Full wwPDB EM Validation Report ⓘ

Nov 13, 2022 – 04:11 AM EST

PDB ID	:	6U5U
EMDB ID	:	EMD-20656
Title	:	Electron cryomicroscopy Structure of S. cerevisiae FAS in the KS-stalled state
Authors	:	Lou, J.W.; Mazhab-Jafari, M.T.
Deposited on	:	2019-08-28
Resolution	:	2.80 Å(reported)
Based on initial model	:	2UV8

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

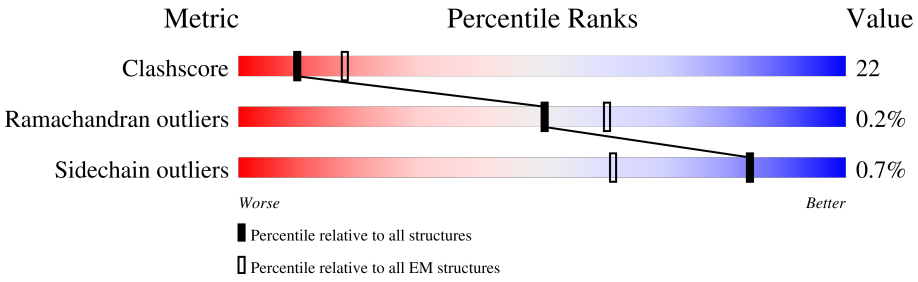
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance

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

The reported resolution of this entry is 2.80 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1887	25% 54% 30% . 15%
2	G	2073	47% 52% 45% .

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	NAP	G	2102	-	-	X	-

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 28298 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Fatty acid synthase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1611	12171	7684	2081	2362	44	0	0

- Molecule 2 is a protein called Fatty acid synthase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	G	2033	15995	10253	2660	3026	56	0	0

There are 22 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	2052	ASP	-	expression tag	UNP P07149
G	2053	TYR	-	expression tag	UNP P07149
G	2054	LYS	-	expression tag	UNP P07149
G	2055	ASP	-	expression tag	UNP P07149
G	2056	HIS	-	expression tag	UNP P07149
G	2057	ASP	-	expression tag	UNP P07149
G	2058	GLY	-	expression tag	UNP P07149
G	2059	ASP	-	expression tag	UNP P07149
G	2060	TYR	-	expression tag	UNP P07149
G	2061	LYS	-	expression tag	UNP P07149
G	2062	ASP	-	expression tag	UNP P07149
G	2063	HIS	-	expression tag	UNP P07149
G	2064	ASP	-	expression tag	UNP P07149
G	2065	ILE	-	expression tag	UNP P07149
G	2066	ASP	-	expression tag	UNP P07149
G	2067	TYR	-	expression tag	UNP P07149
G	2068	LYS	-	expression tag	UNP P07149
G	2069	ASP	-	expression tag	UNP P07149
G	2070	ASP	-	expression tag	UNP P07149
G	2071	ASP	-	expression tag	UNP P07149
G	2072	ASP	-	expression tag	UNP P07149

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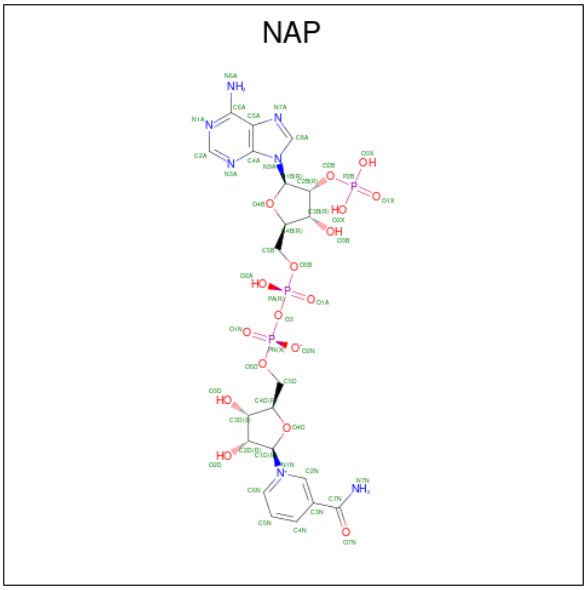
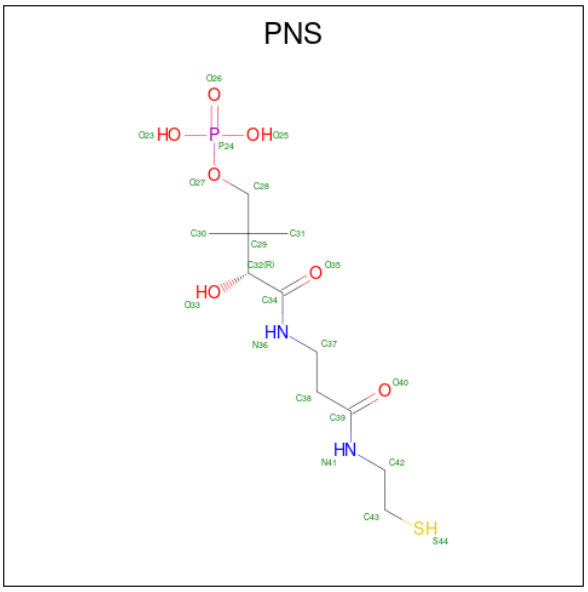
Chain	Residue	Modelled	Actual	Comment	Reference
G	2073	LYS	-	expression tag	UNP P07149

- Molecule 3 is NADP NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NAP) (formula: $C_{21}H_{28}N_7O_{17}P_3$) (labeled as "Ligand of Interest" by depositor).



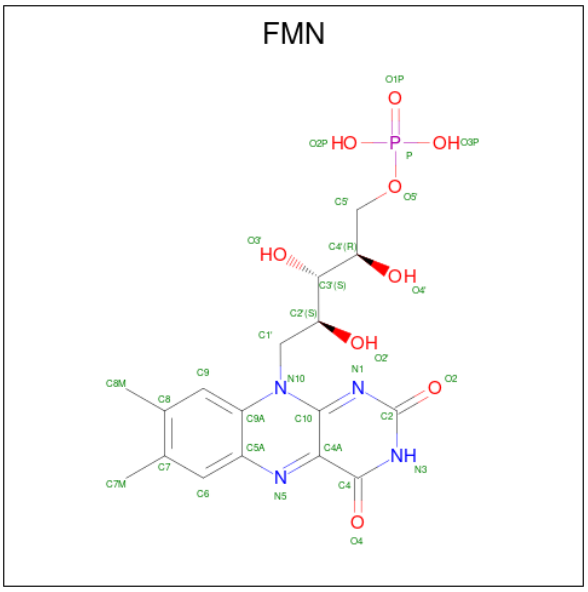
Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total	C	N	O	P	0
			48	21	7	17	3	
3	G	1	Total	C	N	O	P	0
			48	21	7	17	3	

- Molecule 4 is 4'-PHOSPHOPANTETHEINE (three-letter code: PNS) (formula: $C_{11}H_{23}N_2O_7PS$).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
4	A	1	5	1	3	1	0

- Molecule 5 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: $C_{17}H_{21}N_4O_9P$) (labeled as "Ligand of Interest" by depositor).



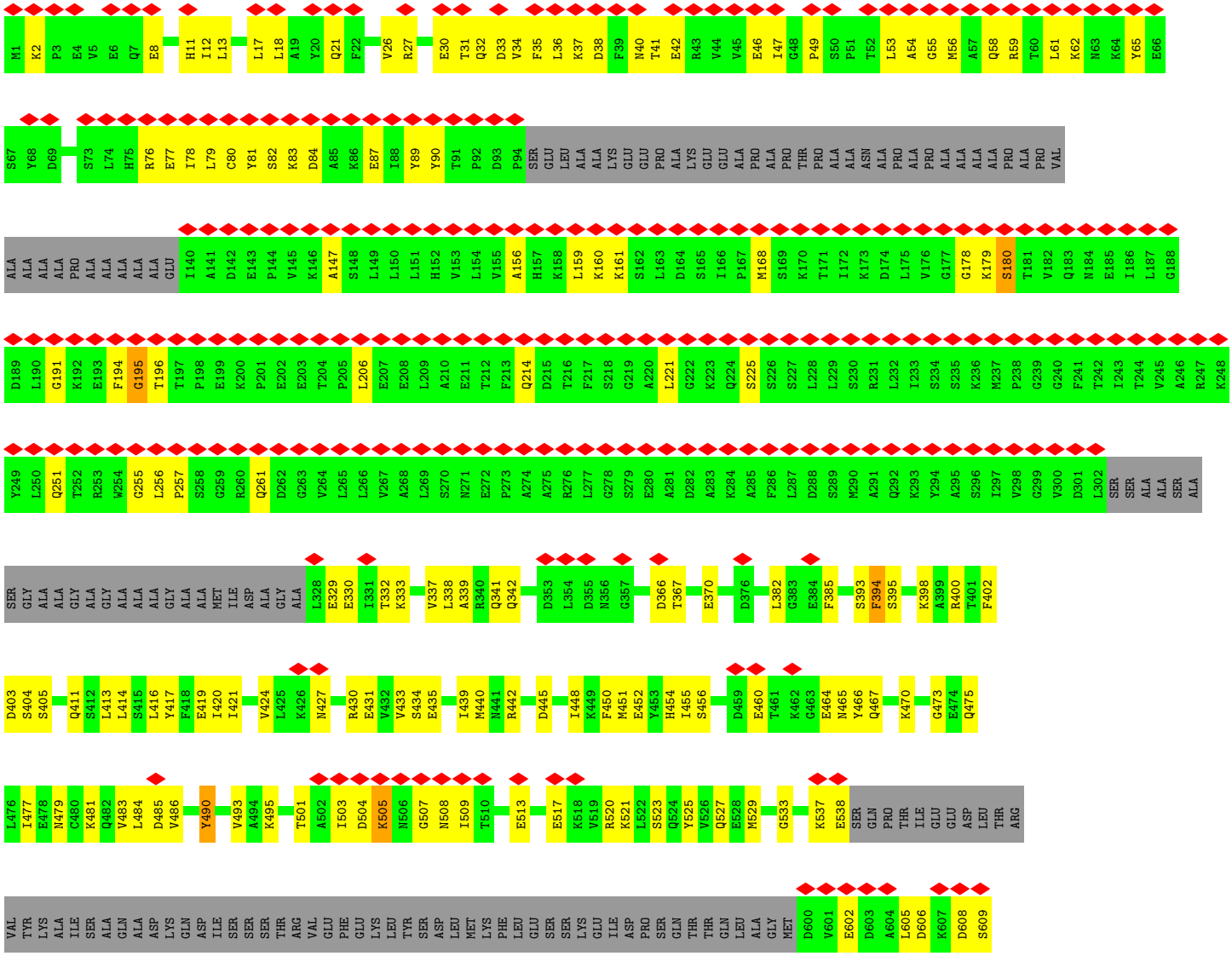
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
5	G	1	31	17	4	9	1	0

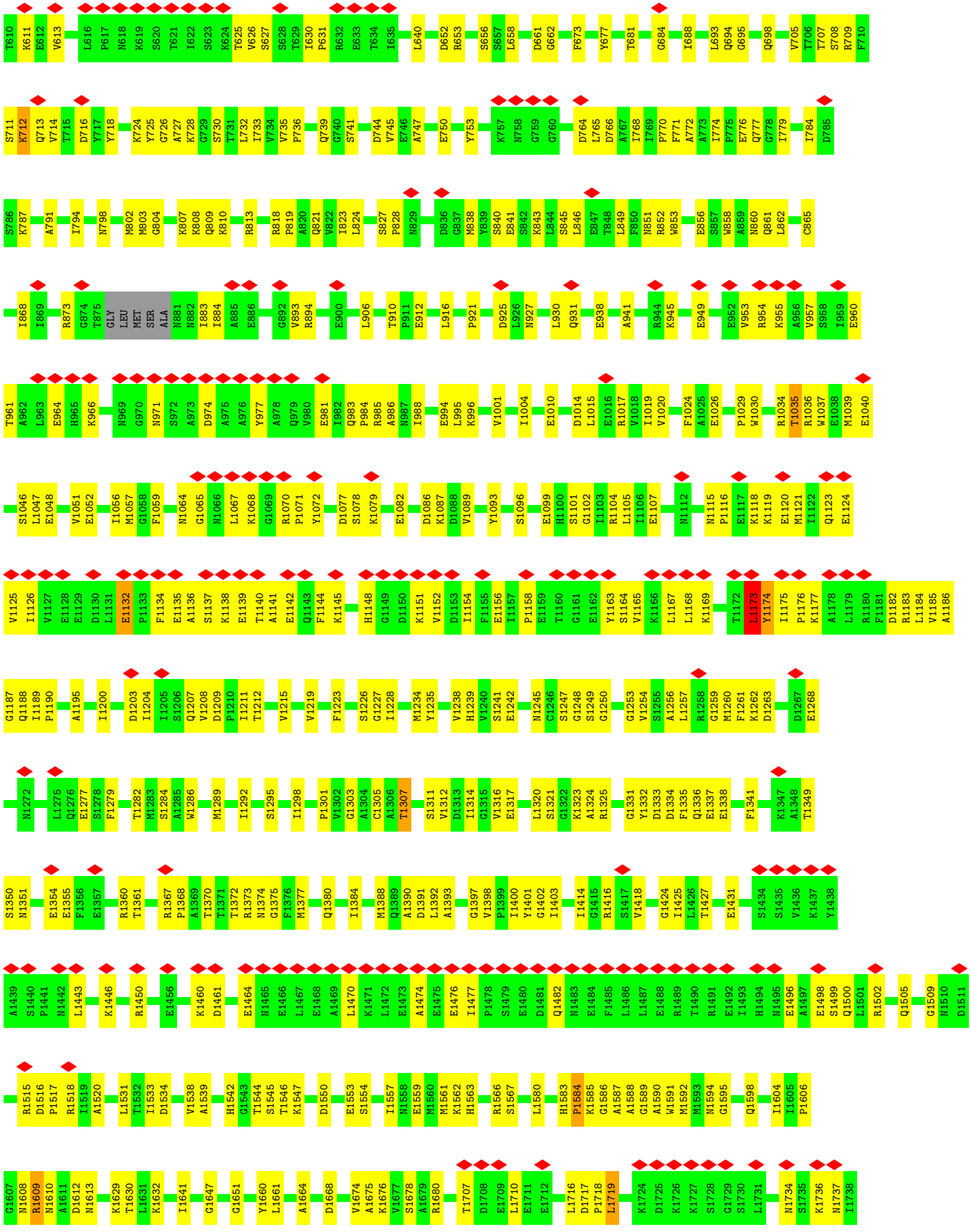
3 Residue-property plots (i)

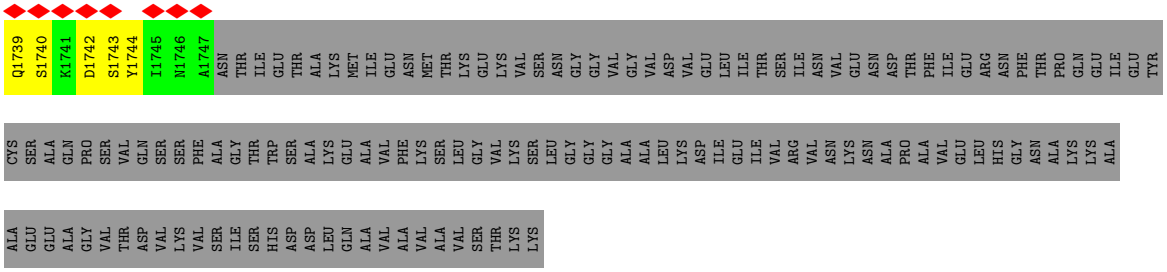
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Fatty acid synthase subunit alpha

Chain A:

