR:CE2	5:F:188:ARG:HD2	2.52	0.44
7:H:153:LYS:HG3	7:H:162:ILE:H	1.79	0.44
9:N:67:LEU:HA	9:N:87:LEU:HD13	2.00	0.44
11:P:88:LEU:O	11:P:90:ARG:N	2.50	0.44
12:Q:132:VAL:HG11	21:Z:81:ARG:NH1	2.33	0.44
13:R:41:ALA:C	13:R:43:GLU:H	2.20	0.44
15:T:114:LEU:HA	15:T:114:LEU:HD23	1.74	0.44
16:U:79:PHE:CE2	16:U:83:LEU:CD1	3.01	0.44
18:W:67:ASP:N	18:W:67:ASP:OD2	2.50	0.44
18:W:88:ARG:HG2	18:W:88:ARG:HH11	1.82	0.44
1:A:1126:A:H8	1:A:1126:A:OP1	2.00	0.44
1:A:1707:G:H2'	1:A:1708:C:O4'	2.18	0.44
1:A:192:C:O2	1:A:802:A:O2'	2.28	0.44
1:A:325:G:H2'	1:A:326:G:H8	1.83	0.44
1:A:479:A:H4'	1:A:480:A:OP1	2.18	0.44
1:A:601:C:O2'	1:A:605:C:H5"	2.18	0.44
1:A:846:C:O2'	1:A:847:U:OP2	2.26	0.44
3:D:30:GLU:HG3	3:D:63:ARG:NE	2.32	0.44
4:E:2:LYS:HG2	4:E:95:ILE:HG22	1.99	0.44
5:F:42:ALA:O	5:F:45:ARG:HB2	2.18	0.44
7:H:109:PHE:C	7:H:111:HIS:H	2.21	0.44
8:I:64:GLU:O	8:I:67:ARG:HB3	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:19:VAL:HG22	11:P:21:ARG:H	1.83	0.44
11:P:70:GLN:OE1	11:P:70:GLN:N	2.51	0.44
12:Q:27:VAL:HG13	12:Q:28:ALA:N	2.32	0.44
14:S:86:ALA:O	14:S:87:PHE:CB	2.65	0.44
23:1:49:VAL:HG12	23:1:51:VAL:HG23	1.99	0.43
26:4:2:LYS:HA	26:4:2:LYS:HD2	1.61	0.43
1:A:1263:U:O2'	27:5:11:THR:HG23	2.18	0.43
1:A:1438:U:H2'	1:A:1439:A:H8	1.82	0.43
1:A:1756:G:H4'	1:A:1758:G:O4'	2.18	0.43
1:A:176:G:C6	1:A:177:G:N7	2.85	0.43
1:A:2845:G:O2'	1:A:2846:G:H5'	2.18	0.43
1:A:259:G:N2	1:A:621:A:H8	2.11	0.43
1:A:715:G:H2'	1:A:716:A:C8	2.53	0.43
1:A:950:G:C5	1:A:951:C:C5	3.06	0.43
3:D:102:LYS:O	3:D:103:ARG:CG	2.66	0.43
3:D:35:LYS:HB3	3:D:36:PRO:HA	2.00	0.43
7:H:53:GLU:CD	7:H:54:ARG:H	2.21	0.43
8:I:109:ILE:HB	8:I:130:TYR:OH	2.18	0.43
8:I:73:GLU:HG3	8:I:136:VAL:HG23	1.98	0.43
9:N:129:PRO:C	9:N:131:GLN:H	2.20	0.43
10:O:47:ILE:HG13	10:O:48:PRO:HD2	1.99	0.43
10:O:77:ILE:O	10:O:77:ILE:HG23	2.17	0.43
10:O:91:LEU:N	10:O:91:LEU:CD2	2.80	0.43
11:P:101:VAL:HA	11:P:106:LEU:HB2	1.99	0.43
11:P:96:THR:HG22	11:P:126:VAL:CB	2.46	0.43
14:S:57:LYS:O	14:S:58:LEU:HB3	2.18	0.43
18:W:29:LEU:HD11	18:W:55:ALA:HB2	1.98	0.43
20:Y:15:VAL:HB	20:Y:20:TYR:O	2.17	0.43
20:Y:95:LYS:HB2	20:Y:99:CYS:O	2.17	0.43
22:O:70:GLN:CD	22:O:72:ARG:HD3	2.39	0.43
23:1:82:LEU:HD12	23:1:82:LEU:O	2.10	0.43
28:6:11:LEU:HD12	28:6:51:GLU:HG3	2.00	0.43
29:7:19:ARG:HG2	29:7:19:ARG:NH1	2.33	0.43
1:A:1534:G:H2'	1:A:1534:G:N3	2.33	0.43
1:A:2436:G:C5	1:A:2437:U:C5	3.06	0.43
1:A:2832:U:H4'	1:A:2833:G:H5''	2.00	0.43
1:A:2838:G:C4	1:A:2839:G:C8	3.06	0.43
1:A:821:A:H5''	1:A:822:U:H6	1.83	0.43
3:D:10:THR:O	3:D:11:PRO:C	2.56	0.43
4:E:11:MET:O	4:E:12:THR:HB	2.18	0.43
5:F:174:VAL:CG1	5:F:174:VAL:O	2.65	0.43
6:G:31:VAL:O	6:G:31:VAL:HG13	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:137:ASP:OD1	7:H:138:LYS:N	2.51	0.43
15:T:107:ASP:OD2	15:T:109:GLU:HB2	2.19	0.43
15:T:29:ARG:HA	15:T:45:PHE:O	2.17	0.43
15:T:49:VAL:O	15:T:49:VAL:CG1	2.64	0.43
1:A:2875:C:C4'	15:T:5:ALA:HB2	2.47	0.43
22:0:65:GLY:HA3	22:0:82:ARG:O	2.17	0.43
23:1:60:PHE:HZ	23:1:90:ILE:HG21	1.82	0.43
26:4:48:ARG:NH1	26:4:51:ASP:HA	2.34	0.43
28:6:20:ASN:O	28:6:21:TYR:CG	2.71	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:CD1	2.67	0.43
1:A:1682:G:C6	1:A:1683:C:C4	3.06	0.43
1:A:2013:A:N3	18:W:88:ARG:NH2	2.65	0.43
1:A:2310:A:H62	6:G:77:ILE:HG21	1.83	0.43
1:A:2329:G:H2'	1:A:2330:G:C8	2.53	0.43
1:A:2863:C:H2'	1:A:2864:G:C8	2.53	0.43
1:A:498:G:N2	1:A:506:G:O6	2.32	0.43
1:A:99:U:H1'	1:A:102:G:C5	2.53	0.43
3:D:272:ALA:HB1	3:D:273:ARG:H	1.58	0.43
4:E:3:GLY:HA3	4:E:81:ILE:CD1	2.48	0.43
4:E:69:LYS:C	4:E:71:GLY:N	2.71	0.43
7:H:136:ILE:HD12	7:H:136:ILE:N	2.31	0.43
7:H:149:ARG:HA	7:H:162:ILE:HG21	1.99	0.43
7:H:35:VAL:CG2	7:H:75:ALA:HB2	2.48	0.43
9:N:103:VAL:O	9:N:104:LYS:C	2.56	0.43
9:N:87:LEU:C	9:N:87:LEU:CD2	2.87	0.43
13:R:33:ARG:HA	13:R:114:VAL:O	2.18	0.43
14:S:14:VAL:CG1	14:S:15:ARG:N	2.81	0.43
14:S:38:GLN:CG	14:S:47:THR:HG21	2.48	0.43
17:V:66:ARG:NH1	17:V:88:ARG:CD	2.74	0.43
17:V:66:ARG:NH1	17:V:88:ARG:NH1	2.61	0.43
18:W:111:HIS:CG	18:W:112:GLY:H	2.37	0.43
18:W:50:VAL:O	18:W:53:SER:N	2.50	0.43
19:X:14:SER:HB2	19:X:15:GLU:OE1	2.18	0.43
19:X:3:THR:HA	19:X:6:ASP:OD2	2.18	0.43
24:2:59:ARG:O	24:2:62:THR:HG23	2.18	0.43
26:4:59:PHE:CE1	26:4:70:GLY:N	2.87	0.43
30:8:58:ILE:O	30:8:61:LEU:CG	2.66	0.43
1:A:49:A:N7	1:A:120:U:H5	2.16	0.43
1:A:1388:G:C2'	1:A:1389:G:H5'	2.48	0.43
1:A:1815:A:OP2	3:D:54:ARG:NH2	2.46	0.43
1:A:190:A:C4	1:A:207:A:C2	3.06	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2263:C:H41	22:O:15:ASP:HA	1.83	0.43
1:A:2322:A:H2'	1:A:2323:G:O4'	2.19	0.43
1:A:2489:G:O6	1:A:2490:G:O6	2.36	0.43
1:A:2543:G:C6	1:A:2544:G:C6	3.06	0.43
1:A:356:G:H2'	1:A:357:A:H8	1.82	0.43
1:A:596:G:H2'	1:A:597:U:O4'	2.19	0.43
1:A:844:C:H2'	1:A:845:G:O4'	2.18	0.43
2:B:66:A:C6	2:B:107:U:C4	3.06	0.43
2:B:11:C:OP2	2:B:12:C:N4	2.44	0.43
3:D:44:ASN:HB3	3:D:49:ILE:CG2	2.47	0.43
4:E:25:VAL:HG21	15:T:8:LYS:HG3	2.00	0.43
4:E:3:GLY:CA	4:E:81:ILE:HG21	2.49	0.43
6:G:44:GLY:HA2	6:G:88:ILE:HD11	2.00	0.43
6:G:67:LYS:N	6:G:67:LYS:HD2	2.33	0.43
8:I:83:ALA:O	8:I:85:GLU:N	2.51	0.43
9:N:17:ASP:O	9:N:55:VAL:O	2.34	0.43
10:O:63:VAL:O	10:O:63:VAL:HG23	2.17	0.43
1:A:1030:G:OP2	12:Q:128:LYS:HE2	2.18	0.43
13:R:48:VAL:O	13:R:49:ASP:C	2.57	0.43
15:T:105:LEU:C	15:T:107:ASP:OD1	2.56	0.43
16:U:79:PHE:HD2	16:U:79:PHE:C	2.18	0.43
17:V:1:MET:HE1	17:V:43:GLU:HG2	2.00	0.43
18:W:34:ASN:O	18:W:35:ILE:C	2.55	0.43
19:X:70:LEU:HD23	19:X:70:LEU:H	1.77	0.43
20:Y:75:ILE:HG12	20:Y:76:CYS:H	1.79	0.43
21:Z:166:SER:HB2	21:Z:167:PRO:C	2.39	0.43
22:O:27:GLU:HB2	22:O:69:PHE:CD1	2.53	0.43
23:1:44:PRO:O	23:1:46:LEU:N	2.51	0.43
23:1:94:LEU:O	23:1:95:LEU:HB2	2.18	0.43
26:4:15:ILE:CD1	26:4:15:ILE:N	2.78	0.43
27:5:15:ARG:HA	27:5:18:ALA:HB3	1.99	0.43
1:A:1674:G:H1'	1:A:1676:A:N6	2.33	0.43
1:A:1786:A:C8	1:A:1938:A:C6	3.06	0.43
1:A:1944:U:O2	1:A:1955:U:H5''	2.19	0.43
1:A:298:G:P	20:Y:85:VAL:HG22	2.58	0.43
1:A:606:U:H4'	1:A:658:C:H4'	2.01	0.43
1:A:814:C:H41	11:P:25:SER:HA	1.83	0.43
1:A:856:C:H1'	22:O:27:GLU:HB3	2.00	0.43
2:B:80:U:O2'	2:B:81:G:H5'	2.18	0.43
4:E:155:LYS:O	4:E:156:MET:HG3	2.19	0.43
4:E:51:PHE:O	4:E:74:PRO:CB	2.67	0.43
6:G:114:ILE:O	6:G:116:ASP:N	2.51	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:136:ARG:O	6:G:154:GLY:CA	2.62	0.43
8:I:93:THR:HG22	8:I:119:PRO:HB3	1.99	0.43
9:N:118:LYS:C	9:N:120:LEU:H	2.20	0.43
9:N:131:GLN:HE21	9:N:131:GLN:HB3	1.57	0.43
13:R:74:LYS:O	13:R:76:VAL:N	2.45	0.43
14:S:110:LEU:HD23	14:S:112:PHE:CE2	2.54	0.43
15:T:19:LEU:HA	15:T:20:PRO:HD3	1.88	0.43
16:U:99:ALA:HA	16:U:106:PHE:HB2	2.01	0.43
23:1:29:GLY:O	23:1:31:GLY:N	2.49	0.43
23:1:92:LYS:O	23:1:93:GLU:C	2.56	0.43
29:7:17:GLY:O	29:7:20:ALA:HB3	2.19	0.43
1:A:1292:U:H2'	1:A:1293:C:C6	2.54	0.43
1:A:1313:U:H4'	1:A:1332:G:H4'	1.99	0.43
1:A:2581:G:N3	1:A:2581:G:H2'	2.34	0.43
1:A:564:C:H2'	1:A:565:C:O4'	2.18	0.43
1:A:604:G:C6	1:A:625:G:C2	3.06	0.43
2:B:112:G:H2'	2:B:113:C:C6	2.54	0.43
3:D:43:ARG:CZ	3:D:49:ILE:HG21	2.49	0.43
4:E:143:ASN:ND2	4:E:143:ASN:N	2.65	0.43
7:H:92:ILE:CD1	7:H:160:LYS:HD3	2.48	0.43
7:H:59:ARG:CG	7:H:59:ARG:NH1	2.79	0.43
7:H:86:GLU:CD	7:H:86:GLU:H	2.16	0.43
9:N:30:ILE:HG22	9:N:34:LEU:CD2	2.48	0.43
10:O:51:ALA:O	10:O:53:LYS:HE3	2.19	0.43
10:O:61:VAL:O	10:O:61:VAL:HG13	2.18	0.43
1:A:943:U:OP1	11:P:36:LYS:HG2	2.19	0.43
14:S:42:ASP:C	14:S:44:LYS:N	2.72	0.43
15:T:89:VAL:O	15:T:90:GLN:HB2	2.19	0.43
1:A:1266:G:N7	18:W:15:ARG:NH1	2.66	0.43
20:Y:6:HIS:N	20:Y:6:HIS:ND1	2.66	0.43
20:Y:84:ARG:HD3	20:Y:86:ARG:HH11	1.83	0.43
24:2:62:THR:O	24:2:65:ASN:HB2	2.18	0.43
26:4:43:TYR:O	26:4:46:GLN:HA	2.19	0.43
27:5:40:LYS:HE2	27:5:47:PRO:CG	2.49	0.43
1:A:577:G:O2'	1:A:1254:A:OP1	2.37	0.43
1:A:1503:U:H2'	1:A:1504:C:H6	1.84	0.43
1:A:1959:G:C6	1:A:1960:A:C5	3.07	0.43
1:A:214:G:H1'	1:A:216:A:O2'	2.19	0.43
1:A:2281:C:O2'	1:A:2282:G:H5'	2.19	0.43
1:A:238:C:H2'	1:A:239:U:O4'	2.19	0.43
1:A:363(B):G:H2'	1:A:363(C):G:C8	2.50	0.43
1:A:372:G:HO2'	1:A:373:U:H5	1.63	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:448:U:H1'	5:F:84:VAL:CG2	2.49	0.43
1:A:529:A:H8	1:A:530:G:C6	2.37	0.43
1:A:869:G:H1	1:A:908:C:H42	1.67	0.43
1:A:1695:G:H1'	3:D:8:PRO:O	2.18	0.43
4:E:13:ARG:HB2	4:E:13:ARG:HH11	1.81	0.43
4:E:16:ARG:O	4:E:18:ASP:O	2.36	0.43
6:G:131:TYR:HE2	6:G:133:LEU:HD22	1.84	0.43
6:G:145:THR:O	6:G:146:TYR:HB3	2.19	0.43
8:I:4:ILE:HG22	8:I:16:GLY:HA2	2.00	0.43
9:N:90:MET:O	9:N:91:LEU:C	2.57	0.43
13:R:54:LEU:O	13:R:62:ALA:HB1	2.19	0.43
15:T:64:ARG:HH11	15:T:64:ARG:HG2	1.84	0.43
16:U:43:GLY:HA3	17:V:73:SER:OG	2.19	0.43
22:O:11:ARG:HG2	22:O:11:ARG:H	1.64	0.43
26:4:48:ARG:C	26:4:49:PHE:HD1	2.22	0.43
29:7:5:TRP:CD1	29:7:7:PRO:HG3	2.53	0.43
1:A:1085:A:HO2'	1:A:1086:A:P	2.39	0.43
1:A:1136:G:H2'	1:A:1137:G:C8	2.54	0.43
