



Full wwPDB EM Validation Report ⓘ

Dec 14, 2023 – 02:42 PM JST

PDB ID : 8JB5
EMDB ID : EMD-36141
Title : The cryo-EM structure of Paeniclostridium sordellii lethal toxin (TcsL)
Authors : Zhan, X.; Tao, L.
Deposited on : 2023-05-08
Resolution : 2.90 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.dev70
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

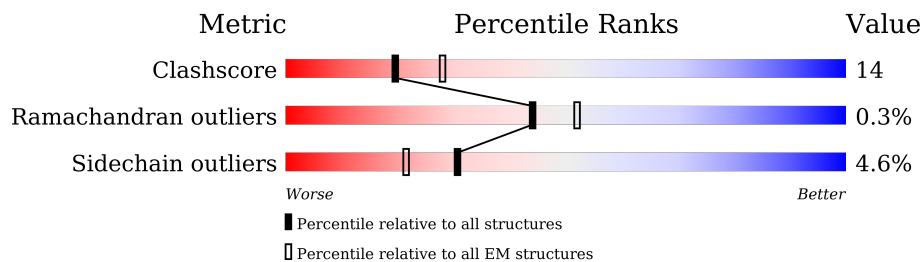
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.90 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	2372	

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 19027 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 Cytotoxin-L.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	2355	19026	12183	3022	3774	47	0	0

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	2365	HIS	-	expression tag	UNP T0D3N5
A	2366	HIS	-	expression tag	UNP T0D3N5
A	2367	HIS	-	expression tag	UNP T0D3N5
A	2368	HIS	-	expression tag	UNP T0D3N5
A	2369	HIS	-	expression tag	UNP T0D3N5
A	2370	HIS	-	expression tag	UNP T0D3N5
A	2371	HIS	-	expression tag	UNP T0D3N5
A	2372	HIS	-	expression tag	UNP T0D3N5

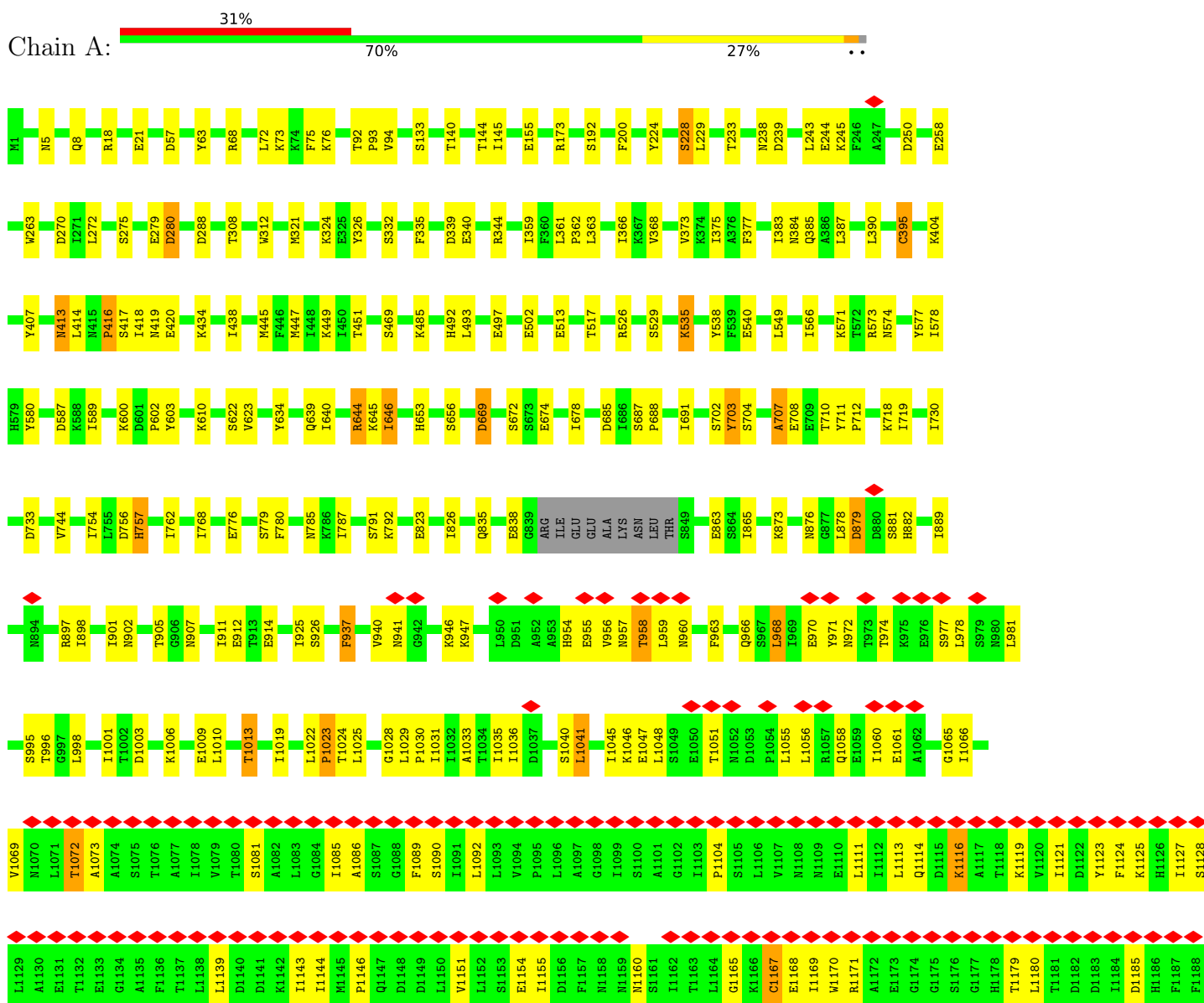
- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
2	A	1	Total	Zn	0
			1	1	

3 Residue-property plots

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: Cytotoxin-L



S1189	K1249	K1310	S1373	S1441	S1539	Y1649	S1798	Y1957	Y2019	G2079	E2139	V2199	
S1190	L1250	M1311	K1374	D1442	L1540	F1650	T1799	Y1958	F2020	W2080	L2140	Y2200	
P1191	L1251	L1312	L1375	G1445	S1541	F1651	F1800	F1959	G2021	G2081	G2141	G2201	
S1192	D1252	S1313	M1376	K1446	T1543	N1652	S1801	N1960	K2022	T2082	Y2142	F2202	
I1193	L1253	S1314	I1377	I1447	D1546	R1653	A1804	G1964	N2023	L2083	Q2143	G2203	
T1194	I1254	S1315	E1378	D1448	T1547	L1656	D1807	E1985	E2025	D2084	N2144	E2204	
Y1195	R1255	F1316	D1379	H1449	N1548	L1662	D1907	A1966	R2026	D2085	I2145	T2205	
R1196	D1256	Y1317	N1380	I1450	I1549	Y1662	Y1812	A1967	Q2027	G2086	N2146	Y2206	
K1197	H1257	K1381	K1381	G1451	I1550	H1663	I1813	K1968	L2028	S2087	L2147	K2207	
P1198	Y1258	S1319	I1382	F1452	K1551	L1664	F1814	G1969	G2029	T2088	N2148	I2208	
M1199	E1259	G1320	I1383	N1453	N1553	D1665	D1820	H1971	V2030	Y2089	Y2149	E2209	
L1200	G1260	G1321	L1384	G1454	Y1556	G1668	M1821	Q1972	F2031	Y2090	F2150	T2210	
S1201	Q1261	Y1322	M1385	E1455	L1557	S1671	M1831	I1973	D2032	D2091	Y2151	G2211	
I1202	F1262	S1324	H1387	H1456	L1657	S1671	N1831	G1974	N2033	D2092	I2152	W2212	
Y1203	Y1263	S1325	T1388	Q1457	G1561	D1686	M1840	D1975	T2033	D2093	D2153	I2213	
D1204	Y1264	L1326	I1389	K1458	K1573	R1687	D1841	N1976	P2034	N2094	E2154	E2214	
Y1205	Y1265	L1327	M1390	I1459	K1574	R1687	S1842	Y1977	D2035	T2095	S2155	N2215	
L1206	R1266	S1328	F1391	P1461	A1575	V1692	S1872	Y1979	F2037	A2096	G2156	N2216	
M1207	F1267	P1329	Y1392	S1463	I1576	L1698	S1876	F1986	F2038	E2097	L2157	T2217	
I1208	A1268	M1331	G1393	Y1464	T1578	Y1699	I1880	D1981	A2098	A2098	V2158	D2218	
K1209	F1269	M1332	H1394	D1466	I1577	I1719	L1895	N1982	C2099	C2099	K2159	K2219	
K1210	I1270	M1333	D1394	D1466	T1578	I1722	L1895	G1984	F2040	T2100	I2160	Y2220	
E1211	A1271	M1334	E1397	N1467	I1577	D1722	I1900	N1984	G2041	G2101	G2161	Y2221	
K1212	A1272	I1334	R1400	E1468	L1582	I1726	I1906	F1997	P2042	L2102	V2162	F2222	
I1213	D1273	D1335	F1401	K1470	F1586	I1726	L1906	Y1999	K2043	T2103	F2163	D2223	
D1214	A1274	M1336	I1402	K1470	S1588	I1726	L1906	F1999	D2044	V2104	D2164	P2224	
F1215	I1275	L1337	S1403	R1495	I1591	L1737	F1909	I1991	D2045	I2105	T2165	E2225	
S1216	I1276	L1338	T1405	Y1497	I1591	S1738	F1909	N1991	D2046	N2106	P2166	T2226	
I1217	T1276	M1339	F1406	M1499	M1598	V1742	F1926	G1928	L2047	G2107	D2167	K2227	
D1218	K1277	E1340	S1407	P1500	L1599	M1745	I1927	K1929	G2048	D2108	C2168	K2228	
L1219	L1278	W1344	I1408	M1500	L1599	S1756	I1927	L1930	T2049	K2109	Y2169	A2229	
M1220	K1279	V1345	L1409	S1502	M1602	S1756	K1928	L1930	E2050	Y2110	K2170	Y2230	
V1221	R1281	V1348	E1410	M1503	I1603	Q1761	D1933	D1933	E2051	Y2111	Y2171	K2231	
L1222	I1282	D1349	D1411	M1504	F1605	P1762	I1936	F1998	E2052	F2112	F2172	G2232	
P1223	E1283	M1350	I1412	L1505	F1605	Q1763	I1936	Y1999	L2054	D2113	A2173	I2233	
N1224	D1284	V1351	N1413	F1506	D1608	Q1763	Y1937	F2000	T2055	D2114	P2174	N2234	
A1225	T1285	V1352	I1414	I1507	M1609	R1767	Y1938	N2001	N2002	M2115	L2175	V2235	
N1226	N1286	K1353	I1415	D1512	F1611	F1772	A1945	D2003	D2003	G2116	M2176	V2236	
M1227	V1287	M1354	I1416	K1514	I1612	F1772	A1946	G2004	N2058	I2117	T2177	D2237	
R1228	I1288	M1355	E1417	K1514	E1623	D1775	V1947	V2005	G2059	R2118	V2178	D2238	
I1229	I1289	I1355	D1419	D1515	L1624	T1776	W1948	M2006	I2060	Q2119	M2179	I2239	
F1230	Y1229	I1357	L1420	I1516	C1626	D1787	K1950	Q2007	L2061	L2120	D2180	K2240	
G1231	L1291	E1358	V1421	K1521	D1629	V1791	L1951	V2008	N2062	G2121	M2181	Y2241	
Y1232	D1292	E1359	S1424	G1522	D1629	K1795	L1952	G2009	G2010	F2063	T2182	Y2242	
E1233	G1293	D1360	Y1425	D1523	D1629	I1796	D1953	Y2010	N2064	F2063	Y2183	F2243	
M1234	N1294	E1361	K1426	L1527	P1634	I1797	D1954	I2011	G2065	N2064	G2184	D2244	
G1235	I1295	I1362	I1427	K1533	Y1635	I1797	E1955	E2012	K2066	K2066	Q2185	E2245	
W1236	R1296	K1363	C1433	D1534	F1636	I1797	T1956	V2013	L2067	L2067	A2186	N2246	
T1237	F1297	K1364	L1436	D1535	F1636	I1797	T1956	N2014	I2068	Y2068	V2187	G2247	
P1238	I1298	G1365	I1437	D1535	F1636	I1797	T1956	G2015	F2069	F2069	Y2189	G2248	
G1239	I1299	E1366	E1438	D1535	F1636	I1797	T1956	K2016	F2070	F2070	M2249	I2248	
F1240	V1302	L1367	M1439	D1535	F1636	I1797	T1956	Y2017	D2071	D2071	S2190	R2250	
R1241	I1303	E1369	N1439	D1535	F1636	I1797	T1956	F2018	I2072	I2072	G2191	T2251	
S1242	T1304	M1370	E1438	D1535	F1636	I1797	T1956	S2073	S2073	S2073	L2192	G2252	
L1243	T1304	I1371	E1438	D1535	F1636	I1797	T1956	N2074	L2253	L2253	V2193	L2253	
D1244	T1304	M1371	E1438	D1535	F1636	I1797	T1956	T2075	E2134	E2134	R2194	I2254	
M1245	E1307	L1372	E1438	D1535	F1636	I1797	T1956	A2076	S2135	S2135	V2195	S2255	
G1247	R1309	L1372	E1438	D1535	F1636	I1797	T1956	V2077	G2136	G2136	M2196	F2256	
T1248	Y1309	L1372	E1438	D1535	F1636	I1797	T1956	F2078	K2137	K2137	E2197	E2257	
												N2258	

