



Full wwPDB EM Validation Report ⓘ

Sep 13, 2023 – 11:49 am BST

PDB ID : 7ZVW
EMDB ID : EMD-14989
Title : NuA4 Histone Acetyltransferase Complex
Authors : Schultz, P.; Ben-Shem, A.; Frechard, A.
Deposited on : 2022-05-17
Resolution : 3.40 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:

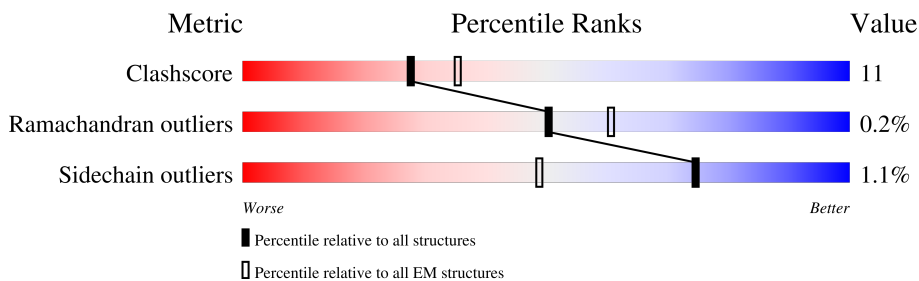
EMDB validation analysis : 0.0.1.dev50
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.35.1

1 Overall quality at a glance

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

The reported resolution of this entry is 3.40 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	3825	
2	B	376	
3	G	468	
4	E	1051	
4	H	1051	
5	F	565	
6	C	752	

2 Entry composition [i](#)

There are 8 unique types of molecules in this entry. The entry contains 37905 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 Transcription-associated protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	3226	24052	15394	4173	4395	90	0	0

- Molecule 2 is a protein called Actin.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	350	2735	1740	457	522	16	0	0

- Molecule 3 is a protein called Actin.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	G	422	3310	2110	557	633	10	0	0

- Molecule 4 is a protein called Chromatin modification-related protein EAF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	E	488	3952	2521	696	724	11	0	0
4	H	22	110	66	22	22		0	0

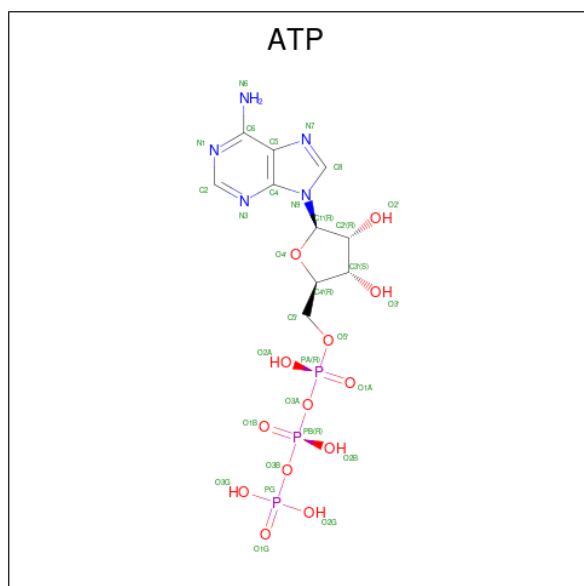
- Molecule 5 is a protein called SWR1-complex protein 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	223	1877	1189	321	362	5	0	0

- Molecule 6 is a protein called Enhancer of polycomb-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	C	224	1805	1135	314	347	9	0	0

- Molecule 7 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
7	B	1	31	10	5	13	3	0
7	G	1	31	10	5	13	3	0