1:A:1164:G:H2'	1:A:1165:U:O4'	2.19	0.43
1:A:1194:A:OP2	1:A:1194:A:H8	2.02	0.43
1:A:207:A:H2'	1:A:208:C:O4'	2.19	0.43
2:B:99:A:C4	2:B:100:G:C8	3.06	0.43
2:B:103:U:O3'	21:Z:72:ARG:HD3	2.18	0.43
2:B:44:G:H5''	2:B:45:A:OP1	2.19	0.43
3:D:181:GLU:HA	3:D:272:ALA:CB	2.38	0.43
3:D:17:THR:HG22	3:D:204:ILE:HA	1.98	0.43
3:D:30:GLU:CD	3:D:63:ARG:HE	2.21	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	2.18	0.43
1:A:1142(A):A:H4'	9:N:25:ARG:HH22	1.84	0.43
9:N:26:LEU:HG	9:N:30:ILE:CD1	2.49	0.43
13:R:51:LEU:HD13	13:R:66:VAL:HG22	2.01	0.43
14:S:30:ARG:NH2	14:S:92:TYR:HD1	2.17	0.43
20:Y:47:LYS:O	20:Y:49:VAL:N	2.48	0.43
12:Q:81:VAL:CG2	22:O:7:LEU:HD21	2.45	0.43
25:3:50:VAL:HB	25:3:53:LEU:HD12	2.00	0.43
27:5:56:LYS:O	27:5:57:VAL:C	2.57	0.43
1:A:106:C:H2'	1:A:107:C:H6	1.84	0.43
1:A:1102:C:H2'	1:A:1103:A:H5''	2.00	0.43
1:A:1319:G:C6	1:A:1320:C:N4	2.87	0.43
1:A:1469:A:C5	1:A:1470:G:N7	2.87	0.43
1:A:1857:G:O2'	1:A:1885:A:N6	2.51	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:320:A:H5''	1:A:321:G:OP1	2.18	0.43
1:A:349:G:C5	1:A:350:U:C5	3.06	0.43
1:A:468:G:N7	29:7:39:ARG:NH2	2.64	0.43
1:A:709:U:H2'	1:A:710:G:C8	2.54	0.43
4:E:23:VAL:HG12	4:E:184:VAL:O	2.19	0.43
7:H:120:GLY:O	7:H:136:ILE:HD12	2.19	0.43
8:I:88:ILE:HB	8:I:121:LYS:HG3	1.99	0.43
9:N:57:ALA:O	9:N:124:ALA:HA	2.18	0.43
1:A:389:G:H22	11:P:72:PRO:CD	2.30	0.43
12:Q:57:HIS:ND1	12:Q:58:PHE:N	2.66	0.43
15:T:89:VAL:O	15:T:90:GLN:CB	2.67	0.43
23:1:53:VAL:CG1	23:1:54:ALA:N	2.81	0.43
27:5:3:LYS:O	27:5:4:HIS:C	2.56	0.43
29:7:32:LYS:O	29:7:33:ARG:C	2.56	0.43
1:A:1136:G:H2'	1:A:1137:G:H8	1.84	0.43
1:A:1239:G:H2'	1:A:1240:U:O4'	2.19	0.43
1:A:1364:G:OP1	23:1:3:LYS:HG3	2.19	0.43
1:A:1508:A:O2'	1:A:1509:C:O4'	2.34	0.43
1:A:1352:U:O2	1:A:1570:A:H2	2.02	0.43
1:A:1770:G:C5	1:A:1771:C:C5	3.07	0.43
1:A:2103:C:H2'	1:A:2104:G:H8	1.84	0.43
1:A:2114:A:N6	1:A:2119:A:H62	2.17	0.43
1:A:2723:C:OP1	13:R:3:HIS:CD2	2.70	0.43
1:A:2865:U:C4	1:A:2866:U:C4	3.07	0.43
1:A:422:A:C6	1:A:423:A:C5	3.06	0.43
5:F:63:LYS:CE	5:F:67:GLN:HB2	2.49	0.43
6:G:139:LEU:HA	6:G:144:ILE:HG21	2.00	0.43
6:G:7:LEU:CD2	6:G:176:LEU:HD22	2.44	0.43
6:G:25:TYR:CZ	6:G:32:PRO:HD3	2.54	0.43
8:I:98:ALA:HB2	8:I:111:PRO:HB3	2.01	0.43
8:I:5:LEU:HD11	8:I:19:VAL:HG12	2.00	0.43
1:A:1006:C:O2	9:N:106:MET:HG2	2.18	0.43
9:N:62:VAL:HG12	9:N:66:LYS:HB2	2.01	0.43
10:O:78:ARG:HH21	15:T:103:ARG:HH22	1.64	0.43
11:P:101:VAL:HG13	11:P:102:ARG:N	2.33	0.43
13:R:81:ASP:OD2	13:R:81:ASP:N	2.51	0.43
1:A:2335:A:OP2	14:S:13:ARG:HB2	2.19	0.43
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ3	1.79	0.43
22:O:72:ARG:HB3	22:O:75:LEU:HB2	2.00	0.42
24:2:6:VAL:O	24:2:7:ARG:C	2.57	0.42
28:6:50:ARG:HH11	28:6:50:ARG:HG2	1.84	0.42
1:A:1309:G:H4'	29:7:7:PRO:HB2	1.99	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1027:A:C6	1:A:1126:A:C4	3.06	0.42
1:A:1165:U:H2'	1:A:1166:C:C6	2.53	0.42
1:A:1234:U:H2'	1:A:1235:G:O4'	2.19	0.42
1:A:770:G:N3	1:A:1354:A:H2	2.17	0.42
1:A:1382:G:H4'	1:A:1573:G:N2	2.34	0.42
1:A:1465:G:C4	1:A:1466:G:C8	3.07	0.42
1:A:1928:A:O2'	1:A:1929:G:H5'	2.19	0.42
1:A:260:G:C6	1:A:261:G:N7	2.86	0.42
1:A:2832:U:H4'	1:A:2833:G:C5'	2.49	0.42
1:A:582:G:H2'	1:A:583:G:H8	1.84	0.42
1:A:772:C:H2'	1:A:773:U:H6	1.83	0.42
1:A:910:A:C6	1:A:911:A:C6	3.07	0.42
1:A:842:G:N2	1:A:937:U:C2	2.86	0.42
4:E:179:GLU:CB	4:E:181:LEU:HD23	2.24	0.42
4:E:203:LYS:HD2	4:E:203:LYS:C	2.39	0.42
5:F:45:ARG:HH11	5:F:45:ARG:HG2	1.82	0.42
1:A:1257:C:O2'	5:F:84:VAL:HG12	2.20	0.42
6:G:16:ARG:NE	6:G:31:VAL:HG11	2.34	0.42
6:G:34:LEU:HD11	6:G:99:MET:CE	2.49	0.42
7:H:125:VAL:CG1	7:H:126:PRO:CG	2.94	0.42
7:H:125:VAL:HG12	7:H:126:PRO:CD	2.49	0.42
8:I:133:HIS:HB2	8:I:134:PRO:CD	2.48	0.42
11:P:107:LYS:O	11:P:108:LYS:C	2.58	0.42
11:P:52:GLU:OE2	11:P:58:THR:N	2.52	0.42
13:R:94:TYR:N	13:R:94:TYR:CD2	2.87	0.42
14:S:105:ALA:C	14:S:110:LEU:HD21	2.39	0.42
17:V:38:LEU:CD2	17:V:39:LEU:N	2.82	0.42
20:Y:97:ARG:HH21	20:Y:98:VAL:CG2	2.32	0.42
21:Z:9:TYR:CE2	21:Z:61:LEU:HD13	2.54	0.42
23:1:13:ILE:CG1	23:1:42:GLN:HB2	2.49	0.42
23:1:8:SER:CB	23:1:66:HIS:CE1	3.01	0.42
24:2:27:GLU:H	24:2:27:GLU:CD	2.17	0.42
25:3:46:ASN:O	25:3:50:VAL:HG22	2.19	0.42
1:A:1027:A:N6	1:A:1126:A:C4	2.87	0.42
1:A:1381:G:C6	1:A:1382:G:C5	3.06	0.42
1:A:2037:G:H2'	1:A:2038:G:C8	2.54	0.42
1:A:2572:A:N3	4:E:144:ARG:NH2	2.67	0.42
1:A:264:C:O2'	1:A:265:A:H5''	2.19	0.42
1:A:2771:C:H5''	4:E:202:LYS:HG2	2.00	0.42
1:A:569:U:C4	1:A:570:G:C6	3.07	0.42
1:A:984:A:H5''	1:A:985:C:C5	2.48	0.42
3:D:33:LEU:O	3:D:35:LYS:N	2.52	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:25:ASP:H	12:Q:102:VAL:HG23	1.84	0.42
13:R:10:LEU:O	13:R:12:ARG:N	2.52	0.42
14:S:99:LYS:C	14:S:101:LEU:N	2.72	0.42
18:W:65:LEU:CD1	18:W:68:ARG:NH1	2.75	0.42
21:Z:177:PRO:HB2	21:Z:178:GLU:H	1.74	0.42
23:1:72:GLU:O	23:1:75:GLU:HB2	2.19	0.42
23:1:73:LEU:C	23:1:75:GLU:N	2.70	0.42
27:5:20:ARG:HA	27:5:23:HIS:CE1	2.54	0.42
28:6:33:LYS:C	28:6:35:GLU:H	2.22	0.42
1:A:1199:U:H6	1:A:1199:U:O5'	2.02	0.42
1:A:2532:G:H1'	1:A:2663:G:H22	1.84	0.42
1:A:1759:A:H1'	1:A:2711:A:C2	2.54	0.42
1:A:478:A:C6	1:A:480:A:C6	3.08	0.42
1:A:978:G:H2'	1:A:979:G:O4'	2.19	0.42
3:D:31:LYS:C	3:D:32:SER:O	2.54	0.42
4:E:197:ILE:CD1	4:E:199:ARG:HH12	2.26	0.42
4:E:36:ARG:HH11	4:E:36:ARG:CB	2.28	0.42
5:F:128:ALA:O	5:F:129:PHE:CB	2.67	0.42
6:G:121:ASN:HA	6:G:181:ARG:NH2	2.34	0.42
6:G:77:ILE:H	6:G:82:LEU:HB2	1.85	0.42
9:N:43:THR:HA	9:N:44:PRO:HD2	1.92	0.42
11:P:120:ALA:HB1	11:P:138:LEU:CB	2.49	0.42
11:P:98:GLU:O	11:P:99:LEU:C	2.57	0.42
14:S:64:GLU:O	14:S:68:GLN:HG3	2.19	0.42
15:T:110:ILE:CG2	15:T:111:ARG:N	2.82	0.42
18:W:19:LEU:O	18:W:22:ASP:HB2	2.19	0.42
21:Z:92:SER:HB3	21:Z:93:ASP:H	1.66	0.42
24:2:48:HIS:O	24:2:49:LYS:C	2.57	0.42
26:4:23:GLU:C	26:4:24:THR:HG1	2.22	0.42
29:7:47:ARG:HB2	29:7:48:LYS:H	1.64	0.42
1:A:106:C:H2'	1:A:107:C:C6	2.54	0.42
1:A:1429:G:H2'	1:A:1430:C:C6	2.54	0.42
1:A:1473:G:C6	1:A:1474:C:C4	3.08	0.42
1:A:174:C:H2'	1:A:175:G:O4'	2.19	0.42
1:A:1843:C:H2'	1:A:1844:C:C6	2.54	0.42
1:A:1929:G:C8	1:A:1929:G:H3'	2.54	0.42
1:A:2512:C:H4'	4:E:122:PHE:CE2	2.55	0.42
1:A:685:A:O4'	1:A:687:C:N4	2.52	0.42
1:A:747:U:C4	27:5:2:ALA:N	2.88	0.42
1:A:846:C:C4	1:A:930:U:C4	3.08	0.42
2:B:16:G:H2'	2:B:17:C:C6	2.55	0.42
3:D:108:PRO:HG2	3:D:111:LEU:HB2	2.01	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:155:LEU:HD23	3:D:177:LEU:HD21	2.00	0.42
4:E:94:GLU:C	4:E:96:PHE:N	2.73	0.42
6:G:114:ILE:HG22	6:G:117:PHE:HB2	2.01	0.42
8:I:39:ALA:HB1	8:I:44:LEU:HD13	2.00	0.42
9:N:15:LEU:C	9:N:15:LEU:HD13	2.40	0.42
11:P:119:GLU:HA	11:P:119:GLU:OE1	2.19	0.42
16:U:91:ASP:OD2	16:U:96:ALA:HB2	2.19	0.42
17:V:38:LEU:CD1	17:V:55:ALA:HB1	2.50	0.42
20:Y:60:PHE:CD2	20:Y:60:PHE:N	2.87	0.42
29:7:12:ARG:HH21	29:7:44:PRO:HB3	1.85	0.42
30:8:28:GLY:O	30:8:29:LYS:O	2.37	0.42
30:8:53:PRO:HD2	30:8:54:GLU:H	1.84	0.42
1:A:1061:U:H4'	1:A:1070:A:H1'	2.00	0.42
1:A:1360:A:C6	1:A:1372:U:O4	2.72	0.42
1:A:1379:A:H4'	1:A:1380:G:OP2	2.18	0.42
1:A:1389:G:C2	1:A:1390:U:C2	3.08	0.42
1:A:2230:G:C6	1:A:2231:C:C4	3.08	0.42
1:A:2392:A:C2	1:A:2429:G:C2	3.08	0.42
1:A:381:G:OP1	23:1:16:ASN:ND2	2.42	0.42
1:A:452:G:C2	1:A:458:G:C5	3.08	0.42
1:A:482:A:O2'	20:Y:47:LYS:NZ	2.50	0.42
2:B:50:G:OP1	14:S:63:THR:HG23	2.20	0.42
3:D:177:LEU:C	3:D:179:SER:H	2.23	0.42
3:D:75:ILE:HG21	3:D:99:ASP:HB2	2.02	0.42
4:E:117:MET:HA	4:E:122:PHE:N	2.35	0.42
4:E:176:ILE:N	4:E:176:ILE:HD12	2.35	0.42
4:E:104:VAL:CG1	4:E:188:VAL:HG23	2.49	0.42
6:G:117:PHE:CE1	6:G:119:GLY:CA	3.03	0.42
6:G:73:ALA:O	6:G:84:LYS:O	2.38	0.42
7:H:136:ILE:O	7:H:137:ASP:O	2.37	0.42
10:O:1:MET:HG2	10:O:67:LYS:HG2	2.01	0.42
1:A:1952:A:C4	10:O:22:ILE:HD12	2.53	0.42
11:P:125:VAL:C	11:P:145:PRO:HD2	2.39	0.42
15:T:3:ARG:O	15:T:4:GLY:C	2.58	0.42
15:T:54:ARG:HA	15:T:59:THR:HG23	2.02	0.42
15:T:96:ARG:CZ	15:T:96:ARG:HB2	2.49	0.42
17:V:59:ALA:HA	17:V:95:LEU:O	2.19	0.42
19:X:87:GLN:C	19:X:88:LYS:HG3	2.40	0.42
21:Z:24:LEU:HD21	21:Z:86:VAL:CG2	2.50	0.42
26:4:54:GLY:HA2	26:4:57:GLU:CG	2.50	0.42
1:A:1707:G:C5	1:A:1756:G:C6	3.07	0.42
1:A:758:C:O2	1:A:1981:A:H2	2.02	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2238:G:H2'	1:A:2238:G:N3	2.34	0.42
1:A:2283:C:C2	1:A:2389:G:C2	3.07	0.42
1:A:2516:G:C6	1:A:2517:C:N4	2.87	0.42
1:A:2804:C:H2'	1:A:2805:G:O4'	2.20	0.42
1:A:312:G:H5'	1:A:331:A:O2'	2.20	0.42
1:A:307:G:H21	1:A:330:A:H62	1.66	0.42
1:A:536:A:N6	1:A:556:G:O6	2.52	0.42
2:B:11:C:O5'	2:B:12:C:H5	2.03	0.42
3:D:12:SER:O	3:D:14:ARG:N	2.51	0.42
3:D:25:THR:HG23	3:D:27:THR:HB	2.02	0.42
3:D:2:ALA:O	3:D:3:VAL:CB	2.68	0.42
5:F:183:VAL:HG22	5:F:184:TYR:N	2.35	0.42
6:G:55:LYS:O	6:G:59:GLU:HB2	2.19	0.42
7:H:26:VAL:CG1	7:H:33:LEU:HB2	2.50	0.42
8:I:144:VAL:HG22	8:I:145:VAL:H	1.85	0.42