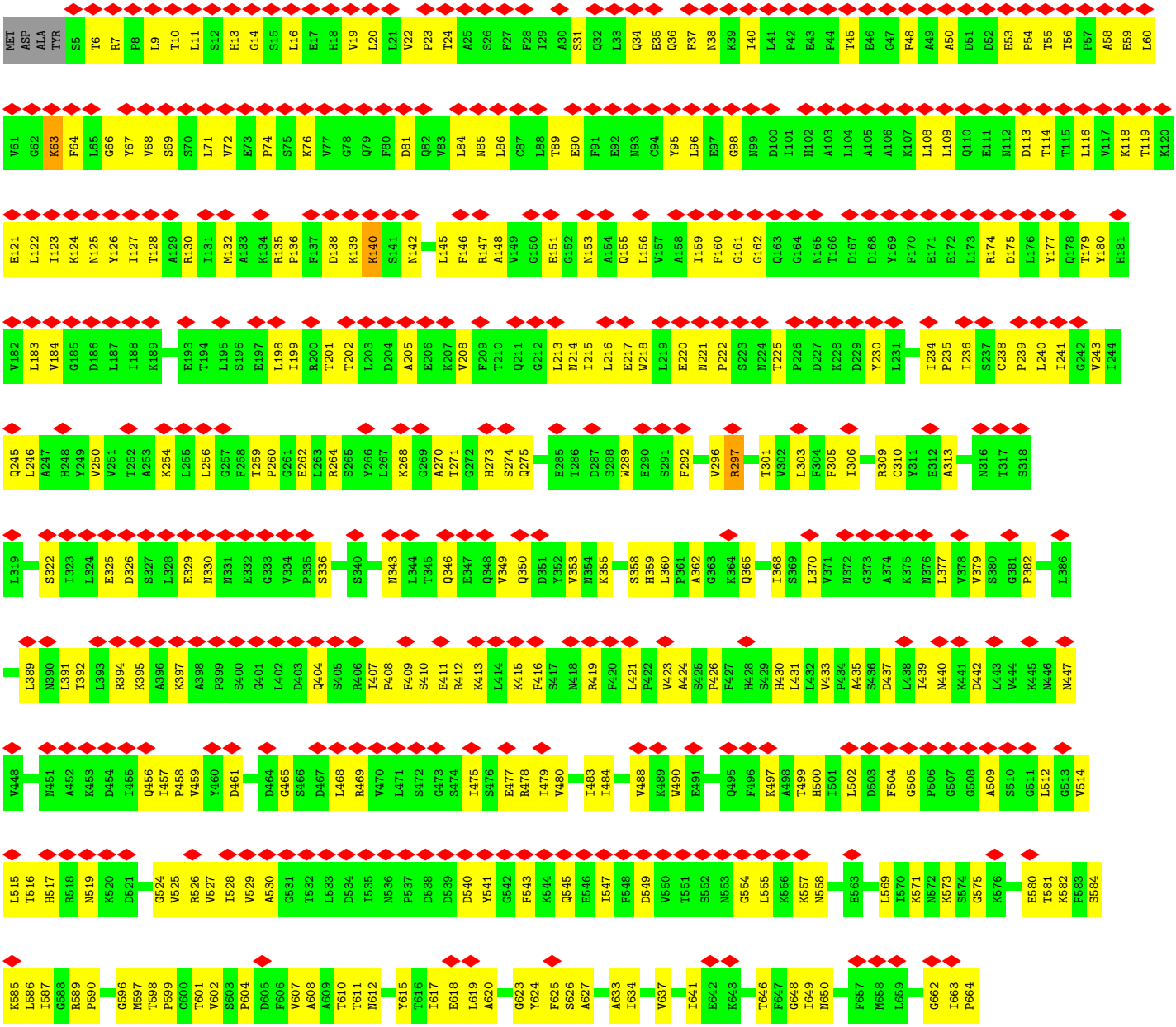


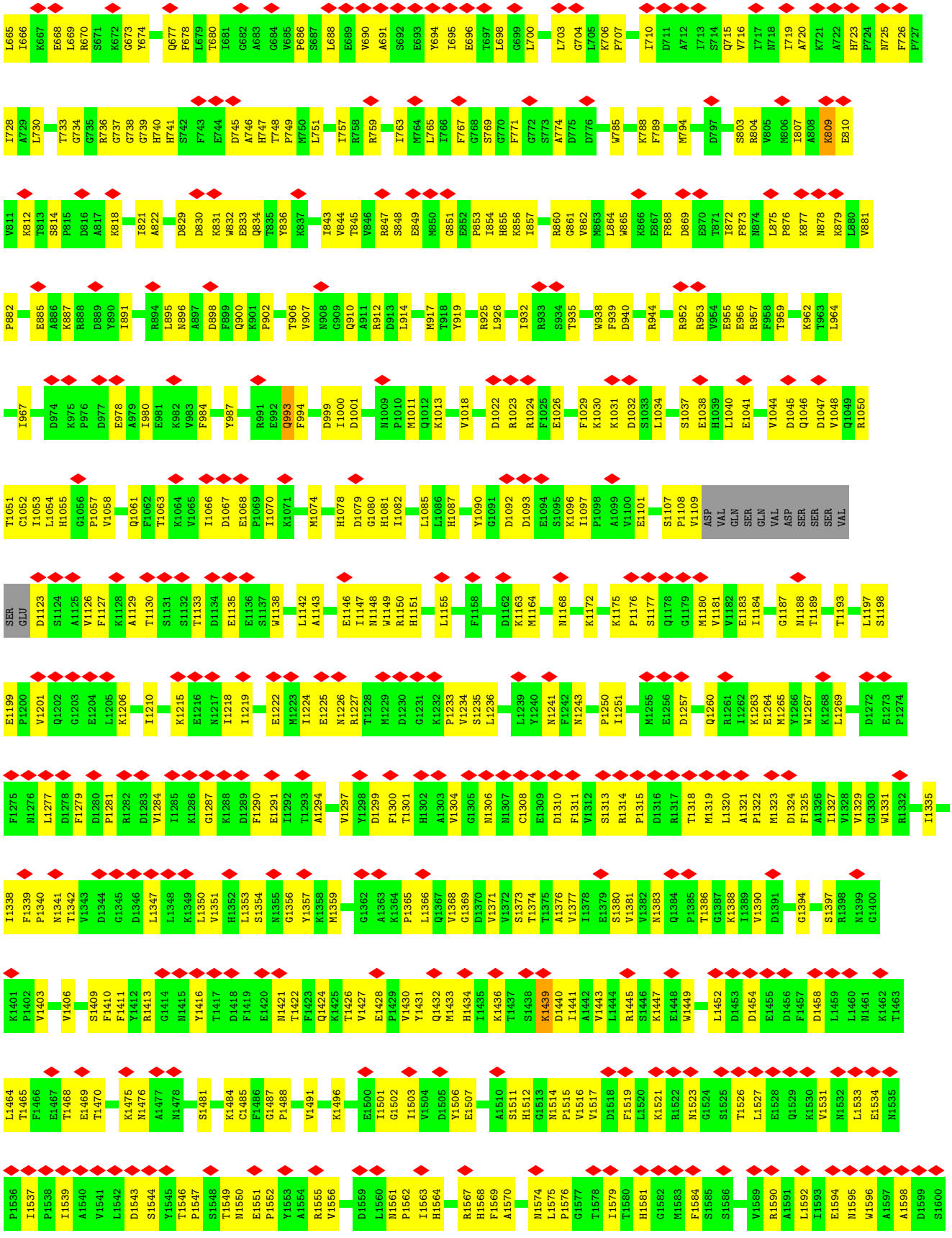

T610 K611 E612 V613 L616 P617 N618 K619 S620 T621 I622 S623 K624 T625 V626 S627 S628 T629 I630 P631 R632 E633 T634 I635 L640 D652 R653 S656 S657 L658 D661 G662 F673 Y677 T681 G684 I688 L693 Q694 G695 Q698 V705 T706 T707 S708 R709 F710
S711 K712 Q713 V714 T715 D716 Y717 Y718 K724 Y725 G726 A727 K728 G729 S730 T731 L732 T733 V734 V735 P736 Q739 G740 S741 D744 V745 E746 A747 E750 Y753 K757 N758 G759 G760 D764 L765 D766 A767 T768 I769 P770 F771 A772 A773 I774 P775 E776 Q777 G778 I779 T784 D785
S786 K787 A791 I794 N798 M802 M803 G804 K807 K808 Q809 K810 R813 R818 P819 A820 Q821 V822 I823 L824 S827 P828 N829 D836 G837 M838 Y839 S840 E841 S842 K843 L844 S845 L846 E847 T849 L849 F850 N851 R852 W853 E856 S857 W858 A859 N860 Q861 L862 C865
I868 I869 R873 G874 T875 GLY LEU MET SER ALA N881 N882 I883 I884 A885 E886 G892 V893 R894 E900 L906 T910 P911 E912 L916 P921 D925 L926 N927 L930 Q931 E938 A941 R944 K945 E949 E952 V953 R954 K955 A956 V957 S958 I959 E960
T961 A962 L963 E964 H965 K966 N969 G970 N971 S972 A973 D974 A975 A976 Y977 A978 Q979 V980 E981 T982 Q983 P984 R985 A986 N987 I988 E994 L995 K996 V1001 I1004 E1010 D1014 L1015 E1016 R1017 V1018 I1019 V1020 F1024 A1025 E1026 P1029 W1030 R1034 T1035 R1036 W1037 E1038 M1039 E1040
S1046 L1047 E1048 V1051 E1052 I1056 M1057 G1058 F1059 N1064 G1065 N1066 L1067 K1068 G1069 R1070 P1071 Y1072 D1077 S1078 K1079 E1082 D1086 K1087 D1088 V1089 Y1093 S1096 E1099 H1100 S1101 G1102 I1103 R1104 L1105 I1106 E1107 N1112 N1115 P1116 E1117 K1118 K1119 E1120 M1121 I1122 Q1123 E1124
V1125 I1126 V1127 E1128 E1129 D1130 L1131 E1132 P1133 F1134 E1135 A1136 S1137 K1138 E1139 T1140 A1141 E1142 Q1143 F1144 K1145 H1148 G1149 D1150 K1151 V1152 D1153 I1154 F1155 E1156 I1157 P1158 E1159 T1160 G1161 E1162 Y1163 S1164 V1165 K1166 L1167 L1168 K1169 T1172 L1173 Y1174 I1175 P1176 K1177 A1178 L1179 R1180 F1181 D1182 R1183 L1184 V1185 A1186
G1187 Q1188 I1189 P1190 A1195 I1200 D1203 I1204 I1205 S1206 Q1207 V1208 D1209 P1210 I1211 T1212 V1215 V1219 F1223 S1226 G1227 I1228 M1234 Y1235 V1238 H1239 V1240 S1241 E1242 N1245 C1246 S1247 G1248 S1249 G1250 G1253 V1254 S1255 A1256 L1257 R1258 G1259 M1260 F1261 K1262 D1263 D1267 E1268
N1272 L1275 Q1276 E1277 S1278 F1279 T1282 M1283 S1284 A1285 W1286 M1289 I1292 S1295 I1298 P1301 V1302 G1303 A1304 C1305 A1306 T1307 S1311 V1312 D1313 I1314 G1315 V1316 E1317 L1320 S1321 G1322 K1323 A1324 R1325 G1331 Y1332 D1333 D1334 F1335 Q1336 E1337 E1338 F1341 K1347 A1348 T1349
S1350 N1351 E1354 E1355 F1356 E1357 R1360 T1361 R1367 P1368 A1369 T1370 T1371 T1372 R1373 N1374 G1375 F1376 M1377 Q1380 I1384 M1388 Q1389 A1390 D1391 L1392 A1393 G1397 V1398 P1399 I1400 Y1401 G1402 I1403 I1414 G1415 R1416 S1417 V1418 G1424 I1425 L1426 T1427 E1431 S1434 S1435 V1436 K1437 Y1438
A1439 S1440 P1441 N1442 L1443 K1446 R1450 E1456 K1460 D1461 E1464 N1465 E1466 L1467 E1468 A1469 L1470 K1471 L1472 E1473 A1474 E1475 E1476 I1477 P1478 S1479 E1480 D1481 Q1482 N1483 E1484 F1485 L1486 L1487 E1488 R1489 T1490 R1491 E1492 I1493 H1494 N1495 E1496 A1497 E1498 S1499 Q1500 L1501 R1502 Q1505 G1509 N1510 D1511
R1515 D1516 P1517 R1518 I1519 A1520 L1531 T1532 I1533 D1534 V1538 A1539 H1542 G1543 T1544 S1545 T1546 K1547 D1550 E1553 S1554 I1557 N1558 E1559 M1560 M1561 K1562 H1563 R1566 S1567 L1580 H1583 P1584 K1585 G1586 A1587 A1588 G1589 A1590 W1591 M1592 M1593 N1594 G1595 Q1598 I1604 I1605 P1606
G1607 N1608 R1609 N1610 A1611 D1612 N1613 K1629 T1630 L1631 K1632 I1641 G1647 G1651 Y1660 L1661 A1664 D1668 V1674 A1675 K1676 V1677 S1678 A1679 R1680 T1707 D1708 E1709 L1710 E1711 E1712 L1716 D1717 P1718 L1719 K1724 D1725 K1726 K1727 S1728 G1729 S1730 L1731 N1734 S1735 K1736 N1737 I1738

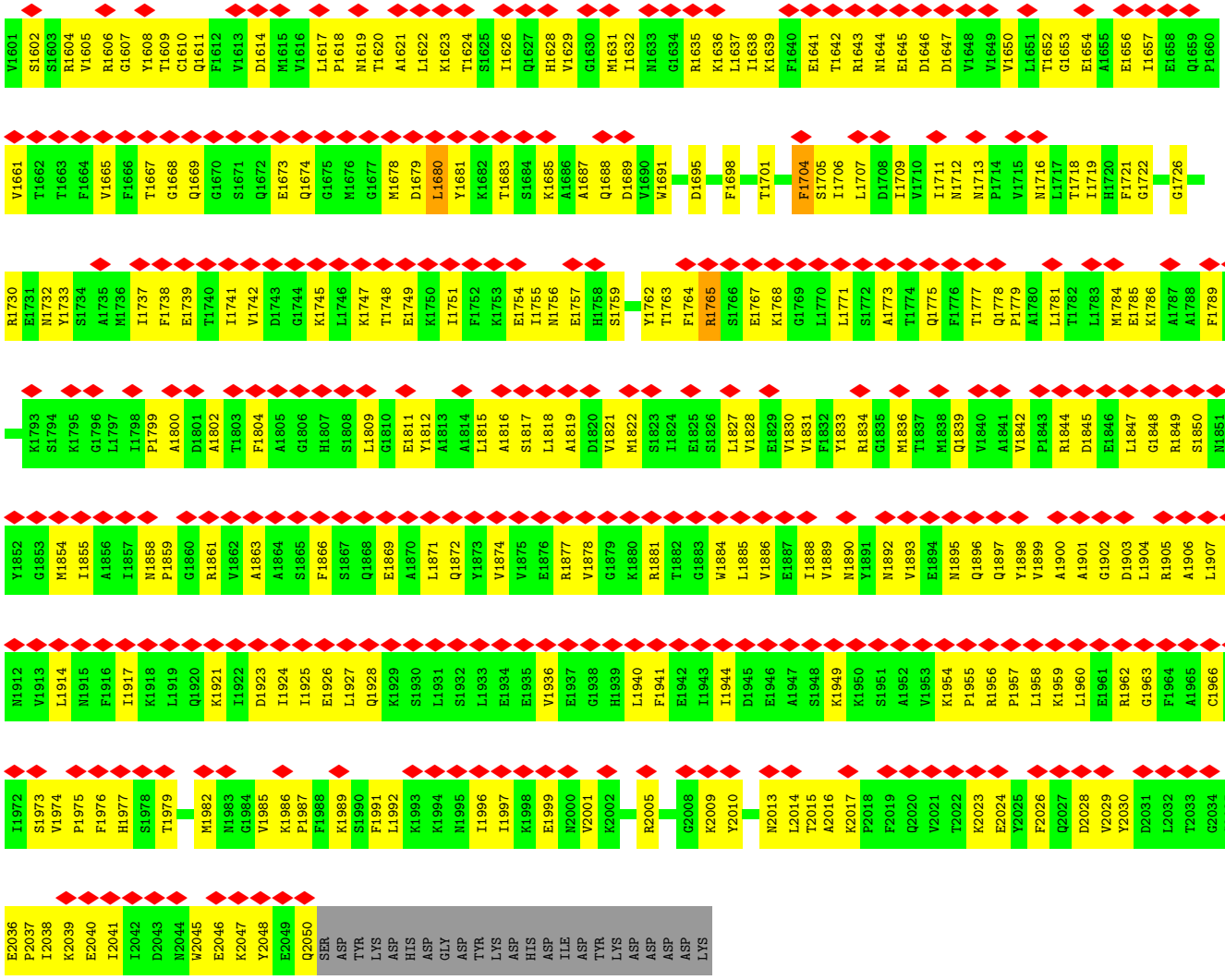


• Molecule 2: Fatty acid synthase subunit beta

Chain G:






V1601 S1602 S1603 R1604 V1605 R1606 G1607 Y1608 T1609 C1610 Q1611 F1612 V1613 D1614 M1615 V1616 L1617 P1618 N1619 T1620 A1621 L1622 K1623 T1624 S1625 I1626 Q1627 H1628 V1629 G1630 M1631 I1632 N1633 G1634 R1635 K1636 L1637 I1638 K1639 F1640 E1641 T1642 R1643 N1644 E1645 D1646 D1647 V1648 V1649 V1650 L1651 T1652 G1653 E1654 A1655 E1656 I1657 E1658 Q1659 P1660
V1661 T1662 T1663 F1664 V1665 F1666 T1667 G1668 Q1669 G1670 S1671 Q1672 E1673 Q1674 G1675 M1676 G1677 M1678 D1679 L1680 Y1681 K1682 T1683 S1684 K1685 A1686 A1687 Q1688 D1689 V1690 W1691 D1695 F1698 T1701 F1704 S1705 I1706 L1707 D1708 I1709 V1710 I1711 N1712 N1713 P1714 V1715 N1716 L1717 T1718 I1719 H1720 F1721 G1722 G1726
R1730 E1731 N1732 Y1733 S1734 A1735 M1736 I1737 F1738 E1739 T1740 I1741 V1742 D1743 G1744 K1745 L1746 K1747 T1748 E1749 K1750 I1751 F1752 K1753 E1754 I1755 N1756 E1757 H1758 S1759 Y1762 T1763 F1764 R1765 S1766 E1767 K1768 G1769 L1770 L1771 S1772 A1773 T1774 Q1775 F1776 T1777 Q1778 P1779 A1780 L1781 T1782 L1783 M1784 E1785 K1786 A1787 A1788 F1789 E1790
K1793 S1794 K1795 G1796 L1797 I1798 P1799 A1800 D1801 A1802 T1803 F1804 A1805 G1806 H1807 S1808 L1809 G1810 E1811 Y1812 A1813 A1814 L1815 A1816 S1817 L1818 A1819 D1820 V1821 M1822 S1823 I1824 E1825 S1826 L1827 V1828 E1829 V1830 V1831 F1832 Y1833 R1834 G1835 M1836 T1837 M1838 Q1839 V1840 A1841 V1842 P1843 R1844 D1845 E1846 L1847 G1848 R1849 S1850 N1851
Y1852 G1853 M1854 I1855 A1856 I1857 N1858 P1859 G1860 R1861 V1862 A1863 A1864 S1865 F1866 S1867 Q1868 E1869 A1870 L1871 Q1872 Y1873 V1874 V1875 E1876 R1877 V1878 G1879 K1880 R1881 T1882 G1883 W1884 L1885 V1886 E1887 I1888 V1889 N1890 Y1891 N1892 V1893 E1894 N1895 Q1896 Q1897 Y1898 V1899 A1900 A1901 G1902 D1903 L1904 R1905 A1906 L1907 D1908 T1909 V1910 T1911
N1912 V1913 L1914 N1915 F1916 I1917 K1918 L1919 Q1920 K1921 I1922 D1923 I1924 I1925 E1926 L1927 Q1928 K1929 S1930 L1931 S1932 L1933 E1934 E1935 V1936 E1937 G1938 H1939 L1940 F1941 E1942 I1943 I1944 D1945 E1946 A1947 S1948 K1949 K1950 S1951 A1952 V1953 K1954 P1955 R1956 P1957 L1958 K1959 L1960 E1961 R1962 G1963 F1964 A1965 C1966 I1967 P1968 L1969 V1970 G1971
I1972 S1973 V1974 P1975 F1976 H1977 S1978 T1979 M1982 N1983 G1984 V1985 K1986 P1987 F1988 K1989 S1990 F1991 L1992 K1993 K1994 N1995 I1996 I1997 K1998 E1999 N2000 V2001 K2002 R2005 G2008 K2009 Y2010 N2013 L2014 T2015 A2016 K2017 P2018 F2019 Q2020 V2021 T2022 K2023 E2024 Y2025 F2026 Q2027 D2028 V2029 Y2030 D2031 L2032 T2033 G2034 S2035
E2036 P2037 I2038 K2039 E2040 I2041 I2042 D2043 N2044 W2045 E2046 K2047 Y2048 E2049 Q2050 SER ASP TYR LYS ASP HIS ASP GLY ASP TYR LYS ASP HIS ASP ILE ASP TYR LYS ASP ASP ASP ASP ASP LYS

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, D3	Depositor
Number of particles used	594818	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE; CTFFIND4 within cryoSPARC2	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	43	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	2.727	Depositor
Minimum map value	-1.412	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.144	Depositor
Recommended contour level	0.706	Depositor
Map size (Å)	373.12, 373.12, 373.12	wwPDB
Map dimensions	352, 352, 352	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: PNS, FMN, NAP

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	0.61	3/12392 (0.0%)	0.60	3/16775 (0.0%)
2	G	0.44	0/16360	0.51	0/22198
All	All	0.52	3/28752 (0.0%)	0.55	3/38973 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	4

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1174	TYR	CD1-CE1	-6.37	1.29	1.39
1	A	1174	TYR	CE1-CZ	-6.33	1.30	1.38
1	A	490	TYR	CD1-CE1	-5.27	1.31	1.39

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1173	LEU	CA-CB-CG	5.66	128.33	115.30
1	A	1719	LEU	CA-CB-CG	-5.06	103.67	115.30
1	A	1174	TYR	CB-CG-CD2	5.05	124.03	121.00

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1132	GLU	Peptide
1	A	1173	LEU	Peptide
1	A	1584	PRO	Peptide
1	A	1716	LEU	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	12171	0	11679	490	0
2	G	15995	0	15978	772	0
3	A	48	0	22	19	0
3	G	48	0	25	27	0
4	A	5	0	0	0	0
5	G	31	0	19	3	0
All	All	28298	0	27723	1241	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 22.

All (1241) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:740:HIS:HB2	3:G:2102:NAP:C7N	1.22	1.59
1:A:147:ALA:CB	1:A:214:GLN:HA	1.50	1.41
2:G:740:HIS:HD2	3:G:2102:NAP:C2N	1.33	1.39
2:G:740:HIS:HD2	3:G:2102:NAP:C3N	1.40	1.34
2:G:740:HIS:CB	3:G:2102:NAP:C7N	2.06	1.32
1:A:147:ALA:HB2	1:A:214:GLN:CA	1.63	1.29
2:G:1034:LEU:HD13	3:G:2102:NAP:O1N	1.29	1.25
2:G:740:HIS:CD2	3:G:2102:NAP:C2N	2.19	1.24
1:A:147:ALA:CB	1:A:214:GLN:CA	2.14	1.23
2:G:740:HIS:HB2	3:G:2102:NAP:O7N	1.07	1.22
2:G:740:HIS:CD2	3:G:2102:NAP:C3N	2.22	1.20
2:G:1032:ASP:N	3:G:2102:NAP:O1A	1.74	1.20
1:A:688:ILE:CD1	3:A:1901:NAP:O4D	1.89	1.19
2:G:740:HIS:CB	3:G:2102:NAP:O7N	1.91	1.17