N2259	N2260	Y2261	Y2262	F2263	N2264	E2265	D2266	G2267	K2268	H2269	Q2270	F2271	G2272	Y2273	L2274	H2275	I2276	K2277	D2278	K2279	H2280	F2281	Y2282	F2283	G2284	K2285	D2286	G2287	K2288	H2289	Q2290	I2291	G2292	V2293	F2294	H2295	T2296	F2297	D2298	G2299	F2300	H2301	Y2302	F2303	A2304	H2305	Q2306	H2307	T2308	L2309	D2310	H2311	F2312	E2313	G2314	E2315	S2316	S2317	I2318
N2319	Y2320	T2321	G2322	W2323	L2324	D2325	L2326	D2327	G2328	K2329	R2330	Y2331	Y2332	F2333	T2334	D2335	E2336	Y2337	I2338	A2339	A2340	T2341	G2342	S2343	L2344	T2345	I2346	D2347	G2348	Y2349	N2350	Y2351	Y2352	F2353	D2354	P2355	D2356	T2357	A2358	E2359	L2360	V2361	V2362	S2363	E2364	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS		

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	229156	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.204	Depositor
Minimum map value	-0.099	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.02	Depositor
Map size (\AA)	321.752, 321.752, 321.752	wwPDB
Map dimensions	296, 296, 296	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.087, 1.087, 1.087	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	A	0.41	0/19409	0.51	5/26261 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	416	PRO	CA-N-CD	-12.75	93.65	111.50
1	A	1535	ASP	CB-CG-OD2	5.24	123.02	118.30
1	A	1982	ASP	CB-CG-OD2	5.22	123.00	118.30
1	A	669	ASP	CB-CG-OD2	5.21	122.99	118.30
1	A	1394	ASP	CB-CG-OD2	5.17	122.95	118.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1028	GLY	Peptide
1	A	1452	PHE	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	19026	0	18584	525	0
2	A	1	0	0	0	0
All	All	19027	0	18584	525	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 14.