11:P:37:GLY:O	11:P:38:GLN:C	2.58	0.42
11:P:64:LYS:HG3	30:8:25:MET:CE	2.50	0.42
12:Q:20:ALA:HA	12:Q:98:LYS:HB3	2.02	0.42
13:R:10:LEU:C	13:R:12:ARG:N	2.72	0.42
14:S:15:ARG:O	14:S:19:LYS:HD3	2.20	0.42
16:U:79:PHE:CD2	16:U:83:LEU:HD13	2.54	0.42
18:W:81:ALA:C	18:W:82:LEU:HD12	2.40	0.42
21:Z:16:SER:O	21:Z:20:ARG:HB2	2.19	0.42
21:Z:72:ARG:HH22	21:Z:97:GLU:C	2.18	0.42
25:3:7:LYS:HG2	25:3:7:LYS:O	2.19	0.42
26:4:12:ALA:HB1	26:4:30:GLU:N	2.35	0.42
27:5:40:LYS:HE2	27:5:47:PRO:HG2	2.02	0.42
28:6:25:LYS:HE2	28:6:27:LYS:CD	2.50	0.42
28:6:36:LEU:HD13	28:6:50:ARG:HH12	1.81	0.42
28:6:7:ILE:O	28:6:8:LYS:CG	2.68	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
31:9:17:ILE:CG2	31:9:18:ARG:N	2.82	0.42
1:A:1208:C:C4	1:A:1209:G:N7	2.88	0.42
1:A:1353:A:C8	1:A:1377:G:N2	2.87	0.42
1:A:1798:U:O2	1:A:1822:G:N2	2.53	0.42
1:A:2630:G:O4'	1:A:2894:G:H1'	2.19	0.42
1:A:568:U:O2'	1:A:570:G:N7	2.45	0.42
1:A:729:G:C4	1:A:1775:U:C2	3.08	0.42
1:A:918:A:C5	1:A:919:G:H1'	2.55	0.42
2:B:24:G:H1'	2:B:27:C:N4	2.34	0.42
4:E:143:ASN:HB2	4:E:147:PRO:HD2	2.00	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:28:ALA:HB3	4:E:93:VAL:CG2	2.47	0.42
4:E:36:ARG:NH1	4:E:36:ARG:HB3	2.30	0.42
5:F:109:GLY:O	5:F:110:LEU:C	2.58	0.42
5:F:62:ARG:CB	5:F:62:ARG:NH1	2.82	0.42
6:G:109:VAL:C	6:G:112:PRO:HD2	2.40	0.42
1:A:2306:C:N4	6:G:42:GLY:O	2.51	0.42
6:G:4:ASP:O	6:G:5:VAL:HB	2.19	0.42
7:H:58:GLU:O	7:H:60:ARG:N	2.53	0.42
7:H:89:ILE:H	7:H:89:ILE:CD1	2.32	0.42
8:I:79:ILE:HG21	8:I:142:VAL:HG12	2.01	0.42
12:Q:27:VAL:HG11	12:Q:134:ARG:HG3	2.00	0.42
1:A:2009:G:H1'	13:R:107:ASP:O	2.20	0.42
13:R:34:ILE:HG22	13:R:35:THR:N	2.35	0.42
14:S:95:HIS:O	14:S:96:GLY:C	2.57	0.42
20:Y:95:LYS:HA	20:Y:101:LYS:N	2.33	0.42
1:A:458:G:O2'	29:7:39:ARG:HD3	2.20	0.42
30:8:40:GLU:O	30:8:41:ILE:C	2.56	0.42
1:A:1432:C:H2'	1:A:1433:U:O4'	2.20	0.42
1:A:213:A:H2'	1:A:214:G:O4'	2.19	0.42
1:A:223:A:N1	1:A:407:G:O2'	2.37	0.42
1:A:2547:U:H2'	1:A:2548:G:C8	2.53	0.42
1:A:2522:U:O2'	1:A:2647:U:OP1	2.23	0.42
1:A:2655:G:O2'	1:A:2656:U:P	2.78	0.42
1:A:294:A:N6	1:A:345:A:C4	2.88	0.42
1:A:449:A:O2'	1:A:450:G:H5'	2.19	0.42
1:A:484:C:OP1	20:Y:51:VAL:CG1	2.68	0.42
1:A:612:G:N3	1:A:613:U:O2	2.52	0.42
1:A:732:C:H2'	1:A:733:G:O4'	2.20	0.42
1:A:772:C:H2'	1:A:773:U:C6	2.55	0.42
2:B:37:C:O2	14:S:95:HIS:NE2	2.52	0.42
3:D:71:ASP:CB	3:D:103:ARG:HH22	2.32	0.42
4:E:152:LYS:HG2	9:N:78:TYR:CD1	2.55	0.42
4:E:31:CYS:HB3	4:E:49:LEU:HG	2.01	0.42
5:F:11:VAL:HG12	5:F:12:LEU:H	1.85	0.42
6:G:99:MET:O	6:G:103:LEU:HB2	2.20	0.42
7:H:77:LYS:HZ2	7:H:77:LYS:HB3	1.78	0.42
7:H:84:SER:O	7:H:85:LYS:CB	2.64	0.42
9:N:75:TYR:HA	9:N:82:LEU:HA	2.02	0.42
9:N:96:GLU:O	9:N:97:ARG:C	2.57	0.42
10:O:20:MET:O	10:O:41:ALA:CB	2.67	0.42
10:O:2:ILE:HG12	10:O:8:LEU:HD11	2.02	0.42
10:O:50:GLY:O	10:O:51:ALA:C	2.57	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:135:LEU:HD13	11:P:139:LYS:HE3	2.01	0.42
11:P:65:ARG:HH21	30:8:15:LYS:HB3	1.84	0.42
11:P:81:GLN:HB2	11:P:81:GLN:HE21	1.59	0.42
14:S:52:SER:HB2	14:S:55:ALA:CB	2.50	0.42
14:S:26:LEU:HB3	14:S:87:PHE:HA	2.02	0.42
15:T:24:PRO:HA	15:T:49:VAL:CG1	2.39	0.42
16:U:27:LEU:C	16:U:29:SER:N	2.73	0.42
17:V:25:LEU:H	17:V:92:THR:CG2	2.29	0.42
20:Y:91:GLU:CG	20:Y:92:ASN:N	2.83	0.42
23:1:56:GLN:HB2	23:1:57:GLU:H	1.48	0.42
28:6:24:GLU:HB3	28:6:25:LYS:H	1.56	0.42
29:7:25:PRO:HA	29:7:28:ARG:NH2	2.35	0.42
1:A:1093:G:OP1	7:H:170:ARG:HD2	2.20	0.42
1:A:1158:C:H4'	25:3:31:LEU:O	2.20	0.42
1:A:1543:A:O2'	1:A:1544:C:H3'	2.19	0.42
1:A:573:G:N1	1:A:2031:A:OP2	2.35	0.42
1:A:2212:A:H1'	1:A:2215:G:C5	2.54	0.42
1:A:2525:G:C2	1:A:2539:C:N3	2.88	0.42
1:A:2699:C:H2'	1:A:2700:C:O4'	2.20	0.42
1:A:813:U:H2'	1:A:814:C:C6	2.55	0.42
3:D:158:ALA:HB3	3:D:161:THR:CG2	2.49	0.42
3:D:263:ARG:CB	3:D:263:ARG:NH1	2.75	0.42
4:E:9:VAL:HB	4:E:10:GLY:H	1.70	0.42
4:E:128:SER:O	4:E:129:HIS:HB2	2.20	0.42
4:E:35:GLN:HB3	4:E:48:GLN:HB2	2.01	0.42
5:F:101:LEU:HD12	5:F:102:PRO:N	2.33	0.42
5:F:123:LEU:HD12	5:F:124:LEU:H	1.82	0.42
5:F:192:LEU:HD21	5:F:194:MET:HE3	2.02	0.42
6:G:27:ASN:HB3	6:G:30:GLU:OE2	2.19	0.42
7:H:119:GLU:CD	7:H:120:GLY:H	2.22	0.42
7:H:84:SER:OG	7:H:85:LYS:N	2.51	0.42
9:N:30:ILE:HG22	9:N:34:LEU:HD21	2.01	0.42
10:O:97:ARG:CA	10:O:117:LEU:HD22	2.50	0.42
15:T:105:LEU:O	15:T:105:LEU:HG	2.18	0.42
4:E:25:VAL:CG1	15:T:11:GLU:HG2	2.50	0.42
18:W:73:ALA:HB3	18:W:106:ILE:CG1	2.45	0.42
18:W:74:ALA:O	18:W:75:TYR:CB	2.65	0.42
18:W:96:ILE:O	18:W:96:ILE:CG2	2.68	0.42
19:X:14:SER:O	19:X:15:GLU:C	2.57	0.42
20:Y:20:TYR:CE1	20:Y:42:VAL:HA	2.55	0.42
20:Y:51:VAL:CG1	20:Y:52:SER:N	2.74	0.42
21:Z:163:LEU:H	21:Z:163:LEU:HG	1.74	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:80:LEU:O	23:1:81:LYS:CD	2.65	0.42
27:5:39:MET:C	27:5:40:LYS:HG3	2.39	0.42
1:A:1847:A:H5'	1:A:1848:A:OP2	2.19	0.42
1:A:1884:A:H2'	1:A:1885:A:O4'	2.20	0.42
1:A:1885:A:H3'	1:A:1886:C:C6	2.55	0.42
1:A:2072:G:C2	1:A:2073:C:C2	3.08	0.42
1:A:2359:C:H2'	1:A:2360:A:C8	2.55	0.42
1:A:2522:U:H3	1:A:2543:G:H1	1.68	0.42
1:A:2597:G:C5	1:A:2598:A:C6	3.08	0.42
1:A:273(A):G:C2	1:A:364:C:C2	3.08	0.42
1:A:270:A:H1'	1:A:370:G:C2	2.54	0.42
1:A:654(A):G:N2	1:A:654(U):A:H1'	2.35	0.42
1:A:654(A):G:N2	1:A:654(U):A:N3	2.67	0.42
1:A:947:G:N2	1:A:971:C:C2	2.87	0.42
3:D:110:GLY:O	3:D:111:LEU:C	2.58	0.42
3:D:165:ILE:O	3:D:166:GLN:NE2	2.53	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
1:A:2785:C:O2'	4:E:64:LYS:HD3	2.20	0.42
5:F:132:VAL:HG23	5:F:133:ASN:H	1.83	0.42
6:G:78:SER:O	6:G:80:PHE:N	2.53	0.42
7:H:105:LEU:N	7:H:105:LEU:CD1	2.81	0.42
9:N:10:GLU:OE2	9:N:11:PRO:CD	2.68	0.42
9:N:42:TRP:HA	9:N:48:MET:HE3	2.02	0.42
9:N:52:VAL:CG1	9:N:53:VAL:N	2.82	0.42
10:O:2:ILE:CD1	10:O:2:ILE:N	2.82	0.42
11:P:83:VAL:HG11	11:P:112:LEU:HD21	1.97	0.42
11:P:114:ILE:CD1	11:P:130:PHE:CE1	2.98	0.42
11:P:115:LEU:HB3	11:P:131:SER:HB2	2.02	0.42
11:P:39:LYS:HA	11:P:45:LEU:HD11	1.83	0.42
12:Q:34:LEU:HD23	12:Q:104:PHE:CD1	2.55	0.42
13:R:28:LEU:HD12	13:R:29:LEU:HD12	2.02	0.42
15:T:50:ILE:HD11	15:T:102:ILE:HG12	2.01	0.42
15:T:6:LEU:HD12	15:T:9:LEU:HD12	2.01	0.42
16:U:35:ALA:O	16:U:39:LEU:HG	2.19	0.42
17:V:47:VAL:HG13	17:V:48:GLY:N	2.27	0.42
17:V:15:GLU:O	17:V:96:ILE:HB	2.19	0.42
1:A:1364:G:OP2	23:1:2:SER:O	2.38	0.41
27:5:41:PRO:HA	27:5:42:PRO:HD3	1.82	0.41
28:6:41:PRO:HG3	28:6:44:ARG:HB2	2.01	0.41
1:A:1048:A:P	1:A:1110:G:H22	2.43	0.41
1:A:1206:G:C2	1:A:1207:C:C2	3.08	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1543:A:HO2'	1:A:1544:C:H3'	1.84	0.41
1:A:1654:A:OP1	13:R:2:ARG:HD2	2.20	0.41
1:A:2164:C:H2'	1:A:2165:G:O4'	2.20	0.41
1:A:2355:C:O2	22:0:39:ARG:NH2	2.46	0.41
1:A:307:G:H21	1:A:330:A:N6	2.18	0.41
1:A:532:A:N3	16:U:28:ARG:NH2	2.67	0.41
1:A:654:A:O2'	1:A:654(A):G:N7	2.47	0.41
3:D:109:ASP:HB2	3:D:197:GLY:HA2	2.02	0.41
3:D:9:TYR:CZ	3:D:13:ARG:HD3	2.54	0.41
3:D:14:ARG:CG	3:D:15:PHE:N	2.83	0.41
4:E:4:ILE:HG22	4:E:198:VAL:HB	2.02	0.41
1:A:2638:G:P	4:E:82:ARG:HH22	2.43	0.41
5:F:20:LEU:HD12	5:F:21:ALA:N	2.26	0.41
5:F:53:THR:O	5:F:55:GLY:N	2.53	0.41
6:G:41:GLN:NE2	6:G:154:GLY:O	2.52	0.41
8:I:130:TYR:CG	8:I:131:LYS:N	2.87	0.41
9:N:1:MET:HG3	9:N:1:MET:O	2.19	0.41
10:O:31:LYS:O	10:O:32:TYR:HD2	2.02	0.41
11:P:49:ARG:HH11	11:P:49:ARG:HG2	1.84	0.41
12:Q:118:LEU:HD13	12:Q:131:ILE:HG23	2.02	0.41
12:Q:20:ALA:HB2	12:Q:99:PRO:HD2	1.99	0.41
14:S:49:VAL:HG21	14:S:77:ALA:HA	2.02	0.41
14:S:92:TYR:HB2	14:S:98:VAL:HG11	2.02	0.41
16:U:6:THR:HG21	16:U:10:ARG:CZ	2.50	0.41
1:A:1011:G:OP1	16:U:75:ASN:HB3	2.20	0.41
17:V:35:LEU:HB2	17:V:37:VAL:CG2	2.49	0.41
17:V:72:VAL:O	17:V:72:VAL:HG13	2.19	0.41
18:W:17:VAL:O	18:W:18:ARG:C	2.57	0.41
19:X:57:LEU:H	19:X:57:LEU:HD12	1.85	0.41
19:X:60:ARG:HH22	29:7:47:ARG:HH12	1.68	0.41
20:Y:6:HIS:O	20:Y:7:VAL:CG1	2.59	0.41
22:0:43:THR:HG23	22:0:43:THR:O	2.20	0.41
30:8:26:LYS:HD3	30:8:26:LYS:HA	1.86	0.41
1:A:1196:C:C2	1:A:1197:G:C8	3.08	0.41
1:A:812:C:H5''	1:A:1250:G:O2'	2.20	0.41
1:A:1322:A:C5	1:A:1323:U:C4	3.08	0.41
1:A:1543:A:C2	1:A:1545:A:C4	3.08	0.41
1:A:1381:G:H1'	1:A:1571:A:N1	2.36	0.41
1:A:729:G:H2'	1:A:1775:U:H1'	2.02	0.41
1:A:1778:U:H2'	1:A:1784:A:N6	2.35	0.41
1:A:674:G:N2	1:A:2444:G:O3'	2.54	0.41
1:A:2564:A:OP1	1:A:2648:C:H4'	2.19	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2667:C:N3	7:H:110:SER:OG	2.50	0.41
1:A:319:C:H2'	1:A:320:A:O4'	2.20	0.41
1:A:356:G:H2'	1:A:357:A:C8	2.55	0.41
1:A:784:A:N7	3:D:229:VAL:HG21	2.34	0.41
1:A:818:G:H3'	1:A:1187:G:H22	1.84	0.41
1:A:2619:C:H5'	4:E:150:VAL:O	2.20	0.41
4:E:167:VAL:CG1	4:E:189:PRO:HD3	2.50	0.41
5:F:183:VAL:O	5:F:184:TYR:C	2.57	0.41
5:F:64:ILE:HG23	5:F:65:TRP:CD1	2.54	0.41
5:F:80:ALA:O	5:F:83:PHE:HB2	2.20	0.41
8:I:77:LEU:HD11	8:I:140:LEU:HD12	2.01	0.41
10:O:17:ARG:HH11	10:O:17:ARG:HG2	1.84	0.41