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:147:ALA:HB3	1:A:214:GLN:CB	1.78	1.12
1:A:688:ILE:HB	3:A:1901:NAP:H51N	1.30	1.10
2:G:740:HIS:HB2	3:G:2102:NAP:N7N	1.75	0.99
2:G:1034:LEU:CD1	3:G:2102:NAP:O1N	2.10	0.99
2:G:740:HIS:CG	3:G:2102:NAP:C7N	2.48	0.96
1:A:688:ILE:CB	3:A:1901:NAP:H51N	1.91	0.93
2:G:740:HIS:CD2	3:G:2102:NAP:C7N	2.52	0.92
1:A:1019:ILE:HG13	1:A:1316:VAL:HG23	1.52	0.92
1:A:688:ILE:HD13	3:A:1901:NAP:O4D	1.06	0.90
1:A:147:ALA:CB	1:A:214:GLN:CB	2.46	0.89
1:A:739:GLN:O	1:A:798:ASN:ND2	2.05	0.88
2:G:740:HIS:CB	3:G:2102:NAP:N7N	2.36	0.87
1:A:1125:VAL:HG12	1:A:1126:ILE:H	1.37	0.87
1:A:753:TYR:O	1:A:813:ARG:NH2	2.10	0.85
2:G:740:HIS:N	3:G:2102:NAP:O7N	2.10	0.84
1:A:771:PHE:HB3	3:A:1901:NAP:H52N	1.57	0.84
1:A:178:GLY:O	1:A:180:SER:N	2.12	0.83
1:A:971:ASN:HA	1:A:974:ASP:HB2	1.60	0.83
2:G:706:LYS:NZ	5:G:2101:FMN:O2'	2.11	0.83
2:G:1888:ILE:HD13	2:G:1900:ALA:HB2	1.60	0.82
2:G:490:TRP:HE1	2:G:516:THR:HG22	1.44	0.82
1:A:709:ARG:NH2	3:A:1901:NAP:O2X	2.06	0.81
1:A:843:LYS:HE3	3:A:1901:NAP:O2D	1.80	0.81
2:G:1313:SER:N	2:G:1319:MET:SD	2.54	0.80
1:A:1123:GLN:HG2	1:A:1124:GLU:H	1.46	0.80
2:G:821:ILE:HG13	2:G:857:ILE:HD11	1.63	0.80
2:G:394:ARG:HA	2:G:397:LYS:HG3	1.64	0.80
2:G:1839:GLN:O	2:G:1844:ARG:NH1	2.15	0.79
1:A:194:PHE:O	1:A:196:THR:N	2.15	0.79
2:G:610:THR:HB	2:G:617:ILE:HD11	1.65	0.79
2:G:1430:VAL:HG13	2:G:1527:LEU:HB3	1.64	0.78
2:G:736:ARG:HD2	2:G:1058:VAL:HG11	1.65	0.78
1:A:395:SER:HB3	1:A:398:LYS:HB2	1.66	0.77
1:A:1219:VAL:HG22	1:A:1384:ILE:HD13	1.67	0.77
1:A:490:TYR:OH	1:A:906:LEU:HB3	1.85	0.77
2:G:739:GLY:HA2	2:G:1054:LEU:HD13	1.67	0.77
2:G:881:VAL:HG13	2:G:882:PRO:HD3	1.67	0.77
2:G:1855:ILE:HD13	2:G:1960:LEU:HD21	1.64	0.77
1:A:1584:PRO:HB2	1:A:1587:ALA:HB3	1.65	0.76
1:A:41:THR:O	1:A:76:ARG:NH1	2.18	0.76
1:A:1183:ARG:NH1	1:A:1350:SER:O	2.19	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:456:GLN:O	2:G:469:ARG:NH2	2.18	0.76
2:G:688:LEU:HD22	2:G:715:GLN:HE22	1.50	0.76
2:G:1881:ARG:HH12	2:G:1949:LYS:HE3	1.50	0.76
1:A:1241:SER:HA	1:A:1295:SER:HB2	1.68	0.76
3:A:1901:NAP:O2X	3:A:1901:NAP:O3B	2.04	0.75
1:A:1067:LEU:HD23	1:A:1068:LYS:HG2	1.69	0.75
2:G:688:LEU:HD13	2:G:719:ILE:HD13	1.69	0.75
2:G:1842:VAL:O	2:G:1844:ARG:NH1	2.20	0.75
2:G:1890:ASN:HB2	2:G:1899:VAL:HG22	1.67	0.75
2:G:524:GLY:O	2:G:526:ARG:NH1	2.20	0.74
2:G:1319:MET:HB3	2:G:1368:VAL:HG21	1.68	0.74
2:G:1704:PHE:CE1	2:G:1709:ILE:HD11	2.22	0.74
2:G:914:LEU:HD23	2:G:1000:ILE:HG23	1.68	0.74
2:G:1623:LYS:HB2	2:G:1643:ARG:HB2	1.69	0.74
2:G:1636:LYS:HB2	2:G:1657:ILE:HG23	1.69	0.74
2:G:1037:SER:HB2	2:G:1053:ILE:HG22	1.69	0.74
1:A:1533:ILE:O	1:A:1566:ARG:NH1	2.19	0.74
2:G:952:ARG:NH2	2:G:967:ILE:O	2.21	0.74
2:G:1621:ALA:N	2:G:1645:GLU:OE1	2.19	0.73
2:G:1210:ILE:HB	2:G:1222:GLU:HB2	1.68	0.73
2:G:128:THR:O	2:G:132:MET:HB2	1.89	0.73
1:A:768:ILE:HG22	1:A:770:PRO:HD3	1.71	0.73
1:A:1039:MET:O	1:A:1609:ARG:NH2	2.22	0.73
2:G:183:LEU:HD11	2:G:254:LYS:HG2	1.69	0.73
2:G:1022:ASP:OD2	2:G:1024:ARG:NH2	2.19	0.72
2:G:1704:PHE:HE1	2:G:1709:ILE:HD11	1.54	0.72
1:A:40:ASN:HA	1:A:76:ARG:HH22	1.53	0.72
1:A:1249:SER:OG	1:A:1250:GLY:N	2.21	0.72
2:G:896:ASN:O	2:G:1050:ARG:NH2	2.22	0.72
2:G:1034:LEU:HD13	3:G:2102:NAP:PN	2.29	0.72
2:G:2047:LYS:O	2:G:2050:GLN:NE2	2.22	0.72
2:G:716:VAL:HG21	2:G:730:LEU:HD21	1.71	0.72
2:G:1739:GLU:HB2	2:G:1987:PRO:HB3	1.70	0.72
2:G:1701:THR:O	2:G:1732:ASN:ND2	2.23	0.72
1:A:1182:ASP:OD2	1:A:1183:ARG:N	2.21	0.72
2:G:1904:LEU:HB3	2:G:1958:LEU:HD22	1.72	0.71
2:G:1031:LYS:HD2	3:G:2102:NAP:O5B	1.90	0.71
1:A:827:SER:OG	3:A:1901:NAP:C5N	2.38	0.71
2:G:1201:VAL:HG11	2:G:1226:ASN:HD21	1.54	0.71
2:G:175:ASP:O	2:G:179:THR:N	2.16	0.71
2:G:596:GLY:N	2:G:618:GLU:OE1	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1279:PHE:HB3	2:G:1340:PRO:HB3	1.73	0.71
2:G:1350:LEU:HD11	2:G:1410:PHE:HB3	1.71	0.71
2:G:11:LEU:HB3	2:G:13:HIS:HE1	1.56	0.70
1:A:411:GLN:HE21	1:A:1629:LYS:HE2	1.56	0.70
2:G:56:THR:OG1	2:G:59:GLU:OE1	2.09	0.70
1:A:1077:ASP:OD2	1:A:1078:SER:N	2.24	0.70
2:G:1284:VAL:HG23	2:G:1377:VAL:HB	1.72	0.70
1:A:26:VAL:HG13	2:G:2013:ASN:HB3	1.74	0.70
2:G:326:ASP:O	2:G:330:ASN:ND2	2.22	0.70
2:G:907:VAL:HG23	2:G:917:MET:HE2	1.73	0.70
2:G:1013:LYS:NZ	2:G:1032:ASP:OD2	2.24	0.70
1:A:507:GLY:O	1:A:955:LYS:NZ	2.19	0.70
2:G:1549:THR:HG23	2:G:1552:PRO:HD3	1.74	0.70
2:G:1180:MET:HG2	2:G:1199:GLU:HG2	1.74	0.69
1:A:430:ARG:NH2	1:A:520:ARG:O	2.21	0.69
1:A:17:LEU:HD23	2:G:2014:LEU:HD23	1.74	0.69
1:A:727:ALA:O	1:A:730:SER:OG	2.07	0.69
1:A:843:LYS:CE	3:A:1901:NAP:O2D	2.40	0.69
2:G:174:ARG:NH2	2:G:218:TRP:O	2.25	0.69
2:G:686:PRO:HB2	2:G:691:ALA:HB2	1.72	0.69
1:A:1545:SER:OG	1:A:1545:SER:O	2.10	0.69
2:G:596:GLY:HA3	2:G:650:ASN:HD22	1.57	0.69
2:G:2023:LYS:HD2	2:G:2045:TRP:CE2	2.28	0.69
1:A:1470:LEU:O	1:A:1474:ALA:N	2.26	0.69
2:G:1738:PHE:HB2	2:G:1751:ILE:HD13	1.73	0.69
2:G:1199:GLU:OE2	2:G:1567:ARG:NH2	2.24	0.69
1:A:1123:GLN:HB3	1:A:1177:LYS:HD3	1.75	0.69
2:G:218:TRP:HB3	2:G:225:THR:HG22	1.75	0.68
2:G:626:SER:OG	2:G:627:ALA:N	2.26	0.68
2:G:740:HIS:CA	3:G:2102:NAP:O7N	2.40	0.68
1:A:1414:ILE:O	1:A:1416:ARG:HG2	1.93	0.68
1:A:1186:ALA:O	1:A:1188:GLN:NE2	2.27	0.68
1:A:1373:ARG:HH11	1:A:1547:LYS:HA	1.57	0.68
2:G:1893:VAL:HG23	2:G:1896:GLN:HB3	1.74	0.68
2:G:1800:ALA:O	2:G:2009:LYS:NZ	2.26	0.67
1:A:479:ASN:ND2	1:A:613:VAL:O	2.26	0.67
2:G:517:HIS:HB2	2:G:527:VAL:HG11	1.74	0.67
1:A:332:THR:OG1	1:A:333:LYS:NZ	2.27	0.67
2:G:56:THR:N	2:G:59:GLU:OE2	2.20	0.67
1:A:1259:GLY:HA2	1:A:1263:ASP:HB2	1.75	0.67
2:G:1319:MET:H	2:G:1368:VAL:HB	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:409:PHE:HA	2:G:412:ARG:HD2	1.77	0.67
1:A:985:ARG:N	2:G:956:GLU:O	2.27	0.67
2:G:245:GLN:HG2	2:G:505:GLY:HA2	1.75	0.67
1:A:147:ALA:HB2	1:A:214:GLN:HA	0.71	0.66
2:G:1878:VAL:HG22	2:G:1944:ILE:HD11	1.77	0.66
1:A:1138:LYS:NZ	1:A:1163:TYR:O	2.25	0.66
2:G:1135:GLU:HA	2:G:1176:PRO:HG2	1.77	0.66
1:A:21:GLN:NE2	2:G:1811:GLU:OE2	2.29	0.66
2:G:297:ARG:NH2	2:G:447:ASN:OD1	2.29	0.66
2:G:1126:VAL:HG12	2:G:1183:GLU:HG2	1.77	0.66
2:G:1629:VAL:HB	2:G:1639:LYS:HZ3	1.60	0.66
1:A:46:GLU:OE1	1:A:54:ALA:N	2.25	0.66
2:G:174:ARG:HA	2:G:177:TYR:CE1	2.31	0.66
2:G:362:ALA:HA	2:G:365:GLN:HG3	1.77	0.66
2:G:1863:ALA:HB3	2:G:1866:PHE:HB2	1.76	0.66
3:G:2102:NAP:O2N	3:G:2102:NAP:H3D	1.94	0.66
1:A:1034:ARG:NH2	1:A:1052:GLU:OE2	2.29	0.66
2:G:1424:GLN:HE22	2:G:1426:THR:HB	1.60	0.66
2:G:1767:GLU:HG2	2:G:1768:LYS:HG3	1.78	0.66
2:G:1550:ASN:ND2	2:G:1564:HIS:O	2.26	0.66
2:G:1742:VAL:HG23	2:G:1745:LYS:HB3	1.76	0.66
1:A:688:ILE:HB	3:A:1901:NAP:C5D	2.18	0.66
2:G:1877:ARG:HD3	2:G:1940:LEU:HD13	1.78	0.66
2:G:130:ARG:NH2	2:G:136:PRO:O	2.27	0.65
2:G:1032:ASP:CA	3:G:2102:NAP:O1A	2.44	0.65
1:A:776:GLU:HB2	1:A:779:ILE:HD13	1.78	0.65
1:A:1203:ASP:OD2	1:A:1204:ILE:N	2.28	0.65
1:A:490:TYR:HB3	1:A:698:GLN:HB2	1.79	0.65
1:A:517:GLU:N	1:A:517:GLU:OE1	2.29	0.65
1:A:1403:ILE:HD11	1:A:1661:LEU:HB2	1.77	0.65
2:G:56:THR:HG21	2:G:108:LEU:HD11	1.79	0.65
2:G:818:LYS:HB3	2:G:1066:ILE:HD11	1.78	0.65
2:G:590:PRO:HB3	2:G:1078:HIS:CD2	2.31	0.65
1:A:852:ARG:NH1	1:A:856:GLU:OE2	2.29	0.65
2:G:1775:GLN:HE22	2:G:1836:MET:HB2	1.62	0.65
2:G:23:PRO:HD2	2:G:86:LEU:HD11	1.77	0.65
2:G:740:HIS:CD2	3:G:2102:NAP:H2N	2.27	0.64
2:G:1695:ASP:OD1	2:G:1707:LEU:N	2.21	0.64
1:A:36:LEU:O	1:A:76:ARG:NH2	2.31	0.64
1:A:1144:PHE:HZ	1:A:1174:TYR:CZ	2.15	0.64
1:A:513:GLU:OE2	1:A:873:ARG:NH1	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:343:ASN:HB2	2:G:416:PHE:HB3	1.80	0.64
2:G:1716:ASN:HD22	2:G:1765:ARG:HA	1.63	0.64
1:A:1584:PRO:O	1:A:1587:ALA:N	2.29	0.64
2:G:720:ALA:HB2	2:G:728:ILE:HD11	1.80	0.64
1:A:394:PHE:HB3	1:A:744:ASP:OD1	1.98	0.64
2:G:213:LEU:HD12	2:G:236:ILE:HG13	1.80	0.64
2:G:1041:GLU:HA	2:G:1046:GLN:HE22	1.62	0.64
2:G:1674:GLN:HE22	2:G:1713:ASN:HB2	1.63	0.64
2:G:707:PRO:HG3	2:G:730:LEU:HD22	1.79	0.63
1:A:464:GLU:OE2	1:A:465:ASN:ND2	2.32	0.63
2:G:993:GLN:NE2	2:G:994:PHE:O	2.32	0.63
1:A:445:ASP:OD1	1:A:445:ASP:N	2.31	0.63
2:G:161:GLY:O	2:G:245:GLN:NE2	2.31	0.63
2:G:2036:GLU:HA	2:G:2039:LYS:HG2	1.80	0.63
1:A:32:GLN:HA	1:A:35:PHE:HE2	1.64	0.63
1:A:413:LEU:HB2	1:A:439:ILE:HD12	1.80	0.63
1:A:1102:GLY:O	1:A:1104:ARG:HG3	1.99	0.63
2:G:740:HIS:CG	3:G:2102:NAP:N7N	2.65	0.63
2:G:1885:LEU:O	2:G:1903:ASP:N	2.30	0.63
1:A:1121:MET:N	1:A:1177:LYS:O	2.23	0.63
2:G:1040:LEU:HD21	2:G:1048:VAL:HB	1.81	0.63
2:G:1491:VAL:HB	2:G:1501:ILE:HD11	1.79	0.63
2:G:37:PHE:CE1	2:G:64:PHE:HA	2.34	0.62
1:A:843:LYS:NZ	3:A:1901:NAP:O2D	2.31	0.62
1:A:1414:ILE:HD13	1:A:1416:ARG:HH21	1.64	0.62
1:A:1070:ARG:HE	1:A:1071:PRO:HD2	1.62	0.62
2:G:54:PRO:HB3	2:G:59:GLU:HG2	1.80	0.62
2:G:148:ALA:HB1	2:G:153:ASN:HB3	1.81	0.62
2:G:259:THR:HG22	2:G:262:GLU:HB2	1.80	0.62
1:A:433:VAL:HG23	1:A:493:VAL:HG11	1.82	0.62
1:A:442:ARG:HD3	1:A:726:GLY:O	2.00	0.62
2:G:199:ILE:HD11	2:G:213:LEU:HD22	1.80	0.62
1:A:400:ARG:NH1	1:A:1367:ARG:HH22	1.97	0.62
1:A:1139:GLU:N	1:A:1139:GLU:OE1	2.33	0.62
2:G:1737:ILE:HG21	2:G:1748:THR:HG23	1.81	0.62
2:G:1866:PHE:HE2	2:G:1871:LEU:HG	1.64	0.62
1:A:1089:VAL:HG23	1:A:1093:TYR:HD2	1.64	0.62
2:G:1366:LEU:HD23	2:G:1366:LEU:H	1.65	0.62
1:A:251:GLN:HA	1:A:256:LEU:H	1.65	0.62
1:A:1120:GLU:OE1	1:A:1120:GLU:N	2.32	0.62
2:G:1172:LYS:NZ	2:G:1574:ASN:OD1	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1123:GLN:O	1:A:1177:LYS:NZ	2.21	0.62
2:G:180:TYR:HB3	2:G:183:LEU:HB3	1.81	0.62
1:A:503:ILE:HG12	1:A:509:ILE:HG13	1.81	0.62
1:A:1134:PHE:HE1	1:A:1168:LEU:O	1.83	0.62
1:A:1334:ASP:OD1	1:A:1335:PHE:N	2.33	0.62
2:G:11:LEU:HD11	2:G:20:LEU:HB2	1.81	0.62
2:G:1550:ASN:ND2	2:G:1579:ILE:O	2.32	0.62
2:G:1685:LYS:NZ	2:G:1689:ASP:OD2	2.33	0.62
2:G:1546:THR:OG1	2:G:1620:THR:N	2.30	0.61
1:A:931:GLN:OE1	1:A:931:GLN:N	2.27	0.61
1:A:1268:GLU:N	1:A:1268:GLU:OE1	2.33	0.61
1:A:1367:ARG:NH1	1:A:1612:ASP:OD1	2.34	0.61
2:G:55:THR:HG23	2:G:56:THR:HG23	1.83	0.61
2:G:696:GLU:N	2:G:696:GLU:OE1	2.33	0.61
2:G:860:ARG:NH1	2:G:898:ASP:OD1	2.32	0.61
2:G:1189:THR:O	2:G:1193:THR:OG1	2.18	0.61
2:G:1468:THR:HA	2:G:1487:GLY:HA3	1.82	0.61
1:A:32:GLN:HA	1:A:35:PHE:CE2	2.34	0.61
2:G:1376:ALA:HA	2:G:1394:GLY:HA2	1.83	0.61
1:A:1474:ALA:O	1:A:1482:GLN:NE2	2.34	0.61
2:G:1963:GLY:N	2:G:1966:CYS:SG	2.72	0.61
1:A:764:ASP:OD2	1:A:818:ARG:NH1	2.33	0.61
1:A:1604:ILE:HG12	1:A:1632:LYS:HG3	1.83	0.61
2:G:96:LEU:HD23	2:G:98:GLY:H	1.66	0.61
2:G:875:LEU:HG	2:G:876:PRO:HD2	1.82	0.61
2:G:723:HIS:HB3	2:G:726:PHE:CD2	2.36	0.61
2:G:1475:LYS:HB3	2:G:1481:SER:HB2	1.82	0.61
1:A:631:PRO:O	1:A:653:ARG:NH2	2.31	0.61
1:A:1176:PRO:C	1:A:1177:LYS:HD2	2.21	0.61
2:G:1667:THR:OG1	2:G:1785:GLU:OE2	2.16	0.61
1:A:191:GLY:O	1:A:195:GLY:N	2.33	0.61
1:A:856:GLU:OE1	1:A:858:TRP:NE1	2.34	0.61
1:A:1544:THR:HG23	1:A:1546:THR:H	1.65	0.61
2:G:953:ARG:HA	2:G:956:GLU:HB2	1.83	0.61
2:G:1828:VAL:HA	2:G:1831:VAL:HG12	1.83	0.60
1:A:1584:PRO:O	1:A:1586:GLY:N	2.35	0.60
2:G:569:LEU:HD21	2:G:1085:LEU:HB3	1.82	0.60
2:G:703:LEU:HB3	2:G:728:ILE:HG22	1.84	0.60
2:G:1877:ARG:HD2	2:G:1944:ILE:HB	1.82	0.60
1:A:1505:GLN:O	1:A:1509:GLY:N	2.34	0.60
2:G:11:LEU:HB3	2:G:13:HIS:CE1	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1277:LEU:HB3	2:G:1341:ASN:HB2	1.83	0.60
1:A:1183:ARG:NE	1:A:1349:THR:OG1	2.35	0.60
1:A:1337:GLU:OE1	1:A:1337:GLU:N	2.26	0.60
2:G:305:PHE:CD2	2:G:442:ASP:HB3	2.35	0.60
2:G:919:TYR:OH	2:G:999:ASP:OD2	2.13	0.60
1:A:56:MET:HG2	1:A:59:ARG:HH21	1.66	0.60
1:A:983:GLN:HB3	1:A:1087:LYS:HG3	1.82	0.60
1:A:1719:LEU:HD12	1:A:1744:TYR:HA	1.84	0.60
1:A:807:LYS:HD2	1:A:858:TRP:HB3	1.83	0.60
2:G:868:PHE:HB3	2:G:873:PHE:CE2	2.37	0.60
2:G:1227:ARG:HD3	2:G:1555:ARG:HH12	1.65	0.60
2:G:1844:ARG:HB3	2:G:1848:GLY:HA2	1.84	0.60
1:A:1718:PRO:HD2	1:A:1744:TYR:CE1	2.37	0.60
2:G:1142:LEU:O	2:G:1150:ARG:NE	2.29	0.60
1:A:739:GLN:HB2	1:A:794:ILE:HG23	1.83	0.59
1:A:807:LYS:NZ	1:A:861:GLN:OE1	2.32	0.59
1:A:1550:ASP:O	1:A:1554:SER:OG	2.16	0.59
2:G:156:LEU:HD22	2:G:502:LEU:HD22	1.84	0.59
2:G:1925:ILE:H	2:G:1925:ILE:HD12	1.66	0.59
1:A:1035:THR:O	1:A:1035:THR:OG1	2.16	0.59
2:G:59:GLU:CB	2:G:122:LEU:HD21	2.32	0.59
2:G:121:GLU:OE2	2:G:125:ASN:ND2	2.35	0.59
2:G:663:ILE:HB	2:G:664:PRO:HD3	1.85	0.59
1:A:1020:VAL:HG21	1:A:1400:ILE:HG12	1.84	0.59
1:A:1590:ALA:O	1:A:1594:ASN:HB2	2.02	0.59
2:G:37:PHE:CZ	2:G:67:TYR:HB3	2.37	0.59
2:G:459:VAL:HG23	2:G:468:LEU:HB2	1.85	0.59
2:G:515:LEU:O	2:G:519:ASN:ND2	2.35	0.59
1:A:1067:LEU:HB3	1:A:1072:TYR:CD2	2.38	0.59
2:G:408:PRO:HB2	2:G:411:GLU:HG2	1.85	0.59
2:G:1380:SER:HB2	2:G:1424:GLN:HA	1.85	0.59
2:G:1427:VAL:HG22	2:G:1469:GLU:HG2	1.85	0.59
2:G:241:ILE:HB	2:G:275:GLN:HE22	1.68	0.59
1:A:1185:VAL:HG23	1:A:1377:MET:HE1	1.84	0.59
2:G:666:ILE:HG22	2:G:698:LEU:HD22	1.84	0.59
2:G:1243:ASN:N	2:G:1250:PRO:O	2.36	0.59
1:A:1301:PRO:HG3	1:A:1314:ILE:HD13	1.84	0.59
1:A:1542:HIS:N	1:A:1553:GLU:OE2	2.32	0.59
2:G:1034:LEU:CD1	3:G:2102:NAP:PN	2.88	0.59
2:G:1905:ARG:NH1	2:G:1955:PRO:O	2.36	0.59
1:A:81:TYR:HH	1:A:89:TYR:HH	1.50	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:580:GLU:OE2	2:G:585:LYS:HE2	2.03	0.58
2:G:1037:SER:HA	2:G:1051:THR:HG21	1.84	0.58
1:A:1247:SER:HG	1:A:1332:TYR:HE1	1.51	0.58
1:A:1168:LEU:HG	1:A:1169:LYS:H	1.68	0.58
2:G:745:ASP:OD1	2:G:746:ALA:N	2.35	0.58
2:G:1936:VAL:O	2:G:1940:LEU:HG	2.03	0.58
1:A:938:GLU:HA	1:A:941:ALA:HB3	1.85	0.58
1:A:1256:ALA:O	1:A:1259:GLY:N	2.36	0.58
2:G:1432:GLN:HG2	2:G:1465:THR:HG22	1.86	0.58
1:A:404:SER:O	1:A:404:SER:OG	2.16	0.58
1:A:1037:TRP:HB2	1:A:1598:GLN:NE2	2.19	0.58
1:A:1377:MET:O	1:A:1583:HIS:N	2.34	0.57
2:G:329:GLU:OE1	2:G:329:GLU:N	2.37	0.57
1:A:1014:ASP:HB2	1:A:1505:GLN:HB2	1.86	0.57
1:A:1675:ALA:O	1:A:1678:SER:OG	2.22	0.57
2:G:1871:LEU:HA	2:G:1874:VAL:HG12	1.85	0.57
2:G:37:PHE:HD1	2:G:63:LYS:HZ2	1.51	0.57
1:A:147:ALA:CB	1:A:214:GLN:N	2.67	0.57
1:A:1589:GLY:HA2	1:A:1592:MET:HG2	1.87	0.57
2:G:1386:THR:HG23	2:G:1411:PHE:HZ	1.69	0.57
1:A:1360:ARG:HG2	1:A:1367:ARG:NH2	2.19	0.57
1:A:1499:SER:HA	1:A:1502:ARG:HG2	1.87	0.57
2:G:582:LYS:HE2	2:G:1108:PRO:HB3	1.86	0.57
2:G:860:ARG:NH2	2:G:1047:ASP:OD2	2.37	0.57
1:A:984:PRO:HG2	1:A:1087:LYS:HD3	1.87	0.57
1:A:1010:GLU:HA	1:A:1664:ALA:HA	1.86	0.57
1:A:1235:TYR:OH	1:A:1292:ILE:O	2.11	0.57
2:G:156:LEU:HD23	2:G:500:HIS:HB2	1.86	0.57
2:G:1101:GLU:HB3	2:G:1147:ILE:HG22	1.86	0.57
1:A:442:ARG:HG3	1:A:727:ALA:HA	1.87	0.57
1:A:708:SER:OG	3:A:1901:NAP:O3X	2.22	0.57
2:G:440:ASN:ND2	2:G:477:GLU:HG2	2.20	0.57
2:G:571:LYS:HB2	2:G:1097:ILE:HG12	1.86	0.57
1:A:1388:MET:HE1	1:A:1398:VAL:HG21	1.87	0.56
2:G:1859:PRO:HB3	2:G:1866:PHE:HD2	1.69	0.56
2:G:740:HIS:HA	2:G:854:ILE:HD13	1.87	0.56
1:A:1189:ILE:HG12	1:A:1380:GLN:HE21	1.71	0.56
2:G:130:ARG:NE	2:G:135:ARG:O	2.35	0.56
2:G:869:ASP:HA	2:G:873:PHE:HD2	1.70	0.56
1:A:986:ALA:HB1	1:A:1051:VAL:HG11	1.87	0.56
1:A:1139:GLU:HG2	1:A:1140:THR:H	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:161:GLY:H	2:G:505:GLY:HA3	1.70	0.56
1:A:984:PRO:HB3	2:G:959:THR:HG23	1.87	0.56
2:G:1138:TRP:O	2:G:1142:LEU:HG	2.06	0.56
1:A:681:THR:HG21	1:A:802:MET:HE3	1.87	0.56
2:G:260:PRO:HD3	2:G:289:TRP:CE2	2.41	0.56
2:G:1264:GLU:HA	2:G:1267:TRP:HD1	1.69	0.56
1:A:677:TYR:H	1:A:766:ASP:HB2	1.71	0.56
1:A:810:LYS:HB3	1:A:861:GLN:HG2	1.88	0.56
2:G:389:LEU:HA	2:G:392:THR:HG22	1.87	0.56
1:A:840:SER:OG	1:A:841:GLU:N	2.38	0.56
1:A:1239:HIS:CD2	1:A:1241:SER:H	2.23	0.56
2:G:662:GLY:O	2:G:666:ILE:N	2.23	0.56
2:G:688:LEU:HD22	2:G:715:GLN:NE2	2.21	0.56
1:A:442:ARG:HA	1:A:728:LYS:HG3	1.87	0.56
1:A:1360:ARG:NH2	1:A:1372:THR:O	2.38	0.56
2:G:1300:PHE:HA	2:G:1556:VAL:HG11	1.87	0.56
1:A:893:VAL:HG11	1:A:930:LEU:HD21	1.87	0.55
1:A:1239:HIS:CE1	1:A:1718:PRO:HA	2.41	0.55
1:A:1333:ASP:OD2	1:A:1334:ASP:N	2.37	0.55
2:G:220:GLU:HG2	2:G:221:ASN:N	2.21	0.55
2:G:404:GLN:NE2	2:G:413:LYS:H	2.05	0.55
2:G:581:THR:H	2:G:584:SER:HG	1.54	0.55
2:G:586:LEU:HD21	2:G:1107:SER:HA	1.88	0.55
2:G:1227:ARG:NE	2:G:1551:GLU:OE2	2.30	0.55
2:G:1924:ILE:HA	2:G:1927:LEU:HD12	1.87	0.55
1:A:520:ARG:HH12	1:A:521:LYS:NZ	2.04	0.55
2:G:475:ILE:O	2:G:479:ILE:HG13	2.05	0.55
1:A:1137:SER:O	1:A:1138:LYS:HE2	2.06	0.55
1:A:1515:ARG:HH12	1:A:1517:PRO:HD3	1.72	0.55
2:G:1706:ILE:O	2:G:1709:ILE:N	2.39	0.55
1:A:339:ALA:HA	1:A:342:GLN:HG3	1.89	0.55
1:A:804:GLY:O	1:A:808:LYS:NZ	2.24	0.55
2:G:1789:PHE:CD2	2:G:1817:SER:HB2	2.42	0.55
1:A:484:LEU:HD23	1:A:485:ASP:HB2	1.89	0.55
1:A:625:THR:HG22	1:A:627:SER:H	1.72	0.55
1:A:1096:SER:HA	1:A:1099:GLU:HB3	1.87	0.55
2:G:1543:ASP:HA	2:G:1622:LEU:O	2.07	0.55
2:G:1547:PRO:HD3	2:G:1584:PHE:CE2	2.42	0.55
2:G:1637:LEU:O	2:G:1639:LYS:NZ	2.39	0.55
2:G:1914:LEU:HA	2:G:1917:ILE:HG22	1.89	0.55
1:A:960:GLU:O	1:A:964:GLU:N	2.28	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:404:GLN:HB3	2:G:412:ARG:HG2	1.88	0.55
2:G:940:ASP:OD2	2:G:1013:LYS:HD2	2.07	0.55
2:G:2015:THR:HG22	2:G:2017:LYS:H	1.71	0.55
2:G:528:ILE:HD12	2:G:547:ILE:HG12	1.88	0.55
2:G:529:VAL:HB	2:G:543:PHE:HD1	1.72	0.55
2:G:881:VAL:CG1	2:G:882:PRO:HD3	2.35	0.55
2:G:1830:VAL:HG12	2:G:1991:PHE:HE2	1.72	0.55
2:G:2041:ILE:HG12	2:G:2047:LYS:NZ	2.22	0.55
1:A:1104:ARG:NH2	1:A:1107:GLU:OE1	2.34	0.55
1:A:1148:HIS:ND1	1:A:1151:LYS:HD3	2.22	0.55
1:A:1189:ILE:H	1:A:1380:GLN:HE21	1.53	0.55
1:A:1286:TRP:HA	1:A:1289:MET:HB2	1.88	0.55
2:G:9:LEU:N	2:G:20:LEU:O	2.32	0.55
2:G:37:PHE:CZ	2:G:64:PHE:HA	2.42	0.55
2:G:879:LYS:C	2:G:882:PRO:HD2	2.26	0.55
2:G:1321:ALA:HB3	2:G:1366:LEU:HG	1.88	0.55
1:A:684:GLY:HA3	1:A:709:ARG:HH22	1.72	0.54
2:G:668:GLU:N	2:G:668:GLU:OE1	2.40	0.54
2:G:695:ILE:HD11	2:G:723:HIS:CD2	2.42	0.54
2:G:582:LYS:HA	2:G:585:LYS:HE3	1.88	0.54
2:G:1339:PHE:N	2:G:1340:PRO:HD2	2.22	0.54
2:G:1433:MET:N	2:G:1464:LEU:O	2.39	0.54
2:G:1511:SER:OG	2:G:1512:HIS:N	2.40	0.54
2:G:573:LYS:HG2	2:G:1101:GLU:HA	1.89	0.54
2:G:669:LEU:HD22	2:G:674:TYR:CE2	2.42	0.54
2:G:1590:ARG:NH2	2:G:1594:GLU:OE2	2.40	0.54
1:A:1141:ALA:HB1	1:A:1145:LYS:HE2	1.90	0.54
1:A:1148:HIS:HB3	1:A:1151:LYS:HD3	1.90	0.54
2:G:1431:TYR:HE1	2:G:1526:THR:HG22	1.71	0.54
1:A:777:GLN:N	1:A:777:GLN:OE1	2.41	0.54
2:G:881:VAL:O	2:G:885:GLU:HG2	2.08	0.54
2:G:1130:THR:N	2:G:1133:THR:OG1	2.28	0.54
1:A:1173:LEU:HB2	1:A:1174:TYR:CD2	2.42	0.54
1:A:1584:PRO:HG3	1:A:1591:TRP:CE3	2.43	0.54
2:G:1738:PHE:O	2:G:1749:GLU:HG3	2.08	0.54
2:G:2024:GLU:O	2:G:2028:ASP:N	2.38	0.54
1:A:53:LEU:HD13	2:G:1665:VAL:HB	1.89	0.54
1:A:58:GLN:HB3	1:A:78:ILE:HD13	1.89	0.54
2:G:349:VAL:HG21	2:G:377:LEU:HD22	1.89	0.54
2:G:619:LEU:H	2:G:649:ILE:HA	1.73	0.54