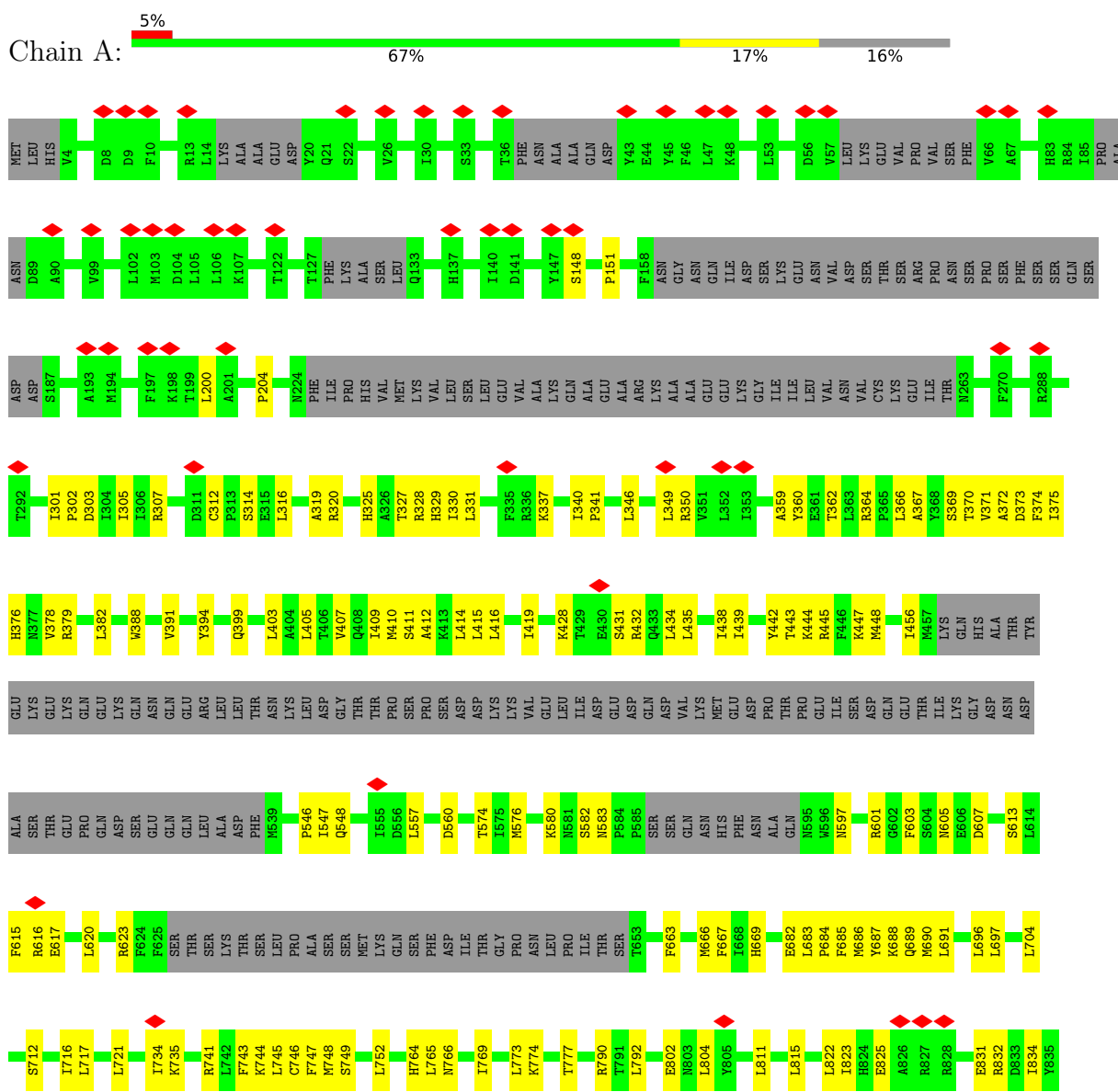
- Molecule 8 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
8	B	1	1	1	0
8	G	1	1	1	0

