Full wwPDB EM Validation Report

Jun 25, 2025 – 02:24 am BST

PDB ID	:	7Z12 / pdb_00007z12
EMDB ID	:	EMD-14438
Title	:	VAR2 complex with PAM1.4
Authors	:	Raghavan, S.S.R.; Wang, K.T.
Deposited on	:	2022-02-24
Resolution	:	3.00 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:

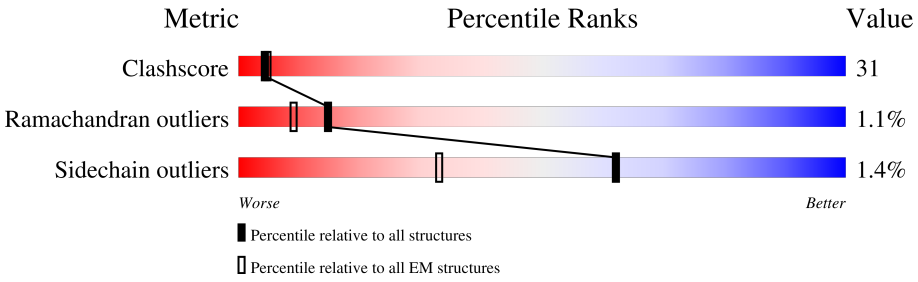
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	B	472	30% 17% 53%
2	C	233	55% 36% 9%
3	A	2040	20% 43% 44% 9%

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 18352 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 PAM1.4, Heavy Chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	B	221	1650	1042	283	319	6	0	0

- Molecule 2 is a protein called PAM1.4, light Chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	212	1631	1021	279	326	5	0	0

- Molecule 3 is a protein called VAR2CSA.

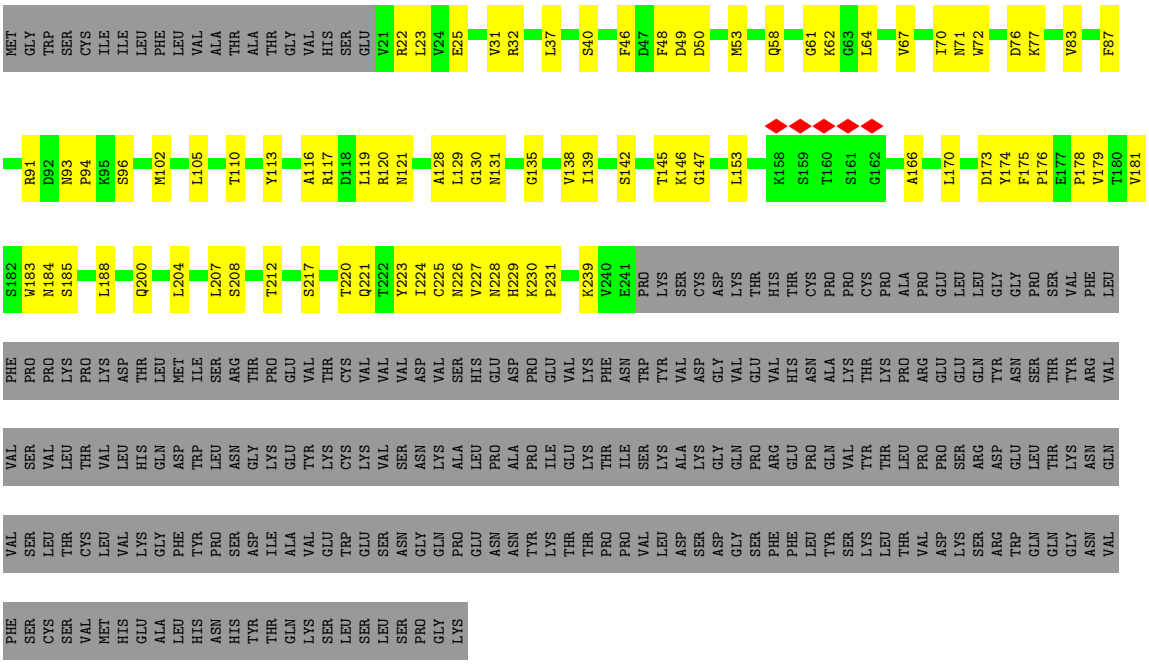
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	A	1853	15071	9402	2597	2973	99	0	0

3 Residue-property plots (i)

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

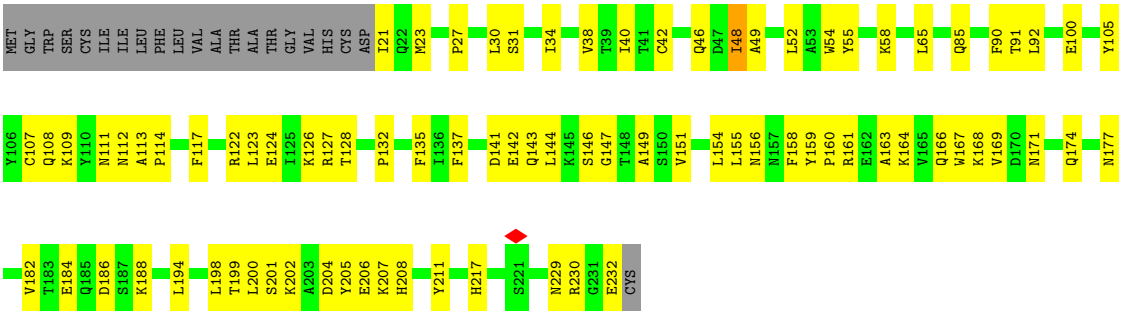
• Molecule 1: PAM1.4, Heavy Chain

Chain B:



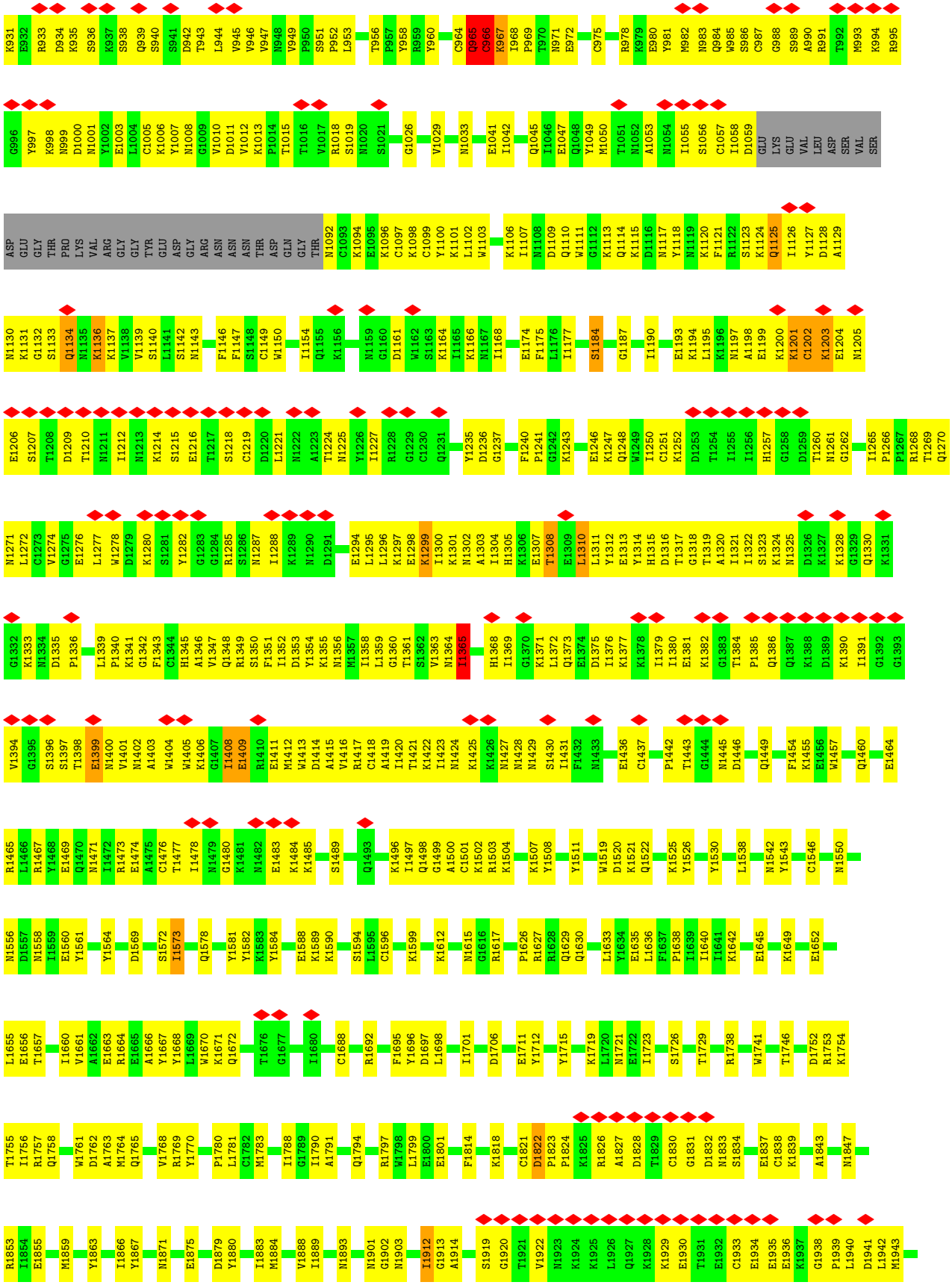
• Molecule 2: PAM1.4, light Chain

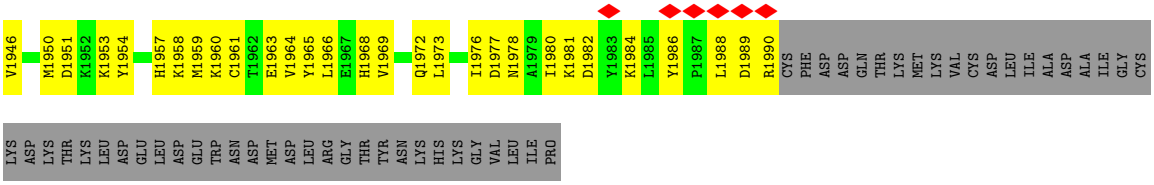
Chain C:



• Molecule 3: VAR2CSA

Chain A:


K931 E932 R933 D934 K935 S936 K937 S938 Q939 S940 S941 D942 T943 L944 V945 V946 V947 N948 V949 P950 S951 P952 L953 T956 P957 Y958 R959 Y960 C964 Q965 C966 K967 I968 P969 T970 N971 E972 C975 R978 K979 E980 Y981 M982 N983 Q984 W985 S986 C987 G988 S989 A990 R991 T992 M993 K994 R995
G996 Y997 K998 N999 D1000 N1001 Y1002 E1003 L1004 C1005 K1006 Y1007 N1008 G1009 V1010 D1011 V1012 K1013 P1014 T1015 T1016 V1017 R1018 S1019 N1020 S1021 G1026 V1029 N1033 E1041 I1042 Q1045 I1046 E1047 Q1048 Y1049 M1050 T1051 N1052 A1053 N1054 I1055 S1056 C1057 I1058 D1059 GLU LYS GLU VAL LEU ASP SER VAL SER
ASP GLU GLY THR PRO LYS VAL ARG GLY GLY TYR GLU ASP GLY ARG ASN ASN ASN THR ASP GLN GLY THR N1092 C1093 K1094 E1095 K1096 C1097 K1098 C1099 Y1100 K1101 L1102 W1103 K1106 I1107 N1108 D1109 Q1110 W1111 G1112 K1113 Q1114 K1115 D1116 N1117 Y1118 N1119 K1120 F1121 R1122 S1123 K1124 Q1125 I1126 Y1127 D1128 A1129
N1130 K1131 G1132 S1133 Q1134 N1135 K1136 K1137 V1138 V1139 S1140 L1141 S1142 N1143 F1146 F1147 S1148 C1149 W1150 I1154 Q1155 K1156 N1159 G1160 D1161 W1162 S1163 K1164 T1165 K1166 N1167 I1168 E1174 F1175 L1176 I1177 S1184 G1187 I1190 E1193 K1194 L1195 K1196 N1197 A1198 E1199 K1200 K1201 C1202 K1203 E1204 N1205
E1206 S1207 T1208 D1209 T1210 N1211 I1212 N1213 K1214 S1215 E1216 T1217 S1218 C1219 D1220 L1221 N1222 A1223 T1224 N1225 Y1226 I1227 R1228 G1229 C1230 Q1231 Y1235 D1236 G1237 F1240 P1241 G1242 K1243 E1246 K1247 Q1248 W1249 I1250 C1251 K1252 D1253 T1254 I1255 I1256 H1257 G1258 D1259 T1260 N1261 G1262 I1265 P1266 P1267 R1268 T1269 Q1270
N1271 L1272 C1273 V1274 G1275 E1276 L1277 W1278 D1279 K1280 S1281 Y1282 G1283 G1284 R1285 S1286 N1287 I1288 K1289 N1290 D1291 E1294 L1295 L1296 K1297 E1298 K1299 I1300 K1301 N1302 A1303 I1304 H1305 K1306 E1307 T1308 E1309 L1310 L1311 Y1312 E1313 Y1314 H1315 D1316 T1317 G1318 T1319 A1320 I1321 I1322 S1323 K1324 N1325 D1326 K1327 K1328 G1329 Q1330 K1331
G1332 K1333 N1334 D1335 P1336 L1339 P1340 K1341 G1342 F1343 C1344 H1345 A1346 V1347 Q1348 R1349 S1350 F1351 I1352 D1353 Y1354 K1355 N1356 M1357 I1358 L1359 G1360 T1361 S1362 V1363 N1364 I1365 H1368 I1369 G1370 K1371 L1372 Q1373 E1374 D1375 I1376 K1377 K1378 I1379 I1380 E1381 K1382 G1383 T1384 P1385 Q1386 Q1387 K1388 D1389 K1390 I1391 G1392 G1393
V1394 G1395 S1396 S1397 T1398 E1399 N1400 V1401 N1402 A1403 W1404 W1405 K1406 G1407 I1408 E1409 R1410 E1411 M1412 W1413 D1414 A1415 V1416 R1417 C1418 A1419 I1420 T1421 K1422 I1423 N1424 K1425 K1426 N1427 N1428 N1429 S1430 I1431 F1432 N1433 E1436 C1437 P1442 T1443 G1444 N1445 D1446 Q1449 F1454 K1455 E1456 W1457 Q1460 E1464
R1465 L1466 R1467 Y1468 E1469 Q1470 N1471 I1472 R1473 E1474 A1475 C1476 T1477 I1478 N1479 G1480 K1481 N1482 E1483 K1484 K1485 S1489 Q1493 K1496 I1497 Q1498 G1499 A1500 C1501 K1502 R1503 K1504 K1507 Y1508 Y1511 W1519 D1520 K1521 Q1522 K1525 Y1526 Y1530 L1538 N1542 Y1543 C1546 N1550
N1556 D1557 N1558 I1559 E1560 Y1561 Y1564 D1569 S1572 I1573 Q1578 Y1581 Y1582 K1583 Y1584 E1588 K1589 K1590 S1594 L1595 C1596 K1599 K1612 N1615 G1616 R1617 P1626 R1627 R1628 Q1629 Q1630 L1633 Y1634 E1635 L1636 F1637 P1638 I1639 I1640 I1641 K1642 E1645 K1649 E1652
L1655 E1656 T1657 I1660 V1661 A1662 E1663 R1664 E1665 A1666 Y1667 Y1668 L1669 W1670 K1671 Q1672 T1676 G1677 I1680 C1688 R1692 F1695 Y1696 D1697 L1698 I1701 D1706 E1711 Y1712 Y1715 K1719 L1720 N1721 E1722 I1723 S1726 T1729 R1738 W1741 T1746 D1752 R1753 K1754
T1755 I1756 R1757 Q1758 W1761 D1762 A1763 M1764 Q1765 V1768 R1769 Y1770 P1780 L1781 C1782 M1783 I1788 G1789 I1790 A1791 Q1794 R1797 W1798 L1799 E1800 E1801 F1814 K1818 C1821 D1822 P1823 P1824 K1825 R1826 A1827 D1828 T1829 C1830 G1831 D1832 N1833 S1834 E1837 C1838 K1839 A1843 N1847
R1853 I1854 E1855 M1859 Y1863 I1866 Y1867 N1871 E1875 D1879 Y1880 I1883 M1884 V1888 I1889 N1893 N1901 G1902 N1903 I1912 G1913 A1914 S1919 G1920 T1921 V1922 N1923 K1924 K1925 L1926 Q1927 K1928 K1929 E1930 T1931 E1932 C1933 E1934 E1935 E1936 K1937 G1938 P1939 L1940 D1941 L1942 M1943


V1946
M1950
D1951
K1952
K1953
Y1954
H1957
K1958
M1959
K1960
C1961
T1962
E1963
V1964
Y1965
L1966
E1967
H1968
V1969
Q1972
L1973
I1976
D1977
N1978
A1979
I1980
K1981
D1982
Y1983
K1984
L1985
Y1986
P1987
L1988
D1989
R1990
CYS PHE ASP ASP GLN THR LYS MET LYS VAL CYS ASP LEU ILE ALA ASP ALA ILE GLY CYS
LYS ASP LYS THR LYS LEU ASP GLU LEU ASP GLU TRP ASN ASP MET ASP LEU ARG GLY THR TYR ASN LYS HIS LYS GLY VAL LEU ILE PRO

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	50000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	2.352	Depositor
Minimum map value	-0.906	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.043	Depositor
Recommended contour level	0.3	Depositor
Map size (Å)	366.08002, 366.08002, 366.08002	wwPDB
Map dimensions	440, 440, 440	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.832, 0.832, 0.832	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	B	0.29	0/1688	0.47	0/2297
2	C	0.27	0/1665	0.45	0/2263
3	A	0.34	0/15370	0.67	15/20668 (0.1%)
All	All	0.33	0/18723	0.64	15/25228 (0.1%)

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
2	C	0	1
3	A	0	31
All	All	0	32

There are no bond length outliers.

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	1203	LYS	N-CA-C	7.88	127.59	110.80
3	A	562	LYS	CB-CA-C	-7.25	95.99	110.42
3	A	694	THR	CB-CA-C	-7.08	106.54	115.89
3	A	7	ILE	N-CA-C	-6.92	106.56	113.20
3	A	701	TYR	CB-CA-C	6.75	119.97	109.84
3	A	561	LYS	CA-C-N	-6.29	109.52	121.54
3	A	561	LYS	C-N-CA	-6.29	109.52	121.54
3	A	681	PHE	N-CA-C	-5.58	106.18	112.87
3	A	965	GLN	CA-C-N	5.43	131.90	121.54
3	A	965	GLN	C-N-CA	5.43	131.90	121.54
3	A	1573	ILE	N-CA-C	-5.35	107.50	112.43
3	A	1203	LYS	CA-C-N	5.31	131.25	121.70
3	A	1203	LYS	C-N-CA	5.31	131.25	121.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	1310	LEU	CA-C-N	-5.06	113.97	120.65
3	A	1310	LEU	C-N-CA	-5.06	113.97	120.65

There are no chirality outliers.