2:G:1698:PHE:CZ	2:G:1828:VAL:HG22	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:79:LEU:HD21	1:A:87:GLU:HB2	1.89	0.54
1:A:1245:ASN:ND2	1:A:1284:SER:OG	2.41	0.54
2:G:9:LEU:O	2:G:20:LEU:N	2.32	0.54
1:A:194:PHE:C	1:A:196:THR:H	2.07	0.53
2:G:404:GLN:HE22	2:G:413:LYS:H	1.56	0.53
1:A:403:ASP:OD1	1:A:1613:ASN:ND2	2.28	0.53
1:A:1544:THR:O	1:A:1545:SER:HB3	2.08	0.53
2:G:259:THR:HG23	2:G:262:GLU:H	1.73	0.53
2:G:264:ARG:NH2	2:G:456:GLN:OE1	2.42	0.53
2:G:1138:TRP:CD1	2:G:1176:PRO:HG3	2.43	0.53
2:G:2026:PHE:HB3	2:G:2038:ILE:HG23	1.89	0.53
1:A:652:ASP:OD1	1:A:653:ARG:N	2.41	0.53
1:A:753:TYR:CE1	1:A:764:ASP:HA	2.43	0.53
2:G:1123:ASP:OD2	2:G:1187:GLY:N	2.41	0.53
2:G:1539:ILE:HB	2:G:1626:ILE:HG22	1.89	0.53
2:G:1691:TRP:HB3	2:G:1707:LEU:HD21	1.91	0.53
1:A:1105:LEU:HA	1:A:1185:VAL:HG12	1.91	0.53
1:A:1137:SER:C	1:A:1138:LYS:HE2	2.29	0.53
1:A:1595:GLY:HA2	1:A:1598:GLN:HG3	1.90	0.53
2:G:1148:ASN:H	2:G:1151:HIS:HB2	1.72	0.53
2:G:1607:GLY:O	2:G:1656:GLU:N	2.29	0.53
1:A:1239:HIS:HD2	1:A:1241:SER:H	1.57	0.53
2:G:55:THR:N	2:G:59:GLU:OE2	2.42	0.53
2:G:220:GLU:HG2	2:G:221:ASN:H	1.74	0.53
2:G:382:PRO:HD3	2:G:431:LEU:HD11	1.89	0.53
2:G:526:ARG:CG	2:G:558:ASN:H	2.22	0.53
2:G:1533:LEU:HD23	2:G:1534:GLU:N	2.23	0.53
2:G:1895:ASN:H	2:G:1898:TYR:HE2	1.57	0.53
2:G:2023:LYS:HD2	2:G:2045:TRP:CZ2	2.44	0.53
2:G:160:PHE:CE2	2:G:504:PHE:HB2	2.43	0.53
2:G:728:ILE:HG13	2:G:763:ILE:HD13	1.91	0.53
2:G:1517:VAL:O	2:G:1521:LYS:N	2.42	0.53
2:G:1754:GLU:OE1	2:G:1754:GLU:N	2.42	0.53
2:G:803:SER:N	5:G:2101:FMN:O1P	2.38	0.53
2:G:1226:ASN:HA	2:G:1233:PRO:HA	1.90	0.53
2:G:1866:PHE:HA	2:G:1925:ILE:HD11	1.91	0.53
2:G:1997:ILE:HG22	2:G:1999:GLU:H	1.74	0.53
1:A:1077:ASP:HB3	1:A:1082:GLU:H	1.73	0.53
1:A:1136:ALA:O	1:A:1164:SER:OG	2.18	0.53
1:A:1174:TYR:O	1:A:1175:ILE:HG13	2.09	0.53
1:A:1397:GLY:O	1:A:1680:ARG:NH1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:461:ASP:HB3	2:G:465:GLY:H	1.74	0.53
2:G:1281:PRO:HG2	2:G:1342:THR:OG1	2.09	0.53
2:G:1356:GLY:HA2	2:G:1609:THR:HA	1.89	0.53
2:G:1986:LYS:N	2:G:1987:PRO:HD2	2.23	0.53
1:A:483:VAL:O	1:A:486:VAL:HG12	2.08	0.53
1:A:490:TYR:CZ	1:A:906:LEU:HD13	2.43	0.53
1:A:533:GLY:O	1:A:537:LYS:HG2	2.09	0.53
1:A:707:THR:HG21	1:A:718:TYR:HE2	1.74	0.53
2:G:720:ALA:HB2	2:G:763:ILE:HD11	1.90	0.53
2:G:847:ARG:HB3	2:G:851:GLY:HA2	1.89	0.53
2:G:1146:GLU:HG2	2:G:1148:ASN:ND2	2.24	0.53
2:G:1698:PHE:CD2	2:G:1706:ILE:HD11	2.43	0.53
2:G:860:ARG:HB3	2:G:898:ASP:HB3	1.90	0.52
2:G:873:PHE:CD1	2:G:1026:GLU:HB3	2.44	0.52
2:G:1830:VAL:HG12	2:G:1991:PHE:CE2	2.44	0.52
1:A:661:ASP:OD2	1:A:662:GLY:N	2.42	0.52
2:G:145:LEU:HG	2:G:146:PHE:HD1	1.74	0.52
2:G:306:ILE:HD11	2:G:480:VAL:HG12	1.89	0.52
2:G:610:THR:HB	2:G:617:ILE:CD1	2.38	0.52
2:G:1323:MET:H	2:G:1590:ARG:NH2	2.06	0.52
1:A:42:GLU:N	1:A:42:GLU:OE2	2.42	0.52
1:A:87:GLU:OE2	1:A:87:GLU:N	2.33	0.52
1:A:774:ILE:CG2	3:A:1901:NAP:N7A	2.73	0.52
2:G:59:GLU:HB2	2:G:122:LEU:HD21	1.91	0.52
2:G:148:ALA:O	2:G:151:GLU:HG2	2.09	0.52
2:G:843:ILE:HG21	2:G:1057:PRO:HA	1.91	0.52
1:A:858:TRP:HE3	1:A:862:LEU:HB2	1.74	0.52
1:A:1247:SER:OG	1:A:1332:TYR:HE1	1.92	0.52
1:A:520:ARG:HH12	1:A:521:LYS:HZ3	1.55	0.52
1:A:966:LYS:HD3	1:A:971:ASN:HB3	1.91	0.52
1:A:1195:ALA:HB1	1:A:1200:ILE:HD12	1.91	0.52
2:G:1234:VAL:HG11	2:G:1269:LEU:HD21	1.92	0.52
2:G:1026:GLU:HA	2:G:1029:PHE:HB3	1.91	0.52
2:G:1709:ILE:HG22	2:G:1771:LEU:HD11	1.91	0.52
1:A:1360:ARG:NH1	1:A:1367:ARG:HG3	2.25	0.52
2:G:716:VAL:HG11	2:G:730:LEU:HD21	1.92	0.52
2:G:1614:ASP:OD1	2:G:1650:VAL:HG12	2.09	0.52
2:G:509:ALA:O	2:G:514:VAL:HG21	2.10	0.52
2:G:741:HIS:HB3	2:G:853:PRO:HG2	1.92	0.52
2:G:1338:ILE:HG22	2:G:1390:VAL:HG21	1.92	0.52
2:G:1359:MET:HE3	2:G:1365:PRO:HA	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1211:ILE:HG21	1:A:1253:GLY:H	1.75	0.52
2:G:569:LEU:HB3	2:G:1097:ILE:CD1	2.40	0.52
2:G:1859:PRO:HG3	2:G:1871:LEU:HD21	1.91	0.52
1:A:490:TYR:HB3	1:A:698:GLN:CB	2.40	0.52
1:A:995:LEU:HD13	1:A:1674:VAL:HG22	1.90	0.52
1:A:1037:TRP:HB2	1:A:1598:GLN:HE21	1.75	0.52
1:A:1139:GLU:HG2	1:A:1140:THR:N	2.25	0.52
2:G:37:PHE:CE2	2:G:67:TYR:HD2	2.28	0.52
2:G:116:LEU:O	2:G:119:THR:HG22	2.10	0.52
1:A:501:THR:HG21	1:A:883:ILE:O	2.10	0.51
2:G:747:HIS:O	2:G:751:LEU:N	2.43	0.51
1:A:711:SER:OG	1:A:713:GLN:OE1	2.14	0.51
1:A:741:SER:OG	1:A:744:ASP:HB2	2.10	0.51
1:A:1104:ARG:HH22	1:A:1188:GLN:HB2	1.75	0.51
1:A:1132:GLU:O	1:A:1132:GLU:HG2	2.10	0.51
2:G:1311:PHE:HA	2:G:1320:LEU:HD21	1.92	0.51
2:G:1678:MET:HG3	2:G:1711:ILE:HG22	1.92	0.51
2:G:873:PHE:CE1	2:G:1026:GLU:HB3	2.45	0.51
1:A:77:GLU:HG3	1:A:79:LEU:CD1	2.40	0.51
1:A:953:VAL:HG12	2:G:1439:LYS:HB2	1.92	0.51
2:G:162:GLY:N	2:G:273:HIS:HB3	2.25	0.51
2:G:205:ALA:O	2:G:208:VAL:HG12	2.10	0.51
1:A:1115:ASN:HD22	1:A:1118:LYS:HB2	1.75	0.51
2:G:1911:THR:HG23	2:G:1966:CYS:SG	2.51	0.51
1:A:1718:PRO:HD2	1:A:1744:TYR:HE1	1.74	0.51
2:G:955:GLU:HG2	2:G:987:TYR:HE2	1.75	0.51
1:A:221:LEU:O	1:A:225:SER:CB	2.59	0.51
1:A:430:ARG:NH2	1:A:606:ASP:OD2	2.42	0.51
1:A:1215:VAL:O	1:A:1219:VAL:HG23	2.10	0.51
1:A:1279:PHE:HB2	1:A:1282:THR:HG23	1.92	0.51
1:A:1370:THR:HG22	1:A:1372:THR:H	1.76	0.51
2:G:785:TRP:NE1	2:G:794:MET:O	2.35	0.51
2:G:1519:PHE:O	2:G:1523:ASN:ND2	2.44	0.51
1:A:684:GLY:CA	1:A:709:ARG:HH22	2.23	0.51
1:A:1262:LYS:NZ	1:A:1338:GLU:OE2	2.38	0.51
1:A:1668:ASP:OD2	1:A:1668:ASP:N	2.43	0.51
1:A:608:ASP:OD2	1:A:611:LYS:HG2	2.11	0.51
1:A:329:GLU:O	1:A:333:LYS:NZ	2.34	0.51
1:A:1017:ARG:HH11	1:A:1320:LEU:HD12	1.74	0.51
1:A:1148:HIS:CD2	1:A:1167:LEU:HD22	2.46	0.51
2:G:116:LEU:HA	2:G:119:THR:HG22	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1804:PHE:CD1	2:G:1818:LEU:HG	2.46	0.51
2:G:695:ILE:HD11	2:G:723:HIS:CG	2.46	0.50
2:G:1458:ASP:OD1	2:G:1458:ASP:N	2.44	0.50
1:A:1425:ILE:CG1	1:A:1651:GLY:H	2.24	0.50
2:G:145:LEU:H	2:G:145:LEU:HD23	1.75	0.50
2:G:234:ILE:HG13	2:G:235:PRO:HD3	1.93	0.50
2:G:569:LEU:HD23	2:G:1090:TYR:HE1	1.75	0.50
2:G:1383:ASN:ND2	2:G:1416:TYR:HB2	2.25	0.50
2:G:1906:ALA:O	2:G:1910:VAL:HG23	2.12	0.50
1:A:416:LEU:HD22	1:A:420:ILE:HD11	1.93	0.50
2:G:619:LEU:N	2:G:648:GLY:O	2.44	0.50
2:G:694:TYR:O	2:G:698:LEU:HB2	2.12	0.50
2:G:737:GLY:O	2:G:855:HIS:ND1	2.32	0.50
2:G:740:HIS:CD2	3:G:2102:NAP:N7N	2.79	0.50
2:G:1452:LEU:HB3	2:G:1501:ILE:HG22	1.92	0.50
1:A:828:PRO:HG3	1:A:927:ASN:ND2	2.26	0.50
1:A:846:LEU:O	1:A:849:LEU:HB2	2.10	0.50
1:A:1226:SER:O	1:A:1226:SER:OG	2.23	0.50
2:G:480:VAL:O	2:G:484:ILE:HG12	2.11	0.50
2:G:625:PHE:HD2	3:G:2102:NAP:C6A	1.85	0.50
2:G:900:GLN:HE21	2:G:1052:CYS:H	1.60	0.50
2:G:1300:PHE:CZ	2:G:1304:VAL:HG21	2.46	0.50
2:G:1397:SER:HA	2:G:1403:VAL:HG23	1.93	0.50
2:G:1562:PRO:HB2	2:G:1569:PHE:CD2	2.46	0.50
1:A:609:SER:O	1:A:613:VAL:HG23	2.12	0.50
1:A:1360:ARG:HH21	1:A:1372:THR:HG23	1.77	0.50
2:G:9:LEU:HB3	2:G:20:LEU:HB3	1.94	0.50
2:G:1855:ILE:HB	2:G:1907:LEU:HD21	1.94	0.50
1:A:868:ILE:HG13	1:A:925:ASP:HA	1.94	0.50
1:A:1077:ASP:OD2	1:A:1079:LYS:N	2.39	0.50
1:A:1303:GLY:H	1:A:1307:THR:HB	1.77	0.50
2:G:72:VAL:HG21	2:G:84:LEU:HD22	1.93	0.50
2:G:1318:THR:OG1	2:G:1369:GLY:N	2.44	0.50
2:G:1668:GLY:HA2	2:G:1809:LEU:HB3	1.94	0.50
2:G:118:LYS:O	2:G:122:LEU:HD23	2.10	0.50
2:G:1206:LYS:HD3	2:G:1226:ASN:HD22	1.76	0.50
2:G:1595:ASN:OD1	2:G:1596:TRP:N	2.44	0.50
1:A:42:GLU:OE2	2:G:1661:VAL:HB	2.11	0.50
1:A:403:ASP:O	1:A:405:SER:N	2.44	0.50
1:A:753:TYR:CB	1:A:809:GLN:HG2	2.42	0.50
2:G:1440:ASP:OD1	2:G:1441:ILE:N	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1878:VAL:HG21	2:G:1910:VAL:HG22	1.92	0.50
1:A:1136:ALA:H	1:A:1164:SER:HB3	1.75	0.49
2:G:1320:LEU:H	2:G:1320:LEU:HD23	1.77	0.49
1:A:1373:ARG:HD2	1:A:1547:LYS:HA	1.92	0.49
2:G:139:LYS:NZ	2:G:140:LYS:O	2.38	0.49
2:G:426:PRO:HG3	2:G:431:LEU:HD12	1.95	0.49
2:G:670:ARG:HH11	2:G:670:ARG:HA	1.77	0.49
2:G:1884:TRP:HB2	2:G:1906:ALA:HB2	1.93	0.49
2:G:2015:THR:OG1	2:G:2029:VAL:HG12	2.13	0.49
1:A:431:GLU:OE1	1:A:434:SER:OG	2.31	0.49
1:A:1476:GLU:OE2	1:A:1477:ILE:HG13	2.12	0.49
2:G:1294:ALA:HA	2:G:1368:VAL:HG11	1.94	0.49
1:A:47:ILE:HD13	1:A:81:TYR:HB2	1.93	0.49
1:A:168:MET:O	1:A:206:LEU:CB	2.60	0.49
1:A:460:GLU:OE1	1:A:470:LYS:NZ	2.41	0.49
1:A:475:GLN:O	1:A:479:ASN:N	2.40	0.49
1:A:1335:PHE:O	1:A:1336:GLN:HG2	2.12	0.49
2:G:368:ILE:HG22	2:G:379:VAL:HG12	1.93	0.49
2:G:1706:ILE:HA	2:G:1709:ILE:HD12	1.95	0.49
1:A:520:ARG:HH21	1:A:602:GLU:CD	2.15	0.49
1:A:1207:GLN:NE2	1:A:1277:GLU:OE2	2.45	0.49
2:G:615:TYR:CZ	2:G:1074:MET:HB3	2.47	0.49
2:G:844:VAL:HG12	2:G:845:THR:N	2.27	0.49
2:G:1635:ARG:HD2	2:G:1656:GLU:OE1	2.12	0.49
2:G:1874:VAL:HA	2:G:1877:ARG:CZ	2.42	0.49
2:G:1941:PHE:HA	2:G:1944:ILE:HG22	1.94	0.49
1:A:994:GLU:OE1	1:A:994:GLU:N	2.46	0.49
1:A:1135:GLU:OE1	1:A:1135:GLU:N	2.44	0.49
2:G:818:LYS:O	2:G:821:ILE:HG22	2.13	0.49
1:A:1026:GLU:HB2	1:A:1594:ASN:ND2	2.28	0.49
2:G:435:ALA:O	2:G:439:ILE:HG13	2.12	0.49
2:G:1485:CYS:SG	2:G:1514:ASN:ND2	2.77	0.49
1:A:784:ILE:HD13	1:A:838:MET:HG3	1.93	0.49
2:G:31:SER:HA	2:G:34:GLN:HE21	1.78	0.49
2:G:59:GLU:HB3	2:G:122:LEU:HD21	1.95	0.49
2:G:691:ALA:HA	2:G:694:TYR:CD2	2.47	0.49
2:G:736:ARG:NE	2:G:769:SER:O	2.33	0.49
1:A:521:LYS:HZ3	1:A:605:LEU:HD12	1.78	0.49
2:G:549:ASP:HB3	2:G:554:GLY:HA3	1.93	0.49
2:G:698:LEU:O	2:G:700:LEU:N	2.44	0.49
2:G:902:PRO:HG3	2:G:1044:VAL:HG11	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1447:LYS:HG2	2:G:1449:TRP:CE2	2.46	0.49
2:G:1452:LEU:HA	2:G:1502:GLY:HA3	1.94	0.49
1:A:1138:LYS:N	1:A:1139:GLU:OE1	2.46	0.49
2:G:202:THR:HG21	2:G:205:ALA:HB3	1.94	0.49
2:G:275:GLN:HE21	2:G:303:LEU:HD13	1.77	0.49
2:G:1215:LYS:O	2:G:1218:ILE:HG12	2.13	0.49
2:G:1695:ASP:OD1	2:G:1705:SER:OG	2.24	0.49
1:A:411:GLN:NE2	1:A:1629:LYS:HG2	2.27	0.48
1:A:727:ALA:N	1:A:730:SER:OG	2.46	0.48
1:A:1354:GLU:OE2	1:A:1374:ASN:ND2	2.28	0.48
2:G:59:GLU:HA	2:G:122:LEU:HD11	1.95	0.48
2:G:610:THR:OG1	2:G:1070:ILE:HG12	2.12	0.48
2:G:1604:ARG:O	2:G:1657:ILE:HD12	2.13	0.48
2:G:1917:ILE:O	2:G:1921:LYS:N	2.43	0.48
1:A:1141:ALA:O	1:A:1145:LYS:HD3	2.13	0.48
2:G:35:GLU:HA	2:G:38:ASN:HD21	1.78	0.48
1:A:1189:ILE:HG12	1:A:1380:GLN:NE2	2.27	0.48
1:A:750:GLU:OE1	1:A:750:GLU:N	2.37	0.48
1:A:827:SER:HG	3:A:1901:NAP:C5N	2.25	0.48
2:G:1738:PHE:HB2	2:G:1751:ILE:CD1	2.43	0.48
1:A:159:LEU:O	1:A:161:LYS:N	2.45	0.48
2:G:887:LYS:O	2:G:891:ILE:HG23	2.13	0.48
2:G:1359:MET:HG3	2:G:1606:ARG:HH21	1.79	0.48
2:G:1484:LYS:NZ	2:G:1507:GLU:HB2	2.28	0.48
2:G:1778:GLN:HB2	2:G:1779:PRO:HD3	1.95	0.48
1:A:30:GLU:HB2	2:G:2016:ALA:CB	2.43	0.48
1:A:974:ASP:HA	1:A:977:TYR:CD2	2.49	0.48
2:G:733:THR:OG1	2:G:769:SER:HB3	2.12	0.48
2:G:1224:ILE:O	2:G:1568:HIS:NE2	2.46	0.48
2:G:1373:SER:N	2:G:1397:SER:O	2.42	0.48
2:G:1454:ASP:OD1	2:G:1454:ASP:N	2.45	0.48
2:G:1822:MET:HG3	2:G:1827:LEU:HB2	1.94	0.48
1:A:27:ARG:HH21	2:G:2016:ALA:H	1.60	0.48
1:A:440:MET:CE	1:A:479:ASN:HB3	2.43	0.48
1:A:1317:GLU:O	1:A:1321:SER:HB3	2.13	0.48
2:G:214:ASN:HB3	2:G:217:GLU:OE2	2.13	0.48
2:G:1924:ILE:HD12	2:G:1924:ILE:H	1.77	0.48
2:G:215:ILE:HD12	2:G:240:LEU:HD21	1.94	0.48
2:G:646:THR:HG21	2:G:677:GLN:HB2	1.95	0.48
2:G:1079:ASP:OD2	2:G:1080:GLY:N	2.46	0.48
2:G:1129:ALA:HB2	2:G:1138:TRP:CH2	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1957:PRO:HB2	2:G:1959:LYS:HE2	1.95	0.48
1:A:1116:PRO:HB2	1:A:1184:LEU:HD13	1.96	0.48
1:A:1144:PHE:HZ	1:A:1174:TYR:HH	1.62	0.48
2:G:45:THR:O	2:G:48:PHE:N	2.47	0.48
2:G:246:LEU:O	2:G:250:VAL:HG13	2.13	0.48
2:G:809:LYS:HB3	2:G:1067:ASP:O	2.13	0.48
2:G:2046:GLU:N	2:G:2046:GLU:OE1	2.46	0.48
1:A:421:ILE:HA	1:A:465:ASN:HB3	1.96	0.48
1:A:1052:GLU:O	1:A:1056:ILE:HG23	2.14	0.48
2:G:543:PHE:HB2	2:G:545:GLN:HE22	1.79	0.48
2:G:725:ASN:HA	2:G:1109:VAL:HG11	1.96	0.48
2:G:1839:GLN:HE21	2:G:1844:ARG:HD2	1.79	0.48
1:A:985:ARG:HG3	2:G:956:GLU:HB3	1.95	0.47
1:A:1334:ASP:CG	1:A:1335:PHE:H	2.17	0.47
2:G:270:ALA:O	2:G:459:VAL:HA	2.13	0.47
1:A:1608:ASN:O	1:A:1610:ASN:N	2.47	0.47
2:G:16:LEU:HD23	2:G:48:PHE:CD2	2.50	0.47
2:G:155:GLN:HG2	2:G:499:THR:HG23	1.95	0.47
2:G:336:SER:OG	2:G:423:VAL:O	2.32	0.47
2:G:710:ILE:HD13	2:G:749:PRO:HB3	1.96	0.47
2:G:1889:VAL:HG23	2:G:1899:VAL:HG23	1.97	0.47
1:A:33:ASP:O	1:A:37:LYS:N	2.45	0.47
2:G:20:LEU:HD12	2:G:90:GLU:CD	2.35	0.47
2:G:900:GLN:NE2	2:G:1052:CYS:H	2.11	0.47
2:G:1491:VAL:CB	2:G:1501:ILE:HD11	2.44	0.47
2:G:1908:ASP:OD2	2:G:1954:LYS:HD3	2.14	0.47
2:G:1976:PHE:HD1	2:G:1977:HIS:HD1	1.59	0.47
1:A:1125:VAL:CG1	1:A:1126:ILE:H	2.16	0.47
2:G:109:LEU:HG	2:G:114:THR:HG23	1.95	0.47
2:G:864:LEU:HD11	2:G:868:PHE:CZ	2.49	0.47
2:G:1038:GLU:H	2:G:1038:GLU:HG2	1.53	0.47
2:G:1485:CYS:HB2	2:G:1506:TYR:HB3	1.95	0.47
2:G:1850:SER:HB3	2:G:1973:SER:OG	2.14	0.47
1:A:385:PHE:CD2	1:A:787:LYS:HA	2.50	0.47
1:A:810:LYS:CB	1:A:861:GLN:HG2	2.45	0.47
1:A:1040:GLU:HA	1:A:1580:LEU:HD11	1.97	0.47
1:A:1390:ALA:O	1:A:1393:ALA:N	2.48	0.47
2:G:1310:ASP:OD1	2:G:1602:SER:N	2.45	0.47
2:G:1730:ARG:NH2	2:G:1757:GLU:O	2.47	0.47
2:G:259:THR:HA	2:G:289:TRP:NE1	2.30	0.47
2:G:865:TRP:HE1	2:G:1030:LYS:HZ3	1.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1058:VAL:O	2:G:1061:GLN:HG2	2.15	0.47
2:G:1517:VAL:O	2:G:1521:LYS:HG2	2.13	0.47
1:A:413:LEU:HD23	1:A:450:PHE:CD2	2.49	0.47
1:A:433:VAL:HG13	1:A:609:SER:HB2	1.95	0.47
1:A:1584:PRO:HG2	1:A:1588:ALA:N	2.30	0.47
2:G:598:THR:OG1	2:G:599:PRO:HD3	2.14	0.47
2:G:633:ALA:O	2:G:637:VAL:HG13	2.14	0.47
2:G:895:LEU:HD13	2:G:1018:VAL:HG21	1.95	0.47
2:G:1201:VAL:HG11	2:G:1226:ASN:ND2	2.27	0.47
2:G:1287:GLY:HA3	2:G:1374:THR:HG23	1.97	0.47
2:G:1718:THR:HA	2:G:1763:THR:HA	1.96	0.47
2:G:1858:ASN:ND2	2:G:1861:ARG:HG3	2.30	0.47
2:G:1960:LEU:HD23	2:G:1968:PRO:HB3	1.96	0.47
1:A:13:LEU:HD22	2:G:2026:PHE:CE1	2.50	0.47
1:A:695:GLY:HA3	1:A:906:LEU:HD11	1.97	0.47
1:A:1120:GLU:H	1:A:1120:GLU:CD	2.18	0.47
2:G:66:GLY:O	2:G:69:SER:OG	2.22	0.47
2:G:530:ALA:HA	2:G:547:ILE:HD11	1.95	0.47
2:G:1263:LYS:HD3	2:G:1347:LEU:HD11	1.96	0.47
2:G:1323:MET:H	2:G:1590:ARG:HH22	1.60	0.47
2:G:1775:GLN:HE22	2:G:1836:MET:CB	2.26	0.47
2:G:1956:ARG:O	2:G:1956:ARG:NE	2.48	0.47
1:A:712:LYS:HB3	1:A:1361:THR:HG21	1.96	0.47
2:G:6:THR:HA	2:G:23:PRO:HA	1.96	0.47
2:G:421:LEU:O	2:G:423:VAL:N	2.48	0.47
2:G:589:ARG:HG2	2:G:590:PRO:HD2	1.96	0.47
2:G:1381:VAL:HG12	2:G:1390:VAL:HG12	1.97	0.47
2:G:1799:PRO:HD2	2:G:1802:ALA:HB2	1.96	0.47
1:A:640:LEU:N	1:A:656:SER:OG	2.48	0.47
1:A:1059:PHE:HA	1:A:1079:LYS:NZ	2.30	0.47
1:A:1298:ILE:HD13	1:A:1298:ILE:HA	1.65	0.47
2:G:67:TYR:CZ	2:G:71:LEU:HD11	2.50	0.47
2:G:831:LYS:HE2	2:G:834:GLN:HG3	1.97	0.47
2:G:857:ILE:O	2:G:862:VAL:HG11	2.15	0.47
1:A:257:PRO:O	1:A:261:GLN:N	2.41	0.46
1:A:338:LEU:O	1:A:342:GLN:N	2.28	0.46
1:A:1064:ASN:HA	1:A:1072:TYR:O	2.15	0.46
2:G:1324:ASP:O	2:G:1327:ILE:HG22	2.15	0.46
2:G:1342:THR:O	2:G:1421:ASN:ND2	2.48	0.46
2:G:1351:VAL:HG21	2:G:1413:ARG:NH2	2.30	0.46
1:A:49:PRO:HD3	2:G:1784:MET:HE1	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1152:VAL:HG11	1:A:1154:ILE:HG23	1.96	0.46
2:G:138:ASP:OD1	2:G:138:ASP:N	2.48	0.46
2:G:264:ARG:HH21	2:G:456:GLN:HB2	1.80	0.46
1:A:1119:LYS:HE3	1:A:1341:PHE:CD1	2.49	0.46
1:A:1397:GLY:O	1:A:1680:ARG:HG3	2.15	0.46
1:A:1446:LYS:O	1:A:1450:ARG:HG3	2.14	0.46
2:G:748:THR:HA	2:G:751:LEU:HB3	1.98	0.46
2:G:932:ILE:HD11	2:G:939:PHE:HB2	1.97	0.46
2:G:1323:MET:HE1	2:G:1608:TYR:HB3	1.97	0.46
2:G:1550:ASN:HB3	2:G:1581:HIS:CE1	2.51	0.46
2:G:2030:TYR:HB2	2:G:2038:ILE:HG21	1.97	0.46
1:A:1360:ARG:NH2	1:A:1367:ARG:HD2	2.30	0.46
2:G:36:GLN:O	2:G:40:ILE:HG13	2.16	0.46
2:G:1737:ILE:O	2:G:1833:TYR:OH	2.34	0.46
1:A:46:GLU:HB3	1:A:80:CYS:HA	1.97	0.46
1:A:693:LEU:HD13	1:A:705:VAL:HG11	1.97	0.46
1:A:858:TRP:CE3	1:A:862:LEU:HB2	2.50	0.46
2:G:273:HIS:CG	2:G:274:SER:H	2.34	0.46
2:G:573:LYS:CG	2:G:1101:GLU:HA	2.45	0.46
2:G:804:ARG:NH2	2:G:1068:GLU:OE1	2.37	0.46
2:G:1643:ARG:HB3	2:G:1647:ASP:HA	1.96	0.46
2:G:1812:TYR:OH	2:G:1834:ARG:NE	2.48	0.46
2:G:1924:ILE:O	2:G:1928:GLN:NE2	2.48	0.46
2:G:239:PRO:O	2:G:243:VAL:HG13	2.16	0.46
2:G:1093:ASP:OD1	2:G:1096:LYS:HB2	2.16	0.46
2:G:1138:TRP:NE1	2:G:1142:LEU:HD11	2.30	0.46
2:G:1722:GLY:N	2:G:1726:GLY:HA3	2.31	0.46
1:A:467:GLN:O	1:A:467:GLN:NE2	2.49	0.46
2:G:490:TRP:CH2	2:G:512:LEU:HD21	2.51	0.46
2:G:649:ILE:HD13	2:G:666:ILE:HD11	1.98	0.46
1:A:803:MET:HE1	1:A:849:LEU:HD21	1.98	0.46
1:A:1029:PRO:HG3	1:A:1187:GLY:O	2.16	0.46
2:G:2036:GLU:CD	2:G:2037:PRO:HD3	2.36	0.46
1:A:55:GLY:O	1:A:59:ARG:HG2	2.16	0.46
1:A:1534:ASP:OD2	1:A:1567:SER:OG	2.32	0.46
2:G:978:GLU:OE1	2:G:978:GLU:N	2.49	0.46
2:G:1149:TRP:HB2	2:G:1219:ILE:HD11	1.98	0.46
1:A:395:SER:HB3	1:A:398:LYS:HD2	1.97	0.46
1:A:452:GLU:O	1:A:456:SER:OG	2.29	0.46
1:A:521:LYS:HD2	1:A:523:SER:OG	2.15	0.46
1:A:527:GLN:HG2	1:A:626:VAL:HG21	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1135:GLU:CD	1:A:1135:GLU:H	2.19	0.46
1:A:1461:ASP:O	1:A:1464:GLU:HG2	2.15	0.46
2:G:310:CYS:O	2:G:313:ALA:N	2.49	0.46
2:G:410:SER:OG	2:G:411:GLU:OE2	2.33	0.46
2:G:1741:ILE:HD11	2:G:1986:LYS:HG2	1.97	0.46
2:G:142:ASN:HD21	2:G:147:ARG:NE	2.13	0.45
2:G:502:LEU:HD23	2:G:502:LEU:H	1.81	0.45
2:G:634:ILE:O	2:G:637:VAL:HG22	2.17	0.45
1:A:430:ARG:HG3	1:A:495:LYS:HG3	1.98	0.45
1:A:821:GLN:OE1	1:A:823:ILE:HD11	2.16	0.45
1:A:957:VAL:HG23	2:G:1443:VAL:HG12	1.99	0.45
1:A:1606:PRO:HA	1:A:1630:THR:HG23	1.99	0.45
2:G:540:ASP:OD1	2:G:540:ASP:N	2.49	0.45
2:G:646:THR:CG2	2:G:677:GLN:HB2	2.46	0.45
2:G:906:THR:OG1	2:G:925:ARG:NH2	2.49	0.45
2:G:1488:PRO:HA	2:G:1503:ILE:HD13	1.98	0.45
2:G:1669:GLN:HB3	2:G:1809:LEU:HD13	1.99	0.45
2:G:1716:ASN:ND2	2:G:1765:ARG:HA	2.29	0.45
2:G:1819:ALA:HA	2:G:2005:ARG:HD2	1.98	0.45
2:G:273:HIS:HB2	2:G:512:LEU:HD22	1.98	0.45
2:G:479:ILE:O	2:G:483:ILE:HG13	2.16	0.45
2:G:938:TRP:CD2	2:G:944:ARG:HG3	2.51	0.45
2:G:1611:GLN:N	2:G:1652:THR:O	2.35	0.45
2:G:1644:ASN:HB3	2:G:1646:ASP:OD2	2.16	0.45
1:A:1001:VAL:HA	1:A:1004:ILE:HG22	1.98	0.45
1:A:1036:ARG:HH21	1:A:1598:GLN:HE21	1.65	0.45
1:A:1209:ASP:OD2	1:A:1253:GLY:HA2	2.17	0.45
2:G:430:HIS:HA	2:G:433:VAL:HG23	1.99	0.45
2:G:1641:GLU:OE2	2:G:1643:ARG:NE	2.48	0.45
2:G:1712:ASN:OD1	2:G:1712:ASN:N	2.50	0.45
1:A:329:GLU:O	1:A:332:THR:OG1	2.25	0.45
1:A:1020:VAL:HG23	1:A:1402:GLY:O	2.16	0.45
1:A:1046:SER:OG	1:A:1047:LEU:N	2.48	0.45
1:A:1123:GLN:HB3	1:A:1177:LYS:CD	2.45	0.45
1:A:1182:ASP:O	1:A:1184:LEU:HB2	2.16	0.45
1:A:1207:GLN:HE22	1:A:1286:TRP:HZ2	1.65	0.45
1:A:1238:VAL:HG22	1:A:1242:GLU:HB2	1.98	0.45
1:A:1355:GLU:CD	1:A:1360:ARG:HD2	2.37	0.45
2:G:126:TYR:HD2	2:G:127:ILE:HD13	1.80	0.45
2:G:1168:ASN:O	2:G:1172:LYS:HG2	2.17	0.45
2:G:1291:GLU:HA	2:G:1371:VAL:HA	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1531:VAL:HG13	2:G:1631:MET:HB2	1.99	0.45