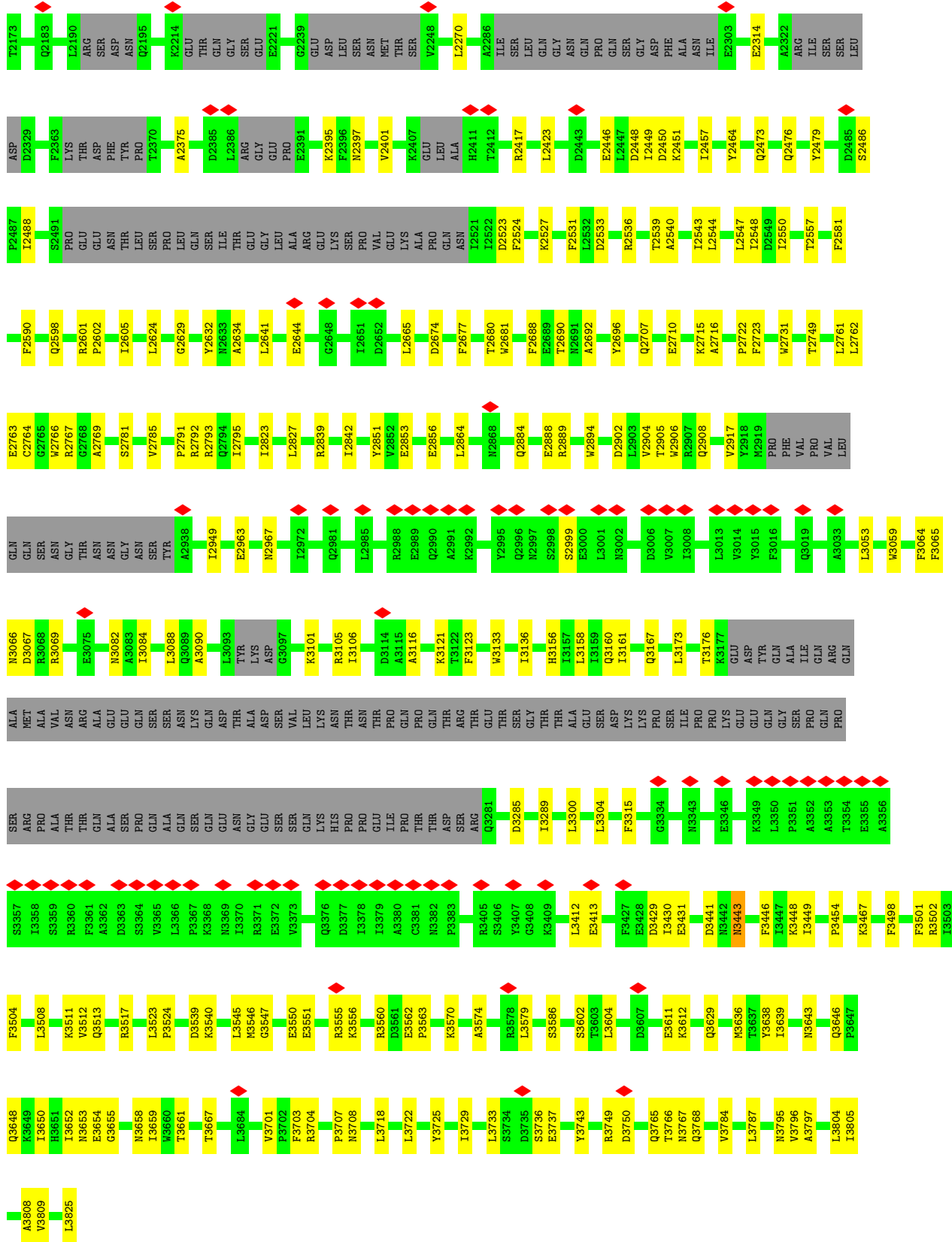
3 Residue-property plots

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.

