Full wwPDB EM Validation Report

Mar 24, 2026 – 06:34 PM UTC

PDB ID	:	9HXW / pdb_00009hxw
EMDB ID	:	EMD-52490
Title	:	Cryo-EM structure of the human UBR4/KCMF1/CALM1 complex (composite map)
Authors	:	Grabarczyk, D.B.; Clausen, T.
Deposited on	:	2025-01-08
Resolution	:	3.10 Å(reported)

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

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

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

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

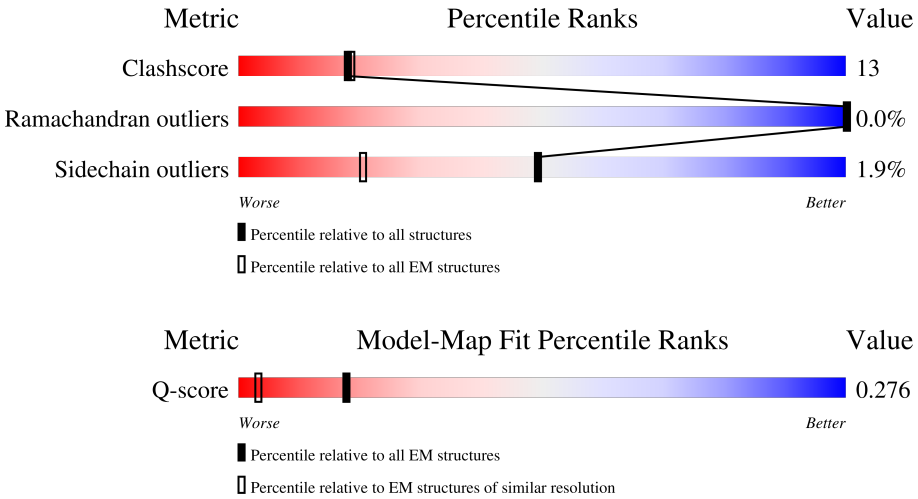
EMDB validation analysis	:	0.0.1.dev132
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

1 Overall quality at a glance

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

The reported resolution of this entry is 3.10 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	14724 (2.60 - 3.60)

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	C	331	18% 41% 13% 45%
1	D	331	22% 37% 18% • 45%
2	E	158	28% 62% 32% • 6%
2	F	158	26% 61% 33% 6%

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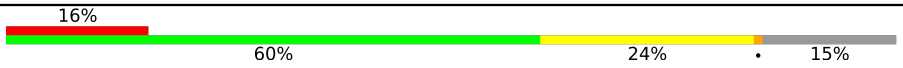
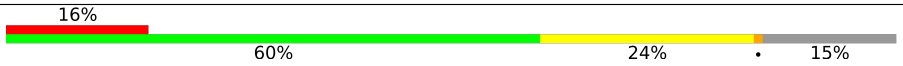
Mol	Chain	Length	Quality of chain
3	A	4781	
3	B	4781	

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 68636 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 E3 ubiquitin-protein ligase KCMF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	D	181	Total	C	N	O	S	0	0
			1423	875	247	285	16		
1	C	181	Total	C	N	O	S	0	0
			1423	875	247	285	16		

- Molecule 2 is a protein called Calmodulin-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	E	149	Total	C	N	O	S	0	0
			1174	719	189	256	10		
2	F	149	Total	C	N	O	S	0	0
			1174	719	189	256	10		

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	-8	MET	-	initiating methionine	UNP P0DP23
E	-7	ASP	-	expression tag	UNP P0DP23
E	-6	TYR	-	expression tag	UNP P0DP23
E	-5	LYS	-	expression tag	UNP P0DP23
E	-4	ASP	-	expression tag	UNP P0DP23
E	-3	ASP	-	expression tag	UNP P0DP23
E	-2	ASP	-	expression tag	UNP P0DP23
E	-1	ASP	-	expression tag	UNP P0DP23
E	0	LYS	-	expression tag	UNP P0DP23
F	-8	MET	-	initiating methionine	UNP P0DP23
F	-7	ASP	-	expression tag	UNP P0DP23
F	-6	TYR	-	expression tag	UNP P0DP23
F	-5	LYS	-	expression tag	UNP P0DP23
F	-4	ASP	-	expression tag	UNP P0DP23
F	-3	ASP	-	expression tag	UNP P0DP23
F	-2	ASP	-	expression tag	UNP P0DP23
F	-1	ASP	-	expression tag	UNP P0DP23

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Chain	Residue	Modelled	Actual	Comment	Reference
F	0	LYS	-	expression tag	UNP P0DP23

- Molecule 3 is a protein called E3 ubiquitin-protein ligase UBR4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	A	4045	Total	C	N	O	S	0	0
			31711	20123	5410	5969	209		
3	B	4045	Total	C	N	O	S	0	0
			31711	20123	5410	5969	209		

- Molecule 4 is ZINC ION (CCD ID: ZN) (formula: Zn).

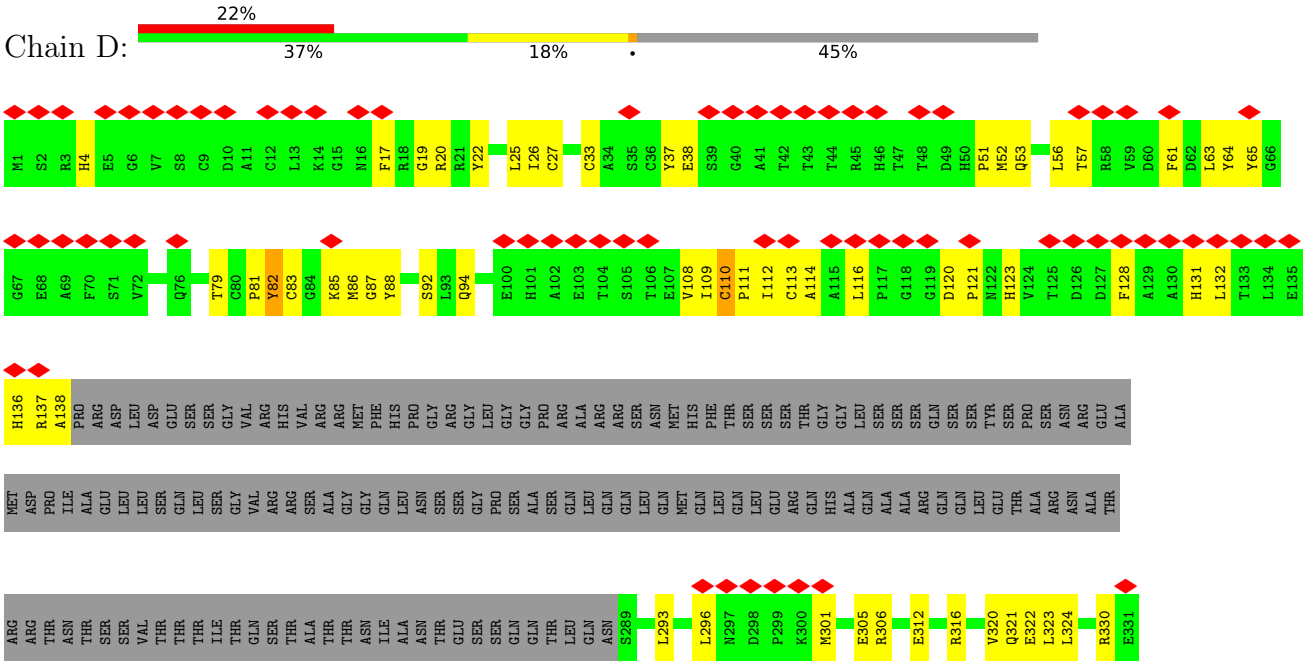
Mol	Chain	Residues	Atoms		AltConf
4	D	4	Total	Zn	0
			4	4	
4	A	6	Total	Zn	0
			6	6	
4	C	4	Total	Zn	0
			4	4	
4	B	6	Total	Zn	0
			6	6	

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.

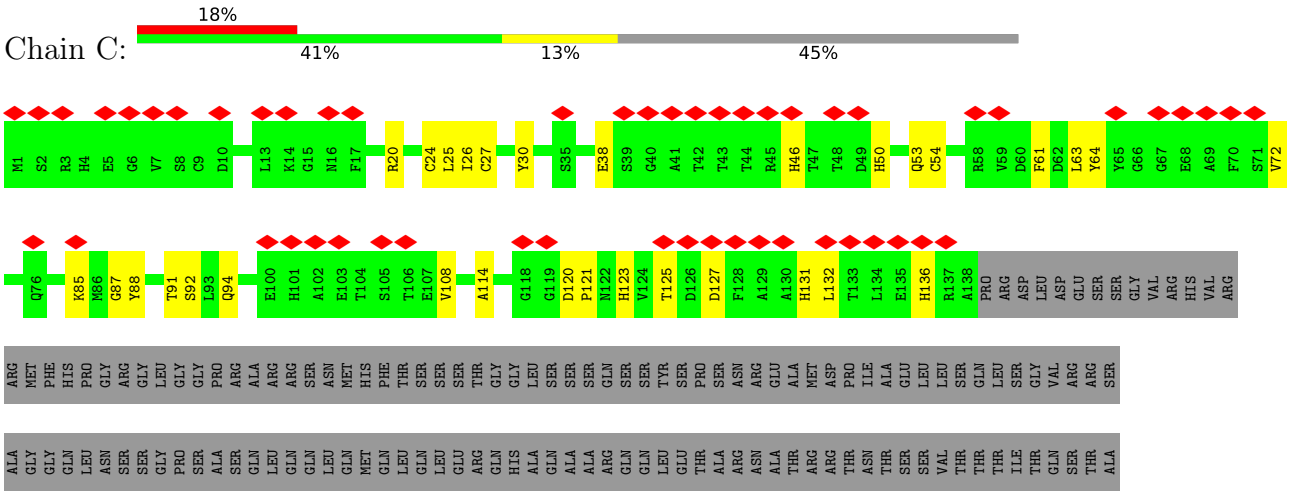
• Molecule 1: E3 ubiquitin-protein ligase KCMF1

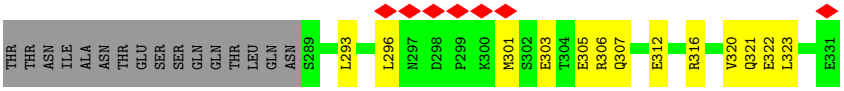
Chain D:



• Molecule 1: E3 ubiquitin-protein ligase KCMF1

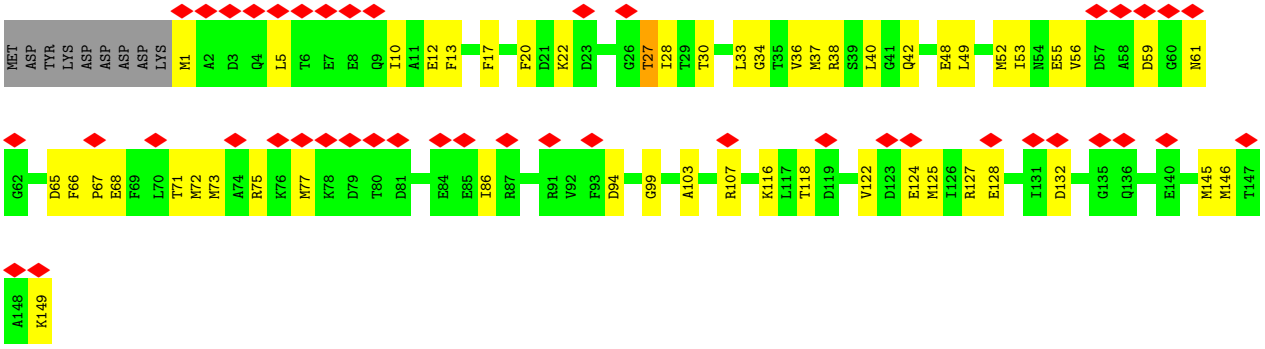
Chain C:





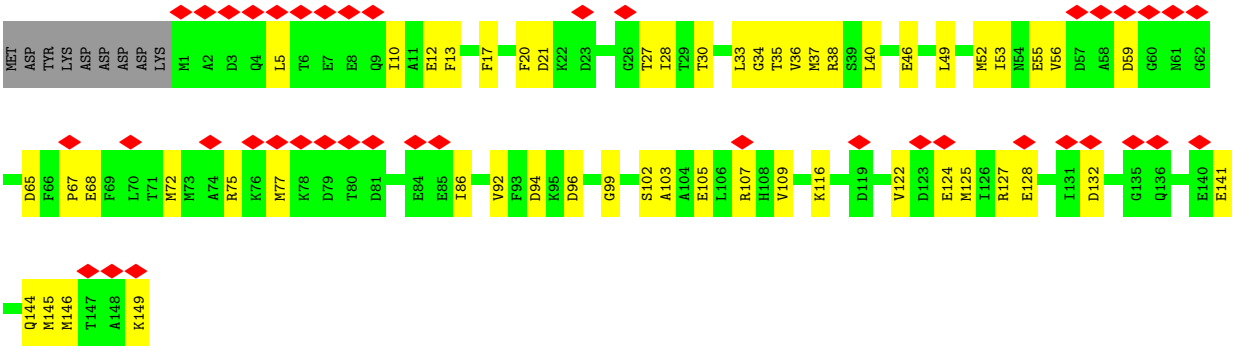
• Molecule 2: Calmodulin-1

Chain E:



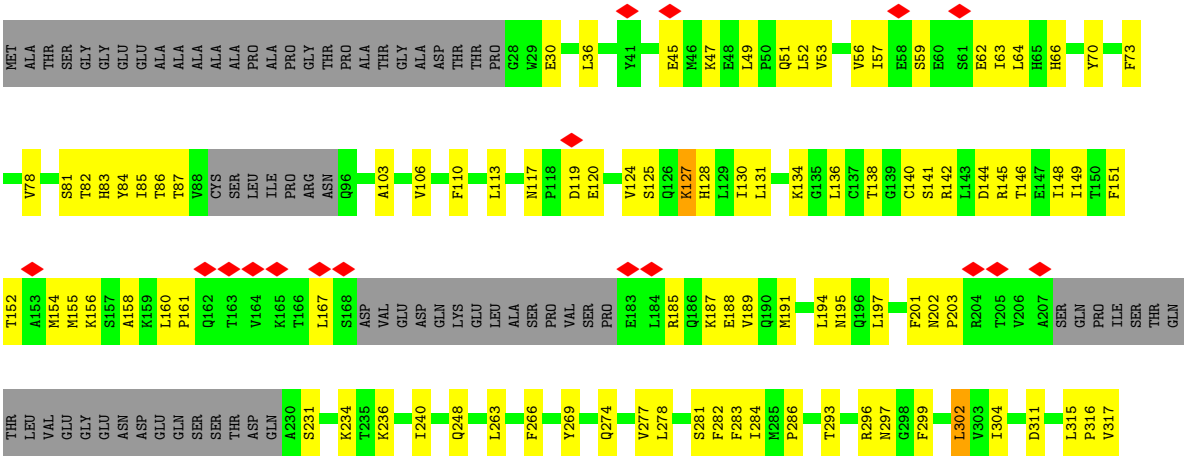
• Molecule 2: Calmodulin-1

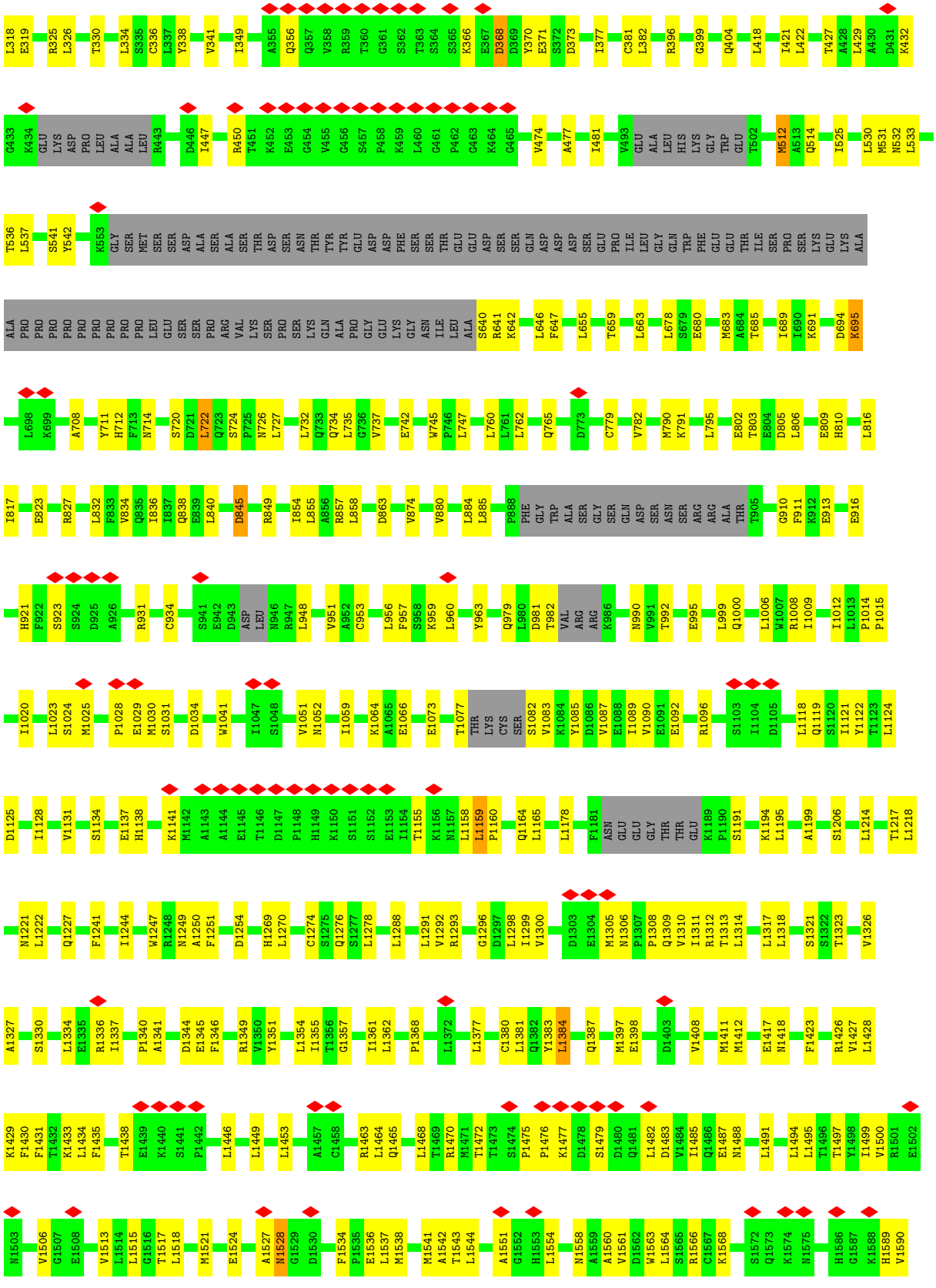
Chain F:

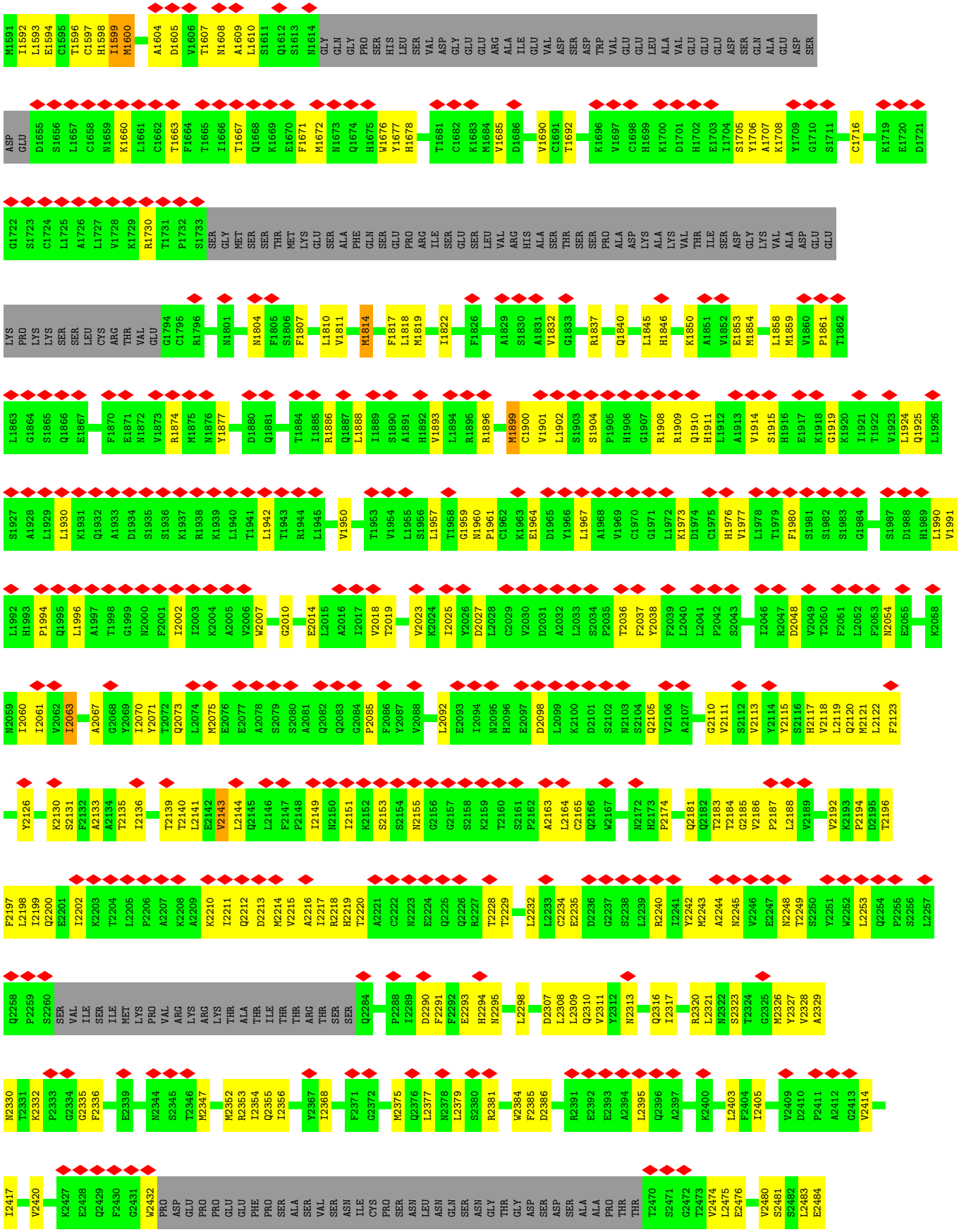


• Molecule 3: E3 ubiquitin-protein ligase UBR4

Chain A:



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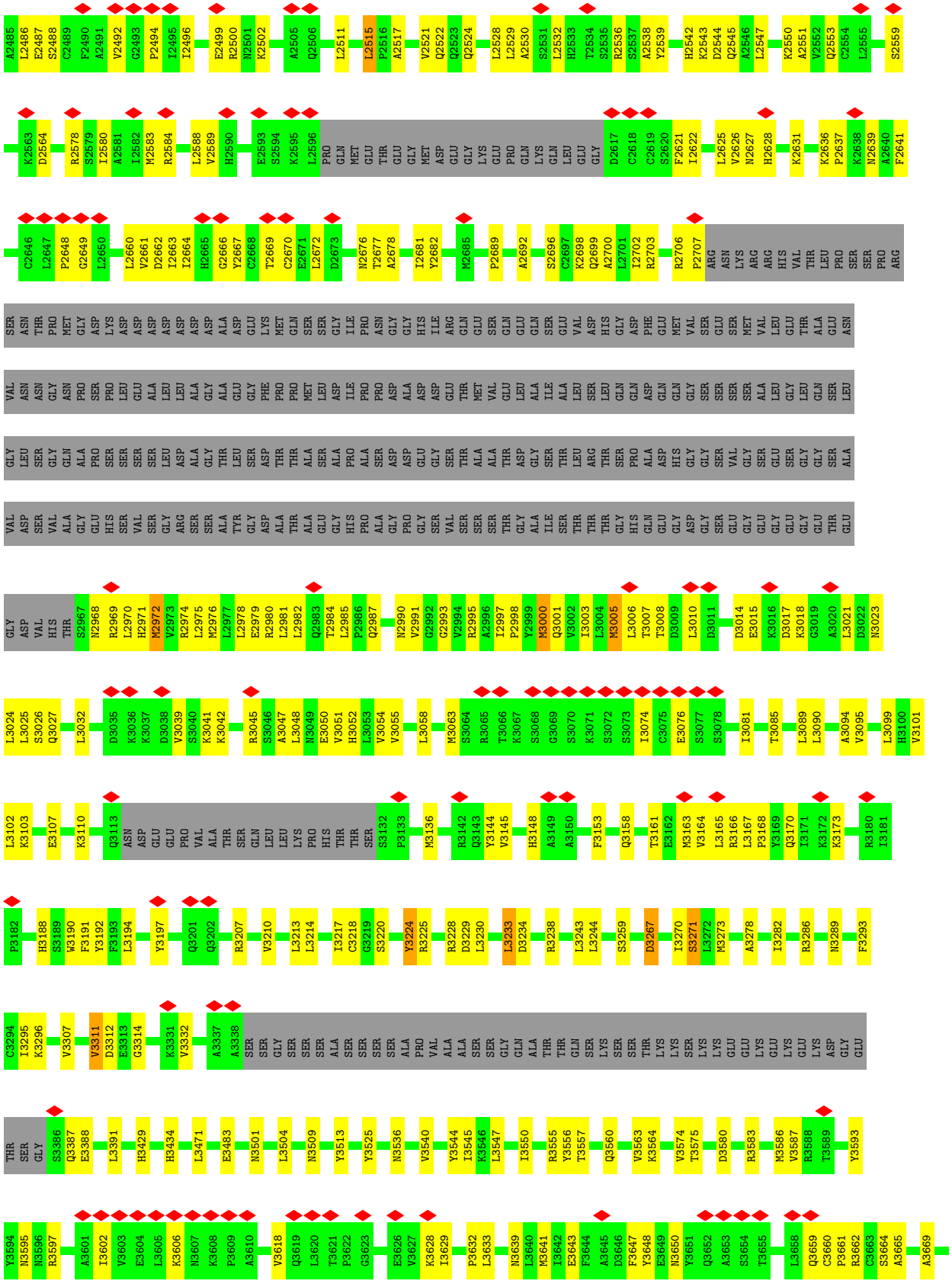
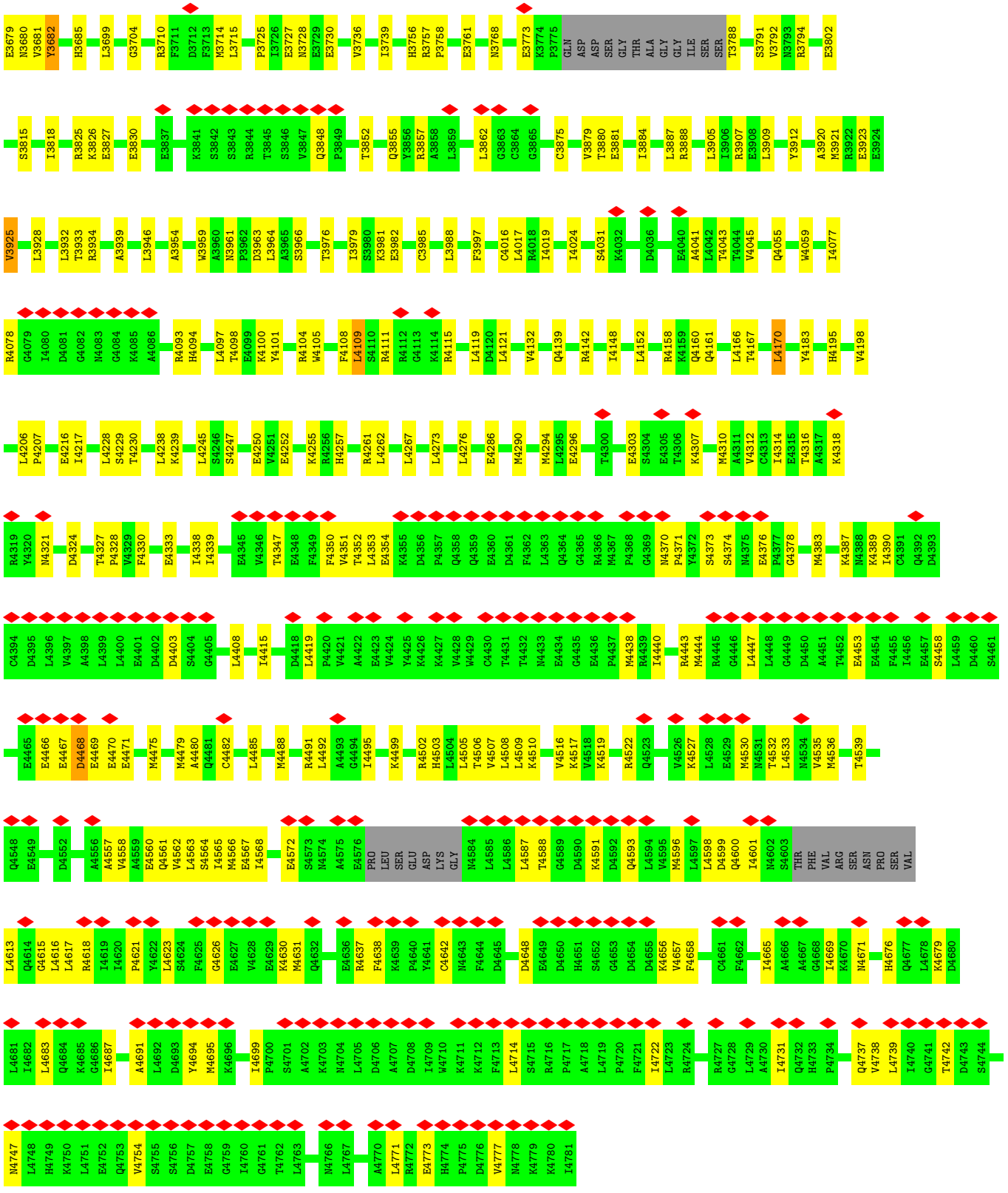
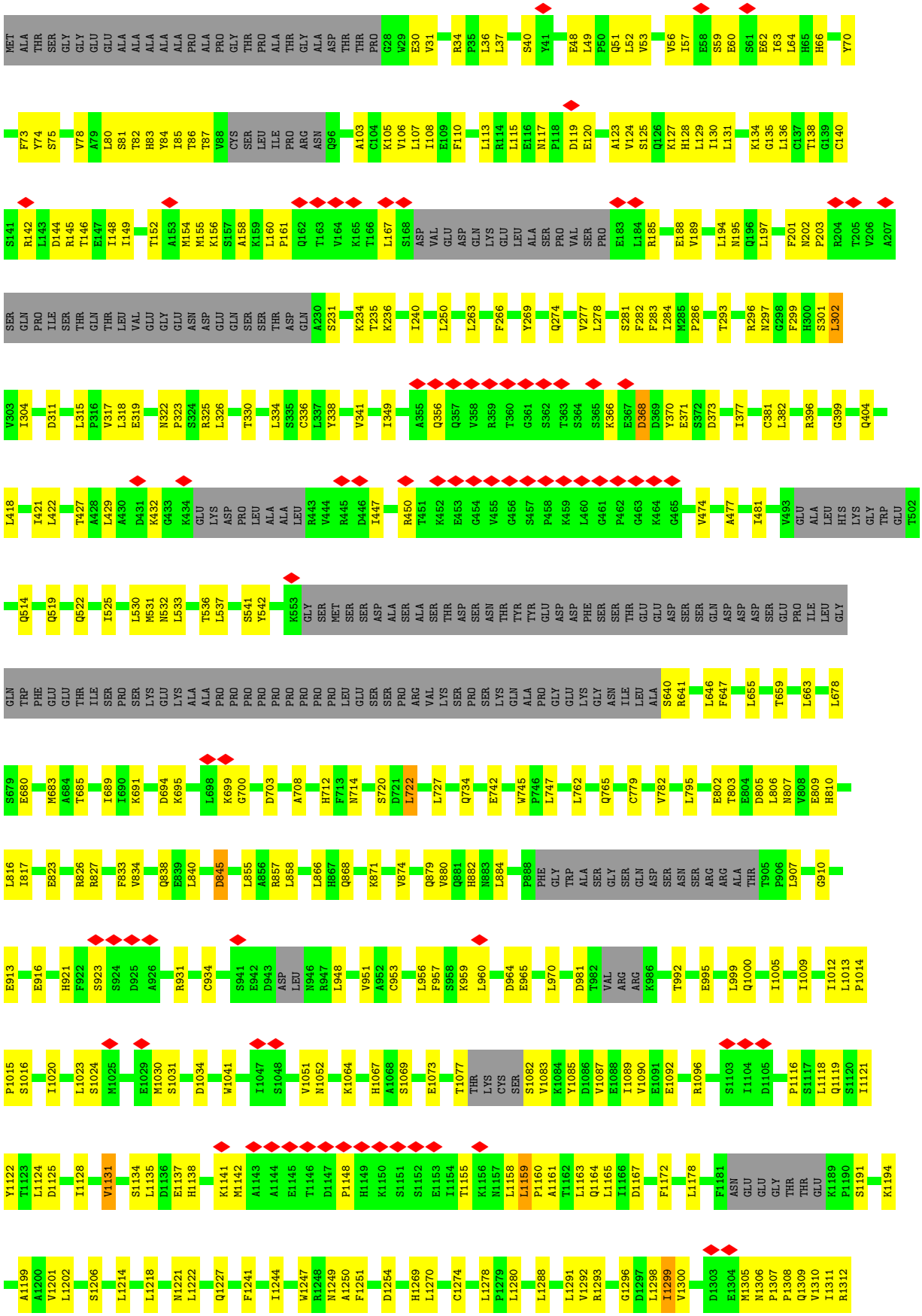
A1604 D1605 V1606 T1607 N1608 A1609 L1610 S1611 Q1612 S1613 N1614
GLY GLN GLY PRO SER HIS LEU SER VAL ASP GLY GLU GLU ARG ALA ILE GLU VAL ASP SER ASP TRP VAL GLU GLU LEU ALA VAL GLU GLU GLU ASP SER GLN ALA GLU ASP SER
ASP GLU
D1655 S1656 L1657 C1658 N1659 K1660 L1661 C1662 T1663 F1664 T1665 I1666 T1667 Q1668 K1669 E1670 F1671 M1672 N1673 Q1674 H1675 W1676 Y1677 H1678
T1681 C1682 K1683 M1684 V1685 D1686 V1690 C1691 T1692
K1696 V1697 C1698 H1699 K1700 D1701 H1702 E1703 I1704 S1705 Y1706 A1707 K1708 Y1709 G1710 S1711 C1716 K1719 E1720 D1721
G1722 S1723 C1724 L1725 A1726 L1727 V1728 K1729 R1730 T1731 P1732 S1733
SER GLY MET SER SER THR MET LYS GLU SER ALA PHE GLN SER GLU PRO ARG ILE SER GLU SER LEU VAL ARG HIS ALA SER THR SER SER PRO ALA ASP LYS ALA LYS VAL THR ILE SER ASP GLY LYS VAL ALA ASP GLU GLU
LYS PRO LYS LYS SER SER LEU CYS ARG THR VAL GLU
G1794 C1795 R1796 N1801 N1804 F1805 S1806 F1807 L1810 V1811 M1814 F1817 L1818 M1819 I1822 F1826 A1829 S1830 A1831 V1832 G1833 R1837 Q1840 L1845 H1846 K1850 A1851 V1852 E1853 M1854 L1858 M1859 V1860 P1861 T1862
L1863 G1864 S1865 Q1866 E1867 F1870 E1871 N1872 V1873 R1874 M1875 N1876 Y1877 D1880 Q1881 T1884 I1885 R1886 Q1887 L1888 I1889 S1890 A1891 H1892 V1893 L1894 R1895 R1896 M1899 C1900 V1901 L1902 S1903 S1904 P1905 H1906 G1907 R1908 R1909 Q1910 H1911 L1912 A1913 V1914 S1915 H1916 E1917 K1918 G1919 K1920 I1921 T1922 V1923 L1924 Q1925 L1926
S1927 A1928 L1929 L1930 K1931 Q1932 A1933 D1934 S1935 S1936 K1937 R1938 K1939 L1940 T1941 L1942 T1943 R1944 L1945 V1950 T1953 V1954 L1955 S1956 L1957 T1958 G1959 N1960 P1961 C1962 K1963 E1964 D1965 Y1966 L1967 A1968 V1969 C1970 G1971 L1972 K1973 D1974 C1975 H1976 V1977 L1978 T1979 F1980 S1981 S1982 S1983 G1984 S1987 D1988 H1989 L1990 V1991
L1992 H1993 P1994 Q1995 L1996 A1997 T1998 G1999 N2000 F2001 I2002 I2003 K2004 A2005 V2006 W2007 G2010 E2014 L2015 A2016 I2017 V2018 T2019 V2023 K2024 I2025 Y2026 D2027 L2028 C2029 V2030 D2031 A2032 L2033 S2034 P2035 T2036 F2037 Y2038 F2039 L2040 L2041 P2042 S2043 I2046 R2047 D2048 V2049 T2050 F2051 L2052 F2053 N2054 E2055 K2058
N2059 I2060 I2061 V2062 I2063 A2067 G2068 Y2069 I2070 Y2071 T2072 Q2073 L2074 M2075 E2076 E2077 A2078 S2079 S2080 A2081 Q2082 Q2083 G2084 P2085 F2086 Y2087 V2088 L2092 E2093 I2094 N2095 H2096 E2097 D2098 L2099 K2100 D2101 S2102 N2103 S2104 Q2105 V2106 A2107 G2110 V2111 S2112 V2113 Y2114 Y2115 S2116 H2117 V2118 L2119 Q2120 M2121 L2122 F2123
Y2126 K2130 S2131 F2132 A2133 A2134 T2135 I2136 T2139 T2140 L2141 E2142 Y2143 L2144 Q2145 L2146 F2147 P2148 I2149 N2150 I2151 K2152 S2153 S2154 N2155 G2156 G2157 S2158 K2159 T2160 S2161 P2162 A2163 L2164 C2165 Q2166 W2167 N2172 H2173 P2174 Q2181 Q2182 T2183 T2184 G2185 V2186 P2187 L2188 V2189 V2192 K2193 P2194 D2195 T2196
F2197 L2198 I2199 Q2200 E2201 I2202 K2203 T2204 L2205 P2206 A2207 K2208 A2209 K2210 I2211 Q2212 D2213 M2214 V2215 A2216 I2217 R2218 H2219 T2220 A2221 C2222 N2223 E2224 Q2225 Q2226 R2227 T2228 T2229 L2232 L2233 C2234 E2235 D2236 G2237 S2238 L2239 R2240 I2241 Y2242 M2243 A2244 N2245 V2246 E2247 N2248 T2249 S2250 Y2251 W2252 L2253 Q2254 P2255 S2256 L2257
Q2258 P2259 S2260 SER VAL ILE SER ILE MET LYS PRO VAL ARG LYS ARG LYS THR ALA THR ILE THR THR ARG THR SER SER Q2284 P2288 I2289 D2290 F2291 F2292 E2293 H2294 N2295 L2298 D2307 L2308 L2309 Q2310 V2311 Y2312 N2313 Q2316 I2317 R2320 L2321 N2322 S2323 T2324 G2325 M2326 Y2327 V2328 A2329
N2330 T2331 K2332 P2333 G2334 G2335 F2336 E2339 N2344 S2345 T2346 M2347 M2352 R2353 I2354 Q2355 I2356 Y2367 I2368 F2371 G2372 M2375 Q2376 L2377 N2378 L2379 S2380 R2381 W2384 F2385 D2386 R2391 E2392 E2393 A2394 L2395 Q2396 A2397 K2400 L2403 F2404 I2405 V2409 D2410 P2411 A2412 G2413 V2414
I2417 V2420 K2427 E2428 Q2429 F2430 G2431 W2432 PRO ASP GLU PRO PRO GLU GLU PHE PRO SER ALA SER VAL SER ASN ILE CYS PRO SER ASN LEU ASN GLN SER ASN GLY THR GLY ASP SER ASP SER ALA ALA PRO THR THR T2470 S2471 G2472 T2473 V2474 L2475 E2476 V2480 S2481 S2482 L2483 E2484