1:A:90:TYR:O	2:G:1533:LEU:HD21	2.17	0.45
1:A:1559:GLU:O	1:A:1563:HIS:N	2.39	0.45
2:G:1357:TYR:CD1	2:G:1406:VAL:HG12	2.52	0.45
2:G:1681:TYR:CE2	2:G:1691:TRP:HB2	2.52	0.45
1:A:413:LEU:HD23	1:A:450:PHE:CE2	2.52	0.45
1:A:739:GLN:HG3	1:A:772:ALA:HB3	1.98	0.45
1:A:819:PRO:HB3	1:A:860:ASN:O	2.16	0.45
1:A:1431:GLU:HB3	1:A:1520:ALA:HB2	1.99	0.45
2:G:2041:ILE:HG12	2:G:2047:LYS:HZ1	1.82	0.45
1:A:27:ARG:NH2	2:G:2015:THR:HA	2.32	0.45
2:G:109:LEU:HD12	2:G:119:THR:HG21	1.98	0.45
2:G:268:LYS:O	2:G:458:PRO:HD2	2.16	0.45
2:G:877:LYS:HG3	2:G:878:ASN:N	2.31	0.45
2:G:938:TRP:CE2	2:G:944:ARG:HG3	2.52	0.45
2:G:1745:LYS:NZ	2:G:1747:LYS:HA	2.32	0.45
1:A:333:LYS:O	1:A:337:VAL:HG13	2.16	0.45
1:A:853:TRP:CE3	1:A:921:PRO:HD3	2.51	0.45
1:A:1026:GLU:OE1	1:A:1594:ASN:ND2	2.47	0.45
1:A:1245:ASN:O	1:A:1298:ILE:HG23	2.17	0.45
1:A:1707:THR:O	1:A:1710:LEU:N	2.46	0.45
2:G:68:VAL:O	2:G:72:VAL:HG23	2.17	0.45
2:G:297:ARG:NE	2:G:447:ASN:HD21	2.15	0.45
2:G:391:LEU:O	2:G:394:ARG:N	2.42	0.45
2:G:612:ASN:HD21	2:G:641:ILE:HA	1.82	0.45
2:G:872:ILE:O	2:G:875:LEU:HB3	2.17	0.45
2:G:1514:ASN:ND2	2:G:1516:VAL:HG22	2.32	0.45
1:A:1418:VAL:HG12	1:A:1647:GLY:HA2	1.99	0.45
2:G:812:LYS:HD3	2:G:812:LYS:HA	1.56	0.45
2:G:1151:HIS:CD2	2:G:1155:LEU:HD12	2.51	0.45
2:G:1669:GLN:HA	2:G:1781:LEU:HD13	1.99	0.45
2:G:1892:ASN:HB2	2:G:1897:GLN:HB3	1.99	0.45
1:A:945:LYS:O	1:A:949:GLU:HG2	2.17	0.44
1:A:981:GLU:OE2	2:G:962:LYS:HB2	2.17	0.44
1:A:1211:ILE:O	1:A:1215:VAL:HG23	2.17	0.44
1:A:1368:PRO:HG2	1:A:1608:ASN:ND2	2.31	0.44
1:A:1717:ASP:OD2	1:A:1739:GLN:HB2	2.17	0.44
2:G:408:PRO:HB3	2:G:833:GLU:OE2	2.17	0.44
2:G:1257:ASP:OD1	2:G:1260:GLN:HB2	2.18	0.44
2:G:1598:ALA:HB2	2:G:1657:ILE:HD11	1.98	0.44
2:G:1767:GLU:HG2	2:G:1768:LYS:N	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1804:PHE:CG	2:G:1818:LEU:HG	2.52	0.44
2:G:1854:MET:HA	2:G:1901:ALA:HA	1.98	0.44
1:A:330:GLU:HA	1:A:333:LYS:HG2	1.99	0.44
1:A:711:SER:H	1:A:714:VAL:HG12	1.82	0.44
2:G:230:TYR:O	2:G:236:ILE:HG21	2.17	0.44
2:G:437:ASP:OD1	2:G:437:ASP:N	2.50	0.44
2:G:587:ILE:HG13	2:G:589:ARG:H	1.82	0.44
2:G:665:LEU:HD21	2:G:669:LEU:HD12	1.99	0.44
2:G:734:GLY:H	2:G:769:SER:HB3	1.81	0.44
2:G:1539:ILE:HD11	2:G:1628:HIS:HB2	1.97	0.44
2:G:1786:LYS:NZ	2:G:1816:ALA:O	2.50	0.44
2:G:1804:PHE:CZ	2:G:2010:TYR:HB2	2.53	0.44
1:A:382:LEU:HA	1:A:382:LEU:HD23	1.77	0.44
1:A:930:LEU:HD23	1:A:930:LEU:HA	1.71	0.44
2:G:124:LYS:HB2	2:G:179:THR:HA	1.99	0.44
2:G:423:VAL:HG12	2:G:424:ALA:H	1.81	0.44
2:G:1357:TYR:HD1	2:G:1406:VAL:HG12	1.82	0.44
2:G:1713:ASN:ND2	2:G:1771:LEU:HB2	2.33	0.44
2:G:297:ARG:NH1	2:G:301:THR:HG21	2.32	0.44
2:G:330:ASN:HB3	2:G:394:ARG:HH12	1.83	0.44
2:G:543:PHE:HB2	2:G:545:GLN:NE2	2.32	0.44
1:A:1123:GLN:HG2	1:A:1124:GLU:N	2.24	0.44
1:A:1254:VAL:HA	1:A:1257:LEU:HD12	1.99	0.44
1:A:1351:ASN:HB3	1:A:1354:GLU:HG2	2.00	0.44
1:A:1460:LYS:HE3	1:A:1460:LYS:HB3	1.87	0.44
2:G:597:MET:HB2	2:G:601:THR:HG23	2.00	0.44
2:G:604:PRO:HA	2:G:607:VAL:HG12	2.00	0.44
2:G:1624:THR:HA	2:G:1642:THR:HA	2.00	0.44
1:A:11:HIS:HB2	2:G:2001:VAL:HG11	2.00	0.44
1:A:843:LYS:CE	3:A:1901:NAP:HO2N	2.30	0.44
1:A:1086:ASP:O	1:A:1089:VAL:HG12	2.18	0.44
2:G:81:ASP:OD1	2:G:81:ASP:N	2.48	0.44
2:G:615:TYR:CE2	2:G:1074:MET:HB3	2.53	0.44
2:G:821:ILE:HD11	2:G:1055:HIS:ND1	2.32	0.44
2:G:861:GLY:HA2	2:G:898:ASP:O	2.17	0.44
1:A:774:ILE:HD11	1:A:791:ALA:HB2	2.00	0.44
1:A:1087:LYS:HA	1:A:1087:LYS:HD2	1.81	0.44
1:A:1234:MET:O	1:A:1238:VAL:HG12	2.18	0.44
2:G:148:ALA:O	2:G:153:ASN:N	2.50	0.44
2:G:368:ILE:HA	2:G:379:VAL:HG12	2.00	0.44
2:G:608:ALA:HA	2:G:611:THR:HG22	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:810:GLU:CD	2:G:1070:ILE:H	2.21	0.44
2:G:2037:PRO:HA	2:G:2040:GLU:OE2	2.17	0.44
1:A:477:ILE:O	1:A:481:LYS:HG3	2.18	0.44
1:A:985:ARG:HB2	2:G:957:ARG:HA	2.00	0.44
1:A:1125:VAL:HG12	1:A:1126:ILE:N	2.18	0.44
1:A:1248:GLY:O	1:A:1331:GLY:HA2	2.17	0.44
2:G:848:SER:OG	2:G:849:GLU:N	2.51	0.44
2:G:1001:ASP:OD2	2:G:1001:ASP:N	2.48	0.44
2:G:1297:VAL:HG23	2:G:1319:MET:HG2	2.00	0.44
2:G:1561:ASN:HD21	2:G:1563:ILE:HG12	1.82	0.44
1:A:658:LEU:HD11	1:A:916:LEU:HD22	1.99	0.44
2:G:457:ILE:C	2:G:469:ARG:HH21	2.21	0.44
2:G:686:PRO:HB3	2:G:690:VAL:HG13	2.00	0.44
2:G:741:HIS:CE1	2:G:855:HIS:NE2	2.86	0.44
2:G:1624:THR:OG1	2:G:1642:THR:HG22	2.18	0.44
1:A:8:GLU:O	1:A:12:ILE:HG12	2.18	0.43
1:A:448:ILE:HD13	1:A:481:LYS:HG2	2.00	0.43
1:A:1298:ILE:HD11	1:A:1323:LYS:HZ1	1.83	0.43
2:G:394:ARG:HA	2:G:397:LYS:CG	2.43	0.43
2:G:461:ASP:OD2	2:G:478:ARG:HD3	2.18	0.43
2:G:736:ARG:NH1	2:G:829:ASP:OD2	2.51	0.43
2:G:1224:ILE:HA	2:G:1235:SER:HA	1.99	0.43
2:G:1299:ASP:OD2	2:G:1556:VAL:HG22	2.18	0.43
2:G:1594:GLU:HG2	2:G:1605:VAL:HG21	2.00	0.43
1:A:402:PHE:HB2	1:A:732:LEU:CD2	2.48	0.43
1:A:1015:LEU:O	1:A:1390:ALA:HB3	2.18	0.43
2:G:123:ILE:HD12	2:G:123:ILE:H	1.82	0.43
2:G:240:LEU:HA	2:G:243:VAL:HG22	2.00	0.43
2:G:517:HIS:HB2	2:G:527:VAL:CG1	2.46	0.43
2:G:1078:HIS:O	2:G:1082:ILE:HG12	2.18	0.43
2:G:1533:LEU:HD23	2:G:1534:GLU:H	1.82	0.43
1:A:1208:VAL:CG1	1:A:1212:THR:HB	2.48	0.43
2:G:355:LYS:O	2:G:358:SER:OG	2.31	0.43
2:G:856:LYS:HB2	2:G:862:VAL:HG21	2.00	0.43
2:G:1353:LEU:HD23	2:G:1353:LEU:HA	1.84	0.43
1:A:46:GLU:HA	2:G:1665:VAL:HG23	1.99	0.43
1:A:83:LYS:HD2	1:A:84:ASP:OD1	2.18	0.43
1:A:724:LYS:HE3	1:A:725:TYR:CZ	2.53	0.43
1:A:960:GLU:OE2	1:A:961:THR:HG23	2.19	0.43
2:G:391:LEU:HD23	2:G:394:ARG:HE	1.83	0.43
2:G:1087:HIS:HA	2:G:1092:ASP:OD1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:337:VAL:O	1:A:341:GLN:N	2.42	0.43
1:A:1740:SER:OG	1:A:1742:ASP:OD1	2.27	0.43
2:G:807:ILE:HD11	2:G:822:ALA:HB2	2.01	0.43
2:G:1225:GLU:OE1	2:G:1227:ARG:N	2.52	0.43
2:G:1434:HIS:CD2	2:G:1436:LYS:HE3	2.53	0.43
2:G:1537:ILE:O	2:G:1537:ILE:HG13	2.19	0.43
2:G:1623:LYS:HA	2:G:1623:LYS:HE2	2.00	0.43
2:G:1845:ASP:CG	2:G:1849:ARG:HG2	2.39	0.43
1:A:31:THR:HA	1:A:34:VAL:HG12	2.01	0.43
1:A:440:MET:HE3	1:A:479:ASN:HB3	1.99	0.43
1:A:823:ILE:HD13	1:A:865:CYS:HB3	1.99	0.43
1:A:1101:SER:N	1:A:1104:ARG:HD3	2.32	0.43
2:G:45:THR:OG1	2:G:50:ALA:HB2	2.19	0.43
2:G:525:VAL:C	2:G:526:ARG:HD3	2.39	0.43
2:G:527:VAL:HG13	2:G:541:TYR:HB3	2.00	0.43
2:G:1045:ASP:OD1	2:G:1045:ASP:N	2.46	0.43
1:A:414:LEU:HD12	1:A:414:LEU:HA	1.85	0.43
1:A:841:GLU:OE2	1:A:845:SER:OG	2.37	0.43
2:G:113:ASP:OD1	2:G:113:ASP:N	2.50	0.43
2:G:268:LYS:HE2	2:G:268:LYS:HB3	1.68	0.43
2:G:1869:GLU:HA	2:G:1872:GLN:HG2	2.00	0.43
2:G:2023:LYS:H	2:G:2023:LYS:HD3	1.83	0.43
2:G:256:LEU:HD23	2:G:256:LEU:HA	1.82	0.43
2:G:740:HIS:CE1	2:G:854:ILE:HD11	2.53	0.43
2:G:910:GLN:HE22	2:G:912:ARG:NH2	2.17	0.43
2:G:1428:GLU:OE2	2:G:1470:THR:OG1	2.23	0.43
2:G:1886:VAL:HA	2:G:1901:ALA:O	2.18	0.43
1:A:505:LYS:HA	1:A:954:ARG:HD2	2.01	0.43
1:A:883:ILE:HG13	1:A:884:ILE:HG23	2.01	0.43
2:G:767:PHE:HD2	2:G:771:PHE:CE2	2.37	0.43
2:G:1974:VAL:HG13	2:G:1976:PHE:HD2	1.83	0.43
1:A:430:ARG:CZ	1:A:605:LEU:HD13	2.49	0.43
1:A:694:GLN:O	1:A:698:GLN:HG3	2.19	0.43
1:A:1030:TRP:CZ2	1:A:1102:GLY:HA3	2.54	0.43
1:A:1165:VAL:H	1:A:1165:VAL:HG22	1.63	0.43
2:G:571:LYS:HD3	2:G:571:LYS:HA	1.67	0.43
2:G:1614:ASP:OD1	2:G:1614:ASP:N	2.51	0.43
2:G:1775:GLN:NE2	2:G:1836:MET:SD	2.91	0.43
2:G:1784:MET:HE3	2:G:1784:MET:HB3	1.89	0.43
2:G:1821:VAL:HG23	2:G:1822:MET:HG2	2.00	0.43
2:G:1847:LEU:HD23	2:G:1847:LEU:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:712:LYS:NZ	1:A:716:ASP:OD1	2.51	0.42
1:A:774:ILE:HG22	3:A:1901:NAP:N7A	2.34	0.42
2:G:350:GLN:HA	2:G:353:VAL:HG22	2.00	0.42
2:G:1176:PRO:HA	2:G:1180:MET:HE1	2.01	0.42
2:G:1475:LYS:HG3	2:G:1476:ASN:HD22	1.85	0.42
2:G:1547:PRO:HD3	2:G:1584:PHE:CZ	2.53	0.42
1:A:413:LEU:CD2	1:A:451:MET:HB3	2.49	0.42
1:A:733:ILE:HG22	1:A:735:VAL:HG13	2.01	0.42
1:A:745:VAL:C	1:A:747:ALA:H	2.23	0.42
1:A:1312:VAL:O	1:A:1316:VAL:HG12	2.19	0.42
2:G:16:LEU:HB3	2:G:60:LEU:HD12	2.00	0.42
2:G:48:PHE:HD1	2:G:53:GLU:HB3	1.84	0.42
2:G:569:LEU:HD23	2:G:1090:TYR:CE1	2.52	0.42
2:G:1085:LEU:HA	2:G:1085:LEU:HD23	1.70	0.42
2:G:1383:ASN:HD22	2:G:1388:LYS:HB3	1.83	0.42
2:G:1762:TYR:HE2	2:G:1764:PHE:CE1	2.37	0.42
2:G:1923:ASP:HB2	2:G:1926:GLU:HG3	2.01	0.42
2:G:2039:LYS:HG3	2:G:2040:GLU:N	2.34	0.42
1:A:366:ASP:OD2	1:A:367:THR:N	2.52	0.42
1:A:1165:VAL:HB	1:A:1167:LEU:HD11	2.01	0.42
1:A:1323:LYS:HD3	1:A:1324:ALA:HB2	1.99	0.42
1:A:1443:LEU:HA	1:A:1443:LEU:HD23	1.73	0.42
1:A:1538:VAL:HG12	1:A:1539:ALA:N	2.34	0.42
2:G:198:LEU:HA	2:G:201:THR:HG22	2.00	0.42
2:G:216:LEU:HD12	2:G:216:LEU:H	1.83	0.42
2:G:1181:VAL:O	2:G:1181:VAL:HG23	2.19	0.42
2:G:1447:LYS:HA	2:G:1447:LYS:HD3	1.81	0.42
2:G:1515:PRO:HB2	2:G:1519:PHE:CE2	2.54	0.42
2:G:1923:ASP:O	2:G:1927:LEU:HG	2.20	0.42
1:A:1260:MET:HG3	1:A:1261:PHE:N	2.34	0.42
1:A:1316:VAL:O	1:A:1320:LEU:HD23	2.19	0.42
2:G:7:ARG:N	2:G:22:VAL:O	2.43	0.42
2:G:309:ARG:NE	2:G:442:ASP:OD2	2.28	0.42
2:G:346:GLN:HE21	2:G:368:ILE:HD13	1.84	0.42
2:G:370:LEU:HA	2:G:488:VAL:HG22	2.00	0.42
2:G:1679:ASP:OD1	2:G:1680:LEU:N	2.47	0.42
1:A:338:LEU:HA	1:A:341:GLN:HB2	2.02	0.42
1:A:824:LEU:HB3	1:A:846:LEU:HD23	2.02	0.42
1:A:1070:ARG:HB3	1:A:1072:TYR:CE1	2.55	0.42
1:A:1557:ILE:O	1:A:1561:MET:HG2	2.19	0.42
1:A:1559:GLU:HA	1:A:1562:LYS:HB3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:7:ARG:HG3	2:G:24:THR:HG22	2.01	0.42
2:G:159:ILE:HA	2:G:271:THR:O	2.20	0.42
2:G:865:TRP:CD1	2:G:865:TRP:C	2.93	0.42
2:G:1143:ALA:HB1	2:G:1151:HIS:HA	2.02	0.42
2:G:1175:LYS:O	2:G:1180:MET:HE1	2.20	0.42
2:G:1514:ASN:HB3	2:G:1517:VAL:HG22	2.01	0.42
2:G:1902:GLY:H	2:G:1975:PRO:HB3	1.84	0.42
1:A:538:GLU:OE1	1:A:538:GLU:N	2.45	0.42
1:A:1115:ASN:O	1:A:1118:LYS:N	2.35	0.42
1:A:1223:PHE:HB3	1:A:1228:ILE:O	2.19	0.42
2:G:58:ALA:HA	2:G:95:TYR:CD1	2.54	0.42
2:G:526:ARG:HG2	2:G:558:ASN:H	1.85	0.42
2:G:607:VAL:HG11	2:G:619:LEU:HD13	2.01	0.42
2:G:1236:LEU:HD22	2:G:1265:MET:HE3	2.00	0.42
2:G:1301:THR:HG23	2:G:1306:ASN:ND2	2.35	0.42
2:G:1311:PHE:CE1	2:G:1322:PRO:HA	2.54	0.42
2:G:1673:GLU:N	2:G:1673:GLU:OE1	2.52	0.42
1:A:393:SER:O	1:A:736:PRO:HB2	2.19	0.42
1:A:402:PHE:HB2	1:A:732:LEU:HD23	2.02	0.42
1:A:630:ILE:HG22	1:A:653:ARG:NH2	2.35	0.42
1:A:803:MET:CE	1:A:849:LEU:HD21	2.49	0.42
2:G:598:THR:HA	2:G:620:ALA:HB1	2.00	0.42
2:G:1197:LEU:HD12	2:G:1198:SER:N	2.35	0.42
2:G:1325:PHE:O	2:G:1329:VAL:HG12	2.20	0.42
2:G:1431:TYR:CE1	2:G:1526:THR:HG22	2.52	0.42
2:G:1537:ILE:HG13	2:G:1628:HIS:HB3	2.02	0.42
1:A:765:LEU:HD23	1:A:765:LEU:HA	1.82	0.42
1:A:1152:VAL:CG1	1:A:1154:ILE:HG23	2.49	0.42
1:A:1307:THR:O	1:A:1311:SER:OG	2.33	0.42
1:A:1498:GLU:OE2	1:A:1502:ARG:HD3	2.19	0.42
2:G:14:GLY:HA3	2:G:48:PHE:HZ	1.84	0.42
2:G:670:ARG:NH1	2:G:674:TYR:O	2.53	0.42
2:G:1226:ASN:OD1	2:G:1226:ASN:N	2.48	0.42
2:G:1449:TRP:HZ2	2:G:1519:PHE:HD2	1.67	0.42
2:G:1632:ILE:O	2:G:1635:ARG:HG2	2.19	0.42
1:A:367:THR:HA	1:A:370:GLU:HG3	2.02	0.42
1:A:504:ASP:HB2	1:A:508:ASN:H	1.84	0.42
1:A:1592:MET:HG3	1:A:1641:ILE:HG23	2.02	0.42
2:G:677:GLN:O	2:G:678:PHE:HB3	2.20	0.42
2:G:680:THR:HA	2:G:704:GLY:O	2.20	0.42
2:G:1815:LEU:HB3	2:G:1821:VAL:HG21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1962:ARG:HB2	2:G:1968:PRO:HD3	2.02	0.42
1:A:82:SER:OG	1:A:83:LYS:N	2.53	0.42
1:A:1017:ARG:NH1	1:A:1320:LEU:HD12	2.35	0.42
1:A:1375:GLY:O	1:A:1545:SER:OG	2.29	0.42
1:A:1515:ARG:HA	1:A:1515:ARG:HD2	1.79	0.42
1:A:1516:ASP:OD1	1:A:1518:ARG:HG2	2.20	0.42
2:G:238:CYS:O	2:G:275:GLN:NE2	2.53	0.42
2:G:602:VAL:O	2:G:624:TYR:OH	2.32	0.42
2:G:1475:LYS:HE3	2:G:1476:ASN:ND2	2.35	0.42
2:G:1679:ASP:OD1	2:G:1679:ASP:N	2.52	0.42
2:G:1765:ARG:HB3	2:G:1847:LEU:O	2.19	0.42
2:G:1778:GLN:HA	2:G:1809:LEU:HD11	2.01	0.42
1:A:431:GLU:O	1:A:435:GLU:N	2.53	0.41
1:A:1531:LEU:HD21	1:A:1660:TYR:CZ	2.55	0.41
1:A:1680:ARG:H	1:A:1680:ARG:HG2	1.71	0.41
1:A:1734:ASN:HB3	1:A:1736:LYS:HE2	2.00	0.41
2:G:440:ASN:HD21	2:G:477:GLU:HG2	1.83	0.41
2:G:730:LEU:HD23	2:G:730:LEU:HA	1.60	0.41
2:G:1163:LYS:O	2:G:1164:MET:HG3	2.20	0.41
2:G:1263:LYS:NZ	2:G:1338:ILE:O	2.53	0.41
2:G:1306:ASN:OD1	2:G:1308:CYS:HB2	2.20	0.41
2:G:1322:PRO:HB2	2:G:1590:ARG:HH12	1.84	0.41
2:G:56:THR:HG1	2:G:59:GLU:CD	2.19	0.41
2:G:174:ARG:NH1	2:G:222:PRO:HG3	2.35	0.41
2:G:555:LEU:HD21	2:G:557:LYS:HE3	2.02	0.41
2:G:1319:MET:HB3	2:G:1368:VAL:CG2	2.46	0.41
1:A:2:LYS:HB2	1:A:2:LYS:HE2	1.78	0.41
1:A:18:LEU:HD23	1:A:18:LEU:HA	1.87	0.41
1:A:807:LYS:HG3	1:A:861:GLN:OE1	2.21	0.41
1:A:1123:GLN:CB	1:A:1177:LYS:HD3	2.48	0.41
2:G:180:TYR:O	2:G:184:VAL:HG22	2.19	0.41
2:G:309:ARG:HB2	2:G:439:ILE:HG12	2.02	0.41
2:G:1127:PHE:HE2	2:G:1184:ILE:HD13	1.85	0.41
2:G:1381:VAL:O	2:G:1422:THR:HG23	2.20	0.41
2:G:1570:ALA:HA	2:G:1575:LEU:HD12	2.03	0.41
2:G:2015:THR:HG23	2:G:2017:LYS:HE2	2.01	0.41
1:A:251:GLN:O	1:A:255:GLY:HA2	2.20	0.41
1:A:417:TYR:OH	1:A:454:HIS:HB3	2.20	0.41
1:A:504:ASP:OD2	1:A:508:ASN:HB3	2.21	0.41
1:A:525:TYR:O	1:A:529:MET:HG2	2.21	0.41
1:A:1238:VAL:HG21	1:A:1325:ARG:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:268:LYS:NZ	2:G:497:LYS:O	2.45	0.41
2:G:765:LEU:HD12	2:G:765:LEU:HA	1.83	0.41
2:G:804:ARG:HD2	2:G:1063:THR:HG22	2.02	0.41
2:G:1066:ILE:HD12	2:G:1066:ILE:HA	1.94	0.41
2:G:1475:LYS:HG3	2:G:1476:ASN:ND2	2.35	0.41
1:A:191:GLY:O	1:A:195:GLY:HA2	2.21	0.41
1:A:1140:THR:HA	1:A:1142:GLU:OE1	2.21	0.41
1:A:1148:HIS:CD2	1:A:1167:LEU:CD2	3.03	0.41
1:A:1425:ILE:HD13	1:A:1425:ILE:HA	1.80	0.41
2:G:673:GLY:O	2:G:1164:MET:HG2	2.20	0.41
2:G:875:LEU:HD21	2:G:879:LYS:C	2.41	0.41
2:G:1331:TRP:CD1	2:G:1335:ILE:HD13	2.55	0.41
2:G:1496:LYS:HB2	2:G:1496:LYS:HE3	1.79	0.41
2:G:1576:PRO:HB2	2:G:1617:LEU:HD21	2.00	0.41
2:G:1924:ILE:HG22	2:G:1928:GLN:HE22	1.85	0.41
2:G:748:THR:OG1	2:G:749:PRO:HD3	2.21	0.41
2:G:830:ASP:N	2:G:830:ASP:OD1	2.54	0.41
2:G:1445:ARG:H	2:G:1445:ARG:HG2	1.69	0.41
2:G:1739:GLU:HA	2:G:1747:LYS:O	2.21	0.41
2:G:1989:LYS:HE2	2:G:2037:PRO:HG2	2.03	0.41
1:A:156:ALA:HB1	1:A:161:LYS:O	2.20	0.41
1:A:1496:GLU:O	1:A:1500:GLN:HB2	2.21	0.41
3:A:1901:NAP:O2N	3:A:1901:NAP:C3D	2.69	0.41
2:G:31:SER:O	2:G:35:GLU:HG3	2.21	0.41
2:G:964:LEU:HD13	2:G:964:LEU:HA	1.93	0.41
2:G:1177:SER:H	2:G:1180:MET:HE2	1.86	0.41
2:G:1955:PRO:HB2	2:G:1957:PRO:HD2	2.02	0.41
1:A:79:LEU:HA	1:A:84:ASP:OD2	2.21	0.41
1:A:427:ASN:ND2	1:A:608:ASP:OD1	2.54	0.41
1:A:1676:LYS:O	1:A:1680:ARG:HG2	2.21	0.41
2:G:119:THR:O	2:G:123:ILE:HD12	2.21	0.41
2:G:1301:THR:HG22	2:G:1306:ASN:O	2.21	0.41
2:G:1638:ILE:O	2:G:1654:GLU:HA	2.21	0.41
1:A:34:VAL:HG23	1:A:38:ASP:OD2	2.20	0.41
1:A:61:LEU:HD11	1:A:76:ARG:HD2	2.03	0.41
1:A:439:ILE:HD11	1:A:451:MET:CE	2.50	0.41
1:A:460:GLU:HA	1:A:466:TYR:HB3	2.01	0.41
1:A:490:TYR:HE1	1:A:673:PHE:CE2	2.39	0.41
1:A:771:PHE:HB3	3:A:1901:NAP:C5D	2.40	0.41
1:A:1238:VAL:HG23	1:A:1325:ARG:HG3	2.01	0.41
1:A:1584:PRO:O	1:A:1585:LYS:C	2.58	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:74:PRO:HG3	2:G:132:MET:HG3	2.02	0.41
2:G:126:TYR:CD2	2:G:127:ILE:HD13	2.56	0.41
2:G:292:PHE:O	2:G:296:VAL:HG23	2.21	0.41
2:G:309:ARG:CB	2:G:439:ILE:HG12	2.51	0.41
2:G:597:MET:O	2:G:601:THR:N	2.54	0.41
2:G:774:ALA:HB1	2:G:1081:HIS:HD2	1.85	0.41
2:G:803:SER:HB3	2:G:1055:HIS:CE1	2.56	0.41
2:G:926:LEU:HD23	2:G:926:LEU:HA	1.80	0.41
2:G:1011:MET:C	3:G:2102:NAP:H2A	2.40	0.41
2:G:1313:SER:OG	2:G:1314:ARG:N	2.53	0.41
2:G:1484:LYS:HA	2:G:1484:LYS:HD3	1.82	0.41
2:G:1592:LEU:O	2:G:1592:LEU:HD23	2.21	0.41
2:G:1719:ILE:HG21	2:G:1733:TYR:HE2	1.85	0.41
2:G:1721:PHE:HE2	2:G:1755:ILE:HD11	1.86	0.41
2:G:1992:LEU:O	2:G:1996:ILE:HG12	2.21	0.41
1:A:473:GLY:O	1:A:477:ILE:HG23	2.21	0.41
1:A:1024:PHE:HE1	1:A:1401:TYR:CD1	2.38	0.41
1:A:1057:MET:HG2	1:A:1190:PRO:HB2	2.02	0.41
2:G:359:HIS:HB2	2:G:360:LEU:HD12	2.01	0.41
2:G:404:GLN:O	2:G:407:ILE:HG22	2.21	0.41
2:G:1123:ASP:OD1	2:G:1188:ASN:ND2	2.54	0.41
2:G:1680:LEU:HD21	2:G:1687:ALA:HB1	2.03	0.41
2:G:1979:THR:HA	2:G:1982:MET:HG2	2.03	0.41
1:A:419:GLU:O	1:A:424:VAL:N	2.51	0.40
1:A:910:THR:HG22	1:A:912:GLU:H	1.86	0.40
1:A:1065:GLY:O	1:A:1071:PRO:HA	2.20	0.40
1:A:1154:ILE:HD12	1:A:1156:GLU:OE1	2.20	0.40
1:A:1737:ASN:HA	1:A:1740:SER:HB3	2.02	0.40
1:A:1742:ASP:OD1	1:A:1743:SER:N	2.54	0.40
2:G:322:SER:HA	2:G:325:GLU:OE2	2.21	0.40
2:G:666:ILE:HD13	2:G:666:ILE:HA	1.84	0.40
2:G:847:ARG:HH22	2:G:873:PHE:HB2	1.86	0.40
2:G:932:ILE:HG22	2:G:935:THR:H	1.86	0.40
2:G:980:ILE:HG23	2:G:984:PHE:CD1	2.56	0.40
2:G:1241:ASN:O	2:G:1251:ILE:HA	2.21	0.40
2:G:1290:PHE:HB3	2:G:1329:VAL:HG23	2.03	0.40
2:G:1544:SER:O	2:G:1621:ALA:HA	2.21	0.40
1:A:37:LYS:HB2	1:A:65:TYR:OH	2.22	0.40
2:G:89:THR:HG23	2:G:135:ARG:HH22	1.86	0.40
2:G:597:MET:HA	5:G:2101:FMN:N5	2.36	0.40
2:G:1610:CYS:HA	2:G:1653:GLY:HA3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:30:GLU:HB2	2:G:2016:ALA:HB1	2.02	0.40
1:A:59:ARG:HH12	2:G:1897:GLN:HE21	1.69	0.40
1:A:630:ILE:HG22	1:A:653:ARG:HH21	1.86	0.40
1:A:849:LEU:HD12	1:A:849:LEU:HA	1.83	0.40
1:A:1227:GLY:O	1:A:1680:ARG:NH2	2.42	0.40
1:A:1391:ASP:OD1	1:A:1392:LEU:N	2.54	0.40
2:G:814:SER:OG	2:G:1040:LEU:HD13	2.21	0.40
2:G:1564:HIS:ND1	2:G:1579:ILE:HG13	2.36	0.40
2:G:1679:ASP:O	2:G:1683:THR:HG23	2.21	0.40
2:G:1773:ALA:O	2:G:1777:THR:HG23	2.21	0.40
2:G:2045:TRP:CE2	2:G:2048:TYR:HB2	2.56	0.40
1:A:56:MET:HA	1:A:59:ARG:HE	1.86	0.40
1:A:455:ILE:HD13	1:A:455:ILE:HA	1.92	0.40
1:A:688:ILE:H	1:A:688:ILE:HG13	1.59	0.40
1:A:960:GLU:OE1	2:G:1447:LYS:NZ	2.36	0.40
1:A:988:ILE:HD13	1:A:1048:GLU:HB3	2.04	0.40
1:A:1089:VAL:HG23	1:A:1093:TYR:CD2	2.52	0.40
1:A:1305:CYS:HA	1:A:1585:LYS:O	2.21	0.40
1:A:1424:GLY:O	1:A:1427:THR:HG22	2.21	0.40
2:G:10:THR:HA	2:G:19:VAL:HA	2.03	0.40
2:G:408:PRO:HG3	2:G:836:TYR:CZ	2.57	0.40
2:G:602:VAL:HG21	2:G:623:GLY:HA3	2.04	0.40
2:G:648:GLY:HA3	2:G:678:PHE:CE2	2.56	0.40
2:G:738:GLY:HA2	2:G:1055:HIS:O	2.22	0.40
2:G:1756:ASN:OD1	2:G:1759:SER:N	2.54	0.40
2:G:1982:MET:O	2:G:1985:VAL:HG22	2.21	0.40
1:A:996:LYS:H	1:A:996:LYS:HG2	1.73	0.40
1:A:1056:ILE:HG21	1:A:1056:ILE:HD13	1.84	0.40
1:A:1064:ASN:HD22	2:G:1001:ASP:HB2	1.86	0.40
2:G:85:ASN:HB2	2:G:135:ARG:NH2	2.36	0.40
2:G:571:LYS:HD2	2:G:575:GLY:C	2.42	0.40
2:G:757:ILE:O	2:G:759:ARG:N	2.54	0.40
2:G:788:LYS:HE2	2:G:789:PHE:HE1	1.86	0.40
2:G:832:TRP:CE3	2:G:833:GLU:HG2	2.56	0.40
2:G:1354:SER:N	2:G:1409:SER:OG	2.55	0.40
2:G:1618:PRO:HB2	2:G:1619:ASN:HD22	1.86	0.40
2:G:1685:LYS:HA	2:G:1688:GLN:NE2	2.37	0.40
2:G:1893:VAL:HG22	2:G:1897:GLN:CB	2.52	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	1601/1887 (85%)	1433 (90%)	161 (10%)	7 (0%)	34 66
2	G	2029/2073 (98%)	1883 (93%)	146 (7%)	0	100 100
All	All	3630/3960 (92%)	3316 (91%)	307 (8%)	7 (0%)	50 78