10:O:92:GLU:O	10:O:93:PRO:C	2.58	0.41
13:R:28:LEU:C	13:R:28:LEU:HD13	2.40	0.41
1:A:1278:A:O3'	13:R:34:ILE:HG23	2.20	0.41
13:R:85:PRO:C	13:R:87:TYR:N	2.73	0.41
16:U:97:ASP:HA	16:U:100:VAL:HG23	2.01	0.41
16:U:57:PHE:C	16:U:59:ARG:N	2.74	0.41
16:U:92:ARG:NH2	17:V:11:GLN:O	2.53	0.41
22:O:15:ASP:OD1	22:O:16:SER:N	2.53	0.41
1:A:2271:G:H5''	22:O:18:ALA:HB1	2.02	0.41
26:4:38:LYS:HG3	26:4:44:THR:OG1	2.20	0.41
1:A:1022:G:H4'	1:A:1023:U:H5'	2.02	0.41
1:A:1071:G:O5'	1:A:1071:G:H8	2.03	0.41
1:A:1417:C:H1'	1:A:1586:A:H62	1.84	0.41
1:A:155:C:H5'	1:A:161:U:OP2	2.19	0.41
1:A:1651:G:H2'	1:A:1652:A:O4'	2.20	0.41
1:A:1764:G:H2'	1:A:1765:C:C6	2.56	0.41
1:A:1843:C:H5'	3:D:253:GLN:CD	2.40	0.41
1:A:1929:G:C3'	1:A:1929:G:C8	3.03	0.41
1:A:2174:C:H2'	1:A:2175:C:C6	2.55	0.41
1:A:2316:C:H2'	1:A:2317:C:C6	2.56	0.41
1:A:2376:A:H2'	1:A:2377:A:O4'	2.20	0.41
1:A:2706:G:N2	1:A:2707:G:H1'	2.35	0.41
1:A:2860:A:C8	1:A:2861:G:H1'	2.55	0.41
1:A:412:A:N6	1:A:2412:A:O4'	2.53	0.41
1:A:582:G:H2'	1:A:583:G:C8	2.55	0.41
1:A:686:G:N2	1:A:788:A:H61	2.18	0.41
1:A:860:U:H5	1:A:917:A:N1	2.18	0.41
1:A:928:G:H5''	1:A:929:G:OP2	2.19	0.41
8:I:116:LEU:O	8:I:118:LYS:N	2.53	0.41
9:N:58:ASP:HB3	9:N:95:PRO:HB3	2.02	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:385:C:O2	11:P:71:VAL:HG21	2.20	0.41
15:T:134:GLU:OE1	15:T:135:ALA:N	2.53	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
18:W:1:MET:HG3	18:W:2:GLU:N	2.36	0.41
18:W:25:ARG:CB	18:W:25:ARG:NH1	2.79	0.41
18:W:8:ARG:NH1	18:W:8:ARG:HG3	2.34	0.41
1:A:2494:G:OP1	22:0:3:HIS:HB2	2.20	0.41
25:3:37:LEU:N	25:3:37:LEU:HD23	2.35	0.41
1:A:2372:G:O2'	28:6:46:HIS:NE2	2.35	0.41
1:A:1156:A:C8	16:U:51:LYS:HD2	2.54	0.41
1:A:1382:G:H4'	1:A:1573:G:C2	2.56	0.41
1:A:1817:G:C6	1:A:1818:U:C4	3.08	0.41
1:A:1899:G:H21	1:A:1902:C:H41	1.65	0.41
1:A:2635:C:H5'	4:E:77:ILE:CD1	2.51	0.41
1:A:2688:U:H2'	1:A:2719:G:N2	2.35	0.41
1:A:388:G:C4	1:A:390:A:C6	3.08	0.41
3:D:145:VAL:CG1	3:D:146:GLU:N	2.84	0.41
3:D:158:ALA:O	3:D:196:VAL:HG11	2.21	0.41
3:D:269:PHE:CD2	3:D:269:PHE:N	2.88	0.41
4:E:35:GLN:HG3	4:E:37:ARG:NH2	2.35	0.41
4:E:54:GLN:CD	4:E:54:GLN:N	2.73	0.41
7:H:169:VAL:HG22	7:H:170:ARG:N	2.26	0.41
9:N:114:ARG:C	9:N:116:LEU:N	2.74	0.41
5:F:34:TRP:CA	11:P:6:LEU:HD12	2.46	0.41
14:S:51:ALA:HB3	14:S:73:LEU:HD23	2.01	0.41
14:S:83:LYS:HE3	14:S:84:GLN:CG	2.50	0.41
17:V:21:ARG:HD2	17:V:91:TYR:CE2	2.55	0.41
20:Y:95:LYS:HZ1	20:Y:95:LYS:HB2	1.86	0.41
25:3:39:ASP:O	25:3:40:THR:C	2.59	0.41
26:4:61:ARG:C	26:4:63:TYR:N	2.73	0.41
30:8:14:VAL:CG1	30:8:60:LEU:HD11	2.50	0.41
1:A:2418:A:C5	1:A:2419:U:C4	3.09	0.41
1:A:2509:G:C6	1:A:2510:C:C4	3.08	0.41
1:A:2873:A:N3	13:R:5:LYS:HA	2.36	0.41
1:A:806:C:OP2	11:P:41:ARG:NE	2.54	0.41
2:B:66:A:HO2'	2:B:67:G:P	2.43	0.41
3:D:134:ARG:HG3	3:D:134:ARG:H	1.55	0.41
3:D:145:VAL:O	3:D:154:LYS:N	2.48	0.41
3:D:215:LEU:H	3:D:215:LEU:HG	1.59	0.41
3:D:182:LEU:N	3:D:272:ALA:HB3	2.32	0.41
5:F:129:PHE:O	5:F:142:TRP:HD1	2.03	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:176:LEU:HD11	5:F:180:GLY:O	2.19	0.41
6:G:51:ARG:CB	6:G:51:ARG:NH1	2.83	0.41
9:N:109:LYS:N	9:N:109:LYS:CD	2.83	0.41
9:N:27:ALA:O	9:N:28:THR:C	2.57	0.41
9:N:28:THR:O	9:N:29:LYS:C	2.59	0.41
1:A:2415:G:O3'	11:P:66:GLY:HA3	2.21	0.41
12:Q:27:VAL:HG22	12:Q:105:GLU:CD	2.41	0.41
10:O:71:ARG:HH11	15:T:74:ARG:HH21	1.65	0.41
16:U:39:LEU:O	16:U:42:ALA:N	2.53	0.41
16:U:83:LEU:HG	16:U:88:ILE:HG13	2.03	0.41
18:W:14:PRO:C	18:W:16:LYS:N	2.73	0.41
19:X:7:VAL:O	19:X:30:VAL:CG1	2.67	0.41
19:X:83:VAL:CG1	19:X:87:GLN:HB2	2.50	0.41
20:Y:95:LYS:CD	20:Y:95:LYS:H	2.33	0.41
23:1:82:LEU:HD13	23:1:83:GLU:C	2.35	0.41
25:3:37:LEU:HD12	25:3:43:ILE:CG2	2.50	0.41
26:4:4:GLY:O	26:4:5:ILE:C	2.59	0.41
30:8:25:MET:HB3	30:8:26:LYS:H	1.69	0.41
1:A:1230:C:H2'	1:A:1231:G:C8	2.56	0.41
1:A:1846:G:N2	1:A:1895:C:C2	2.88	0.41
1:A:2467:C:OP1	31:9:6:SER:OG	2.26	0.41
1:A:2545:G:N3	1:A:2565:A:H2	2.18	0.41
1:A:2636:U:H2'	1:A:2637:U:C6	2.56	0.41
1:A:2776:A:C2	1:A:2778:A:C4	3.08	0.41
1:A:2817:G:N2	1:A:2830:G:H1'	2.35	0.41
1:A:449:A:H2'	1:A:450:G:H8	1.86	0.41
1:A:851:U:H1'	25:3:46:ASN:HD21	1.86	0.41
3:D:168:ARG:O	3:D:169:GLU:HB2	2.19	0.41
4:E:161:GLY:O	4:E:162:ALA:HB3	2.20	0.41
6:G:60:LEU:C	6:G:60:LEU:HD23	2.41	0.41
6:G:95:ARG:CA	6:G:99:MET:HB3	2.50	0.41
7:H:146:ALA:HB2	7:H:164:TYR:OH	2.21	0.41
9:N:9:VAL:HB	9:N:10:GLU:H	1.70	0.41
9:N:21:LYS:O	9:N:22:THR:O	2.39	0.41
1:A:2726:U:H6	10:O:67:LYS:HZ3	1.63	0.41
1:A:2816:C:O3'	13:R:99:LYS:NZ	2.54	0.41
18:W:14:PRO:HG3	18:W:101:SER:OG	2.21	0.41
18:W:14:PRO:C	18:W:18:ARG:HD2	2.41	0.41
18:W:29:LEU:C	18:W:29:LEU:HD23	2.41	0.41
18:W:68:ARG:O	18:W:110:LYS:N	2.46	0.41
19:X:31:HIS:HA	19:X:32:PRO:HD3	1.88	0.41
19:X:60:ARG:HA	19:X:75:ASP:OD2	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:24:LEU:HD21	21:Z:86:VAL:HG23	2.02	0.41
23:1:86:SER:O	23:1:89:GLU:HB2	2.21	0.41
29:7:24:THR:HB	29:7:25:PRO:HD2	2.03	0.41
1:A:1087:G:C5	1:A:1089:G:H1'	2.56	0.41
1:A:1449:A:O2'	1:A:1530:G:N2	2.35	0.41
1:A:1514:U:C4	1:A:1515:C:N4	2.89	0.41
1:A:1349:A:N6	1:A:1598:C:H42	2.18	0.41
1:A:1949:G:H2'	1:A:1950:G:O4'	2.20	0.41
1:A:1769:G:O2'	1:A:1958:C:OP1	2.32	0.41
1:A:667:U:H2'	1:A:668:G:O4'	2.20	0.41
1:A:738:G:C6	1:A:739:G:C2	3.09	0.41
4:E:63:LEU:CD1	4:E:64:LYS:N	2.71	0.41
6:G:44:GLY:C	6:G:46:ALA:N	2.73	0.41
6:G:67:LYS:NZ	26:4:6:HIS:CD2	2.89	0.41
7:H:86:GLU:HG3	7:H:165:ALA:CA	2.49	0.41
9:N:62:VAL:CG1	9:N:66:LYS:HB2	2.51	0.41
11:P:12:ALA:C	11:P:14:LYS:N	2.73	0.41
13:R:55:ALA:HA	13:R:80:PHE:CE2	2.55	0.41
14:S:93:LYS:HB2	14:S:93:LYS:HE3	1.93	0.41
15:T:28:VAL:HG23	15:T:87:ASP:O	2.21	0.41
16:U:92:ARG:CG	16:U:92:ARG:O	2.54	0.41
17:V:38:LEU:O	17:V:51:VAL:HA	2.21	0.41
21:Z:158:PRO:HG2	21:Z:161:VAL:HG21	2.03	0.41
21:Z:5:LEU:O	21:Z:6:LYS:HB2	2.20	0.41
24:2:41:ILE:HD12	24:2:43:GLN:N	2.35	0.41
24:2:53:LEU:O	24:2:57:ILE:HG13	2.21	0.41
1:A:747:U:N1	27:5:2:ALA:HB3	2.36	0.41
30:8:56:GLU:C	30:8:58:ILE:N	2.73	0.41
1:A:1449:A:H5'	1:A:1449(A):G:OP2	2.20	0.41
1:A:1528:A:H2	1:A:1542:G:C2	2.38	0.41
1:A:2392:A:C2	1:A:2429:G:N3	2.89	0.41
1:A:608:A:C4	1:A:621:A:C6	3.09	0.41
1:A:817:C:H4'	1:A:932:G:C5	2.56	0.41
1:A:956:G:N2	1:A:959:A:H3'	2.36	0.41
3:D:117:VAL:HG22	3:D:118:VAL:N	2.35	0.41
3:D:197:GLY:O	3:D:198:ASN:HB3	2.21	0.41
4:E:24:THR:HB	4:E:184:VAL:HG23	2.02	0.41
4:E:36:ARG:O	4:E:37:ARG:C	2.59	0.41
6:G:22:ARG:HH22	6:G:175:LEU:HD21	1.85	0.41
6:G:47:LYS:HB2	6:G:47:LYS:HE3	1.80	0.41
10:O:10:VAL:HG21	10:O:16:ALA:HB3	2.03	0.41
10:O:48:PRO:O	10:O:50:GLY:N	2.54	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:101:VAL:O	11:P:103:ALA:N	2.53	0.41
13:R:29:LEU:HD11	13:R:48:VAL:CG1	2.50	0.41
14:S:53:SER:HA	14:S:56:LEU:CD2	2.50	0.41
14:S:66:ALA:HA	14:S:69:VAL:CG1	2.51	0.41
15:T:39:ARG:HG2	15:T:40:THR:N	2.25	0.41
16:U:57:PHE:O	16:U:60:LEU:N	2.54	0.41
20:Y:49:VAL:O	20:Y:50:ARG:C	2.59	0.41
24:2:61:LEU:HA	24:2:61:LEU:HD23	1.85	0.41
26:4:60:GLN:HB3	26:4:61:ARG:H	1.56	0.41
28:6:27:LYS:NZ	28:6:27:LYS:CB	2.73	0.41
28:6:8:LYS:O	28:6:9:LEU:HB2	2.21	0.41
1:A:1815:A:C8	1:A:1817:G:C4	3.09	0.41
1:A:2126:A:H1'	1:A:2127:G:OP2	2.21	0.41
1:A:2230:G:C5	1:A:2231:C:C5	3.08	0.41
1:A:2702:U:OP1	1:A:2702:U:H6	2.03	0.41
1:A:2731:G:C6	1:A:2732:G:O6	2.74	0.41
1:A:299:A:C5	1:A:322:A:C2	3.09	0.41
1:A:353:G:H2'	1:A:354:G:C8	2.54	0.41
1:A:364:C:H6	1:A:364:C:H5''	1.86	0.41
1:A:520:G:H2'	1:A:521:G:C8	2.55	0.41
1:A:581:C:H2'	1:A:582:G:C8	2.56	0.41
1:A:695:G:C6	1:A:768:G:C6	3.08	0.41
1:A:910:A:C5	12:Q:13:GLN:HG3	2.56	0.41
1:A:995:C:C4	16:U:57:PHE:CZ	3.08	0.41
2:B:89(A):A:C5	2:B:90:C:H1'	2.56	0.41
3:D:154:LYS:C	3:D:155:LEU:HD12	2.41	0.41
4:E:62:PRO:O	4:E:63:LEU:C	2.59	0.41
5:F:68:LYS:O	5:F:69:HIS:HB2	2.21	0.41
6:G:78:SER:O	6:G:79:ASN:C	2.59	0.41
7:H:145:ALA:O	7:H:148:ILE:HB	2.21	0.41
13:R:55:ALA:O	13:R:58:GLY:HA3	2.21	0.41
15:T:76:PHE:HA	15:T:77:PRO:HD3	1.75	0.41
16:U:91:ASP:OD2	16:U:96:ALA:CA	2.69	0.41
18:W:55:ALA:O	18:W:58:ALA:HB3	2.21	0.41
22:0:21:LEU:HD11	22:0:41:ARG:CZ	2.51	0.41
28:6:50:ARG:NH1	28:6:50:ARG:HG2	2.36	0.41
31:9:2:LYS:HD2	31:9:2:LYS:HA	1.96	0.41
1:A:1027:A:C6	1:A:1126:A:C5	3.09	0.41
1:A:1184:G:C5	1:A:1185:C:C5	3.09	0.41
1:A:142:G:H2'	1:A:143:C:C6	2.56	0.41
1:A:1469:A:C6	1:A:1470:G:C5	3.09	0.41
1:A:251:A:C5	1:A:252:G:H1'	2.55	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2520:C:C6	1:A:2567:G:H1'	2.55	0.41
1:A:2776:A:C6	1:A:2778:A:C6	3.09	0.41
1:A:311:A:C6	1:A:328:U:C4	3.08	0.41
1:A:330:A:O2'	1:A:331:A:H8	2.03	0.41
1:A:445:C:H2'	1:A:446:G:O4'	2.21	0.41
1:A:534:U:H2'	1:A:535:C:C6	2.56	0.41
3:D:68:LYS:O	3:D:68:LYS:HG3	2.20	0.41
5:F:59:TYR:HB3	5:F:60:SER:H	1.70	0.41
6:G:18:GLU:HA	6:G:18:GLU:OE2	2.21	0.41
6:G:53:LEU:CD1	6:G:87:PRO:HB2	2.51	0.41
7:H:137:ASP:HB2	7:H:140:LYS:CE	2.51	0.41