• Molecule 3: E3 ubiquitin-protein ligase UBR4


MET ALA THR SER GLY GLY GLU GLU ALA ALA ALA ALA ALA PRO ALA PRO GLY THR PRO ALA THR GLY ALA ASP THR THR PRO
G28 W29 E30 V31 R34 P35 L36 L37 S40 Y41 E48 L49 P50 Q51 L52 V53 V56 I57 E58 S59 E60 S61 E62 I63 L64 H65 H66 Y70
F73 Y74 S75 V78 A79 L80 S81 T82 H83 Y84 I85 T86 T87 V88 CYS SER LEU ILE PRO ARG ASN Q96 A103 C104 K105 V106 L107 I108 E109 F110 L113 R114 L115 E116 N117 P118 D119 E120 A123 V124 S125 Q126 K127 H128 L129 I130 L131 K134 G135 L136 C137 T138 G139 C140
S141 R142 L143 D144 R145 T146 E147 I148 I149 T152 A153 M154 M155 K156 S157 A158 K159 L160 P161 Q162 T163 V164 K165 T166 L167 S168 ASP VAL GLU ASP GLN LYS GLU LEU ALA SER PRO VAL SER PRO E183 L184 R185 E188 V189 L194 N195 Q196 L197 F201 N202 P203 R204 T205 V206 A207
SER GLN PRO ILE SER THR GLN THR LEU VAL GLU GLY GLU ASN ASP GLU GLN SER SER THR ASP GLN A230 S231 K234 T235 K236 I240 L250 L263 F266 Y269 Q274 V277 L278 S281 F282 F283 I284 M285 P286 T293 R296 N297 G298 F299 H300 S301 L302
V303 I304 D311 L315 P316 V317 L318 E319 N322 P323 S324 R325 L326 T330 L334 S335 C336 L337 Y338 V341 I349 A355 Q356 Q357 V358 R359 T360 G361 S362 T363 S364 S365 K366 E367 D368 D369 Y370 E371 S372 D373 I377 C381 L382 R396 G399 Q404
L418 I421 L422 T427 A428 L429 A430 D431 K432 G433 K434 GLU LYS ASP PRO LEU ALA ALA LEU R443 V444 R445 D446 I447 R450 T451 K452 E453 G454 V455 G456 S457 P458 K459 L460 G461 P462 G463 K464 G465 V474 A477 I481 V493 GLU ALA LEU HIS LYS GLY TRP GLU T502
Q514 Q519 Q522 I525 L530 M531 N532 L533 T536 L537 S541 Y542 K553 GLY SER MET SER SER ASP ALA SER ALA SER THR ASP SER ASN THR TYR TYR GLU ASP ASP PHE SER SER THR GLU GLU ASP SER SER GLN ASP ASP ASP SER GLU PRO ILE LEU GLY
GLN TRP PHE GLU GLU THR ILE SER PRO SER LYS GLU LYS ALA ALA PRO PRO PRO PRO PRO PRO PRO PRO PRO LEU GLU GLU SER SER PRO ARG VAL LYS LYS SER PRO SER SER LYS GLN ALA ALA PRO GLY GLU LYS GLY ASN ILE LEU LEU ALA S640 R641 L646 F647 L655 T659 L663 L678
S679 E680 M683 A684 T685 I689 K690 K691 D694 K695 L698 K699 G700 D703 A708 H712 F713 N714 S720 D721 L722 L727 Q734 E742 W745 P746 L747 L762 Q765 C779 V782 L795 E802 T803 E804 D805 L806 N807 V808 E809 H810
L816 I817 E823 R826 R827 F833 V834 Q838 E839 L840 D845 L855 A856 R857 L858 L866 H867 Q868 K871 V874 Q879 V880 Q881 H882 N883 L884 P888 PHE GLY TRP ALA SER GLY SER GLN ASP SER ASN SER ARG ARG ALA THR T905 P906 L907 G910
E913 E916 H921 F922 S923 S924 D925 A926 R931 C934 S941 E942 D943 ASP LEU N946 R947 L948 V951 A962 C953 L956 F957 S958 K959 L960 D964 E965 L970 D981 T982 VAL ARG ARG K986 T992 E995 L999 Q1000 I1005 I1009 I1012 L1013 P1014
P1015 S1016 I1020 L1023 S1024 M1025 E1029 M1030 S1031 D1034 W1041 I1047 S1048 V1051 N1052 K1064 H1067 A1068 S1069 E1073 T1077 THR LYS CYS SER S1082 V1083 K1084 Y1085 D1086 V1087 E1088 I1089 V1090 E1091 E1092 R1096 S1103 I1104 D1105 P1116 S1117 L1118 Q1119 S1120 I1121
Y1122 T1123 L1124 D1125 I1128 V1131 S1134 L1135 D1136 E1137 H1138 K1141 M1142 A1143 A1144 E1145 T1146 D1147 P1148 H1149 K1150 S1151 S1152 E1153 I1154 T1155 K1156 N1157 L1158 L1159 P1160 A1161 T1162 L1163 Q1164 L1165 I1166 D1167 F1172 L1178 F1181 ASN GLU GLY THR THR GLU K1189 P1190 S1191 K1194
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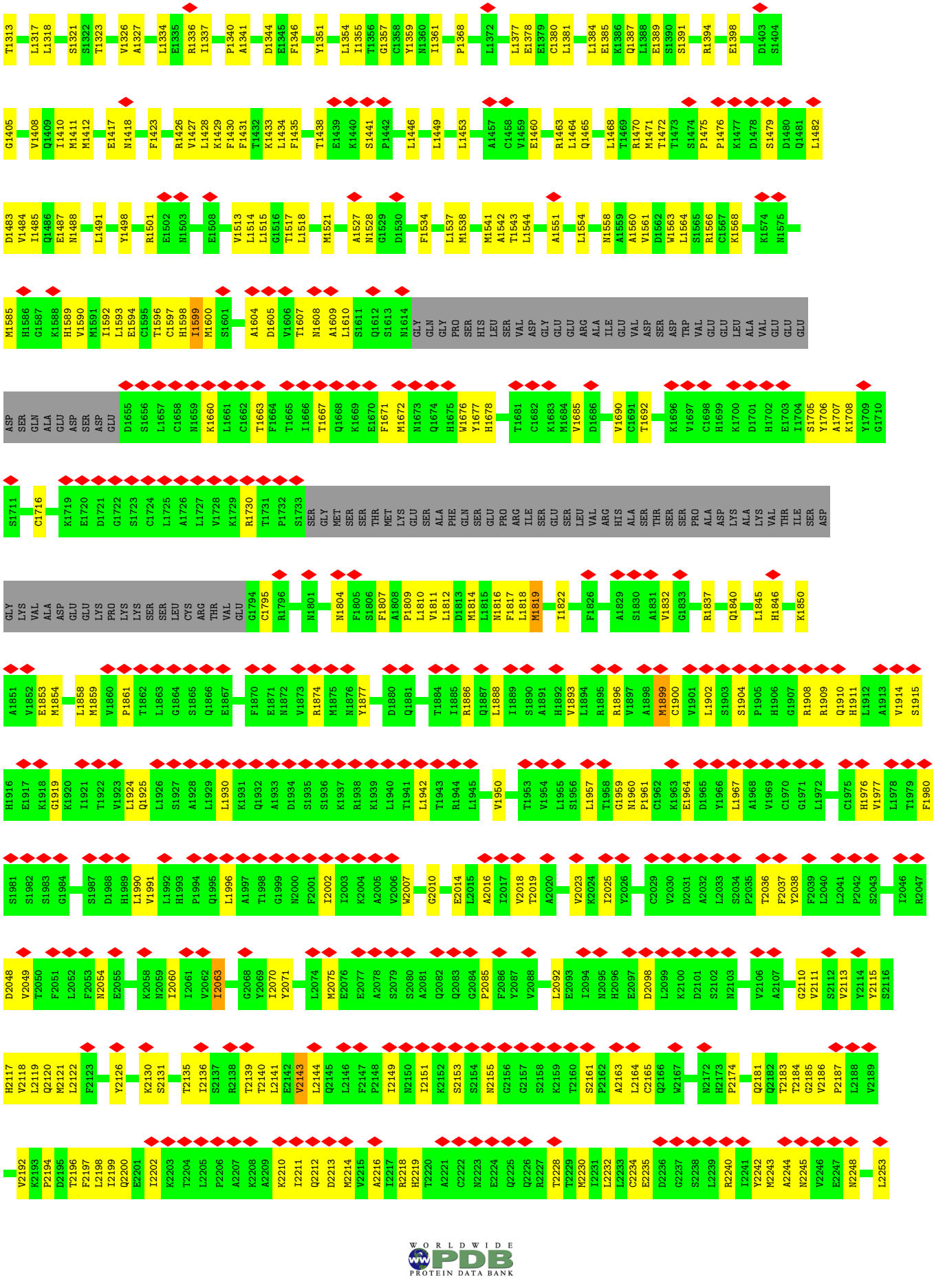
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G1405 V1408 Q1409 I1410 M1411 M1412 E1417 N1418 F1423 R1426 V1427 L1428 K1429 F1430 F1431 T1432 K1433 L1434 F1435 T1438 E1439 K1440 S1441 P1442 L1446 L1449 L1453 A1457 C1458 V1459 E1460 R1463 L1464 Q1465 L1468 T1469 R1470 M1471 T1472 T1473 S1474 P1475 P1476 K1477 D1478 S1479 D1480 Q1481 L1482
D1483 V1484 I1485 Q1486 E1487 N1488 L1491 Y1498 R1501 E1502 N1503 E1508 V1513 L1514 L1515 G1516 T1517 L1518 M1521 A1527 N1528 G1529 D1530 F1534 L1537 M1538 M1541 A1542 T1543 L1544 A1551 L1554 N1558 A1559 A1560 V1561 D1562 W1563 L1564 S1565 R1566 C1567 K1568 K1574 N1575
M1585 H1586 G1587 K1588 H1589 V1590 M1591 I1592 L1593 E1594 C1595 T1596 C1597 H1598 T1599 M1600 S1601 A1604 D1605 V1606 T1607 N1608 A1609 L1610 S1611 Q1612 S1613 N1614 GLY GLN GLY PRO SER HIS LEU SER VAL ASP GLY GLU GLU ARG ALA ILE GLU VAL ASP SER ASP TRP VAL GLU GLU LEU ALA VAL GLU GLU
ASP SER GLN ALA GLU ASP SER GLU D1655 S1656 L1657 C1658 N1659 K1660 L1661 C1662 T1663 F1664 T1665 I1666 T1667 Q1668 K1669 E1670 F1671 M1672 N1673 Q1674 H1675 W1676 Y1677 H1678 T1681 C1682 K1683 M1684 V1685 D1686 V1690 C1691 T1692 K1696 V1697 C1698 H1699 K1700 D1701 H1702 E1703 I1704 S1705 Y1706 A1707 K1708 Y1709 G1710
S1711 C1716 K1719 E1720 D1721 G1722 S1723 C1724 L1725 A1726 L1727 V1728 K1729 R1730 T1731 P1732 S1733 SER GLY MET SER SER THR MET LYS GLU SER ALA PHE GLN SER GLU PRO ARG ILE SER GLU SER LEU VAL ARG HIS ALA SER THR SER SER PRO ALA ASP LYS ALA LYS VAL THR ILE SER ASP
GLY LYS VAL ALA ASP GLU GLU LYS PRO LYS LYS SER SER LEU CYS ARG THR VAL GLU G1794 C1795 R1796 N1801 N1804 F1805 S1806 F1807 A1808 P1809 L1810 V1811 L1812 D1813 M1814 L1815 N1816 F1817 L1818 M1819 I1822 F1826 A1829 S1830 A1831 V1832 G1833 R1837 Q1840 L1845 H1846 K1850
A1851 V1852 E1853 M1854 L1858 M1859 V1860 P1861 T1862 L1863 G1864 S1865 Q1866 E1867 F1870 E1871 N1872 V1873 R1874 M1875 N1876 Y1877 D1880 Q1881 T1884 I1885 R1886 Q1887 L1888 I1889 S1890 A1891 H1892 V1893 L1894 R1895 R1896 V1897 A1898 M1899 C1900 V1901 L1902 S1903 S1904 P1905 H1906 G1907 R1908 R1909 Q1910 H1911 L1912 A1913 V1914 S1915
H1916 E1917 K1918 G1919 K1920 I1921 T1922 V1923 L1924 Q1925 L1926 S1927 A1928 L1929 L1930 K1931 Q1932 A1933 D1934 S1935 S1936 K1937 R1938 K1939 L1940 T1941 L1942 T1943 R1944 L1945 V1950 T1953 V1954 L1955 S1956 L1957 T1958 G1959 N1960 P1961 C1962 K1963 E1964 D1965 Y1966 L1967 A1968 V1969 C1970 G1971 L1972 C1975 H1976 V1977 L1978 T1979 F1980
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D2048 V2049 T2050 F2051 L2052 F2053 N2054 E2055 K2058 N2059 I2060 I2061 V2062 I2063 G2068 Y2069 I2070 Y2071 L2074 M2075 E2076 E2077 A2078 S2079 S2080 A2081 Q2082 Q2083 G2084 P2085 F2086 Y2087 V2088 L2092 E2093 I2094 N2095 H2096 E2097 D2098 L2099 K2100 D2101 S2102 N2103 V2106 A2107 G2110 V2111 S2112 V2113 Y2114 Y2115 S2116
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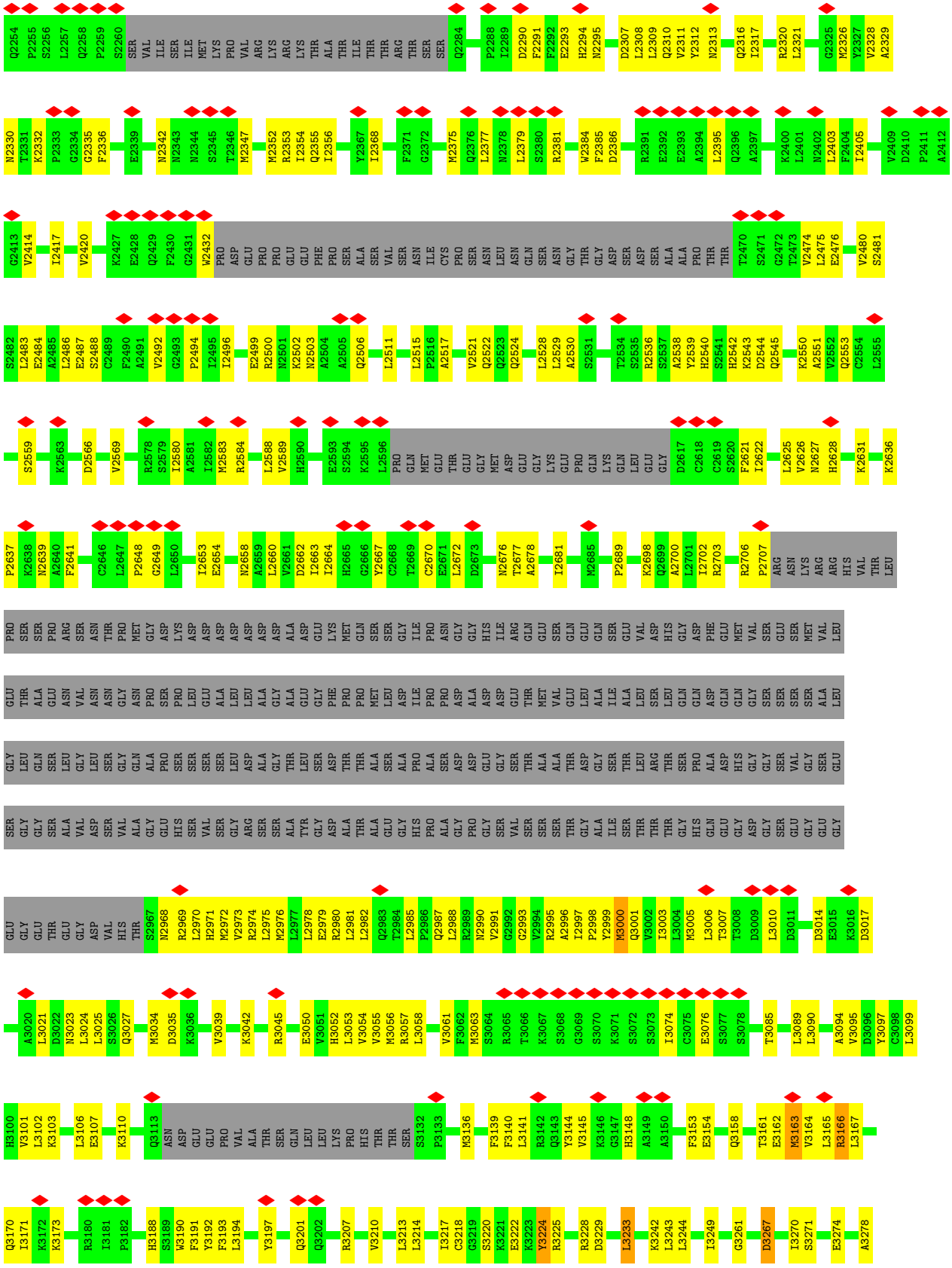
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S2559 K2563 D2566 V2569 R2578 S2579 I2580 A2581 I2582 M2583 R2584 L2588 V2589 H2590 E2593 S2594 K2595 L2596 PRO GLN MET GLU THR GLU GLY MET ASP GLU GLY LYS GLU PRO GLN LYS GLN LEU GLU GLY D2617 C2618 C2619 S2620 F2621 I2622 L2625 V2626 N2627 H2628 K2631 K2636
P2637 K2638 N2639 A2640 F2641 C2646 L2647 P2648 G2649 L2650 I2653 E2654 N2658 A2659 L2660 V2661 D2662 I2663 I2664 H2665 G2666 Y2667 C2668 T2669 C2670 E2671 L2672 D2673 N2676 T2677 A2678 I2681 M2685 P2689 K2698 Q2699 A2700 L2701 I2702 R2703 R2706 P2707 ARG ASN LYS ARG ARG HIS VAL THR LEU
PRO SER SER PRO ARG SER ASN THR PRO MET GLY ASP LYS ASP ASP ASP ASP ASP ASP ASP ASP ALA ASP GLU LYS MET GLN GLN SER GLY ILE PRO ASN GLY GLY HIS ILE ARG GLN GLU SER GLN GLU GLN SER GLU VAL ASP HIS GLY ASP PHE GLU MET VAL SER GLU GLN SER MET VAL LEU
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SER GLY GLY SER ALA VAL ASP SER VAL ALA GLY GLU HIS SER VAL SER GLY ARG SER SER ALA TYR GLY ASP ALA THR ALA GLU GLY HIS PRO ALA GLY PRO GLY SER VAL SER SER SER THR GLY ALA ILE SER THR THR THR GLY HIS GLN GLU GLY ASP GLY SER GLU GLY GLU GLY
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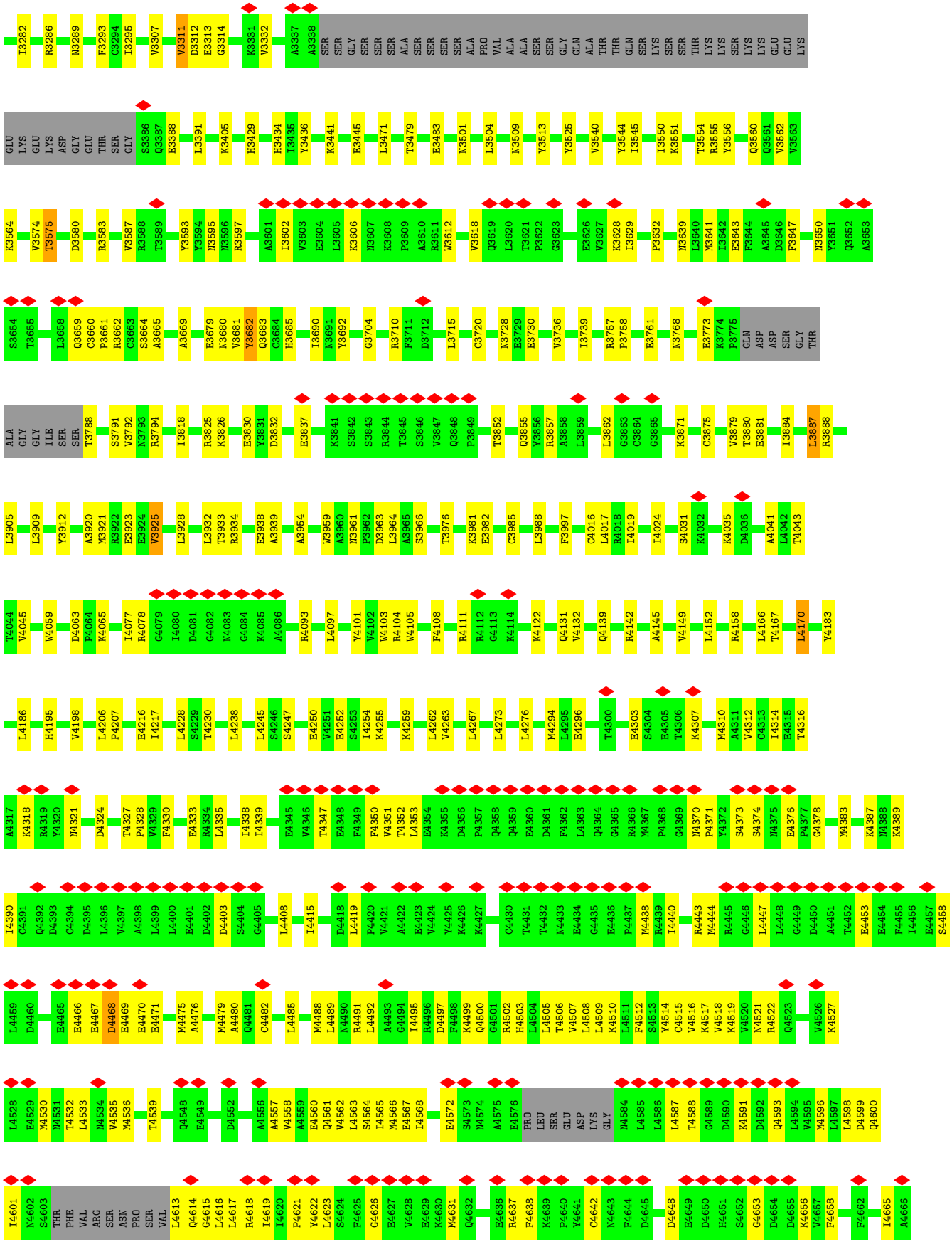
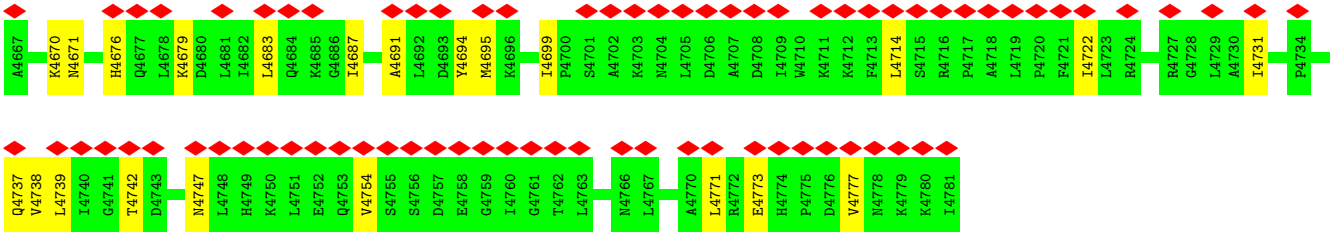
A3020 L3021 D3022 N3023 L3024 L3025 S3026 Q3027 M3034 D3035 K3036 V3039 K3042 R3045 E3050 V3051 H3052 L3053 V3054 V3055 M3056 R3057 L3058 V3061 F3062 M3063 S3064 R3065 T3066 K3067 S3068 G3069 S3070 K3071 S3072 S3073 I3074 C3075 E3076 S3077 S3078 T3085 L3089 L3090 A3094 V3095 D3096 Y3097 C3098 L3099
H3100 V3101 L3102 K3103 L3106 E3107 K3110 Q3113 ASN ASP GLU GLU PRO VAL ALA THR SER GLN LEU LEU LYS PRO HIS THR THR SER S3132 P3133 M3136 F3139 F3140 L3141 R3142 Q3143 Y3144 V3145 K3146 G3147 H3148 A3149 A3150 F3153 E3154 Q3158 T3161 E3162 M3163 V3164 L3165 R3166 L3167
Q3170 I3171 K3172 K3173 R3180 I3181 P3182 H3188 S3189 W3190 F3191 Y3192 F3193 L3194 Y3197 Q3201 Q3202 R3207 V3210 L3213 L3214 I3217 C3218 G3219 S3220 K3221 E3222 K3223 Y3224 R3225 R3228 D3229 L3233 K3242 L3243 L3244 I3249 G3261 D3267 I3270 S3271 E3274 A3278

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H4774
P4775
D4776
V4777
N4778
K4779
K4780
I4781

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	1638723	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.055	Depositor
Minimum map value	0.000	Depositor
Average map value	0.007	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.0089	Depositor
Map size (Å)	486.912, 486.912, 486.912	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.268, 1.268, 1.268	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	C	0.10	0/1451	0.26	0/1962
1	D	0.12	0/1451	0.36	0/1962
2	E	0.14	0/1186	0.44	0/1590
2	F	0.14	0/1186	0.39	0/1590
3	A	0.13	0/32281	0.37	4/43722 (0.0%)
3	B	0.13	0/32281	0.38	3/43722 (0.0%)
All	All	0.13	0/69836	0.37	7/94548 (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
3	A	0	2
3	B	0	2
All	All	0	4

There are no bond length outliers.