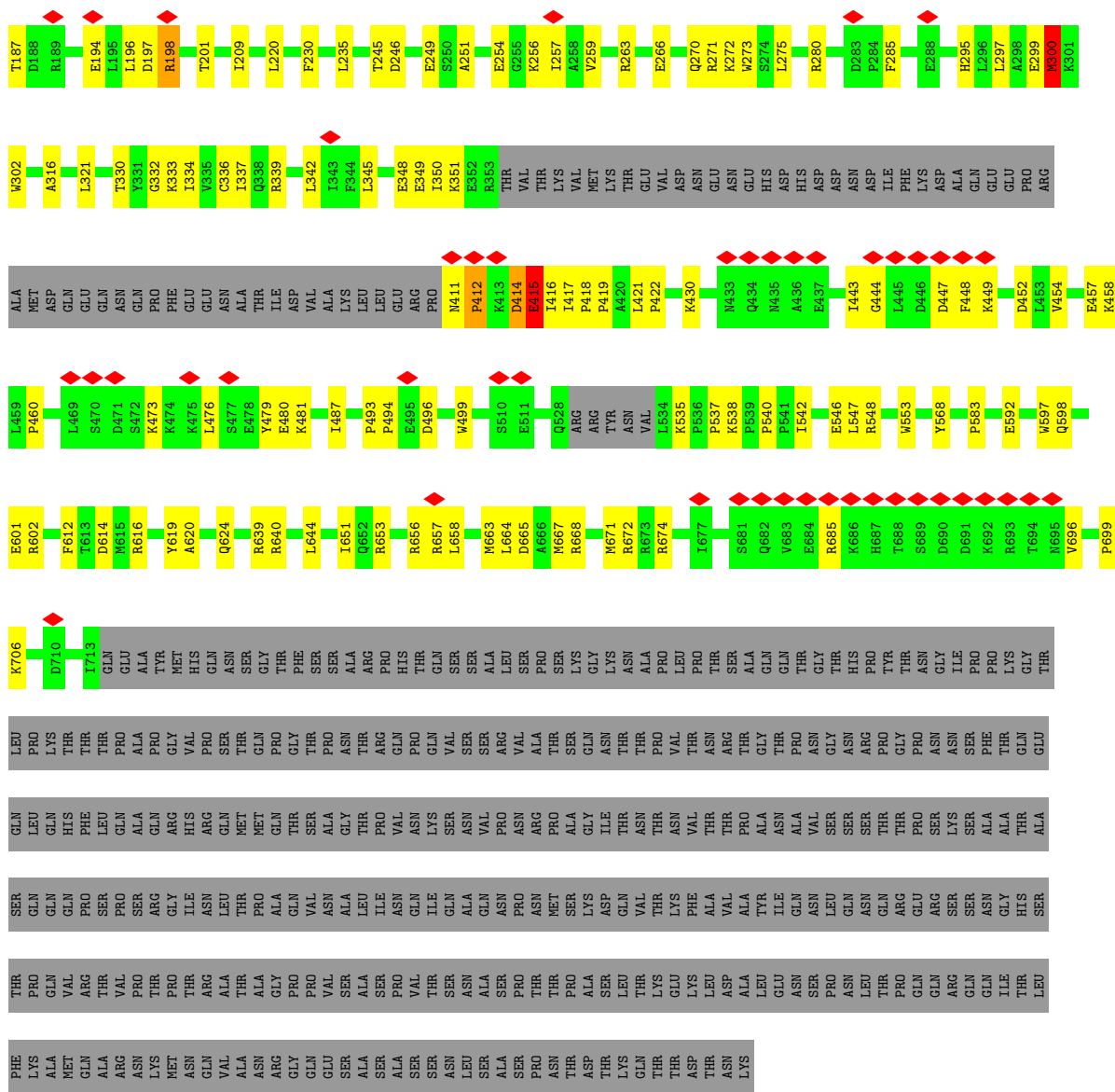
- Molecule 1: Transcription-associated protein