All (525) 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)
1:A:1023:PRO:HG3	1:A:1649:TYR:CZ	1.49	1.48
1:A:1956:THR:HG23	1:A:1986:MET:N	1.21	1.45
1:A:1956:THR:CG2	1:A:1986:MET:N	1.86	1.38
1:A:1023:PRO:CG	1:A:1649:TYR:CZ	2.18	1.26
1:A:1180:LEU:HD21	1:A:1185:ASP:OD1	1.34	1.22
1:A:1956:THR:HG21	1:A:1986:MET:CA	1.72	1.20
1:A:1022:LEU:HD22	1:A:1023:PRO:CD	1.72	1.20
1:A:1180:LEU:CD2	1:A:1185:ASP:HA	1.70	1.19
1:A:1956:THR:HG21	1:A:1986:MET:CB	1.74	1.18
1:A:1022:LEU:CD2	1:A:1023:PRO:HD3	1.74	1.17
1:A:1023:PRO:HG2	1:A:1649:TYR:CE2	1.79	1.17
1:A:1023:PRO:CG	1:A:1649:TYR:OH	1.93	1.16
1:A:1023:PRO:HG3	1:A:1649:TYR:OH	0.96	1.12
1:A:1956:THR:CG2	1:A:1986:MET:H	1.50	1.10
1:A:1956:THR:HG21	1:A:1986:MET:HB3	1.32	1.07
1:A:1023:PRO:CG	1:A:1649:TYR:CE2	2.37	1.05
1:A:1022:LEU:HD22	1:A:1023:PRO:HD3	1.07	1.05
1:A:1036:ILE:HG21	1:A:1521:LYS:HG2	1.35	1.05
1:A:1956:THR:CG2	1:A:1986:MET:CA	2.32	1.04
1:A:1956:THR:CG2	1:A:1986:MET:CB	2.34	1.04
1:A:1956:THR:HG22	1:A:1985:ILE:HG22	1.40	1.02
1:A:1180:LEU:HD23	1:A:1185:ASP:CA	1.90	1.01
1:A:1180:LEU:CD2	1:A:1185:ASP:CA	2.44	0.95
1:A:1956:THR:CG2	1:A:1986:MET:HB3	1.96	0.94
1:A:1180:LEU:HD23	1:A:1185:ASP:HA	0.97	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1180:LEU:CD2	1:A:1185:ASP:OD1	2.16	0.93
1:A:1023:PRO:HG3	1:A:1649:TYR:HH	1.24	0.92
1:A:1180:LEU:HD21	1:A:1185:ASP:CG	1.90	0.90
1:A:1295:THR:HA	1:A:1322:SER:O	1.71	0.90
1:A:1505:LEU:O	1:A:1599:LEU:HD11	1.73	0.89
1:A:744:VAL:HG22	1:A:754:ILE:HG22	1.55	0.88
1:A:1534:ASP:O	1:A:1535:ASP:OD1	1.96	0.84
1:A:1025:LEU:HB3	1:A:1033:ALA:HB1	1.60	0.83
1:A:1956:THR:HG21	1:A:1986:MET:C	1.99	0.83
1:A:589:ILE:HD13	1:A:757:HIS:HA	1.64	0.80
1:A:622:SER:HA	1:A:639:GLN:HE22	1.48	0.79
1:A:1956:THR:OG1	1:A:1986:MET:HB2	1.83	0.78
1:A:577:TYR:HB3	1:A:645:LYS:HB2	1.65	0.78
1:A:1036:ILE:HG21	1:A:1521:LYS:CG	2.14	0.77
1:A:1550:ILE:HG21	1:A:1605:PHE:HE1	1.47	0.77
1:A:1956:THR:OG1	1:A:1986:MET:CB	2.33	0.77
1:A:1507:ILE:O	1:A:1598:ASN:OD1	2.03	0.76
1:A:1795:LYS:O	1:A:1799:THR:OG1	2.03	0.76
1:A:754:ILE:HD12	1:A:754:ILE:O	1.86	0.76
1:A:1180:LEU:CD2	1:A:1185:ASP:CG	2.54	0.76
1:A:2194:ARG:HG2	1:A:2199:VAL:HG12	1.67	0.75
1:A:1069:VAL:HG23	1:A:1461:PRO:HB3	1.69	0.75
1:A:1956:THR:CB	1:A:1986:MET:HB3	2.18	0.74
1:A:1956:THR:HG21	1:A:1986:MET:O	1.88	0.74
1:A:1041:LEU:HD23	1:A:1041:LEU:N	2.02	0.74
1:A:2128:ASN:HB3	1:A:2157:LEU:HD22	1.71	0.73
1:A:941:ASN:HD22	1:A:1056:LEU:HD13	1.54	0.73
1:A:1146:PRO:HD2	1:A:1221:VAL:HB	1.71	0.73
1:A:1956:THR:O	1:A:1985:ILE:HA	1.90	0.72
1:A:2088:THR:HG21	1:A:2118:ARG:HH21	1.55	0.72
1:A:589:ILE:CD1	1:A:757:HIS:HA	2.19	0.71
1:A:1031:ILE:HG22	1:A:1046:LYS:HD3	1.73	0.71
1:A:960:ASN:OD1	1:A:1652:ASN:ND2	2.20	0.70
1:A:1550:ILE:HB	1:A:1605:PHE:CD1	2.26	0.70
1:A:1737:LEU:HD13	1:A:1872:SER:HB2	1.74	0.69
1:A:1113:LEU:HG	1:A:1114:GLN:HG2	1.72	0.69
1:A:5:ASN:ND2	1:A:8:GLN:OE1	2.25	0.69
1:A:1022:LEU:HD22	1:A:1023:PRO:HD2	1.73	0.69
1:A:1772:PHE:HE1	1:A:1797:ILE:HD11	1.58	0.69
1:A:1025:LEU:HG	1:A:1612:ILE:HD13	1.75	0.68
1:A:1025:LEU:HD21	1:A:1635:TYR:CE1	2.28	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:708:GLU:HG3	1:A:787:ILE:HD12	1.76	0.68
1:A:1425:TYR:OH	1:A:1453:ASN:ND2	2.23	0.68
1:A:2123:ILE:O	1:A:2130:PHE:HB2	1.92	0.68
1:A:413:ASN:HD22	1:A:413:ASN:H	1.40	0.68
1:A:889:ILE:HG12	1:A:898:ILE:HG12	1.76	0.67
1:A:1180:LEU:CD2	1:A:1185:ASP:CB	2.72	0.67
1:A:2119:GLN:HG3	1:A:2123:ILE:HG13	1.76	0.67
1:A:1180:LEU:HD21	1:A:1185:ASP:CB	2.24	0.67
1:A:1952:LEU:HD12	1:A:1952:LEU:N	2.09	0.67
1:A:1408:ILE:HB	1:A:1446:LYS:HD2	1.76	0.67
1:A:1325:LEU:HD21	1:A:1334:ILE:HD12	1.77	0.67
1:A:792:LYS:HB2	1:A:835:GLN:HG3	1.77	0.66
1:A:1550:ILE:HG21	1:A:1605:PHE:CE1	2.30	0.66
1:A:1956:THR:O	1:A:1985:ILE:HG23	1.96	0.66
1:A:373:VAL:HG23	1:A:395:CYS:HB3	1.77	0.66
1:A:2017:TYR:HB2	1:A:2054:LEU:HD22	1.76	0.66
1:A:1025:LEU:HB3	1:A:1033:ALA:CB	2.26	0.66
1:A:2253:LEU:HG	1:A:2260:ASN:HD21	1.61	0.65
1:A:73:LYS:HD2	1:A:1726:ILE:HG23	1.78	0.65
1:A:2118:ARG:NH1	1:A:2135:SER:O	2.30	0.65
1:A:1089:PHE:HA	1:A:1092:LEU:HG	1.76	0.65
1:A:2111:TYR:HE1	1:A:2123:ILE:HB	1.61	0.65
1:A:1280:PRO:HB2	1:A:1282:TYR:HE1	1.61	0.64
1:A:879:ASP:N	1:A:879:ASP:OD1	2.31	0.64
1:A:577:TYR:HB3	1:A:645:LYS:CB	2.28	0.64
1:A:2244:ASP:HB3	1:A:2250:ARG:CZ	2.29	0.63
1:A:1111:LEU:H	1:A:1281:ARG:HH12	1.46	0.63
1:A:2174:PRO:O	1:A:2181:ASN:ND2	2.31	0.63
1:A:1197:LYS:NZ	1:A:1261:GLN:OE1	2.29	0.63
1:A:1368:ILE:HG23	1:A:1371:ILE:HB	1.80	0.62
1:A:956:VAL:HG21	1:A:1653:ARG:NE	2.14	0.62
1:A:1003:ASP:HB3	1:A:1006:LYS:HE2	1.82	0.62
1:A:94:VAL:HG22	1:A:368:VAL:HG22	1.81	0.62
1:A:644:ARG:NH1	1:A:687:SER:O	2.32	0.62
1:A:754:ILE:HG23	1:A:768:ILE:HG12	1.79	0.62
1:A:361:LEU:HD12	1:A:362:PRO:HD2	1.82	0.62
1:A:623:VAL:H	1:A:639:GLN:HE22	1.47	0.62
1:A:1550:ILE:HB	1:A:1605:PHE:CE1	2.34	0.62
1:A:1960:ASN:HB3	1:A:1964:GLY:H	1.65	0.62
1:A:754:ILE:CG2	1:A:768:ILE:HG12	2.29	0.62
1:A:1022:LEU:CD2	1:A:1023:PRO:CD	2.53	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1550:ILE:CG2	1:A:1605:PHE:CE1	2.82	0.62
1:A:1505:LEU:O	1:A:1599:LEU:CD1	2.45	0.61
1:A:1314:TYR:HB2	1:A:1334:ILE:HD13	1.82	0.61
1:A:173:ARG:NH2	1:A:823:GLU:OE2	2.28	0.61
1:A:873:LYS:NZ	1:A:882:HIS:O	2.33	0.61
1:A:2043:LYS:H	1:A:2051:GLU:HG2	1.65	0.61
1:A:1197:LYS:HG2	1:A:1198:PRO:HD2	1.83	0.60
1:A:57:ASP:OD1	1:A:76:LYS:NZ	2.33	0.60
1:A:1384:LEU:O	1:A:1387:HIS:HB2	2.01	0.60
1:A:1807:ASP:HB2	1:A:1812:TYR:HE2	1.67	0.60
1:A:243:LEU:HB3	1:A:245:LYS:HG2	1.84	0.60
1:A:1025:LEU:CD2	1:A:1635:TYR:CE1	2.85	0.60
1:A:1025:LEU:N	1:A:1025:LEU:HD22	2.16	0.60
1:A:1947:VAL:O	1:A:1959:PHE:HB2	2.01	0.60
1:A:1956:THR:CG2	1:A:1985:ILE:HG22	2.26	0.60
1:A:1968:LYS:O	1:A:1971:HIS:NE2	2.33	0.60
1:A:1955:GLU:HG2	1:A:1985:ILE:HD13	1.84	0.60
1:A:1575:ALA:HA	1:A:1578:THR:HG22	1.84	0.59
1:A:1495:ARG:HG2	1:A:1507:ILE:HG23	1.84	0.59
1:A:1239:GLY:H	1:A:1241:ARG:HH12	1.51	0.59
1:A:413:ASN:HD22	1:A:413:ASN:N	2.00	0.59
1:A:1956:THR:OG1	1:A:1986:MET:HB3	2.01	0.58
1:A:1354:ASN:O	1:A:1365:GLY:N	2.32	0.58
1:A:1296:ARG:HB2	1:A:1323:TYR:HD1	1.66	0.58
1:A:2273:TYR:HE2	1:A:2280:MET:HB3	1.68	0.58
1:A:1550:ILE:CG2	1:A:1605:PHE:HE1	2.17	0.58
1:A:1970:LEU:HD21	1:A:1977:LYS:HD3	1.84	0.58
1:A:1624:LEU:HD23	1:A:1634:PRO:HA	1.85	0.58
1:A:1128:SER:HB3	1:A:1250:LEU:HD22	1.84	0.58
1:A:540:GLU:OE2	1:A:540:GLU:HA	2.03	0.57
1:A:566:ILE:HD13	1:A:602:PRO:HB3	1.86	0.57
1:A:1447:ILE:O	1:A:1450:ILE:HG12	2.03	0.57
1:A:1400:ARG:HA	1:A:1420:LEU:HD12	1.87	0.57
1:A:270:ASP:OD2	1:A:384:ASN:ND2	2.37	0.57
1:A:587:ASP:OD1	1:A:653:HIS:NE2	2.35	0.57
1:A:1113:LEU:HB2	1:A:1280:PRO:HD3	1.87	0.57
1:A:1956:THR:HG23	1:A:1986:MET:H	0.58	0.57
1:A:1956:THR:CB	1:A:1986:MET:CB	2.78	0.57
1:A:2188:LYS:HB3	1:A:2206:TYR:CD2	2.40	0.57
1:A:1144:ILE:HD11	1:A:1217:LYS:HB2	1.86	0.57
1:A:1327:LEU:HD23	1:A:1351:VAL:HG21	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2244:ASP:HB3	1:A:2250:ARG:NE	2.19	0.57
1:A:1598:ASN:OD1	1:A:1598:ASN:N	2.33	0.56
1:A:451:THR:OG1	1:A:826:ILE:HD13	2.05	0.56
1:A:622:SER:HA	1:A:639:GLN:NE2	2.17	0.56
1:A:1348:VAL:HB	1:A:1351:VAL:HB	1.87	0.56
1:A:1139:LEU:HD23	1:A:1143:ILE:HD12	1.88	0.56
1:A:133:SER:OG	1:A:239:ASP:OD2	2.17	0.56
1:A:704:SER:HB3	1:A:776:GLU:OE2	2.06	0.56
1:A:1023:PRO:HG3	1:A:1649:TYR:CE2	2.12	0.56
1:A:1787:ASP:N	1:A:1787:ASP:OD1	2.37	0.56
1:A:1433:CYS:O	1:A:1437:ILE:HG12	2.06	0.56
1:A:1022:LEU:HD23	1:A:1023:PRO:HD3	1.82	0.56
1:A:1218:ASP:HA	1:A:1296:ARG:HH11	1.71	0.56
1:A:1329:PRO:HB3	1:A:1355:ILE:HG13	1.88	0.56
1:A:2320:TYR:HE1	1:A:2324:LEU:HB2	1.69	0.56
1:A:1168:GLU:HB3	1:A:1199:TRP:HB3	1.88	0.55
1:A:1334:ILE:HB	1:A:1389:ILE:HD12	1.87	0.55
1:A:1929:LYS:HE3	1:A:1936:ILE:HG23	1.87	0.55
1:A:1949:TRP:CZ2	1:A:1973:ILE:HG21	2.40	0.55
1:A:1104:PRO:HG2	1:A:1305:THR:HG21	1.87	0.55
1:A:2293:VAL:HG12	1:A:2300:PHE:HD2	1.72	0.55
1:A:1356:THR:HG22	1:A:1363:GLN:HB3	1.88	0.55
1:A:1956:THR:CG2	1:A:1986:MET:O	2.54	0.55
1:A:420:GLU:O	1:A:420:GLU:HG3	2.07	0.55
1:A:688:PRO:HG2	1:A:730:ILE:HD11	1.89	0.55
1:A:589:ILE:HD11	1:A:757:HIS:O	2.05	0.55
1:A:791:SER:HA	1:A:838:GLU:OE2	2.05	0.55
1:A:1258:TYR:HB3	1:A:1261:GLN:HB2	1.87	0.55
1:A:2276:ILE:HG22	1:A:2277:LYS:HG2	1.88	0.55
1:A:2043:LYS:HE2	1:A:2050:GLU:HA	1.88	0.55
1:A:1656:LEU:HD23	1:A:1692:VAL:HG13	1.88	0.54
1:A:998:LEU:HD12	1:A:1001:ILE:HD12	1.88	0.54
1:A:1375:LEU:HB2	1:A:1384:LEU:HD13	1.89	0.54
1:A:1381:LYS:NZ	1:A:1383:ILE:HD11	2.22	0.54
1:A:1719:ILE:HG12	1:A:1767:ARG:HD2	1.89	0.54
1:A:2300:PHE:HB3	1:A:2339:ALA:HB3	1.88	0.54
1:A:2011:ILE:HD12	1:A:2020:PHE:HD2	1.72	0.54
1:A:2190:SER:HA	1:A:2202:PHE:HB2	1.90	0.54
1:A:954:HIS:O	1:A:954:HIS:ND1	2.40	0.54
1:A:995:SER:OG	1:A:996:THR:N	2.40	0.54
1:A:308:THR:HA	1:A:785:ASN:HD22	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:145:ILE:HD12	1:A:263:TRP:HH2	1.73	0.54
1:A:1045:ILE:HG12	1:A:1066:ILE:HD13	1.91	0.53
1:A:1876:SER:HB3	1:A:1880:ILE:HG13	1.90	0.53
1:A:258:GLU:OE1	1:A:407:TYR:OH	2.16	0.53
1:A:1030:PRO:HB2	1:A:1556:TYR:CZ	2.43	0.53
1:A:1291:LEU:HD21	1:A:1316:PHE:HD1	1.73	0.53
1:A:447:MET:O	1:A:451:THR:HG23	2.08	0.53
1:A:1989:GLY:H	1:A:2000:PHE:HB2	1.74	0.53
1:A:1251:LEU:HA	1:A:1254:ILE:HD12	1.90	0.53
1:A:963:PHE:HD2	1:A:1022:LEU:HD11	1.72	0.53
1:A:1371:ILE:HA	1:A:1374:LYS:NZ	2.24	0.53
1:A:610:LYS:HE3	1:A:674:GLU:OE2	2.09	0.52
1:A:711:TYR:HB3	1:A:712:PRO:HD3	1.91	0.52
1:A:733:ASP:OD1	1:A:733:ASP:N	2.38	0.52
1:A:2244:ASP:CB	1:A:2250:ARG:CZ	2.87	0.52
1:A:2336:GLU:HG3	1:A:2338:ILE:HG22	1.91	0.52
1:A:1072:THR:HG22	1:A:1073:ALA:H	1.74	0.52
1:A:1171:ARG:HE	1:A:1261:GLN:HG2	1.74	0.52
1:A:2160:ILE:HA	1:A:2172:PHE:O	2.10	0.52
1:A:2244:ASP:CB	1:A:2250:ARG:NH2	2.73	0.52
1:A:968:LEU:HD12	1:A:978:LEU:HD21	1.92	0.52
1:A:1324:SER:HB3	1:A:1345:VAL:HG23	1.91	0.52
1:A:1024:THR:HG22	1:A:1636:PHE:CD1	2.45	0.52
1:A:1061:GLU:O	1:A:1065:GLY:N	2.43	0.52
1:A:1249:LYS:NZ	1:A:1253:ARG:HE	2.09	0.51
1:A:1366:GLU:OE2	1:A:1449:HIS:NE2	2.43	0.51
1:A:1383:ILE:HA	1:A:1387:HIS:O	2.11	0.51
1:A:1996:LYS:HB3	1:A:2025:GLU:HG2	1.91	0.51
1:A:2223:ASP:HB2	1:A:2230:TYR:HE2	1.73	0.51
1:A:1377:ILE:HD11	1:A:1420:LEU:HD23	1.92	0.51
1:A:578:ILE:HD11	1:A:640:ILE:O	2.11	0.51
1:A:703:TYR:CD2	1:A:710:THR:HG21	2.45	0.51
1:A:756:ASP:HB2	1:A:762:ILE:HD12	1.93	0.51
1:A:438:ILE:O	1:A:438:ILE:HG13	2.10	0.51
1:A:1505:LEU:HG	1:A:1507:ILE:HD11	1.93	0.51
1:A:1540:LEU:HG	1:A:1542:PHE:HD1	1.75	0.51
1:A:1981:ASP:OD1	1:A:1985:ILE:N	2.41	0.51
1:A:2208:ILE:HD13	1:A:2227:LYS:HG2	1.93	0.51
1:A:623:VAL:H	1:A:639:GLN:NE2	2.06	0.51
1:A:1550:ILE:CB	1:A:1605:PHE:CE1	2.94	0.51
1:A:2177:THR:OG1	1:A:2181:ASN:ND2	2.31	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1022:LEU:CB	1:A:1023:PRO:CD	2.89	0.51
1:A:2049:THR:HG22	1:A:2053:GLU:HB3	1.92	0.51
1:A:2242:TYR:HB2	1:A:2263:PHE:CZ	2.46	0.51
1:A:1968:LYS:HE2	1:A:1982:ASP:O	2.11	0.51
1:A:1976:ASN:HB3	1:A:2005:VAL:HG13	1.93	0.51
1:A:672:SER:OG	1:A:719:ILE:HG22	2.11	0.51
1:A:1383:ILE:HG12	1:A:1388:THR:HG22	1.93	0.51
1:A:1440:SER:HB3	1:A:1499:MET:SD	2.50	0.51
1:A:1957:TYR:HE1	1:A:1983:ASN:O	1.93	0.51
1:A:1154:GLU:HG2	1:A:1288:ARG:HB2	1.91	0.51
1:A:1981:ASP:OD1	1:A:1981:ASP:N	2.44	0.51
1:A:1367:LEU:HD21	1:A:1408:ILE:HG22	1.92	0.50
1:A:1354:ASN:N	1:A:1366:GLU:O	2.44	0.50
1:A:2277:LYS:HZ1	1:A:2313:PHE:HE1	1.60	0.50
1:A:2264:ASN:OD1	1:A:2267:GLY:N	2.44	0.50
1:A:1495:ARG:HG2	1:A:1507:ILE:HD12	1.93	0.50
1:A:878:LEU:HD11	1:A:911:ILE:HD11	1.93	0.50
1:A:1628:LYS:HG3	1:A:1629:ASP:OD1	2.12	0.50
1:A:1906:LEU:HB2	1:A:1945:ALA:HB3	1.93	0.50
1:A:1025:LEU:CD2	1:A:1025:LEU:N	2.75	0.50
1:A:1036:ILE:HB	1:A:1041:LEU:HD21	1.94	0.50
1:A:145:ILE:HD12	1:A:263:TRP:CH2	2.47	0.50
1:A:413:ASN:N	1:A:413:ASN:ND2	2.60	0.50
1:A:2011:ILE:HD12	1:A:2020:PHE:CD2	2.47	0.50
1:A:2058:ASN:HD21	1:A:2072:ILE:HA	1.77	0.50
1:A:383:ILE:HG12	1:A:385:GLN:HG3	1.93	0.49
1:A:513:GLU:O	1:A:517:THR:HG23	2.12	0.49
1:A:1151:VAL:HG12	1:A:1165:GLY:HA3	1.94	0.49
1:A:1171:ARG:HH21	1:A:1261:GLN:HG2	1.77	0.49
1:A:275:SER:O	1:A:279:GLU:HG2	2.12	0.49
1:A:368:VAL:HG23	1:A:390:LEU:HG	1.94	0.49
1:A:956:VAL:HG23	1:A:957:ASN:N	2.28	0.49