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	1819	MET	CA-CB-CG	6.21	126.52	114.10
3	B	1599	ILE	CA-C-N	-5.46	111.02	121.94
3	B	1599	ILE	C-N-CA	-5.46	111.02	121.94
3	A	1599	ILE	CA-C-N	-5.34	111.26	121.94
3	A	1599	ILE	C-N-CA	-5.34	111.26	121.94
3	A	1600	MET	CA-CB-CG	5.18	124.47	114.10
3	A	1814	MET	CA-CB-CG	5.16	124.43	114.10

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	A	117	ASN	Peptide
3	A	4468	ASP	Peptide
3	B	117	ASN	Peptide
3	B	4468	ASP	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	C	1423	0	1335	38	0
1	D	1423	0	1335	52	0
2	E	1174	0	1105	46	0
2	F	1174	0	1105	39	0
3	A	31711	0	32086	859	0
3	B	31711	0	32086	860	0
4	A	6	0	0	0	0
4	B	6	0	0	0	0
4	C	4	0	0	0	0
4	D	4	0	0	0	0
All	All	68636	0	69052	1834	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 13.

All (1834) 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)
3:B:1020:ILE:O	3:B:1024:SER:HB2	1.66	0.96
3:B:231:SER:HA	3:B:234:LYS:HE3	1.49	0.95
2:E:34:GLY:O	2:E:38:ARG:HB3	1.70	0.91
3:A:1020:ILE:O	3:A:1024:SER:HB2	1.71	0.90
3:B:3233:LEU:HD11	3:B:3282:ILE:HG21	1.57	0.87
3:B:1438:THR:HG23	3:B:1446:LEU:HB3	1.57	0.86
3:A:3233:LEU:HD11	3:A:3282:ILE:HG21	1.59	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1438:THR:HG23	3:A:1446:LEU:HB3	1.58	0.84
3:B:2559:SER:HG	3:B:2628:HIS:HE2	1.26	0.83
3:A:3010:LEU:HD23	3:A:3081:ILE:HG12	1.61	0.83
3:A:2309:LEU:HD22	1:C:87:GLY:HA3	1.62	0.82
3:B:4591:LYS:NZ	3:B:4631:MET:SD	2.53	0.81
3:A:4339:ILE:HD13	3:A:4475:MET:HB3	1.61	0.81
3:A:4467:GLU:HG2	3:A:4468:ASP:H	1.46	0.81
3:B:4467:GLU:HG2	3:B:4468:ASP:H	1.45	0.81
3:A:3270:ILE:HD11	3:A:3632:PRO:HG2	1.62	0.80
3:B:4339:ILE:HD13	3:B:4475:MET:HB3	1.62	0.80
3:A:4485:LEU:HA	3:A:4488:MET:HE3	1.64	0.80
3:B:3270:ILE:HD11	3:B:3632:PRO:HG2	1.63	0.80
3:A:2984:THR:HA	3:A:2987:GLN:HE21	1.47	0.79
3:B:1610:LEU:HD22	3:B:2492:VAL:HG22	1.65	0.79
1:D:330:ARG:HB3	3:B:4122:LYS:HZ2	1.47	0.79
3:B:1426:ARG:NH1	3:B:1426:ARG:O	2.16	0.78
3:A:2975:LEU:HB2	3:A:2976:MET:HE2	1.66	0.78
3:B:2214:MET:HE2	3:B:2230:MET:HE2	1.64	0.77
3:A:3593:TYR:HB2	3:A:3641:MET:HB3	1.67	0.77
3:B:3436:TYR:HH	3:B:3479:THR:HG1	1.33	0.77
3:A:2354:ILE:HG22	3:A:2420:VAL:HG22	1.66	0.76
3:B:2354:ILE:HG22	3:B:2420:VAL:HG22	1.67	0.76
3:B:3593:TYR:HB2	3:B:3641:MET:HB3	1.66	0.76
2:E:27:THR:HG23	2:E:65:ASP:HB3	1.66	0.76
2:E:37:MET:HG2	2:E:42:GLN:HE21	1.50	0.76
3:B:1391:SER:HA	3:B:1394:ARG:HE	1.50	0.76
3:B:4485:LEU:HA	3:B:4488:MET:HE3	1.68	0.76
3:B:62:GLU:O	3:B:66:HIS:NE2	2.18	0.75
3:B:1340:PRO:HD2	3:B:1344:ASP:HB2	1.66	0.75
3:A:1677:TYR:HA	3:A:1707:ALA:H	1.52	0.75
3:A:1340:PRO:HD2	3:A:1344:ASP:HB2	1.67	0.75
1:D:52:MET:HE2	1:D:52:MET:HA	1.69	0.75
3:A:3102:LEU:O	3:A:3197:TYR:OH	2.04	0.74
3:B:3102:LEU:O	3:B:3197:TYR:OH	2.05	0.74
3:B:1677:TYR:HA	3:B:1707:ALA:H	1.52	0.74
3:A:1859:MET:SD	3:A:2242:TYR:HB3	2.28	0.74
3:B:31:VAL:HA	3:B:34:ARG:HG3	1.69	0.74
3:B:1859:MET:SD	3:B:2242:TYR:HB3	2.28	0.73
3:A:3555:ARG:HD3	3:A:3606:LYS:HD3	1.71	0.73
3:B:73:PHE:HA	3:B:154:MET:HE1	1.69	0.73
3:B:4499:LYS:HA	3:B:4502:ARG:HH21	1.54	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:87:GLY:HA3	3:B:2309:LEU:HD22	1.70	0.72
3:B:1381:LEU:HD23	3:B:1384:LEU:HD11	1.69	0.72
3:B:1858:LEU:HD11	3:B:2198:LEU:HB3	1.70	0.72
3:A:2192:VAL:HG13	3:A:2197:PHE:HE1	1.55	0.72
3:A:4499:LYS:HA	3:A:4502:ARG:HH21	1.54	0.72
2:E:52:MET:HA	2:E:52:MET:HE3	1.70	0.72
1:D:113:CYS:HA	1:D:116:LEU:HB2	1.72	0.71
3:A:1858:LEU:HD11	3:A:2198:LEU:HB3	1.72	0.71
3:A:4591:LYS:HE3	3:A:4626:GLY:H	1.56	0.71
3:B:2975:LEU:HB2	3:B:2976:MET:HE2	1.72	0.71
2:F:52:MET:HA	2:F:52:MET:HE3	1.73	0.71
3:B:2025:ILE:HB	3:B:2037:PHE:HB2	1.73	0.71
3:B:2589:VAL:HG21	3:B:2670:CYS:HB2	1.73	0.71
3:B:2192:VAL:HG13	3:B:2197:PHE:HE1	1.56	0.70
3:B:3739:ILE:HD11	3:B:3825:ARG:HG2	1.71	0.70
3:A:2310:GLN:HE21	1:C:54:CYS:HB2	1.57	0.70
3:B:286:PRO:HB2	3:B:349:ILE:HD12	1.73	0.70
2:E:37:MET:HA	2:E:40:LEU:HG	1.74	0.70
3:A:1030:MET:SD	3:A:1096:ARG:NH1	2.64	0.70
3:B:816:LEU:HD22	3:B:880:VAL:HG11	1.73	0.70
3:A:3739:ILE:HD11	3:A:3825:ARG:HG2	1.72	0.69
3:B:1521:MET:HE3	3:B:1521:MET:H	1.54	0.69
3:B:2232:LEU:HB2	3:B:2240:ARG:HB2	1.74	0.69
3:B:802:GLU:OE1	3:B:802:GLU:N	2.20	0.69
3:B:1707:ALA:O	3:B:2353:ARG:NH2	2.25	0.69
3:B:4522:ARG:HH21	3:B:4568:ILE:HD11	1.57	0.69
3:A:64:LEU:HD12	3:A:113:LEU:HD21	1.74	0.69
3:B:2110:GLY:HA2	3:B:2126:TYR:HA	1.73	0.69
3:B:3229:ASP:OD2	3:B:3289:ASN:ND2	2.25	0.69
3:A:806:LEU:HD23	3:A:857:ARG:HD2	1.74	0.69
3:B:2972:MET:HB3	3:B:2976:MET:HE3	1.75	0.69
3:B:2969:ARG:O	3:B:2973:VAL:HG23	1.93	0.69
3:A:286:PRO:HB2	3:A:349:ILE:HD12	1.74	0.69
3:B:3555:ARG:HD3	3:B:3606:LYS:HD3	1.74	0.68
3:A:2589:VAL:HG21	3:A:2670:CYS:HB2	1.74	0.68
3:A:4558:VAL:O	3:A:4562:VAL:HG23	1.93	0.68
3:A:4596:MET:H	3:A:4596:MET:HE3	1.57	0.68
3:A:1707:ALA:O	3:A:2353:ARG:NH2	2.25	0.68
3:B:1244:ILE:HA	3:B:1293:ARG:HH22	1.59	0.68
3:B:4536:MET:SD	3:B:4566:MET:HE1	2.34	0.68
3:A:1244:ILE:HA	3:A:1293:ARG:HH22	1.59	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2025:ILE:HB	3:A:2037:PHE:HB2	1.76	0.68
3:A:913:GLU:OE1	3:A:913:GLU:N	2.25	0.67
3:A:2183:THR:HG23	3:A:2184:THR:HG23	1.76	0.67
3:A:4522:ARG:HH21	3:A:4568:ILE:HD11	1.59	0.67
3:B:806:LEU:HD23	3:B:857:ARG:HD2	1.75	0.67
3:B:4558:VAL:O	3:B:4562:VAL:HG23	1.94	0.67
3:A:4536:MET:SD	3:A:4566:MET:HE1	2.33	0.67
2:F:55:GLU:OE2	2:F:75:ARG:NH2	2.26	0.67
3:A:2530:ALA:O	3:A:2536:ARG:NH2	2.27	0.67
3:A:3909:LEU:HD12	3:A:3925:VAL:HG23	1.77	0.67
3:A:4536:MET:HG3	3:A:4565:ILE:HD11	1.77	0.67
3:A:326:LEU:O	3:A:330:THR:HG23	1.95	0.67
1:C:303:GLU:OE1	1:C:307:GLN:NE2	2.28	0.67
3:B:1900:CYS:SG	3:B:1959:GLY:N	2.66	0.67
3:A:1900:CYS:SG	3:A:1959:GLY:N	2.66	0.67
3:B:3909:LEU:HD12	3:B:3925:VAL:HG23	1.76	0.67
3:A:990:ASN:HD21	3:A:1276:GLN:HB2	1.59	0.67
3:B:2183:THR:HG23	3:B:2184:THR:HG23	1.77	0.67
3:B:3057:ARG:HH21	3:B:3139:PHE:HA	1.60	0.66
1:D:20:ARG:NH2	1:D:38:GLU:OE2	2.27	0.66
3:A:4695:MET:HE1	3:A:4722:ILE:HD13	1.77	0.66
3:A:2476:GLU:O	3:A:2480:VAL:HG23	1.96	0.66
3:B:4093:ARG:O	3:B:4097:LEU:HD12	1.95	0.66
3:A:2375:MET:SD	3:A:2375:MET:N	2.69	0.66
3:B:326:LEU:O	3:B:330:THR:HG23	1.95	0.66
3:B:2149:ILE:HG12	3:B:2197:PHE:HE2	1.60	0.66
3:A:236:LYS:O	3:A:240:ILE:HG13	1.96	0.66
3:A:802:GLU:OE1	3:A:802:GLU:N	2.21	0.66
3:A:816:LEU:HD22	3:A:880:VAL:HG11	1.77	0.66
3:A:2110:GLY:HA2	3:A:2126:TYR:HA	1.76	0.66
3:A:3229:ASP:OD2	3:A:3289:ASN:ND2	2.25	0.66
1:D:110:CYS:HB2	1:D:128:PHE:CE1	2.31	0.65
1:D:301:MET:HG2	1:D:305:GLU:HG3	1.77	0.65
3:A:1667:THR:HG22	3:A:1672:MET:HG2	1.77	0.65
1:D:330:ARG:HB3	3:B:4122:LYS:NZ	2.11	0.65
3:B:1667:THR:HG22	3:B:1672:MET:HG2	1.77	0.65
1:C:24:CYS:SG	1:C:46:HIS:HE1	2.19	0.65
3:B:708:ALA:O	3:B:712:HIS:ND1	2.30	0.65
2:E:124:GLU:HA	2:E:127:ARG:HE	1.61	0.65
3:A:127:LYS:HD2	3:A:304:ILE:HD11	1.79	0.65
3:B:1996:LEU:HD11	3:B:2002:ILE:HG13	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:4536:MET:HG3	3:B:4565:ILE:HD11	1.79	0.65
3:B:4588:THR:HB	3:B:4623:LEU:HD23	1.77	0.65
3:A:4093:ARG:O	3:A:4097:LEU:HD12	1.96	0.65
3:B:2375:MET:N	3:B:2375:MET:SD	2.70	0.65
3:B:1484:VAL:O	3:B:1488:ASN:ND2	2.30	0.65
2:E:34:GLY:O	2:E:38:ARG:CB	2.43	0.65
3:A:73:PHE:HA	3:A:154:MET:HE1	1.78	0.65
3:A:1178:LEU:HD11	3:A:1199:ALA:HB2	1.78	0.65
3:B:1125:ASP:OD2	3:B:1269:HIS:NE2	2.29	0.65
3:A:2978:LEU:HG	3:A:3006:LEU:HD12	1.78	0.65
3:A:1125:ASP:OD2	3:A:1269:HIS:NE2	2.28	0.64
3:A:2048:ASP:HB3	3:A:2113:VAL:HG12	1.79	0.64
3:A:2583:MET:SD	3:A:2584:ARG:NH1	2.70	0.64
3:A:3857:ARG:HH21	3:A:3862:LEU:HD13	1.60	0.64
1:C:27:CYS:SG	1:C:50:HIS:HE1	2.17	0.64
3:B:2010:GLY:O	3:B:2639:ASN:ND2	2.30	0.64
3:B:4591:LYS:HE3	3:B:4626:GLY:H	1.61	0.64
3:A:1446:LEU:HD23	3:A:1449:LEU:HD21	1.80	0.64
3:A:3007:THR:HB	3:A:3010:LEU:HD22	1.80	0.64
3:B:52:LEU:O	3:B:56:VAL:HG23	1.98	0.64
3:B:3662:ARG:HD2	3:B:3679:GLU:HG3	1.80	0.64
3:B:4353:LEU:HD22	3:B:4390:ILE:HD11	1.80	0.64
3:A:2214:MET:HE1	3:A:2232:LEU:HG	1.78	0.64
3:A:4353:LEU:HD22	3:A:4390:ILE:HD11	1.79	0.64
3:B:1389:GLU:O	3:B:1394:ARG:NH2	2.30	0.64
3:B:2368:ILE:HD12	3:B:2403:LEU:HD11	1.80	0.64
3:B:2530:ALA:O	3:B:2536:ARG:NH2	2.31	0.64
3:B:3556:TYR:HD2	3:B:3704:GLY:HA3	1.62	0.64
3:A:2484:GLU:HA	3:A:2487:GLU:HG2	1.78	0.64
3:B:3660:CYS:HB3	3:B:3665:ALA:H	1.63	0.64
3:B:53:VAL:O	3:B:57:ILE:HG13	1.98	0.64
3:B:3014:ASP:HB3	3:B:3017:ASP:HB3	1.79	0.64
3:A:4588:THR:HB	3:A:4623:LEU:HD23	1.80	0.64
3:B:236:LYS:O	3:B:240:ILE:HG13	1.98	0.64
3:A:691:LYS:NZ	3:A:734:GLN:O	2.28	0.64
3:A:3660:CYS:HB3	3:A:3665:ALA:H	1.64	0.63
3:B:514:GLN:OE1	3:B:514:GLN:N	2.31	0.63
3:B:1438:THR:HA	3:B:1446:LEU:HD13	1.80	0.63
3:A:3556:TYR:HD2	3:A:3704:GLY:HA3	1.62	0.63
2:E:38:ARG:HH22	3:A:4160:GLN:HB2	1.64	0.63
3:A:197:LEU:HD21	3:B:762:LEU:HB3	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:708:ALA:O	3:A:712:HIS:ND1	2.31	0.63
3:A:4350:PHE:HB3	3:A:4371:PRO:HB2	1.80	0.63
3:A:1030:MET:HE3	3:A:1030:MET:H	1.64	0.63
3:A:2232:LEU:HB2	3:A:2240:ARG:HB2	1.80	0.63
3:B:2987:GLN:OE1	3:B:2987:GLN:N	2.30	0.63
3:A:1351:TYR:O	3:A:1355:ILE:HG13	1.99	0.63
3:A:2149:ILE:HG12	3:A:2197:PHE:HE2	1.63	0.63
3:A:53:VAL:O	3:A:57:ILE:HG13	1.99	0.63
3:A:1384:LEU:HA	3:A:1387:GLN:HG3	1.81	0.63
3:A:3014:ASP:HB3	3:A:3017:ASP:HB3	1.81	0.63
1:C:20:ARG:NH2	1:C:38:GLU:OE2	2.32	0.63
3:A:2689:PRO:HB3	3:A:2995:ARG:HH12	1.63	0.63
3:B:1030:MET:SD	3:B:1096:ARG:NH1	2.71	0.63
3:B:4695:MET:HE1	3:B:4722:ILE:HD13	1.80	0.63
2:E:37:MET:HG2	2:E:42:GLN:NE2	2.14	0.63
2:F:124:GLU:HA	2:F:127:ARG:HE	1.62	0.63
3:A:1031:SER:H	3:A:1034:ASP:HB2	1.64	0.63
3:A:1438:THR:HA	3:A:1446:LEU:HD13	1.80	0.63
3:A:3158:GLN:OE1	3:A:3158:GLN:N	2.26	0.63
3:A:52:LEU:O	3:A:56:VAL:HG23	1.99	0.63
3:A:809:GLU:HB3	3:A:884:LEU:HD11	1.80	0.63
3:A:3662:ARG:HD2	3:A:3679:GLU:HG3	1.80	0.63
3:A:4488:MET:HB2	3:A:4508:LEU:HD11	1.80	0.63
3:B:84:TYR:O	3:B:87:THR:OG1	2.17	0.62
3:B:2689:PRO:HB3	3:B:2995:ARG:HH12	1.64	0.62
3:B:3034:MET:HE1	3:B:3097:TYR:HB2	1.80	0.62
3:B:3089:LEU:HD12	3:B:3094:ALA:HB2	1.81	0.62
3:B:4350:PHE:HB3	3:B:4371:PRO:HB2	1.80	0.62
3:A:2111:VAL:HG21	3:A:2163:ALA:HB1	1.81	0.62
3:A:3018:LYS:HA	3:A:3021:LEU:HD12	1.81	0.62
3:A:4255:LYS:HZ2	3:A:4255:LYS:HB3	1.64	0.62
3:B:2971:HIS:CE1	3:B:2975:LEU:HD21	2.33	0.62
3:B:2320:ARG:HE	3:B:2328:VAL:HG22	1.65	0.62
3:B:1317:LEU:HD12	3:B:1323:THR:HG21	1.79	0.62
2:E:30:THR:HG22	2:E:33:LEU:HD12	1.79	0.62
3:B:809:GLU:HB3	3:B:884:LEU:HD11	1.82	0.62
3:A:765:GLN:HE22	3:A:817:ILE:HG23	1.65	0.62
3:A:1222:LEU:O	3:A:1227:GLN:NE2	2.33	0.62
3:A:3501:ASN:HB3	3:A:3912:TYR:CD2	2.35	0.62
3:B:73:PHE:CE2	3:B:161:PRO:HD3	2.34	0.62
3:B:293:THR:HG23	3:B:296:ARG:HH21	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:3267:ASP:N	3:B:3267:ASP:OD1	2.33	0.62
3:B:765:GLN:HE22	3:B:817:ILE:HG23	1.65	0.62
3:B:3509:ASN:OD1	3:B:3757:ARG:NH2	2.32	0.62
3:A:742:GLU:OE1	3:A:742:GLU:N	2.33	0.62
3:A:3136:MET:HB2	3:A:3145:VAL:HG21	1.82	0.62
3:A:4378:GLY:HA3	3:A:4389:LYS:HD3	1.81	0.62
3:B:1996:LEU:HD21	3:B:2019:THR:HG21	1.80	0.62
3:B:2111:VAL:HG21	3:B:2163:ALA:HB1	1.81	0.62
3:B:3025:LEU:HD11	3:B:3085:THR:HG22	1.80	0.62
3:A:1853:GLU:N	3:A:1853:GLU:OE1	2.33	0.62
3:A:4479:MET:HE3	3:A:4479:MET:H	1.63	0.62
3:B:1178:LEU:HD11	3:B:1199:ALA:HB2	1.82	0.62
3:B:2476:GLU:O	3:B:2480:VAL:HG23	2.00	0.62
3:B:3501:ASN:HB3	3:B:3912:TYR:CD2	2.34	0.62
3:A:845:ASP:N	3:A:845:ASP:OD1	2.30	0.61
3:A:2982:LEU:HB3	3:A:3027:GLN:HE22	1.65	0.61
3:A:3982:GLU:OE1	1:C:316:ARG:NH1	2.33	0.61
3:B:2048:ASP:HB3	3:B:2113:VAL:HG12	1.80	0.61
3:B:2063:ILE:HG23	3:B:2071:TYR:HB2	1.82	0.61
3:B:1446:LEU:HD23	3:B:1449:LEU:HD21	1.80	0.61
3:B:2970:LEU:O	3:B:2974:ARG:HG3	2.00	0.61
3:A:857:ARG:NH2	3:A:931:ARG:O	2.33	0.61
3:B:4378:GLY:HA3	3:B:4389:LYS:HD3	1.81	0.61
3:A:981:ASP:OD1	3:A:981:ASP:N	2.33	0.61
1:C:301:MET:HG2	1:C:305:GLU:HG3	1.82	0.61
3:B:82:THR:O	3:B:86:THR:HG23	2.00	0.61
3:A:82:THR:O	3:A:86:THR:HG23	2.00	0.61
3:A:1317:LEU:HD12	3:A:1323:THR:HG21	1.82	0.61
3:B:1306:ASN:OD1	3:B:1308:PRO:HD2	2.01	0.61
3:B:4510:LYS:O	3:B:4514:TYR:HD1	1.83	0.61
3:A:84:TYR:O	3:A:87:THR:OG1	2.19	0.61
3:A:399:GLY:HA3	3:B:399:GLY:HA3	1.83	0.61
3:A:3267:ASP:N	3:A:3267:ASP:OD1	2.32	0.61
3:B:691:LYS:NZ	3:B:734:GLN:O	2.29	0.61
3:A:1306:ASN:OD1	3:A:1308:PRO:HD2	2.01	0.61
3:A:3575:THR:HG22	3:A:3628:LYS:HD3	1.83	0.61
3:A:4387:LYS:NZ	3:A:4403:ASP:OD1	2.32	0.61
3:B:1832:VAL:O	3:B:1837:ARG:NH2	2.34	0.61
2:F:5:LEU:HB3	2:F:10:ILE:HD11	1.83	0.60
3:B:857:ARG:NH2	3:B:931:ARG:O	2.34	0.60
3:B:1853:GLU:OE1	3:B:1853:GLU:N	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:2216:ALA:HB2	3:B:2230:MET:HE3	1.81	0.60
2:E:38:ARG:NH2	3:A:4160:GLN:HB2	2.16	0.60
3:A:2291:PHE:O	3:A:2295:ASN:ND2	2.33	0.60
3:A:2368:ILE:HD12	3:A:2403:LEU:HD11	1.82	0.60
3:B:1165:LEU:HG	3:B:1291:LEU:HD11	1.83	0.60
3:B:2014:GLU:OE1	3:B:2014:GLU:N	2.34	0.60
3:A:4031:SER:HB3	1:C:306:ARG:HG2	1.82	0.60
3:B:1308:PRO:HA	3:B:1311:ILE:HG12	1.82	0.60
3:A:2998:PRO:HA	3:A:3001:GLN:HB2	1.83	0.60
3:A:3509:ASN:OD1	3:A:3757:ARG:NH2	2.32	0.60
3:B:913:GLU:H	3:B:913:GLU:CD	2.09	0.60
3:B:1222:LEU:O	3:B:1227:GLN:NE2	2.34	0.60
3:B:1560:ALA:HA	3:B:1563:TRP:HB2	1.82	0.60
3:A:1165:LEU:HG	3:A:1291:LEU:HD11	1.82	0.60
3:B:2521:VAL:HG23	3:B:2522:GLN:OE1	2.01	0.60
1:D:82:TYR:OH	1:D:128:PHE:HB3	2.01	0.60
3:A:3888:ARG:HG3	3:A:3928:LEU:HB2	1.84	0.60
3:A:683:MET:HE3	3:A:727:LEU:HB3	1.84	0.60
3:A:1475:PRO:HG2	3:A:1482:LEU:HD23	1.83	0.60
3:A:3000:MET:HA	3:A:3003:ILE:HG13	1.82	0.60
3:A:4353:LEU:O	3:A:4370:ASN:ND2	2.29	0.60
3:A:1308:PRO:HA	3:A:1311:ILE:HG12	1.84	0.60
3:A:2063:ILE:HG23	3:A:2071:TYR:HB2	1.84	0.60
3:A:2308:LEU:HD23	3:A:2330:ASN:HD22	1.67	0.60
3:A:3583:ARG:NE	3:A:3583:ARG:O	2.34	0.60
3:B:2997:ILE:H	3:B:2997:ILE:HD12	1.66	0.60
3:B:3575:THR:HG22	3:B:3628:LYS:HD3	1.84	0.60
2:E:33:LEU:HD23	2:E:37:MET:HE1	1.84	0.60
3:B:1411:MET:HB3	3:B:1431:PHE:CZ	2.37	0.60
3:A:191:MET:HA	3:A:191:MET:HE3	1.83	0.59
3:A:1832:VAL:O	3:A:1837:ARG:NH2	2.35	0.59
3:A:1924:LEU:HD21	3:A:1942:LEU:HD13	1.83	0.59
3:B:845:ASP:OD1	3:B:845:ASP:N	2.33	0.59
3:B:4679:LYS:NZ	3:B:4731:ILE:O	2.35	0.59
2:E:5:LEU:HB3	2:E:10:ILE:HD11	1.84	0.59
3:A:2978:LEU:HD23	3:A:2981:LEU:HD21	1.84	0.59
3:B:4312:VAL:O	3:B:4316:THR:HG23	2.02	0.59
3:A:160:LEU:HD21	3:A:167:LEU:HG	1.85	0.59
3:A:293:THR:HG23	3:A:296:ARG:HH21	1.67	0.59
3:A:1427:VAL:O	3:A:1430:PHE:HB3	2.03	0.59
3:B:138:THR:OG1	3:B:142:ARG:NH2	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:981:ASP:N	3:B:981:ASP:OD1	2.34	0.59
3:A:2661:VAL:HG23	3:A:2682:TYR:HE1	1.68	0.59
3:B:284:ILE:HG22	3:B:286:PRO:HD3	1.84	0.59
3:B:3560:GLN:HE21	3:B:3643:GLU:HG3	1.68	0.59
3:B:2312:TYR:HB3	3:B:2320:ARG:HH12	1.67	0.59
3:B:3050:GLU:HG2	3:B:3153:PHE:CD2	2.38	0.59
3:B:3580:ASP:HB3	3:B:3710:ARG:HD3	1.84	0.59
1:D:38:GLU:HG2	3:B:2332:LYS:HE3	1.85	0.59
3:A:2487:GLU:OE1	3:A:2528:LEU:HB2	2.01	0.59
3:A:3580:ASP:HB3	3:A:3710:ARG:HD3	1.83	0.59
1:D:306:ARG:HG2	3:B:4031:SER:HB3	1.85	0.59
3:A:849:ARG:NH1	3:A:982:THR:OG1	2.36	0.59
3:B:3225:ARG:NH2	3:B:3229:ASP:OD1	2.36	0.59
3:B:4247:SER:HA	3:B:4250:GLU:OE2	2.02	0.59
1:D:316:ARG:NH1	3:B:3982:GLU:OE1	2.36	0.59
3:A:319:GLU:H	3:A:319:GLU:CD	2.11	0.59
3:A:1214:LEU:H	3:A:1214:LEU:HD12	1.67	0.59
3:A:1536:GLU:OE1	3:A:1536:GLU:N	2.34	0.59
3:A:2214:MET:HE3	3:A:2215:VAL:H	1.68	0.59
3:A:2997:ILE:H	3:A:2997:ILE:HD12	1.67	0.59
3:B:319:GLU:CD	3:B:319:GLU:H	2.11	0.59
3:A:284:ILE:HG22	3:A:286:PRO:HD3	1.85	0.59
3:A:4522:ARG:HB2	3:A:4572:GLU:HG2	1.85	0.59
3:B:1706:TYR:N	3:B:2386:ASP:OD2	2.28	0.59
3:B:3583:ARG:NE	3:B:3583:ARG:O	2.34	0.59
3:A:62:GLU:O	3:A:66:HIS:NE2	2.36	0.58
3:A:1590:VAL:HA	3:A:1593:LEU:HG	1.85	0.58
3:A:3089:LEU:HD12	3:A:3094:ALA:HB2	1.83	0.58
3:A:3959:TRP:NE1	3:B:3912:TYR:OH	2.28	0.58
3:A:4312:VAL:O	3:A:4316:THR:HG23	2.02	0.58
3:B:1485:ILE:HA	3:B:1488:ASN:HD22	1.69	0.58
3:B:3888:ARG:HG3	3:B:3928:LEU:HB2	1.85	0.58
3:B:4351:VAL:HA	3:B:4438:MET:HB3	1.84	0.58
3:B:1308:PRO:HB2	3:B:1312:ARG:NH1	2.18	0.58
3:B:2291:PHE:O	3:B:2295:ASN:ND2	2.34	0.58
3:B:4479:MET:HE3	3:B:4479:MET:H	1.68	0.58
3:A:134:LYS:HZ1	3:A:311:ASP:HA	1.68	0.58
3:A:2317:ILE:HG12	3:A:2320:ARG:HH21	1.69	0.58
3:A:1521:MET:SD	3:A:1521:MET:N	2.75	0.58
3:A:2307:ASP:HB3	3:A:2336:PHE:HB2	1.86	0.58
3:B:86:THR:OG1	3:B:140:CYS:SG	2.61	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:1142:MET:HE3	3:B:1148:PRO:HA	1.86	0.58
3:B:2317:ILE:HG12	3:B:2320:ARG:HH22	1.68	0.58
3:B:2484:GLU:HA	3:B:2487:GLU:HG2	1.84	0.58
3:B:4255:LYS:HZ2	3:B:4255:LYS:HB3	1.69	0.58
3:A:73:PHE:CE2	3:A:161:PRO:HD3	2.39	0.58
3:A:762:LEU:HB3	3:B:197:LEU:HD21	1.85	0.58
3:A:4351:VAL:HA	3:A:4438:MET:HB3	1.84	0.58
3:B:4488:MET:O	3:B:4492:LEU:HD22	2.04	0.58
3:B:2308:LEU:HD23	3:B:2330:ASN:HD22	1.68	0.58
3:B:2583:MET:SD	3:B:2584:ARG:NH1	2.76	0.58
3:B:4206:LEU:HD13	3:B:4262:LEU:HD11	1.84	0.58
2:F:49:LEU:O	2:F:53:ILE:HG23	2.04	0.58
3:A:1996:LEU:HD11	3:A:2002:ILE:HG13	1.85	0.58
3:B:1118:LEU:HA	3:B:1121:ILE:HD12	1.86	0.58
3:B:1427:VAL:HG22	3:B:1431:PHE:CE2	2.38	0.58
3:B:1541:MET:HA	3:B:1544:LEU:HB2	1.85	0.58
3:B:4198:VAL:HG12	3:B:4254:ILE:HD11	1.84	0.58
3:A:1541:MET:HA	3:A:1544:LEU:HB2	1.86	0.57
3:A:3225:ARG:NH2	3:A:3229:ASP:OD1	2.37	0.57
3:B:542:TYR:HD2	3:B:689:ILE:HD12	1.69	0.57
3:B:959:LYS:NZ	3:B:960:LEU:H	2.02	0.57
3:A:3388:GLU:OE1	3:A:3388:GLU:N	2.34	0.57
3:A:3818:ILE:HD12	3:B:4230:THR:HG21	1.85	0.57
3:A:4321:ASN:O	3:A:4491:ARG:NH1	2.35	0.57
3:A:3560:GLN:HE21	3:A:3643:GLU:HG3	1.69	0.57
3:A:4247:SER:HA	3:A:4250:GLU:OE2	2.03	0.57
3:B:474:VAL:HG11	3:B:646:LEU:HG	1.87	0.57
3:B:4522:ARG:HB2	3:B:4572:GLU:HG2	1.87	0.57
3:A:3025:LEU:HD11	3:A:3085:THR:HG22	1.86	0.57
3:A:3560:GLN:HB3	3:A:3641:MET:HE1	1.85	0.57
3:A:4656:LYS:HD2	3:A:4657:VAL:N	2.18	0.57
3:A:4679:LYS:NZ	3:A:4731:ILE:O	2.38	0.57
3:B:2214:MET:SD	3:B:2232:LEU:HG	2.44	0.57
2:E:77:MET:SD	2:E:77:MET:N	2.76	0.57
3:A:1538:MET:HE3	3:A:1598:HIS:HB3	1.87	0.57
3:A:1600:MET:HE3	3:A:1600:MET:H	1.69	0.57
3:B:1475:PRO:HG2	3:B:1482:LEU:HD23	1.85	0.57
3:B:1214:LEU:H	3:B:1214:LEU:HD12	1.69	0.57
3:B:1858:LEU:HD23	3:B:2248:ASN:HB3	1.86	0.57
3:B:4699:ILE:HD13	3:B:4747:ASN:HB3	1.87	0.57
3:A:189:VAL:HG11	3:B:874:VAL:HG13	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1118:LEU:HA	3:A:1121:ILE:HD12	1.87	0.57
3:A:4310:MET:O	3:A:4314:ILE:HG12	2.05	0.57
3:A:4408:LEU:HD13	3:A:4440:ILE:HG21	1.87	0.57
3:B:160:LEU:HD21	3:B:167:LEU:HG	1.85	0.57
3:B:2487:GLU:OE1	3:B:2528:LEU:HB2	2.04	0.57
3:B:4310:MET:SD	3:B:4310:MET:N	2.77	0.57
3:B:1590:VAL:HA	3:B:1593:LEU:HG	1.86	0.56
3:A:795:LEU:HD12	3:A:840:LEU:HD13	1.87	0.56
3:A:921:HIS:CE1	3:A:1274:CYS:HB2	2.40	0.56
3:A:1244:ILE:HG12	3:A:1293:ARG:HH12	1.70	0.56
3:A:1706:TYR:N	3:A:2386:ASP:OD2	2.28	0.56
3:B:64:LEU:HD12	3:B:113:LEU:HD21	1.85	0.56
3:B:1671:PHE:C	3:B:1672:MET:HE2	2.30	0.56
3:B:2544:ASP:OD2	3:B:2584:ARG:NH2	2.38	0.56
2:F:77:MET:SD	2:F:77:MET:N	2.70	0.56
3:A:514:GLN:OE1	3:A:514:GLN:N	2.38	0.56
3:A:1064:LYS:NZ	3:A:1066:GLU:HB2	2.19	0.56
3:A:1899:MET:HG2	3:A:1914:VAL:HG12	1.86	0.56
3:A:2970:LEU:O	3:A:2974:ARG:HG3	2.06	0.56
3:A:4310:MET:N	3:A:4310:MET:SD	2.78	0.56
3:A:4527:LYS:HB2	3:A:4530:MET:HE1	1.87	0.56
3:A:4598:LEU:HD13	3:A:4637:ARG:HH22	1.69	0.56
3:B:234:LYS:HD2	3:B:235:THR:N	2.20	0.56
3:B:2181:GLN:HB2	3:B:2185:GLY:H	1.71	0.56
3:B:3095:VAL:HB	3:B:3190:TRP:HZ2	1.70	0.56
3:B:3961:ASN:ND2	3:B:3963:ASP:OD2	2.38	0.56
3:A:2181:GLN:HB2	3:A:2185:GLY:H	1.71	0.56
2:E:122:VAL:HA	2:E:125:MET:HG2	1.88	0.56
3:A:474:VAL:HG11	3:A:646:LEU:HG	1.86	0.56
3:A:1292:VAL:HG21	3:A:1326:VAL:HG13	1.87	0.56
3:A:1807:PHE:HA	3:A:1810:LEU:HD23	1.88	0.56
3:B:3107:GLU:HA	3:B:3110:LYS:HG2	1.87	0.56
2:E:49:LEU:O	2:E:53:ILE:HG13	2.06	0.56
2:E:56:VAL:HG11	2:E:68:GLU:HG3	1.87	0.56
3:A:4338:ILE:HB	3:A:4475:MET:HE1	1.88	0.56
3:A:4699:ILE:HD13	3:A:4747:ASN:HB3	1.87	0.56
3:B:921:HIS:CE1	3:B:1274:CYS:HB2	2.40	0.56
3:B:1476:PRO:HG2	3:B:1479:SER:HB3	1.87	0.56
3:B:4466:GLU:HA	3:B:4469:GLU:HB3	1.88	0.56
2:F:122:VAL:HA	2:F:125:MET:HG2	1.87	0.56
3:A:1308:PRO:HB2	3:A:1312:ARG:NH1	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2662:ASP:OD1	3:A:2663:ILE:N	2.39	0.56
3:B:1423:PHE:O	3:B:1427:VAL:HG12	2.06	0.56
3:B:4387:LYS:NZ	3:B:4403:ASP:OD1	2.32	0.56
3:A:2018:VAL:HG13	3:A:2023:VAL:HG22	1.86	0.56
3:B:429:LEU:HA	3:B:432:LYS:HG2	1.87	0.56
3:B:1819:MET:O	3:B:1819:MET:HE3	2.06	0.56
2:F:146:MET:HE3	3:B:4101:TYR:HD1	1.71	0.56
3:A:720:SER:O	3:A:722:LEU:HD22	2.05	0.56
3:A:1119:GLN:HA	3:A:1122:TYR:CZ	2.41	0.56
3:A:1428:LEU:HB3	3:A:1491:LEU:HD13	1.86	0.56
3:A:3107:GLU:HA	3:A:3110:LYS:HG2	1.88	0.56
3:B:720:SER:O	3:B:722:LEU:HD22	2.05	0.56
3:B:2698:LYS:O	3:B:2702:ILE:HG12	2.06	0.56
3:B:4518:VAL:HB	3:B:4521:ASN:HB3	1.87	0.56
3:A:1671:PHE:C	3:A:1672:MET:HE2	2.30	0.56
3:A:2676:ASN:OD1	3:A:2677:THR:N	2.39	0.56
3:A:4041:ALA:HA	3:A:4078:ARG:HH12	1.71	0.56
3:B:1119:GLN:HA	3:B:1122:TYR:CZ	2.41	0.55
3:B:4254:ILE:HD12	3:B:4254:ILE:H	1.72	0.55
3:B:4598:LEU:HD13	3:B:4637:ARG:HH22	1.70	0.55
2:E:55:GLU:OE2	2:E:75:ARG:NH2	2.37	0.55
3:A:992:THR:N	3:A:995:GLU:OE1	2.35	0.55
3:A:4466:GLU:HA	3:A:4469:GLU:HB3	1.87	0.55
3:A:4516:VAL:O	3:A:4522:ARG:NH2	2.39	0.55
3:A:4563:LEU:HD21	3:A:4615:GLY:HA3	1.87	0.55
3:A:4593:GLN:OE1	3:A:4593:GLN:N	2.23	0.55
3:B:3388:GLU:OE1	3:B:3388:GLU:N	2.35	0.55
2:E:65:ASP:OD2	2:E:67:PRO:HD2	2.06	0.55