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	160	LYS
1	A	179	LYS
1	A	195	GLY
1	A	1609	ARG
1	A	180	SER
1	A	851	ASN
1	A	1158	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	1230/1566 (78%)	1223 (99%)	7 (1%)	86 96
2	G	1772/1810 (98%)	1757 (99%)	15 (1%)	81 94
All	All	3002/3376 (89%)	2980 (99%)	22 (1%)	84 95

All (22) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	62	LYS
1	A	394	PHE
1	A	505	LYS
1	A	712	LYS
1	A	894	ARG
1	A	1035	THR
1	A	1307	THR
2	G	63	LYS
2	G	76	LYS
2	G	140	LYS
2	G	297	ARG
2	G	395	LYS
2	G	415	LYS
2	G	419	ARG
2	G	809	LYS
2	G	993	GLN
2	G	1023	ARG
2	G	1315	PRO
2	G	1439	LYS
2	G	1680	LEU
2	G	1704	PHE
2	G	1765	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (63) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	7	GLN
1	A	11	HIS
1	A	411	GLN
1	A	465	ASN
1	A	479	ASN
1	A	669	ASN
1	A	830	HIS
1	A	1115	ASN
1	A	1146	HIS
1	A	1188	GLN
1	A	1207	GLN
1	A	1239	HIS
1	A	1272	ASN
1	A	1380	GLN
1	A	1507	GLN
1	A	1558	ASN
1	A	1598	GLN