V836	E837	L838	C839	T840	T841	V842	P843	V844	L846	H852	L853	S854	Y855	L856	M857	K858	P859	L880	D883	M884	D899	D900	V901	M902	L905	T922	L923	H924	I925	K928	R934	T935	F936	N942	L943	M956	F957	K958	I959	H960	G961	L962	I970	G973	Y997									
I1001	L1004	M1023	I1026	T1030	I1031	P1032	D1034	E1035	P1036	L1037	M1038	K1039	L1040	H1041	H1042	F1043	P1044	V1045	K1046	D1047	I1048	V1059	E1063	A1068	V1069	V1074	K1079	I1082	R1083	G1084	T1085	C1086	M1087	I1090	F1094	V1098	I1099	L1109	Y1209	P1316	I1317	R1213												
L1322	R1323	A1324	L1325	P1326	F1327	Q1328	M1329	Q1330	I1331	G1332	M1333	I1334	D1335	A1336	I1337	F1347	E1352	E1353	L1354	R1355	N1356	L1357	E1360	L1364	VAL	ASP	ALA	GLU	ASP	GLU	GLU	LEU	SER	LEU	VAL	SER	VAL	A1279	V1283	R1284	E1289	T1293	L1294	S1295	M1198	M1199	L1200	D1204	I1205	Y1209	P1316	I1317	R1213	
I1217	L1221	V1224	L1225	R1226	D1227	E1231	L1232	L1233	T1237	K1241	R1242	L1243	S1247	L1248	W1251	L1255	S1141	T1256	R1257	M1258	L1144	F1261	F1265	Q1266	M1267	L1268	D1275	M1278	A1279	V1283	R1284	E1289	T1293	L1294	S1295	M1198	M1199	L1200	D1204	I1205	Y1209	P1316	I1317	R1213										
L1322	R1323	A1324	L1325	P1326	F1327	Q1328	M1329	Q1330	I1331	G1332	M1333	I1334	D1335	A1336	I1337	F1347	E1352	E1353	L1354	R1355	N1356	L1357	E1360	L1364	VAL	ASP	ALA	GLU	ASP	GLU	GLU	LEU	SER	LEU	VAL	SER	VAL	A1279	V1283	R1284	E1289	T1293	L1294	S1295	M1198	M1199	L1200	D1204	I1205	Y1209	P1316	I1317	R1213	
S1399	L1400	T1403	K1404	A1408	A1409	A1410	A1411	Q1412	R1413	I1416	R1417	I1420	S1432	I1436	R1437	A1438	A1439	H1440	G1441	G1442	L1443	K1444	A1445	V1446	I1447	L1448	LEU	LYS	MET	LYS	LEU	VAL	SER	VAL	A1279	V1283	R1284	E1289	T1293	L1294	S1295	M1198	M1199	L1200	D1204	I1205	Y1209	P1316	I1317	R1213				
P1512	R1513	T1514	L1515	Q1516	Q1517	L1518	G1519	S1520	Q1521	D1522	L1523	E1524	M1525	M1526	S1527	Q1550	I1531	I1535	L1536	D1537	V1538	F1539	H1540	H1547	M1548	F1549	M1550	D1552	A1556	L1557	L1560	E1561	L1564	C1567	F1572	R1573	E1574	P1575	L1576	A1577	K1578	F1591	R1598	E1599	I1600	T1601	T1602	R1603						
F1604	V1605	D1611	R1617	Q1633	GLU	GLY	SER	GLY	GLN	ALA	E1639	K1640	R1643	F1644	S1645	M1646	L1647	V1648	D1649	L1650	C1651	E1652	K1659	E1660	V1661	I1662	K1663	D1664	K1665	L1668	L1672	L1673	S1677	L1680	V1688	P1689	P1691	L1692	Y1693	V1696	D1697	Q1698	G1699	F1700	E1701	L1702	T1703	L1704	Q1704					
L1705	L1706	Y1707	I1708	D1726	K1727	S1729	K1730	E1731	P1734	L1737	E1738	F1739	D1740	I1743	V1747	V1748	LYS	CYS	GLN	ASP	I1753	P1754	T1755	L1760	D1761	T1762	I1763	I1764	R1765	M1766	T1767	V1770	D1774	A1775	R1776	V1777	Y1778	L1779	Y1780	K1781	R1782	I1783	P1786	I1787	C1788	I1789	L1790	Y1791	S1792					
E1793	M1794	H1795	G1796	D1797	L1798	S1799	LEU	SER	THR	GLU	ASN	ASN	PRO	GLU	A1811	H1812	L1813	D1816	I1817	D1817	V1820	W1821	K1822	A1823	T1824	D1830	S1833	Y1839	E1842	L1843	M1844	A1848	A1854	D1860	M1861	R1862	K1863	D1864	I1865	I1866	K1867	F1868	Y1872	L1873	L1875	M1878								
T1879	S1880	K1881	Q1882	Y1885	V1886	A1889	Y1890	S1893	R1894	F1895	ASP	THR	PRO	GLU	SER	GLU	H1913	Q1914	L1915	D1916	T1917	R1918	V1921	A1924	L1925	E1926	L1927	V1931	R1935	THR	ASN	ASN	GLU	GLU	LEU	ASP	W1942	E1952	ASP	GLY	PHE	GLN	ASN	ALA	GLU	ARG	PRO	LYS	V1960	A1961	N1962	I1963	Y1964	Q1965
L1966	I1967	F1970	P1971	V1984	MET	ASN	LEU	THR	SER	L2000	L2020	P2021	SER	SER	GLU	LYS	LEU	GLY	SER	GLN	ARG	PRO	SER	THR	GLU	GLU	GLU	ASP	VAL	LYS	TRP	SER	GLU	ASP	VAL	LYS	GLU	THR	SER	SER	SER	ASP	GLY	PHE	GLN	ALA	PRO	LYS	V1960	A1961	N1962	I1963	Y1964	Q1965
GLY	GLY	ASP	ASP	SER	SER	SER	ASN	ASN	LEU	THR	SER	GLU	ASP	THR	PRO	GLU	VAL	SER	THR	GLN	ARG	PRO	SER	THR	GLU	GLU	GLU	VAL	LYS	TRP	SER	GLU	ASP	VAL	LYS	GLU	THR	SER	SER	ASP	GLY	PHE	GLN	ALA	PRO	LYS	V1960	A1961	N1962	I1963	Y1964	Q1965		
F2085	S2102	THR	GLN	ARG	PRO	SER	THR	GLU	GLU	LYS	S2125	LYS	TRP	SER	GLU	ASP	VAL	LYS	MET	ASP	ILE	ASP	VAL	VAL	GLU	GLU	THR	V2133	K2134	F2141	LEU	MET	SER	SER	SER	ASP	ASP	ASN	GLN	PRO	SER	L2152	SER	K2168	TRP	LYS	PRO	THR						