2:E:132:ASP:OD1	2:E:132:ASP:N	2.39	0.55
3:A:533:LEU:O	3:A:537:LEU:HG	2.07	0.55
3:B:1915:SER:HB3	3:B:1957:LEU:HD11	1.88	0.55
3:A:1915:SER:HB3	3:A:1957:LEU:HD11	1.88	0.55
3:A:3095:VAL:HB	3:A:3190:TRP:HZ2	1.71	0.55
3:A:4596:MET:O	3:A:4600:GLN:HG2	2.06	0.55
3:B:2192:VAL:HG13	3:B:2197:PHE:CE1	2.41	0.55
3:B:1292:VAL:HG21	3:B:1326:VAL:HG13	1.89	0.55
3:B:2499:GLU:HA	3:B:2502:LYS:HD3	1.88	0.55
3:B:4216:GLU:OE2	3:B:4238:LEU:HD13	2.07	0.55
3:B:795:LEU:HD12	3:B:840:LEU:HD13	1.89	0.55
3:B:4353:LEU:O	3:B:4370:ASN:ND2	2.29	0.55
3:B:4596:MET:O	3:B:4600:GLN:HG2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:542:TYR:HD2	3:A:689:ILE:HD12	1.72	0.55
3:A:1357:GLY:O	3:A:1361:ILE:HG22	2.06	0.55
3:A:2499:GLU:HA	3:A:2502:LYS:HD3	1.89	0.55
3:A:4468:ASP:HB3	3:A:4471:GLU:HB3	1.89	0.55
3:A:2543:LYS:HE2	3:A:2547:LEU:HD12	1.89	0.55
3:B:2018:VAL:HG13	3:B:2023:VAL:HG22	1.87	0.55
3:B:2998:PRO:HA	3:B:3001:GLN:HB2	1.89	0.55
1:D:56:LEU:HD11	3:B:2311:VAL:HG13	1.88	0.55
3:B:655:LEU:O	3:B:659:THR:HG23	2.07	0.55
3:B:2676:ASN:OD1	3:B:2677:THR:N	2.40	0.55
3:B:3163:MET:HE1	3:B:3166:ARG:HH12	1.72	0.55
3:A:429:LEU:HA	3:A:432:LYS:HG2	1.87	0.55
3:A:655:LEU:O	3:A:659:THR:HG23	2.07	0.55
3:A:1896:ARG:NH1	3:A:2213:ASP:OD2	2.40	0.55
3:A:2521:VAL:HG23	3:A:2522:GLN:OE1	2.07	0.55
3:A:3144:TYR:O	3:A:3148:HIS:ND1	2.36	0.55
3:A:3556:TYR:CD2	3:A:3704:GLY:HA3	2.42	0.55
3:B:418:LEU:HD11	3:B:477:ALA:HA	1.89	0.55
3:B:4563:LEU:HD21	3:B:4615:GLY:HA3	1.89	0.55
3:B:1357:GLY:O	3:B:1361:ILE:HG23	2.07	0.54
3:B:1807:PHE:HA	3:B:1810:LEU:HD23	1.89	0.54
3:B:3560:GLN:HB3	3:B:3641:MET:HE1	1.89	0.54
3:B:4338:ILE:HB	3:B:4475:MET:HE1	1.89	0.54
3:A:2990:ASN:OD1	3:A:2990:ASN:N	2.40	0.54
3:B:533:LEU:O	3:B:537:LEU:HG	2.07	0.54
3:B:2662:ASP:OD1	3:B:2663:ILE:N	2.40	0.54
3:B:4195:HIS:HA	3:B:4198:VAL:HG22	1.90	0.54
3:B:4273:LEU:HA	3:B:4276:LEU:HD23	1.88	0.54
3:B:4527:LYS:HB2	3:B:4530:MET:HE1	1.88	0.54
3:A:2027:ASP:OD2	3:A:2027:ASP:N	2.39	0.54
3:A:3669:ALA:O	3:A:3682:TYR:OH	2.24	0.54
3:B:2978:LEU:HG	3:B:3006:LEU:HD12	1.88	0.54
3:B:3000:MET:HB2	3:B:3058:LEU:HD13	1.87	0.54
3:A:3023:ASN:O	3:A:3027:GLN:HG3	2.07	0.54
1:C:312:GLU:HG3	1:C:316:ARG:HD2	1.90	0.54
3:B:1521:MET:H	3:B:1521:MET:CE	2.21	0.54
3:B:2976:MET:O	3:B:2980:ARG:HG2	2.06	0.54
3:B:3313:GLU:OE1	3:B:3313:GLU:N	2.21	0.54
3:B:4593:GLN:OE1	3:B:4593:GLN:N	2.28	0.54
3:A:1973:LYS:HD3	3:A:1996:LEU:HD13	1.89	0.54
3:A:4239:LYS:NZ	3:A:4290:MET:SD	2.80	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:1558:ASN:O	3:B:1561:VAL:HB	2.08	0.54
1:D:63:LEU:HD11	3:B:2414:VAL:HG11	1.89	0.54
3:A:1678:HIS:N	3:A:1705:SER:O	2.36	0.54
3:A:2637:PRO:HD3	3:A:2648:PRO:HG2	1.90	0.54
3:A:3050:GLU:HG2	3:A:3153:PHE:CD2	2.42	0.54
3:B:1408:VAL:O	3:B:1411:MET:HG3	2.08	0.54
3:B:1678:HIS:N	3:B:1705:SER:O	2.36	0.54
3:B:2474:VAL:HG23	3:B:2475:LEU:HD12	1.89	0.54
3:B:4509:LEU:HD13	3:B:4561:GLN:OE1	2.07	0.54
3:A:1495:LEU:O	3:A:1499:ILE:HG12	2.08	0.54
3:A:3905:LEU:HD23	3:A:3932:LEU:HD11	1.90	0.54
3:A:4352:THR:N	3:A:4438:MET:O	2.35	0.54
3:B:1859:MET:HB3	3:B:2200:GLN:NE2	2.22	0.54
3:B:2135:THR:O	3:B:2144:LEU:N	2.40	0.54
3:B:4408:LEU:HD13	3:B:4440:ILE:HG21	1.90	0.54
3:B:4532:THR:HG22	3:B:4536:MET:HE3	1.90	0.54
2:F:33:LEU:HD13	2:F:53:ILE:HG22	1.90	0.54
3:A:1476:PRO:HG2	3:A:1479:SER:HB3	1.89	0.54
3:A:4273:LEU:HA	3:A:4276:LEU:HD23	1.89	0.54
3:B:659:THR:HA	3:B:663:LEU:HD12	1.90	0.54
3:B:1244:ILE:HG12	3:B:1293:ARG:HH12	1.73	0.54
3:B:3669:ALA:O	3:B:3682:TYR:OH	2.23	0.54
3:A:1924:LEU:HD12	3:A:1925:GLN:N	2.23	0.54
3:B:1899:MET:HG2	3:B:1914:VAL:HG12	1.88	0.54
3:B:3556:TYR:CD2	3:B:3704:GLY:HA3	2.42	0.54
3:A:145:ARG:O	3:A:149:ILE:HG12	2.07	0.53
3:A:2972:MET:O	3:A:2976:MET:HG2	2.07	0.53
3:A:4024:ILE:HD13	1:C:320:VAL:HG13	1.91	0.53
3:B:373:ASP:O	3:B:377:ILE:HG22	2.07	0.53
3:B:3680:ASN:OD1	3:B:3681:VAL:N	2.41	0.53
3:B:3905:LEU:HD23	3:B:3932:LEU:HD11	1.91	0.53
1:D:17:PHE:CE1	1:D:33:CYS:HB2	2.43	0.53
1:D:57:THR:O	1:D:61:PHE:N	2.40	0.53
3:A:1858:LEU:HD23	3:A:2248:ASN:HB3	1.90	0.53
3:B:3045:ARG:HG3	3:B:3050:GLU:OE2	2.08	0.53
3:B:4517:LYS:HA	3:B:4522:ARG:HH22	1.73	0.53
3:A:1384:LEU:HD11	3:A:1430:PHE:CE2	2.43	0.53
3:A:2131:SER:HB2	3:A:2149:ILE:HB	1.91	0.53
3:A:2135:THR:O	3:A:2144:LEU:N	2.40	0.53
3:A:3680:ASN:OD1	3:A:3681:VAL:N	2.41	0.53
3:A:4324:ASP:OD1	3:A:4324:ASP:N	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:4468:ASP:O	3:A:4470:GLU:N	2.42	0.53
3:B:2307:ASP:HB3	3:B:2336:PHE:HB2	1.88	0.53
3:A:1487:GLU:O	3:A:1491:LEU:HG	2.08	0.53
3:B:992:THR:N	3:B:995:GLU:OE1	2.36	0.53
3:B:1351:TYR:O	3:B:1355:ILE:HG13	2.08	0.53
3:B:1564:LEU:HD21	3:B:1807:PHE:HE2	1.72	0.53
3:B:3007:THR:HG22	3:B:3010:LEU:HD22	1.90	0.53
3:A:1160:PRO:O	3:A:1164:GLN:HG2	2.09	0.53
3:A:3597:ARG:O	3:A:3639:ASN:ND2	2.41	0.53
3:A:3961:ASN:ND2	3:A:3963:ASP:OD2	2.41	0.53
3:A:4737:GLN:NE2	3:A:4773:GLU:OE1	2.41	0.53
3:B:134:LYS:HZ1	3:B:311:ASP:HA	1.72	0.53
3:B:1538:MET:O	3:B:1542:ALA:HB3	2.09	0.53
3:B:1877:TYR:O	3:B:1886:ARG:NH2	2.42	0.53
3:A:4100:LYS:HZ3	3:A:4104:ARG:NH2	2.06	0.53
3:A:4596:MET:HA	3:A:4599:ASP:OD1	2.09	0.53
3:B:145:ARG:O	3:B:149:ILE:HG12	2.09	0.53
3:B:2070:ILE:HB	3:B:2092:LEU:HB2	1.90	0.53
3:B:2290:ASP:OD2	3:B:2294:HIS:NE2	2.41	0.53
3:B:2511:LEU:O	3:B:2515:LEU:HD12	2.09	0.53
3:A:3005:MET:HA	3:A:3008:THR:HG23	1.89	0.53
3:B:2335:GLY:CA	3:B:2405:ILE:O	2.57	0.53
1:D:137:ARG:NH1	1:D:138:ALA:H	2.07	0.53
3:A:2529:LEU:HG	3:A:2539:TYR:CD1	2.43	0.53
3:A:2580:ILE:HG22	3:A:2588:LEU:HB2	1.91	0.53
3:B:1874:ARG:HA	3:B:2212:GLN:HE22	1.73	0.53
3:B:2121:MET:SD	3:B:2122:LEU:N	2.82	0.53
3:A:2070:ILE:HB	3:A:2092:LEU:HB2	1.90	0.53
1:D:322:GLU:OE2	3:B:4158:ARG:NH2	2.32	0.53
3:A:1387:GLN:HE22	3:A:1397:MET:HG2	1.74	0.53
3:A:4638:PHE:HA	3:A:4658:PHE:CZ	2.43	0.53
3:B:1859:MET:HE2	3:B:1859:MET:HA	1.91	0.53
3:B:4041:ALA:HA	3:B:4078:ARG:HH12	1.73	0.53
3:B:4468:ASP:HB3	3:B:4471:GLU:HB3	1.90	0.53
1:D:25:LEU:O	1:D:109:ILE:N	2.29	0.52
3:A:1874:ARG:HA	3:A:2212:GLN:HE22	1.73	0.52
3:A:2313:ASN:O	3:A:2317:ILE:HG13	2.09	0.52
3:A:2538:ALA:O	3:A:2542:HIS:ND1	2.42	0.52
3:A:3101:VAL:HG11	3:A:3164:VAL:HG21	1.91	0.52
3:A:4216:GLU:OE2	3:A:4238:LEU:HD13	2.08	0.52
3:B:2131:SER:HB2	3:B:2149:ILE:HB	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:3050:GLU:HG2	3:B:3153:PHE:HD2	1.73	0.52
3:B:3921:MET:O	3:B:3925:VAL:HG12	2.09	0.52
3:B:4252:GLU:N	3:B:4252:GLU:OE1	2.41	0.52
3:A:1345:GLU:OE2	3:A:1349:ARG:NH1	2.42	0.52
3:B:4468:ASP:O	3:B:4470:GLU:N	2.42	0.52
1:D:94:GLN:HA	1:D:132:LEU:HD13	1.91	0.52
3:A:281:SER:OG	3:A:282:PHE:N	2.42	0.52
3:A:418:LEU:HD11	3:A:477:ALA:HA	1.91	0.52
3:A:1861:PRO:HB3	3:A:2242:TYR:CZ	2.45	0.52
3:A:2511:LEU:O	3:A:2515:LEU:HD12	2.09	0.52
3:B:4691:ALA:O	3:B:4695:MET:HG2	2.09	0.52
3:A:2976:MET:O	3:A:2980:ARG:HG2	2.10	0.52
3:B:913:GLU:OE1	3:B:913:GLU:N	2.31	0.52
3:B:1318:LEU:HA	3:B:1327:ALA:HB1	1.90	0.52
3:B:1600:MET:SD	3:B:2481:SER:HB2	2.49	0.52
3:B:4737:GLN:NE2	3:B:4773:GLU:OE1	2.42	0.52
3:A:1158:LEU:HB3	3:A:1298:LEU:HD21	1.91	0.52
3:A:1610:LEU:HD21	3:A:2492:VAL:HG13	1.91	0.52
3:A:1859:MET:HB3	3:A:2200:GLN:NE2	2.24	0.52
3:A:3921:MET:O	3:A:3925:VAL:HG12	2.09	0.52
3:B:1309:GLN:H	3:B:1309:GLN:CD	2.17	0.52
3:B:2637:PRO:HD3	3:B:2648:PRO:HG2	1.91	0.52
2:F:5:LEU:HD21	2:F:13:PHE:HE2	1.74	0.52
2:F:17:PHE:HE1	2:F:28:ILE:HG12	1.74	0.52
3:A:1124:LEU:O	3:A:1128:ILE:HG12	2.09	0.52
3:A:1318:LEU:HA	3:A:1327:ALA:HB1	1.91	0.52
3:A:1538:MET:O	3:A:1542:ALA:HB3	2.09	0.52
3:A:1564:LEU:HD21	3:A:1807:PHE:HE2	1.75	0.52
3:A:1859:MET:HA	3:A:1859:MET:HE2	1.91	0.52
3:A:2335:GLY:CA	3:A:2405:ILE:O	2.58	0.52
3:A:4166:LEU:O	3:A:4183:TYR:OH	2.27	0.52
3:B:532:ASN:O	3:B:536:THR:OG1	2.27	0.52
3:B:2980:ARG:HA	3:B:2980:ARG:NH1	2.24	0.52
3:A:51:GLN:OE1	3:A:51:GLN:N	2.38	0.52
3:A:1015:PRO:HG3	3:A:1041:TRP:HE1	1.74	0.52
3:A:1408:VAL:O	3:A:1411:MET:HG3	2.09	0.52
3:A:1446:LEU:HA	3:A:1449:LEU:HG	1.91	0.52
3:A:1888:LEU:HD12	3:A:1893:VAL:HB	1.92	0.52
3:A:2327:TYR:OH	1:C:63:LEU:O	2.26	0.52
3:A:3000:MET:HB2	3:A:3058:LEU:HD13	1.91	0.52
3:B:2181:GLN:NE2	3:B:2186:VAL:O	2.33	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:4516:VAL:O	3:B:4522:ARG:NH2	2.42	0.52
2:E:59:ASP:OD1	2:E:59:ASP:N	2.41	0.52
3:A:2317:ILE:HA	3:A:2320:ARG:HH21	1.75	0.52
3:A:2356:ILE:HG22	3:A:2417:ILE:HA	1.92	0.52
3:A:4230:THR:HG21	3:B:3818:ILE:HD12	1.91	0.52
3:B:281:SER:OG	3:B:282:PHE:N	2.42	0.52
3:B:4613:LEU:HD12	3:B:4614:GLN:N	2.25	0.52
3:A:1381:LEU:HD13	3:A:1426:ARG:HG3	1.91	0.52
3:A:1877:TYR:O	3:A:1886:ARG:NH2	2.42	0.52
3:A:2117:HIS:O	3:A:2120:GLN:NE2	2.43	0.52
3:A:2544:ASP:OD2	3:A:2584:ARG:NH2	2.43	0.52
1:C:120:ASP:HB3	1:C:123:HIS:HB2	1.92	0.52
3:B:2979:GLU:HA	3:B:2982:LEU:HD12	1.92	0.52
3:B:3593:TYR:OH	3:B:3643:GLU:OE1	2.27	0.52
3:B:4314:ILE:O	3:B:4318:LYS:HG2	2.10	0.52
3:B:4321:ASN:O	3:B:4491:ARG:NH1	2.39	0.52
2:E:12:GLU:OE1	2:E:40:LEU:HD22	2.10	0.52
3:A:2192:VAL:HG13	3:A:2197:PHE:CE1	2.39	0.52
3:A:2243:MET:HE3	3:A:2243:MET:C	2.35	0.52
3:A:2290:ASP:OD2	3:A:2294:HIS:NE2	2.41	0.52
3:A:3021:LEU:O	3:A:3025:LEU:HD23	2.09	0.52
3:A:3048:LEU:O	3:A:3051:VAL:HG22	2.10	0.52
3:B:959:LYS:HZ2	3:B:960:LEU:H	1.57	0.52
3:B:1015:PRO:HG3	3:B:1041:TRP:HE1	1.74	0.52
3:B:1446:LEU:HA	3:B:1449:LEU:HG	1.92	0.52
3:B:3021:LEU:O	3:B:3025:LEU:HD23	2.09	0.52
3:B:4324:ASP:N	3:B:4324:ASP:OD1	2.40	0.52
2:E:38:ARG:HH12	3:A:4160:GLN:HG3	1.75	0.51
3:A:1494:LEU:O	3:A:1497:THR:OG1	2.25	0.51
3:A:3074:ILE:HG22	3:A:3076:GLU:H	1.76	0.51
3:B:3597:ARG:O	3:B:3639:ASN:ND2	2.43	0.51
1:D:88:TYR:HD1	1:D:92:SER:HB3	1.75	0.51
3:A:1663:THR:O	3:A:1667:THR:HG23	2.11	0.51
3:A:2216:ALA:C	3:A:2217:ILE:HD13	2.35	0.51
3:A:3190:TRP:O	3:A:3194:LEU:HB3	2.11	0.51
3:A:4444:MET:HE1	3:A:4447:LEU:HB2	1.91	0.51
3:B:73:PHE:HB2	3:B:158:ALA:HB1	1.91	0.51
3:B:322:ASN:OD1	3:B:323:PRO:HD2	2.09	0.51
3:B:3934:ARG:HH21	3:B:3981:LYS:HD2	1.75	0.51
2:E:34:GLY:HA2	2:E:49:LEU:HD21	1.93	0.51
3:A:659:THR:HA	3:A:663:LEU:HD12	1.90	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1077:THR:O	3:A:1082:SER:N	2.43	0.51
3:A:3278:ALA:O	3:A:3282:ILE:HG22	2.10	0.51
3:A:4267:LEU:HD11	3:A:4316:THR:HG21	1.92	0.51
3:B:2352:MET:HE1	3:B:2403:LEU:HD13	1.92	0.51
3:B:3938:GLU:OE1	3:B:3938:GLU:N	2.34	0.51
3:B:4488:MET:HB2	3:B:4508:LEU:HD11	1.92	0.51
1:D:320:VAL:HG13	3:B:4024:ILE:HD13	1.93	0.51
3:A:2368:ILE:HG23	3:A:2377:LEU:HD11	1.92	0.51
3:A:3048:LEU:O	3:A:3052:HIS:ND1	2.43	0.51
3:A:3593:TYR:OH	3:A:3643:GLU:OE1	2.27	0.51
3:A:4195:HIS:HA	3:A:4198:VAL:HG22	1.93	0.51
3:A:4642:CYS:HB2	3:A:4687:ILE:HD11	1.90	0.51
3:B:202:ASN:HB2	3:B:203:PRO:HA	1.92	0.51
3:A:1028:PRO:HB2	3:A:1029:GLU:OE1	2.11	0.51
3:A:1134:SER:O	3:A:1137:GLU:HG3	2.10	0.51
3:A:4415:ILE:HG23	3:A:4419:LEU:HD12	1.92	0.51
3:A:1218:LEU:HA	3:A:1221:ASN:HD21	1.76	0.51
3:A:4314:ILE:O	3:A:4318:LYS:HG2	2.11	0.51
3:A:4532:THR:HG22	3:A:4536:MET:HE3	1.93	0.51
3:B:60:GLU:OE2	3:B:106:VAL:HG22	2.11	0.51
3:B:1124:LEU:O	3:B:1128:ILE:HG12	2.10	0.51
3:B:1385:GLU:HG2	3:B:1430:PHE:HD2	1.75	0.51
3:B:1391:SER:HA	3:B:1394:ARG:NE	2.22	0.51
3:A:802:GLU:HG2	3:A:803:THR:HG23	1.91	0.51
3:A:1605:ASP:HA	3:A:1608:ASN:HD21	1.76	0.51
3:A:2356:ILE:HD12	3:A:2379:LEU:HD11	1.93	0.51
3:A:4509:LEU:HD13	3:A:4561:GLN:OE1	2.10	0.51
3:B:3278:ALA:O	3:B:3282:ILE:HG22	2.11	0.51
2:E:30:THR:HA	2:E:33:LEU:HB2	1.93	0.51
3:A:138:THR:OG1	3:A:142:ARG:NH2	2.44	0.51
3:A:790:MET:HB3	3:A:858:LEU:HD21	1.92	0.51
3:A:1558:ASN:O	3:A:1561:VAL:HB	2.11	0.51
3:A:1924:LEU:HD12	3:A:1925:GLN:H	1.76	0.51
3:A:4517:LYS:HA	3:A:4522:ARG:HH22	1.74	0.51
3:B:1134:SER:O	3:B:1137:GLU:HG3	2.11	0.51
3:B:1158:LEU:HB3	3:B:1298:LEU:HD21	1.93	0.51
3:B:1538:MET:HE3	3:B:1598:HIS:HB3	1.91	0.51
3:A:2352:MET:HE1	3:A:2403:LEU:HD13	1.93	0.51
3:A:2496:ILE:O	3:A:2500:ARG:HG2	2.11	0.51
3:A:3007:THR:HA	3:A:3010:LEU:HD13	1.93	0.51
3:A:4353:LEU:HD23	3:A:4440:ILE:HB	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:1247:TRP:HA	3:B:1251:PHE:HB2	1.93	0.51
3:B:1592:ILE:O	3:B:1596:THR:HG23	2.11	0.51
3:B:4476:ALA:HA	3:B:4479:MET:HE1	1.93	0.51
3:B:4642:CYS:HB2	3:B:4687:ILE:HD11	1.92	0.51
3:B:4683:LEU:HD11	3:B:4739:LEU:HD22	1.93	0.51
3:A:1608:ASN:OD1	3:A:1609:ALA:N	2.44	0.51
3:B:1218:LEU:HA	3:B:1221:ASN:HD21	1.75	0.51
3:B:1663:THR:O	3:B:1667:THR:HG23	2.11	0.51
3:B:1861:PRO:HB3	3:B:2242:TYR:CZ	2.45	0.51
3:B:3190:TRP:O	3:B:3194:LEU:HB3	2.10	0.51
2:F:59:ASP:N	2:F:59:ASP:OD1	2.40	0.50
3:B:103:ALA:O	3:B:107:LEU:HG	2.11	0.50
3:B:1896:ARG:NH1	3:B:2213:ASP:OD2	2.43	0.50
3:B:3162:GLU:OE1	3:B:3163:MET:HE2	2.11	0.50
3:B:4415:ILE:HG23	3:B:4419:LEU:HD12	1.91	0.50
3:A:3332:VAL:HG11	3:A:3434:HIS:NE2	2.26	0.50
3:A:3934:ARG:HH21	3:A:3981:LYS:HD2	1.75	0.50
3:A:4158:ARG:NH2	1:C:322:GLU:OE2	2.38	0.50
3:B:49:LEU:O	3:B:53:VAL:HG23	2.12	0.50
3:B:2496:ILE:O	3:B:2500:ARG:HG2	2.11	0.50
3:B:3773:GLU:OE1	3:B:3794:ARG:NH2	2.44	0.50
2:E:17:PHE:HE1	2:E:28:ILE:HG12	1.76	0.50
2:F:116:LYS:HZ2	3:B:4077:ILE:HG12	1.76	0.50
3:A:2698:LYS:O	3:A:2702:ILE:HG12	2.11	0.50
3:A:4683:LEU:HD11	3:A:4739:LEU:HD22	1.93	0.50
3:B:30:GLU:CD	3:B:30:GLU:H	2.20	0.50
3:B:1888:LEU:HD12	3:B:1893:VAL:HB	1.91	0.50
3:B:3101:VAL:HG11	3:B:3164:VAL:HG21	1.92	0.50
3:B:4383:MET:HE3	3:B:4408:LEU:HD12	1.94	0.50
1:D:85:LYS:HB3	1:D:88:TYR:HE2	1.73	0.50
3:A:525:ILE:HD13	3:A:530:LEU:HD13	1.94	0.50
3:A:3788:THR:O	3:A:3791:SER:OG	2.23	0.50
3:B:1384:LEU:O	3:B:1387:GLN:NE2	2.35	0.50
3:B:2245:ASN:ND2	3:B:2248:ASN:OD1	2.45	0.50
3:B:2316:GLN:O	3:B:2320:ARG:HG3	2.11	0.50
3:B:2320:ARG:HH21	3:B:2328:VAL:HG22	1.75	0.50
2:E:116:LYS:HZ2	3:A:4077:ILE:HG23	1.76	0.50
3:A:317:VAL:O	3:A:325:ARG:NH2	2.25	0.50
3:A:1411:MET:HB3	3:A:1431:PHE:CZ	2.46	0.50
3:A:2621:PHE:O	3:A:2625:LEU:HG	2.12	0.50
3:B:2990:ASN:OD1	3:B:2990:ASN:N	2.39	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:131:LEU:HB2	3:A:142:ARG:HG2	1.94	0.50
3:A:2118:VAL:HG21	3:A:2174:PRO:HB3	1.93	0.50
3:A:3230:LEU:HD23	3:A:3296:LYS:NZ	2.26	0.50
3:A:4383:MET:HE3	3:A:4408:LEU:HD12	1.94	0.50
3:B:1428:LEU:HB3	3:B:1491:LEU:HD13	1.94	0.50
3:B:1534:PHE:HA	3:B:1537:LEU:HG	1.94	0.50
3:B:2540:HIS:HA	3:B:2543:LYS:HZ2	1.77	0.50
3:B:3136:MET:HA	3:B:3136:MET:HE3	1.93	0.50
3:B:4593:GLN:HA	3:B:4596:MET:SD	2.52	0.50
3:A:202:ASN:HB2	3:A:203:PRO:HA	1.93	0.50
3:A:1090:VAL:HG21	3:A:1131:VAL:HG23	1.93	0.50
3:A:1191:SER:H	3:A:1194:LYS:HE2	1.77	0.50
3:A:1247:TRP:HA	3:A:1251:PHE:HB2	1.93	0.50
3:A:3032:LEU:HD23	3:A:3052:HIS:HD2	1.77	0.50
1:C:46:HIS:HA	1:C:50:HIS:CE1	2.46	0.50
3:B:62:GLU:OE1	3:B:66:HIS:NE2	2.44	0.50
3:B:2529:LEU:HG	3:B:2539:TYR:CD1	2.47	0.50
3:B:2580:ILE:HG22	3:B:2588:LEU:HB2	1.94	0.50
3:B:2621:PHE:O	3:B:2625:LEU:HG	2.11	0.50
3:B:4353:LEU:HD23	3:B:4440:ILE:HB	1.93	0.50
2:F:34:GLY:HA3	2:F:49:LEU:HD11	1.94	0.50
2:F:124:GLU:HG3	2:F:128:GLU:OE2	2.12	0.50
3:A:404:GLN:HG2	3:B:396:ARG:HH21	1.76	0.50
3:A:2414:VAL:HG11	1:C:63:LEU:HD11	1.94	0.50
3:B:78:VAL:HG11	3:B:110:PHE:HE1	1.77	0.50
3:B:283:PHE:O	3:B:338:TYR:OH	2.17	0.50
3:B:1160:PRO:O	3:B:1164:GLN:HG2	2.12	0.50
3:B:1924:LEU:HD12	3:B:1925:GLN:N	2.26	0.50
3:B:4267:LEU:HD11	3:B:4316:THR:HG21	1.92	0.50
3:B:4352:THR:N	3:B:4438:MET:O	2.35	0.50
3:A:2982:LEU:HB3	3:A:3027:GLN:NE2	2.27	0.50
3:B:1090:VAL:HG21	3:B:1131:VAL:HG23	1.93	0.50
3:B:1359:TYR:CE2	3:B:1405:GLY:HA2	2.47	0.50
3:B:1487:GLU:O	3:B:1491:LEU:HG	2.12	0.50
3:B:1604:ALA:HA	3:B:1607:THR:HG22	1.94	0.50
3:B:2313:ASN:O	3:B:2317:ILE:HG13	2.12	0.50
3:B:2368:ILE:HG23	3:B:2377:LEU:HD11	1.92	0.50
3:A:1309:GLN:HG3	3:A:1312:ARG:HH21	1.77	0.49
3:A:4533:LEU:HD23	3:A:4587:LEU:HD11	1.94	0.49
3:B:1924:LEU:HD21	3:B:1942:LEU:HD13	1.93	0.49
3:B:3332:VAL:HG11	3:B:3434:HIS:NE2	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:102:SER:N	2:F:105:GLU:OE1	2.45	0.49
3:A:3003:ILE:HA	3:A:3006:LEU:HB2	1.94	0.49
3:B:802:GLU:HG2	3:B:803:THR:HG23	1.93	0.49
3:B:1368:PRO:HG3	3:B:1418:ASN:HB3	1.93	0.49
2:E:5:LEU:HD21	2:E:13:PHE:HE2	1.76	0.49
2:E:103:ALA:O	2:E:107:ARG:HG2	2.12	0.49
2:F:46:GLU:OE1	2:F:46:GLU:HA	2.13	0.49
3:A:863:ASP:OD1	3:A:1008:ARG:NH2	2.45	0.49
3:B:1850:LYS:NZ	3:B:2194:PRO:O	2.45	0.49
3:B:1902:LEU:HD21	3:B:1967:LEU:HB2	1.93	0.49
3:B:3144:TYR:O	3:B:3148:HIS:ND1	2.37	0.49
3:B:3513:TYR:CZ	3:B:3525:TYR:HB3	2.47	0.49
1:D:312:GLU:HG3	1:D:316:ARG:HD2	1.93	0.49
2:F:35:THR:HA	2:F:38:ARG:HB3	1.94	0.49
3:A:3976:THR:HA	3:A:4019:ILE:HD11	1.94	0.49
3:B:1077:THR:O	3:B:1082:SER:N	2.45	0.49
3:B:1201:VAL:HG12	3:B:1202:LEU:HD22	1.93	0.49
2:E:38:ARG:HH12	3:A:4160:GLN:CG	2.25	0.49
3:A:532:ASN:O	3:A:536:THR:OG1	2.27	0.49
3:A:3773:GLU:OE1	3:A:3794:ARG:NH2	2.45	0.49
3:B:37:LEU:O	3:B:40:SER:OG	2.25	0.49
3:A:1902:LEU:HD21	3:A:1967:LEU:HB2	1.94	0.49
3:A:3225:ARG:HH21	3:A:3286:ARG:CZ	2.24	0.49
3:B:2702:ILE:HA	3:B:3005:MET:SD	2.53	0.49
3:B:4245:LEU:HB3	3:B:4294:MET:HE1	1.94	0.49
3:A:152:THR:O	3:A:156:LYS:HG2	2.13	0.49
3:A:953:CYS:HA	3:A:956:LEU:HB2	1.95	0.49
3:A:1537:LEU:HB3	3:A:1541:MET:HE1	1.95	0.49
3:A:1604:ALA:HA	3:A:1607:THR:HG22	1.95	0.49
3:A:2098:ASP:O	3:A:2130:LYS:NZ	2.46	0.49
3:A:2974:ARG:HB3	3:A:3006:LEU:HD13	1.93	0.49
3:B:678:LEU:HD12	3:B:683:MET:HE2	1.93	0.49
3:B:882:HIS:ND1	3:B:907:LEU:HD22	2.28	0.49
3:B:1309:GLN:HG3	3:B:1312:ARG:NH2	2.28	0.49
3:B:3188:HIS:HA	3:B:3191:PHE:CD2	2.48	0.49
3:B:3225:ARG:HH21	3:B:3286:ARG:NE	2.11	0.49
3:A:1564:LEU:O	3:A:1568:LYS:N	2.41	0.49
3:A:1592:ILE:O	3:A:1596:THR:HG23	2.12	0.49
3:A:2474:VAL:HG23	3:A:2475:LEU:HD12	1.94	0.49
3:A:2991:VAL:O	3:A:2995:ARG:HD3	2.12	0.49
3:A:3095:VAL:HB	3:A:3190:TRP:CZ2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:4492:LEU:HD12	3:A:4539:THR:HG21	1.95	0.49
1:C:85:LYS:HB3	1:C:88:TYR:HE2	1.77	0.49
3:B:1308:PRO:HG2	3:B:1309:GLN:NE2	2.28	0.49
3:B:1310:VAL:HA	3:B:1313:THR:HG22	1.94	0.49
3:B:2540:HIS:HA	3:B:2543:LYS:HG2	1.95	0.49
3:B:2969:ARG:HG2	3:B:2970:LEU:N	2.27	0.49
3:B:3074:ILE:HG22	3:B:3076:GLU:H	1.76	0.49
3:B:4466:GLU:HG2	3:B:4469:GLU:HG2	1.95	0.49
2:E:145:MET:HE3	3:A:4105:TRP:CD1	2.48	0.49
3:A:541:SER:OG	3:A:647:PHE:O	2.31	0.49
3:A:2245:ASN:HB3	3:A:2248:ASN:HB2	1.95	0.49
3:A:3136:MET:HA	3:A:3136:MET:HE3	1.94	0.49
3:A:3513:TYR:CZ	3:A:3525:TYR:HB3	2.48	0.49
3:A:4618:ARG:O	3:A:4621:PRO:HD2	2.13	0.49
3:B:78:VAL:HG11	3:B:110:PHE:CE1	2.47	0.49
3:B:1484:VAL:HG12	3:B:1488:ASN:HD21	1.78	0.49
3:B:2626:VAL:HG21	3:B:2681:ILE:HD12	1.95	0.49
2:E:59:ASP:OD2	2:E:61:ASN:ND2	2.46	0.49
2:F:30:THR:HG22	2:F:33:LEU:HD12	1.95	0.49
2:F:145:MET:HE3	3:B:4105:TRP:CD1	2.48	0.49
3:A:2971:HIS:O	3:A:2975:LEU:HG	2.13	0.49
3:A:3023:ASN:O	3:A:3026:SER:OG	2.25	0.49
3:A:4466:GLU:HG2	3:A:4469:GLU:HG2	1.94	0.49
3:A:4691:ALA:O	3:A:4695:MET:HG2	2.12	0.49
3:B:56:VAL:HG12	3:B:106:VAL:HG11	1.94	0.49
3:B:640:SER:OG	3:B:641:ARG:N	2.46	0.49
3:B:1138:HIS:HA	3:B:1141:LYS:HE3	1.95	0.49
3:B:2245:ASN:HB3	3:B:2248:ASN:HB2	1.95	0.49
3:B:4653:GLY:O	3:B:4656:LYS:HG3	2.13	0.49
3:A:640:SER:OG	3:A:641:ARG:N	2.46	0.48
3:A:1309:GLN:CD	3:A:1309:GLN:H	2.20	0.48
3:A:1518:LEU:HD23	3:A:1541:MET:HB3	1.94	0.48
3:A:2014:GLU:OE1	3:A:2014:GLU:N	2.45	0.48
3:A:3041:LYS:HD3	3:A:3041:LYS:N	2.28	0.48
3:A:3243:LEU:HD11	3:A:3271:SER:HB2	1.95	0.48
3:A:3429:HIS:HA	3:A:3471:LEU:HD11	1.95	0.48
3:A:874:VAL:HG13	3:B:189:VAL:HG11	1.96	0.48
3:A:1398:GLU:HA	3:A:1398:GLU:OE2	2.12	0.48
3:A:2483:LEU:HB2	3:A:2524:GLN:NE2	2.28	0.48
3:B:144:ASP:OD2	3:B:146:THR:OG1	2.28	0.48
3:B:4492:LEU:HA	3:B:4495:ILE:HD12	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:30:GLU:CD	3:A:30:GLU:H	2.21	0.48
3:A:283:PHE:O	3:A:338:TYR:OH	2.18	0.48
3:A:959:LYS:NZ	3:A:960:LEU:H	2.10	0.48
3:A:1310:VAL:HA	3:A:1313:THR:HG22	1.96	0.48
3:A:1426:ARG:O	3:A:1426:ARG:HD3	2.12	0.48
3:A:1551:ALA:HA	3:A:1554:LEU:HD23	1.94	0.48
3:A:2111:VAL:HG12	3:A:2165:CYS:HB3	1.95	0.48
3:A:2332:LYS:HE3	1:C:38:GLU:HG2	1.94	0.48
3:B:127:LYS:O	3:B:130:ILE:HG22	2.13	0.48
3:B:685:THR:O	3:B:689:ILE:HG12	2.13	0.48
3:B:1859:MET:HG3	3:B:2242:TYR:HD2	1.78	0.48
3:B:4444:MET:HE1	3:B:4447:LEU:HB2	1.94	0.48
3:A:732:LEU:HD21	3:A:760:LEU:HD13	1.94	0.48
3:A:1859:MET:HG3	3:A:2242:TYR:HD2	1.77	0.48
3:A:2310:GLN:NE2	1:C:54:CYS:HB2	2.26	0.48
3:B:1804:ASN:HA	3:B:2494:PRO:HD3	1.95	0.48
3:B:2316:GLN:HB3	3:B:2320:ARG:NH1	2.28	0.48
3:B:3095:VAL:HB	3:B:3190:TRP:CZ2	2.47	0.48
3:B:4618:ARG:O	3:B:4621:PRO:HD2	2.13	0.48
3:A:2622:ILE:HD13	3:A:2622:ILE:N	2.29	0.48
3:A:2660:LEU:O	3:A:2664:ILE:HG12	2.14	0.48
3:B:525:ILE:HD13	3:B:530:LEU:HD13	1.94	0.48
3:B:2243:MET:HE3	3:B:2243:MET:C	2.37	0.48
3:B:3052:HIS:O	3:B:3055:VAL:HG12	2.14	0.48
3:B:3976:THR:HA	3:B:4019:ILE:HD11	1.95	0.48
3:A:70:TYR:CE1	3:A:161:PRO:HA	2.48	0.48
3:A:948:LEU:HD12	3:A:1012:ILE:HG22	1.95	0.48
3:A:4094:HIS:O	3:A:4098:THR:OG1	2.26	0.48
3:B:1398:GLU:OE2	3:B:1398:GLU:HA	2.14	0.48
3:B:2025:ILE:O	3:B:2036:THR:N	2.46	0.48
3:B:3225:ARG:HH21	3:B:3286:ARG:CZ	2.26	0.48
3:B:4139:GLN:HG3	3:B:4142:ARG:HH21	1.78	0.48
3:B:4509:LEU:HD12	3:B:4510:LYS:N	2.28	0.48
3:A:1811:VAL:HA	3:A:1814:MET:SD	2.54	0.48
3:A:3595:ASN:OD1	3:A:3639:ASN:HB2	2.13	0.48
1:C:114:ALA:HA	1:C:121:PRO:HA	1.96	0.48
3:B:269:TYR:HE2	3:B:302:LEU:HD11	1.79	0.48
3:B:868:GLN:OE1	3:B:871:LYS:NZ	2.47	0.48
3:B:1161:ALA:HA	3:B:1164:GLN:HE21	1.79	0.48
3:B:1853:GLU:OE2	3:B:2196:THR:HB	2.14	0.48
3:B:4564:SER:HA	3:B:4567:GLU:HG3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:330:ARG:NE	3:B:4122:LYS:HZ2	2.11	0.48