1:A:1085:ILE:HG13	1:A:1086:ALA:N	2.28	0.49
1:A:1375:LEU:HD12	1:A:1384:LEU:HB2	1.94	0.49
1:A:1956:THR:HG22	1:A:1985:ILE:CG2	2.26	0.49
1:A:1239:GLY:H	1:A:1241:ARG:NH1	2.09	0.49
1:A:2230:TYR:HD1	1:A:2234:ASN:HB3	1.78	0.49
1:A:708:GLU:H	1:A:708:GLU:CD	2.13	0.49
1:A:2244:ASP:HB2	1:A:2250:ARG:NH2	2.27	0.49
1:A:21:GLU:HG2	1:A:63:TYR:CZ	2.48	0.49
1:A:1216:SER:O	1:A:1216:SER:OG	2.29	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1369:GLU:OE1	1:A:1370:ASN:HB2	2.12	0.49
1:A:1124:PHE:HA	1:A:1127:ILE:HG12	1.95	0.49
1:A:707:ALA:O	1:A:710:THR:OG1	2.24	0.49
1:A:1048:LEU:HD22	1:A:1066:ILE:HD11	1.94	0.49
1:A:1381:LYS:HD3	1:A:1390:ASN:HD22	1.77	0.48
1:A:1791:VAL:HG13	1:A:1795:LYS:HD2	1.94	0.48
1:A:21:GLU:OE2	1:A:68:ARG:NH2	2.37	0.48
1:A:1041:LEU:HD12	1:A:1045:ILE:HD11	1.94	0.48
1:A:1255:ARG:HH22	1:A:1259:GLU:HG2	1.79	0.48
1:A:2172:PHE:CE2	1:A:2186:ALA:HB2	2.48	0.48
1:A:549:LEU:HD11	1:A:589:ILE:HD12	1.96	0.48
1:A:925:ILE:HG13	1:A:926:SER:N	2.28	0.48
1:A:1238:PRO:HG3	1:A:1271:ALA:HB1	1.94	0.48
1:A:1745:ASN:N	1:A:1745:ASN:OD1	2.46	0.48
1:A:2341:THR:O	1:A:2353:PHE:HB2	2.14	0.48
1:A:754:ILE:HD12	1:A:754:ILE:C	2.33	0.48
1:A:1030:PRO:HB2	1:A:1556:TYR:OH	2.14	0.48
1:A:1303:ILE:O	1:A:1309:ARG:HD2	2.14	0.48
1:A:1385:ASN:O	1:A:1387:HIS:ND1	2.44	0.48
1:A:1041:LEU:HD23	1:A:1041:LEU:H	1.75	0.47
1:A:703:TYR:CD2	1:A:703:TYR:N	2.82	0.47
1:A:2317:SER:O	1:A:2317:SER:OG	2.32	0.47
1:A:940:VAL:HG21	1:A:1060:ILE:HA	1.96	0.47
1:A:974:THR:HG21	1:A:1664:LEU:H	1.80	0.47
1:A:1973:ILE:HD13	1:A:1978:TYR:HD2	1.79	0.47
1:A:155:GLU:OE2	1:A:538:TYR:OH	2.28	0.47
1:A:1464:TYR:CE1	1:A:1466:ASP:HB2	2.50	0.47
1:A:1977:LYS:HD2	1:A:2006:MET:SD	2.55	0.47
1:A:1024:THR:HG22	1:A:1636:PHE:CE1	2.50	0.47
1:A:1967:LEU:HB3	1:A:1971:HIS:CD2	2.50	0.47
1:A:1195:TYR:HD2	1:A:1196:ARG:HD3	1.79	0.47
1:A:1502:SER:O	1:A:1505:LEU:HB2	2.15	0.47
1:A:1345:VAL:HG12	1:A:1403:SER:HB2	1.97	0.47
1:A:2243:PHE:CE2	1:A:2249:MET:HG3	2.50	0.47
1:A:1550:ILE:HD12	1:A:1605:PHE:CZ	2.50	0.47
1:A:140:THR:O	1:A:144:THR:OG1	2.29	0.47
1:A:1168:GLU:O	1:A:1230:PHE:HB2	2.15	0.47
1:A:1170:TRP:CE2	1:A:1195:TYR:HB3	2.50	0.47
1:A:1427:ILE:HG13	1:A:1452:PHE:CE2	2.49	0.47
1:A:375:ILE:HG12	1:A:383:ILE:O	2.15	0.46
1:A:905:THR:HG23	1:A:907:ASN:H	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1947:VAL:O	1:A:1948:GLU:O	2.33	0.46
1:A:2264:ASN:HD21	1:A:2266:ASP:HB3	1.80	0.46
1:A:1205:VAL:HG13	1:A:1257:HIS:CD2	2.50	0.46
1:A:2129:ILE:O	1:A:2157:LEU:HA	2.15	0.46
1:A:2223:ASP:HB2	1:A:2230:TYR:CE2	2.49	0.46
1:A:2360:LEU:HG	1:A:2362:VAL:HG13	1.97	0.46
1:A:882:HIS:HA	1:A:901:ILE:O	2.16	0.46
1:A:1955:GLU:CG	1:A:1985:ILE:HD13	2.45	0.46
1:A:779:SER:OG	1:A:780:PHE:N	2.48	0.46
1:A:1307:GLN:O	1:A:1311:ASN:ND2	2.31	0.46
1:A:1738:SER:O	1:A:1840:ASN:ND2	2.43	0.46
1:A:1402:ILE:CG2	1:A:1418:ILE:HB	2.46	0.46
1:A:1452:PHE:HZ	1:A:1457:GLN:HB3	1.81	0.46
1:A:2177:THR:N	1:A:2181:ASN:OD1	2.43	0.46
1:A:2215:ASN:O	1:A:2217:THR:N	2.37	0.46
1:A:1543:THR:HG23	1:A:1551:LYS:HB3	1.96	0.46
1:A:1756:SER:HB2	1:A:1763:GLN:HB2	1.98	0.46
1:A:1988:THR:HG21	1:A:2002:ASN:HA	1.98	0.46
1:A:2151:TYR:HB2	1:A:2172:PHE:CZ	2.51	0.46
1:A:2242:TYR:HE1	1:A:2256:PHE:HB2	1.81	0.46
1:A:1036:ILE:CG2	1:A:1521:LYS:HG2	2.26	0.46
1:A:384:ASN:OD1	1:A:384:ASN:N	2.48	0.46
1:A:669:ASP:OD1	1:A:718:LYS:HE2	2.16	0.46
1:A:1125:LYS:HD3	1:A:1246:ASP:HB3	1.97	0.46
1:A:2050:GLU:N	1:A:2053:GLU:OE2	2.48	0.46
1:A:324:LYS:HE3	1:A:359:ILE:HD11	1.98	0.45
1:A:646:ILE:CG2	1:A:691:ILE:HG13	2.46	0.45
1:A:1546:ASP:OD2	1:A:1549:THR:OG1	2.27	0.45
1:A:1437:ILE:HD12	1:A:1497:ILE:HD12	1.98	0.45
1:A:2113:ASP:OD2	1:A:2117:ILE:HB	2.16	0.45
1:A:2090:TYR:O	1:A:2099:CYS:N	2.50	0.45
1:A:610:LYS:HE3	1:A:674:GLU:CD	2.37	0.45
1:A:1761:GLN:O	1:A:1763:GLN:N	2.46	0.45
1:A:1179:THR:O	1:A:1180:LEU:HD23	2.17	0.45
1:A:229:LEU:O	1:A:233:THR:OG1	2.30	0.45
1:A:573:ARG:HD2	1:A:1804:ALA:O	2.17	0.45
1:A:1557:LEU:HB3	1:A:1561:GLY:HA3	1.98	0.45
1:A:1629:ASP:OD1	1:A:1629:ASP:N	2.50	0.45
1:A:1997:VAL:HB	1:A:2026:ARG:HB3	1.98	0.45
1:A:2170:LYS:HE3	1:A:2186:ALA:HB1	1.98	0.45
1:A:1009:GLU:O	1:A:1013:THR:OG1	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2353:PHE:CZ	1:A:2360:LEU:HB2	2.51	0.45
1:A:623:VAL:N	1:A:639:GLN:HE22	2.12	0.45
1:A:1035:ILE:HB	1:A:1610:ASN:HD22	1.82	0.45
1:A:1533:LYS:O	1:A:1535:ASP:N	2.42	0.45
1:A:1957:TYR:CE1	1:A:1983:ASN:O	2.70	0.45
1:A:1352:VAL:O	1:A:1368:ILE:HG22	2.16	0.44
1:A:1979:TYR:HD1	1:A:1987:GLN:HB2	1.81	0.44
1:A:2092:ASP:N	1:A:2092:ASP:OD1	2.50	0.44
1:A:580:TYR:OH	1:A:634:TYR:HA	2.18	0.44
1:A:2299:GLY:HA3	1:A:2338:ILE:HD12	1.99	0.44
1:A:966:GLN:HE21	1:A:970:GLU:HG3	1.83	0.44
1:A:1036:ILE:HG21	1:A:1521:LYS:HE2	1.99	0.44
1:A:1081:SER:O	1:A:1085:ILE:HG23	2.17	0.44
1:A:876:ASN:N	1:A:876:ASN:HD22	2.16	0.44
1:A:1255:ARG:HA	1:A:1262:PHE:HB3	2.00	0.44
1:A:2354:ASP:OD1	1:A:2355:PRO:HD2	2.17	0.44
1:A:332:SER:O	1:A:335:PHE:N	2.50	0.44
1:A:1025:LEU:CD2	1:A:1025:LEU:H	2.30	0.44
1:A:1047:GLU:O	1:A:1051:THR:OG1	2.29	0.44
1:A:1344:TRP:O	1:A:1402:ILE:HD12	2.17	0.44
1:A:1400:ARG:NH2	1:A:1421:VAL:HB	2.32	0.44
1:A:1959:PHE:HE1	1:A:1966:ALA:HB2	1.82	0.44
1:A:321:MET:SD	1:A:326:TYR:HB2	2.58	0.44
1:A:1025:LEU:HD23	1:A:1623:GLU:OE2	2.17	0.44
1:A:589:ILE:HD11	1:A:757:HIS:HA	1.99	0.44
1:A:1353:LYS:HA	1:A:1367:LEU:HA	2.00	0.44
1:A:2095:THR:HG23	1:A:2097:GLU:HG3	1.99	0.44
1:A:955:GLU:O	1:A:959:LEU:HG	2.17	0.44
1:A:1123:TYR:O	1:A:1127:ILE:HG23	2.17	0.44
1:A:1585:PHE:O	1:A:1588:SER:OG	2.22	0.44
1:A:1993:ILE:O	1:A:1996:LYS:HB2	2.17	0.44
1:A:2195:VAL:HG12	1:A:2196:ASN:N	2.32	0.44
1:A:2230:TYR:CD1	1:A:2234:ASN:HB3	2.53	0.44
1:A:1376:ASN:ND2	1:A:1378:GLU:OE2	2.51	0.44
1:A:1686:ASP:OD1	1:A:1686:ASP:N	2.51	0.44
1:A:2254:ILE:HB	1:A:2263:PHE:HE2	1.82	0.44
1:A:2285:LYS:HA	1:A:2285:LYS:HD3	1.72	0.44
1:A:674:GLU:O	1:A:678:ILE:HG13	2.18	0.43
1:A:1154:GLU:O	1:A:1155:ILE:HD13	2.18	0.43
1:A:1507:ILE:CG2	1:A:1598:ASN:HD21	2.31	0.43
1:A:1949:TRP:CE3	1:A:1958:TYR:HB2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1951:LEU:CD2	1:A:1956:THR:HA	2.48	0.43
1:A:377:PHE:CD2	1:A:502:GLU:HG3	2.53	0.43
1:A:1253:ARG:HD2	1:A:1257:HIS:HE1	1.83	0.43
1:A:2013:VAL:O	1:A:2016:LYS:HE2	2.18	0.43
1:A:2142:TYR:CD2	1:A:2166:PRO:HD2	2.53	0.43
1:A:2329:LYS:HE3	1:A:2360:LEU:H	1.82	0.43
1:A:308:THR:HA	1:A:785:ASN:ND2	2.34	0.43
1:A:1030:PRO:CB	1:A:1556:TYR:OH	2.66	0.43
1:A:1306:GLU:O	1:A:1310:LYS:HE2	2.19	0.43
1:A:1466:ASP:O	1:A:1469:THR:HB	2.18	0.43
1:A:1498:TYR:HB3	1:A:1501:ASP:O	2.19	0.43
1:A:1959:PHE:CE1	1:A:1966:ALA:HB2	2.53	0.43
1:A:2304:ALA:O	1:A:2315:GLY:N	2.52	0.43
1:A:414:LEU:HG	1:A:418:ILE:CD1	2.48	0.43
1:A:1022:LEU:HB3	1:A:1023:PRO:CD	2.48	0.43
1:A:1381:LYS:HZ2	1:A:1383:ILE:HD11	1.84	0.43
1:A:2185:GLN:NE2	1:A:2186:ALA:O	2.51	0.43
1:A:2235:VAL:HG22	1:A:2240:LYS:HG3	2.00	0.43
1:A:1123:TYR:OH	1:A:1228:ARG:NH2	2.52	0.43
1:A:1371:ILE:HG23	1:A:1372:LEU:HD22	2.00	0.43
1:A:1498:TYR:CE2	1:A:1500:PRO:HD2	2.54	0.43
1:A:577:TYR:HB2	1:A:645:LYS:O	2.18	0.43
1:A:1167:CYS:SG	1:A:1202:ILE:HD12	2.59	0.43
1:A:1515:ASP:OD1	1:A:1515:ASP:N	2.49	0.43
1:A:1155:ILE:HB	1:A:1289:ILE:HD12	2.00	0.43
1:A:1427:ILE:HG13	1:A:1452:PHE:HE2	1.84	0.43
1:A:1459:TYR:OH	1:A:1522:GLY:O	2.25	0.43
1:A:1900:ILE:HD12	1:A:1909:PHE:CD2	2.54	0.43
1:A:1973:ILE:HB	1:A:1978:TYR:CE2	2.53	0.43
1:A:2219:LYS:HE3	1:A:2249:MET:HB3	2.00	0.43
1:A:535:LYS:HB3	1:A:535:LYS:HE3	1.81	0.43
1:A:937:PHE:CD2	1:A:947:LYS:HB2	2.54	0.43
1:A:958:THR:OG1	1:A:959:LEU:N	2.51	0.43
1:A:1041:LEU:N	1:A:1041:LEU:CD2	2.73	0.43
1:A:968:LEU:HD12	1:A:968:LEU:HA	1.83	0.43
1:A:1212:LYS:HA	1:A:1212:LYS:HD3	1.76	0.43
1:A:1251:LEU:HD22	1:A:1264:TRP:CG	2.54	0.43
1:A:2178:VAL:HG21	1:A:2189:TYR:HB2	2.00	0.43
1:A:708:GLU:OE2	1:A:708:GLU:N	2.29	0.42
1:A:1116:LYS:NZ	1:A:1276:THR:OG1	2.42	0.42
1:A:1370:ASN:OD1	1:A:1373:SER:OG	2.24	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1543:THR:HG22	1:A:1553:ASN:HD21	1.84	0.42
1:A:1722:ASP:OD1	1:A:1722:ASP:N	2.49	0.42
1:A:1742:VAL:HG12	1:A:1801:SER:HB2	2.00	0.42
1:A:2182:ILE:HB	1:A:2185:GLN:HB2	2.01	0.42
1:A:375:ILE:HG13	1:A:387:LEU:HD23	2.01	0.42
1:A:571:LYS:HA	1:A:600:LYS:O	2.19	0.42
1:A:1662:TYR:HD2	1:A:1670:ILE:HG23	1.85	0.42
1:A:224:TYR:O	1:A:228:SER:OG	2.33	0.42
1:A:250:ASP:HB2	1:A:404:LYS:HE2	2.02	0.42
1:A:1200:LEU:HD22	1:A:1258:TYR:CG	2.54	0.42
1:A:1513:LEU:HD23	1:A:1516:ILE:HD11	2.00	0.42
1:A:1650:VAL:HG12	1:A:1650:VAL:O	2.18	0.42
1:A:646:ILE:HG23	1:A:691:ILE:HG13	2.00	0.42
1:A:1306:GLU:HA	1:A:1309:ARG:HG3	2.02	0.42
1:A:1384:LEU:HD22	1:A:1404:LEU:HD21	2.01	0.42
1:A:2309:LEU:HD12	1:A:2309:LEU:HA	1.87	0.42
1:A:1036:ILE:CG2	1:A:1521:LYS:HE2	2.49	0.42
1:A:981:LEU:HA	1:A:981:LEU:HD12	1.78	0.42
1:A:1354:ASN:HB3	1:A:1365:GLY:HA3	2.00	0.42
1:A:1512:ASP:O	1:A:1514:LYS:HG3	2.19	0.42
1:A:1664:LEU:HD23	1:A:1669:ASN:O	2.20	0.42
1:A:2276:ILE:HB	1:A:2281:PHE:CE2	2.54	0.42
1:A:18:ARG:NH1	1:A:1668:GLY:O	2.53	0.42
1:A:578:ILE:HG12	1:A:640:ILE:HB	2.02	0.42
1:A:1169:ILE:HA	1:A:1230:PHE:HB2	2.02	0.42
1:A:312:TRP:HA	1:A:312:TRP:CE3	2.55	0.42
1:A:902:ASN:CG	1:A:905:THR:HG22	2.39	0.42
1:A:1114:GLN:OE1	1:A:1119:LYS:HB3	2.20	0.42
1:A:1236:TRP:CZ3	1:A:1273:ALA:HB2	2.55	0.42
1:A:911:ILE:HG22	1:A:912:GLU:O	2.20	0.41
1:A:1041:LEU:HD12	1:A:1045:ILE:CD1	2.50	0.41
1:A:1958:TYR:HD1	1:A:1967:LEU:HD13	1.85	0.41
1:A:2226:THR:HG22	1:A:2228:LYS:HD3	2.00	0.41
1:A:1022:LEU:HB3	1:A:1023:PRO:HD2	2.02	0.41
1:A:1371:ILE:HA	1:A:1374:LYS:HZ3	1.84	0.41
1:A:2142:TYR:OH	1:A:2167:ASP:OD2	2.21	0.41
1:A:2243:PHE:HE2	1:A:2249:MET:HG3	1.85	0.41
1:A:2259:ASN:HB2	1:A:2261:TYR:CE2	2.55	0.41
1:A:2342:GLY:HA2	1:A:2353:PHE:O	2.20	0.41
1:A:1264:TRP:CE2	1:A:1265:ARG:HD2	2.55	0.41
1:A:937:PHE:CE2	1:A:947:LYS:HB2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:977:SER:HG	1:A:1699:TYR:HE2	1.68	0.41
1:A:1086:ALA:HB2	1:A:1405:THR:OG1	2.20	0.41
1:A:1121:ILE:HD13	1:A:1248:THR:HG22	2.02	0.41
1:A:2229:ALA:O	1:A:2231:LYS:HD2	2.20	0.41
1:A:416:PRO:HB2	1:A:434:LYS:HE2	2.03	0.41
1:A:1573:LYS:HD3	1:A:1687:ARG:HH22	1.84	0.41
1:A:1999:TYR:CE1	1:A:2011:ILE:HG21	2.56	0.41
1:A:2340:ALA:HB3	1:A:2353:PHE:CG	2.56	0.41
1:A:970:GLU:C	1:A:972:ASN:H	2.24	0.41
1:A:1582:LEU:HD21	1:A:1611:PHE:CD1	2.54	0.41
1:A:1608:ASP:OD1	1:A:1609:THR:N	2.52	0.41
1:A:2235:VAL:HG13	1:A:2240:LYS:HG3	2.02	0.41
1:A:526:ARG:HH11	1:A:526:ARG:HG3	1.85	0.41
1:A:1086:ALA:O	1:A:1090:SER:OG	2.20	0.41
1:A:2162:VAL:HG11	1:A:2200:TYR:HD2	1.85	0.41
1:A:280:ASP:N	1:A:280:ASP:OD1	2.54	0.41
1:A:340:GLU:O	1:A:344:ARG:HG3	2.21	0.41
1:A:493:LEU:HD22	1:A:497:GLU:OE1	2.20	0.41
1:A:1452:PHE:CZ	1:A:1457:GLN:HB3	2.56	0.41
1:A:72:LEU:HA	1:A:72:LEU:HD23	1.73	0.41
1:A:93:PRO:HA	1:A:366:ILE:O	2.21	0.41
1:A:445:MET:CE	1:A:449:LYS:HE3	2.50	0.41
1:A:1406:PHE:CE1	1:A:1414:ILE:HB	2.56	0.41
1:A:1539:SER:HB2	1:A:1556:TYR:HB3	2.02	0.41
1:A:603:TYR:CD1	1:A:623:VAL:HG22	2.56	0.41
1:A:622:SER:CA	1:A:639:GLN:HE22	2.26	0.41
1:A:1253:ARG:HH11	1:A:1257:HIS:HE1	1.69	0.41
1:A:1550:ILE:HD12	1:A:1603:ILE:HG21	2.02	0.41
1:A:1973:ILE:HB	1:A:1978:TYR:HE2	1.85	0.41
1:A:1991:ILE:HD12	1:A:2000:PHE:CD2	2.56	0.41
1:A:2223:ASP:O	1:A:2227:LYS:HA	2.21	0.41
1:A:2242:TYR:HB2	1:A:2263:PHE:CE1	2.56	0.41
1:A:566:ILE:CD1	1:A:602:PRO:HB3	2.48	0.40
1:A:1938:TYR:CE2	1:A:1952:LEU:HD23	2.56	0.40
1:A:2281:PHE:HD1	1:A:2289:MET:SD	2.45	0.40
1:A:72:LEU:O	1:A:75:PHE:HB3	2.22	0.40
1:A:1031:ILE:CG2	1:A:1046:LYS:HD3	2.48	0.40
1:A:1160:ASN:HA	1:A:1215:PHE:CE2	2.56	0.40
1:A:1195:TYR:CD2	1:A:1196:ARG:HD3	2.56	0.40
1:A:1286:ASN:OD1	1:A:1313:SER:HB2	2.21	0.40
1:A:1470:LYS:HE3	1:A:1470:LYS:HB2	1.99	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2008:VAL:HG23	1:A:2021:GLY:O	2.21	0.40
1:A:363:LEU:HD22	1:A:366:ILE:HD11	2.02	0.40
1:A:1663:HIS:H	1:A:1671:SER:HG	1.70	0.40
1:A:1926:PHE:HE1	1:A:1930:LEU:HB2	1.86	0.40
1:A:1111:LEU:N	1:A:1281:ARG:HH12	2.13	0.40
1:A:2130:PHE:CD2	1:A:2132:PHE:HE2	2.40	0.40
1:A:1409:LEU:HB2	1:A:1412:ILE:HB	2.03	0.40
1:A:2174:PRO:HG2	1:A:2177:THR:HG21	2.02	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	2351/2372 (99%)	2210 (94%)	135 (6%)	6 (0%)	41 71