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Mol	Chain	Res	Type
1	A	1601	ASN
1	A	1689	HIS
1	A	1734	ASN
2	G	34	GLN
2	G	99	ASN
2	G	142	ASN
2	G	273	HIS
2	G	275	GLN
2	G	343	ASN
2	G	354	ASN
2	G	404	GLN
2	G	428	HIS
2	G	440	ASN
2	G	612	ASN
2	G	650	ASN
2	G	715	GLN
2	G	723	HIS
2	G	740	HIS
2	G	741	HIS
2	G	747	HIS
2	G	900	GLN
2	G	910	GLN
2	G	985	ASN
2	G	993	GLN
2	G	1012	GLN
2	G	1046	GLN
2	G	1148	ASN
2	G	1302	HIS
2	G	1352	HIS
2	G	1355	ASN
2	G	1383	ASN
2	G	1424	GLN
2	G	1476	ASN
2	G	1514	ASN
2	G	1535	ASN
2	G	1581	HIS
2	G	1619	ASN
2	G	1674	GLN
2	G	1716	ASN
2	G	1839	GLN
2	G	1868	GLN
2	G	1896	GLN

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Mol	Chain	Res	Type
2	G	1897	GLN
2	G	1920	GLN
2	G	1939	HIS
2	G	2027	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

4 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	PNS	A	1902	1	1,4,21	0.66	0	0,4,29	-	-
5	FMN	G	2101	-	33,33,33	1.24	4 (12%)	48,50,50	1.25	8 (16%)
3	NAP	A	1901	-	45,52,52	2.41	24 (53%)	56,80,80	1.99	14 (25%)
3	NAP	G	2102	-	45,52,52	0.82	1 (2%)	56,80,80	1.23	4 (7%)

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
4	PNS	A	1902	1	-	0/0/2/27	-
5	FMN	G	2101	-	-	3/18/18/18	0/3/3/3
3	NAP	A	1901	-	-	6/31/67/67	0/5/5/5
3	NAP	G	2102	-	-	7/31/67/67	0/5/5/5

All (29) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	1901	NAP	C3N-C7N	-5.40	1.42	1.50
3	A	1901	NAP	O4D-C4D	-4.89	1.34	1.45
3	A	1901	NAP	C4A-N3A	-4.10	1.30	1.35
3	A	1901	NAP	O7N-C7N	-3.92	1.16	1.24
3	A	1901	NAP	C2N-C3N	-3.80	1.33	1.39
3	A	1901	NAP	C2N-N1N	-3.77	1.30	1.35
3	A	1901	NAP	C4N-C3N	-3.53	1.33	1.39
5	G	2101	FMN	C4A-N5	3.33	1.37	1.30
3	A	1901	NAP	C2D-C1D	-3.24	1.48	1.53
3	A	1901	NAP	C5A-N7A	-2.84	1.29	1.39
3	A	1901	NAP	P2B-O2B	-2.80	1.54	1.59
3	A	1901	NAP	PN-O2N	-2.76	1.42	1.55
3	A	1901	NAP	C2A-N1A	-2.64	1.29	1.33
3	A	1901	NAP	P2B-O3X	-2.63	1.44	1.54
3	A	1901	NAP	P2B-O2X	-2.62	1.44	1.54
3	G	2102	NAP	C5A-C4A	2.52	1.47	1.40
3	A	1901	NAP	C3D-C4D	-2.51	1.46	1.53
3	A	1901	NAP	O4B-C4B	-2.47	1.39	1.45
3	A	1901	NAP	C7N-N7N	-2.46	1.28	1.33
3	A	1901	NAP	C3B-C4B	-2.41	1.46	1.53
3	A	1901	NAP	O4B-C1B	-2.39	1.37	1.41
3	A	1901	NAP	PN-O1N	-2.26	1.42	1.50
3	A	1901	NAP	PN-O5D	-2.25	1.50	1.59
5	G	2101	FMN	C9A-N10	-2.24	1.37	1.41
5	G	2101	FMN	C10-N1	2.15	1.37	1.33
5	G	2101	FMN	C4A-C10	-2.11	1.37	1.44
3	A	1901	NAP	O5D-C5D	-2.07	1.36	1.44
3	A	1901	NAP	C6A-N1A	-2.03	1.28	1.37
3	A	1901	NAP	C6N-N1N	-2.01	1.30	1.35

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	1901	NAP	O3D-C3D-C4D	-5.25	95.86	111.05

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	1901	NAP	O4D-C1D-C2D	-5.12	99.45	106.93
3	A	1901	NAP	C6N-N1N-C2N	-4.97	117.44	121.97
3	A	1901	NAP	O4B-C4B-C3B	-4.39	96.42	105.11
3	A	1901	NAP	PN-O3-PA	-4.36	117.86	132.83
3	A	1901	NAP	O4B-C1B-C2B	-4.06	99.54	106.59
3	G	2102	NAP	PN-O3-PA	-3.60	120.49	132.83
3	G	2102	NAP	C3D-C2D-C1D	3.37	106.06	100.98
5	G	2101	FMN	C4-N3-C2	-3.37	119.42	125.64
3	A	1901	NAP	N3A-C2A-N1A	-3.28	123.55	128.68
3	G	2102	NAP	N3A-C2A-N1A	-3.18	123.71	128.68
3	A	1901	NAP	C3N-C2N-N1N	3.03	123.39	120.43
5	G	2101	FMN	C4A-C4-N3	2.82	120.34	113.19
3	A	1901	NAP	C5B-C4B-C3B	-2.69	105.08	115.18
3	G	2102	NAP	C4A-C5A-N7A	-2.67	106.62	109.40
5	G	2101	FMN	O4-C4-C4A	-2.61	119.69	126.60
3	A	1901	NAP	O3X-P2B-O2X	2.43	116.93	107.64
3	A	1901	NAP	O5B-PA-O1A	-2.43	99.57	109.07
3	A	1901	NAP	O3X-P2B-O2B	-2.39	95.30	105.99
5	G	2101	FMN	C9A-C5A-N5	-2.23	120.01	122.43
5	G	2101	FMN	C4A-C10-N10	2.20	119.70	116.48
3	A	1901	NAP	O5B-C5B-C4B	2.19	116.54	108.99
5	G	2101	FMN	C5A-C9A-N10	2.18	120.20	117.95
5	G	2101	FMN	C4A-C10-N1	-2.16	119.72	124.73
3	A	1901	NAP	C5N-C4N-C3N	-2.15	117.80	120.34
5	G	2101	FMN	C10-C4A-N5	-2.07	120.46	124.86

There are no chirality outliers.

All (16) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	1901	NAP	C5B-O5B-PA-O1A
3	A	1901	NAP	C3B-C4B-C5B-O5B
3	A	1901	NAP	C5D-O5D-PN-O3
3	A	1901	NAP	C4D-C5D-O5D-PN
3	G	2102	NAP	C5D-O5D-PN-O1N
3	A	1901	NAP	O4B-C4B-C5B-O5B
5	G	2101	FMN	C5'-O5'-P-O1P
3	G	2102	NAP	C3B-C4B-C5B-O5B
3	G	2102	NAP	C5B-O5B-PA-O3
3	A	1901	NAP	C5D-O5D-PN-O2N
3	G	2102	NAP	C4D-C5D-O5D-PN
5	G	2101	FMN	C4'-C5'-O5'-P

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Mol	Chain	Res	Type	Atoms
5	G	2101	FMN	C5'-O5'-P-O2P
3	G	2102	NAP	O4D-C4D-C5D-O5D
3	G	2102	NAP	PA-O3-PN-O2N
3	G	2102	NAP	C5B-O5B-PA-O1A

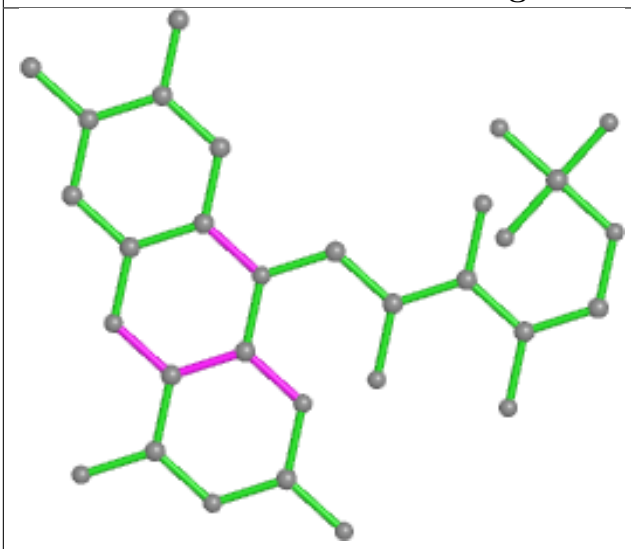
There are no ring outliers.

3 monomers are involved in 49 short contacts:

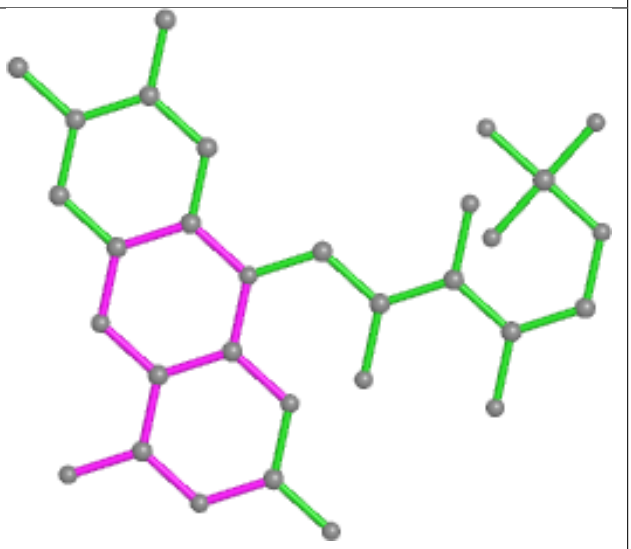
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	G	2101	FMN	3	0
3	A	1901	NAP	19	0
3	G	2102	NAP	27	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

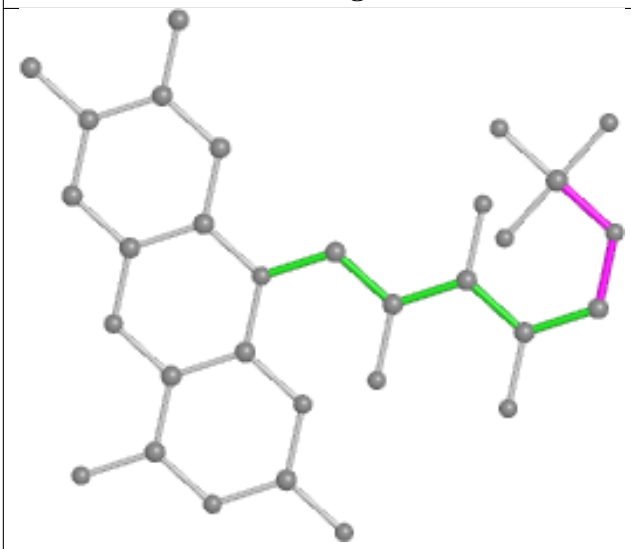
Ligand FMN G 2101



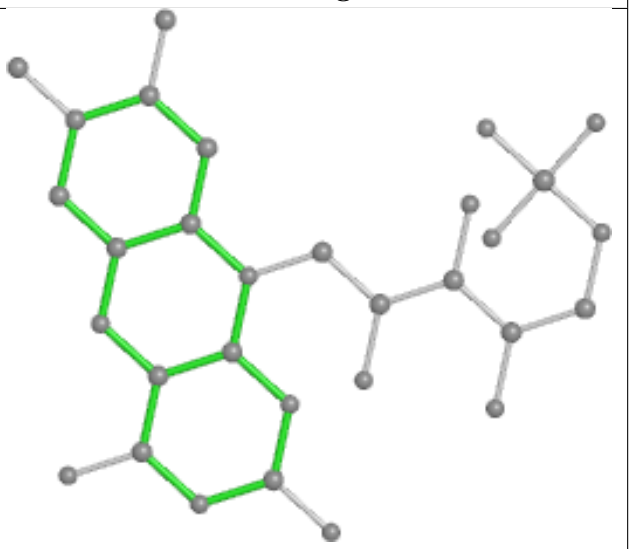
Bond lengths



Bond angles

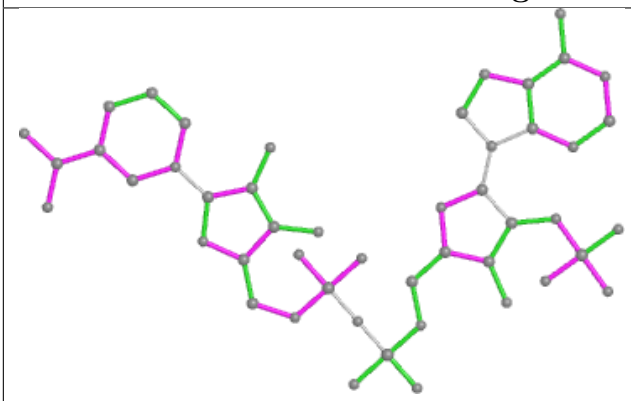


Torsions

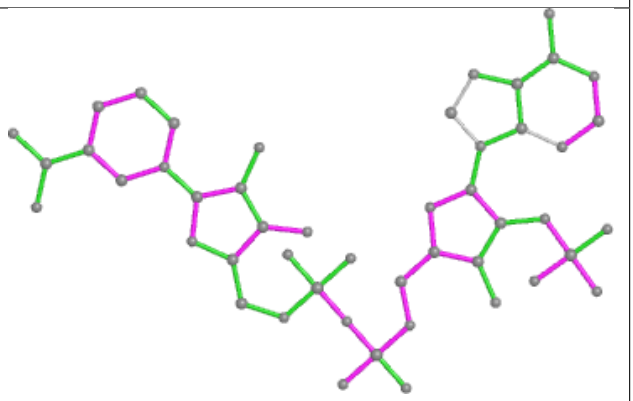


Rings

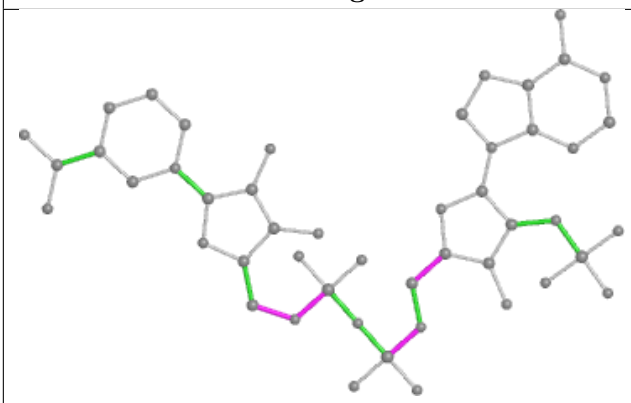
Ligand NAP A 1901



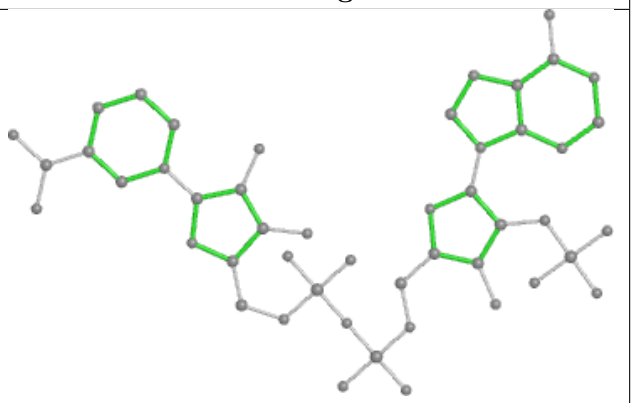
Bond lengths



Bond angles

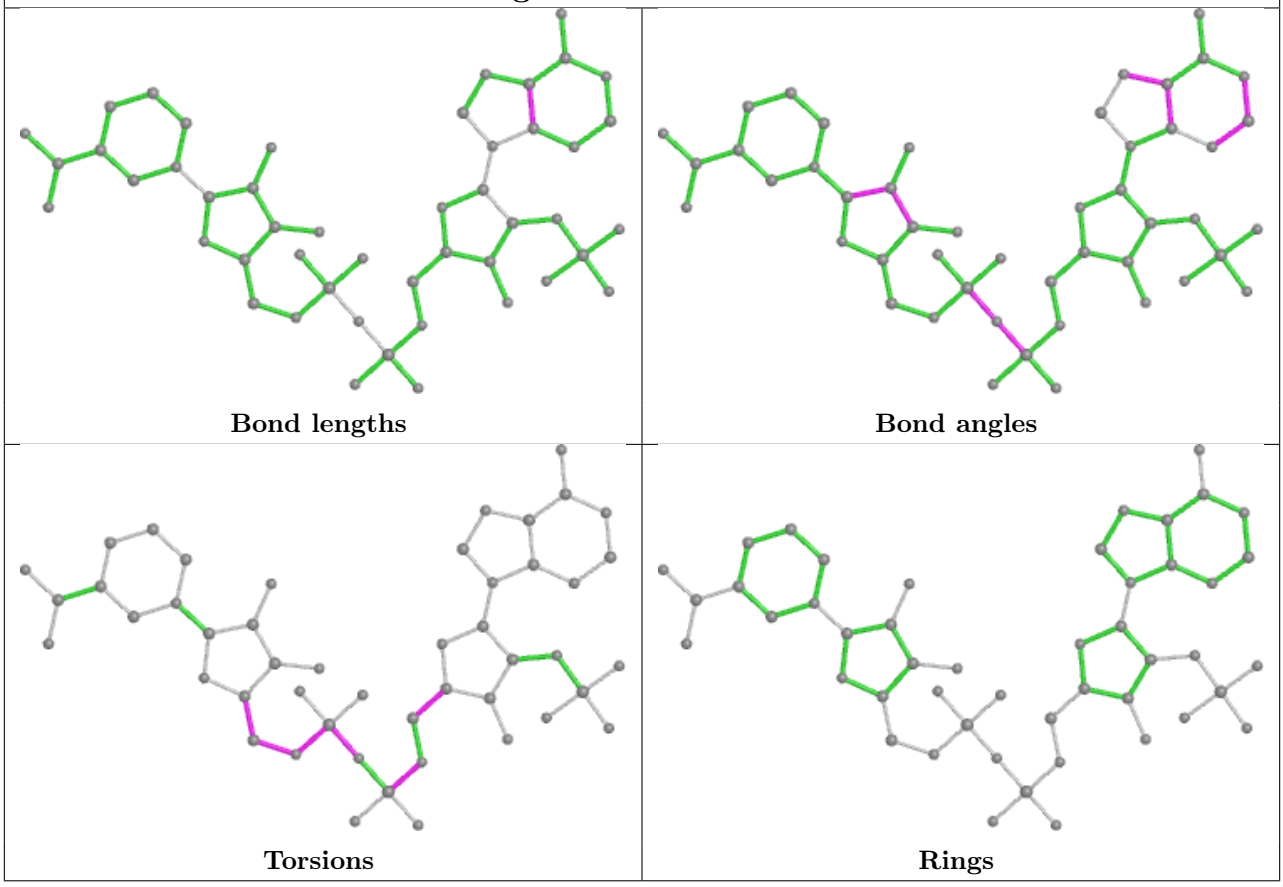


Torsions



Rings

Ligand NAP G 2102



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

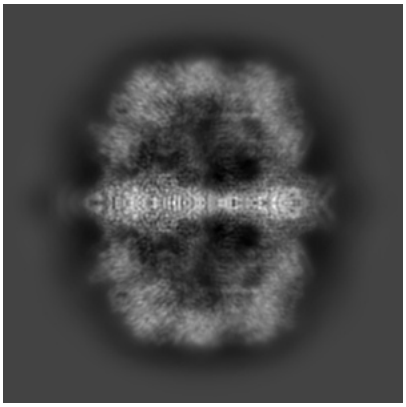
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-20656. These allow visual inspection of the internal detail of the map and identification of artifacts.

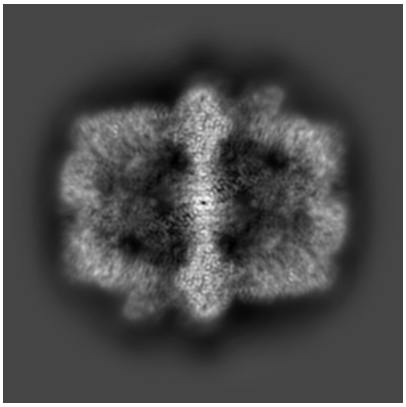
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

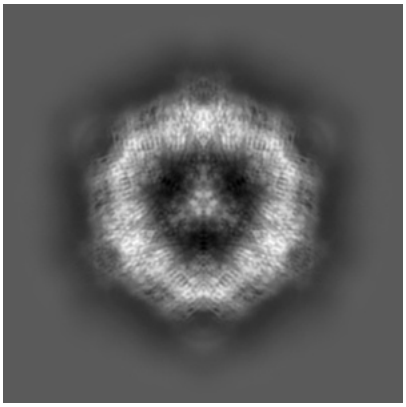
6.1.1 Primary map



X



Y

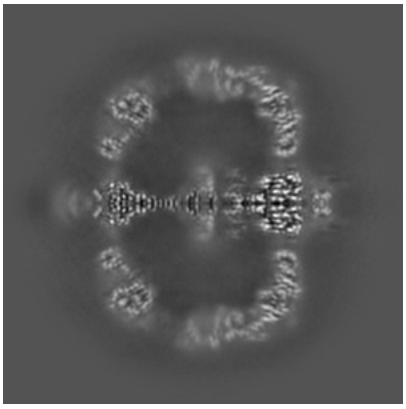


Z

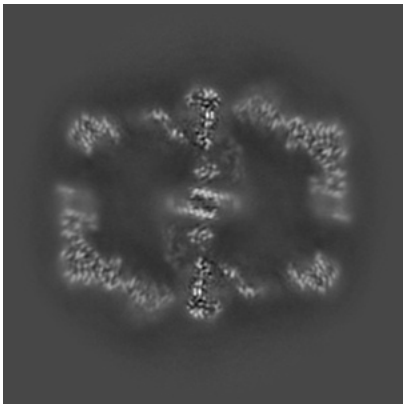
The images above show the map projected in three orthogonal directions.