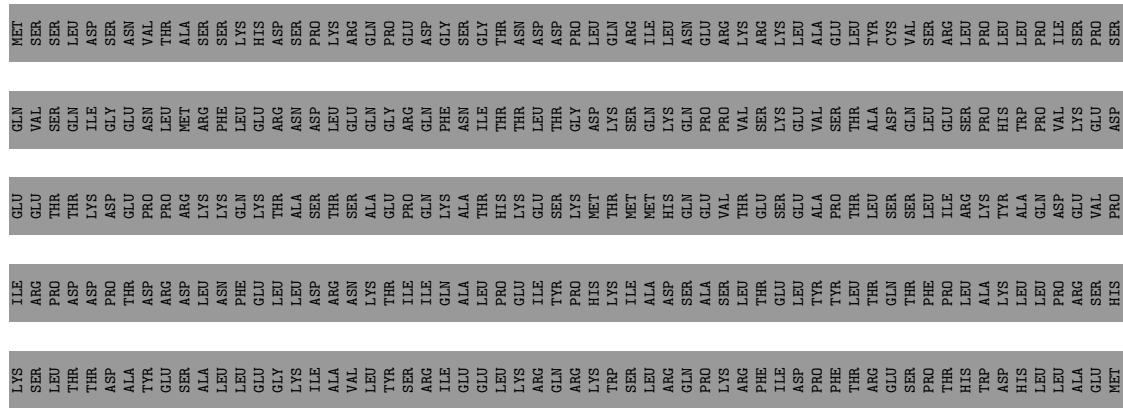


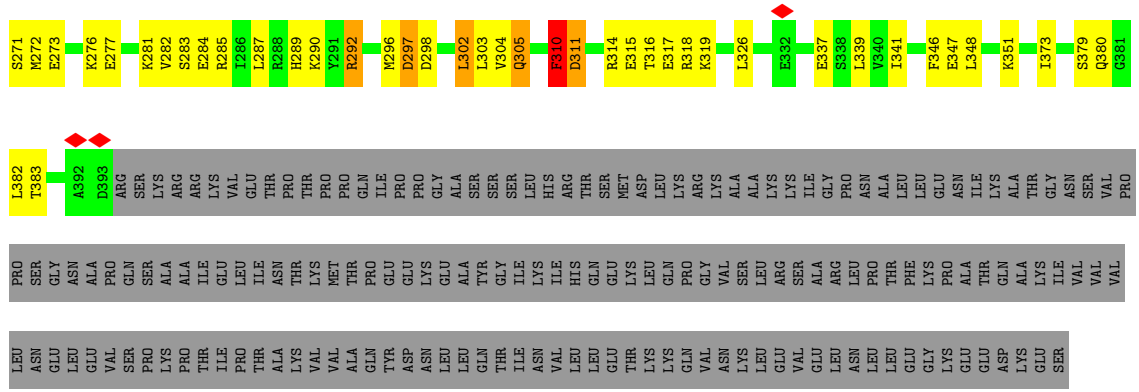
• Molecule 2: Actin



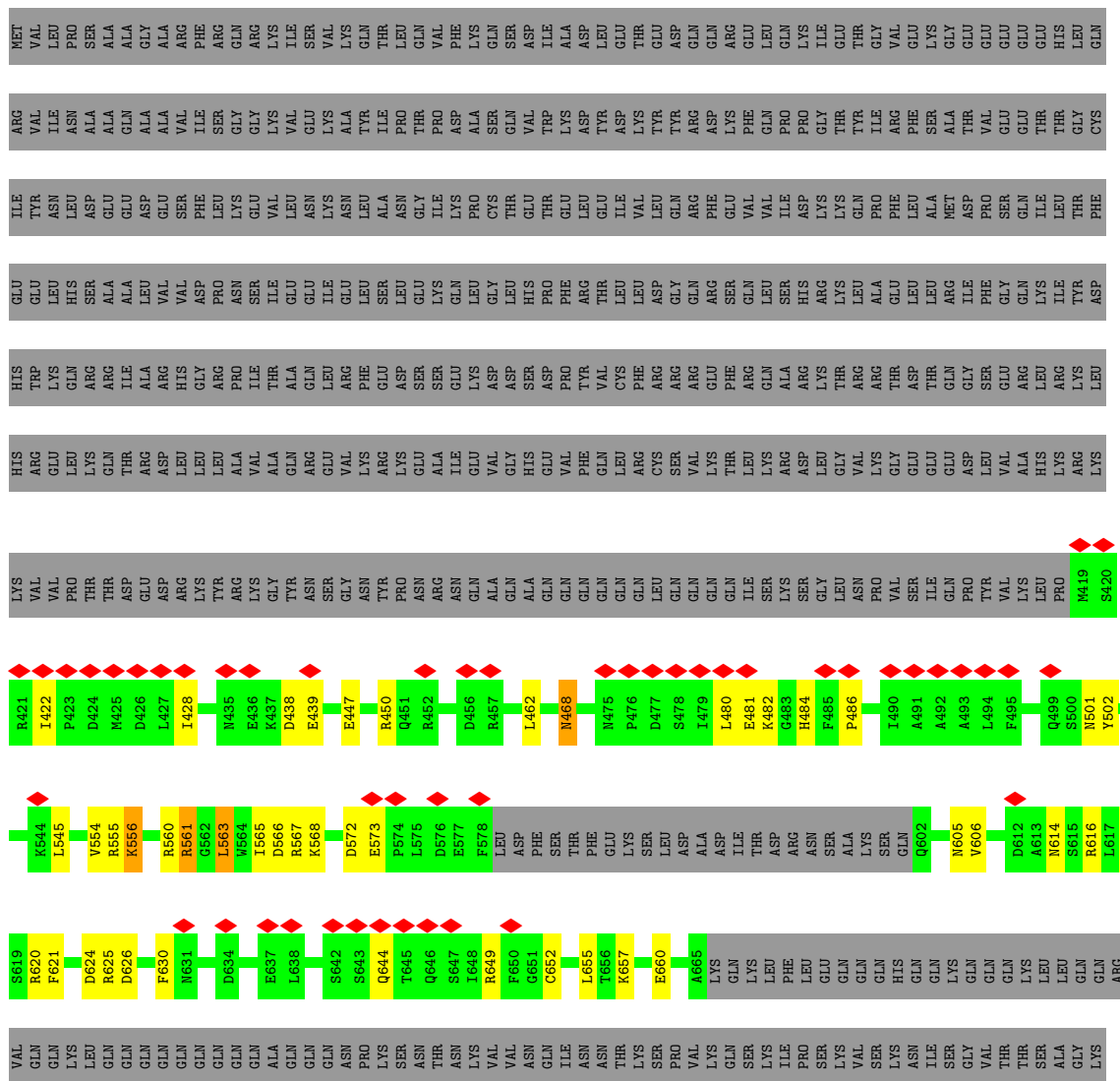
● Molecule 4: Chromatin modification-related protein EAF1