7:H:146:ALA:HA	7:H:164:TYR:OH	2.21	0.41
7:H:45:VAL:O	7:H:45:VAL:CG1	2.69	0.41
8:I:97:ILE:HD12	8:I:140:LEU:HD11	2.03	0.41
10:O:31:LYS:HD3	10:O:31:LYS:HA	1.92	0.41
11:P:101:VAL:HG23	11:P:106:LEU:HB3	2.03	0.41
11:P:18:ARG:HD2	11:P:27:HIS:CD2	2.56	0.41
1:A:2392:A:H1'	11:P:60:MET:CG	2.50	0.41
1:A:2404:C:O3'	11:P:77:ARG:NH2	2.53	0.41
12:Q:90:VAL:C	12:Q:92:GLY:N	2.71	0.41
17:V:38:LEU:CD1	17:V:55:ALA:CB	2.98	0.41
19:X:54:VAL:C	19:X:55:ASN:HD22	2.24	0.41
20:Y:13:VAL:O	20:Y:24:VAL:HA	2.20	0.41
20:Y:2:ARG:O	20:Y:3:VAL:O	2.38	0.41
20:Y:98:VAL:O	20:Y:99:CYS:HB3	2.21	0.41
21:Z:95:PRO:HB2	21:Z:127:LYS:HG2	2.02	0.41
21:Z:157:LEU:HA	21:Z:158:PRO:HD2	1.95	0.41
21:Z:20:ARG:O	21:Z:20:ARG:HD3	2.20	0.41
23:1:85:LEU:CD2	23:1:85:LEU:N	2.84	0.41
23:1:91:LYS:HG3	23:1:92:LYS:N	2.32	0.41
24:2:11:GLU:HA	24:2:14:ARG:HD2	2.02	0.41
24:2:18:PRO:C	24:2:20:GLU:N	2.74	0.41
24:2:65:ASN:O	24:2:66:GLU:C	2.59	0.41
26:4:26:SER:C	26:4:27:THR:O	2.58	0.41
26:4:63:TYR:O	26:4:65:ASP:N	2.53	0.41
28:6:6:ARG:NE	28:6:6:ARG:HA	2.36	0.41
30:8:40:GLU:O	30:8:42:ARG:N	2.54	0.41
1:A:108:U:C2	1:A:109:G:C8	3.09	0.41
1:A:1410:G:C2	1:A:1593:G:C2	3.09	0.41
1:A:1655:A:H2'	1:A:1656:C:O4'	2.21	0.41
1:A:2238:G:H5'	1:A:2239:G:N7	2.36	0.41
1:A:2561:A:H2'	1:A:2562:U:O4'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:270(T):G:C6	1:A:270(U):C:C4	3.08	0.41
1:A:2712:U:H1'	1:A:2712(A):A:N7	2.35	0.41
1:A:278:A:H4'	1:A:279:C:OP1	2.21	0.41
1:A:449:A:H2'	1:A:450:G:C8	2.56	0.41
1:A:479:A:O2'	1:A:481:G:H5'	2.21	0.41
1:A:863:A:H2'	1:A:864:G:H8	1.85	0.41
2:B:105:G:C2	2:B:106:G:C8	3.08	0.41
3:D:13:ARG:O	3:D:13:ARG:HG2	2.20	0.41
3:D:147:LEU:CD1	3:D:155:LEU:HD21	2.51	0.41
4:E:101:ARG:C	4:E:201:THR:OG1	2.58	0.41
7:H:20:ALA:HB3	7:H:23:ARG:HG2	2.03	0.41
8:I:93:THR:O	8:I:97:ILE:HG12	2.21	0.41
9:N:101:HIS:HD2	9:N:102:ALA:N	2.19	0.41
9:N:10:GLU:OE2	9:N:11:PRO:HD2	2.21	0.41
11:P:84:ASN:HB2	11:P:87:ASP:OD2	2.21	0.41
14:S:89:ARG:NH1	14:S:89:ARG:HG2	2.36	0.41
18:W:71:VAL:HA	18:W:107:LEU:HD12	2.02	0.41
21:Z:108:PRO:HG3	21:Z:117:LEU:HD22	2.03	0.41
22:0:35:ASN:N	22:0:35:ASN:OD1	2.54	0.40
22:0:72:ARG:N	22:0:76:GLY:O	2.52	0.40
1:A:1130:U:HO2'	1:A:1131:G:P	2.45	0.40
1:A:1439:A:C8	1:A:1440:G:C8	3.09	0.40
1:A:1839:G:C8	1:A:1927:A:H1'	2.56	0.40
1:A:221:A:H4'	1:A:222:A:O5'	2.20	0.40
1:A:2322:A:H2'	1:A:2323:G:C8	2.56	0.40
1:A:2338:G:H2'	1:A:2339:G:H8	1.86	0.40
1:A:2689:U:H4'	1:A:2690:C:O5'	2.21	0.40
1:A:607:U:H5	1:A:619:G:C5	2.39	0.40
1:A:686:G:C2	29:7:11:LYS:HE3	2.56	0.40
1:A:757:U:H2'	1:A:758:C:C6	2.55	0.40
1:A:761:A:H8	1:A:761:A:O5'	2.04	0.40
1:A:952:G:P	12:Q:16:ARG:HH12	2.45	0.40
2:B:116:G:H2'	2:B:117:G:O4'	2.20	0.40
2:B:16:G:C6	2:B:69:G:C2	3.08	0.40
3:D:228:PRO:HD3	3:D:234:GLY:O	2.21	0.40
3:D:31:LYS:O	3:D:32:SER:O	2.39	0.40
4:E:119:ARG:HG2	4:E:160:TYR:HB2	2.03	0.40
4:E:93:VAL:H	4:E:95:ILE:CD1	2.22	0.40
5:F:13:SER:OG	5:F:14:PRO:HD2	2.21	0.40
5:F:62:ARG:HB3	5:F:62:ARG:CZ	2.51	0.40
8:I:109:ILE:HB	8:I:110:ASP:H	1.65	0.40
8:I:114:LEU:HD12	8:I:129:THR:O	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:71:ILE:O	8:I:71:ILE:HG12	2.22	0.40
9:N:7:LYS:CG	9:N:8:GLN:N	2.81	0.40
10:O:13:ASN:HD21	10:O:97:ARG:HB3	1.86	0.40
12:Q:139:GLU:CG	12:Q:140:ALA:N	2.84	0.40
12:Q:52:VAL:O	12:Q:53:ALA:C	2.59	0.40
13:R:61:HIS:CE1	13:R:65:LEU:HD11	2.56	0.40
1:A:2292:C:P	14:S:17:ARG:HH22	2.43	0.40
15:T:10:VAL:O	15:T:11:GLU:C	2.60	0.40
16:U:57:PHE:O	16:U:58:ARG:C	2.59	0.40
16:U:5:LYS:C	16:U:7:GLY:N	2.74	0.40
16:U:76:TYR:O	16:U:80:ILE:HG12	2.21	0.40
20:Y:42:VAL:HG21	20:Y:67:LEU:CD1	2.52	0.40
20:Y:97:ARG:NH2	20:Y:98:VAL:CG2	2.85	0.40
6:G:112:PRO:CA	26:4:37:SER:HB2	2.51	0.40
26:4:64:GLY:C	26:4:66:SER:N	2.73	0.40
1:A:1262:A:N3	27:5:10:LYS:HE3	2.36	0.40
30:8:64:TYR:HB3	30:8:65:GLU:H	1.40	0.40
1:A:1053:C:N4	1:A:1106:G:H1	2.19	0.40
1:A:1340:U:OP2	19:X:78:LYS:NZ	2.50	0.40
1:A:1371:G:O2'	1:A:1372:U:H5	2.04	0.40
1:A:1654:A:P	13:R:2:ARG:HD2	2.62	0.40
1:A:1872:A:H5'	1:A:1878:G:OP2	2.21	0.40
1:A:1918:A:C2	1:A:1919:A:N6	2.89	0.40
1:A:2327:A:H2'	1:A:2328:A:C8	2.57	0.40
1:A:2063:C:O2	1:A:2450:A:N1	2.53	0.40
1:A:2469:A:H5'	1:A:2470:G:OP2	2.21	0.40
1:A:716:A:C2	1:A:717:G:H1'	2.56	0.40
2:B:3:C:H2'	2:B:4:C:C6	2.56	0.40
2:B:77:U:OP1	21:Z:19:ARG:NH2	2.53	0.40
3:D:35:LYS:CE	3:D:64:ILE:C	2.89	0.40
5:F:118:ALA:HA	5:F:123:LEU:HB3	2.02	0.40
1:A:1093:G:H4'	7:H:170:ARG:NH2	2.36	0.40
7:H:26:VAL:HG12	7:H:33:LEU:HB2	2.03	0.40
7:H:66:GLY:O	7:H:67:LEU:C	2.58	0.40
8:I:8:PRO:HD3	8:I:15:VAL:HG13	2.02	0.40
10:O:106:LEU:HD23	10:O:106:LEU:HA	1.88	0.40
10:O:16:ALA:HA	10:O:46:ALA:CB	2.50	0.40
10:O:86:ILE:N	10:O:86:ILE:CD1	2.83	0.40
1:A:2277:G:C5'	12:Q:85:LYS:HG3	2.50	0.40
14:S:20:ARG:HE	14:S:21:THR:HA	1.87	0.40
14:S:59:LYS:CG	14:S:60:GLY:N	2.80	0.40
15:T:50:ILE:CG2	15:T:62:THR:OG1	2.68	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:20:PRO:HG2	15:T:86:ILE:O	2.21	0.40
9:N:1:MET:HE3	16:U:95:LEU:HD21	1.98	0.40
18:W:14:PRO:O	18:W:15:ARG:C	2.58	0.40
18:W:66:GLU:HG2	18:W:67:ASP:N	2.37	0.40
20:Y:97:ARG:O	20:Y:97:ARG:CG	2.69	0.40
23:1:94:LEU:HD23	23:1:94:LEU:HA	1.81	0.40
26:4:49:PHE:N	26:4:49:PHE:HD1	2.17	0.40
26:4:52:THR:O	26:4:53:GLU:CB	2.69	0.40
30:8:17:THR:O	30:8:20:GLY:N	2.47	0.40
30:8:32:LEU:HD23	30:8:32:LEU:HA	1.94	0.40
1:A:818:G:N7	1:A:1187:G:C6	2.89	0.40
1:A:1422:G:C6	1:A:1423:G:C5	3.09	0.40
1:A:1422:G:C1'	1:A:1495:A:H61	2.35	0.40
1:A:2081:C:H2'	1:A:2082:A:H8	1.86	0.40
1:A:2320:A:C2	1:A:2333:A:C8	3.10	0.40
1:A:2512:C:H2'	1:A:2513:G:O4'	2.21	0.40
1:A:272:G:H2'	1:A:273:G:C8	2.54	0.40
1:A:597:U:H2'	1:A:598:G:C8	2.56	0.40
2:B:78:A:C2	2:B:99:A:C4	3.09	0.40
1:A:2572:A:C4	4:E:144:ARG:NH2	2.88	0.40
5:F:198:ALA:HA	5:F:201:VAL:CG1	2.41	0.40
1:A:660:G:O3'	5:F:38:ARG:NH2	2.54	0.40
7:H:170:ARG:HB3	7:H:171:LEU:H	1.47	0.40
9:N:133:GLN:C	9:N:134:ARG:HG2	2.41	0.40
10:O:47:ILE:HD12	10:O:48:PRO:CD	2.43	0.40
11:P:126:VAL:HG12	11:P:147:LEU:CD2	2.23	0.40
11:P:85:LEU:HA	11:P:85:LEU:HD23	1.92	0.40
12:Q:139:GLU:HG2	12:Q:140:ALA:N	2.36	0.40
14:S:102:ALA:C	14:S:104:GLY:N	2.73	0.40
15:T:29:ARG:NH1	15:T:29:ARG:HB2	2.36	0.40
16:U:33:ARG:O	16:U:37:GLU:HB2	2.21	0.40
21:Z:157:LEU:HA	21:Z:157:LEU:HD23	1.89	0.40
21:Z:3:TYR:O	21:Z:58:VAL:HG23	2.21	0.40
23:1:96:LYS:O	23:1:96:LYS:HG2	2.21	0.40
24:2:18:PRO:C	24:2:20:GLU:H	2.24	0.40
24:2:37:PHE:O	24:2:40:SER:HB3	2.22	0.40
24:2:47:ASN:HD22	24:2:47:ASN:N	1.99	0.40
26:4:21:VAL:O	26:4:22:ILE:O	2.40	0.40
1:A:1380:G:O5'	1:A:1380:G:H8	2.04	0.40
1:A:1388:G:O2'	1:A:1389:G:H5'	2.22	0.40
1:A:1655:A:C8	1:A:1656:C:C5	3.09	0.40
1:A:2001:A:H2'	1:A:2002:G:C8	2.56	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:252:G:O2'	1:A:253:C:H5'	2.21	0.40
1:A:299:A:C4	1:A:322:A:C6	3.10	0.40
1:A:470:A:H2'	1:A:471:A:O4'	2.21	0.40
1:A:873:G:H1	1:A:904:C:N4	2.16	0.40
2:B:16:G:H1	2:B:68:C:N4	2.20	0.40
3:D:230:ASP:OD2	3:D:230:ASP:N	2.54	0.40
4:E:93:VAL:HG21	4:E:180:ASN:HA	2.03	0.40
5:F:124:LEU:HD12	5:F:125:LEU:O	2.22	0.40
5:F:36:VAL:HG11	5:F:183:VAL:HG11	2.04	0.40
5:F:33:LEU:O	5:F:37:VAL:HG23	2.21	0.40
6:G:98:ARG:CA	6:G:101:ILE:HG12	2.40	0.40
6:G:61:ALA:CB	6:G:67:LYS:HA	2.51	0.40
7:H:128:PRO:CG	7:H:129:THR:H	2.33	0.40
12:Q:20:ALA:HB1	12:Q:99:PRO:CG	2.51	0.40
12:Q:39:PRO:HA	12:Q:97:VAL:O	2.21	0.40
13:R:31:HIS:C	13:R:33:ARG:H	2.25	0.40
14:S:24:LEU:N	14:S:24:LEU:HD22	2.37	0.40
2:B:52:A:N6	14:S:33:LYS:HG3	2.29	0.40
14:S:83:LYS:HE3	14:S:84:GLN:HG3	2.02	0.40
15:T:125:ARG:O	15:T:128:GLU:N	2.50	0.40
16:U:30:LYS:HD3	16:U:30:LYS:HA	1.84	0.40
17:V:70:ILE:O	17:V:70:ILE:HG22	2.21	0.40
21:Z:131:ARG:HG2	21:Z:131:ARG:H	1.74	0.40
23:1:86:SER:O	23:1:89:GLU:N	2.54	0.40
26:4:42:PHE:CZ	26:4:43:TYR:HB3	2.57	0.40
26:4:51:ASP:CG	26:4:51:ASP:O	2.60	0.40
1:A:2419:U:C5'	28:6:23:THR:HG22	2.43	0.40
30:8:39:LYS:O	30:8:39:LYS:HD2	2.22	0.40
1:A:121:G:H4'	1:A:148:C:H2'	2.04	0.40
1:A:161:U:H3'	1:A:162:U:C5'	2.51	0.40
1:A:1750:G:O2'	1:A:1751:C:H5'	2.22	0.40
1:A:2857:G:H22	1:A:2859:G:H3'	1.87	0.40
1:A:51:G:N3	1:A:119:A:C2	2.90	0.40
2:B:50:G:O5'	2:B:50:G:H8	2.04	0.40
3:D:107:ALA:HA	3:D:108:PRO:HD2	2.01	0.40
4:E:154:LYS:C	4:E:154:LYS:HD3	2.42	0.40
4:E:5:LEU:O	4:E:28:ALA:HA	2.22	0.40
5:F:198:ALA:C	5:F:200:GLU:H	2.25	0.40
5:F:61:GLY:O	5:F:62:ARG:C	2.57	0.40
7:H:101:ARG:O	7:H:117:PRO:HG3	2.21	0.40
10:O:7:TYR:CE1	10:O:20:MET:HE3	2.53	0.40
10:O:31:LYS:C	10:O:32:TYR:CD2	2.95	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:22:ARG:O	13:R:26:LYS:HG3	2.21	0.40
14:S:99:LYS:HE2	14:S:103:GLU:OE2	2.20	0.40
17:V:35:LEU:C	17:V:37:VAL:N	2.75	0.40
17:V:95:LEU:C	17:V:95:LEU:HD13	2.42	0.40
18:W:82:LEU:N	18:W:98:LYS:O	2.42	0.40
19:X:9:LEU:HA	24:2:36:ARG:HH21	1.86	0.40
20:Y:95:LYS:HA	20:Y:101:LYS:CB	2.51	0.40
21:Z:140:ASP:OD2	21:Z:140:ASP:N	2.53	0.40