3:A:2550:LYS:HD3	3:A:2551:ALA:N	2.29	0.48
3:A:4694:TYR:HB3	3:A:4695:MET:HE2	1.96	0.48
3:B:519:GLN:HA	3:B:522:GLN:HG2	1.96	0.48
3:B:3429:HIS:HA	3:B:3471:LEU:HD11	1.96	0.48
3:B:4166:LEU:O	3:B:4183:TYR:OH	2.27	0.48
3:A:299:PHE:HB3	3:A:373:ASP:OD1	2.14	0.48
3:A:396:ARG:HH21	3:B:404:GLN:HG2	1.77	0.48
3:A:3188:HIS:HA	3:A:3191:PHE:CD2	2.49	0.48
3:A:3225:ARG:HH21	3:A:3286:ARG:NE	2.11	0.48
3:B:154:MET:SD	3:B:158:ALA:HB2	2.54	0.48
3:B:910:GLY:HA2	3:B:934:CYS:H	1.78	0.48
3:B:1460:GLU:HG2	3:B:1463:ARG:HG2	1.95	0.48
3:B:4383:MET:HE3	3:B:4383:MET:HB2	1.79	0.48
1:D:51:PRO:HG2	1:D:81:PRO:O	2.14	0.48
3:A:2151:ILE:HG23	3:A:2199:ILE:HD12	1.94	0.48
3:A:3880:THR:O	3:A:3884:ILE:HG12	2.14	0.48
3:A:3966:SER:OG	3:B:3768:ASN:ND2	2.47	0.48
3:B:1191:SER:H	3:B:1194:LYS:HE2	1.79	0.48
3:B:1384:LEU:HA	3:B:1387:GLN:HG3	1.95	0.48
3:B:1428:LEU:HA	3:B:1431:PHE:HD2	1.79	0.48
3:B:3243:LEU:HD11	3:B:3271:SER:HB2	1.96	0.48
3:B:4617:LEU:HD13	3:B:4665:ILE:HG13	1.95	0.48
3:A:512:MET:HE3	3:A:512:MET:HB3	1.77	0.47
3:A:1218:LEU:HA	3:A:1221:ASN:ND2	2.28	0.47
3:A:2979:GLU:HA	3:A:2982:LEU:HD12	1.96	0.47
3:A:4139:GLN:HG3	3:A:4142:ARG:HH21	1.78	0.47
3:A:4467:GLU:HG2	3:A:4468:ASP:N	2.23	0.47
3:B:299:PHE:HB3	3:B:373:ASP:OD1	2.14	0.47
3:B:541:SER:OG	3:B:647:PHE:O	2.32	0.47
3:B:1159:LEU:HD21	3:B:1299:ILE:HD12	1.95	0.47
3:B:1411:MET:HB3	3:B:1431:PHE:HZ	1.76	0.47
3:B:2151:ILE:HG23	3:B:2199:ILE:HD12	1.95	0.47
3:B:3587:VAL:HG22	3:B:3647:PHE:HE1	1.79	0.47
3:B:3661:PRO:HB3	3:B:3685:HIS:CE1	2.49	0.47
3:B:4467:GLU:HG2	3:B:4468:ASP:N	2.22	0.47
3:A:685:THR:O	3:A:689:ILE:HG12	2.14	0.47
3:A:1309:GLN:HG3	3:A:1312:ARG:NH2	2.28	0.47
3:A:2010:GLY:O	3:A:2639:ASN:ND2	2.47	0.47
3:A:2321:LEU:HD22	3:A:2420:VAL:HG23	1.96	0.47
3:A:4059:TRP:CE3	1:C:323:LEU:HD21	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:152:THR:O	3:B:156:LYS:HG2	2.13	0.47
3:B:995:GLU:O	3:B:999:LEU:HD23	2.15	0.47
3:B:2356:ILE:HG22	3:B:2417:ILE:HA	1.95	0.47
3:B:3595:ASN:OD1	3:B:3639:ASN:HB2	2.13	0.47
2:E:124:GLU:HG3	2:E:128:GLU:OE2	2.14	0.47
2:E:146:MET:HE3	3:A:4101:TYR:HD1	1.79	0.47
3:A:154:MET:SD	3:A:158:ALA:HB2	2.55	0.47
3:A:849:ARG:NH1	3:A:979:GLN:O	2.47	0.47
3:A:1368:PRO:HG3	3:A:1418:ASN:HB3	1.96	0.47
3:A:2245:ASN:ND2	3:A:2248:ASN:OD1	2.47	0.47
3:B:1031:SER:H	3:B:1034:ASP:HB2	1.79	0.47
3:B:1064:LYS:HE3	3:B:1067:HIS:CE1	2.49	0.47
3:B:1218:LEU:HA	3:B:1221:ASN:ND2	2.29	0.47
3:B:2111:VAL:HG12	3:B:2165:CYS:HB3	1.97	0.47
3:B:2117:HIS:O	3:B:2120:GLN:NE2	2.48	0.47
3:B:2136:ILE:HA	3:B:2143:VAL:HA	1.97	0.47
3:B:2356:ILE:HD12	3:B:2379:LEU:HD11	1.95	0.47
1:D:64:TYR:CD1	3:B:2311:VAL:HG11	2.50	0.47
3:A:3933:THR:HG22	3:A:3939:ALA:HB1	1.96	0.47
3:B:4561:GLN:O	3:B:4565:ILE:HG23	2.14	0.47
3:B:1244:ILE:HA	3:B:1293:ARG:NH2	2.28	0.47
3:B:3003:ILE:HA	3:B:3006:LEU:HB2	1.96	0.47
3:B:4515:CYS:SG	3:B:4521:ASN:ND2	2.87	0.47
1:D:86:MET:SD	3:B:2310:GLN:HG3	2.54	0.47
3:A:680:GLU:OE1	3:A:680:GLU:N	2.30	0.47
3:A:2245:ASN:O	3:A:2249:THR:N	2.47	0.47
3:A:2678:ALA:O	3:A:2681:ILE:HG12	2.14	0.47
3:A:3912:TYR:OH	3:B:3959:TRP:NE1	2.33	0.47
3:B:356:GLN:HG2	3:B:427:THR:HG22	1.97	0.47
3:B:1919:GLY:O	3:B:1950:VAL:N	2.47	0.47
3:B:3063:MET:HE2	3:B:3063:MET:HA	1.97	0.47
3:B:3880:THR:O	3:B:3884:ILE:HG12	2.14	0.47
2:F:149:LYS:OXT	3:B:4111:ARG:NH2	2.46	0.47
3:A:78:VAL:HG11	3:A:110:PHE:CD2	2.49	0.47
3:A:125:SER:H	3:A:128:HIS:HD2	1.62	0.47
3:A:366:LYS:HG3	3:A:370:TYR:CE2	2.50	0.47
3:A:1676:TRP:HZ2	3:A:1708:LYS:HE2	1.80	0.47
3:A:1804:ASN:HA	3:A:2494:PRO:HD3	1.96	0.47
3:A:2136:ILE:HA	3:A:2143:VAL:HA	1.96	0.47
3:B:64:LEU:HD12	3:B:113:LEU:HD11	1.96	0.47
3:B:1020:ILE:O	3:B:1024:SER:CB	2.51	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:1412:MET:HE2	3:B:1463:ARG:HD2	1.96	0.47
3:B:1604:ALA:HB2	3:B:2484:GLU:OE1	2.15	0.47
3:B:2622:ILE:HD13	3:B:2622:ILE:N	2.28	0.47
3:B:2660:LEU:O	3:B:2664:ILE:HG12	2.14	0.47
3:B:2971:HIS:HA	3:B:2974:ARG:HD3	1.96	0.47
3:B:4035:LYS:HD2	3:B:4035:LYS:HA	1.62	0.47
3:A:1464:LEU:HD12	3:A:1465:GLN:N	2.29	0.47
3:A:1930:LEU:HB3	3:A:2219:HIS:CE1	2.50	0.47
3:A:2627:ASN:O	3:A:2631:LYS:HG2	2.14	0.47
3:A:2993:GLY:HA3	3:A:3153:PHE:HE2	1.80	0.47
3:A:4695:MET:HE2	3:A:4695:MET:N	2.30	0.47
1:C:27:CYS:HB3	1:C:30:TYR:CE1	2.49	0.47
3:B:953:CYS:HA	3:B:956:LEU:HB2	1.97	0.47
3:B:3933:THR:HG22	3:B:3939:ALA:HB1	1.96	0.47
3:B:4017:LEU:HD11	3:B:4132:VAL:HG11	1.97	0.47
2:F:12:GLU:OE1	2:F:40:LEU:HD22	2.15	0.47
3:A:274:GLN:OE1	3:A:274:GLN:HA	2.15	0.47
3:A:1901:VAL:HG21	3:A:2217:ILE:HD11	1.96	0.47
3:B:1085:TYR:O	3:B:1089:ILE:HG22	2.14	0.47
3:B:1924:LEU:HD12	3:B:1925:GLN:H	1.78	0.47
3:B:2118:VAL:HG21	3:B:2174:PRO:HB3	1.95	0.47
3:B:4638:PHE:HA	3:B:4658:PHE:CZ	2.50	0.47
3:A:1138:HIS:HA	3:A:1141:LYS:HE3	1.97	0.47
3:A:1850:LYS:NZ	3:A:2194:PRO:O	2.48	0.47
3:A:4771:LEU:HB3	3:A:4777:VAL:HG11	1.96	0.47
3:B:4771:LEU:HB3	3:B:4777:VAL:HG11	1.96	0.47
3:A:3768:ASN:ND2	3:B:3966:SER:OG	2.47	0.46
3:A:4492:LEU:HA	3:A:4495:ILE:HD12	1.97	0.46
3:B:1464:LEU:HD12	3:B:1465:GLN:N	2.31	0.46
3:B:3562:VAL:HG22	3:B:3641:MET:SD	2.55	0.46
1:D:37:TYR:CE1	1:D:52:MET:HG2	2.50	0.46
2:E:38:ARG:HD2	2:E:38:ARG:O	2.15	0.46
3:A:724:SER:OG	3:A:726:ASN:OD1	2.21	0.46
3:A:1023:LEU:HD21	3:A:1041:TRP:CZ3	2.50	0.46
3:A:1384:LEU:HD11	3:A:1430:PHE:HE2	1.80	0.46
3:A:2559:SER:OG	3:A:2628:HIS:NE2	2.35	0.46
3:A:4443:ARG:NH2	3:A:4453:GLU:OE1	2.46	0.46
3:A:4561:GLN:O	3:A:4565:ILE:HG23	2.14	0.46
3:B:83:HIS:O	3:B:87:THR:HG23	2.15	0.46
3:B:145:ARG:HH21	3:B:148:ILE:HD12	1.80	0.46
3:B:1608:ASN:OD1	3:B:1609:ALA:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:269:TYR:HE2	3:A:302:LEU:HD11	1.80	0.46
3:A:1000:GLN:HA	3:A:1270:LEU:HD13	1.97	0.46
3:A:1408:VAL:O	3:A:1412:MET:HG2	2.15	0.46
3:A:1423:PHE:O	3:A:1427:VAL:HG12	2.16	0.46
3:A:1468:LEU:O	3:A:1472:THR:OG1	2.20	0.46
3:A:1853:GLU:OE2	3:A:2196:THR:HB	2.15	0.46
3:A:3224:TYR:O	3:A:3228:ARG:HG3	2.14	0.46
3:B:680:GLU:OE1	3:B:680:GLU:N	2.24	0.46
3:B:823:GLU:O	3:B:827:ARG:HG2	2.15	0.46
3:B:866:LEU:HD13	3:B:1013:LEU:HD21	1.97	0.46
3:B:1377:LEU:HA	3:B:1380:CYS:SG	2.56	0.46
3:B:1498:TYR:HD1	3:B:1501:ARG:HH12	1.62	0.46
3:B:4503:HIS:O	3:B:4507:VAL:HG13	2.15	0.46
3:A:86:THR:HG22	3:A:136:LEU:HD13	1.97	0.46
3:A:1308:PRO:HG2	3:A:1309:GLN:NE2	2.31	0.46
3:A:1600:MET:SD	3:A:2481:SER:HB2	2.55	0.46
3:A:1610:LEU:HD12	3:A:1610:LEU:O	2.14	0.46
3:A:2298:LEU:HD13	3:A:2347:MET:HE2	1.97	0.46
3:A:2320:ARG:NH1	3:A:2328:VAL:HG22	2.30	0.46
3:A:2480:VAL:HG13	3:A:2524:GLN:OE1	2.15	0.46
3:A:4535:VAL:O	3:A:4539:THR:HG23	2.15	0.46
3:B:1318:LEU:H	3:B:1318:LEU:HD12	1.81	0.46
3:B:4310:MET:HE3	3:B:4310:MET:HA	1.97	0.46
3:A:1241:PHE:HE2	3:A:1269:HIS:CD2	2.34	0.46
3:A:1318:LEU:HD12	3:A:1318:LEU:H	1.81	0.46
3:A:1604:ALA:HB2	3:A:2484:GLU:OE1	2.15	0.46
3:A:3017:ASP:O	3:A:3021:LEU:HG	2.16	0.46
3:A:4738:VAL:O	3:A:4742:THR:OG1	2.34	0.46
3:B:70:TYR:CE1	3:B:161:PRO:HA	2.50	0.46
3:B:366:LYS:HG3	3:B:370:TYR:CE2	2.51	0.46
3:B:948:LEU:HD12	3:B:1012:ILE:HG22	1.97	0.46
3:B:1119:GLN:HA	3:B:1122:TYR:CE2	2.50	0.46
3:B:4512:PHE:HA	3:B:4515:CYS:SG	2.56	0.46
1:D:316:ARG:O	1:D:320:VAL:HG12	2.15	0.46
3:A:201:PHE:CE2	3:A:203:PRO:HB3	2.50	0.46
3:A:356:GLN:HG2	3:A:427:THR:HG22	1.98	0.46
3:A:995:GLU:O	3:A:999:LEU:HD23	2.15	0.46
3:A:3587:VAL:HG22	3:A:3647:PHE:HE1	1.80	0.46
3:A:3661:PRO:HB3	3:A:3685:HIS:CE1	2.50	0.46
3:A:4245:LEU:HB3	3:A:4294:MET:HE1	1.97	0.46
3:B:1460:GLU:OE1	3:B:1463:ARG:NE	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:1518:LEU:HD23	3:B:1541:MET:HB3	1.97	0.46
3:B:1554:LEU:HD21	3:B:1795:CYS:HB2	1.98	0.46
3:B:1605:ASP:HA	3:B:1608:ASN:HD21	1.80	0.46
3:B:2698:LYS:HE3	3:B:2698:LYS:HB3	1.74	0.46
3:B:2981:LEU:O	3:B:2985:LEU:HD23	2.15	0.46
3:B:3000:MET:HA	3:B:3003:ILE:HG13	1.97	0.46
1:D:56:LEU:HD21	3:B:2311:VAL:HG22	1.97	0.46
3:A:1296:GLY:O	3:A:1299:ILE:HG22	2.15	0.46
3:A:1412:MET:HG3	3:A:1463:ARG:NH2	2.31	0.46
3:A:1499:ILE:HG23	3:A:1506:VAL:HG21	1.97	0.46
3:A:3063:MET:HA	3:A:3063:MET:HE2	1.97	0.46
3:A:3213:LEU:O	3:A:3217:ILE:HG22	2.16	0.46
3:A:4017:LEU:HD11	3:A:4132:VAL:HG11	1.98	0.46
3:B:1000:GLN:HA	3:B:1270:LEU:HD13	1.96	0.46
3:B:1069:SER:O	3:B:1073:GLU:HG2	2.16	0.46
3:B:1513:VAL:O	3:B:1517:THR:HG23	2.16	0.46
3:B:1818:LEU:O	3:B:1822:ILE:HG12	2.15	0.46
3:B:2098:ASP:O	3:B:2130:LYS:NZ	2.47	0.46
2:E:17:PHE:CD2	2:E:66:PHE:HD2	2.34	0.46
2:F:103:ALA:O	2:F:107:ARG:HG2	2.16	0.46
3:A:127:LYS:O	3:A:130:ILE:HG22	2.16	0.46
3:A:145:ARG:HH21	3:A:148:ILE:HD12	1.81	0.46
3:A:1527:ALA:HB2	3:A:1566:ARG:HH12	1.81	0.46
3:A:1660:LYS:O	3:A:1730:ARG:NH2	2.49	0.46
3:A:2054:ASN:HB3	3:A:2060:ILE:HD11	1.98	0.46
1:C:293:LEU:HA	1:C:296:LEU:HD23	1.98	0.46
3:B:75:SER:O	3:B:78:VAL:HG12	2.16	0.46
3:B:2321:LEU:HD13	3:B:2420:VAL:HB	1.97	0.46
3:B:2321:LEU:HD22	3:B:2420:VAL:HG23	1.97	0.46
3:B:4535:VAL:O	3:B:4539:THR:HG23	2.15	0.46
1:D:131:HIS:O	1:D:136:HIS:HB2	2.16	0.46
2:E:73:MET:SD	2:E:73:MET:N	2.88	0.46
2:F:20:PHE:CE2	2:F:36:VAL:HA	2.51	0.46
3:A:1434:LEU:O	3:A:1438:THR:OG1	2.27	0.46
3:A:2521:VAL:HA	3:A:2524:GLN:HG2	1.98	0.46
3:A:3052:HIS:O	3:A:3055:VAL:HG12	2.16	0.46
3:B:274:GLN:OE1	3:B:274:GLN:HA	2.15	0.46
3:B:2379:LEU:HD21	3:B:2385:PHE:HE1	1.81	0.46
3:B:2395:LEU:HD23	3:B:2432:TRP:CZ3	2.51	0.46
3:B:2542:HIS:HA	3:B:2545:GLN:OE1	2.16	0.46
3:B:2982:LEU:HB3	3:B:3027:GLN:NE2	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:149:LYS:OXT	3:A:4111:ARG:NH2	2.47	0.46
3:A:296:ARG:HG2	3:A:297:ASN:H	1.81	0.46
3:A:765:GLN:NE2	3:A:817:ILE:HG23	2.31	0.46
3:A:1119:GLN:HA	3:A:1122:TYR:CE2	2.51	0.46
3:A:1677:TYR:OH	3:A:2293:GLU:OE2	2.22	0.46
3:A:1819:MET:HA	3:A:1822:ILE:HB	1.98	0.46
3:A:2626:VAL:HG21	3:A:2681:ILE:HD12	1.97	0.46
3:B:1538:MET:O	3:B:1542:ALA:CB	2.65	0.46
3:B:2483:LEU:HB2	3:B:2524:GLN:NE2	2.31	0.46
3:B:2521:VAL:HA	3:B:2524:GLN:HG2	1.97	0.46
3:B:3213:LEU:O	3:B:3217:ILE:HG22	2.16	0.46
3:B:3261:GLY:N	3:B:3837:GLU:OE2	2.42	0.46
3:B:3985:CYS:HB3	3:B:3988:LEU:HD12	1.98	0.46
1:D:64:TYR:HA	3:B:2329:ALA:HB3	1.98	0.45
2:E:56:VAL:HG21	2:E:72:MET:HE2	1.98	0.45
3:A:86:THR:OG1	3:A:140:CYS:SG	2.65	0.45
3:A:144:ASP:OD2	3:A:146:THR:OG1	2.31	0.45
3:A:1513:VAL:O	3:A:1517:THR:HG23	2.16	0.45
3:A:2379:LEU:HD21	3:A:2385:PHE:HE1	1.81	0.45
3:B:447:ILE:O	3:B:450:ARG:HG3	2.16	0.45
3:B:1676:TRP:HZ2	3:B:1708:LYS:HE2	1.80	0.45
3:B:2972:MET:O	3:B:2976:MET:HG2	2.15	0.45
3:B:2974:ARG:HB3	3:B:3006:LEU:HD13	1.98	0.45
2:E:107:ARG:HD3	2:E:122:VAL:HG21	1.98	0.45
2:F:34:GLY:O	2:F:38:ARG:CB	2.65	0.45
3:A:2115:TYR:HB2	3:A:2122:LEU:HD13	1.97	0.45
3:A:3544:TYR:O	3:A:3545:ILE:HD13	2.16	0.45
3:A:4617:LEU:HD13	3:A:4665:ILE:HG13	1.97	0.45
3:B:115:LEU:HD23	3:B:129:LEU:HD12	1.98	0.45
3:B:317:VAL:O	3:B:325:ARG:NH2	2.25	0.45
3:B:1660:LYS:O	3:B:1730:ARG:NH2	2.49	0.45
3:B:4506:THR:HG22	3:B:4510:LYS:HZ1	1.81	0.45
3:B:4557:ALA:O	3:B:4560:GLU:HG3	2.16	0.45
3:A:447:ILE:O	3:A:450:ARG:HG3	2.16	0.45
3:A:1919:GLY:O	3:A:1950:VAL:N	2.47	0.45
3:A:1960:ASN:HD22	3:A:2007:TRP:CG	2.33	0.45
3:A:2210:LYS:N	3:A:2235:GLU:OE1	2.49	0.45
3:A:2320:ARG:CZ	3:A:2328:VAL:HG22	2.47	0.45
3:A:2395:LEU:HD23	3:A:2432:TRP:CZ3	2.51	0.45
3:A:3727:GLU:OE1	3:A:3727:GLU:N	2.50	0.45
3:A:4564:SER:HA	3:A:4567:GLU:HG3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:125:THR:HG21	1:C:131:HIS:HB2	1.99	0.45
3:B:3021:LEU:O	3:B:3024:LEU:HG	2.16	0.45
3:B:3224:TYR:O	3:B:3228:ARG:HG3	2.16	0.45
3:B:3312:ASP:OD1	3:B:3314:GLY:N	2.48	0.45
3:A:45:GLU:HG3	3:A:47:LYS:H	1.81	0.45
3:A:83:HIS:O	3:A:87:THR:HG23	2.17	0.45
3:A:1596:THR:O	3:A:1597:CYS:C	2.59	0.45
3:A:2219:HIS:NE2	3:A:2229:THR:OG1	2.48	0.45
3:A:3307:VAL:O	3:A:3311:VAL:HG23	2.16	0.45
3:A:3618:VAL:HG21	3:A:3629:ILE:HG12	1.98	0.45
3:A:4591:LYS:HZ3	3:A:4631:MET:HG2	1.81	0.45
3:A:4648:ASP:OD2	3:A:4694:TYR:OH	2.34	0.45
3:B:1214:LEU:HD13	3:B:1354:LEU:HD12	1.98	0.45
3:B:3618:VAL:HG21	3:B:3629:ILE:HG12	1.98	0.45
1:D:112:ILE:HB	1:D:136:HIS:CE1	2.52	0.45
1:D:114:ALA:HA	1:D:121:PRO:HA	1.99	0.45
3:A:124:VAL:HG12	3:A:128:HIS:HB2	1.97	0.45
3:A:694:ASP:OD1	3:A:695:LYS:N	2.49	0.45
3:A:2320:ARG:HA	3:A:2326:MET:SD	2.57	0.45
3:A:3273:MET:HE3	3:A:3633:LEU:HG	1.99	0.45
3:A:3728:ASN:ND2	3:A:3730:GLU:OE2	2.49	0.45
3:B:125:SER:N	3:B:128:HIS:HD2	2.15	0.45
3:B:293:THR:O	3:B:297:ASN:ND2	2.49	0.45
3:B:296:ARG:HG2	3:B:297:ASN:H	1.81	0.45
3:B:1960:ASN:HD22	3:B:2007:TRP:CG	2.34	0.45
3:B:2538:ALA:O	3:B:2542:HIS:ND1	2.50	0.45
3:B:2550:LYS:O	3:B:2553:GLN:HG3	2.16	0.45
1:D:324:LEU:HD11	3:B:4152:LEU:HD11	1.98	0.45
3:A:293:THR:O	3:A:297:ASN:ND2	2.49	0.45
3:A:680:GLU:H	3:A:680:GLU:CD	2.21	0.45
3:A:2550:LYS:O	3:A:2553:GLN:HG3	2.16	0.45
3:A:2636:LYS:HB2	3:A:2649:GLY:HA3	1.99	0.45
3:A:4108:PHE:CD1	3:A:4108:PHE:C	2.94	0.45
3:B:125:SER:H	3:B:128:HIS:HD2	1.65	0.45
3:B:201:PHE:CE2	3:B:203:PRO:HB3	2.52	0.45
3:B:201:PHE:CZ	3:B:203:PRO:HB3	2.51	0.45
3:B:336:CYS:SG	3:B:381:CYS:HA	2.57	0.45
3:B:3728:ASN:ND2	3:B:3730:GLU:OE2	2.49	0.45
3:B:4063:ASP:OD1	3:B:4065:LYS:NZ	2.49	0.45
3:B:4695:MET:HE2	3:B:4695:MET:N	2.32	0.45
3:A:185:ARG:O	3:A:188:GLU:HG3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2228:THR:HB	3:A:2244:ALA:HB3	1.99	0.45
3:A:2317:ILE:HG12	3:A:2320:ARG:NH2	2.30	0.45
3:A:3018:LYS:HA	3:A:3021:LEU:CD1	2.47	0.45
1:C:316:ARG:O	1:C:320:VAL:HG12	2.17	0.45
3:B:3210:VAL:HA	3:B:3213:LEU:HG	1.99	0.45
3:B:3736:VAL:O	3:B:3739:ILE:HG22	2.17	0.45
3:B:4103:TRP:HZ3	3:B:4104:ARG:HH21	1.64	0.45
3:B:4443:ARG:NH2	3:B:4453:GLU:OE1	2.46	0.45
3:A:2037:PHE:CE2	3:A:2075:MET:HB2	2.52	0.45
3:A:3312:ASP:OD1	3:A:3314:GLY:N	2.45	0.45
3:A:3881:GLU:HG2	3:A:3921:MET:SD	2.57	0.45
3:B:1241:PHE:HE2	3:B:1269:HIS:CD2	2.34	0.45
3:B:1441:SER:O	3:B:1441:SER:OG	2.31	0.45
3:B:1596:THR:O	3:B:1597:CYS:C	2.59	0.45
3:B:1685:VAL:HG21	3:B:2381:ARG:HD2	1.98	0.45
3:B:1814:MET:HA	3:B:1817:PHE:CE1	2.51	0.45
3:B:1845:LEU:HD21	3:B:2119:LEU:HD22	1.98	0.45
3:B:2054:ASN:HB3	3:B:2060:ILE:HD11	1.98	0.45
3:B:2187:PRO:HG2	3:B:2202:ILE:HB	1.98	0.45
3:B:2210:LYS:N	3:B:2235:GLU:OE1	2.50	0.45
3:B:2589:VAL:HG22	3:B:2667:TYR:CD1	2.51	0.45
3:B:3293:PHE:C	3:B:3293:PHE:CD1	2.95	0.45
3:B:4259:LYS:O	3:B:4263:VAL:HG13	2.17	0.45
3:A:1254:ASP:C	3:A:1254:ASP:OD1	2.60	0.45
3:A:2543:LYS:C	3:A:2543:LYS:HD3	2.42	0.45
3:B:131:LEU:HB2	3:B:142:ARG:HG2	1.99	0.45
3:B:765:GLN:NE2	3:B:817:ILE:HG23	2.31	0.45
3:B:1023:LEU:HD21	3:B:1041:TRP:CZ3	2.50	0.45
3:B:1334:LEU:HA	3:B:1334:LEU:HD23	1.80	0.45
3:B:1677:TYR:OH	3:B:2293:GLU:OE2	2.22	0.45
3:B:1692:THR:OG1	3:B:2293:GLU:OE2	2.24	0.45
3:B:3050:GLU:O	3:B:3054:VAL:HG22	2.17	0.45
3:B:3233:LEU:HB3	3:B:3293:PHE:CE2	2.52	0.45
3:B:4327:THR:OG1	3:B:4328:PRO:HD3	2.16	0.45
3:B:4648:ASP:OD2	3:B:4694:TYR:OH	2.34	0.45
3:A:849:ARG:NH2	3:A:982:THR:O	2.47	0.45
3:A:1059:ILE:HD13	3:A:1059:ILE:HA	1.88	0.45
3:A:1538:MET:HA	3:A:1541:MET:SD	2.57	0.45
3:B:683:MET:HE3	3:B:727:LEU:HD12	1.99	0.45
3:B:1381:LEU:O	3:B:1384:LEU:HD12	2.16	0.45
3:B:2529:LEU:HG	3:B:2539:TYR:CE1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:2678:ALA:O	3:B:2681:ILE:HG12	2.16	0.45
3:B:3544:TYR:O	3:B:3545:ILE:HD13	2.17	0.45
3:A:125:SER:N	3:A:128:HIS:HD2	2.15	0.44
3:A:128:HIS:O	3:A:131:LEU:HD12	2.17	0.44
3:A:910:GLY:HA2	3:A:934:CYS:H	1.82	0.44
3:A:1336:ARG:HE	3:A:1337:ILE:HD11	1.82	0.44
3:A:1924:LEU:HD11	3:A:1942:LEU:HB3	1.99	0.44
3:A:2692:ALA:O	3:A:2696:SER:OG	2.26	0.44
3:B:2115:TYR:HA	3:B:2122:LEU:HA	1.99	0.44
3:A:336:CYS:SG	3:A:381:CYS:HA	2.57	0.44
3:A:4479:MET:SD	3:A:4480:ALA:N	2.90	0.44
3:A:4563:LEU:HA	3:A:4566:MET:HG2	1.98	0.44
1:C:132:LEU:HA	1:C:136:HIS:HB2	1.98	0.44
3:B:1930:LEU:HB3	3:B:2219:HIS:CE1	2.52	0.44
3:B:2706:ARG:NH2	3:B:2707:PRO:O	2.50	0.44
3:B:3035:ASP:OD1	3:B:3035:ASP:N	2.44	0.44
3:B:3871:LYS:HD3	3:B:3871:LYS:N	2.32	0.44
2:E:1:MET:HE1	2:E:71:THR:HA	1.99	0.44
2:F:56:VAL:HG11	2:F:72:MET:HE2	1.99	0.44
3:A:1685:VAL:HG21	3:A:2381:ARG:HD2	1.98	0.44
3:A:2060:ILE:HG21	3:A:2141:LEU:HD21	2.00	0.44
3:A:2589:VAL:HG22	3:A:2667:TYR:CD1	2.53	0.44
3:A:3756:HIS:ND1	3:A:3802:GLU:OE2	2.48	0.44
3:A:4591:LYS:HE2	3:A:4631:MET:HE3	1.99	0.44
3:B:1408:VAL:O	3:B:1412:MET:HG2	2.18	0.44
3:B:1672:MET:HE2	3:B:1672:MET:N	2.32	0.44
3:B:3887:LEU:HD13	3:B:3887:LEU:HA	1.85	0.44
3:B:4216:GLU:OE2	3:B:4217:ILE:HG13	2.18	0.44
3:B:4714:LEU:HD11	3:B:4754:VAL:HG11	1.99	0.44
3:A:957:PHE:HZ	3:A:1014:PRO:HG2	1.82	0.44
3:A:1672:MET:HE2	3:A:1672:MET:N	2.32	0.44
3:A:2978:LEU:O	3:A:2981:LEU:HG	2.18	0.44
3:A:3007:THR:CB	3:A:3010:LEU:HD22	2.47	0.44
3:A:3210:VAL:HA	3:A:3213:LEU:HG	1.99	0.44
3:A:3852:THR:HG23	3:A:3855:GLN:H	1.83	0.44
3:B:2654:GLU:O	3:B:2658:ASN:ND2	2.30	0.44
3:B:3023:ASN:C	3:B:3023:ASN:OD1	2.61	0.44
3:B:3192:TYR:C	3:B:3192:TYR:CD1	2.94	0.44
3:B:4108:PHE:CD1	3:B:4108:PHE:C	2.95	0.44
3:B:4167:THR:O	3:B:4170:LEU:HB2	2.18	0.44
1:D:120:ASP:HB3	1:D:123:HIS:HB2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:73:MET:HA	2:E:73:MET:HE3	2.00	0.44
3:A:338:TYR:O	3:A:338:TYR:HD1	2.00	0.44
3:A:418:LEU:HA	3:A:421:ILE:HG22	2.00	0.44
3:A:1030:MET:H	3:A:1030:MET:CE	2.29	0.44
3:A:1206:SER:H	3:A:1321:SER:HB2	1.82	0.44
3:A:2968:ASN:O	3:A:2971:HIS:N	2.50	0.44
3:B:418:LEU:HA	3:B:421:ILE:HG22	1.99	0.44
3:B:1816:ASN:O	3:B:1819:MET:HB3	2.18	0.44
3:B:3583:ARG:HG3	3:B:3650:ASN:HD22	1.83	0.44
1:D:293:LEU:HA	1:D:296:LEU:HD23	1.99	0.44
2:F:65:ASP:OD1	2:F:67:PRO:HD2	2.18	0.44
3:A:201:PHE:CZ	3:A:203:PRO:HB3	2.52	0.44
3:A:832:LEU:O	3:A:836:ILE:HG12	2.18	0.44
3:A:834:VAL:O	3:A:838:GLN:HG3	2.18	0.44
3:A:1909:ARG:HH12	3:A:1980:PHE:HB2	1.82	0.44
3:A:2971:HIS:HA	3:A:2974:ARG:HD3	1.99	0.44
3:A:4152:LEU:HD23	1:C:321:GLN:HG2	2.00	0.44
3:A:4479:MET:HA	3:A:4482:CYS:SG	2.58	0.44
3:A:4509:LEU:HD12	3:A:4510:LYS:N	2.33	0.44
3:A:4557:ALA:O	3:A:4560:GLU:HG3	2.18	0.44
1:C:125:THR:HG22	1:C:127:ASP:H	1.83	0.44
3:B:779:CYS:O	3:B:782:VAL:HG12	2.18	0.44
3:B:1227:GLN:CD	3:B:1227:GLN:N	2.76	0.44
3:B:2151:ILE:HD11	3:B:2164:LEU:HD11	2.00	0.44
3:B:3881:GLU:HG2	3:B:3921:MET:SD	2.57	0.44
3:B:4479:MET:SD	3:B:4480:ALA:N	2.91	0.44
3:B:4521:ASN:C	3:B:4521:ASN:OD1	2.61	0.44
3:A:1428:LEU:HB3	3:A:1491:LEU:CD1	2.48	0.44
3:A:3233:LEU:HB3	3:A:3293:PHE:CE2	2.53	0.44
3:A:4167:THR:HA	3:A:4170:LEU:HD23	2.00	0.44
3:B:119:ASP:OD1	3:B:120:GLU:N	2.49	0.44
3:B:1159:LEU:HD12	3:B:1159:LEU:HA	1.88	0.44
3:B:1811:VAL:HA	3:B:1814:MET:SD	2.58	0.44
3:B:2037:PHE:CE2	3:B:2075:MET:HB2	2.52	0.44
3:B:4314:ILE:HD11	3:B:4335:LEU:HD11	1.99	0.44
2:F:116:LYS:HE2	2:F:116:LYS:HB2	1.56	0.44
2:F:132:ASP:OD1	2:F:132:ASP:N	2.38	0.44
3:A:124:VAL:HG22	3:A:151:PHE:CE1	2.52	0.44
3:A:1025:MET:SD	3:A:1025:MET:N	2.82	0.44
3:A:1299:ILE:HD11	3:A:1305:MET:SD	2.58	0.44
3:A:1810:LEU:O	3:A:1814:MET:SD	2.76	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1845:LEU:HD21	3:A:2119:LEU:HD22	2.00	0.44
3:A:3312:ASP:OD1	3:A:3312:ASP:C	2.61	0.44
3:A:4519:LYS:HA	3:A:4519:LYS:HD3	1.87	0.44
3:B:86:THR:HG22	3:B:136:LEU:HD13	1.99	0.44
3:B:127:LYS:HE2	3:B:127:LYS:HB2	1.86	0.44
3:B:680:GLU:H	3:B:680:GLU:CD	2.17	0.44
3:B:2971:HIS:O	3:B:2975:LEU:HG	2.18	0.44
3:B:4495:ILE:HD13	3:B:4505:LEU:HG	1.99	0.44
3:B:4596:MET:SD	3:B:4596:MET:N	2.89	0.44
3:A:678:LEU:HD12	3:A:683:MET:HE2	2.00	0.44
3:A:779:CYS:O	3:A:782:VAL:HG12	2.17	0.44
3:A:1020:ILE:O	3:A:1024:SER:CB	2.56	0.44
3:A:1538:MET:N	3:A:1538:MET:SD	2.90	0.44
3:A:1854:MET:HG3	3:A:2199:ILE:HD11	2.00	0.44
3:A:2323:SER:HB3	3:A:2326:MET:HE1	1.99	0.44
3:A:3295:ILE:HD11	3:A:3391:LEU:HD22	2.00	0.44
3:A:4167:THR:O	3:A:4170:LEU:HB2	2.18	0.44
3:A:4216:GLU:OE1	3:A:4238:LEU:HB2	2.18	0.44
3:A:4310:MET:HA	3:A:4310:MET:HE3	2.00	0.44
3:A:4503:HIS:O	3:A:4507:VAL:HG13	2.17	0.44
3:A:4671:ASN:OD1	3:A:4676:HIS:NE2	2.51	0.44
3:B:2335:GLY:HA3	3:B:2405:ILE:O	2.18	0.44
3:B:3039:VAL:O	3:B:3042:LYS:HG2	2.18	0.44
3:B:4519:LYS:HA	3:B:4519:LYS:HD3	1.85	0.44
3:A:302:LEU:HB3	3:A:377:ILE:HD12	1.99	0.43
3:A:747:LEU:HB2	3:A:805:ASP:HA	1.99	0.43
3:A:1085:TYR:O	3:A:1089:ILE:HG22	2.18	0.43
3:A:3293:PHE:CD1	3:A:3293:PHE:C	2.96	0.43
3:A:3575:THR:OG1	3:A:3714:MET:HB3	2.18	0.43
3:A:3583:ARG:HG3	3:A:3650:ASN:HD22	1.83	0.43
3:A:4206:LEU:HD13	3:A:4262:LEU:HD11	1.99	0.43
3:A:4383:MET:HE3	3:A:4383:MET:HB2	1.82	0.43
3:A:4562:VAL:O	3:A:4565:ILE:HG12	2.18	0.43
1:C:24:CYS:HB2	1:C:46:HIS:HE1	1.83	0.43
3:B:1138:HIS:O	3:B:1142:MET:HB2	2.19	0.43
3:B:1278:LEU:HD23	3:B:1278:LEU:HA	1.89	0.43
3:B:1538:MET:SD	3:B:1538:MET:N	2.91	0.43
3:B:2115:TYR:HB2	3:B:2122:LEU:HD13	2.00	0.43
3:B:4419:LEU:HD21	3:B:4458:SER:HA	2.00	0.43
1:D:323:LEU:HD21	3:B:4059:TRP:CE3	2.53	0.43
3:A:1341:ALA:HA	3:A:1346:PHE:CD2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1377:LEU:HA	3:A:1380:CYS:SG	2.57	0.43
3:A:1429:LYS:HD3	3:A:1433:LYS:HG3	2.00	0.43
3:A:1485:ILE:HA	3:A:1488:ASN:HD22	1.84	0.43
3:A:2151:ILE:HD11	3:A:2164:LEU:HD11	1.99	0.43
3:A:2356:ILE:HD11	3:A:2385:PHE:CD1	2.53	0.43
3:A:2578:ARG:NE	3:A:2662:ASP:OD2	2.46	0.43
3:A:3234:ASP:O	3:A:3238:ARG:HG3	2.18	0.43
3:A:3875:CYS:O	3:A:3879:VAL:HG23	2.17	0.43
3:B:858:LEU:HD23	3:B:858:LEU:HA	1.87	0.43
3:B:1270:LEU:HD23	3:B:1270:LEU:HA	1.87	0.43
3:B:2636:LYS:HB2	3:B:2649:GLY:HA3	2.00	0.43
3:B:4479:MET:HA	3:B:4482:CYS:SG	2.57	0.43
2:F:34:GLY:HA2	2:F:49:LEU:HD21	2.00	0.43
3:A:1159:LEU:HD21	3:A:1299:ILE:HD12	2.00	0.43
3:A:1244:ILE:HA	3:A:1293:ARG:NH2	2.28	0.43
3:A:1483:ASP:OD1	3:A:1483:ASP:N	2.50	0.43
3:A:1538:MET:O	3:A:1542:ALA:CB	2.66	0.43
3:A:1589:HIS:O	3:A:1592:ILE:HG22	2.18	0.43