All (32) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	A	1125	GLN	Peptide
3	A	1134	GLN	Peptide
3	A	1136	LYS	Peptide
3	A	1184	SER	Peptide
3	A	1201	LYS	Peptide
3	A	1202	CYS	Peptide
3	A	1299	LYS	Peptide
3	A	1308	THR	Peptide
3	A	1365	ILE	Peptide
3	A	1399	GLU	Peptide
3	A	1403	ALA	Peptide
3	A	1408	ILE	Peptide
3	A	1409	GLU	Peptide
3	A	1822	ASP	Peptide
3	A	201	TYR	Peptide
3	A	236	LEU	Peptide
3	A	239	ARG	Peptide
3	A	278	ARG	Peptide
3	A	298	MET	Peptide
3	A	338	THR	Peptide
3	A	349	ASP	Peptide
3	A	355	LYS	Peptide
3	A	37	TYR	Peptide
3	A	529	LYS	Peptide
3	A	533	LYS	Peptide
3	A	698	ASP	Peptide
3	A	728	GLU	Peptide
3	A	786	LYS	Peptide
3	A	952	PRO	Peptide
3	A	965	GLN	Peptide
3	A	966	CYS	Peptide
2	C	48	ILE	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	B	1650	0	1628	61	0
2	C	1631	0	1599	65	0
3	A	15071	0	14624	1014	0
All	All	18352	0	17851	1130	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 31.

All (1130) 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:A:924:THR:HA	3:A:946:VAL:O	1.27	1.31
3:A:251:LYS:HB3	3:A:566:ASN:HB2	1.21	1.12
3:A:325:LYS:O	3:A:329:TYR:HB2	1.60	0.99
3:A:1050:MET:HE3	3:A:1198:ALA:HA	1.45	0.97
3:A:83:GLN:HB3	3:A:95:ASN:HD21	1.28	0.97
3:A:559:ILE:HG22	3:A:561:LYS:HG2	1.48	0.95
3:A:328:LYS:HG3	3:A:332:CYS:HB3	1.50	0.94
3:A:1413:TRP:HA	3:A:1416:VAL:HG12	1.50	0.94
3:A:340:TRP:O	3:A:344:GLU:HB3	1.68	0.93
3:A:1154:ILE:HG21	3:A:1164:LYS:HG3	1.51	0.93
3:A:691:LYS:HB3	3:A:694:THR:HA	1.50	0.92
3:A:1307:GLU:HA	3:A:1310:LEU:HB2	1.54	0.90
3:A:333:VAL:HA	3:A:337:LYS:HB2	1.52	0.89
3:A:1302:ASN:HA	3:A:1305:HIS:HB2	1.54	0.89
3:A:19:SER:HA	3:A:216:ASN:HB3	1.55	0.88
3:A:133:ARG:HH12	3:A:137:GLU:HB3	1.38	0.87
3:A:278:ARG:O	3:A:282:GLU:HB2	1.73	0.87
3:A:499:LEU:HD13	3:A:701:TYR:HE1	1.37	0.86
3:A:191:ARG:NH2	3:A:205:GLN:O	2.08	0.85
3:A:186:MET:SD	3:A:189:LYS:NZ	2.49	0.85
3:A:1356:ASN:HB3	3:A:1449:GLN:HE21	1.42	0.85
3:A:338:THR:HA	3:A:342:ASN:HB2	1.59	0.84
3:A:610:LYS:HA	3:A:684:LEU:HD21	1.60	0.84
3:A:1257:HIS:ND1	3:A:1364:ASN:O	2.09	0.83

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1301:LYS:HD3	3:A:1422:LYS:HD2	1.60	0.83
3:A:365:ARG:HH12	3:A:374:PHE:HB2	1.43	0.83
3:A:1199:GLU:HB3	3:A:1203:LYS:HG3	1.60	0.83
3:A:717:LYS:HA	3:A:750:ILE:HD11	1.59	0.82
3:A:294:LEU:HA	3:A:298:MET:HB2	1.61	0.82
3:A:854:LYS:HA	3:A:869:ALA:HB3	1.60	0.82
3:A:725:HIS:HA	3:A:730:ASN:HD21	1.43	0.81
3:A:1352:ILE:HD11	3:A:1442:PRO:HG2	1.62	0.81
3:A:562:LYS:HB2	3:A:575:ALA:HB1	1.60	0.81
3:A:276:PHE:O	3:A:280:LEU:N	2.13	0.81
3:A:235:LEU:HA	3:A:258:LYS:HG2	1.60	0.81
3:A:1278:TRP:HB2	3:A:1372:LEU:HD11	1.63	0.81
3:A:345:ASN:HB3	3:A:352:GLU:H	1.47	0.80
3:A:795:CYS:HB3	3:A:967:LYS:HD2	1.64	0.80
3:A:942:ASP:HA	3:A:946:VAL:HA	1.61	0.80
3:A:96:ILE:HD11	3:A:346:LYS:HB3	1.63	0.80
3:A:1125:GLN:HG3	3:A:1128:ASP:HB3	1.64	0.80
1:B:153:LEU:HB3	2:C:137:PHE:HD1	1.47	0.79
3:A:1193:GLU:O	3:A:1197:ASN:N	2.15	0.79
1:B:117:ARG:NH1	1:B:131:ASN:OD1	2.14	0.79
3:A:281:THR:HG23	3:A:285:GLU:HB3	1.64	0.79
3:A:1013:LYS:HB2	3:A:1018:ARG:HH22	1.47	0.79
3:A:989:SER:O	3:A:1110:GLN:NE2	2.16	0.79
3:A:1396:SER:HA	3:A:1399:GLU:HG2	1.63	0.78
3:A:1497:ILE:HG22	3:A:1499:GLY:H	1.47	0.78
3:A:1376:ILE:HD13	3:A:1380:ILE:HG13	1.66	0.78
3:A:1375:ASP:O	3:A:1379:ILE:N	2.16	0.78
3:A:1125:GLN:HA	3:A:1128:ASP:H	1.49	0.78
3:A:997:TYR:H	3:A:1003:GLU:HG3	1.48	0.77
3:A:234:ASP:O	3:A:238:LYS:NZ	2.17	0.77
3:A:925:THR:H	3:A:946:VAL:HG12	1.49	0.77
3:A:251:LYS:HB3	3:A:566:ASN:CB	2.08	0.77
3:A:524:GLN:HG3	3:A:527:CYS:HB2	1.67	0.76
3:A:563:SER:O	3:A:564:SER:C	2.28	0.76
3:A:872:THR:OG1	3:A:874:GLU:O	2.02	0.76
3:A:530:LYS:HD2	3:A:531:LEU:HB2	1.67	0.76
3:A:164:ASP:OD1	3:A:167:ARG:NH1	2.19	0.75
3:A:188:ALA:HA	3:A:191:ARG:HG2	1.68	0.75
3:A:1424:ASN:ND2	3:A:1430:SER:O	2.15	0.75
3:A:1471:ASN:HB3	3:A:1504:LYS:HD2	1.68	0.75
3:A:33:SER:HA	3:A:48:LYS:HZ2	1.50	0.75

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1126:ILE:O	3:A:1130:ASN:ND2	2.19	0.75
3:A:927:GLU:HB2	3:A:943:THR:HA	1.69	0.75
3:A:1933:CYS:H	3:A:1934:GLU:HG3	1.51	0.75
3:A:987:CYS:SG	3:A:995:ARG:N	2.57	0.75
3:A:1356:ASN:O	3:A:1360:GLY:N	2.20	0.75
3:A:499:LEU:HD13	3:A:701:TYR:CE1	2.20	0.74
3:A:1826:ARG:HG3	3:A:1831:GLY:HA2	1.67	0.74
3:A:1422:LYS:HA	3:A:1425:LYS:HG2	1.68	0.74
3:A:102:ARG:HH22	3:A:282:GLU:HG3	1.53	0.74
3:A:1627:ARG:NH2	3:A:1801:GLU:OE2	2.15	0.73
3:A:121:ASN:HA	3:A:124:PHE:HB3	1.69	0.73
1:B:220:THR:OG1	1:B:221:GLN:OE1	2.07	0.73
3:A:38:TYR:O	3:A:39:ARG:NH1	2.19	0.73
3:A:188:ALA:O	3:A:192:GLU:N	2.22	0.73
3:A:1355:LYS:HE3	3:A:1406:LYS:HE3	1.71	0.73
3:A:113:LEU:H	3:A:182:ASN:HD21	1.35	0.72
3:A:25:ASP:HA	3:A:28:LEU:HB3	1.70	0.72
1:B:49:ASP:OD2	1:B:93:ASN:ND2	2.22	0.72
3:A:802:LYS:O	3:A:805:ASP:N	2.17	0.72
3:A:1408:ILE:O	3:A:1412:MET:N	2.23	0.72
3:A:275:GLN:HG3	3:A:279:TRP:CZ3	2.25	0.72
3:A:830:PRO:HG3	3:A:928:LYS:HD3	1.70	0.72
3:A:32:PRO:O	3:A:48:LYS:NZ	2.23	0.71
3:A:939:GLN:H	3:A:943:THR:HG21	1.53	0.71
3:A:1268:ARG:NH2	3:A:1353:ASP:OD2	2.16	0.71
3:A:1380:ILE:O	3:A:1384:THR:OG1	2.08	0.71
3:A:195:LYS:HD3	3:A:201:TYR:HE1	1.54	0.71
3:A:277:LEU:HA	3:A:280:LEU:HB2	1.72	0.71
3:A:1356:ASN:HA	3:A:1359:LEU:HG	1.71	0.71
3:A:324:ASP:OD1	3:A:325:LYS:N	2.24	0.71
3:A:33:SER:HA	3:A:48:LYS:NZ	2.06	0.71
3:A:1042:ILE:HD11	3:A:1107:ILE:HD12	1.71	0.71
3:A:80:TRP:HA	3:A:97:CYS:HA	1.71	0.70
3:A:698:ASP:H	3:A:699:THR:HB	1.54	0.70
3:A:1893:ASN:ND2	3:A:1933:CYS:O	2.22	0.70
3:A:73:PRO:O	3:A:104:ARG:NH1	2.24	0.70
3:A:344:GLU:HA	3:A:347:TYR:HB2	1.73	0.70
3:A:972:GLU:HA	3:A:1102:LEU:HD21	1.74	0.70
3:A:1315:HIS:HD2	3:A:1342:GLY:HA3	1.56	0.70
3:A:1136:LYS:HE2	3:A:1140:SER:H	1.57	0.70
2:C:49:ALA:O	2:C:85:GLN:NE2	2.24	0.70