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	707	ALA
1	A	1948	GLU
1	A	1029	LEU
1	A	1762	PRO
1	A	2342	GLY
1	A	1023	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	2130/2146 (99%)	2033 (95%)	97 (5%)	27 60

All (97) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	92	THR
1	A	192	SER
1	A	200	PHE
1	A	228	SER
1	A	238	ASN
1	A	244	GLU
1	A	272	LEU
1	A	280	ASP
1	A	288	ASP
1	A	339	ASP
1	A	395	CYS
1	A	413	ASN
1	A	417	SER
1	A	419	ASN
1	A	469	SER
1	A	485	LYS
1	A	492	HIS
1	A	529	SER
1	A	535	LYS
1	A	574	ASN
1	A	644	ARG
1	A	646	ILE
1	A	656	SER
1	A	685	ASP
1	A	702	SER
1	A	703	TYR
1	A	757	HIS
1	A	863	GLU
1	A	865	ILE
1	A	879	ASP
1	A	881	SER
1	A	897	ARG
1	A	914	GLU
1	A	937	PHE
1	A	946	LYS

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Mol	Chain	Res	Type
1	A	958	THR
1	A	968	LEU
1	A	971	TYR
1	A	1010	LEU
1	A	1013	THR
1	A	1019	ILE
1	A	1040	SER
1	A	1041	LEU
1	A	1055	LEU
1	A	1058	GLN
1	A	1072	THR
1	A	1116	LYS
1	A	1167	CYS
1	A	1230	PHE
1	A	1285	THR
1	A	1297	SER
1	A	1305	THR
1	A	1307	GLN
1	A	1310	LYS
1	A	1332	MET
1	A	1340	GLU
1	A	1392	TYR
1	A	1433	CYS
1	A	1462	TYR
1	A	1527	LEU
1	A	1534	ASP
1	A	1543	THR
1	A	1547	THR
1	A	1576	LEU
1	A	1591	ILE
1	A	1598	ASN
1	A	1602	ASN
1	A	1626	CYS
1	A	1629	ASP
1	A	1662	TYR
1	A	1665	ASP
1	A	1698	LEU
1	A	1775	ASP
1	A	1776	THR
1	A	1795	LYS
1	A	1801	SER
1	A	1814	PHE

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Mol	Chain	Res	Type
1	A	1820	ASP
1	A	1821	ASN
1	A	1831	ASN
1	A	1842	SER
1	A	1895	LEU
1	A	1927	ILE
1	A	1947	VAL
1	A	1955	GLU
1	A	1995	ASP
1	A	2032	ASN
1	A	2037	PHE
1	A	2051	GLU
1	A	2092	ASP
1	A	2131	TYR
1	A	2183	TYR
1	A	2212	TRP
1	A	2259	ASN
1	A	2320	TYR
1	A	2323	TRP
1	A	2362	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (26) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	5	ASN
1	A	8	GLN
1	A	106	GLN
1	A	236	ASN
1	A	413	ASN
1	A	419	ASN
1	A	639	GLN
1	A	732	GLN
1	A	741	GLN
1	A	785	ASN
1	A	876	ASN
1	A	941	ASN
1	A	949	ASN
1	A	988	GLN
1	A	1109	ASN
1	A	1390	ASN
1	A	1453	ASN
1	A	1520	ASN

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Mol	Chain	Res	Type
1	A	1553	ASN
1	A	1593	ASN
1	A	1631	ASN
1	A	1763	GLN
1	A	2058	ASN
1	A	2143	GLN
1	A	2260	ASN
1	A	2319	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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 1 ligands modelled in this entry, 1 is 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

There are no chain breaks in this entry.

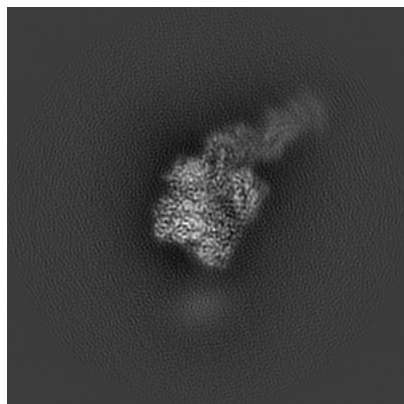
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-36141. These allow visual inspection of the internal detail of the map and identification of artifacts.