Chain H: . 98%





• Molecule 6: Enhancer of polycomb-like protein



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	518386	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	52.8	Depositor
Minimum defocus (nm)	1400	Depositor
Maximum defocus (nm)	3800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	4.005	Depositor
Minimum map value	-2.188	Depositor
Average map value	0.005	Depositor
Map value standard deviation	0.062	Depositor
Recommended contour level	0.3	Depositor
Map size (Å)	386.176, 386.176, 386.176	wwPDB
Map dimensions	448, 448, 448	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.862, 0.862, 0.862	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: ATP, MG

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	0.25	0/24505	0.47	0/33321
2	B	0.25	0/2795	0.50	0/3788
3	G	0.28	0/3377	0.52	1/4577 (0.0%)
4	E	0.31	0/4044	0.57	2/5478 (0.0%)
4	H	0.68	0/109	1.37	1/151 (0.7%)
5	F	0.45	0/1916	0.80	2/2579 (0.1%)
6	C	0.27	0/1842	0.54	0/2495
All	All	0.28	0/38588	0.52	6/52389 (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
4	E	0	1

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	E	412	PRO	N-CA-CB	8.17	113.10	103.30
3	G	10	ALA	N-CA-CB	-6.94	100.38	110.10
4	H	394	PRO	N-CA-C	-6.54	95.08	112.10
5	F	297	ASP	CB-CA-C	-5.73	98.95	110.40
5	F	310	PHE	N-CA-CB	-5.44	100.81	110.60
4	E	415	GLU	CB-CA-C	-5.29	99.82	110.40

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	E	300	MET	Mainchain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	24052	0	22457	476	0
2	B	2735	0	2704	81	0
3	G	3310	0	3269	80	0
4	E	3952	0	3937	104	0
4	H	110	0	51	1	0
5	F	1877	0	1848	75	0
6	C	1805	0	1782	39	0
7	B	31	0	12	2	0
7	G	31	0	12	3	0
8	B	1	0	0	0	0
8	G	1	0	0	0	0
All	All	37905	0	36072	790	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 11.