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1485:LYS:HE2	3:A:1489:SER:HB2	1.74	0.69
3:A:1252:LYS:HG3	3:A:1521:LYS:HG3	1.75	0.69
2:C:149:ALA:HB3	2:C:200:LEU:H	1.58	0.68
3:A:1594:SER:O	3:A:1664:ARG:NH2	2.27	0.68
3:A:573:GLU:OE2	3:A:841:ARG:NH1	2.26	0.68
3:A:1310:LEU:O	3:A:1314:TYR:HB3	1.93	0.68
3:A:1359:LEU:O	3:A:1373:GLN:NE2	2.25	0.68
3:A:111:GLU:HA	3:A:179:LEU:HD13	1.74	0.68
3:A:529:LYS:NZ	3:A:531:LEU:O	2.27	0.68
3:A:576:ASN:O	3:A:837:GLN:NE2	2.27	0.68
3:A:206:LYS:HB3	3:A:209:LYS:HB3	1.76	0.68
3:A:273:VAL:HG13	3:A:277:LEU:HD23	1.74	0.68
3:A:987:CYS:HB2	3:A:1005:CYS:HA	1.73	0.68
3:A:637:ASN:ND2	3:A:640:ASN:O	2.22	0.68
3:A:251:LYS:CB	3:A:566:ASN:HB2	2.14	0.68
3:A:271:ASP:O	3:A:278:ARG:NH2	2.26	0.68
3:A:583:ARG:NH2	3:A:765:GLU:OE1	2.27	0.67
3:A:1136:LYS:HE2	3:A:1139:VAL:HA	1.76	0.67
3:A:1411:GLU:HA	3:A:1414:ASP:HB2	1.75	0.67
3:A:691:LYS:HB3	3:A:694:THR:CA	2.21	0.67
3:A:293:ASN:HA	3:A:296:ASP:HB2	1.76	0.67
3:A:1823:PRO:HB3	3:A:1828:ASP:HB2	1.76	0.67
3:A:1325:ASN:O	3:A:1467:ARG:NH2	2.27	0.67
3:A:236:LEU:HD13	3:A:259:CYS:HA	1.76	0.67
3:A:1933:CYS:HB2	3:A:1934:GLU:HA	1.75	0.67
1:B:174:TYR:HE2	1:B:178:PRO:HA	1.60	0.67
3:A:864:SER:HA	3:A:1790:ILE:HG21	1.75	0.66
3:A:1246:GLU:O	3:A:1248:GLN:NE2	2.28	0.66
3:A:701:TYR:HB3	3:A:706:GLU:OE1	1.95	0.66
1:B:184:ASN:HD22	1:B:188:LEU:HD13	1.60	0.66
3:A:504:GLU:HG3	3:A:521:ASN:HD21	1.60	0.66
1:B:173:ASP:HA	1:B:204:LEU:HB3	1.76	0.66
3:A:984:GLN:HB3	3:A:1007:TYR:CE2	2.30	0.66
3:A:1154:ILE:HG22	3:A:1161:ASP:HA	1.78	0.66
3:A:1125:GLN:HG2	3:A:1137:LYS:O	1.96	0.65
3:A:1988:LEU:HG	3:A:1989:ASP:H	1.60	0.65
3:A:1827:ALA:O	3:A:1830:CYS:N	2.27	0.65
3:A:689:ILE:HD12	3:A:701:TYR:HB2	1.79	0.65
3:A:1412:MET:HA	3:A:1415:ALA:HB3	1.77	0.65
3:A:1938:GLY:O	3:A:1940:LEU:N	2.29	0.65
3:A:1013:LYS:O	3:A:1018:ARG:NH1	2.21	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:181:LYS:HA	3:A:184:LYS:HE2	1.77	0.65
3:A:1127:TYR:O	3:A:1131:LYS:NZ	2.24	0.65
3:A:1594:SER:OG	3:A:1635:GLU:OE2	2.12	0.65
3:A:1692:ARG:NH2	3:A:1903:ASN:OD1	2.27	0.65
3:A:698:ASP:N	3:A:699:THR:HB	2.10	0.65
3:A:951:SER:O	3:A:953:LEU:N	2.26	0.65
3:A:990:ALA:C	3:A:991:ARG:HE	2.05	0.65
3:A:1411:GLU:O	3:A:1415:ALA:N	2.29	0.65
2:C:229:ASN:HB3	2:C:232:GLU:HG3	1.77	0.65
3:A:244:SER:O	3:A:257:ARG:NH2	2.30	0.65
3:A:529:LYS:HG3	3:A:530:LYS:H	1.60	0.65
3:A:1321:ILE:HG21	3:A:1460:GLN:HG2	1.77	0.65
3:A:1252:LYS:NZ	3:A:1261:ASN:O	2.30	0.64
3:A:842:TYR:OH	3:A:889:LEU:HD21	1.97	0.64
1:B:110:THR:HG23	1:B:139:ILE:HA	1.78	0.64
3:A:256:CYS:HA	3:A:257:ARG:HG2	1.80	0.64
3:A:562:LYS:O	3:A:564:SER:N	2.31	0.64
3:A:1305:HIS:HE1	3:A:1423:ILE:HA	1.62	0.64
3:A:333:VAL:O	3:A:338:THR:OG1	2.15	0.64
3:A:560:TRP:HA	3:A:579:GLY:HA2	1.80	0.64
3:A:1096:LYS:HD2	3:A:1201:LYS:HG2	1.79	0.64
1:B:221:GLN:NE2	1:B:223:TYR:OH	2.31	0.64
3:A:1251:CYS:SG	3:A:1252:LYS:N	2.71	0.63
3:A:342:ASN:O	3:A:346:LYS:NZ	2.24	0.63
3:A:1496:LYS:NZ	3:A:1497:ILE:O	2.29	0.63
3:A:325:LYS:HA	3:A:328:LYS:HB3	1.80	0.63
3:A:600:GLU:O	3:A:603:LYS:NZ	2.27	0.63
3:A:583:ARG:NH1	3:A:654:ASP:OD2	2.31	0.63
3:A:587:LEU:HD13	3:A:655:TYR:HE1	1.62	0.63
3:A:274:PRO:O	3:A:278:ARG:N	2.25	0.63
3:A:924:THR:OG1	3:A:945:VAL:HG22	1.99	0.63
3:A:1202:CYS:N	3:A:1204:GLU:HA	2.13	0.63
3:A:1295:LEU:O	3:A:1299:LYS:N	2.25	0.63
3:A:1409:GLU:HA	3:A:1412:MET:HB3	1.81	0.63
3:A:1058:ILE:HG23	3:A:1201:LYS:HB2	1.81	0.63
1:B:70:ILE:HD13	1:B:91:ARG:HG3	1.81	0.62
3:A:1166:LYS:HD3	3:A:1168:ILE:HG12	1.81	0.62
3:A:1260:THR:HA	3:A:1363:VAL:HG12	1.81	0.62
3:A:1307:GLU:O	3:A:1311:LEU:N	2.33	0.62
1:B:121:ASN:ND2	3:A:958:TYR:OH	2.22	0.62
3:A:1320:ALA:HB3	3:A:1323:SER:HB3	1.80	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1391:ILE:O	3:A:1400:ASN:ND2	2.32	0.62
3:A:80:TRP:O	3:A:81:LYS:HD2	2.00	0.62
3:A:149:SER:HA	3:A:238:LYS:HD3	1.81	0.62
3:A:799:CYS:HB2	3:A:802:LYS:HA	1.82	0.62
3:A:850:LYS:HZ1	3:A:890:ILE:HD13	1.64	0.62
3:A:1280:LYS:O	3:A:1285:ARG:NH1	2.32	0.62
3:A:1418:CYS:HA	3:A:1421:THR:HG22	1.81	0.62
3:A:583:ARG:NH2	3:A:650:TYR:HB3	2.14	0.62
3:A:1484:LYS:HE2	3:A:1573:ILE:HG13	1.82	0.62
3:A:587:LEU:HD12	3:A:590:GLY:H	1.64	0.62
3:A:857:THR:OG1	3:A:871:SER:O	2.18	0.62
3:A:83:GLN:N	3:A:95:ASN:OD1	2.32	0.62
3:A:332:CYS:SG	3:A:336:TRP:N	2.73	0.62
3:A:562:LYS:C	3:A:564:SER:N	2.56	0.62
2:C:141:ASP:OD2	2:C:142:GLU:N	2.32	0.62
3:A:65:ASP:OD1	3:A:66:PRO:HD2	2.00	0.62
3:A:236:LEU:HB2	3:A:259:CYS:N	2.14	0.61
3:A:852:ASN:ND2	3:A:854:LYS:O	2.33	0.61
3:A:1304:ILE:HA	3:A:1307:GLU:HB3	1.81	0.61
1:B:229:HIS:CD2	1:B:231:PRO:HD2	2.36	0.61
3:A:1843:ALA:O	3:A:1847:ASN:ND2	2.33	0.61
3:A:132:ALA:HB1	3:A:226:ILE:HB	1.83	0.61
3:A:1550:ASN:HD22	3:A:1711:GLU:HG2	1.65	0.61
3:A:1863:TYR:HA	3:A:1866:ILE:HG22	1.81	0.61
3:A:1274:VAL:HG12	3:A:1278:TRP:H	1.65	0.61
3:A:1187:GLY:O	3:A:1190:ILE:HG22	2.00	0.61
3:A:200:LYS:NZ	3:A:209:LYS:O	2.33	0.61
3:A:1314:TYR:HA	3:A:1319:THR:OG1	2.01	0.61
3:A:1469:GLU:OE2	3:A:1473:ARG:NE	2.25	0.61
3:A:1581:TYR:N	3:A:1656:GLU:OE1	2.27	0.61
3:A:568:GLU:HG3	3:A:667:ASN:HB3	1.83	0.61
3:A:1296:LEU:O	3:A:1300:ILE:N	2.34	0.61
3:A:1301:LYS:HG2	3:A:1419:ALA:HA	1.82	0.61
2:C:164:LYS:NZ	2:C:166:GLN:OE1	2.34	0.61
3:A:278:ARG:HA	3:A:281:THR:HB	1.83	0.61
3:A:867:ASN:C	3:A:867:ASN:HD22	2.06	0.61
1:B:184:ASN:HD21	1:B:223:TYR:HD1	1.47	0.61
3:A:38:TYR:HE1	3:A:118:ILE:HB	1.65	0.61
3:A:182:ASN:OD1	3:A:185:GLN:NE2	2.34	0.61
3:A:983:ASN:HA	3:A:991:ARG:HB3	1.83	0.61
3:A:555:LYS:HD2	3:A:585:GLN:HG3	1.82	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1402:ASN:HB3	3:A:1406:LYS:HD3	1.83	0.60
2:C:54:TRP:CZ3	2:C:107:CYS:HB3	2.36	0.60
3:A:861:GLY:N	3:A:891:ASP:OD1	2.33	0.60
3:A:1237:GLY:H	3:A:1246:GLU:HA	1.67	0.60
3:A:925:THR:N	3:A:946:VAL:H	1.98	0.60
3:A:176:ASN:O	3:A:180:GLU:N	2.27	0.60
3:A:176:ASN:HA	3:A:179:LEU:HB3	1.82	0.60
3:A:873:ASP:OD1	3:A:874:GLU:N	2.33	0.60
3:A:1212:ILE:O	3:A:1417:ARG:NH1	2.34	0.60
3:A:13:GLU:HA	3:A:17:ALA:HB2	1.83	0.60
3:A:81:LYS:N	3:A:96:ILE:O	2.25	0.60
3:A:287:PHE:CD1	3:A:291:LYS:HE2	2.37	0.60
3:A:850:LYS:CE	3:A:890:ILE:HG21	2.32	0.60
3:A:1053:ALA:O	3:A:1059:ASP:HB2	2.00	0.60
3:A:1272:LEU:HB2	3:A:1354:TYR:HE1	1.67	0.60
3:A:277:LEU:HD12	3:A:280:LEU:HB2	1.84	0.60
3:A:1125:GLN:HB3	3:A:1129:ALA:CB	2.31	0.60
3:A:1564:TYR:CD2	3:A:1594:SER:HA	2.36	0.60
3:A:288:TYR:O	3:A:292:GLN:HB2	2.01	0.59
2:C:113:ALA:HB3	2:C:114:PRO:HD3	1.83	0.59
3:A:155:LEU:HD11	3:A:226:ILE:HG12	1.85	0.59
3:A:182:ASN:HA	3:A:185:GLN:HG3	1.84	0.59
3:A:689:ILE:HD13	3:A:707:LEU:HB2	1.84	0.59
3:A:686:GLY:O	3:A:687:LYS:C	2.45	0.59
3:A:1348:GLN:NE2	3:A:1437:CYS:SG	2.62	0.59
3:A:30:ALA:HB3	3:A:125:LEU:HD22	1.84	0.59
3:A:231:ARG:N	3:A:234:ASP:OD2	2.32	0.59
3:A:557:LYS:O	3:A:558:TRP:C	2.45	0.59
3:A:236:LEU:HB2	3:A:259:CYS:H	1.67	0.59
3:A:805:ASP:OD1	3:A:806:GLU:N	2.35	0.59
3:A:45:ASP:OD2	3:A:1901:ASN:ND2	2.35	0.59
3:A:1053:ALA:C	3:A:1055:ILE:H	2.11	0.59
3:A:1454:PHE:CE1	3:A:1522:GLN:HB3	2.38	0.59
3:A:1497:ILE:HG21	3:A:1501:CYS:HB3	1.85	0.59
3:A:1590:LYS:O	3:A:1664:ARG:NH1	2.35	0.59
3:A:787:SER:N	3:A:790:GLU:O	2.36	0.59
3:A:1274:VAL:HG11	3:A:1278:TRP:HB3	1.85	0.59
3:A:1316:ASP:C	3:A:1330:GLN:HG3	2.28	0.59
3:A:88:ASP:HB2	3:A:93:PRO:HA	1.83	0.59
3:A:185:GLN:HE22	3:A:186:MET:HE2	1.68	0.59
3:A:1361:THR:OG1	3:A:1449:GLN:OE1	2.11	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1655:LEU:HD13	3:A:1756:ILE:HD12	1.84	0.59
2:C:38:VAL:HG11	2:C:123:LEU:HD21	1.83	0.59
3:A:125:LEU:HG	3:A:129:LEU:HD13	1.83	0.59
3:A:275:GLN:OE1	3:A:278:ARG:NH1	2.35	0.59
3:A:509:ASN:HD22	3:A:513:SER:HB3	1.68	0.59
3:A:850:LYS:NZ	3:A:890:ILE:HD13	2.17	0.59
3:A:1147:PHE:CE2	3:A:1969:VAL:HG22	2.38	0.59
3:A:99:PRO:HD2	3:A:282:GLU:OE2	2.03	0.58
3:A:191:ARG:NH1	3:A:207:TYR:HA	2.18	0.58
3:A:1278:TRP:CD1	3:A:1371:LYS:HZ1	2.21	0.58
3:A:1406:LYS:HA	3:A:1409:GLU:HB3	1.85	0.58
3:A:1412:MET:O	3:A:1416:VAL:N	2.34	0.58
2:C:204:ASP:HA	2:C:207:LYS:HB2	1.85	0.58
3:A:281:THR:O	3:A:285:GLU:N	2.37	0.58
3:A:562:LYS:C	3:A:564:SER:H	2.11	0.58
3:A:659:ILE:HD11	3:A:712:TRP:HE3	1.67	0.58
1:B:102:MET:HE1	1:B:138:VAL:HG11	1.84	0.58
2:C:40:ILE:HD12	2:C:92:LEU:HD23	1.85	0.58
3:A:1304:ILE:HG22	3:A:1308:THR:HG23	1.84	0.58
3:A:1:MET:SD	3:A:2:ASP:N	2.77	0.58
3:A:1199:GLU:C	3:A:1201:LYS:H	2.11	0.58
3:A:1316:ASP:HB2	3:A:1340:PRO:HG3	1.86	0.58
3:A:1889:ILE:HD13	3:A:1941:ASP:HA	1.84	0.58
1:B:67:VAL:HG13	1:B:83:VAL:HG21	1.84	0.58
3:A:690:LYS:O	3:A:692:ASN:N	2.34	0.58
3:A:7:ILE:HG22	3:A:387:TYR:CE2	2.38	0.58
3:A:924:THR:CA	3:A:946:VAL:O	2.24	0.58
3:A:254:GLU:O	3:A:258:LYS:N	2.37	0.58
3:A:985:TRP:H	3:A:991:ARG:HG3	1.69	0.58
3:A:339:GLU:HA	3:A:343:GLN:HB2	1.85	0.58
3:A:1901:ASN:OD1	3:A:1902:GLY:N	2.37	0.58
3:A:725:HIS:HA	3:A:730:ASN:ND2	2.17	0.57
3:A:1096:LYS:HA	3:A:1100:TYR:HB3	1.85	0.57
3:A:1202:CYS:N	3:A:1204:GLU:OE1	2.38	0.57
3:A:1883:ILE:O	3:A:1883:ILE:HG13	2.05	0.57
1:B:217:SER:HB2	1:B:221:GLN:HE22	1.69	0.57
3:A:336:TRP:HA	3:A:339:GLU:HB3	1.85	0.57
3:A:1929:LYS:HB3	3:A:1930:GLU:HG3	1.87	0.57
1:B:87:PHE:CZ	1:B:102:MET:HG2	2.39	0.57
3:A:1201:LYS:HD3	3:A:1204:GLU:HB3	1.86	0.57
3:A:1715:TYR:OH	3:A:1719:LYS:NZ	2.23	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:293:ASN:OD1	3:A:297:ASP:HB2	2.03	0.57
3:A:1818:LYS:HA	3:A:1957:HIS:HE1	1.69	0.57
3:A:88:ASP:C	3:A:93:PRO:HB3	2.29	0.57
3:A:689:ILE:CD1	3:A:707:LEU:HB2	2.34	0.57
3:A:1282:TYR:HB3	3:A:1285:ARG:HB2	1.85	0.57
1:B:94:PRO:HB2	3:A:1055:ILE:HG12	1.86	0.57
3:A:341:GLU:O	3:A:345:ASN:ND2	2.38	0.57
3:A:659:ILE:HD11	3:A:712:TRP:CE3	2.40	0.57
3:A:863:SER:HB3	3:A:1879:ASP:OD1	2.05	0.57
3:A:102:ARG:HH12	3:A:282:GLU:CD	2.13	0.57
3:A:118:ILE:HD11	3:A:124:PHE:HB2	1.86	0.57
3:A:562:LYS:HB2	3:A:575:ALA:CB	2.34	0.57
3:A:575:ALA:O	3:A:577:THR:OG1	2.19	0.57
3:A:1235:TYR:HD1	3:A:1271:ASN:HD21	1.53	0.57
3:A:1984:LYS:C	3:A:1986:TYR:H	2.14	0.56
3:A:11:ILE:HA	3:A:14:TYR:HD2	1.70	0.56
3:A:178:ASN:O	3:A:182:ASN:HB2	2.06	0.56
3:A:689:ILE:HD11	3:A:703:SER:O	2.06	0.56
3:A:9:ASN:H	3:A:387:TYR:HE1	1.53	0.56
3:A:10:LYS:H	3:A:387:TYR:HE1	1.54	0.56
3:A:990:ALA:HA	3:A:1107:ILE:HD11	1.86	0.56
1:B:128:ALA:HB1	2:C:65:LEU:HD11	1.87	0.56
3:A:511:ARG:O	3:A:512:GLY:C	2.49	0.56
3:A:757:PRO:HB3	3:A:882:ILE:HD12	1.88	0.56
3:A:1120:LYS:O	3:A:1124:LYS:HG2	2.04	0.56
3:A:1236:ASP:O	3:A:1243:LYS:NZ	2.31	0.56
3:A:1320:ALA:O	3:A:1323:SER:OG	2.22	0.56
3:A:1386:GLN:HE21	3:A:1390:LYS:HA	1.71	0.56
3:A:184:LYS:HG3	3:A:207:TYR:CZ	2.40	0.56
3:A:591:ASN:HA	3:A:669:TYR:HD2	1.70	0.56
3:A:862:THR:HG22	3:A:1871:ASN:ND2	2.21	0.56
3:A:1339:LEU:HD22	3:A:1343:PHE:HD2	1.71	0.56
3:A:384:LEU:HB2	3:A:388:ILE:HG13	1.86	0.56
3:A:858:LYS:HD3	3:A:860:CYS:SG	2.46	0.56
3:A:1405:TRP:O	3:A:1409:GLU:HB2	2.06	0.56
3:A:862:THR:HG22	3:A:1871:ASN:HD21	1.71	0.56
3:A:1143:ASN:HB3	3:A:1973:LEU:HD21	1.88	0.55
3:A:1543:TYR:HB2	3:A:1546:CYS:SG	2.46	0.55
3:A:688:TYR:O	3:A:689:ILE:C	2.50	0.55
3:A:949:VAL:HG11	3:A:1867:TYR:OH	2.06	0.55
3:A:1118:TYR:OH	3:A:1139:VAL:O	2.16	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1339:LEU:HD22	3:A:1343:PHE:CD2	2.40	0.55
3:A:1402:ASN:HA	3:A:1405:TRP:HB3	1.88	0.55
3:A:1402:ASN:O	3:A:1406:LYS:HB2	2.05	0.55
3:A:1436:GLU:HG2	3:A:1437:CYS:H	1.69	0.55
3:A:85:ASN:HD21	3:A:94:GLU:HB2	1.70	0.55
3:A:1125:GLN:HA	3:A:1128:ASP:N	2.20	0.55
3:A:1345:HIS:HB3	3:A:1349:ARG:HG3	1.88	0.55
3:A:577:THR:CG2	3:A:841:ARG:HB2	2.36	0.55
2:C:166:GLN:HE21	2:C:167:TRP:H	1.54	0.55
3:A:80:TRP:O	3:A:94:GLU:HG2	2.06	0.55
3:A:328:LYS:O	3:A:332:CYS:N	2.36	0.55
1:B:71:ASN:O	1:B:91:ARG:NH1	2.40	0.55
3:A:82:CYS:H	3:A:95:ASN:H	1.55	0.55
3:A:113:LEU:H	3:A:182:ASN:ND2	2.03	0.55
3:A:231:ARG:HG2	3:A:234:ASP:CG	2.32	0.55
3:A:279:TRP:CD1	3:A:282:GLU:HB3	2.41	0.55
3:A:286:ASP:O	3:A:290:GLU:HG3	2.07	0.55
3:A:1308:THR:HA	3:A:1311:LEU:CB	2.36	0.55
3:A:127:ASP:OD1	3:A:128:VAL:N	2.40	0.55
3:A:180:GLU:HG2	3:A:184:LYS:HZ3	1.72	0.55
3:A:1768:VAL:HG21	3:A:1783:MET:HE2	1.88	0.55
3:A:187:PHE:HA	3:A:190:ILE:HG12	1.89	0.55
3:A:1299:LYS:HA	3:A:1303:ALA:H	1.72	0.55
3:A:1333:LYS:HE2	3:A:1341:LYS:HE2	1.88	0.55
3:A:113:LEU:HB2	3:A:186:MET:HG3	1.89	0.54
3:A:1315:HIS:CD2	3:A:1342:GLY:HA3	2.41	0.54
3:A:1599:LYS:HB2	3:A:1672:GLN:HB2	1.89	0.54
3:A:279:TRP:HB3	3:A:283:TRP:NE1	2.22	0.54
3:A:275:GLN:O	3:A:279:TRP:N	2.41	0.54
3:A:841:ARG:HE	3:A:845:HIS:CD2	2.26	0.54
3:A:55:THR:H	3:A:58:HIS:CD2	2.26	0.54
3:A:1310:LEU:O	3:A:1314:TYR:CB	2.55	0.54
3:A:1396:SER:O	3:A:1400:ASN:ND2	2.40	0.54
3:A:1465:ARG:NH1	3:A:1569:ASP:OD2	2.40	0.54
3:A:1719:LYS:O	3:A:1723:ILE:HG12	2.07	0.54
3:A:28:LEU:O	3:A:121:ASN:ND2	2.41	0.54
3:A:1821:CYS:SG	3:A:1838:CYS:HB2	2.47	0.54
2:C:52:LEU:HD13	2:C:90:PHE:CG	2.43	0.54
3:A:259:CYS:SG	3:A:262:TYR:HB2	2.48	0.54
3:A:690:LYS:C	3:A:692:ASN:H	2.15	0.54
3:A:691:LYS:CB	3:A:694:THR:HA	2.32	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:862:THR:HG21	3:A:891:ASP:H	1.72	0.54
3:A:1443:THR:OG1	3:A:1446:ASP:OD2	2.23	0.54
2:C:186:ASP:OD2	2:C:188:LYS:HG2	2.08	0.54
3:A:80:TRP:O	3:A:94:GLU:HA	2.08	0.54
3:A:680:ASN:C	3:A:682:GLY:N	2.62	0.54
3:A:1298:GLU:O	3:A:1302:ASN:N	2.22	0.54
3:A:1307:GLU:C	3:A:1311:LEU:H	2.16	0.54
3:A:1409:GLU:HG3	3:A:1412:MET:HB3	1.90	0.54
3:A:287:PHE:HD1	3:A:291:LYS:HB2	1.72	0.54
3:A:1305:HIS:CE1	3:A:1423:ILE:HA	2.43	0.54
3:A:1305:HIS:HA	3:A:1308:THR:OG1	2.08	0.54
3:A:1372:LEU:O	3:A:1376:ILE:HG12	2.07	0.54
3:A:31:ASP:O	3:A:33:SER:N	2.41	0.54
3:A:121:ASN:CB	3:A:214:TRP:HE1	2.21	0.54
3:A:288:TYR:HB3	3:A:397:TYR:OH	2.07	0.54
3:A:295:ILE:HA	3:A:299:GLU:HB2	1.90	0.54
3:A:691:LYS:HZ1	3:A:700:SER:HB3	1.73	0.54
3:A:939:GLN:N	3:A:943:THR:HG21	2.23	0.54
3:A:112:ASN:HB3	3:A:114:LYS:NZ	2.22	0.53
3:A:926:THR:HG22	3:A:944:LEU:HD12	1.89	0.53
3:A:1364:ASN:HB3	3:A:1369:ILE:HG22	1.91	0.53
3:A:1445:ASN:O	3:A:1530:TYR:OH	2.25	0.53
3:A:1483:GLU:OE2	3:A:1578:GLN:N	2.41	0.53
1:B:71:ASN:HB2	1:B:76:ASP:HB3	1.90	0.53
2:C:127:ARG:NE	2:C:128:THR:O	2.38	0.53
3:A:113:LEU:N	3:A:182:ASN:HD21	2.06	0.53
3:A:1396:SER:HB3	3:A:1400:ASN:ND2	2.22	0.53
3:A:1413:TRP:CH2	3:A:1442:PRO:HD3	2.43	0.53
3:A:1936:GLU:HB2	3:A:1939:PRO:HA	1.91	0.53
3:A:256:CYS:SG	3:A:257:ARG:NH1	2.81	0.53
3:A:337:LYS:HB3	3:A:341:GLU:OE2	2.08	0.53
3:A:345:ASN:HA	3:A:350:LEU:HA	1.91	0.53
3:A:559:ILE:C	3:A:561:LYS:H	2.16	0.53
3:A:927:GLU:OE2	3:A:933:ARG:N	2.33	0.53
2:C:27:PRO:HG2	2:C:30:LEU:HB2	1.89	0.53
3:A:191:ARG:NH1	3:A:210:LEU:HB3	2.24	0.53
3:A:281:THR:O	3:A:286:ASP:N	2.33	0.53
3:A:984:GLN:H	3:A:991:ARG:HB3	1.73	0.53
3:A:1240:PHE:CD1	3:A:1241:PRO:HA	2.43	0.53
2:C:111:ASN:ND2	2:C:112:ASN:OD1	2.42	0.53
3:A:1049:TYR:C	3:A:1053:ALA:HA	2.34	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1219:CYS:HB3	3:A:1422:LYS:HE2	1.91	0.53
3:A:1417:ARG:HA	3:A:1420:ILE:HG22	1.90	0.53
3:A:1822:ASP:CG	3:A:1823:PRO:HD3	2.33	0.53
1:B:153:LEU:HB3	2:C:137:PHE:CD1	2.36	0.53
3:A:59:SER:OG	3:A:60:ASP:N	2.41	0.53
3:A:129:LEU:HD23	3:A:225:VAL:HG21	1.90	0.53
3:A:262:TYR:CE2	3:A:573:GLU:HB2	2.42	0.53
3:A:1006:LYS:NZ	3:A:1011:ASP:HA	2.23	0.53
3:A:1385:PRO:HB3	3:A:1404:TRP:CE3	2.44	0.53
3:A:1615:ASN:ND2	3:A:1875:GLU:OE2	2.42	0.53
3:A:1984:LYS:HE3	3:A:1984:LYS:HA	1.89	0.53
3:A:1:MET:SD	3:A:3:SER:N	2.82	0.53
3:A:36:GLU:HG2	3:A:1781:LEU:HB3	1.91	0.53
2:C:168:LYS:HB3	2:C:171:ASN:HA	1.90	0.53
3:A:239:ARG:HH12	3:A:249:ARG:HH12	1.57	0.53