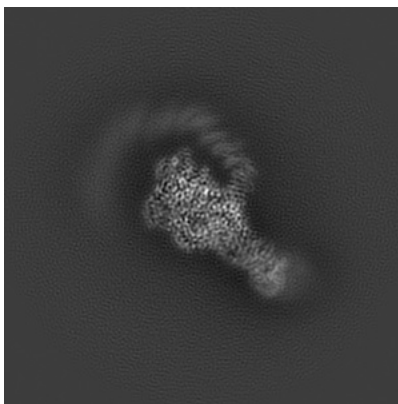
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

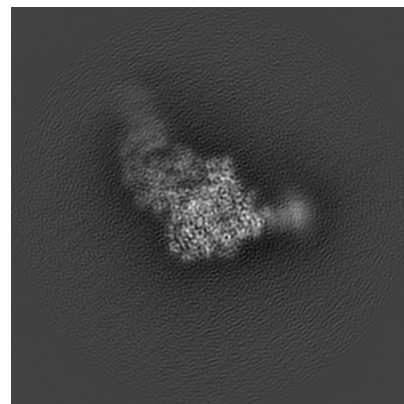
6.1.1 Primary map



X

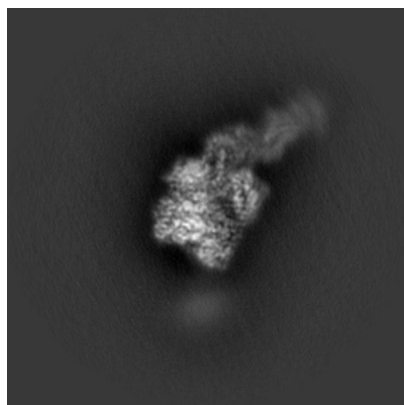


Y

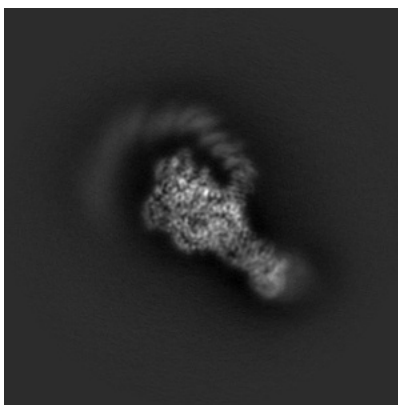


Z

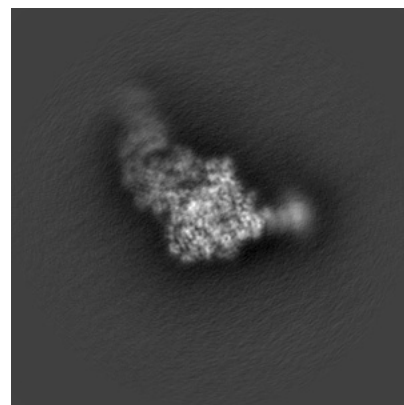
6.1.2 Raw map



X



Y

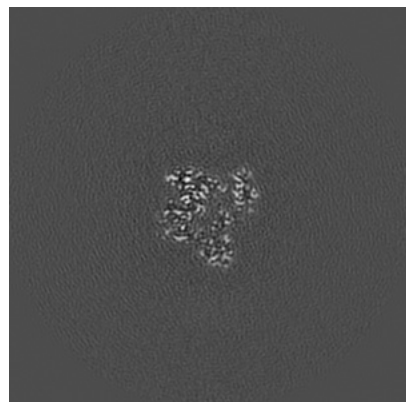


Z

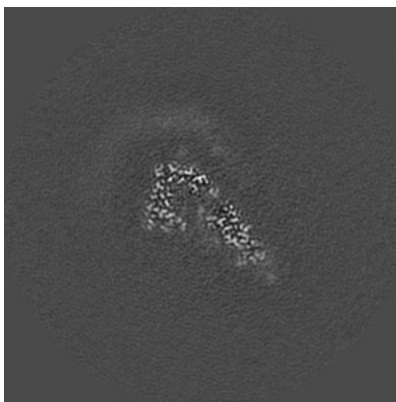
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

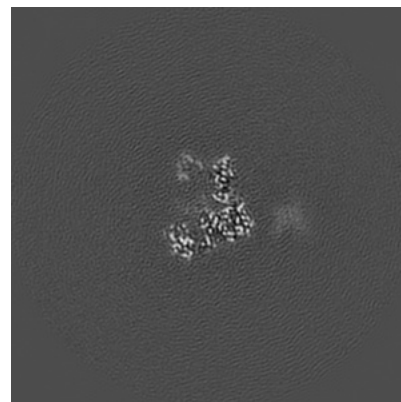
6.2.1 Primary map



X Index: 148

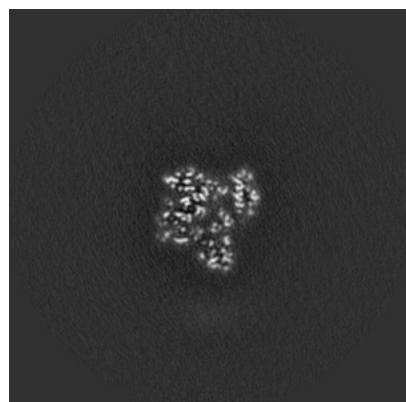


Y Index: 148

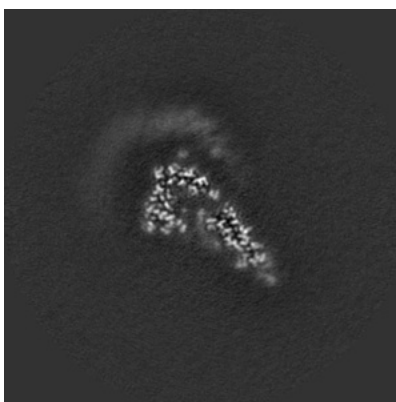


Z Index: 148

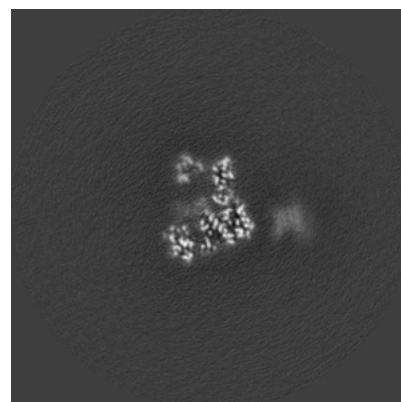
6.2.2 Raw map



X Index: 148



Y Index: 148

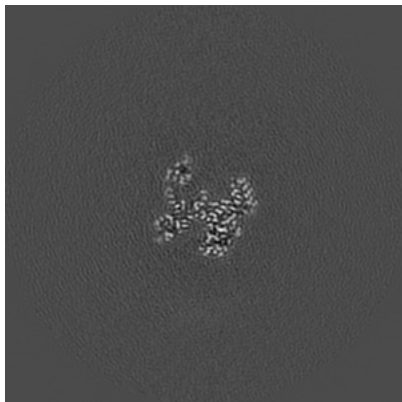


Z Index: 148

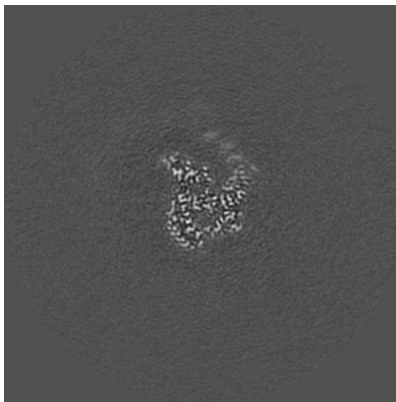
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

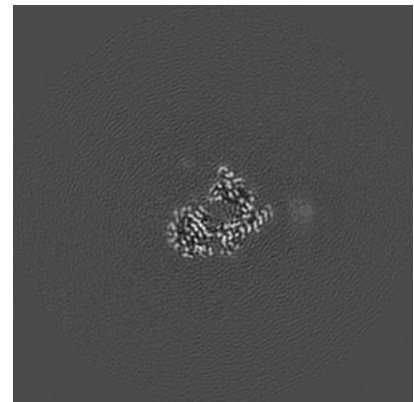
6.3.1 Primary map



X Index: 159

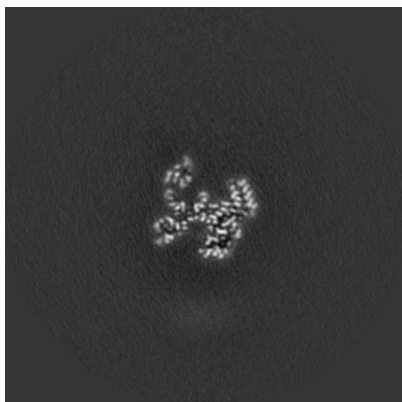


Y Index: 130

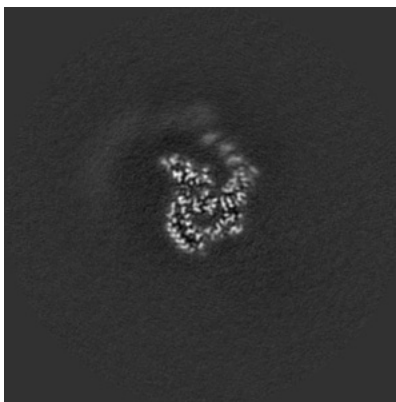


Z Index: 135

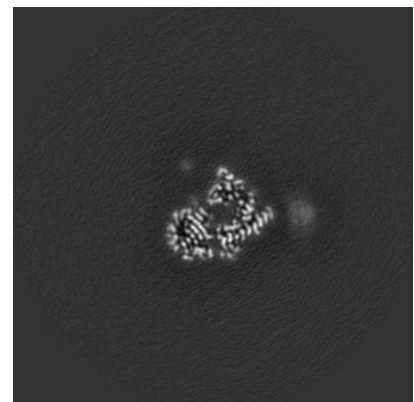
6.3.2 Raw map



X Index: 159



Y Index: 130

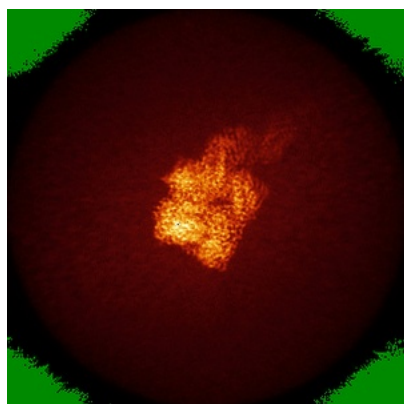


Z Index: 135

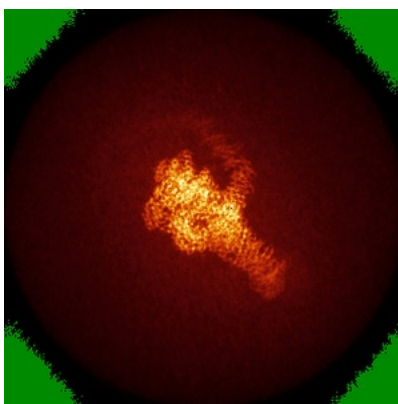
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

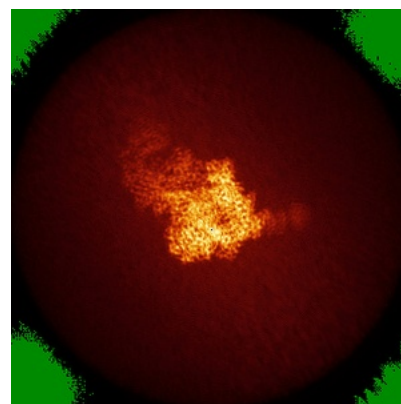
6.4.1 Primary map



X



Y

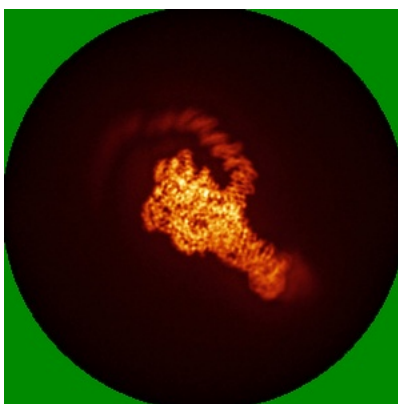


Z

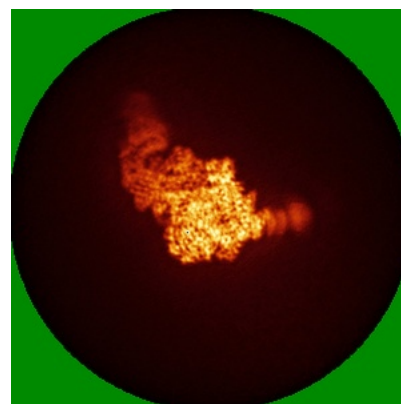
6.4.2 Raw map



X



Y

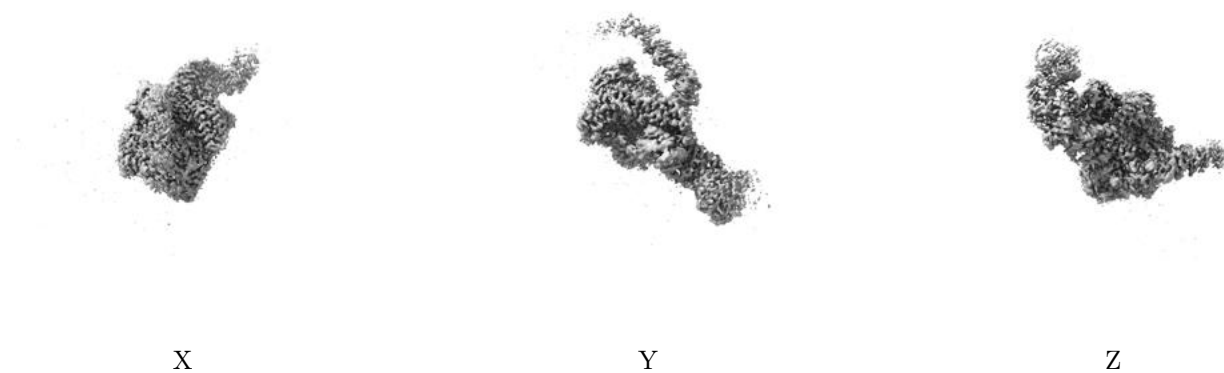


Z

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.