3:A:1593:LEU:HD12	3:A:1594:GLU:N	2.34	0.43
3:A:2187:PRO:HG2	3:A:2202:ILE:HB	2.00	0.43
3:A:2335:GLY:HA3	3:A:2405:ILE:O	2.18	0.43
3:B:185:ARG:O	3:B:188:GLU:HG3	2.18	0.43
3:B:368:ASP:O	3:B:371:GLU:HG3	2.18	0.43
3:B:1527:ALA:HB2	3:B:1566:ARG:HH12	1.83	0.43
3:B:1585:MET:N	3:B:1585:MET:HE2	2.33	0.43
3:B:1607:THR:HG21	3:B:2488:SER:OG	2.18	0.43
3:B:1690:VAL:HG12	3:B:1716:CYS:HB2	2.00	0.43
3:B:1837:ARG:O	3:B:1840:GLN:HG2	2.18	0.43
3:B:3099:LEU:HD22	3:B:3103:LYS:HZ1	1.83	0.43
3:B:3136:MET:HB2	3:B:3145:VAL:HG21	1.99	0.43
3:B:4347:THR:O	3:B:4374:SER:OG	2.36	0.43
1:D:22:TYR:HD1	1:D:52:MET:SD	2.41	0.43
1:D:25:LEU:HD11	1:D:79:THR:HB	2.00	0.43
3:A:81:SER:O	3:A:85:ILE:HG13	2.18	0.43
3:A:231:SER:HA	3:A:234:LYS:HE2	2.01	0.43
3:A:745:TRP:HE1	3:A:810:HIS:CE1	2.37	0.43
3:A:3047:ALA:O	3:A:3051:VAL:HG13	2.18	0.43
3:A:3099:LEU:HD22	3:A:3103:LYS:HZ1	1.83	0.43
3:A:3192:TYR:C	3:A:3192:TYR:CD2	2.96	0.43
3:A:4495:ILE:HD13	3:A:4505:LEU:HG	2.00	0.43
3:B:1023:LEU:HD21	3:B:1041:TRP:CE3	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:2978:LEU:HD23	3:B:2981:LEU:HD21	2.00	0.43
3:B:4216:GLU:OE1	3:B:4238:LEU:HB2	2.19	0.43
3:A:855:LEU:HA	3:A:855:LEU:HD12	1.77	0.43
3:A:4327:THR:OG1	3:A:4328:PRO:HD3	2.17	0.43
3:B:1206:SER:H	3:B:1321:SER:HB2	1.84	0.43
3:B:2228:THR:HB	3:B:2244:ALA:HB3	2.00	0.43
3:B:3140:PHE:CZ	3:B:3153:PHE:HE1	2.37	0.43
3:B:3293:PHE:C	3:B:3293:PHE:HD1	2.26	0.43
3:B:3307:VAL:O	3:B:3311:VAL:HG23	2.19	0.43
3:B:3920:ALA:O	3:B:3923:GLU:HG3	2.19	0.43
3:B:4518:VAL:O	3:B:4522:ARG:HG2	2.19	0.43
2:E:20:PHE:CE2	2:E:36:VAL:HA	2.53	0.43
3:A:1023:LEU:HD21	3:A:1041:TRP:CE3	2.54	0.43
3:A:2025:ILE:O	3:A:2036:THR:N	2.51	0.43
3:A:4216:GLU:OE2	3:A:4217:ILE:HG13	2.18	0.43
3:A:4695:MET:CE	3:A:4722:ILE:HG21	2.48	0.43
3:A:4714:LEU:HD11	3:A:4754:VAL:HG11	2.00	0.43
3:B:75:SER:HB2	3:B:123:ALA:HB3	2.00	0.43
3:B:263:LEU:HD12	3:B:266:PHE:CD2	2.54	0.43
3:B:745:TRP:HE1	3:B:810:HIS:CE1	2.37	0.43
3:B:1811:VAL:HG11	3:B:2486:LEU:HG	1.99	0.43
3:B:2060:ILE:HG21	3:B:2141:LEU:HD21	2.01	0.43
3:B:2991:VAL:O	3:B:2995:ARG:HD3	2.18	0.43
3:B:3852:THR:HG23	3:B:3855:GLN:H	1.83	0.43
2:E:118:THR:O	2:E:122:VAL:HG22	2.19	0.43
3:A:248:GLN:NE2	3:A:316:PRO:O	2.51	0.43
3:A:711:TYR:OH	3:A:885:LEU:O	2.37	0.43
3:A:1278:LEU:HD23	3:A:1278:LEU:HA	1.89	0.43
3:A:2706:ARG:NH2	3:A:2707:PRO:O	2.52	0.43
3:A:3039:VAL:O	3:A:3042:LYS:HG2	2.18	0.43
3:A:4419:LEU:HD21	3:A:4458:SER:HA	1.99	0.43
3:B:59:SER:O	3:B:63:ILE:HG13	2.19	0.43
3:B:338:TYR:O	3:B:338:TYR:HD1	2.01	0.43
3:B:965:GLU:H	3:B:965:GLU:CD	2.26	0.43
3:B:1538:MET:HA	3:B:1541:MET:SD	2.59	0.43
3:B:1904:SER:N	3:B:1964:GLU:OE1	2.51	0.43
3:B:1909:ARG:HH12	3:B:1980:PHE:HB2	1.83	0.43
3:B:3192:TYR:C	3:B:3192:TYR:HD1	2.27	0.43
3:B:3312:ASP:OD1	3:B:3312:ASP:C	2.61	0.43
3:B:3875:CYS:O	3:B:3879:VAL:HG23	2.19	0.43
3:B:4593:GLN:H	3:B:4593:GLN:CD	2.21	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:78:VAL:HG11	3:A:110:PHE:HD2	1.84	0.43
3:A:187:LYS:O	3:A:191:MET:HG2	2.19	0.43
3:A:1214:LEU:HD13	3:A:1354:LEU:HD12	2.01	0.43
3:A:1930:LEU:HD22	3:A:2219:HIS:CD2	2.54	0.43
3:A:1961:PRO:HB2	3:A:2641:PHE:CZ	2.54	0.43
3:A:2115:TYR:HA	3:A:2122:LEU:HA	2.01	0.43
3:A:2218:ARG:NH2	3:A:2253:LEU:HD13	2.33	0.43
3:A:3045:ARG:HG3	3:A:3050:GLU:OE2	2.19	0.43
3:B:36:LEU:HD22	3:B:84:TYR:HD2	1.84	0.43
3:B:81:SER:O	3:B:85:ILE:HG13	2.19	0.43
3:B:834:VAL:O	3:B:838:GLN:HG3	2.18	0.43
3:B:1593:LEU:O	3:B:1596:THR:OG1	2.30	0.43
3:B:1807:PHE:CD1	3:B:1810:LEU:HD23	2.54	0.43
3:B:1909:ARG:HD3	3:B:1911:HIS:CD2	2.53	0.43
3:B:3271:SER:HA	3:B:3274:GLU:OE1	2.19	0.43
3:B:3295:ILE:HD11	3:B:3391:LEU:HD22	2.00	0.43
2:F:34:GLY:O	2:F:38:ARG:HB3	2.18	0.43
3:A:1214:LEU:HD11	3:A:1383:TYR:CE2	2.54	0.43
3:A:1227:GLN:N	3:A:1227:GLN:CD	2.77	0.43
3:A:1427:VAL:HG22	3:A:1431:PHE:CE2	2.53	0.43
3:A:1477:LYS:HA	3:A:1477:LYS:HD3	1.86	0.43
3:A:2139:THR:HG23	3:A:2140:THR:HG23	2.01	0.43
3:A:2153:SER:OG	3:A:2155:ASN:O	2.36	0.43
3:A:3042:LYS:N	3:A:3042:LYS:HD2	2.34	0.43
3:A:4593:GLN:HA	3:A:4596:MET:HE1	2.00	0.43
3:B:66:HIS:CD2	3:B:74:TYR:CE2	3.07	0.43
3:B:1300:VAL:HG22	3:B:1336:ARG:CZ	2.48	0.43
3:B:1568:LYS:HE2	3:B:1814:MET:HB3	2.00	0.43
3:B:3161:THR:O	3:B:3165:LEU:HD23	2.19	0.43
3:A:195:ASN:C	3:A:195:ASN:OD1	2.62	0.43
3:A:1814:MET:HB2	3:A:1818:LEU:HD23	2.01	0.43
3:A:1837:ARG:O	3:A:1840:GLN:HG2	2.19	0.43
3:A:1909:ARG:HD3	3:A:1911:HIS:CD2	2.53	0.43
3:A:3387:GLN:O	3:A:3391:LEU:HG	2.18	0.43
3:A:4109:LEU:HD13	3:A:4115:ARG:HD3	2.01	0.43
3:A:4347:THR:O	3:A:4374:SER:OG	2.37	0.43
3:B:48:GLU:HA	3:B:51:GLN:NE2	2.33	0.43
3:B:700:GLY:H	3:B:703:ASP:HB3	1.83	0.43
3:B:2038:TYR:CD2	3:B:2085:PRO:HB3	2.54	0.43
3:B:2218:ARG:NH2	3:B:2253:LEU:HD13	2.34	0.43
3:B:2320:ARG:HA	3:B:2326:MET:SD	2.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:3564:LYS:HB3	3:B:3602:ILE:HD11	2.01	0.43
3:A:73:PHE:HB2	3:A:158:ALA:HB1	2.01	0.42
3:A:823:GLU:O	3:A:827:ARG:HG2	2.19	0.42
3:A:2212:GLN:H	3:A:2234:CYS:HA	1.84	0.42
3:A:2214:MET:CE	3:A:2232:LEU:HG	2.48	0.42
3:A:2355:GLN:HB2	3:A:2384:TRP:CE2	2.54	0.42
3:A:2969:ARG:HG2	3:A:2970:LEU:N	2.34	0.42
3:A:3564:LYS:HB3	3:A:3602:ILE:HD11	1.99	0.42
3:A:4252:GLU:OE1	3:A:4252:GLU:N	2.52	0.42
3:A:4598:LEU:HA	3:A:4601:ILE:HD12	2.00	0.42
3:B:73:PHE:CD1	3:B:155:MET:HE1	2.54	0.42
3:B:135:GLY:HA2	3:B:142:ARG:HH21	1.84	0.42
3:B:823:GLU:OE1	3:B:826:ARG:NH2	2.38	0.42
3:B:1593:LEU:HD12	3:B:1594:GLU:N	2.34	0.42
3:B:4533:LEU:HD23	3:B:4587:LEU:HD11	2.00	0.42
3:B:4562:VAL:O	3:B:4565:ILE:HG12	2.19	0.42
3:B:4566:MET:HB3	3:B:4619:ILE:HD11	2.00	0.42
3:A:59:SER:O	3:A:63:ILE:HG13	2.19	0.42
3:A:368:ASP:O	3:A:371:GLU:HG3	2.18	0.42
3:A:1677:TYR:HA	3:A:1707:ALA:N	2.28	0.42
3:A:2038:TYR:CD2	3:A:2085:PRO:HB3	2.54	0.42
3:A:3574:VAL:HG22	3:A:3715:LEU:HD23	2.00	0.42
3:B:855:LEU:HA	3:B:855:LEU:HD12	1.78	0.42
3:B:964:ASP:OD1	3:B:1016:SER:OG	2.37	0.42
3:B:1305:MET:HE1	3:B:1307:PRO:HA	2.01	0.42
3:B:1589:HIS:O	3:B:1592:ILE:HG22	2.19	0.42
3:B:2627:ASN:O	3:B:2631:LYS:HG2	2.19	0.42
3:B:3207:ARG:O	3:B:3210:VAL:HG12	2.19	0.42
3:B:3501:ASN:HB3	3:B:3912:TYR:CE2	2.54	0.42
3:B:4506:THR:O	3:B:4509:LEU:HG	2.19	0.42
3:B:4695:MET:CE	3:B:4722:ILE:HG21	2.49	0.42
3:A:1431:PHE:O	3:A:1434:LEU:HD12	2.19	0.42
3:A:1904:SER:N	3:A:1964:GLU:OE1	2.52	0.42
3:A:3010:LEU:HG	3:A:3021:LEU:HD21	2.01	0.42
3:A:3050:GLU:O	3:A:3054:VAL:HG22	2.19	0.42
3:A:4330:PHE:HA	3:A:4333:GLU:HG3	2.01	0.42
3:B:82:THR:HG22	3:B:107:LEU:HD13	2.01	0.42
3:B:1336:ARG:HE	3:B:1337:ILE:HD11	1.83	0.42
3:B:4489:LEU:HD23	3:B:4489:LEU:HA	1.85	0.42
1:D:86:MET:HB3	3:B:2309:LEU:HB3	2.02	0.42
2:F:21:ASP:HA	2:F:28:ILE:HG22	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:49:LEU:O	3:A:53:VAL:HG23	2.19	0.42
3:A:1300:VAL:HG22	3:A:1336:ARG:CZ	2.49	0.42
3:A:1607:THR:HG21	3:A:2488:SER:OG	2.18	0.42
3:A:2329:ALA:HB3	1:C:64:TYR:HA	2.02	0.42
3:A:2529:LEU:HA	3:A:2532:LEU:HD12	2.01	0.42
3:B:1155:THR:HB	3:B:1298:LEU:HD11	2.02	0.42
3:B:1429:LYS:HD3	3:B:1433:LYS:HG3	2.02	0.42
3:B:1589:HIS:CE1	3:B:1590:VAL:HG23	2.54	0.42
3:B:1909:ARG:NH2	3:B:1980:PHE:O	2.44	0.42
3:B:1930:LEU:HD22	3:B:2219:HIS:CD2	2.53	0.42
3:B:2968:ASN:O	3:B:2971:HIS:HB3	2.19	0.42
3:A:1515:LEU:HD23	3:A:1541:MET:HB2	2.01	0.42
3:A:1560:ALA:HA	3:A:1563:TRP:HB2	2.01	0.42
3:A:2542:HIS:HA	3:A:2545:GLN:OE1	2.20	0.42
3:A:3161:THR:O	3:A:3165:LEU:HD23	2.20	0.42
3:A:3547:LEU:HD21	3:A:3563:VAL:HG11	2.00	0.42
3:B:694:ASP:OD1	3:B:695:LYS:N	2.52	0.42
3:B:1125:ASP:O	3:B:1128:ILE:HG13	2.19	0.42
3:B:1249:ASN:OD1	3:B:1250:ALA:N	2.49	0.42
3:B:1515:LEU:HD23	3:B:1541:MET:HB2	2.00	0.42
3:B:1810:LEU:H	3:B:1810:LEU:HD22	1.85	0.42
3:B:3758:PRO:O	3:B:3761:GLU:HG2	2.19	0.42
2:F:37:MET:HA	2:F:40:LEU:HG	2.00	0.42
3:A:318:LEU:HA	3:A:325:ARG:NH2	2.34	0.42
3:A:642:LYS:HE2	3:A:642:LYS:HB2	1.88	0.42
3:A:1138:HIS:O	3:A:1141:LYS:HG2	2.19	0.42
3:A:2181:GLN:NE2	3:A:2186:VAL:O	2.34	0.42
3:A:2211:ILE:HA	3:A:2234:CYS:HA	2.01	0.42
3:A:4121:LEU:HG	3:A:4161:GLN:HG3	2.01	0.42
3:B:301:SER:O	3:B:304:ILE:HG22	2.20	0.42
3:B:1341:ALA:HA	3:B:1346:PHE:CD2	2.54	0.42
3:B:1596:THR:O	3:B:1599:ILE:HG12	2.19	0.42
3:B:3154:GLU:H	3:B:3154:GLU:HG2	1.71	0.42
3:A:790:MET:SD	3:A:854:ILE:HG23	2.60	0.42
3:A:1125:ASP:O	3:A:1128:ILE:HG13	2.20	0.42
3:A:1589:HIS:CE1	3:A:1590:VAL:HG23	2.54	0.42
3:A:3032:LEU:HD23	3:A:3032:LEU:HA	1.87	0.42
3:A:3633:LEU:HD23	3:A:3633:LEU:HA	1.92	0.42
3:A:3736:VAL:O	3:A:3739:ILE:HG22	2.19	0.42
3:B:34:ARG:HG3	3:B:34:ARG:HH11	1.85	0.42
3:B:128:HIS:O	3:B:131:LEU:HD12	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:1483:ASP:N	3:B:1483:ASP:OD1	2.49	0.42
3:B:3788:THR:O	3:B:3791:SER:OG	2.27	0.42
3:B:4303:GLU:HB3	3:B:4307:LYS:NZ	2.35	0.42
1:D:26:ILE:HG12	1:D:108:VAL:HG12	2.01	0.42
3:A:141:SER:H	3:A:142:ARG:NH2	2.18	0.42
3:A:913:GLU:H	3:A:913:GLU:CD	2.17	0.42
3:A:1155:THR:HB	3:A:1298:LEU:HD11	2.01	0.42
3:A:1314:LEU:HD12	3:A:1330:SER:HB2	2.02	0.42
3:A:2002:ILE:HA	3:A:2019:THR:HG22	2.01	0.42
3:A:2316:GLN:O	3:A:2320:ARG:HG3	2.20	0.42
3:A:3207:ARG:O	3:A:3210:VAL:HG12	2.19	0.42
3:A:3293:PHE:C	3:A:3293:PHE:HD1	2.28	0.42
3:A:4303:GLU:HB3	3:A:4307:LYS:NZ	2.35	0.42
3:B:115:LEU:HD21	3:B:129:LEU:HB2	2.02	0.42
3:B:833:PHE:CZ	3:B:858:LEU:HD22	2.55	0.42
3:B:1090:VAL:HG11	3:B:1131:VAL:HG21	2.01	0.42
3:B:1163:LEU:HD13	3:B:1313:THR:HG21	2.01	0.42
3:B:3042:LYS:N	3:B:3042:LYS:HD2	2.35	0.42
3:B:4492:LEU:HD13	3:B:4508:LEU:HD23	2.01	0.42
3:B:4566:MET:N	3:B:4566:MET:SD	2.93	0.42
1:D:4:HIS:NE2	1:D:19:GLY:O	2.48	0.42
3:A:131:LEU:HB2	3:A:142:ARG:CG	2.49	0.42
3:A:963:TYR:OH	3:A:1014:PRO:O	2.32	0.42
3:B:747:LEU:HB2	3:B:805:ASP:HA	2.02	0.42
3:B:1254:ASP:C	3:B:1254:ASP:OD1	2.63	0.42
3:B:1976:HIS:CD2	3:B:1991:VAL:HG13	2.55	0.42
3:B:2662:ASP:OD1	3:B:2662:ASP:C	2.63	0.42
3:B:2700:ALA:O	3:B:2703:ARG:HG3	2.20	0.42
3:B:3141:LEU:O	3:B:3145:VAL:HG23	2.19	0.42
3:B:4438:MET:HE3	3:B:4440:ILE:HG13	2.02	0.42
3:B:4622:TYR:OH	3:B:4670:LYS:NZ	2.53	0.42
3:A:1994:PRO:HG3	3:A:2002:ILE:HD11	2.01	0.42
3:A:2121:MET:HE1	3:A:2123:PHE:CE2	2.55	0.42
3:A:4438:MET:HE3	3:A:4440:ILE:HG13	2.02	0.42
3:B:1564:LEU:O	3:B:1568:LYS:N	2.43	0.42
3:B:2016:ALA:HB2	3:B:2025:ILE:HG12	2.02	0.42
3:B:2356:ILE:HD11	3:B:2385:PHE:CD1	2.55	0.42
3:B:4596:MET:CE	3:B:4596:MET:H	2.33	0.42
3:B:4694:TYR:HB3	3:B:4695:MET:HE2	2.02	0.42
3:A:36:LEU:HD22	3:A:84:TYR:HD2	1.84	0.41
3:A:1908:ARG:NH1	3:A:1910:GLN:OE1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2661:VAL:HG23	3:A:2682:TYR:CE1	2.50	0.41
3:B:1083:VAL:O	3:B:1087:VAL:HG22	2.20	0.41
3:B:1296:GLY:O	3:B:1299:ILE:HG22	2.20	0.41
3:B:1899:MET:HE2	3:B:1899:MET:HB2	1.92	0.41
3:B:2355:GLN:HB2	3:B:2384:TRP:CE2	2.54	0.41
2:E:22:LYS:HD3	2:E:22:LYS:N	2.35	0.41
3:A:1600:MET:HE3	3:A:1600:MET:N	2.34	0.41
3:A:3021:LEU:O	3:A:3024:LEU:HG	2.21	0.41
3:A:3051:VAL:HA	3:A:3054:VAL:HG22	2.02	0.41
3:A:3979:ILE:HG21	3:A:4019:ILE:HG23	2.02	0.41
3:A:4286:GLU:OE1	3:A:4286:GLU:HA	2.19	0.41
1:C:61:PHE:CE2	1:C:72:VAL:HG23	2.55	0.41
3:B:1116:PRO:HD3	3:B:1172:PHE:CE1	2.55	0.41
3:B:2335:GLY:HA2	3:B:2405:ILE:O	2.20	0.41
3:B:3158:GLN:OE1	3:B:3158:GLN:N	2.44	0.41
2:F:116:LYS:HZ2	3:B:4077:ILE:H	1.68	0.41
3:A:418:LEU:HA	3:A:418:LEU:HD23	1.95	0.41
3:A:695:LYS:HE3	3:A:695:LYS:HB3	1.87	0.41
3:A:2311:VAL:HG11	1:C:64:TYR:CD1	2.55	0.41
3:A:3218:CYS:O	3:A:3220:SER:N	2.52	0.41
3:A:3259:SER:HB2	3:A:3848:GLN:HG2	2.02	0.41
3:A:4043:THR:HG22	3:A:4045:VAL:H	1.85	0.41
3:A:4637:ARG:HH21	3:A:4638:PHE:HE1	1.68	0.41
1:C:24:CYS:CB	1:C:46:HIS:HE1	2.34	0.41
3:B:124:VAL:HG12	3:B:128:HIS:HB2	2.02	0.41
3:B:1563:TRP:O	3:B:1566:ARG:HB2	2.20	0.41
3:B:2153:SER:OG	3:B:2155:ASN:O	2.37	0.41
3:B:2211:ILE:HA	3:B:2234:CYS:HA	2.02	0.41
3:B:2993:GLY:HA3	3:B:3050:GLU:HB3	2.01	0.41
1:D:22:TYR:HB3	1:D:52:MET:SD	2.60	0.41
1:D:65:TYR:OH	3:B:2311:VAL:O	2.29	0.41
3:A:263:LEU:HD12	3:A:266:PHE:CD2	2.55	0.41
3:A:1334:LEU:HD23	3:A:1334:LEU:HA	1.79	0.41
3:A:1814:MET:HA	3:A:1817:PHE:CE1	2.55	0.41
3:A:2564:ASP:OD1	3:A:2564:ASP:C	2.63	0.41
3:A:2700:ALA:O	3:A:2703:ARG:HG3	2.20	0.41
3:A:3015:GLU:HA	3:A:3018:LYS:HG2	2.02	0.41
3:A:3557:THR:O	3:A:3699:LEU:HB2	2.21	0.41
3:A:3725:PRO:HA	3:A:3827:GLU:OE2	2.20	0.41
3:A:3997:PHE:HB2	3:A:4016:CYS:HB3	2.02	0.41
3:A:4257:HIS:HE1	3:A:4261:ARG:NH2	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:4506:THR:O	3:A:4509:LEU:HG	2.19	0.41
3:B:108:ILE:HD13	3:B:108:ILE:HA	1.82	0.41
3:B:152:THR:O	3:B:155:MET:HB3	2.20	0.41
3:B:879:GLN:HA	3:B:907:LEU:HD21	2.02	0.41
3:B:1537:LEU:HB3	3:B:1541:MET:HE1	2.02	0.41
3:B:2540:HIS:CG	3:B:2543:LYS:HZ2	2.38	0.41
3:B:2988:LEU:HD23	3:B:2996:ALA:HB1	2.01	0.41
3:B:3167:LEU:O	3:B:3171:ILE:HG12	2.20	0.41
3:B:3690:ILE:HB	3:B:3692:TYR:CE1	2.55	0.41
1:D:20:ARG:HD3	1:D:64:TYR:OH	2.20	0.41
3:A:911:PHE:HD1	3:A:911:PHE:HA	1.76	0.41
3:A:1191:SER:H	3:A:1194:LYS:CE	2.34	0.41
3:A:1412:MET:HG3	3:A:1463:ARG:HH21	1.86	0.41
3:A:1563:TRP:O	3:A:1566:ARG:HB2	2.20	0.41
3:A:1960:ASN:HA	3:A:2007:TRP:CD1	2.55	0.41
3:A:2113:VAL:HG22	3:A:2122:LEU:HD11	2.03	0.41
3:A:2486:LEU:HD23	3:A:2486:LEU:HA	1.93	0.41
3:A:3920:ALA:O	3:A:3923:GLU:HG3	2.20	0.41
3:A:4206:LEU:HB2	3:A:4207:PRO:HD3	2.02	0.41
1:C:91:THR:O	1:C:94:GLN:HG2	2.21	0.41
3:B:318:LEU:HA	3:B:325:ARG:NH2	2.35	0.41
3:B:2139:THR:HG23	3:B:2140:THR:HG23	2.02	0.41
3:B:2486:LEU:HD23	3:B:2486:LEU:HA	1.92	0.41
3:B:3659:GLN:HG2	3:B:3664:SER:HA	2.03	0.41
3:B:3857:ARG:HH21	3:B:3862:LEU:HD23	1.84	0.41
3:B:4145:ALA:O	3:B:4149:VAL:HG22	2.21	0.41
3:B:4167:THR:HA	3:B:4170:LEU:HD23	2.02	0.41
3:B:4330:PHE:HA	3:B:4333:GLU:HG3	2.01	0.41
3:A:119:ASP:OD1	3:A:120:GLU:N	2.49	0.41
3:A:1064:LYS:HZ3	3:A:1066:GLU:HB2	1.86	0.41
3:A:1178:LEU:HD23	3:A:1178:LEU:HA	1.84	0.41
3:A:1249:ASN:OD1	3:A:1250:ALA:N	2.50	0.41
3:A:1362:LEU:HD23	3:A:1362:LEU:HA	1.89	0.41
3:A:1690:VAL:HG12	3:A:1716:CYS:HB2	2.01	0.41
3:A:2483:LEU:HB2	3:A:2524:GLN:HE21	1.86	0.41
3:A:2662:ASP:OD1	3:A:2662:ASP:C	2.63	0.41
3:A:4148:ILE:HD13	3:A:4148:ILE:HA	1.89	0.41
3:A:4566:MET:N	3:A:4566:MET:SD	2.93	0.41
1:C:26:ILE:HG12	1:C:108:VAL:HG12	2.02	0.41
3:B:1960:ASN:HA	3:B:2007:TRP:CD1	2.56	0.41
3:B:3000:MET:H	3:B:3000:MET:HG2	1.64	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:3612:TRP:CH2	3:B:3641:MET:HB2	2.55	0.41
3:B:4043:THR:HG22	3:B:4045:VAL:H	1.86	0.41
1:D:25:LEU:HD21	1:D:53:GLN:HB2	2.02	0.41
3:A:141:SER:OG	3:A:142:ARG:NH1	2.54	0.41
3:A:655:LEU:HD12	3:A:655:LEU:HA	1.88	0.41
3:A:1006:LEU:HA	3:A:1009:ILE:HG22	2.02	0.41
3:A:2181:GLN:HE22	3:A:2188:LEU:HD12	1.86	0.41
3:A:2480:VAL:HA	3:A:2524:GLN:HE22	1.84	0.41
3:A:2699:GLN:HA	3:A:2702:ILE:HG12	2.02	0.41
3:A:2982:LEU:O	3:A:2985:LEU:HG	2.20	0.41
3:A:4669:ILE:HG21	3:A:4679:LYS:HG3	2.02	0.41
3:B:105:LYS:HE2	3:B:250:LEU:HD21	2.03	0.41
3:B:125:SER:O	3:B:129:LEU:HG	2.21	0.41
3:B:957:PHE:HZ	3:B:1014:PRO:HG2	1.85	0.41
3:B:1468:LEU:O	3:B:1472:THR:OG1	2.23	0.41
3:B:1846:HIS:NE2	3:B:2144:LEU:HD23	2.35	0.41
3:B:2517:ALA:HB3	3:B:2522:GLN:OE1	2.20	0.41
3:B:2999:TYR:O	3:B:3003:ILE:HG13	2.21	0.41
3:B:3574:VAL:HG22	3:B:3715:LEU:HD23	2.01	0.41
3:B:3954:ALA:HA	3:B:3964:LEU:HD22	2.03	0.41
3:B:4497:ASP:OD1	3:B:4500:GLN:N	2.35	0.41
2:F:65:ASP:OD1	2:F:65:ASP:C	2.64	0.41
3:A:53:VAL:HG13	3:A:103:ALA:HB2	2.03	0.41
3:A:1596:THR:O	3:A:1599:ILE:HG12	2.21	0.41
3:A:2219:HIS:ND1	3:A:2220:THR:O	2.51	0.41
3:A:2499:GLU:O	3:A:2502:LYS:NZ	2.40	0.41
3:A:3501:ASN:HB3	3:A:3912:TYR:CE2	2.56	0.41
3:B:1280:LEU:HD23	3:B:1280:LEU:HA	1.81	0.41
3:B:3057:ARG:O	3:B:3061:VAL:HG23	2.20	0.41
3:B:3218:CYS:O	3:B:3220:SER:N	2.53	0.41
3:B:4637:ARG:HH21	3:B:4638:PHE:HE1	1.67	0.41
1:D:301:MET:HE2	1:D:301:MET:HB3	1.95	0.41
3:A:56:VAL:HG12	3:A:106:VAL:HG11	2.03	0.41
3:A:735:LEU:HB3	3:A:737:VAL:HG22	2.03	0.41
3:A:1023:LEU:HD11	3:A:1041:TRP:HZ3	1.86	0.41
3:A:1083:VAL:O	3:A:1087:VAL:HG22	2.21	0.41
3:A:1090:VAL:HG11	3:A:1131:VAL:HG21	2.03	0.41
3:A:1214:LEU:O	3:A:1217:THR:OG1	2.39	0.41
3:A:1417:GLU:HA	3:A:1470:ARG:NH1	2.36	0.41
3:A:1521:MET:H	3:A:1521:MET:CE	2.34	0.41
3:A:1534:PHE:HA	3:A:1537:LEU:HG	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2517:ALA:HB3	3:A:2522:GLN:OE1	2.21	0.41
3:A:3536:ASN:HB3	3:A:3815:SER:OG	2.20	0.41
3:A:3818:ILE:HD13	3:A:3818:ILE:HA	1.89	0.41
3:A:3985:CYS:HB3	3:A:3988:LEU:HD12	2.02	0.41
3:A:4352:THR:HG22	3:A:4354:GLU:HG3	2.03	0.41
3:A:4694:TYR:HB3	3:A:4695:MET:CE	2.51	0.41
3:B:833:PHE:HZ	3:B:858:LEU:O	2.04	0.41
3:B:1005:ILE:O	3:B:1009:ILE:HG22	2.20	0.41
3:B:1822:ILE:HG22	3:B:2475:LEU:HB3	2.02	0.41
3:B:1908:ARG:NH1	3:B:1910:GLN:OE1	2.54	0.41
3:B:2212:GLN:H	3:B:2234:CYS:HA	1.85	0.41
3:B:3997:PHE:HB2	3:B:4016:CYS:HB3	2.02	0.41
3:B:4596:MET:HA	3:B:4599:ASP:OD1	2.21	0.41
3:B:4598:LEU:HD23	3:B:4601:ILE:HD12	2.02	0.41
3:B:4631:MET:H	3:B:4631:MET:HG2	1.67	0.41
3:A:302:LEU:HD12	3:A:377:ILE:HD11	2.02	0.41
3:A:1387:GLN:HE22	3:A:1397:MET:CG	2.34	0.41
3:A:1524:GLU:O	3:A:1528:ASN:ND2	2.45	0.41
3:A:1859:MET:HB3	3:A:2200:GLN:HE22	1.86	0.41
3:A:1899:MET:SD	3:A:2213:ASP:HB2	2.61	0.41
3:A:2061:ILE:HG23	3:A:2073:GLN:HB3	2.03	0.41
3:A:4228:LEU:HD23	3:A:4228:LEU:O	2.21	0.41
3:B:1809:PRO:O	3:B:1812:LEU:HD12	2.21	0.41
3:B:1961:PRO:HB2	3:B:2641:PHE:CZ	2.55	0.41
3:B:2653:ILE:H	3:B:2653:ILE:HG12	1.65	0.41
3:B:3106:LEU:HD13	3:B:3193:PHE:CE1	2.56	0.41
1:D:79:THR:O	1:D:111:PRO:HG3	2.22	0.40
2:F:68:GLU:O	2:F:72:MET:HG3	2.20	0.40
3:A:1092:GLU:O	3:A:1096:ARG:HG3	2.21	0.40
3:A:1846:HIS:NE2	3:A:2144:LEU:HD23	2.36	0.40
3:A:3586:MET:SD	3:A:3648:TYR:HB3	2.61	0.40
3:B:1426:ARG:HD2	3:B:1426:ARG:HA	1.80	0.40
3:B:1514:LEU:HD23	3:B:1544:LEU:HD11	2.03	0.40
3:B:3090:LEU:HD13	3:B:3090:LEU:HA	1.97	0.40
3:B:3551:LYS:HE2	3:B:3554:THR:HB	2.03	0.40
3:B:4671:ASN:OD1	3:B:4676:HIS:NE2	2.54	0.40
3:A:152:THR:O	3:A:155:MET:HB3	2.21	0.40
3:A:1020:ILE:HD13	3:A:1041:TRP:CH2	2.56	0.40
3:A:1270:LEU:HD23	3:A:1270:LEU:HA	1.87	0.40
3:A:2067:ALA:O	3:A:2105:GLN:HA	2.22	0.40
3:A:2666:GLY:O	3:A:2669:THR:OG1	2.31	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2702:ILE:HA	3:A:3005:MET:SD	2.61	0.40
3:A:3233:LEU:HB3	3:A:3293:PHE:CD2	2.56	0.40
3:A:4055:GLN:HG2	3:A:4119:LEU:HD23	2.03	0.40
1:C:25:LEU:HD21	1:C:53:GLN:HB2	2.03	0.40
1:C:301:MET:HE2	1:C:301:MET:HB3	1.95	0.40
3:B:699:LYS:HA	3:B:699:LYS:HD3	1.74	0.40
3:B:742:GLU:OE1	3:B:742:GLU:N	2.40	0.40
3:B:1020:ILE:HD13	3:B:1041:TRP:CH2	2.56	0.40
3:B:1191:SER:H	3:B:1194:LYS:NZ	2.19	0.40
3:B:1378:GLU:OE1	3:B:1378:GLU:HA	2.21	0.40
3:B:1854:MET:HG3	3:B:2199:ILE:HD11	2.02	0.40
3:B:2151:ILE:O	3:B:2161:SER:OG	2.31	0.40
3:B:2342:ASN:ND2	3:B:2347:MET:SD	2.94	0.40
3:B:2550:LYS:HD3	3:B:2551:ALA:N	2.36	0.40
3:B:3053:LEU:O	3:B:3056:MET:HG2	2.21	0.40
3:B:3220:SER:OG	3:B:3222:GLU:OE2	2.40	0.40
3:B:3683:GLN:HB3	3:B:3690:ILE:HG12	2.02	0.40
3:B:4206:LEU:HB2	3:B:4207:PRO:HD3	2.02	0.40
2:E:94:ASP:OD1	2:E:99:GLY:N	2.42	0.40
2:F:94:ASP:OD1	2:F:99:GLY:N	2.40	0.40
2:F:96:ASP:OD1	2:F:96:ASP:N	2.54	0.40
2:F:141:GLU:O	2:F:144:GLN:HG3	2.21	0.40
3:A:1596:THR:HA	3:A:1599:ILE:HG12	2.04	0.40
3:A:1692:THR:OG1	3:A:2293:GLU:OE2	2.24	0.40
3:A:3167:LEU:N	3:A:3168:PRO:HD2	2.37	0.40
3:A:4373:SER:HB3	3:A:4376:GLU:HG3	2.04	0.40
3:B:531:MET:HE3	3:B:531:MET:HB3	1.95	0.40
3:B:807:ASN:OD1	3:B:807:ASN:N	2.54	0.40
3:B:1135:LEU:HD23	3:B:1135:LEU:HA	1.86	0.40
3:B:1417:GLU:HA	3:B:1470:ARG:NH1	2.37	0.40
3:B:1551:ALA:O	3:B:1554:LEU:HB2	2.21	0.40
3:B:2503:ASN:O	3:B:2506:GLN:HG2	2.22	0.40
3:B:2566:ASP:HB2	3:B:2569:VAL:HG12	2.04	0.40
3:B:2700:ALA:HA	3:B:2703:ARG:HG2	2.03	0.40
3:B:3441:LYS:O	3:B:3445:GLU:HG3	2.21	0.40
1:D:85:LYS:HD2	1:D:85:LYS:HA	1.92	0.40
1:D:321:GLN:HG2	3:B:4152:LEU:HD23	2.03	0.40
3:A:1064:LYS:HZ2	3:A:1066:GLU:HB2	1.87	0.40
3:A:1195:LEU:HD23	3:A:1195:LEU:HA	1.83	0.40
3:A:1497:THR:HA	3:A:1500:VAL:HG22	2.02	0.40
3:A:1976:HIS:CD2	3:A:1991:VAL:HG13	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2131:SER:HB3	3:A:2149:ILE:HD12	2.03	0.40
3:A:3090:LEU:HD13	3:A:3090:LEU:HA	1.93	0.40
3:A:3659:GLN:HG2	3:A:3664:SER:HA	2.03	0.40
3:A:3758:PRO:O	3:A:3761:GLU:HG2	2.20	0.40
3:A:3954:ALA:HA	3:A:3964:LEU:HD22	2.03	0.40
1:C:88:TYR:HD1	1:C:92:SER:HB3	1.85	0.40
3:B:195:ASN:OD1	3:B:195:ASN:C	2.64	0.40
3:B:1471:MET:N	3:B:1471:MET:SD	2.94	0.40
3:B:2018:VAL:HG21	3:B:2049:VAL:HB	2.04	0.40
3:B:4019:ILE:HD13	3:B:4019:ILE:HA	1.91	0.40
3:B:4738:VAL:O	3:B:4742:THR:OG1	2.34	0.40
3:A:531:MET:HE3	3:A:531:MET:HB3	1.92	0.40
3:A:791:LYS:HD3	3:A:836:ILE:HD12	2.04	0.40
3:A:2121:MET:SD	3:A:2133:ALA:HB1	2.62	0.40
3:A:3170:GLN:O	3:A:3173:LYS:HG3	2.22	0.40
3:A:3907:ARG:NH1	3:A:3946:LEU:HD21	2.36	0.40
3:A:4591:LYS:HB2	3:A:4630:LYS:HD2	2.04	0.40
3:A:4593:GLN:H	3:A:4593:GLN:CD	2.21	0.40
3:B:1191:SER:H	3:B:1194:LYS:CE	2.35	0.40
3:B:3170:GLN:O	3:B:3173:LYS:HG3	2.22	0.40
3:B:3818:ILE:HD13	3:B:3818:ILE:HA	1.89	0.40
3:B:4373:SER:HB3	3:B:4376:GLU:HG3	2.03	0.40
3:B:4616:LEU:HD12	3:B:4617:LEU:N	2.36	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	C	177/331 (54%)	173 (98%)	4 (2%)	0	100	100
1	D	177/331 (54%)	174 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	E	147/158 (93%)	144 (98%)	3 (2%)	0	100	100
2	F	147/158 (93%)	144 (98%)	3 (2%)	0	100	100
3	A	3999/4781 (84%)	3856 (96%)	142 (4%)	1 (0%)	100	100
3	B	3999/4781 (84%)	3862 (97%)	136 (3%)	1 (0%)	100	100
All	All	8646/10540 (82%)	8353 (97%)	291 (3%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	923	SER
3	B	923	SER