3:A:513:SER:O	3:A:514:SER:C	2.52	0.53
3:A:993:MET:HG2	3:A:1008:ASN:HD21	1.73	0.53
3:A:1202:CYS:H	3:A:1204:GLU:CD	2.16	0.53
3:A:1368:HIS:ND1	3:A:1371:LYS:HB3	2.24	0.53
3:A:38:TYR:HA	3:A:117:LYS:HE3	1.90	0.53
3:A:215:TRP:HZ3	3:A:272:TYR:HE1	1.57	0.53
3:A:689:ILE:HD11	3:A:703:SER:C	2.34	0.53
3:A:940:SER:O	3:A:943:THR:HG22	2.09	0.53
3:A:1121:PHE:O	3:A:1125:GLN:OE1	2.26	0.53
3:A:964:CYS:O	3:A:965:GLN:HG3	2.08	0.53
3:A:1369:ILE:HD12	3:A:1372:LEU:HD12	1.90	0.53
3:A:235:LEU:HD21	3:A:675:LEU:HD13	1.90	0.52
3:A:1015:THR:O	3:A:1018:ARG:NH1	2.41	0.52
3:A:1596:CYS:SG	3:A:1664:ARG:HG2	2.48	0.52
3:A:289:ARG:O	3:A:293:ASN:HB2	2.09	0.52
3:A:524:GLN:O	3:A:526:GLU:N	2.42	0.52
3:A:528:GLN:NE2	3:A:718:TYR:OH	2.42	0.52
3:A:587:LEU:HD13	3:A:655:TYR:CE1	2.44	0.52
3:A:1202:CYS:H	3:A:1204:GLU:HA	1.72	0.52
3:A:279:TRP:HB3	3:A:283:TRP:CD1	2.45	0.52
3:A:499:LEU:HD11	3:A:522:LYS:HB3	1.91	0.52
3:A:1215:SER:HB3	3:A:1216:GLU:HG3	1.91	0.52
2:C:109:LYS:NZ	2:C:114:PRO:HD2	2.25	0.52
3:A:164:ASP:OD2	3:A:278:ARG:NH1	2.41	0.52
3:A:270:LEU:O	3:A:273:VAL:HB	2.09	0.52
3:A:632:TYR:O	3:A:637:ASN:N	2.41	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1092:ASN:HA	3:A:1097:CYS:HB3	1.90	0.52
3:A:1269:THR:O	3:A:1272:LEU:HD22	2.09	0.52
3:A:1752:ASP:OD1	3:A:1753:ARG:N	2.37	0.52
3:A:180:GLU:HG2	3:A:184:LYS:NZ	2.24	0.52
3:A:1298:GLU:HA	3:A:1301:LYS:HD2	1.90	0.52
3:A:1408:ILE:C	3:A:1412:MET:H	2.16	0.52
3:A:121:ASN:O	3:A:125:LEU:N	2.43	0.52
3:A:687:LYS:O	3:A:688:TYR:C	2.53	0.52
3:A:850:LYS:HD2	3:A:864:SER:HB2	1.92	0.52
3:A:1129:ALA:O	3:A:1133:SER:N	2.43	0.52
3:A:1314:TYR:CD2	3:A:1320:ALA:HB2	2.45	0.52
3:A:1474:GLU:HA	3:A:1478:ILE:HB	1.90	0.52
3:A:1741:TRP:HA	3:A:1746:THR:HG21	1.91	0.52
3:A:29:LYS:HB3	3:A:217:ALA:HB1	1.91	0.52
3:A:79:GLN:OE1	3:A:81:LYS:NZ	2.43	0.52
3:A:1345:HIS:NE2	3:A:1543:TYR:HE1	2.07	0.52
3:A:1636:LEU:O	3:A:1640:ILE:HG12	2.10	0.52
3:A:159:PHE:HE1	3:A:222:VAL:HG13	1.74	0.52
3:A:207:TYR:HB3	3:A:211:ARG:NH1	2.25	0.52
3:A:852:ASN:OD1	3:A:853:ARG:N	2.41	0.52
3:A:1029:VAL:HG21	3:A:1959:MET:HE1	1.92	0.52
3:A:1277:LEU:O	3:A:1288:ILE:HG23	2.10	0.51
3:A:1420:ILE:HD12	3:A:1423:ILE:HB	1.92	0.51
3:A:1356:ASN:HD22	3:A:1359:LEU:HD11	1.74	0.51
3:A:82:CYS:HB2	3:A:96:ILE:HB	1.93	0.51
3:A:167:ARG:C	3:A:211:ARG:HE	2.19	0.51
3:A:1666:ALA:HB2	3:A:1764:MET:SD	2.49	0.51
3:A:935:LYS:HG3	3:A:936:SER:N	2.25	0.51
3:A:1627:ARG:NH1	3:A:1697:ASP:OD2	2.32	0.51
3:A:510:LYS:HE2	3:A:510:LYS:HA	1.91	0.51
3:A:559:ILE:HG22	3:A:561:LYS:CG	2.31	0.51
3:A:562:LYS:HZ3	3:A:576:ASN:HB2	1.76	0.51
3:A:1821:CYS:HA	3:A:1838:CYS:HB2	1.93	0.51
3:A:631:ARG:O	3:A:635:ASN:HB3	2.09	0.51
3:A:804:LYS:NZ	3:A:966:CYS:SG	2.82	0.51
1:B:119:LEU:HD12	1:B:120:ARG:HG3	1.91	0.51
3:A:203:LYS:HA	3:A:204:ASP:C	2.36	0.51
3:A:207:TYR:O	3:A:211:ARG:HG2	2.10	0.51
3:A:251:LYS:HE3	3:A:566:ASN:O	2.11	0.51
3:A:1125:GLN:CA	3:A:1129:ALA:H	2.24	0.51
3:A:1550:ASN:ND2	3:A:1711:GLU:O	2.43	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1814:PHE:CE2	3:A:1953:LYS:HE2	2.45	0.51
3:A:529:LYS:HB3	3:A:614:LEU:HD23	1.92	0.51
3:A:942:ASP:OD1	3:A:947:VAL:N	2.43	0.51
3:A:1313:GLU:O	3:A:1317:THR:OG1	2.12	0.51
3:A:1436:GLU:OE1	3:A:1436:GLU:N	2.38	0.51
2:C:21:ILE:HG21	2:C:46:GLN:HG2	1.93	0.51
3:A:95:ASN:CG	3:A:346:LYS:HE3	2.36	0.51
1:B:46:PHE:HE1	1:B:117:ARG:HE	1.58	0.50
1:B:48:PHE:HD2	1:B:96:SER:HA	1.75	0.50
3:A:537:SER:O	3:A:538:LEU:HG	2.11	0.50
3:A:680:ASN:C	3:A:682:GLY:H	2.19	0.50
3:A:682:GLY:O	3:A:683:LYS:C	2.54	0.50
3:A:988:GLY:HA2	3:A:1110:GLN:HG3	1.93	0.50
3:A:1262:GLY:HA2	3:A:1525:LYS:HE3	1.93	0.50
1:B:117:ARG:HD3	1:B:131:ASN:HB2	1.93	0.50
3:A:787:SER:OG	3:A:798:GLU:OE2	2.14	0.50
3:A:1199:GLU:HA	3:A:1202:CYS:O	2.11	0.50
3:A:1204:GLU:N	3:A:1205:ASN:HA	2.25	0.50
2:C:177:ASN:ND2	2:C:198:LEU:HD11	2.26	0.50
3:A:191:ARG:NE	3:A:205:GLN:HB3	2.26	0.50
3:A:277:LEU:HD22	3:A:373:PHE:CZ	2.46	0.50
3:A:562:LYS:NZ	3:A:576:ASN:HB2	2.26	0.50
3:A:1237:GLY:N	3:A:1246:GLU:HG3	2.26	0.50
3:A:1356:ASN:HB3	3:A:1449:GLN:NE2	2.21	0.50
3:A:1412:MET:O	3:A:1412:MET:HE3	2.11	0.50
3:A:925:THR:O	3:A:946:VAL:HG12	2.10	0.50
3:A:770:PHE:CZ	3:A:953:LEU:HD23	2.47	0.50
3:A:1305:HIS:CE1	3:A:1427:ASN:HB2	2.47	0.50
3:A:1839:LYS:HG3	3:A:1964:VAL:HG22	1.93	0.50
3:A:38:TYR:CE1	3:A:118:ILE:HB	2.44	0.50
3:A:80:TRP:CD1	3:A:94:GLU:HB3	2.46	0.50
3:A:291:LYS:HD2	3:A:339:GLU:OE2	2.12	0.50
3:A:694:THR:O	3:A:695:ALA:HB2	2.10	0.50
3:A:905:LEU:HD22	3:A:909:ILE:HD11	1.94	0.50
3:A:1056:SER:HB3	3:A:1057:CYS:HB2	1.93	0.50
3:A:1124:LYS:O	3:A:1127:TYR:HB3	2.12	0.50
3:A:1721:ASN:OD1	3:A:1738:ARG:NH1	2.44	0.50
3:A:1939:PRO:O	3:A:1941:ASP:N	2.45	0.50
3:A:1977:ASP:OD1	3:A:1978:ASN:N	2.44	0.50
1:B:31:VAL:HG21	1:B:105:LEU:HD12	1.93	0.50
2:C:23:MET:SD	2:C:109:LYS:HG2	2.52	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:504:GLU:HG3	3:A:521:ASN:ND2	2.27	0.50
3:A:894:LEU:HD11	3:A:903:ASN:HD22	1.75	0.50
3:A:1209:ASP:HB3	3:A:1210:THR:OG1	2.11	0.50
3:A:1285:ARG:HG2	3:A:1287:ASN:HA	1.94	0.50
1:B:119:LEU:HB3	1:B:130:GLY:HA3	1.93	0.50
3:A:51:ILE:HG12	3:A:221:LYS:HE3	1.94	0.50
3:A:219:ARG:HH21	3:A:266:VAL:HG21	1.76	0.50
3:A:1657:THR:HA	3:A:1660:ILE:HG22	1.94	0.50
3:A:235:LEU:HD12	3:A:258:LYS:HG2	1.94	0.49
3:A:290:GLU:OE2	3:A:291:LYS:NZ	2.45	0.49
3:A:968:ILE:HB	3:A:969:PRO:HD2	1.94	0.49
3:A:1142:SER:HB3	3:A:1187:GLY:H	1.77	0.49
3:A:1414:ASP:O	3:A:1417:ARG:HG2	2.12	0.49
3:A:1489:SER:HA	3:A:1498:GLN:HG2	1.94	0.49
3:A:1538:LEU:O	3:A:1542:ASN:ND2	2.44	0.49
3:A:290:GLU:OE2	3:A:291:LYS:HG3	2.12	0.49
3:A:1123:SER:C	3:A:1126:ILE:H	2.19	0.49
3:A:1215:SER:HB3	3:A:1216:GLU:CG	2.42	0.49
3:A:1359:LEU:HD12	3:A:1360:GLY:N	2.28	0.49
3:A:1376:ILE:HA	3:A:1380:ILE:HB	1.92	0.49
3:A:95:ASN:ND2	3:A:346:LYS:HE3	2.27	0.49
3:A:256:CYS:HA	3:A:257:ARG:CG	2.41	0.49
3:A:287:PHE:HD1	3:A:291:LYS:HE2	1.77	0.49
3:A:560:TRP:O	3:A:576:ASN:HA	2.11	0.49
3:A:562:LYS:CB	3:A:575:ALA:HB1	2.36	0.49
3:A:563:SER:O	3:A:565:GLY:N	2.45	0.49
3:A:697:GLN:N	3:A:699:THR:HB	2.27	0.49
3:A:1398:THR:O	3:A:1402:ASN:HB2	2.12	0.49
3:A:1308:THR:HB	3:A:1429:ASN:HD21	1.77	0.49
3:A:1310:LEU:HD22	3:A:1314:TYR:HB2	1.93	0.49
3:A:1325:ASN:HD21	3:A:1328:LYS:CG	2.25	0.49
3:A:558:TRP:HB2	3:A:825:GLY:O	2.13	0.49
2:C:206:GLU:HG3	2:C:230:ARG:NH1	2.28	0.49
3:A:637:ASN:HD21	3:A:640:ASN:C	2.18	0.49
3:A:788:CYS:O	3:A:789:LYS:NZ	2.42	0.49
3:A:1485:LYS:HB2	3:A:1489:SER:HB2	1.94	0.49
3:A:1933:CYS:SG	3:A:1936:GLU:HB3	2.51	0.49
3:A:674:GLU:OE2	3:A:708:ARG:NH1	2.27	0.49
3:A:1500:ALA:O	3:A:1503:ARG:NH1	2.45	0.49
1:B:25:GLU:HA	1:B:40:SER:O	2.13	0.49
1:B:181:VAL:HG22	1:B:227:VAL:HG12	1.93	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:216:ASN:O	3:A:219:ARG:HG2	2.13	0.49
3:A:691:LYS:O	3:A:692:ASN:C	2.55	0.49
3:A:699:THR:HG23	3:A:700:SER:O	2.13	0.49
3:A:1373:GLN:O	3:A:1377:LYS:HG2	2.12	0.49
3:A:1377:LYS:O	3:A:1381:GLU:HB2	2.13	0.49
3:A:1582:TYR:CD2	3:A:1589:LYS:HB2	2.47	0.49
3:A:817:CYS:SG	3:A:930:ASN:HB2	2.52	0.49
3:A:867:ASN:C	3:A:867:ASN:ND2	2.71	0.49
3:A:982:MET:H	3:A:991:ARG:NH1	2.11	0.49
3:A:1100:TYR:C	3:A:1102:LEU:H	2.20	0.49
2:C:31:SER:OG	2:C:124:GLU:OE2	2.28	0.48
3:A:76:ASP:HB2	3:A:104:ARG:HH22	1.77	0.48
3:A:289:ARG:O	3:A:293:ASN:CB	2.61	0.48
3:A:633:PRO:HA	3:A:634:GLN:HA	1.60	0.48
3:A:1626:PRO:O	3:A:1630:GLN:HG2	2.13	0.48
3:A:160:ALA:HB1	3:A:278:ARG:CZ	2.43	0.48
3:A:255:LEU:O	3:A:257:ARG:NH1	2.38	0.48
2:C:135:PHE:HB2	2:C:154:LEU:HB3	1.95	0.48
3:A:559:ILE:HD11	3:A:585:GLN:OE1	2.13	0.48
3:A:567:GLU:CD	3:A:567:GLU:H	2.21	0.48
3:A:1118:TYR:HA	3:A:1121:PHE:HB3	1.94	0.48
3:A:1406:LYS:HA	3:A:1409:GLU:CB	2.42	0.48
3:A:1959:MET:HA	3:A:1959:MET:HE2	1.96	0.48
2:C:206:GLU:HA	2:C:230:ARG:CZ	2.43	0.48
3:A:116:ASP:HB3	3:A:119:ARG:HH22	1.78	0.48
3:A:524:GLN:HB2	3:A:701:TYR:OH	2.13	0.48
3:A:989:SER:H	3:A:1110:GLN:CD	2.21	0.48
3:A:1133:SER:HB2	3:A:1134:GLN:HG2	1.95	0.48
3:A:1311:LEU:HD21	3:A:1339:LEU:HB2	1.95	0.48
3:A:1688:CYS:SG	3:A:1783:MET:HG2	2.54	0.48
2:C:108:GLN:HG3	2:C:117:PHE:CE1	2.49	0.48
3:A:524:GLN:OE1	3:A:701:TYR:CZ	2.67	0.48
3:A:559:ILE:CG2	3:A:561:LYS:HG2	2.30	0.48
3:A:1457:TRP:CH2	3:A:1519:TRP:HB2	2.49	0.48
3:A:767:VAL:HG11	3:A:901:LEU:HD21	1.94	0.48
3:A:1106:LYS:HB3	3:A:1110:GLN:NE2	2.28	0.48
1:B:58:GLN:HB2	1:B:64:LEU:HD23	1.95	0.48
3:A:80:TRP:C	3:A:81:LYS:HD2	2.38	0.48
3:A:125:LEU:HG	3:A:129:LEU:CD1	2.43	0.48
3:A:1005:CYS:HB2	3:A:1114:GLN:NE2	2.29	0.48
3:A:1497:ILE:HB	3:A:1502:LYS:HE2	1.95	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:375:GLU:HA	3:A:380:ASN:HB3	1.95	0.48
3:A:1057:CYS:SG	3:A:1058:ILE:HB	2.53	0.48
3:A:1149:CYS:SG	3:A:1150:TRP:N	2.87	0.48
3:A:1408:ILE:HB	3:A:1411:GLU:HB3	1.94	0.48
3:A:60:ASP:O	3:A:64:TYR:HB3	2.13	0.48
3:A:1420:ILE:HG12	3:A:1436:GLU:HA	1.95	0.48
3:A:1477:THR:OG1	3:A:1645:GLU:OE1	2.28	0.48
2:C:55:TYR:HE1	2:C:108:GLN:HB3	1.79	0.48
2:C:163:ALA:HB2	2:C:217:HIS:HD2	1.79	0.48
3:A:591:ASN:HA	3:A:669:TYR:CD2	2.48	0.48
3:A:1726:SER:N	3:A:1729:THR:OG1	2.46	0.48
3:A:102:ARG:NH2	3:A:282:GLU:HG3	2.27	0.47
3:A:560:TRP:HH2	3:A:838:ILE:CG1	2.27	0.47
3:A:1308:THR:HA	3:A:1311:LEU:HB2	1.96	0.47
3:A:5:SER:HB3	3:A:384:LEU:HD21	1.96	0.47
3:A:168:GLY:HA3	3:A:211:ARG:HH21	1.78	0.47
3:A:580:LEU:O	3:A:585:GLN:NE2	2.46	0.47
3:A:691:LYS:HB3	3:A:694:THR:HG23	1.95	0.47
3:A:1164:LYS:HD3	3:A:1972:GLN:CD	2.39	0.47
3:A:1339:LEU:HD22	3:A:1343:PHE:HB3	1.95	0.47
1:B:228:ASN:HB3	1:B:230:LYS:NZ	2.29	0.47
3:A:1404:TRP:O	3:A:1408:ILE:HG12	2.14	0.47
3:A:1757:ARG:NH2	3:A:1788:ILE:O	2.47	0.47
3:A:166:ILE:O	3:A:211:ARG:HD2	2.14	0.47
3:A:277:LEU:HD22	3:A:373:PHE:CE1	2.49	0.47
3:A:1824:PRO:HG2	3:A:1832:ASP:H	1.79	0.47
3:A:275:GLN:O	3:A:275:GLN:NE2	2.44	0.47
3:A:1799:LEU:HD21	3:A:1888:VAL:HG23	1.95	0.47
1:B:224:ILE:HG22	1:B:239:LYS:HA	1.96	0.47
3:A:235:LEU:HD23	3:A:238:LYS:HE3	1.97	0.47
3:A:255:LEU:O	3:A:257:ARG:HD3	2.14	0.47
3:A:632:TYR:HB2	3:A:633:PRO:HD2	1.97	0.47
3:A:1250:ILE:HG12	3:A:1265:ILE:HB	1.95	0.47
3:A:1418:CYS:O	3:A:1422:LYS:HG2	2.14	0.47
3:A:1476:CYS:HA	3:A:1480:GLY:HA3	1.97	0.47
1:B:146:LYS:HD2	1:B:147:GLY:O	2.14	0.47
3:A:111:GLU:OE1	3:A:175:THR:OG1	2.33	0.47
3:A:187:PHE:HE2	3:A:191:ARG:HH11	1.62	0.47
3:A:1109:ASP:OD2	3:A:1113:LYS:NZ	2.47	0.47
3:A:1316:ASP:O	3:A:1330:GLN:HG3	2.14	0.47
3:A:1324:LYS:HB3	3:A:1467:ARG:NH2	2.29	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1454:PHE:HE1	3:A:1522:GLN:HB3	1.79	0.47
3:A:202:PRO:HB2	3:A:206:LYS:HG2	1.97	0.47
3:A:691:LYS:O	3:A:694:THR:N	2.48	0.47
3:A:1111:TRP:O	3:A:1115:LYS:N	2.29	0.47
3:A:1274:VAL:CG1	3:A:1278:TRP:H	2.28	0.47
3:A:1278:TRP:HA	3:A:1287:ASN:HB3	1.95	0.47
3:A:1633:LEU:HD11	3:A:1712:TYR:HB3	1.96	0.47
3:A:102:ARG:HA	3:A:105:LEU:CD1	2.45	0.47
3:A:254:GLU:HB3	3:A:258:LYS:O	2.15	0.47
3:A:365:ARG:NH2	3:A:370:VAL:O	2.48	0.47
3:A:562:LYS:HE2	3:A:576:ASN:ND2	2.30	0.47
3:A:617:CYS:HA	3:A:620:VAL:HG12	1.97	0.47
3:A:1499:GLY:HA2	3:A:1502:LYS:HB2	1.97	0.47
3:A:80:TRP:HB3	3:A:97:CYS:SG	2.55	0.47
3:A:164:ASP:O	3:A:168:GLY:N	2.48	0.47
3:A:236:LEU:HD22	3:A:260:GLY:N	2.30	0.47
3:A:690:LYS:C	3:A:692:ASN:N	2.73	0.47
3:A:1059:ASP:CG	3:A:1096:LYS:HD3	2.40	0.47
3:A:1550:ASN:ND2	3:A:1711:GLU:HG2	2.30	0.47
3:A:1754:LYS:NZ	3:A:1762:ASP:OD2	2.38	0.47
3:A:18:LYS:HB3	3:A:216:ASN:ND2	2.30	0.46
3:A:244:SER:OG	3:A:248:ASP:OD1	2.25	0.46
3:A:925:THR:O	3:A:946:VAL:HB	2.14	0.46
3:A:1397:SER:O	3:A:1401:VAL:HG22	2.15	0.46
2:C:151:VAL:HB	2:C:198:LEU:HB3	1.97	0.46
3:A:1114:GLN:NE2	3:A:1117:ASN:HD22	2.13	0.46
3:A:1305:HIS:CE1	3:A:1423:ILE:HG12	2.50	0.46
3:A:1312:TYR:O	3:A:1316:ASP:HB3	2.15	0.46
3:A:1419:ALA:O	3:A:1423:ILE:HG13	2.15	0.46
3:A:99:PRO:HB2	3:A:101:ARG:HB3	1.97	0.46
3:A:666:ASP:OD2	3:A:671:LYS:HE2	2.15	0.46
3:A:967:LYS:NZ	3:A:968:ILE:HG12	2.30	0.46
3:A:1348:GLN:O	3:A:1352:ILE:HB	2.16	0.46
3:A:1982:ASP:HA	3:A:1990:ARG:C	2.40	0.46
1:B:175:PHE:HB3	1:B:204:LEU:HD13	1.97	0.46
3:A:12:GLU:OE1	3:A:12:GLU:N	2.44	0.46
3:A:252:ASN:OD1	3:A:253:PHE:N	2.43	0.46
3:A:632:TYR:HA	3:A:636:LYS:HB2	1.97	0.46
3:A:689:ILE:HG13	3:A:702:SER:O	2.14	0.46
3:A:798:GLU:HG3	3:A:966:CYS:HB3	1.97	0.46
3:A:999:ASN:ND2	3:A:1001:ASN:O	2.49	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:143:GLN:O	2:C:146:SER:OG	2.15	0.46
3:A:365:ARG:HH12	3:A:374:PHE:CB	2.21	0.46
3:A:1092:ASN:HB3	3:A:1094:LYS:O	2.14	0.46
3:A:1133:SER:HA	3:A:1134:GLN:HA	1.68	0.46
3:A:1203:LYS:HB3	3:A:1205:ASN:OD1	2.16	0.46
1:B:93:ASN:ND2	3:A:1615:ASN:OD1	2.49	0.46
3:A:85:ASN:ND2	3:A:94:GLU:HB2	2.30	0.46
3:A:1096:LYS:HD2	3:A:1201:LYS:CG	2.45	0.46
3:A:1106:LYS:HE3	3:A:1110:GLN:HE22	1.80	0.46
3:A:1257:HIS:CD2	3:A:1265:ILE:HG13	2.51	0.46
1:B:145:THR:HA	1:B:176:PRO:HD3	1.97	0.46
1:B:212:THR:HG21	2:C:156:ASN:ND2	2.30	0.46
3:A:200:LYS:HE3	3:A:210:LEU:HD13	1.98	0.46
3:A:291:LYS:O	3:A:294:LEU:HB2	2.15	0.46
3:A:388:ILE:HG22	3:A:389:LYS:HG2	1.98	0.46
3:A:614:LEU:O	3:A:618:LEU:HD23	2.16	0.46
3:A:615:ALA:O	3:A:619:ILE:HG12	2.15	0.46
3:A:1794:GLN:HG3	3:A:1797:ARG:NH2	2.31	0.46
3:A:1954:TYR:OH	3:A:1961:CYS:SG	2.59	0.46
2:C:184:GLU:HA	2:C:184:GLU:OE2	2.16	0.46
3:A:83:GLN:HB3	3:A:95:ASN:ND2	2.12	0.46
3:A:170:ASP:HA	3:A:279:TRP:HH2	1.81	0.46
3:A:258:LYS:HE2	3:A:674:GLU:HG2	1.98	0.46
3:A:864:SER:HA	3:A:1790:ILE:CG2	2.44	0.46
3:A:978:ARG:HG3	3:A:980:GLU:OE2	2.16	0.46
3:A:1092:ASN:C	3:A:1094:LYS:H	2.23	0.46
3:A:24:ILE:HG22	3:A:24:ILE:O	2.16	0.46
3:A:148:SER:O	3:A:150:ASN:N	2.42	0.46
3:A:380:ASN:CG	3:A:381:TYR:H	2.23	0.46
3:A:653:ALA:HB2	3:A:753:ILE:HG23	1.98	0.46
3:A:767:VAL:HG21	3:A:901:LEU:HD21	1.98	0.46
3:A:1094:LYS:HD2	3:A:1096:LYS:HE2	1.98	0.46
3:A:1670:TRP:CH2	3:A:1780:PRO:HG3	2.49	0.46
3:A:1822:ASP:HB3	3:A:1957:HIS:CE1	2.50	0.46
2:C:158:PHE:HD2	2:C:217:HIS:HE2	1.64	0.46
3:A:1125:GLN:HA	3:A:1129:ALA:H	1.81	0.46
3:A:1424:ASN:HA	3:A:1430:SER:O	2.16	0.46
3:A:1824:PRO:HD2	3:A:1828:ASP:HA	1.98	0.46
3:A:273:VAL:HG13	3:A:277:LEU:CD2	2.45	0.45
3:A:690:LYS:HE3	3:A:690:LYS:HB3	1.37	0.45
3:A:696:GLU:C	3:A:699:THR:HB	2.41	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1667:TYR:OH	3:A:1671:LYS:NZ	2.42	0.45
3:A:319:CYS:HA	3:A:322:CYS:SG	2.57	0.45
3:A:779:LYS:O	3:A:783:THR:HG23	2.16	0.45
3:A:939:GLN:H	3:A:943:THR:CG2	2.25	0.45
3:A:1214:LYS:HG3	3:A:1414:ASP:OD2	2.16	0.45
3:A:38:TYR:CD2	3:A:59:SER:HA	2.52	0.45
3:A:185:GLN:NE2	3:A:186:MET:HG2	2.30	0.45
3:A:350:LEU:CB	3:A:355:LYS:H	2.30	0.45
3:A:894:LEU:HA	3:A:899:SER:OG	2.16	0.45
3:A:1136:LYS:HE2	3:A:1139:VAL:CA	2.46	0.45
3:A:1252:LYS:HG3	3:A:1521:LYS:HE2	1.97	0.45
2:C:40:ILE:O	2:C:91:THR:HA	2.16	0.45
3:A:367:ASP:HB3	3:A:371:LYS:HB2	1.98	0.45
3:A:562:LYS:O	3:A:563:SER:C	2.60	0.45
3:A:998:LYS:HD2	3:A:998:LYS:HA	1.78	0.45
3:A:1311:LEU:HG	3:A:1340:PRO:HG2	1.99	0.45
3:A:32:PRO:HB2	3:A:47:LEU:HD23	1.98	0.45
3:A:1814:PHE:CZ	3:A:1953:LYS:HB3	2.51	0.45
3:A:1965:TYR:O	3:A:1969:VAL:HG23	2.17	0.45
2:C:144:LEU:HD11	2:C:205:TYR:CE2	2.52	0.45
3:A:80:TRP:HD1	3:A:94:GLU:C	2.25	0.45
3:A:344:GLU:C	3:A:347:TYR:H	2.25	0.45
3:A:562:LYS:HE2	3:A:576:ASN:HD22	1.82	0.45
3:A:582:PRO:HA	3:A:585:GLN:HG2	1.99	0.45
3:A:859:ASN:N	3:A:891:ASP:OD2	2.46	0.45
3:A:971:ASN:HB3	3:A:1098:LYS:HG2	1.97	0.45
3:A:993:MET:HG3	3:A:994:LYS:N	2.30	0.45
3:A:1224:THR:OG1	3:A:1225:ASN:N	2.49	0.45
3:A:1325:ASN:HD21	3:A:1328:LYS:HG2	1.82	0.45