All (3) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:45:VAL:O	20:Y:24:VAL:N[4.445]	1.97	0.23
7:H:44:VAL:CG2	20:Y:23:ARG:CD[4.445]	2.08	0.12
7:H:47:GLU:OE2	20:Y:79:CYS:CB[4.445]	2.18	0.02

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%)	204 (76%)	47 (17%)	19 (7%)	2	33
4	E	203/206 (98%)	120 (59%)	41 (20%)	42 (21%)	0	3
5	F	200/210 (95%)	143 (72%)	37 (18%)	20 (10%)	1	20
6	G	179/182 (98%)	119 (66%)	39 (22%)	21 (12%)	1	14
7	H	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0	2
8	I	144/148 (97%)	100 (69%)	27 (19%)	17 (12%)	1	14
9	N	136/140 (97%)	84 (62%)	30 (22%)	22 (16%)	0	7
10	O	120/122 (98%)	90 (75%)	21 (18%)	9 (8%)	2	30
11	P	148/150 (99%)	97 (66%)	19 (13%)	32 (22%)	0	3
12	Q	139/141 (99%)	97 (70%)	28 (20%)	14 (10%)	1	19

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	R	116/118 (98%)	82 (71%)	20 (17%)	14 (12%)	1	14
14	S	109/112 (97%)	62 (57%)	28 (26%)	19 (17%)	0	6
15	T	135/146 (92%)	83 (62%)	32 (24%)	20 (15%)	0	9
16	U	115/118 (98%)	86 (75%)	20 (17%)	9 (8%)	1	29
17	V	99/101 (98%)	73 (74%)	16 (16%)	10 (10%)	1	19
18	W	111/113 (98%)	75 (68%)	22 (20%)	14 (13%)	0	13
19	X	90/96 (94%)	77 (86%)	8 (9%)	5 (6%)	3	40
20	Y	100/110 (91%)	57 (57%)	17 (17%)	26 (26%)	0	2
21	Z	181/206 (88%)	128 (71%)	35 (19%)	18 (10%)	1	20
22	0	80/85 (94%)	67 (84%)	11 (14%)	2 (2%)	9	62
23	1	95/98 (97%)	64 (67%)	20 (21%)	11 (12%)	1	15
24	2	67/72 (93%)	46 (69%)	12 (18%)	9 (13%)	0	11
25	3	57/60 (95%)	45 (79%)	9 (16%)	3 (5%)	3	41
26	4	69/71 (97%)	23 (33%)	20 (29%)	26 (38%)	0	0
27	5	56/60 (93%)	32 (57%)	9 (16%)	15 (27%)	0	1
28	6	47/54 (87%)	15 (32%)	18 (38%)	14 (30%)	0	1
29	7	47/49 (96%)	37 (79%)	7 (15%)	3 (6%)	2	36
30	8	62/65 (95%)	36 (58%)	15 (24%)	11 (18%)	0	5
31	9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	3378/3526 (96%)	2267 (67%)	648 (19%)	463 (14%)	0	11