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	C	160/287 (56%)	160 (100%)	0	100	100
1	D	160/287 (56%)	156 (98%)	4 (2%)	42	69
2	E	127/136 (93%)	124 (98%)	3 (2%)	43	69
2	F	127/136 (93%)	123 (97%)	4 (3%)	35	64
3	A	3569/4176 (86%)	3505 (98%)	64 (2%)	51	73
3	B	3569/4176 (86%)	3500 (98%)	69 (2%)	50	73
All	All	7712/9198 (84%)	7568 (98%)	144 (2%)	49	73

All (144) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	27	CYS
1	D	82	TYR
1	D	83	CYS
1	D	110	CYS
2	E	27	THR

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Mol	Chain	Res	Type
2	E	48	GLU
2	E	86	ILE
2	F	27	THR
2	F	86	ILE
2	F	92	VAL
2	F	109	VAL
3	A	127	LYS
3	A	194	LEU
3	A	277	VAL
3	A	278	LEU
3	A	302	LEU
3	A	315	LEU
3	A	334	LEU
3	A	341	VAL
3	A	368	ASP
3	A	382	LEU
3	A	422	LEU
3	A	481	ILE
3	A	512	MET
3	A	695	LYS
3	A	714	ASN
3	A	722	LEU
3	A	845	ASP
3	A	916	GLU
3	A	951	VAL
3	A	1051	VAL
3	A	1052	ASN
3	A	1073	GLU
3	A	1159	LEU
3	A	1288	LEU
3	A	1384	LEU
3	A	1435	PHE
3	A	1453	LEU
3	A	1528	ASN
3	A	1543	THR
3	A	1899	MET
3	A	1977	VAL
3	A	1990	LEU
3	A	2063	ILE
3	A	2143	VAL
3	A	2515	LEU
3	A	2672	LEU