3:A:1409:GLU:HA	3:A:1412:MET:CB	2.46	0.45
1:B:166:ALA:HB3	2:C:137:PHE:HZ	1.82	0.45
3:A:111:GLU:HG2	3:A:179:LEU:HB2	1.98	0.45
3:A:987:CYS:HG	3:A:995:ARG:H	1.61	0.45
3:A:1103:TRP:HA	3:A:1106:LYS:HB2	1.97	0.45
3:A:1855:GLU:O	3:A:1859:MET:HG3	2.17	0.45
3:A:1960:LYS:HA	3:A:1963:GLU:HG2	1.98	0.45
3:A:1299:LYS:HB3	3:A:1303:ALA:HB2	1.98	0.45
3:A:1404:TRP:C	3:A:1408:ILE:HG12	2.42	0.45
1:B:200:GLN:HG2	1:B:204:LEU:O	2.17	0.45
2:C:208:HIS:O	2:C:230:ARG:NE	2.33	0.45
3:A:327:LYS:HA	3:A:327:LYS:HD2	1.76	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:690:LYS:O	3:A:690:LYS:HG2	2.16	0.45
3:A:935:LYS:HE2	3:A:938:SER:O	2.16	0.45
3:A:1206:GLU:HB2	3:A:1207:SER:C	2.42	0.45
3:A:247:SER:OG	3:A:391:ASP:OD1	2.30	0.45
3:A:293:ASN:O	3:A:297:ASP:N	2.48	0.45
3:A:345:ASN:HD22	3:A:352:GLU:HG3	1.82	0.44
3:A:679:ASN:O	3:A:683:LYS:HG2	2.17	0.44
3:A:984:GLN:H	3:A:991:ARG:CB	2.30	0.44
3:A:1007:TYR:HB3	3:A:1010:VAL:HG12	1.99	0.44
3:A:1834:SER:H	3:A:1837:GLU:CD	2.25	0.44
2:C:161:ARG:HH12	2:C:182:VAL:HG11	1.81	0.44
3:A:509:ASN:HD22	3:A:513:SER:CB	2.31	0.44
3:A:935:LYS:HG2	3:A:938:SER:C	2.42	0.44
3:A:1455:LYS:HB3	3:A:1543:TYR:OH	2.17	0.44
3:A:710:SER:O	3:A:714:THR:HG22	2.17	0.44
3:A:712:TRP:O	3:A:716:LYS:HB3	2.17	0.44
3:A:997:TYR:N	3:A:1003:GLU:HG3	2.24	0.44
3:A:1033:ASN:OD1	3:A:1958:LYS:HD2	2.17	0.44
3:A:1520:ASP:OD2	3:A:1521:LYS:N	2.50	0.44
3:A:1706:ASP:OD1	3:A:1794:GLN:NE2	2.29	0.44
3:A:1972:GLN:O	3:A:1976:ILE:HG13	2.18	0.44
1:B:116:ALA:HB1	1:B:129:LEU:HB3	1.98	0.44
3:A:64:TYR:CE1	3:A:109:ASN:HB2	2.52	0.44
3:A:843:SER:O	3:A:847:GLU:HG2	2.17	0.44
3:A:956:THR:O	3:A:958:TYR:N	2.47	0.44
3:A:975:CYS:SG	3:A:1099:CYS:HA	2.57	0.44
3:A:1201:LYS:NZ	3:A:1207:SER:OG	2.50	0.44
3:A:1946:VAL:HA	3:A:1951:ASP:OD1	2.17	0.44
1:B:230:LYS:HA	1:B:230:LYS:HD3	1.72	0.44
2:C:48:ILE:HA	3:A:510:LYS:HD2	1.99	0.44
3:A:201:TYR:N	3:A:202:PRO:HD3	2.32	0.44
3:A:657:ASP:OD2	3:A:761:ARG:NH2	2.43	0.44
3:A:1000:ASP:HA	3:A:1120:LYS:HD3	2.00	0.44
3:A:1347:VAL:O	3:A:1351:PHE:HB3	2.17	0.44
3:A:589:LEU:HD13	3:A:620:VAL:HG21	1.99	0.44
3:A:1058:ILE:HG21	3:A:1200:LYS:HD3	1.98	0.44
3:A:1130:ASN:OD1	3:A:1131:LYS:N	2.51	0.44
1:B:25:GLU:N	1:B:25:GLU:OE1	2.50	0.44
2:C:111:ASN:CG	2:C:112:ASN:H	2.26	0.44
3:A:34:GLU:HG2	3:A:37:TYR:HE1	1.83	0.44
3:A:150:ASN:N	3:A:238:LYS:HD3	2.33	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:184:LYS:HG3	3:A:207:TYR:CE2	2.53	0.44
3:A:940:SER:H	3:A:943:THR:CG2	2.31	0.44
1:B:170:LEU:HA	1:B:208:SER:HA	2.00	0.44
2:C:54:TRP:CE3	2:C:107:CYS:HB3	2.52	0.44
3:A:30:ALA:HB1	3:A:122:ASN:HA	2.00	0.44
3:A:285:GLU:HA	3:A:288:TYR:HB2	1.98	0.44
3:A:366:TYR:CE1	3:A:368:ASP:HB2	2.52	0.44
3:A:993:MET:HG3	3:A:994:LYS:H	1.83	0.44
3:A:1143:ASN:HB3	3:A:1973:LEU:CD2	2.48	0.44
3:A:7:ILE:HG22	3:A:387:TYR:CZ	2.52	0.44
3:A:561:LYS:HB2	3:A:561:LYS:HE3	1.75	0.44
3:A:567:GLU:CD	3:A:567:GLU:N	2.76	0.44
3:A:1635:GLU:O	3:A:1638:PRO:HD2	2.18	0.44
3:A:1755:THR:HG23	3:A:1758:GLN:H	1.83	0.44
2:C:55:TYR:O	2:C:105:TYR:HA	2.18	0.43
3:A:1277:LEU:O	3:A:1287:ASN:HB3	2.18	0.43
3:A:1476:CYS:HB3	3:A:1484:LYS:HG3	2.00	0.43
3:A:1824:PRO:C	3:A:1826:ARG:H	2.25	0.43
1:B:32:ARG:HH21	1:B:142:SER:HA	1.83	0.43
2:C:159:TYR:CG	2:C:160:PRO:HA	2.53	0.43
3:A:561:LYS:CG	3:A:562:LYS:N	2.80	0.43
3:A:659:ILE:O	3:A:708:ARG:NH2	2.45	0.43
3:A:782:ILE:HD13	3:A:960:TYR:CE2	2.53	0.43
3:A:799:CYS:HB2	3:A:802:LYS:CA	2.45	0.43
3:A:945:VAL:O	3:A:945:VAL:HG13	2.18	0.43
3:A:1006:LYS:HZ1	3:A:1011:ASP:HA	1.82	0.43
3:A:1125:GLN:HB3	3:A:1129:ALA:HB3	1.98	0.43
3:A:1408:ILE:C	3:A:1411:GLU:H	2.26	0.43
3:A:1939:PRO:O	3:A:1942:LEU:N	2.33	0.43
1:B:175:PHE:CZ	1:B:176:PRO:HB3	2.53	0.43
3:A:25:ASP:N	3:A:25:ASP:OD1	2.50	0.43
3:A:235:LEU:O	3:A:238:LYS:HG3	2.17	0.43
3:A:251:LYS:HE2	3:A:566:ASN:OD1	2.17	0.43
3:A:288:TYR:OH	3:A:348:LYS:HD3	2.17	0.43
3:A:807:CYS:HB2	3:A:964:CYS:SG	2.59	0.43
3:A:1428:ASN:HB3	3:A:1431:ILE:HD11	2.01	0.43
3:A:1761:TRP:HE1	3:A:1765:GLN:HE21	1.65	0.43
2:C:149:ALA:HB3	2:C:200:LEU:N	2.30	0.43
3:A:97:CYS:HB2	3:A:291:LYS:HD3	1.99	0.43
3:A:181:LYS:HA	3:A:184:LYS:HB2	2.00	0.43
3:A:235:LEU:HA	3:A:258:LYS:CG	2.39	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:629:LYS:HD3	3:A:728:GLU:HG3	2.01	0.43
3:A:1335:ASP:HB2	3:A:1336:PRO:HD2	2.00	0.43
1:B:183:TRP:CH2	1:B:225:CYS:HB3	2.54	0.43
2:C:126:LYS:HA	2:C:159:TYR:OH	2.18	0.43
3:A:231:ARG:HG2	3:A:234:ASP:OD2	2.18	0.43
3:A:334:LYS:C	3:A:338:THR:HB	2.43	0.43
3:A:1268:ARG:NH1	3:A:1350:SER:HA	2.33	0.43
3:A:1305:HIS:CE1	3:A:1427:ASN:HD22	2.36	0.43
3:A:1355:LYS:HA	3:A:1358:ILE:HD12	2.00	0.43
3:A:1526:TYR:CE1	3:A:1538:LEU:HD22	2.54	0.43
3:A:1823:PRO:CB	3:A:1828:ASP:HB2	2.47	0.43
3:A:167:ARG:HG3	3:A:212:GLU:HA	2.01	0.43
3:A:897:PRO:O	3:A:901:LEU:HB2	2.18	0.43
3:A:1136:LYS:HE2	3:A:1140:SER:N	2.30	0.43
3:A:1199:GLU:C	3:A:1201:LYS:N	2.76	0.43
3:A:1227:ILE:HG13	3:A:1299:LYS:HE3	2.00	0.43
3:A:1406:LYS:C	3:A:1409:GLU:H	2.27	0.43
3:A:1866:ILE:HD11	3:A:1880:TYR:CE1	2.54	0.43
3:A:38:TYR:HD2	3:A:59:SER:HA	1.84	0.43
3:A:763:LEU:HD13	3:A:838:ILE:HG21	2.01	0.43
3:A:850:LYS:HE3	3:A:890:ILE:HG21	1.99	0.43
3:A:934:ASP:O	3:A:935:LYS:HB2	2.18	0.43
3:A:1422:LYS:HB3	3:A:1422:LYS:HE3	1.81	0.43
1:B:102:MET:HE2	1:B:105:LEU:HD11	2.01	0.43
1:B:113:TYR:O	1:B:135:GLY:HA2	2.18	0.43
3:A:8:ALA:N	3:A:387:TYR:OH	2.46	0.43
3:A:102:ARG:HA	3:A:105:LEU:HD12	2.01	0.43
3:A:588:TYR:CD2	3:A:620:VAL:HG23	2.54	0.43
3:A:1146:PHE:CD2	3:A:1184:SER:HB3	2.53	0.43
3:A:1297:LYS:HE2	3:A:1297:LYS:HB3	1.87	0.43
3:A:1297:LYS:HG2	3:A:1301:LYS:HE2	2.01	0.43
2:C:147:GLY:HA2	2:C:202:LYS:NZ	2.34	0.43
3:A:35:VAL:HB	3:A:36:GLU:OE1	2.19	0.43
3:A:624:GLU:HB2	3:A:655:TYR:OH	2.19	0.43
3:A:905:LEU:HD23	3:A:905:LEU:HA	1.85	0.43
3:A:982:MET:SD	3:A:982:MET:N	2.92	0.43
3:A:1209:ASP:HA	3:A:1210:THR:HA	1.80	0.43
3:A:1346:ALA:O	3:A:1351:PHE:N	2.37	0.43
1:B:23:LEU:HD22	1:B:53:MET:HE1	2.01	0.42
2:C:166:GLN:NE2	2:C:167:TRP:H	2.17	0.42
3:A:338:THR:HG22	3:A:338:THR:O	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:564:SER:O	3:A:565:GLY:C	2.62	0.42
3:A:1047:GLU:OE2	3:A:1194:LYS:HE3	2.19	0.42
3:A:1507:LYS:HG3	3:A:1508:TYR:N	2.33	0.42
3:A:1933:CYS:CB	3:A:1934:GLU:HA	2.46	0.42
1:B:48:PHE:CD2	1:B:96:SER:HA	2.54	0.42
2:C:111:ASN:CG	2:C:112:ASN:N	2.77	0.42
2:C:122:ARG:HH22	2:C:161:ARG:HE	1.67	0.42
2:C:199:THR:O	2:C:200:LEU:HD23	2.19	0.42
3:A:69:LYS:HE2	3:A:69:LYS:HB3	1.86	0.42
3:A:604:ASP:OD1	3:A:604:ASP:N	2.52	0.42
3:A:618:LEU:HD13	3:A:722:ALA:HB2	2.00	0.42
3:A:637:ASN:OD1	3:A:638:SER:N	2.52	0.42
3:A:680:ASN:O	3:A:682:GLY:N	2.52	0.42
3:A:862:THR:HG21	3:A:890:ILE:HG13	2.00	0.42
3:A:1164:LYS:HD3	3:A:1972:GLN:NE2	2.34	0.42
3:A:1409:GLU:HA	3:A:1412:MET:H	1.83	0.42
3:A:1584:TYR:CE2	3:A:1769:ARG:HD2	2.54	0.42
3:A:1929:LYS:HA	3:A:1930:GLU:HA	1.62	0.42
1:B:61:GLY:O	1:B:62:LYS:HD2	2.19	0.42
2:C:132:PRO:HB3	2:C:158:PHE:HB3	2.01	0.42
3:A:29:LYS:HA	3:A:218:ASN:ND2	2.34	0.42
3:A:683:LYS:HE3	3:A:683:LYS:HB3	1.68	0.42
3:A:727:ALA:O	3:A:728:GLU:HG3	2.19	0.42
3:A:853:ARG:O	3:A:868:ALA:N	2.52	0.42
3:A:980:GLU:HB2	3:A:981:TYR:CE2	2.54	0.42
3:A:1266:PRO:O	3:A:1270:GLN:HG3	2.19	0.42
3:A:1556:ASN:HB2	3:A:1561:TYR:CD2	2.55	0.42
1:B:120:ARG:HG2	3:A:914:LYS:HB3	2.01	0.42
2:C:174:GLN:HB3	2:C:177:ASN:HD21	1.83	0.42
3:A:101:ARG:HD2	3:A:158:SER:OG	2.19	0.42
3:A:164:ASP:CG	3:A:275:GLN:HB2	2.45	0.42
3:A:325:LYS:O	3:A:329:TYR:CB	2.48	0.42
3:A:344:GLU:HA	3:A:347:TYR:CD2	2.55	0.42
3:A:802:LYS:O	3:A:804:LYS:N	2.52	0.42
3:A:1216:GLU:HB3	3:A:1218:SER:H	1.83	0.42
3:A:1261:ASN:O	3:A:1525:LYS:HG3	2.19	0.42
3:A:1394:VAL:HA	3:A:1397:SER:HB3	2.01	0.42
1:B:37:LEU:HD23	1:B:138:VAL:HG13	2.00	0.42
3:A:81:LYS:HA	3:A:94:GLU:HA	2.01	0.42
3:A:346:LYS:HD3	3:A:346:LYS:N	2.34	0.42
3:A:376:LYS:HA	3:A:381:TYR:O	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:593:PRO:O	3:A:676:ASN:ND2	2.52	0.42
3:A:689:ILE:HA	3:A:701:TYR:O	2.20	0.42
3:A:731:ILE:HG23	3:A:732:THR:N	2.33	0.42
3:A:850:LYS:NZ	3:A:890:ILE:HG21	2.34	0.42
3:A:857:THR:OG1	3:A:872:THR:HB	2.19	0.42
3:A:1174:GLU:HG2	3:A:1175:PHE:H	1.85	0.42
3:A:1464:GLU:HG3	3:A:1511:TYR:OH	2.19	0.42
3:A:104:ARG:HA	3:A:108:TYR:OH	2.20	0.42
3:A:342:ASN:O	3:A:345:ASN:HB2	2.20	0.42
3:A:497:ASP:HB2	3:A:526:GLU:OE2	2.20	0.42
3:A:610:LYS:N	3:A:684:LEU:HD11	2.35	0.42
3:A:1288:ILE:O	3:A:1288:ILE:HG13	2.20	0.42
3:A:1318:GLY:HA2	3:A:1323:SER:OG	2.20	0.42
3:A:1635:GLU:HB2	3:A:1661:VAL:CG2	2.50	0.42
3:A:1225:ASN:HB2	3:A:1295:LEU:HD21	2.01	0.42
3:A:1307:GLU:O	3:A:1307:GLU:HG3	2.19	0.42
3:A:1914:ALA:O	3:A:1953:LYS:HG3	2.20	0.42
3:A:194:ASP:HB2	3:A:197:LEU:HD11	2.02	0.42
3:A:332:CYS:SG	3:A:335:LYS:HB3	2.59	0.42
3:A:344:GLU:OE2	3:A:348:LYS:HE2	2.20	0.42
3:A:380:ASN:OD1	3:A:381:TYR:N	2.52	0.42
3:A:529:LYS:HG3	3:A:530:LYS:N	2.30	0.42
3:A:684:LEU:C	3:A:686:GLY:H	2.28	0.42
3:A:798:GLU:HB2	3:A:966:CYS:SG	2.60	0.42
3:A:853:ARG:O	3:A:869:ALA:N	2.43	0.42
3:A:949:VAL:O	3:A:949:VAL:HG13	2.20	0.42
3:A:1397:SER:OG	3:A:1398:THR:N	2.53	0.42
3:A:1409:GLU:O	3:A:1413:TRP:HB2	2.20	0.42
3:A:1981:LYS:HE2	3:A:1988:LEU:HD23	2.01	0.42
2:C:155:LEU:HB2	2:C:194:LEU:HB3	2.02	0.42
3:A:7:ILE:HG12	3:A:7:ILE:O	2.19	0.42
3:A:8:ALA:H	3:A:387:TYR:HH	1.67	0.42
3:A:279:TRP:HA	3:A:282:GLU:HB3	2.02	0.42
3:A:1125:GLN:HB3	3:A:1129:ALA:HB2	2.01	0.42
3:A:1125:GLN:CA	3:A:1128:ASP:H	2.27	0.42
3:A:1195:LEU:C	3:A:1198:ALA:H	2.28	0.42
3:A:1300:ILE:HD13	3:A:1351:PHE:CE1	2.54	0.42
3:A:1484:LYS:HG2	3:A:1573:ILE:O	2.19	0.42
3:A:1558:ASN:CG	3:A:1560:GLU:HG2	2.44	0.42
1:B:50:ASP:HA	1:B:72:TRP:HB2	2.02	0.42
3:A:39:ARG:HG2	3:A:115:PHE:CE2	2.55	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:928:LYS:HG3	3:A:931:LYS:O	2.20	0.42
3:A:1106:LYS:HB3	3:A:1106:LYS:HE3	1.75	0.42
3:A:1129:ALA:HA	3:A:1132:GLY:H	1.85	0.42
3:A:1308:THR:HA	3:A:1311:LEU:H	1.85	0.42
3:A:1315:HIS:HA	3:A:1323:SER:HB3	2.02	0.42
3:A:1833:ASN:CB	3:A:1838:CYS:HB3	2.50	0.42
3:A:1839:LYS:HD3	3:A:1968:HIS:HB2	2.02	0.42
3:A:274:PRO:HG2	3:A:373:PHE:CE2	2.55	0.41
3:A:1919:SER:HA	3:A:1920:GLY:HA2	1.49	0.41
2:C:58:LYS:NZ	2:C:100:GLU:O	2.37	0.41
3:A:365:ARG:NH1	3:A:374:PHE:HB2	2.23	0.41
3:A:688:TYR:O	3:A:700:SER:HB2	2.20	0.41
3:A:858:LYS:C	3:A:858:LYS:HD2	2.45	0.41
3:A:995:ARG:NH1	3:A:997:TYR:OH	2.53	0.41
3:A:1124:LYS:O	3:A:1128:ASP:N	2.53	0.41
3:A:1696:TYR:CD1	3:A:1791:ALA:HB2	2.54	0.41
3:A:1988:LEU:CG	3:A:1989:ASP:H	2.30	0.41
3:A:67:CYS:HA	3:A:108:TYR:HD2	1.85	0.41
3:A:236:LEU:HD22	3:A:260:GLY:H	1.85	0.41
3:A:342:ASN:HA	3:A:345:ASN:ND2	2.36	0.41
3:A:986:SER:HA	3:A:993:MET:HB3	2.02	0.41
3:A:1311:LEU:O	3:A:1316:ASP:N	2.53	0.41
3:A:1365:ILE:O	3:A:1365:ILE:HG23	2.20	0.41
3:A:1649:LYS:HA	3:A:1652:GLU:CD	2.44	0.41
1:B:179:VAL:HG12	1:B:229:HIS:HA	2.03	0.41
3:A:975:CYS:SG	3:A:1102:LEU:HD23	2.60	0.41
3:A:1617:ARG:HD3	3:A:1617:ARG:HA	1.72	0.41
3:A:1922:VAL:HG23	3:A:1922:VAL:O	2.20	0.41
3:A:339:GLU:HA	3:A:343:GLN:CB	2.50	0.41
3:A:1377:LYS:HA	3:A:1381:GLU:CD	2.45	0.41
3:A:1469:GLU:O	3:A:1473:ARG:HG2	2.20	0.41
3:A:1741:TRP:O	3:A:1746:THR:OG1	2.35	0.41
3:A:1761:TRP:NE1	3:A:1765:GLN:HE21	2.19	0.41
3:A:65:ASP:O	3:A:109:ASN:HB3	2.21	0.41
3:A:559:ILE:C	3:A:561:LYS:N	2.74	0.41
3:A:1041:GLU:OE1	3:A:1853:ARG:NH2	2.52	0.41
3:A:1097:CYS:HA	3:A:1101:LYS:HE3	2.03	0.41
3:A:1197:ASN:C	3:A:1199:GLU:N	2.78	0.41
3:A:1201:LYS:HD3	3:A:1201:LYS:HA	1.76	0.41
3:A:1626:PRO:HA	3:A:1629:GLN:HG2	2.02	0.41
2:C:23:MET:HE3	2:C:42:CYS:SG	2.61	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:7:ILE:HG13	3:A:376:LYS:HB2	2.02	0.41
3:A:97:CYS:HB2	3:A:291:LYS:CE	2.51	0.41
3:A:344:GLU:HA	3:A:347:TYR:CB	2.45	0.41
3:A:365:ARG:HH21	3:A:370:VAL:HG22	1.85	0.41
3:A:687:LYS:HD2	3:A:688:TYR:CD2	2.55	0.41
3:A:1420:ILE:HA	3:A:1423:ILE:HD12	2.02	0.41
3:A:1572:SER:O	3:A:1642:LYS:HD2	2.20	0.41
3:A:1698:LEU:HD12	3:A:1698:LEU:HA	1.84	0.41
3:A:1978:ASN:HA	3:A:1981:LYS:HG2	2.02	0.41
1:B:174:TYR:OH	1:B:207:LEU:HD23	2.21	0.41
1:B:185:SER:H	1:B:226:ASN:ND2	2.19	0.41
3:A:284:ILE:O	3:A:287:PHE:HB3	2.21	0.41
3:A:287:PHE:O	3:A:288:TYR:C	2.63	0.41
3:A:1136:LYS:CE	3:A:1140:SER:H	2.31	0.41
3:A:1227:ILE:HD13	3:A:1276:GLU:OE2	2.20	0.41
3:A:1276:GLU:O	3:A:1287:ASN:ND2	2.53	0.41
3:A:1317:THR:HA	3:A:1330:GLN:NE2	2.35	0.41
1:B:175:PHE:CE2	1:B:176:PRO:HB3	2.56	0.41
2:C:108:GLN:HG3	2:C:117:PHE:CZ	2.55	0.41
2:C:169:VAL:HG13	2:C:211:TYR:HE1	1.86	0.41
3:A:25:ASP:O	3:A:29:LYS:HG3	2.21	0.41
3:A:109:ASN:OD1	3:A:110:LEU:N	2.52	0.41
3:A:111:GLU:HG2	3:A:179:LEU:HD22	2.03	0.41
3:A:236:LEU:CB	3:A:260:GLY:H	2.34	0.41
3:A:412:ASN:HB3	3:A:413:PRO:HD2	2.02	0.41
3:A:533:LYS:HB3	3:A:534:VAL:H	1.65	0.41
3:A:698:ASP:N	3:A:699:THR:CB	2.81	0.41
3:A:720:TRP:NE1	3:A:724:LYS:HE2	2.35	0.41
3:A:925:THR:N	3:A:946:VAL:N	2.66	0.41
3:A:925:THR:O	3:A:926:THR:C	2.62	0.41
3:A:951:SER:C	3:A:953:LEU:H	2.24	0.41
3:A:1012:VAL:HG23	3:A:1950:MET:HE1	2.02	0.41
3:A:1019:SER:OG	3:A:1026:GLY:HA2	2.21	0.41
3:A:1049:TYR:O	3:A:1053:ALA:HA	2.19	0.41
3:A:1058:ILE:HA	3:A:1059:ASP:HA	1.67	0.41
3:A:1174:GLU:O	3:A:1177:ILE:HG13	2.21	0.41
3:A:1221:LEU:HB3	3:A:1224:THR:HA	2.02	0.41
3:A:1379:ILE:O	3:A:1382:LYS:HG2	2.21	0.41
1:B:46:PHE:CE1	1:B:117:ARG:NE	2.88	0.41
2:C:55:TYR:CE1	2:C:108:GLN:HB3	2.56	0.41
2:C:201:SER:O	2:C:205:TYR:HB2	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1029:VAL:HG21	3:A:1959:MET:CE	2.50	0.41
3:A:1355:LYS:O	3:A:1358:ILE:HB	2.21	0.41
3:A:1436:GLU:H	3:A:1436:GLU:CD	2.27	0.41
3:A:1588:GLU:HG2	3:A:1770:TYR:OH	2.21	0.41
3:A:1933:CYS:HB2	3:A:1935:GLU:HA	2.03	0.41
2:C:23:MET:HE3	2:C:23:MET:HB3	2.00	0.40
2:C:34:ILE:HD12	2:C:34:ILE:H	1.85	0.40
3:A:34:GLU:OE1	3:A:34:GLU:N	2.55	0.40
3:A:334:LYS:HA	3:A:338:THR:OG1	2.21	0.40
3:A:1247:LYS:HD2	3:A:1271:ASN:HB3	2.03	0.40
1:B:70:ILE:HG13	1:B:77:LYS:HG2	2.03	0.40
2:C:109:LYS:HZ1	2:C:114:PRO:HD2	1.86	0.40
3:A:156:GLU:OE1	3:A:270:LEU:HD22	2.21	0.40
3:A:529:LYS:HE3	3:A:718:TYR:CZ	2.56	0.40
3:A:1322:ILE:H	3:A:1322:ILE:HD12	1.86	0.40
3:A:1663:GLU:HB2	3:A:1763:ALA:HB1	2.04	0.40
3:A:1884:MET:O	3:A:1884:MET:HG2	2.20	0.40
3:A:1912:ILE:HG12	3:A:1913:GLY:N	2.37	0.40
3:A:853:ARG:HH22	3:A:866:THR:HG22	1.86	0.40
3:A:1294:GLU:O	3:A:1297:LYS:HB3	2.22	0.40
3:A:1313:GLU:HA	3:A:1317:THR:HG23	2.03	0.40
3:A:1612:LYS:HB2	3:A:1612:LYS:HE2	1.68	0.40
3:A:1827:ALA:O	3:A:1828:ASP:C	2.64	0.40
3:A:1943:MET:HA	3:A:1946:VAL:HG12	2.03	0.40
3:A:277:LEU:HD13	3:A:373:PHE:CE1	2.56	0.40
3:A:560:TRP:HH2	3:A:838:ILE:HG13	1.87	0.40
3:A:584:THR:O	3:A:587:LEU:HG	2.22	0.40
3:A:731:ILE:HG23	3:A:732:THR:H	1.85	0.40
3:A:1045:GLN:NE2	3:A:1049:TYR:CD2	2.90	0.40
3:A:1109:ASP:O	3:A:1113:LYS:HG2	2.22	0.40
3:A:1424:ASN:O	3:A:1431:ILE:HG12	2.21	0.40
3:A:1596:CYS:HB2	3:A:1668:TYR:CD2	2.56	0.40
3:A:1695:PHE:HB2	3:A:1764:MET:HE3	2.01	0.40
3:A:1697:ASP:O	3:A:1701:ILE:HG13	2.22	0.40
3:A:344:GLU:C	3:A:346:LYS:N	2.79	0.40
3:A:496:GLN:HB3	3:A:497:ASP:H	1.74	0.40
3:A:925:THR:O	3:A:946:VAL:CG1	2.70	0.40
3:A:1296:LEU:O	3:A:1300:ILE:HG13	2.22	0.40
3:A:1688:CYS:O	3:A:1692:ARG:HG2	2.22	0.40
3:A:1966:LEU:HD13	3:A:1966:LEU:HA	1.79	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	B	219/472 (46%)	205 (94%)	14 (6%)	0	100 100
2	C	210/233 (90%)	189 (90%)	21 (10%)	0	100 100
3	A	1843/2040 (90%)	1512 (82%)	305 (16%)	26 (1%)	9 37
All	All	2272/2745 (83%)	1906 (84%)	340 (15%)	26 (1%)	15 44