All (463) Ramachandran outliers are listed below:

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

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Mol	Chain	Res	Type
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
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	87	LYS
8	I	145	VAL

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
20	Y	3	VAL
20	Y	23	ARG
20	Y	48	ALA
20	Y	49	VAL
20	Y	50	ARG
20	Y	58	GLY
20	Y	63	LYS
20	Y	77	PRO
20	Y	78	ALA

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Mol	Chain	Res	Type
20	Y	96	ILE
21	Z	81	ARG
21	Z	146	ILE
21	Z	152	ALA
21	Z	159	PRO
21	Z	166	SER
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
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

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Mol	Chain	Res	Type
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	71	GLY
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
6	G	96	ARG
6	G	110	ALA
6	G	126	ASP
6	G	136	ARG
7	H	3	ARG
7	H	8	PRO

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Mol	Chain	Res	Type
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	11	ASN
8	I	114	LEU
8	I	117	GLU
8	I	133	HIS
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
13	R	11	ASN
14	S	61	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
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

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Mol	Chain	Res	Type
20	Y	41	GLY
20	Y	53	PRO
20	Y	56	PRO
20	Y	57	GLN
20	Y	91	GLU
20	Y	99	CYS
21	Z	6	LYS
21	Z	51	ALA
21	Z	113	ALA
22	0	18	ALA
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	239	ARG
3	D	242	ARG
3	D	262	ARG
4	E	62	PRO
4	E	69	LYS
4	E	82	ARG
4	E	117	MET
4	E	130	GLY
4	E	132	HIS
6	G	5	VAL
6	G	115	ARG
6	G	128	ARG
6	G	174	GLU
7	H	50	VAL
7	H	81	GLU
7	H	152	ARG
7	H	159	GLU
8	I	72	LEU
8	I	84	GLY
8	I	118	LYS

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Mol	Chain	Res	Type
8	I	122	GLU
9	N	45	ASN
9	N	130	HIS
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	57	HIS
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	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	102	CYS
21	Z	13	GLU
21	Z	177	PRO
21	Z	179	ASP
21	Z	181	GLU
23	1	74	VAL
23	1	91	LYS
23	1	93	GLU

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Mol	Chain	Res	Type
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
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
8	I	113	ARG
9	N	96	GLU
9	N	127	ASP
9	N	132	ALA
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	7	ALA
21	Z	59	LEU
21	Z	61	LEU
26	4	8	LYS
27	5	14	ALA
27	5	37	LYS
27	5	45	VAL
27	5	48	GLU
28	6	8	LYS

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Mol	Chain	Res	Type
28	6	9	LEU
28	6	10	LEU
28	6	49	HIS
30	8	25	MET
30	8	53	PRO
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
8	I	15	VAL
8	I	18	VAL
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
15	T	38	ASN
16	U	91	ASP
18	W	32	ALA
19	X	19	ALA
20	Y	7	VAL
21	Z	53	ILE
21	Z	153	SER
25	3	13	ILE
26	4	30	GLU
26	4	33	VAL
26	4	70	GLY
27	5	42	PRO
28	6	35	GLU
29	7	44	PRO
30	8	57	ARG
30	8	64	TYR
3	D	178	PRO
3	D	241	PRO

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Mol	Chain	Res	Type
6	G	109	VAL
6	G	181	ARG
7	H	7	LEU
7	H	26	VAL
8	I	13	GLY
8	I	80	PRO
17	V	36	PRO
18	W	11	ARG
18	W	33	ARG
26	4	69	LYS
27	5	57	VAL
4	E	86	PRO
4	E	184	VAL
12	Q	86	GLY
13	R	32	GLY
18	W	35	ILE
6	G	52	ILE
8	I	71	ILE
20	Y	27	VAL
20	Y	32	PRO
21	Z	143	GLY
27	5	46	CYS
3	D	34	VAL
10	O	114	ILE
20	Y	51	VAL
22	0	48	GLY
27	5	34	PRO
4	E	52	LEU
4	E	55	ASN
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%)	178 (83%)	36 (17%)	3 24

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	E	165/166 (99%)	127 (77%)	38 (23%)	1	10
5	F	161/166 (97%)	140 (87%)	21 (13%)	6	38
6	G	155/156 (99%)	131 (84%)	24 (16%)	4	28
7	H	142/148 (96%)	114 (80%)	28 (20%)	2	15
8	I	122/124 (98%)	101 (83%)	21 (17%)	3	22
9	N	117/119 (98%)	98 (84%)	19 (16%)	3	26
10	O	100/100 (100%)	90 (90%)	10 (10%)	11	52
11	P	116/116 (100%)	89 (77%)	27 (23%)	1	9
12	Q	111/111 (100%)	93 (84%)	18 (16%)	3	26
13	R	101/101 (100%)	84 (83%)	17 (17%)	3	24
14	S	87/88 (99%)	74 (85%)	13 (15%)	4	31
15	T	120/127 (94%)	97 (81%)	23 (19%)	2	16
16	U	93/94 (99%)	80 (86%)	13 (14%)	5	34
17	V	82/82 (100%)	71 (87%)	11 (13%)	6	36
18	W	92/92 (100%)	77 (84%)	15 (16%)	3	26
19	X	74/78 (95%)	63 (85%)	11 (15%)	4	31
20	Y	85/91 (93%)	70 (82%)	15 (18%)	3	21
21	Z	162/179 (90%)	139 (86%)	23 (14%)	5	34
22	0	65/67 (97%)	60 (92%)	5 (8%)	18	65
23	1	82/83 (99%)	67 (82%)	15 (18%)	2	18
24	2	64/67 (96%)	57 (89%)	7 (11%)	9	47
25	3	51/52 (98%)	40 (78%)	11 (22%)	1	11
26	4	63/63 (100%)	44 (70%)	19 (30%)	0	5
27	5	50/52 (96%)	38 (76%)	12 (24%)	1	8
28	6	48/52 (92%)	38 (79%)	10 (21%)	2	13
29	7	42/42 (100%)	39 (93%)	3 (7%)	21	69
30	8	54/55 (98%)	39 (72%)	15 (28%)	0	6
31	9	34/34 (100%)	32 (94%)	2 (6%)	28	75
All	All	2852/2923 (98%)	2370 (83%)	482 (17%)	3	24

All (482) 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
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	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

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Mol	Chain	Res	Type
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
8	I	5	LEU
8	I	27	ARG
8	I	33	ARG
8	I	35	LEU
8	I	38	LEU
8	I	56	LYS
8	I	67	ARG
8	I	70	GLU
8	I	81	VAL
8	I	96	ASP
8	I	101	LEU
8	I	113	ARG
8	I	130	TYR
8	I	131	LYS
8	I	134	PRO
8	I	135	GLU
8	I	139	GLN
8	I	140	LEU
8	I	142	VAL
9	N	2	LYS

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	59	ARG
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	8	TYR
21	Z	20	ARG
21	Z	39	VAL
21	Z	41	LEU
21	Z	52	SER
21	Z	66	SER
21	Z	71	VAL
21	Z	76	LEU
21	Z	81	ARG
21	Z	87	ASP
21	Z	92	SER
21	Z	94	GLU
21	Z	111	VAL
21	Z	123	ASP
21	Z	139	VAL
21	Z	140	ASP
21	Z	141	VAL
21	Z	144	LEU

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Mol	Chain	Res	Type
21	Z	150	LEU
21	Z	151	HIS
21	Z	156	LYS
21	Z	182	LYS
22	0	12	ASN
22	0	35	ASN
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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 (32) 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
4	E	135	HIS
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
13	R	3	HIS
15	T	55	ASN
15	T	58	ASN
16	U	94	ASN

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Mol	Chain	Res	Type
17	V	11	GLN
18	W	61	ASN
19	X	55	ASN
19	X	87	GLN
20	Y	57	GLN
21	Z	32	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
28	6	32	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2880/2916 (98%)	639 (22%)	65 (2%)
2	B	119/122 (97%)	25 (21%)	1 (0%)
32	a	1/3 (33%)	0	0
All	All	3000/3041 (98%)	664 (22%)	66 (2%)

All (664) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	U
1	A	11	G
1	A	15	G
1	A	27	G
1	A	34	C
1	A	46	C
1	A	49	A
1	A	55	G
1	A	63	U
1	A	72	U
1	A	74	A
1	A	75	G
1	A	84	A
1	A	97	C
1	A	99	U
1	A	101	G

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Mol	Chain	Res	Type
1	A	102	G
1	A	103	A
1	A	118	A
1	A	120	U
1	A	124	G
1	A	131	G
1	A	161	U
1	A	162	U
1	A	181	A
1	A	188	G
1	A	196	A
1	A	199	A
1	A	206	U
1	A	214	G
1	A	215	G
1	A	216	A
1	A	221	A
1	A	222	A
1	A	223	A
1	A	228	A
1	A	229	A
1	A	230	U
1	A	232	G
1	A	233	A
1	A	242	G
1	A	243	U
1	A	245	G
1	A	248	G
1	A	252	G
1	A	265	A
1	A	266	G
1	A	269	U
1	A	270(L)	U
1	A	270(M)	U
1	A	270(P)	C
1	A	271(B)	G
1	A	271(C)	U
1	A	271	G
1	A	274	G
1	A	275	G
1	A	276	A
1	A	278	A