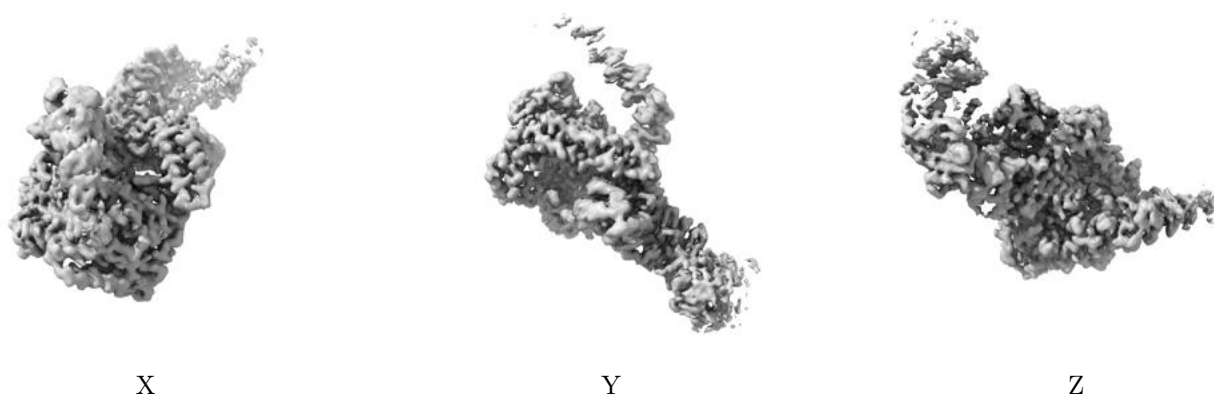
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.02. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

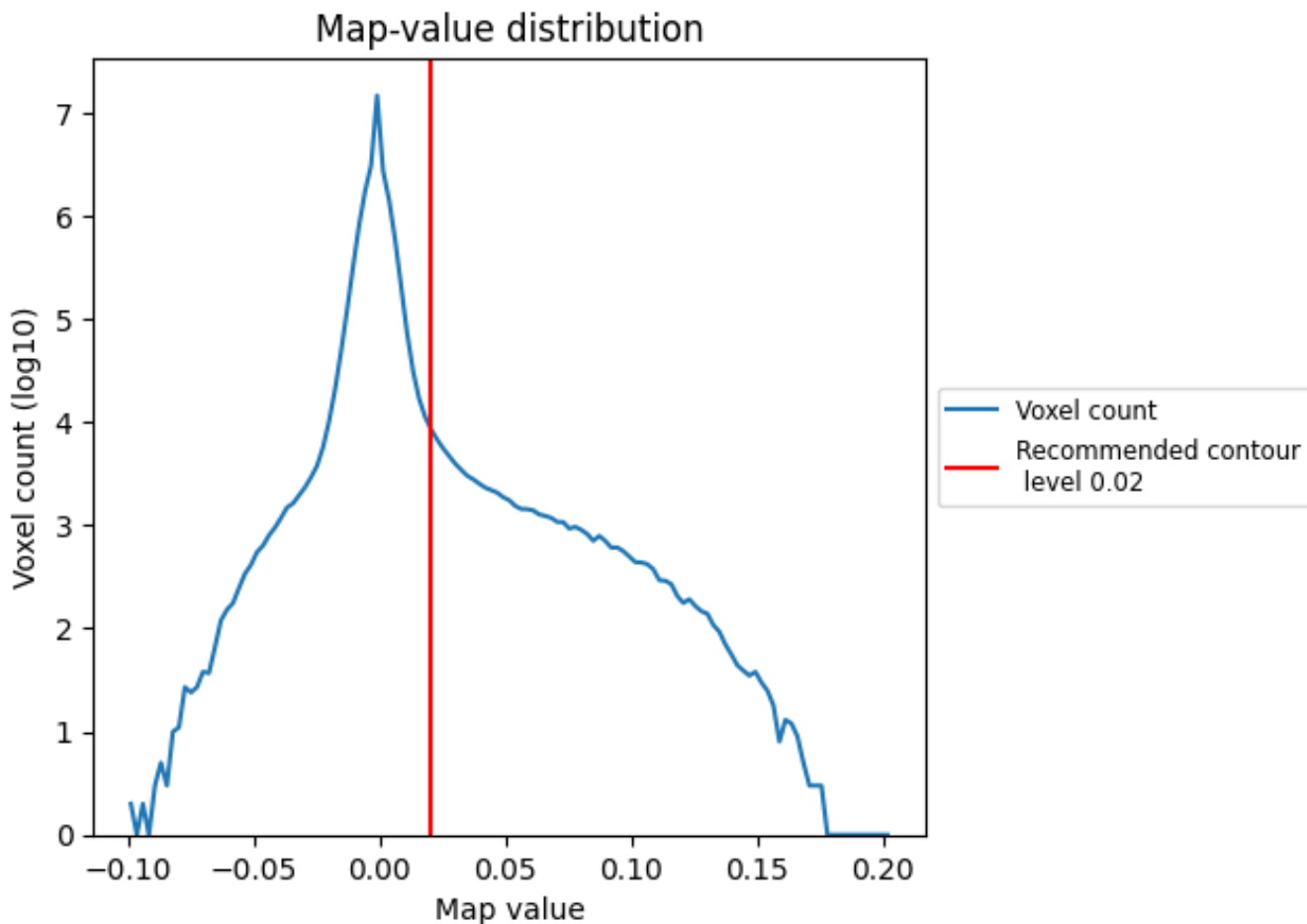
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

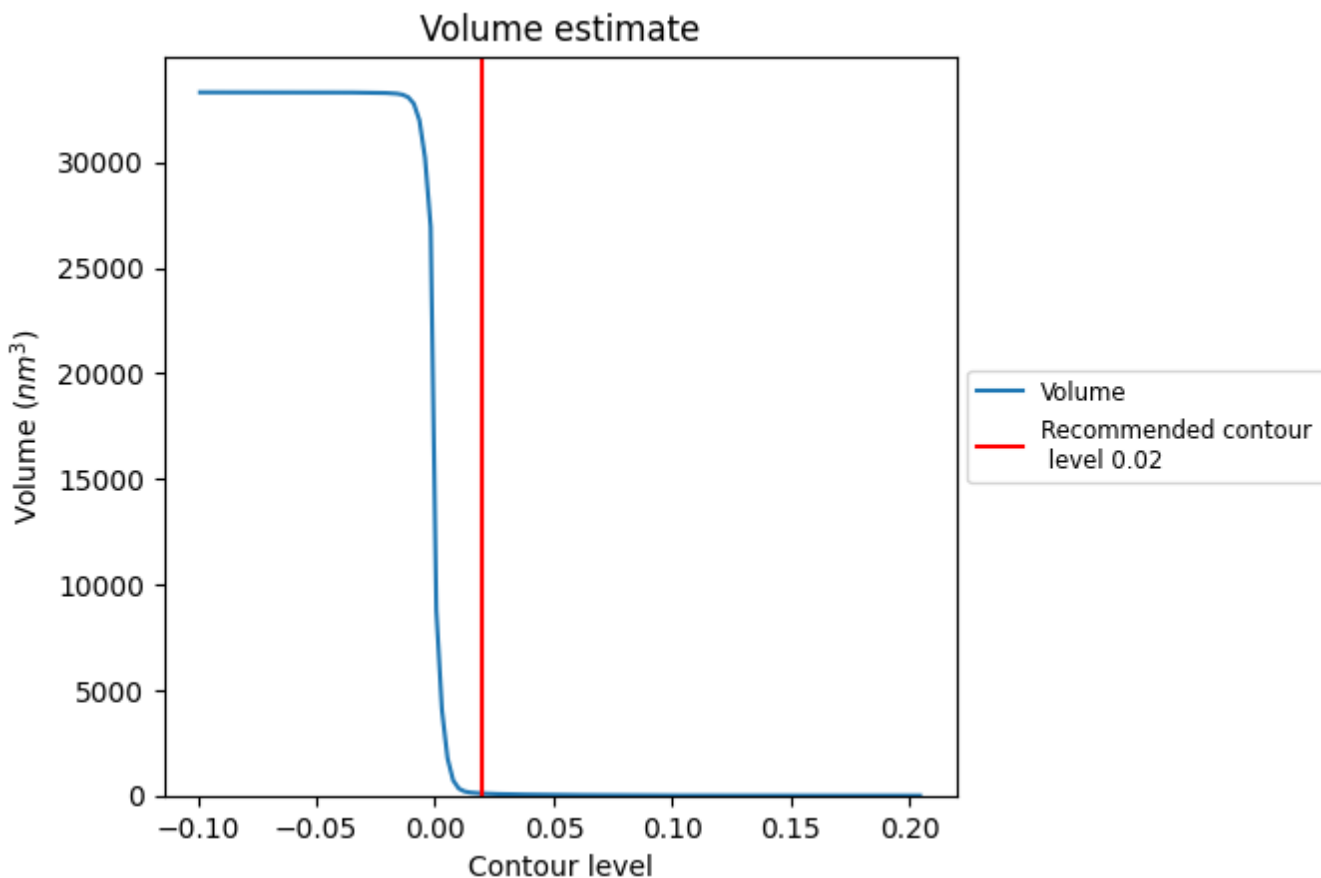
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

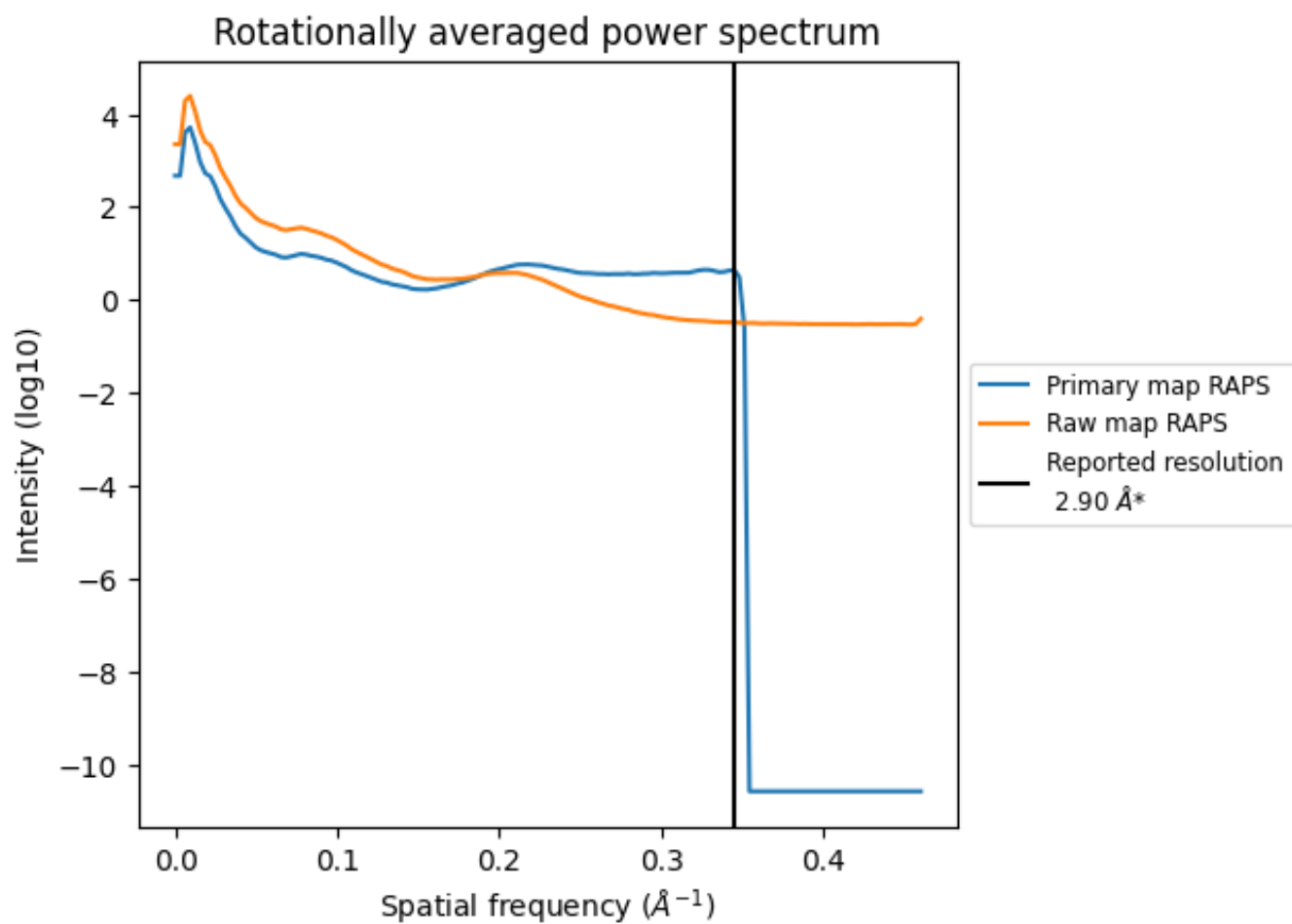
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 100 nm³; this corresponds to an approximate mass of 90 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](#)