All (26) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	563	SER
3	A	566	ASN
3	A	683	LYS
3	A	690	LYS
3	A	699	THR
3	A	966	CYS
3	A	967	LYS
3	A	533	LYS
3	A	561	LYS
3	A	564	SER
3	A	695	ALA
3	A	512	GLY
3	A	525	ASP
3	A	556	LYS
3	A	571	GLN
3	A	687	LYS
3	A	688	TYR
3	A	691	LYS
3	A	702	SER
3	A	93	PRO
3	A	350	LEU
3	A	514	SER
3	A	965	GLN
3	A	906	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	A	237	ILE
3	A	682	GLY

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	B	181/411 (44%)	180 (99%)	1 (1%)	84 93
2	C	184/201 (92%)	184 (100%)	0	100 100
3	A	1674/1839 (91%)	1647 (98%)	27 (2%)	58 82
All	All	2039/2451 (83%)	2011 (99%)	28 (1%)	62 83

All (28) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	22	ARG
3	A	7	ILE
3	A	118	ILE
3	A	198	GLN
3	A	514	SER
3	A	555	LYS
3	A	556	LYS
3	A	557	LYS
3	A	559	ILE
3	A	561	LYS
3	A	562	LYS
3	A	567	GLU
3	A	568	GLU
3	A	683	LYS
3	A	687	LYS
3	A	689	ILE
3	A	690	LYS
3	A	691	LYS
3	A	693	ASN
3	A	694	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	A	696	GLU
3	A	699	THR
3	A	700	SER
3	A	867	ASN
3	A	890	ILE
3	A	1365	ILE
3	A	1912	ILE
3	A	1980	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	184	ASN
3	A	84	GLN
3	A	147	ASN
3	A	185	GLN
3	A	310	HIS
3	A	345	ASN
3	A	354	ASN
3	A	360	GLN
3	A	509	ASN
3	A	693	ASN
3	A	697	GLN
3	A	769	ASN
3	A	773	GLN
3	A	859	ASN
3	A	879	GLN
3	A	1008	ASN
3	A	1033	ASN
3	A	1039	ASN
3	A	1114	GLN
3	A	1305	HIS
3	A	1315	HIS
3	A	1348	GLN
3	A	1356	ASN
3	A	1427	ASN
3	A	1517	GLN
3	A	1522	GLN
3	A	1601	ASN
3	A	1674	ASN
3	A	1765	GLN
3	A	1787	HIS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	A	1864	ASN
3	A	1957	HIS