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Mol	Chain	Res	Type
1	A	279	C
1	A	287	C
1	A	299	A
1	A	305	U
1	A	311	A
1	A	315	G
1	A	323	G
1	A	324	A
1	A	329	G
1	A	330	A
1	A	332	A
1	A	342	G
1	A	352	G
1	A	363	G
1	A	364	C
1	A	371	A
1	A	372	G
1	A	373	U
1	A	386	G
1	A	387	U
1	A	396	G
1	A	405	U
1	A	406	G
1	A	411	G
1	A	412	A
1	A	421	U
1	A	428	A
1	A	442	G
1	A	443	A
1	A	444	C
1	A	448	U
1	A	457	A
1	A	470	A
1	A	479	A
1	A	481	G
1	A	483	A
1	A	504	U
1	A	505	A
1	A	509	C
1	A	512	G
1	A	518	G
1	A	527	C

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Mol	Chain	Res	Type
1	A	529	A
1	A	531	C
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	563	G
1	A	573	G
1	A	575	A
1	A	586	A
1	A	588	U
1	A	603	A
1	A	607	U
1	A	613	U
1	A	614	U
1	A	615	G
1	A	617	G
1	A	620	G
1	A	622	G
1	A	624	C
1	A	626	U
1	A	627	A
1	A	629	G
1	A	631	A
1	A	634	C
1	A	637	A
1	A	638	G
1	A	645	C
1	A	646	A
1	A	648	G
1	A	651	G
1	A	654	A
1	A	654(A)	G
1	A	654(B)	C
1	A	654(V)	A
1	A	657	U
1	A	664	C
1	A	668	G

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Mol	Chain	Res	Type
1	A	686	G
1	A	702	G
1	A	704	G
1	A	708	C
1	A	709	U
1	A	717	G
1	A	722	A
1	A	730	C
1	A	747	U
1	A	753	C
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	790	C
1	A	791	C
1	A	792	G
1	A	805	G
1	A	812	C
1	A	817	C
1	A	818	G
1	A	819	A
1	A	827	U
1	A	828	U
1	A	831	G
1	A	833	U
1	A	847	U
1	A	856	C
1	A	857	C
1	A	860	U
1	A	866	A
1	A	872	A
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

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Mol	Chain	Res	Type
1	A	890	A
1	A	896	A
1	A	899	A
1	A	900	A
1	A	901	A
1	A	907	U
1	A	910	A
1	A	914	C
1	A	915	C
1	A	917	A
1	A	918	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	965	C
1	A	973	A
1	A	974	G
1	A	974(A)	C
1	A	975	G
1	A	980	A
1	A	983	A
1	A	990	A
1	A	991	C
1	A	996	A
1	A	1003	G
1	A	1005	C
1	A	1008	C
1	A	1011	G
1	A	1012	U
1	A	1013	C
1	A	1020	A
1	A	1022	G
1	A	1023	U
1	A	1024	G
1	A	1025	G
1	A	1026	U
1	A	1027	A
1	A	1033	U

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Mol	Chain	Res	Type
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	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	1088	A
1	A	1090	U
1	A	1093	G
1	A	1095	A
1	A	1096	A
1	A	1097	U
1	A	1099	G
1	A	1103	A
1	A	1104	C
1	A	1105	U
1	A	1110	G
1	A	1111	A
1	A	1122	G
1	A	1128	A
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

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Mol	Chain	Res	Type
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	1198	U
1	A	1204	A
1	A	1205	U
1	A	1206	G
1	A	1211	U
1	A	1220	A
1	A	1221	C
1	A	1236	G
1	A	1238	G
1	A	1240	U
1	A	1244	G
1	A	1248	G
1	A	1250	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
1	A	1276	A
1	A	1282	U
1	A	1300	U
1	A	1301	A
1	A	1304	C
1	A	1313	U
1	A	1321	A
1	A	1329	U
1	A	1349	A
1	A	1352	U
1	A	1365	A
1	A	1368	G
1	A	1370	C
1	A	1379	A

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Mol	Chain	Res	Type
1	A	1384	A
1	A	1385	G
1	A	1386	C
1	A	1389	G
1	A	1391	U
1	A	1398	C
1	A	1402	C
1	A	1407	C
1	A	1411	C
1	A	1412	A
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	1460	A
1	A	1461	G
1	A	1467	C
1	A	1471	A
1	A	1482	U
1	A	1483	G
1	A	1485	G
1	A	1490	A
1	A	1493	C
1	A	1494	A
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	1513	C
1	A	1514	U
1	A	1522	G
1	A	1534	G

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Mol	Chain	Res	Type
1	A	1535	U
1	A	1536	A
1	A	1537	C
1	A	1540	G
1	A	1543	A
1	A	1544	C
1	A	1545	A
1	A	1558	A
1	A	1559	G
1	A	1569	A
1	A	1578	U
1	A	1579	A
1	A	1585	C
1	A	1586	A
1	A	1592	C
1	A	1597	A
1	A	1598	C
1	A	1608	A
1	A	1609	A
1	A	1616	A
1	A	1617	C
1	A	1618	A
1	A	1640	C
1	A	1646	C
1	A	1648	C
1	A	1654	A
1	A	1667	G
1	A	1669	A
1	A	1674	G
1	A	1695	G
1	A	1699	G
1	A	1700	A
1	A	1725	G
1	A	1728	G
1	A	1729	A
1	A	1730	U
1	A	1731	G
1	A	1733	G
1	A	1734	C
1	A	1742	C
1	A	1743	G
1	A	1753	G

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Mol	Chain	Res	Type
1	A	1754	C
1	A	1756	G
1	A	1762	A
1	A	1763	G
1	A	1764	G
1	A	1772	G
1	A	1773	A
1	A	1780	A
1	A	1781	C
1	A	1784	A
1	A	1787	A
1	A	1791	A
1	A	1799	G
1	A	1800	C
1	A	1801	G
1	A	1815	A
1	A	1816	G
1	A	1819	A
1	A	1820	U
1	A	1829	A
1	A	1835	G
1	A	1836	C
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	1872	A
1	A	1878	G
1	A	1882	C
1	A	1884	A
1	A	1889	A
1	A	1896	G
1	A	1903	G
1	A	1906	G
1	A	1913	A
1	A	1923	U
1	A	1924	C
1	A	1930	G
1	A	1931	U
1	A	1936	A

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Mol	Chain	Res	Type
1	A	1939	U
1	A	1944	U
1	A	1955	U
1	A	1956	U
1	A	1960	A
1	A	1963	U
1	A	1964	G
1	A	1966	A
1	A	1967	C
1	A	1968	G
1	A	1969	A
1	A	1970	A
1	A	1971	A
1	A	1972	A
1	A	1982	C
1	A	1991	U
1	A	1993	U
1	A	2020	A
1	A	2021	C
1	A	2023	G
1	A	2031	A
1	A	2033	A
1	A	2039	C
1	A	2043	C
1	A	2055	C
1	A	2056	G
1	A	2059	A
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2069	G
1	A	2097	C
1	A	2100	G
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	2119	A
1	A	2120	G
1	A	2126	A

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Mol	Chain	Res	Type
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	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	2205	C
1	A	2210	G
1	A	2211	G
1	A	2212	A
1	A	2213	U
1	A	2215	G
1	A	2225	A
1	A	2238	G
1	A	2246	G
1	A	2275	C
1	A	2280	G
1	A	2283	C
1	A	2287	A
1	A	2288	A
1	A	2304	G
1	A	2307	G
1	A	2308	G
1	A	2310	A
1	A	2311	A
1	A	2319	G
1	A	2320	A
1	A	2325	G
1	A	2326	C
1	A	2334	G

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Mol	Chain	Res	Type
1	A	2336	A
1	A	2343	C
1	A	2345	G
1	A	2346	A
1	A	2347	C
1	A	2350	C
1	A	2355	C
1	A	2372	G
1	A	2379	G
1	A	2382	G
1	A	2383	G
1	A	2385	C
1	A	2394	C
1	A	2402	C
1	A	2403	C
1	A	2406	U
1	A	2410	G
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	2446	G
1	A	2448	A
1	A	2450	A
1	A	2469	A
1	A	2470	G
1	A	2475	C
1	A	2476	A
1	A	2482	G
1	A	2494	G
1	A	2502	G
1	A	2504	U
1	A	2505	G
1	A	2506	U
1	A	2518	A
1	A	2519	U

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Mol	Chain	Res	Type
1	A	2524	G
1	A	2525	G
1	A	2529	G
1	A	2542	A
1	A	2543	G
1	A	2554	U
1	A	2562	U
1	A	2567	G
1	A	2569	G
1	A	2573	C
1	A	2602	A
1	A	2609	U
1	A	2611	U
1	A	2612	C
1	A	2621	A
1	A	2623	G
1	A	2629	A
1	A	2632	A
1	A	2641	G
1	A	2646	C
1	A	2655	G
1	A	2656	U
1	A	2665	A
1	A	2673	G
1	A	2682	U
1	A	2689	U
1	A	2690	C
1	A	2691	C
1	A	2702	U
1	A	2703	C
1	A	2707	G
1	A	2712	U
1	A	2712(A)	A
1	A	2713	A
1	A	2714	G
1	A	2724	C
1	A	2726	U
1	A	2730	C
1	A	2733	A
1	A	2734	A
1	A	2744	G
1	A	2748	A

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Mol	Chain	Res	Type
1	A	2752	C
1	A	2758	A
1	A	2761	G
1	A	2765	A
1	A	2766	G
1	A	2770	G
1	A	2777	G
1	A	2778	A
1	A	2779	U
1	A	2789	C
1	A	2790	A
1	A	2791	C
1	A	2797	U
1	A	2807	G
1	A	2808	U
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	2847	U
1	A	2849	U
1	A	2859	G
1	A	2867	G
1	A	2868	A
1	A	2872	G
1	A	2874	C
1	A	2880	C
1	A	2891	G
1	A	2892	A
1	A	2893	G
1	A	2894	G
2	B	8	U
2	B	9	G
2	B	13	A
2	B	15	A
2	B	16	G
2	B	19	G
2	B	21	G

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Mol	Chain	Res	Type
2	B	25	A
2	B	26	A
2	B	27	C
2	B	33	G
2	B	40	U
2	B	41	U
2	B	42	C
2	B	44	G
2	B	45	A
2	B	52	A
2	B	56	G
2	B	67	G
2	B	73	A
2	B	82	G
2	B	88	C
2	B	89	G
2	B	105	G
2	B	109	G

All (66) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	74	A
1	A	83	G
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
1	A	278	A
1	A	372	G
1	A	404	C
1	A	503	A
1	A	508	G
1	A	587	C
1	A	637	A

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Mol	Chain	Res	Type
1	A	653	A
1	A	669	G
1	A	752	A
1	A	774	A
1	A	846	C
1	A	856	C
1	A	859	G
1	A	974(A)	C
1	A	1022	G
1	A	1026	U
1	A	1045	A
1	A	1078	U
1	A	1085	A
1	A	1109	C
1	A	1130	U
1	A	1178	C
1	A	1210	A
1	A	1275	A
1	A	1427	A
1	A	1543	A
1	A	1558	A
1	A	1653	G
1	A	1694	C
1	A	1698	A
1	A	1786	A
1	A	1799	G
1	A	1819	A
1	A	1929	G
1	A	1930	G
1	A	1955	U
1	A	1992	G
1	A	2126	A
1	A	2439	A
1	A	2481	G
1	A	2518	A
1	A	2566	A
1	A	2610	C
1	A	2655	G
1	A	2681	C
1	A	2689	U
1	A	2712	U
1	A	2751	G

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Mol	Chain	Res	Type
1	A	2776	A
1	A	2832	U
1	A	2867	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	2.42	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	9.22	1.41	1.23
32	a	76	PPU	C9-N6	-5.43	1.32	1.45
32	a	76	PPU	C-N3'	5.36	1.46	1.34
32	a	76	PPU	C10-N6	-5.14	1.32	1.45
32	a	76	PPU	C4-N9	-3.13	1.33	1.37
32	a	76	PPU	C8-N9	-3.06	1.32	1.36
32	a	76	PPU	O4'-C1'	2.87	1.44	1.41
32	a	76	PPU	C6-C5	-2.48	1.40	1.44
32	a	76	PPU	C5-N7	-2.02	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	-8.58	121.34	128.89
32	a	76	PPU	C3'-N3'-C	-8.12	110.25	123.19
32	a	76	PPU	C5-C4-N3	-6.29	119.85	125.98
32	a	76	PPU	C2'-C1'-N9	-5.43	98.56	113.35
32	a	76	PPU	C2'-C3'-N3'	5.18	125.10	113.08
32	a	76	PPU	C2-N1-C6	4.74	121.78	111.52
32	a	76	PPU	C4'-O4'-C1'	-3.91	105.43	109.72
32	a	76	PPU	N3-C4-N9	3.88	132.05	125.39
32	a	76	PPU	C4-C5-N7	-3.52	106.01	109.41
32	a	76	PPU	CM-OC-CZ	-3.16	110.19	117.54
32	a	76	PPU	O4'-C1'-N9	-2.64	102.36	108.10
32	a	76	PPU	C2-N3-C4	2.63	120.85	113.27
32	a	76	PPU	C4'-C3'-N3'	-2.63	108.03	113.56
32	a	76	PPU	CA-C-N3'	2.06	121.73	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 276 ligands modelled in this entry, 276 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.