6.2 Central slices

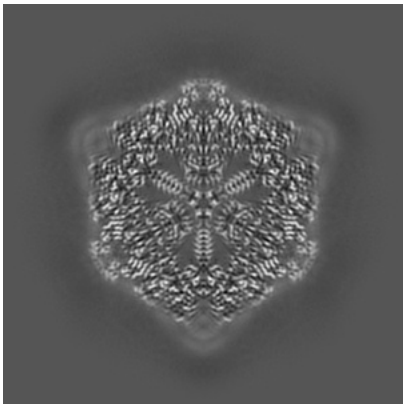
6.2.1 Primary map



X Index: 176



Y Index: 176

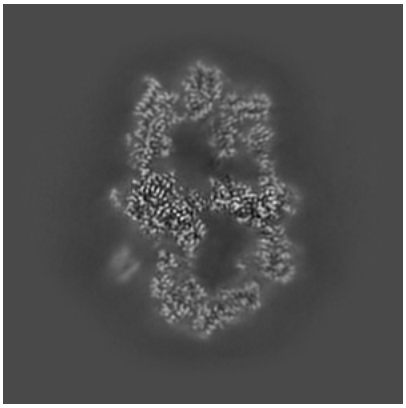


Z Index: 176

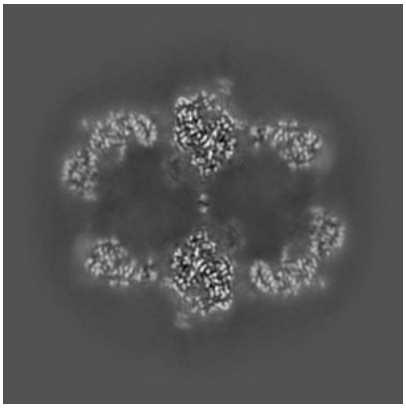
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

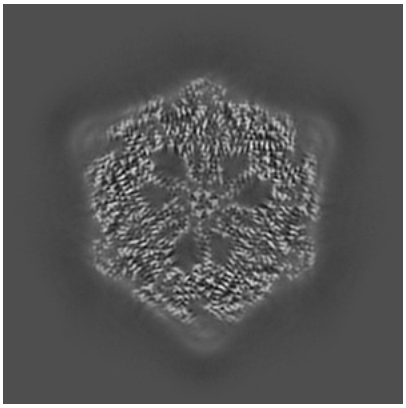
6.3.1 Primary map



X Index: 237



Y Index: 140



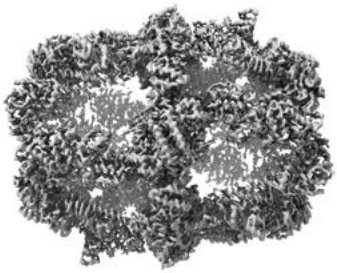
Z Index: 172

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

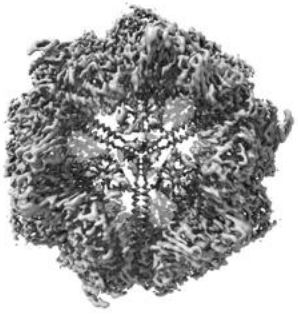
6.4 Orthogonal surface views (i)

6.4.1 Primary map

X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.706. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

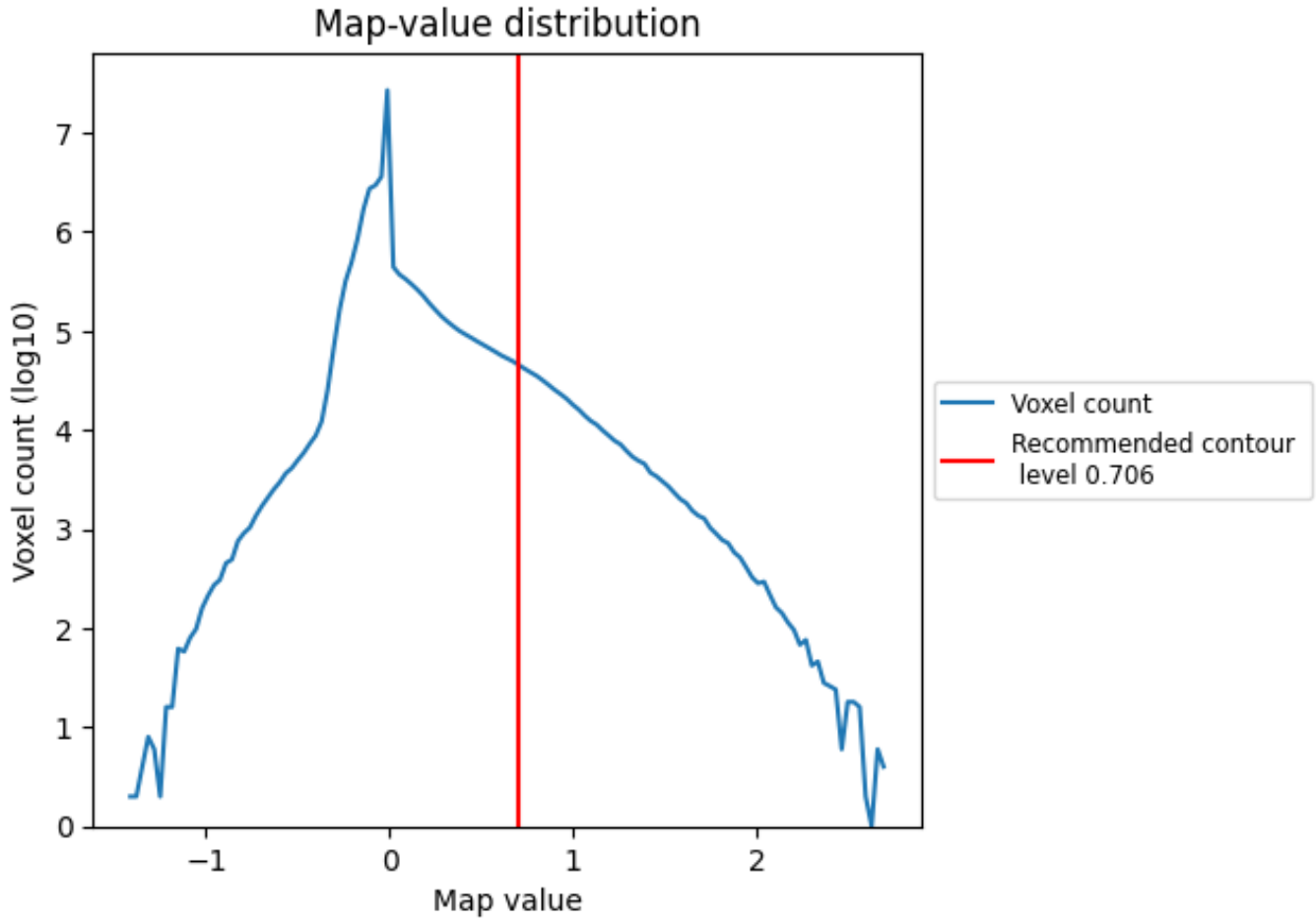
6.5 Mask visualisation (i)

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

7 Map analysis

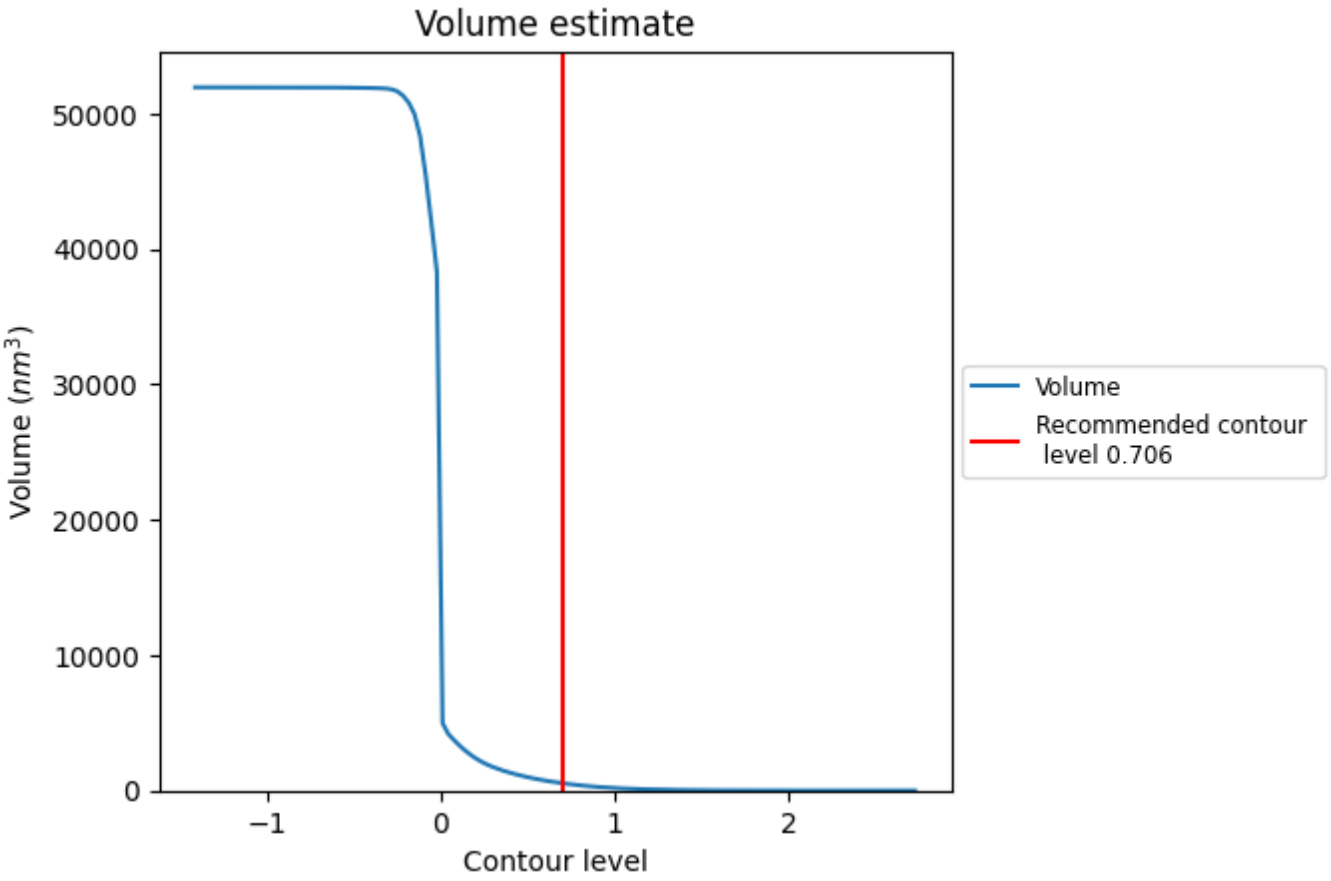
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

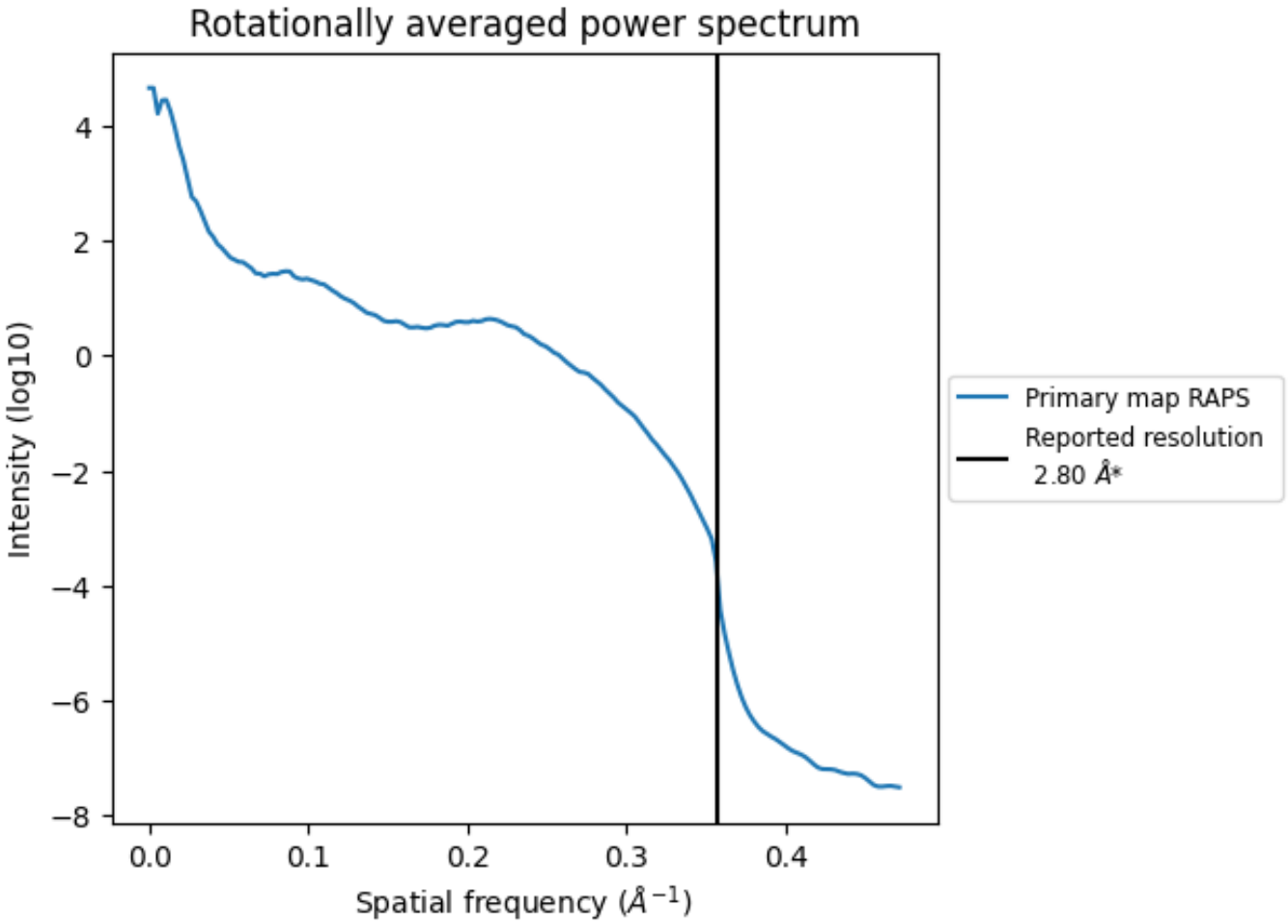
7.2 Volume estimate



The volume at the recommended contour level is 531 nm^3; this corresponds to an approximate mass of 480 kDa.

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

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.357 Å^{-1}

8 Fourier-Shell correlation

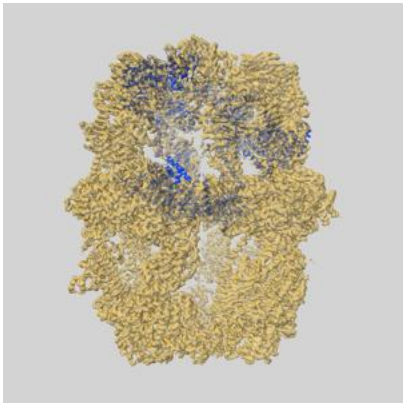
This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit

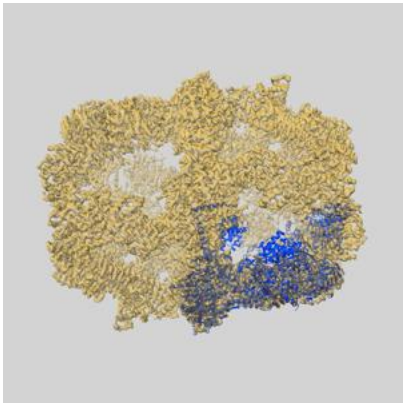
This section contains information regarding the fit between EMDB map EMD-20656 and PDB model 6U5U. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlays

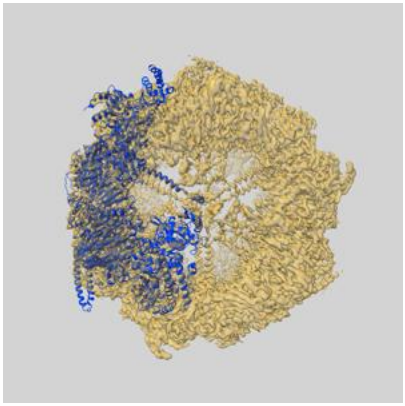
9.1.1 Map-model overlay



X

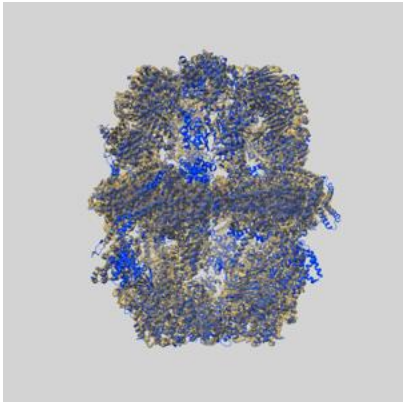


Y

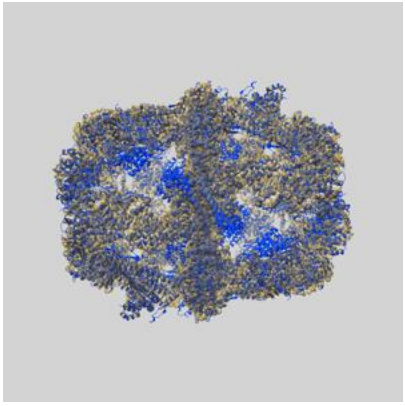


Z

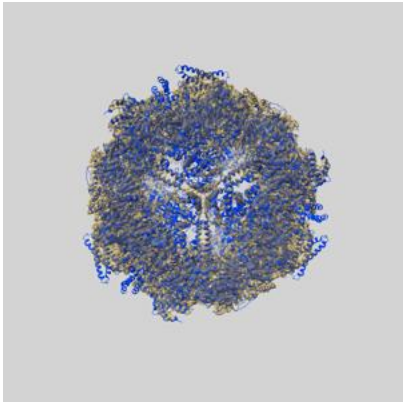
9.1.2 Map-model assembly overlay



X



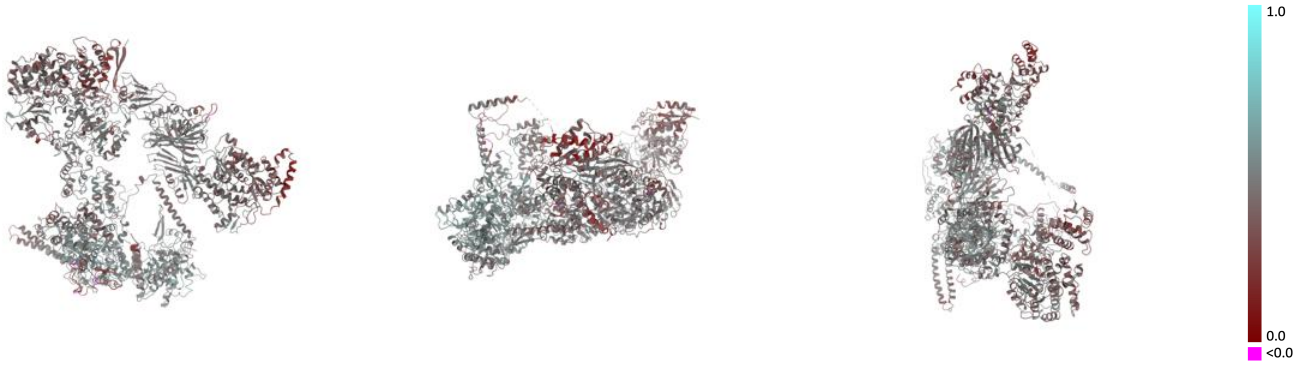
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.706 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

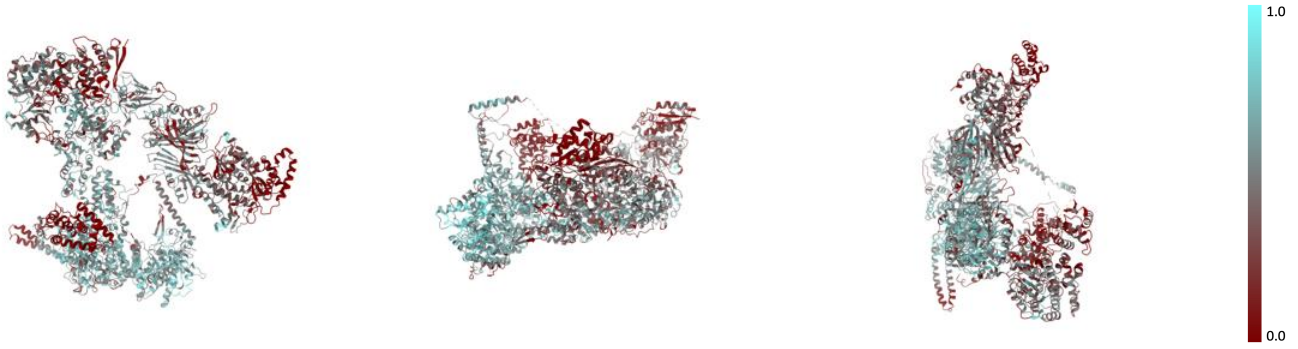
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

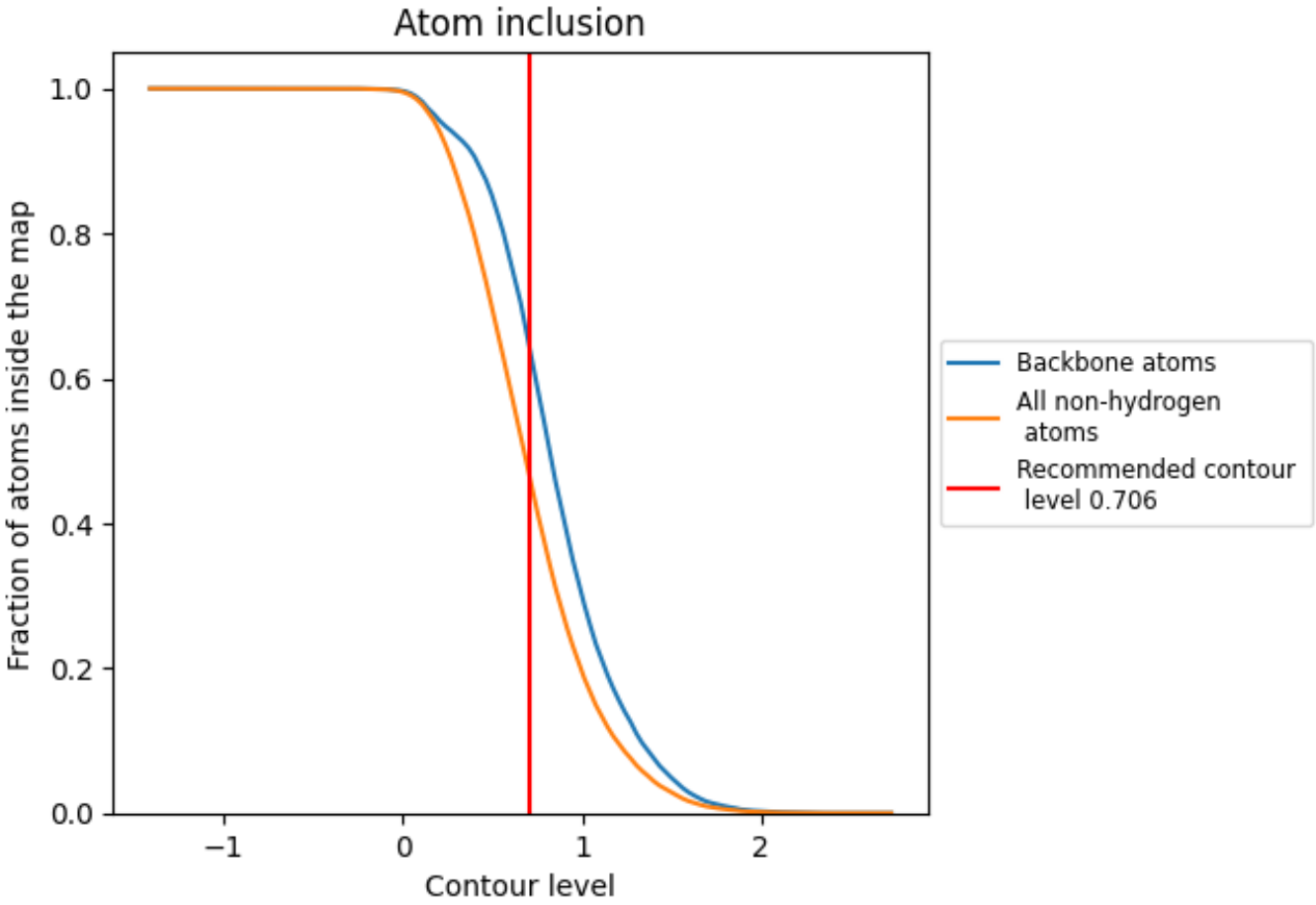
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.706).

9.4 Atom inclusion (i)



At the recommended contour level, 64% of all backbone atoms, 46% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.706) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.4650	0.4490
A	0.5463	0.4800
G	0.4032	0.4260