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)

There are no ligands in this entry.

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.

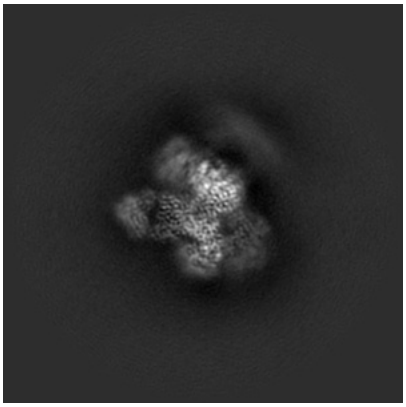
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-14438. These allow visual inspection of the internal detail of the map and identification of artifacts.

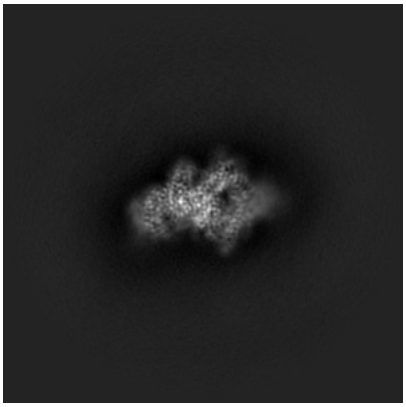
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

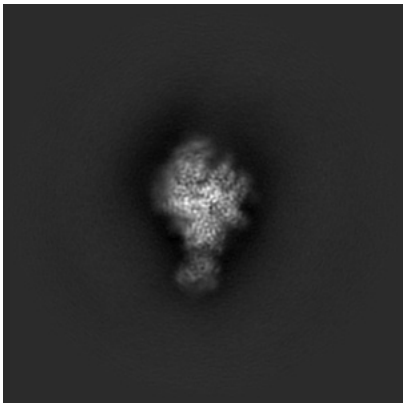
6.1.1 Primary map



X



Y

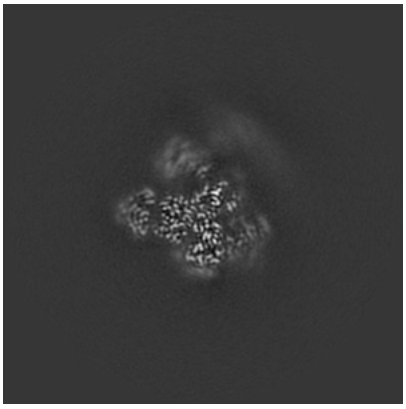


Z

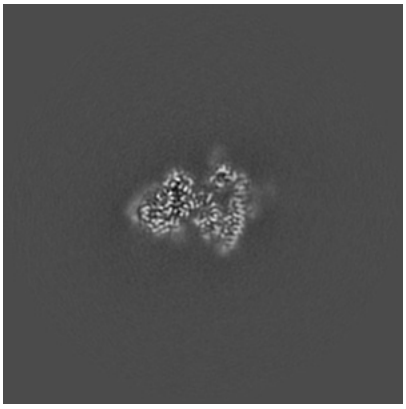
The images above show the map projected in three orthogonal directions.

6.2 Central slices

6.2.1 Primary map



X Index: 220



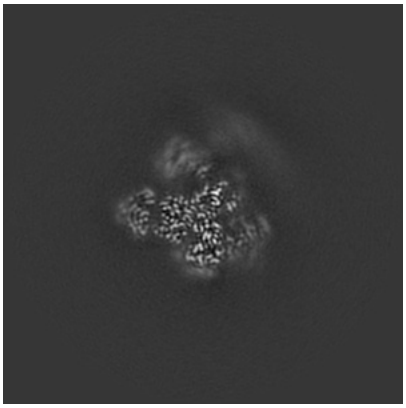
Y Index: 220

Z Index: 220

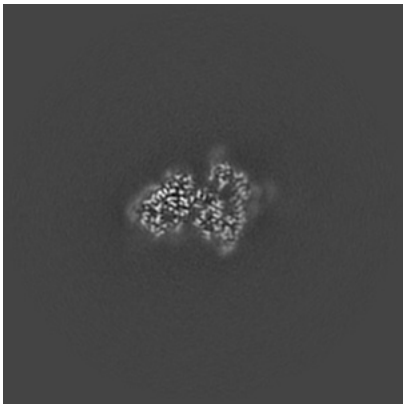
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

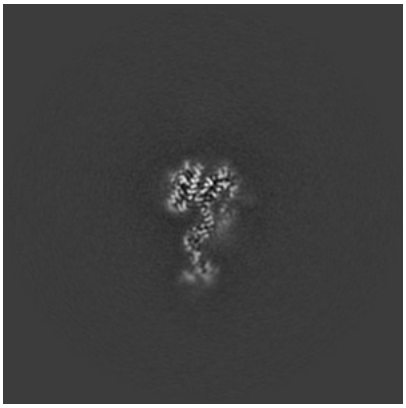
6.3.1 Primary map



X Index: 220



Y Index: 223

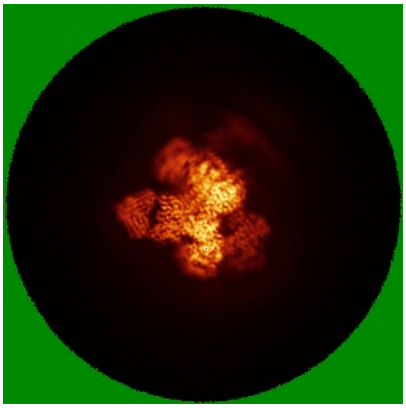


Z Index: 225

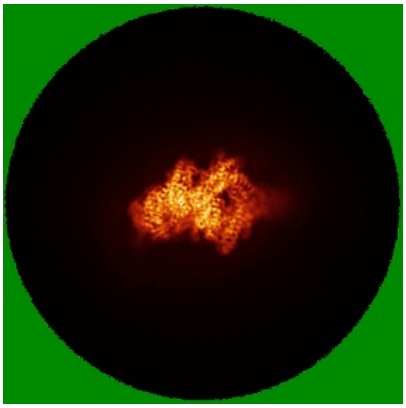
The images above show the largest variance slices of the map in three orthogonal directions.

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

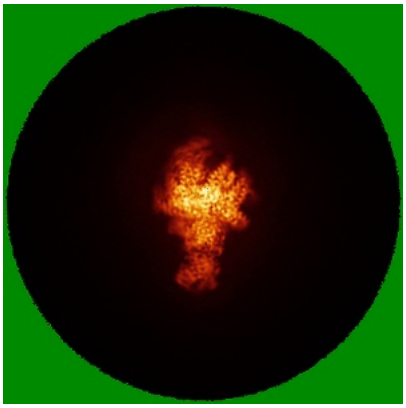
6.4.1 Primary map



X



Y

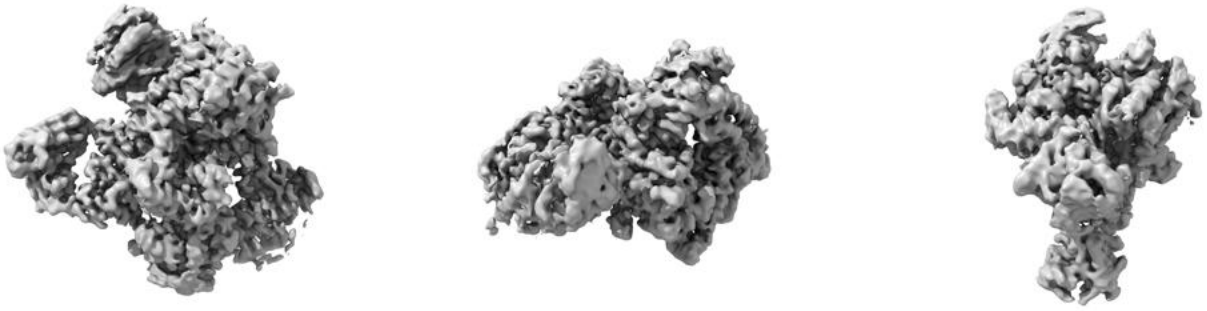


Z

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 0.3. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

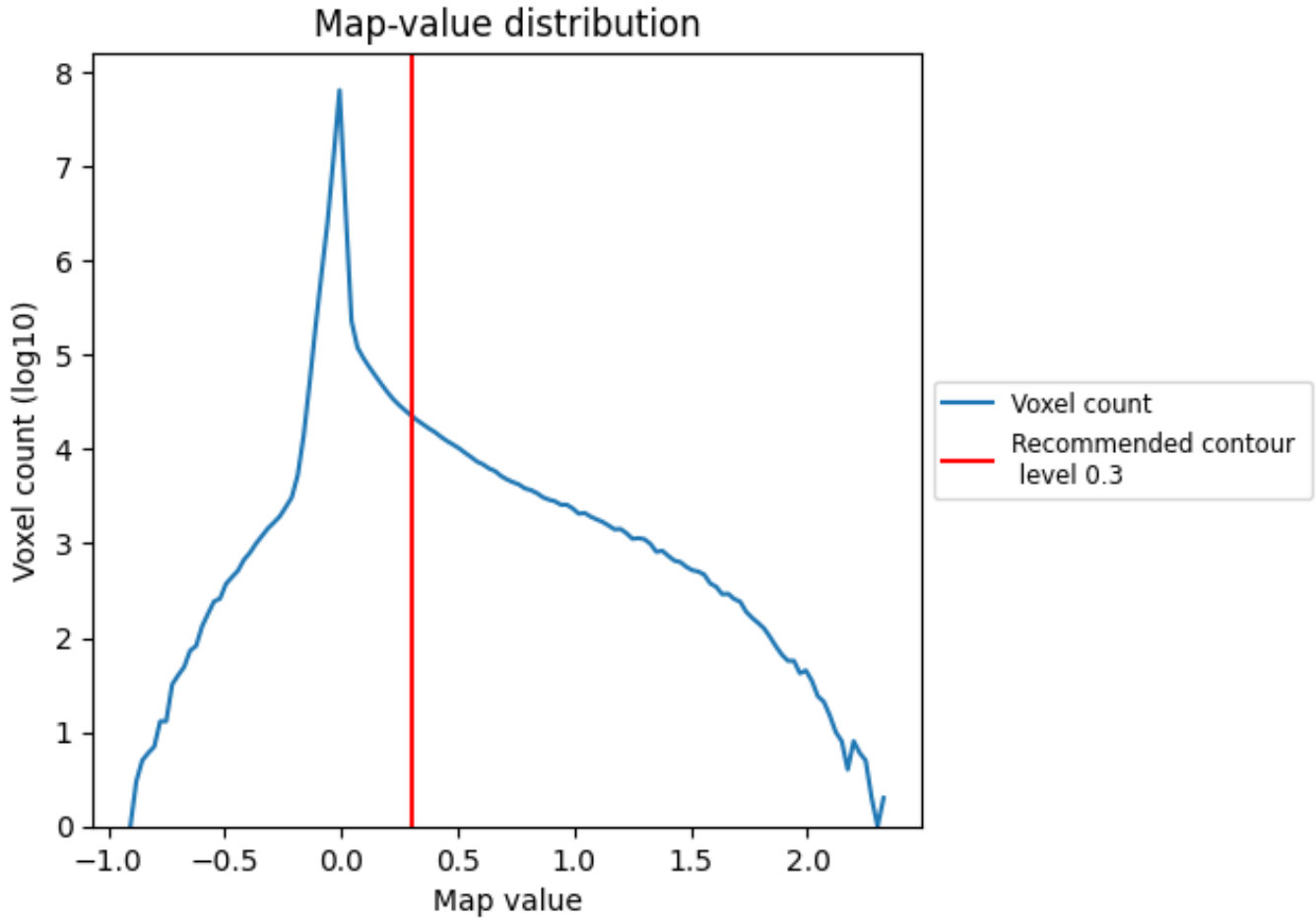
6.6 Mask visualisation (i)

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

7 Map analysis

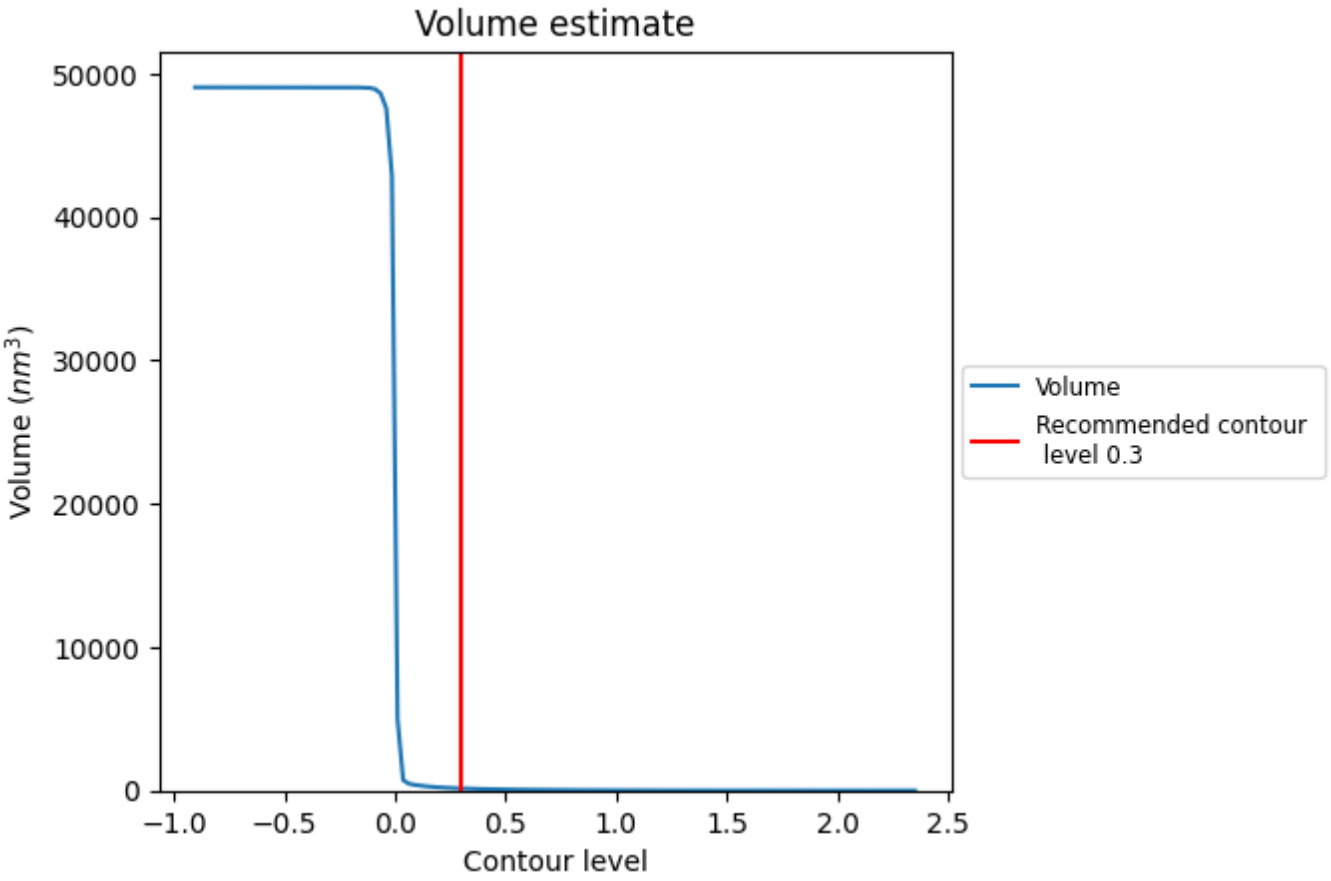
This section contains the results of statistical analysis of the map.