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Mol	Chain	Res	Type
3	A	2972	MET
3	A	3000	MET
3	A	3005	MET
3	A	3163	MET
3	A	3166	ARG
3	A	3214	LEU
3	A	3224	TYR
3	A	3233	LEU
3	A	3244	LEU
3	A	3267	ASP
3	A	3271	SER
3	A	3311	VAL
3	A	3483	GLU
3	A	3504	LEU
3	A	3540	VAL
3	A	3550	ILE
3	A	3682	TYR
3	A	3792	VAL
3	A	3826	LYS
3	A	3830	GLU
3	A	3887	LEU
3	A	3925	VAL
3	A	4109	LEU
3	A	4170	LEU
3	A	4229	SER
3	A	4296	GLU
3	A	4613	LEU
3	A	4616	LEU
3	B	80	LEU
3	B	194	LEU
3	B	277	VAL
3	B	278	LEU
3	B	302	LEU
3	B	315	LEU
3	B	334	LEU
3	B	341	VAL
3	B	368	ASP
3	B	382	LEU
3	B	422	LEU
3	B	481	ILE
3	B	714	ASN
3	B	722	LEU

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Mol	Chain	Res	Type
3	B	845	ASP
3	B	916	GLU
3	B	951	VAL
3	B	970	LEU
3	B	1051	VAL
3	B	1052	ASN
3	B	1092	GLU
3	B	1131	VAL
3	B	1159	LEU
3	B	1167	ASP
3	B	1288	LEU
3	B	1299	ILE
3	B	1410	ILE
3	B	1434	LEU
3	B	1435	PHE
3	B	1453	LEU
3	B	1528	ASN
3	B	1543	THR
3	B	1899	MET
3	B	1977	VAL
3	B	1990	LEU
3	B	2063	ILE
3	B	2143	VAL
3	B	2672	LEU
3	B	3000	MET
3	B	3163	MET
3	B	3166	ARG
3	B	3201	GLN
3	B	3214	LEU
3	B	3224	TYR
3	B	3233	LEU
3	B	3242	LYS
3	B	3244	LEU
3	B	3249	ILE
3	B	3267	ASP
3	B	3311	VAL
3	B	3405	LYS
3	B	3483	GLU
3	B	3504	LEU
3	B	3540	VAL
3	B	3550	ILE
3	B	3575	THR

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Mol	Chain	Res	Type
3	B	3682	TYR
3	B	3720	CYS
3	B	3792	VAL
3	B	3826	LYS
3	B	3830	GLU
3	B	3832	ASP
3	B	3887	LEU
3	B	3925	VAL
3	B	4131	GLN
3	B	4170	LEU
3	B	4186	LEU
3	B	4228	LEU
3	B	4296	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (59) such sidechains are listed below:

Mol	Chain	Res	Type
1	D	122	ASN
1	D	131	HIS
2	E	9	GLN
2	F	9	GLN
2	F	42	GLN
3	A	128	HIS
3	A	196	GLN
3	A	202	ASN
3	A	237	ASN
3	A	404	GLN
3	A	479	HIS
3	A	882	HIS
3	A	1179	GLN
3	A	1266	GLN
3	A	1387	GLN
3	A	1409	GLN
3	A	1488	ASN
3	A	1876	ASN
3	A	1976	HIS
3	A	2166	GLN
3	A	2245	ASN
3	A	2248	ASN
3	A	2310	GLN
3	A	2319	HIS
3	A	2987	GLN

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Mol	Chain	Res	Type
3	A	3201	GLN
3	A	3231	HIS
3	A	3306	GLN
3	A	3400	ASN
3	A	3500	GLN
3	A	3506	ASN
3	A	3591	ASN
3	A	3927	GLN
3	A	4651	HIS
1	C	46	HIS
1	C	122	ASN
3	B	202	ASN
3	B	479	HIS
3	B	881	GLN
3	B	1179	GLN
3	B	1266	GLN
3	B	1488	ASN
3	B	1823	GLN
3	B	1876	ASN
3	B	2166	GLN
3	B	2245	ASN
3	B	2248	ASN
3	B	2319	HIS
3	B	2501	ASN
3	B	3113	GLN
3	B	3306	GLN
3	B	3400	ASN
3	B	3506	ASN
3	B	3569	HIS
3	B	3759	GLN
3	B	3762	ASN
3	B	3927	GLN
3	B	4602	ASN
3	B	4690	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 20 ligands modelled in this entry, 20 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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

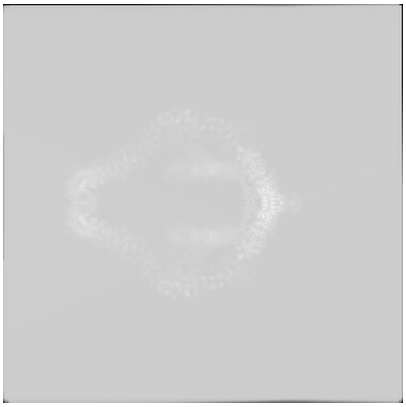
This section contains visualisations of the EMDB entry EMD-52490. These allow visual inspection of the internal detail of the map and identification of artifacts.

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.

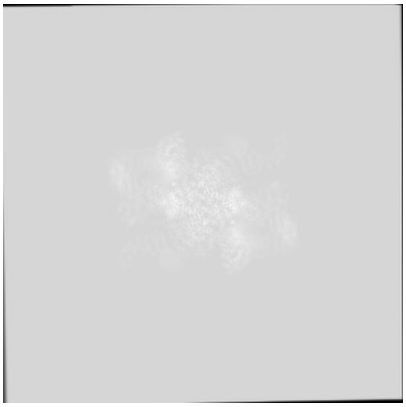
6.1 Orthogonal projections

6.1.1 Primary map

X



Y

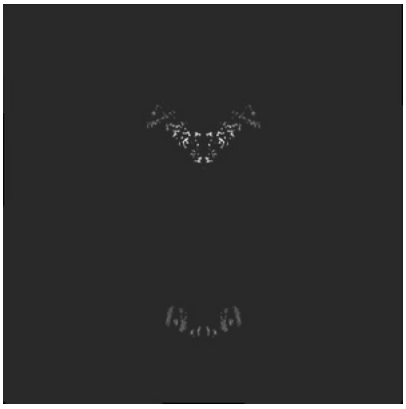


Z

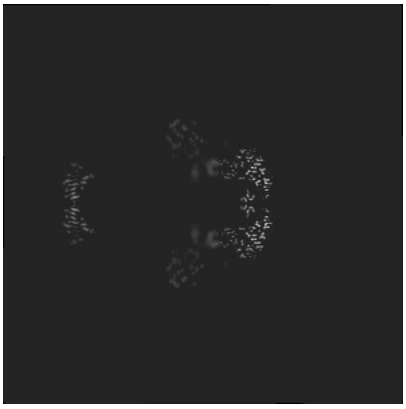
The images above show the map projected in three orthogonal directions.

6.2 Central slices

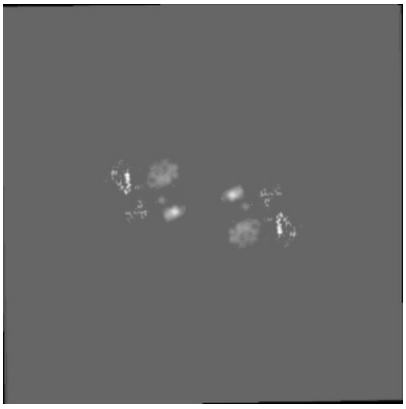
6.2.1 Primary map



X Index: 192



Y Index: 192

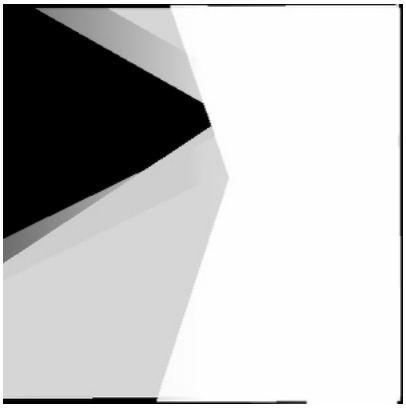


Z Index: 192

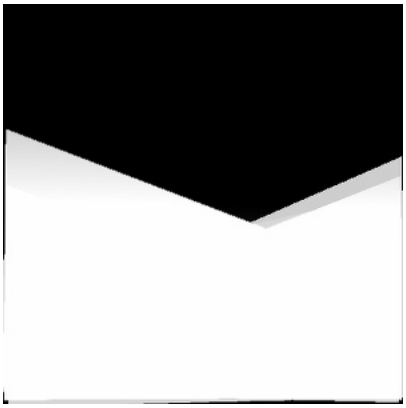
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

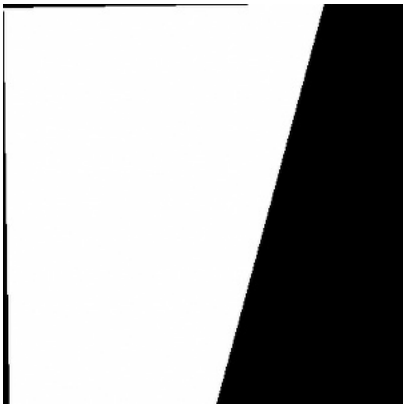
6.3.1 Primary map



X Index: 0



Y Index: 0

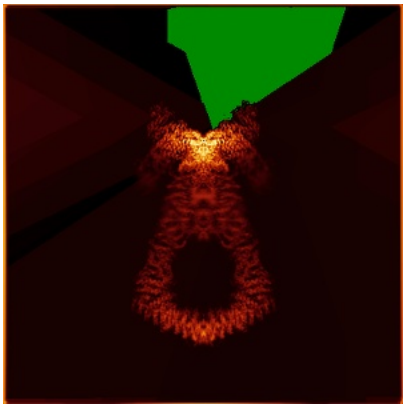


Z Index: 383

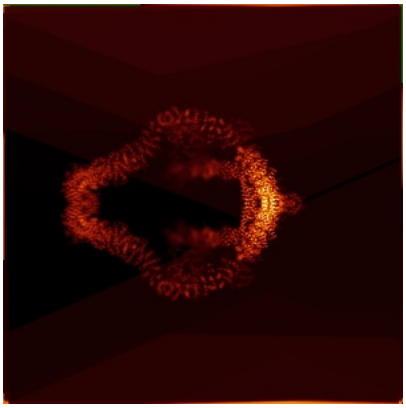
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

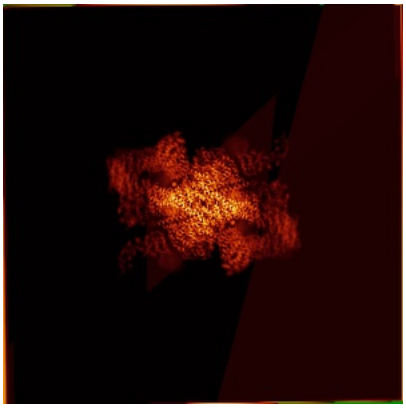
6.4.1 Primary map



X



Y

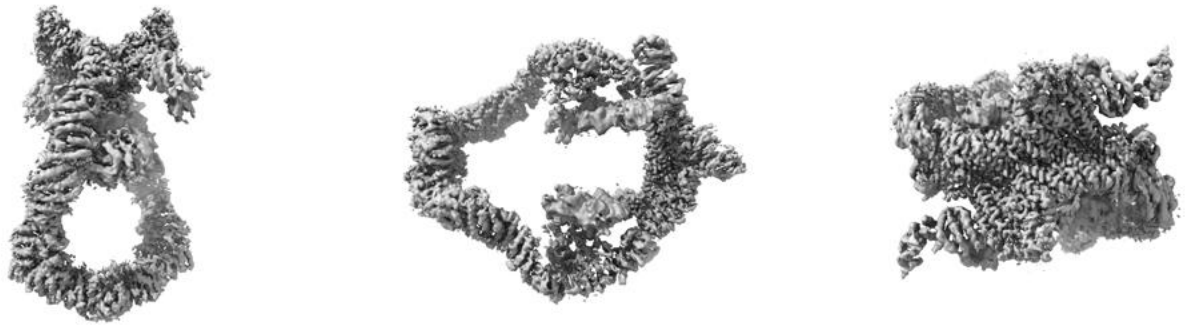


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0089. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

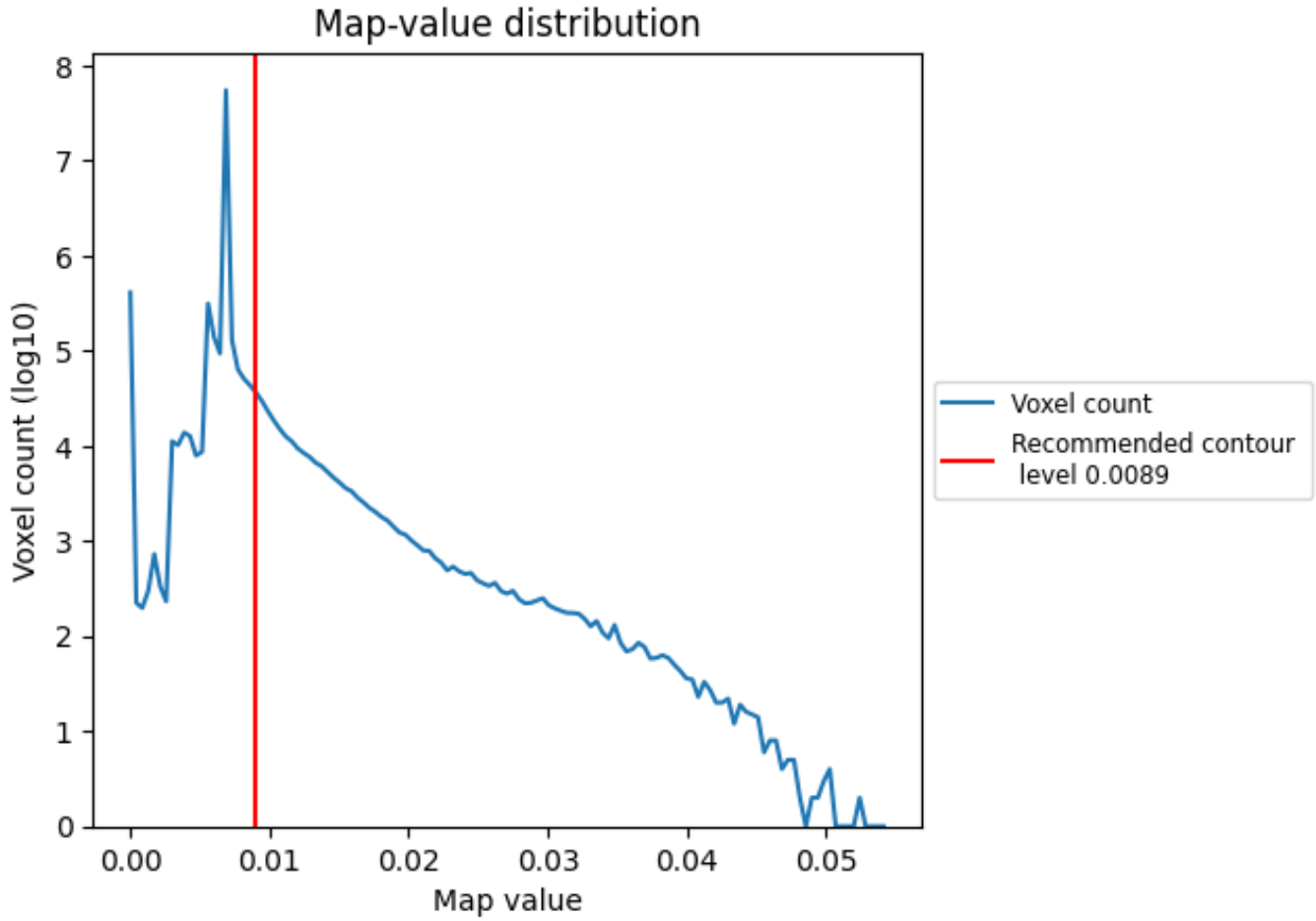
6.6 Mask visualisation (i)

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

7 Map analysis

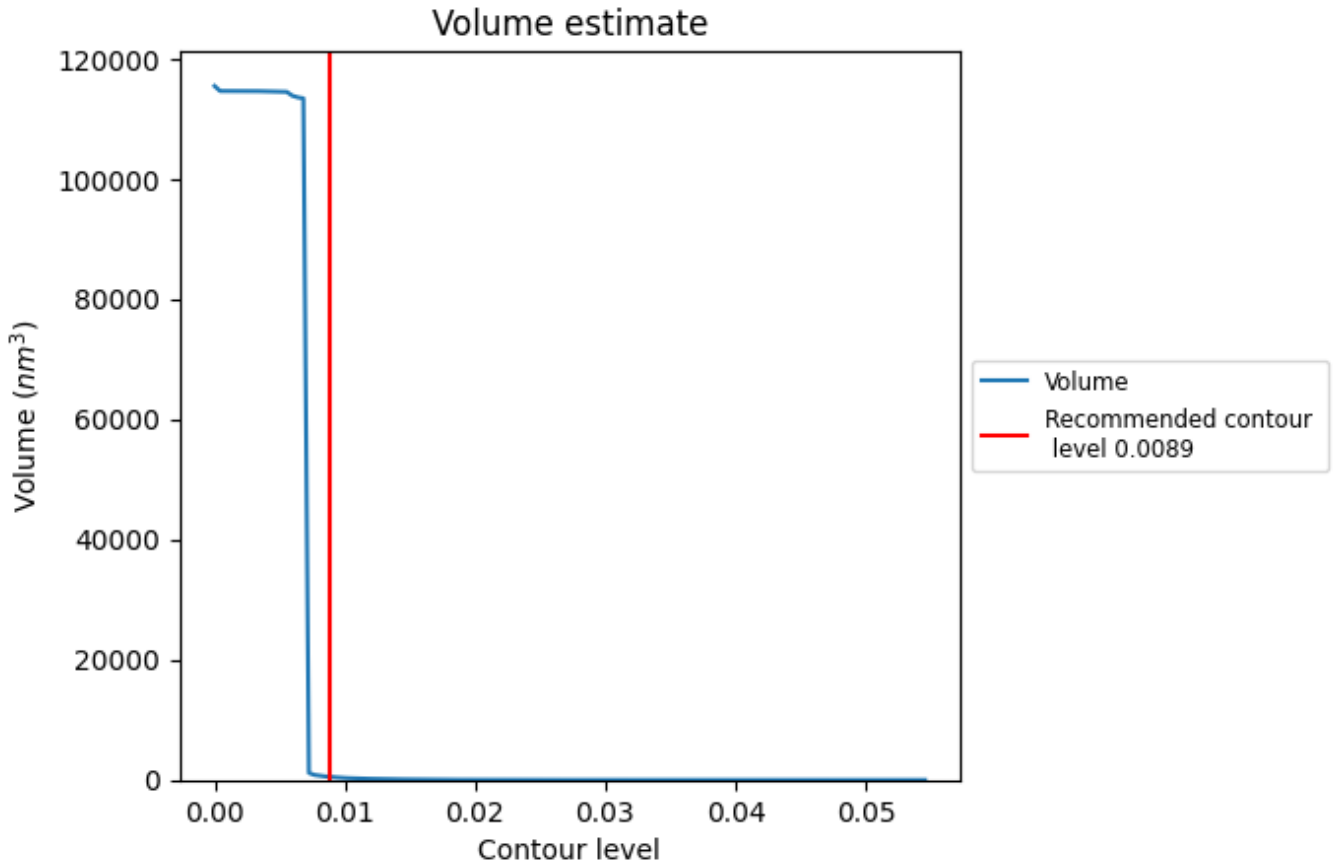
This section contains the results of statistical analysis of the map.

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.

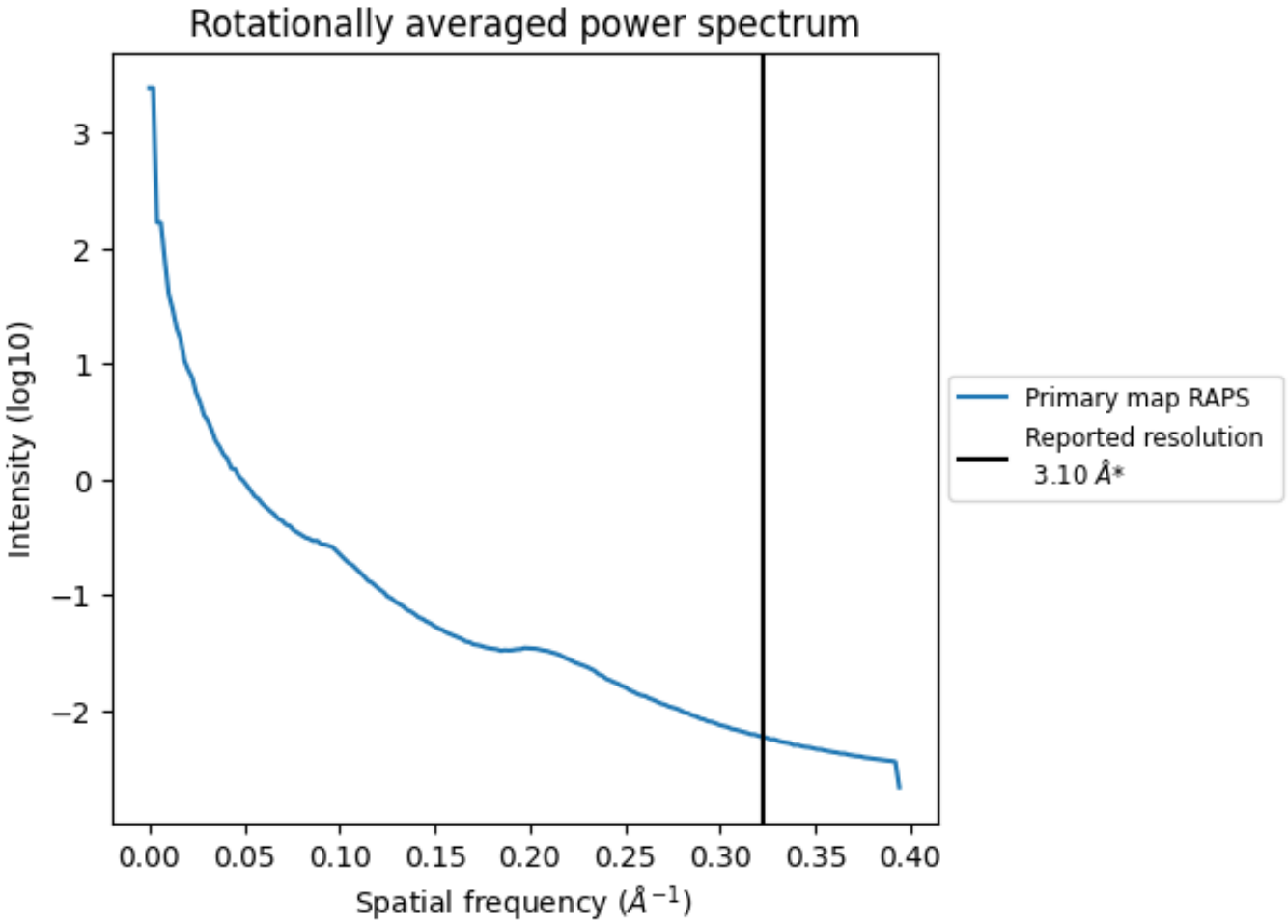
7.2 Volume estimate



The volume at the recommended contour level is 507 nm^3; this corresponds to an approximate mass of 458 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 0.323 Å^{-1}

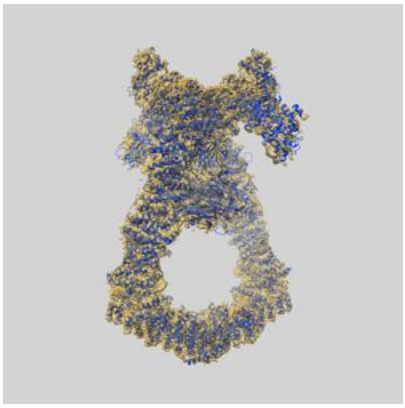
8 Fourier-Shell correlation (i)

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

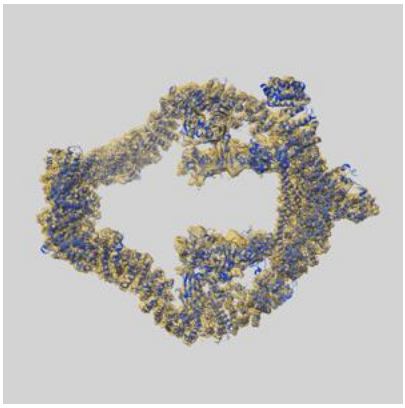
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-52490 and PDB model 9HXW. Per-residue inclusion information can be found in section 3 on page 6.

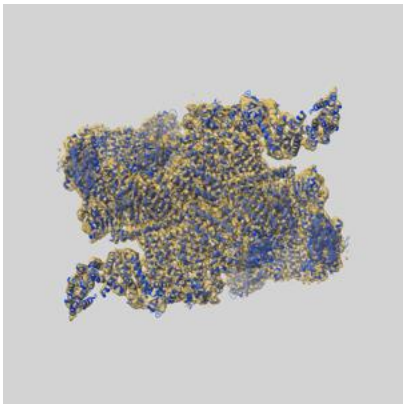
9.1 Map-model overlay



X



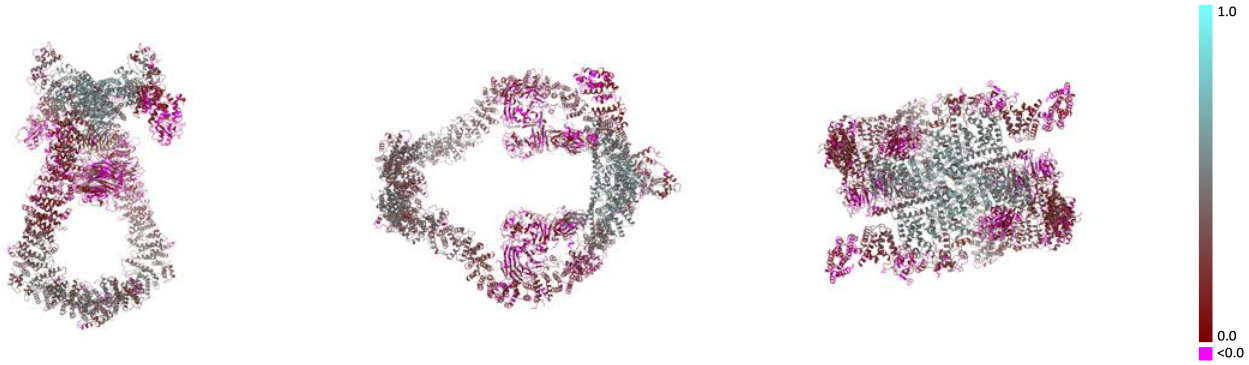
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0089 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.

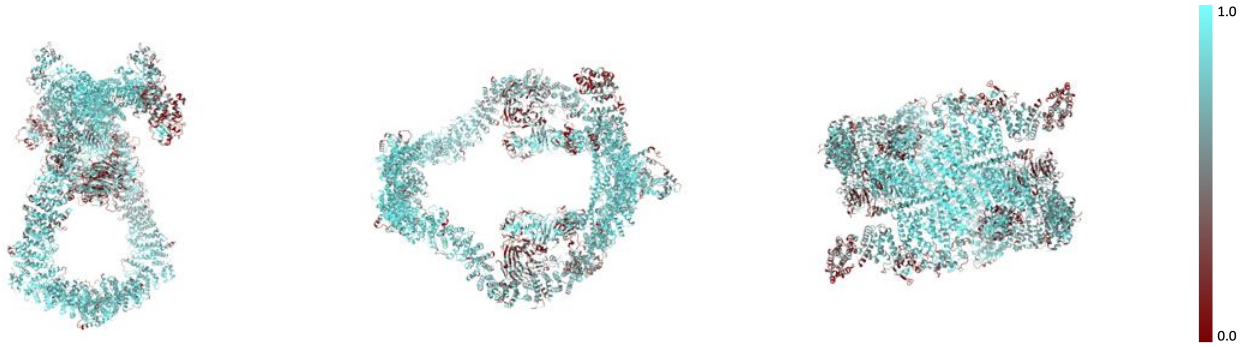
9.2 Q-score mapped to coordinate model (i)



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.

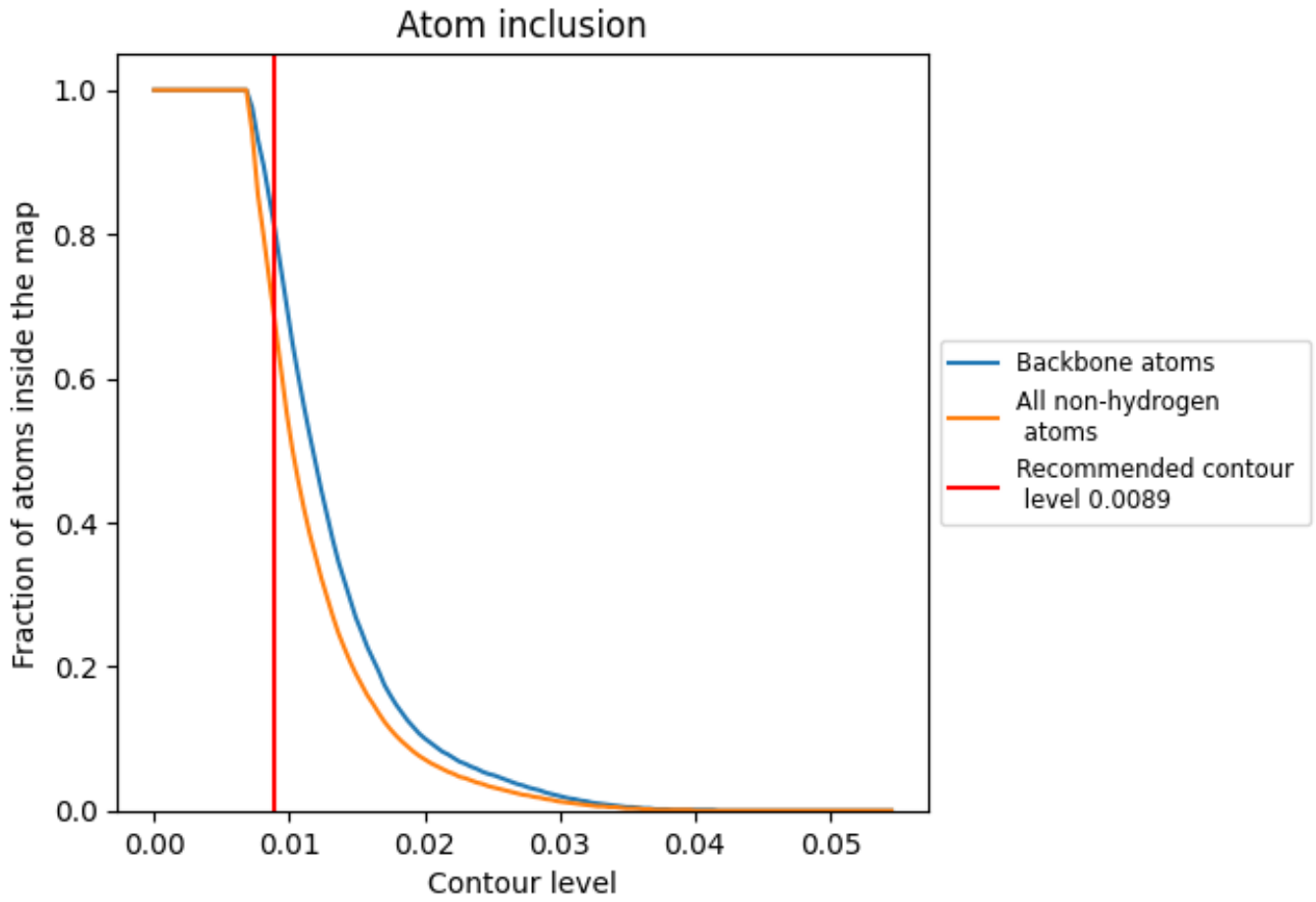
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.0089).

9.4 Atom inclusion (i)



At the recommended contour level, 81% of all backbone atoms, 68% 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 (0.0089) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6810	0.2760
A	0.6890	0.2820
B	0.6910	0.2820
C	0.6150	0.1550
D	0.5610	0.1460
E	0.5590	0.2670
F	0.5710	0.2760