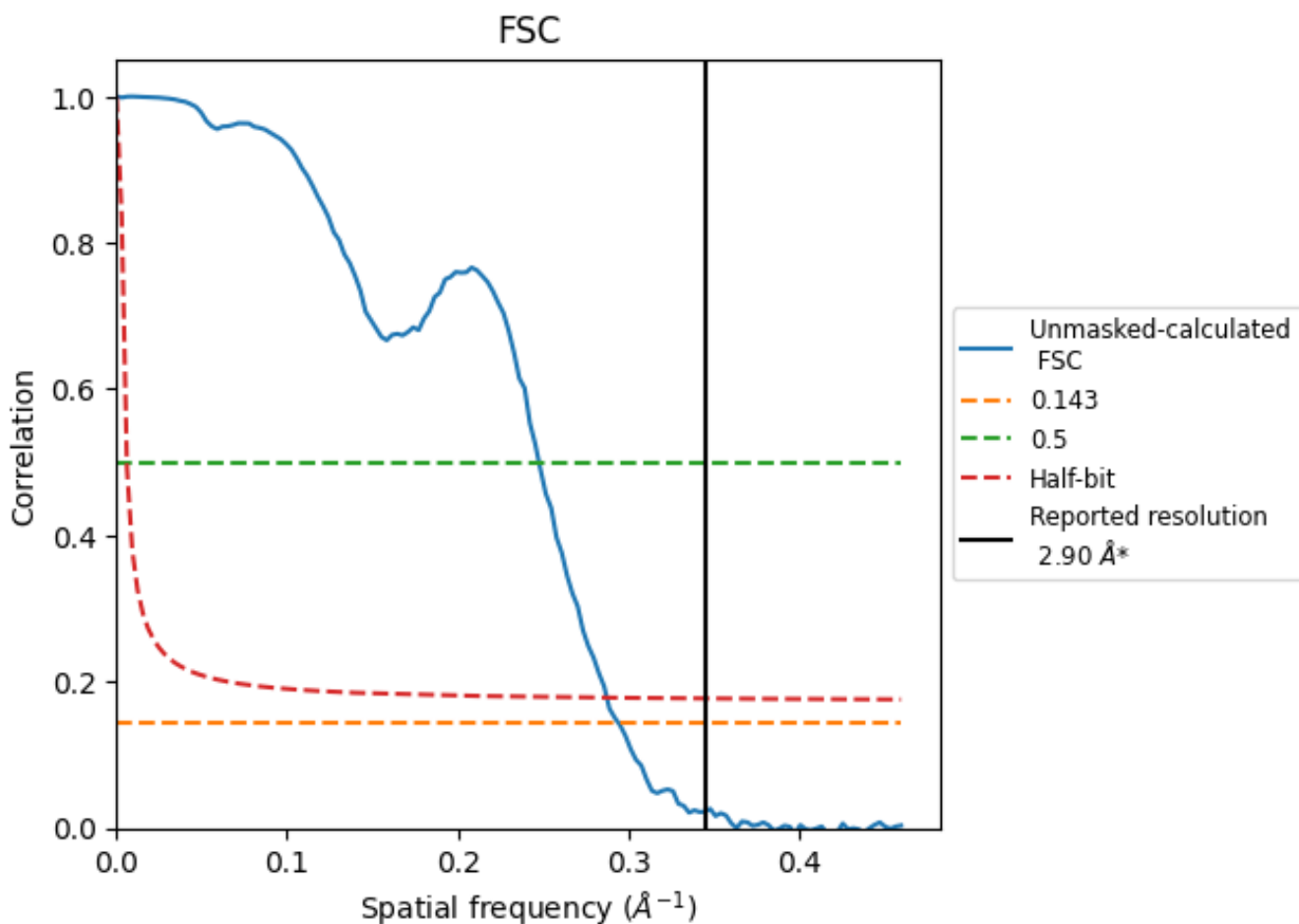


*Reported resolution corresponds to spatial frequency of 0.345 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.345 \AA^{-1}

8.2 Resolution estimates [i](#)

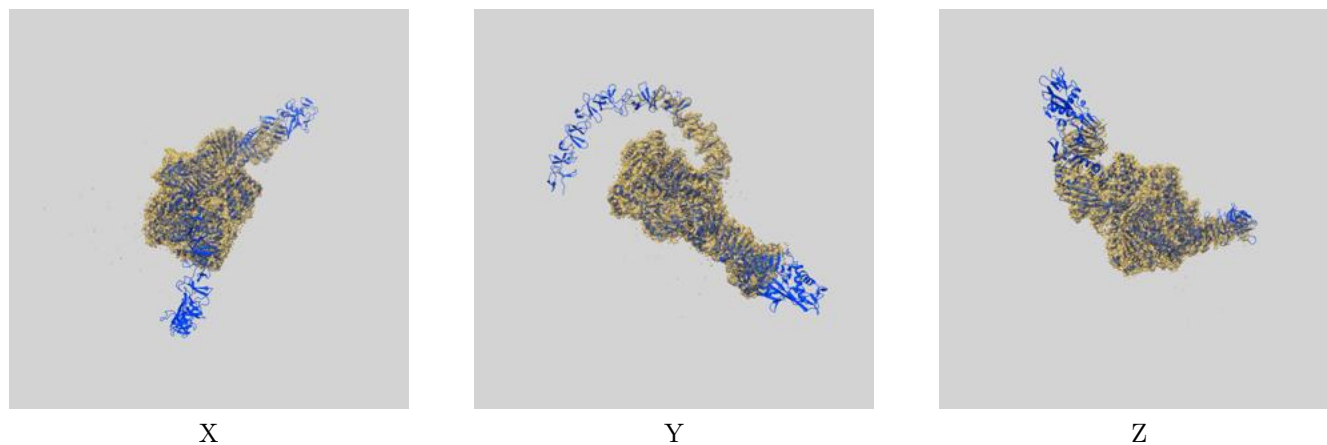
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.90	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.40	4.04	3.48

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.40 differs from the reported value 2.9 by more than 10 %

9 Map-model fit [i](#)

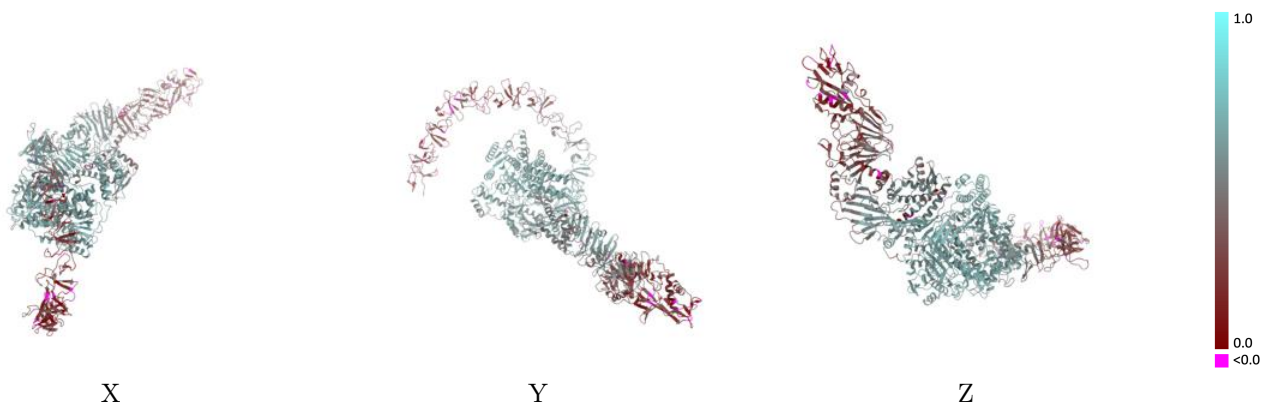
This section contains information regarding the fit between EMDB map EMD-36141 and PDB model 8JB5. Per-residue inclusion information can be found in section 3 on page 4.

9.1 Map-model overlay [i](#)



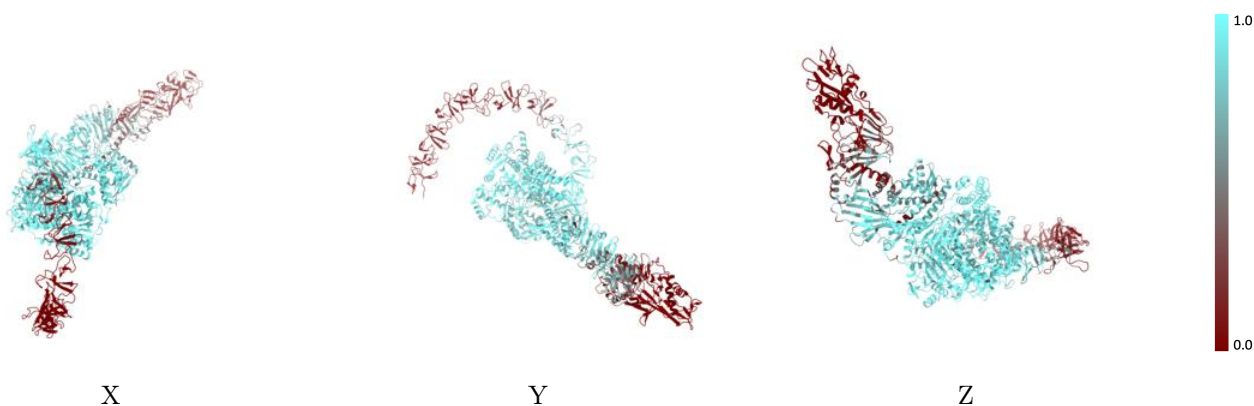
The images above show the 3D surface view of the map at the recommended contour level 0.02 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [\(i\)](#)



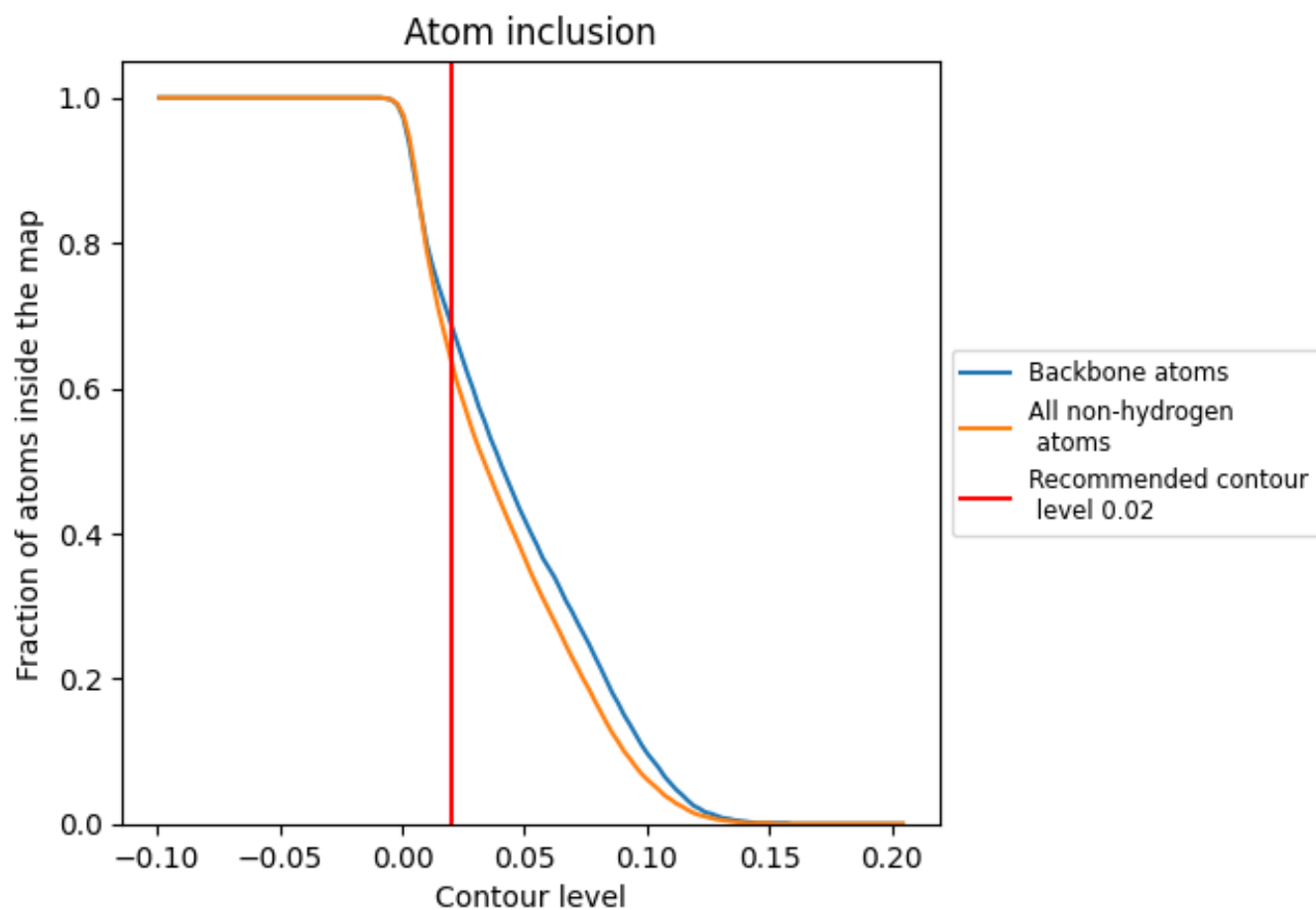
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 [\(i\)](#)



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 (0.02).





9.4 Atom inclusion [i](#)



At the recommended contour level, 69% of all backbone atoms, 64% 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 (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6390	 0.4770
A	 0.6390	 0.4770