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.

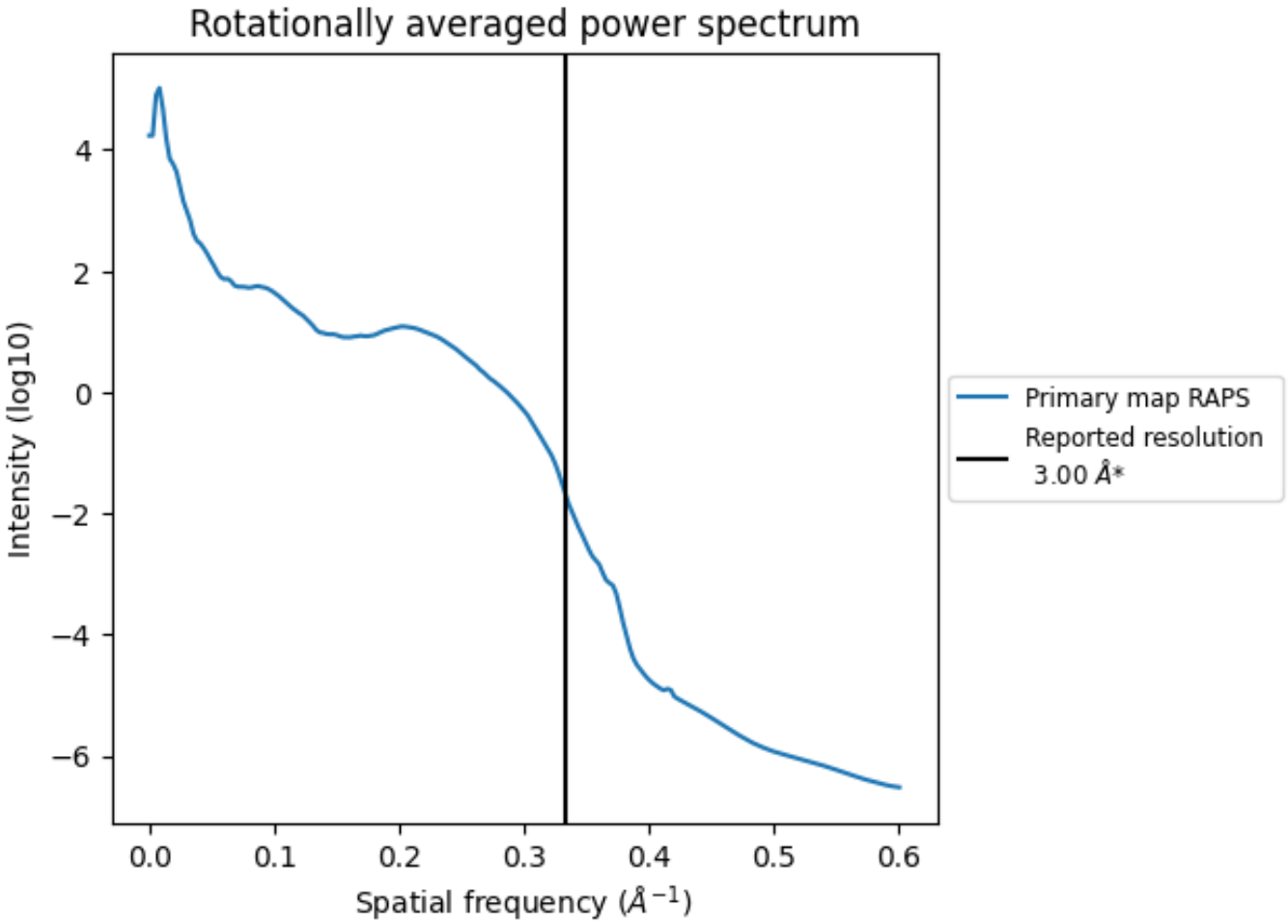
7.2 Volume estimate



The volume at the recommended contour level is 149 nm^3; this corresponds to an approximate mass of 134 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)

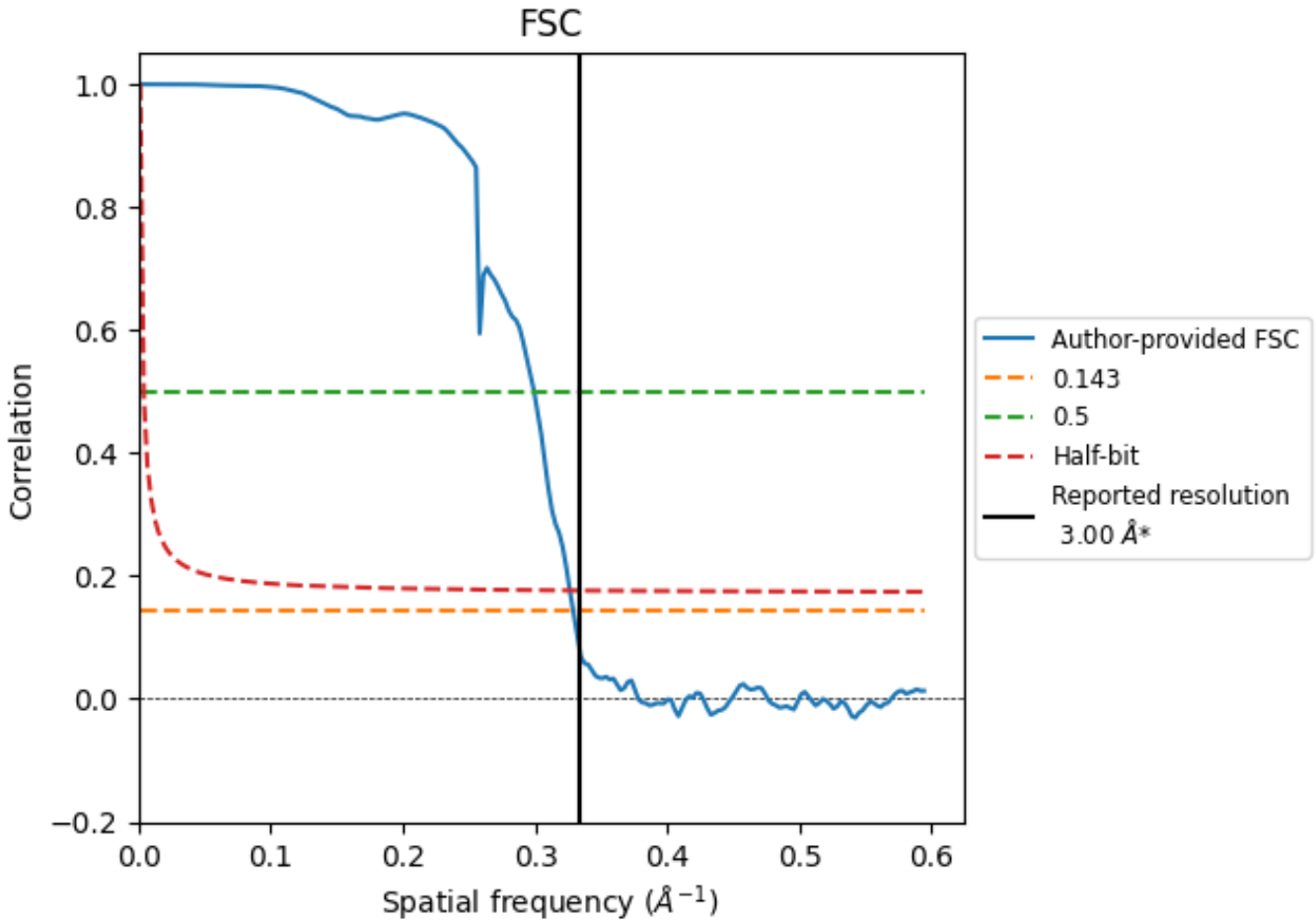


*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.333 $Å^{-1}$

8.2 Resolution estimates (i)

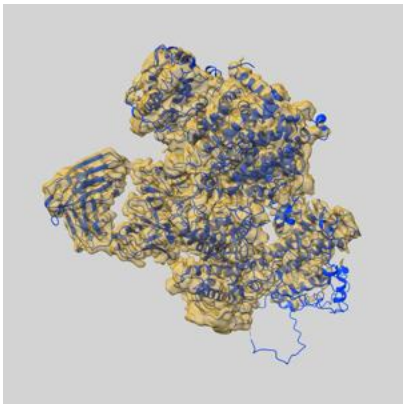
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	3.04	3.34	3.06
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

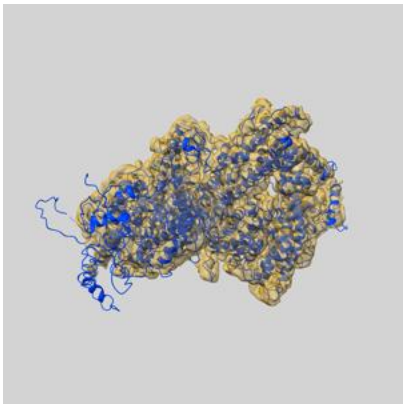
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-14438 and PDB model 7Z12. Per-residue inclusion information can be found in section 3 on page 4.

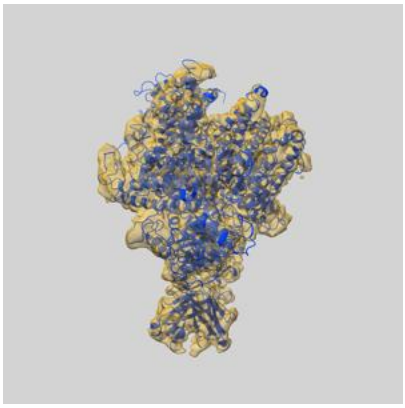
9.1 Map-model overlay



X



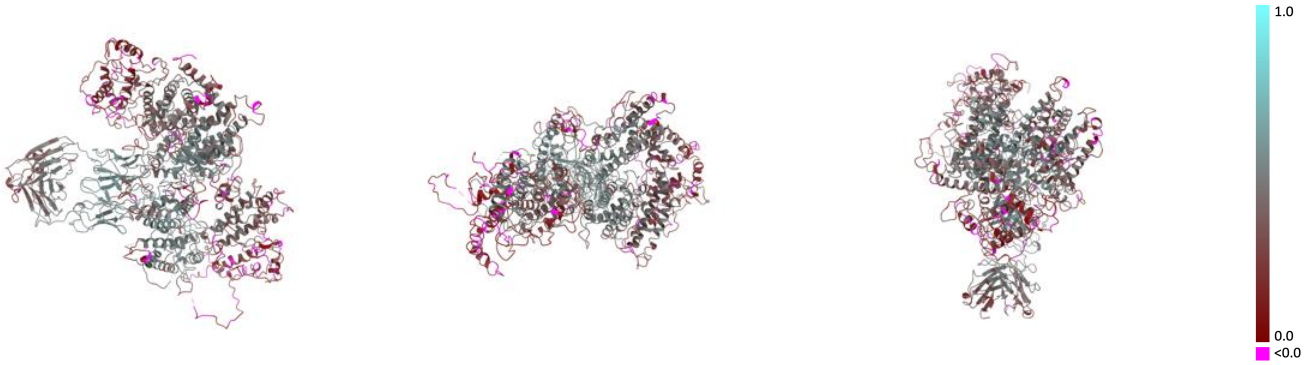
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.3 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.

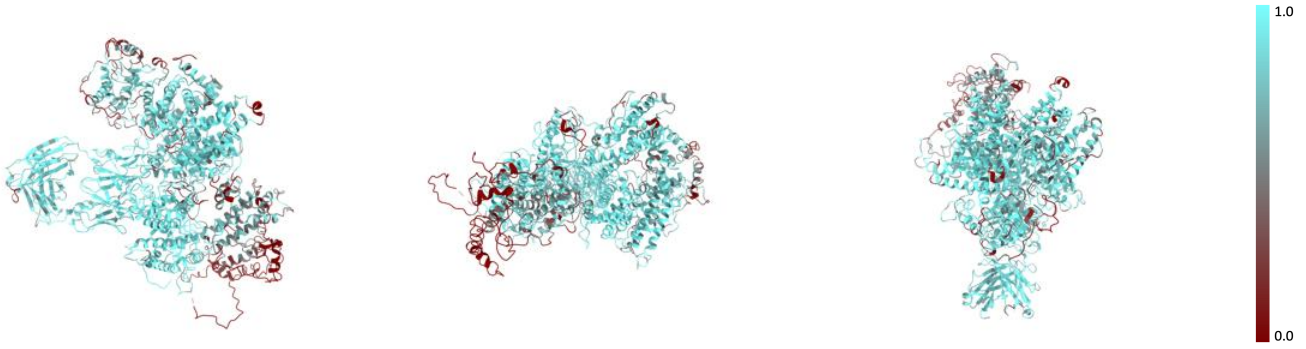
9.2 Q-score mapped to coordinate model (i)



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.

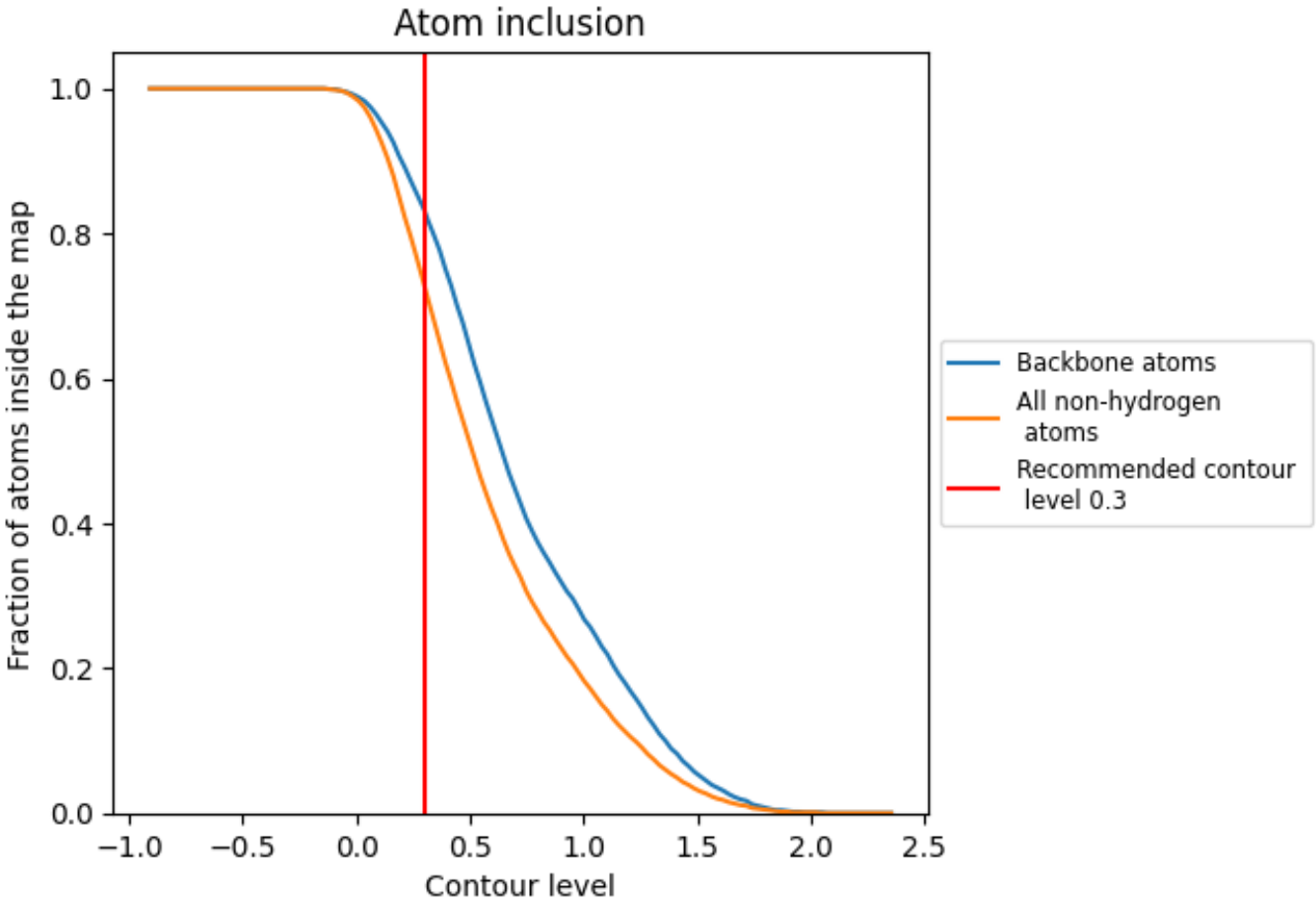
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.3).

9.4 Atom inclusion (i)



At the recommended contour level, 83% of all backbone atoms, 73% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7280	0.3620
A	0.6940	0.3360
B	0.8900	0.4880
C	0.8770	0.4750