All (790) 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)
4:E:411:ASN:CB	4:E:444:GLY:H	1.57	1.17
4:E:411:ASN:CB	4:E:444:GLY:N	2.17	1.07
1:A:1872:TYR:HA	1:A:1875:LEU:HD23	1.56	0.86
2:B:129:ASN:HD21	5:F:70:LYS:HB3	1.40	0.85
1:A:2894:TRP:HA	1:A:3512:VAL:HG23	1.56	0.84
1:A:2853:GLU:HB3	1:A:2906:TRP:HH2	1.43	0.83
5:F:271:SER:HB3	5:F:276:LYS:HD3	1.62	0.82
1:A:1410:ALA:O	1:A:1413:ARG:NH1	2.13	0.81
3:G:256:PRO:HA	3:G:402:ARG:HE	1.44	0.80
1:A:2690:THR:HG1	1:A:2731:TRP:HE1	1.31	0.78
1:A:1913:HIS:HE1	1:A:1963:ILE:HG13	1.48	0.77
5:F:289:HIS:CE1	5:F:305:GLN:HG3	2.21	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1914:GLN:O	1:A:1918:ARG:N	2.20	0.74
4:E:316:ALA:HB2	4:E:421:LEU:HD22	1.69	0.74
2:B:129:ASN:ND2	5:F:70:LYS:HB3	2.01	0.73
1:A:1507:LEU:O	1:A:1511:GLN:NE2	2.20	0.73
2:B:190:LEU:HD13	2:B:193:ILE:HD11	1.69	0.72
1:A:688:LYS:HA	1:A:691:LEU:HD12	1.71	0.72
3:G:445:HIS:HD2	3:G:448:TRP:HE1	1.35	0.72
4:E:411:ASN:CB	4:E:444:GLY:CA	2.67	0.72
1:A:576:MET:HG3	1:A:666:MET:HB2	1.71	0.72
3:G:313:VAL:HA	3:G:362:ARG:HH12	1.53	0.72
1:A:3602:SER:O	1:A:3708:ASN:ND2	2.25	0.70
1:A:2476:GLN:HG2	1:A:2548:ILE:HD12	1.73	0.70
3:G:441:LEU:HD22	4:E:299:GLU:HB3	1.73	0.69
1:A:1518:LEU:HD11	1:A:1526:ASN:HD22	1.55	0.69
2:B:180:ASP:HB3	2:B:270:LEU:HD21	1.75	0.69
2:B:286:CYS:SG	2:B:287:ASP:N	2.65	0.68
4:E:295:HIS:ND1	5:F:113:TYR:HB3	2.09	0.68
1:A:3707:PRO:HG3	4:E:245:THR:HG21	1.74	0.68
4:E:535:LYS:O	4:E:537:PRO:HD3	1.93	0.68
3:G:392:ALA:HB3	7:G:501:ATP:H5'1	1.76	0.68
2:B:179:ILE:HD11	2:B:278:THR:HG21	1.75	0.68
1:A:1611:ASP:HA	1:A:1617:ARG:HH22	1.59	0.68
1:A:3431:GLU:OE2	1:A:3448:LYS:NZ	2.27	0.68
1:A:3084:ILE:HD11	1:A:3106:ILE:HG23	1.75	0.68
1:A:325:HIS:O	1:A:329:HIS:ND1	2.23	0.67
1:A:1549:PHE:HB2	1:A:1552:ASP:HB2	1.76	0.67
3:G:64:PRO:HB2	3:G:229:PHE:HZ	1.60	0.67
4:E:421:LEU:HD12	4:E:422:PRO:HD2	1.76	0.67
1:A:546:PRO:HB2	1:A:547:ILE:HD12	1.76	0.67
2:B:161:THR:HB	2:B:179:ILE:HB	1.75	0.67
2:B:179:ILE:HG22	2:B:181:LEU:H	1.60	0.67
1:A:1599:GLU:HG2	1:A:1600:ILE:HD12	1.76	0.66
1:A:3646:GLN:OE1	1:A:3648:GLN:NE2	2.27	0.66
1:A:773:LEU:HD13	1:A:815:LEU:HD13	1.76	0.66
5:F:123:THR:OG1	5:F:126:GLU:OE1	2.14	0.66
1:A:1069:VAL:HG21	1:A:1142:MET:HG2	1.77	0.66
4:E:671:MET:HG3	5:F:382:LEU:HD12	1.78	0.66
1:A:2792:ARG:NH2	1:A:2902:ASP:OD1	2.28	0.66
1:A:746:CYS:O	1:A:749:SER:OG	2.13	0.65
4:E:411:ASN:CB	4:E:444:GLY:HA3	2.26	0.65
1:A:2766:TRP:NE1	1:A:2902:ASP:OD1	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2375:ALA:HB1	1:A:2417:ARG:HD2	1.79	0.65
1:A:1226:ARG:NH2	1:A:1275:ASP:OD1	2.30	0.65
3:G:248:LYS:HA	3:G:252:LEU:HD23	1.78	0.65
3:G:390:THR:HG22	3:G:391:GLY:H	1.60	0.65
3:G:422:ALA:N	6:C:624:ASP:OD2	2.30	0.65
4:E:182:ARG:HH12	6:C:630:PHE:HA	1.62	0.65
4:E:653:ARG:NH2	4:E:658:LEU:O	2.31	0.64
4:E:665:ASP:OD1	4:E:668:ARG:NH2	2.30	0.64
2:B:201:PHE:HB3	2:B:206:GLU:HB3	1.78	0.64
1:A:2598:GLN:O	1:A:2601:ARG:NH2	2.31	0.64
1:A:2665:LEU:HD21	1:A:2680:THR:HB	1.80	0.64
2:B:37:GLY:HA3	2:B:66:LEU:HD13	1.78	0.64
1:A:416:LEU:HD11	1:A:574:THR:HB	1.79	0.63
1:A:620:LEU:HG	1:A:623:ARG:HH21	1.63	0.63
1:A:1915:ILE:HA	1:A:1918:ARG:HG2	1.79	0.63
1:A:3116:ALA:O	1:A:3121:LYS:NZ	2.31	0.63
2:B:242:GLU:HA	2:B:248:VAL:HA	1.80	0.63
4:E:297:LEU:O	4:E:300:MET:HB3	1.98	0.63
1:A:1255:LEU:HB3	1:A:1261:PHE:HE1	1.64	0.63
2:B:360:LYS:HG2	5:F:71:PRO:HG3	1.80	0.63
1:A:1659:LYS:NZ	1:A:1660:GLU:OE2	2.32	0.62
4:E:664:LEU:HA	4:E:667:MET:HG3	1.81	0.62
1:A:1591:PHE:HD2	1:A:1604:PHE:HD1	1.47	0.62
2:B:84:GLU:HA	2:B:87:TRP:CE3	2.35	0.62
3:G:191:LEU:HD22	3:G:293:LEU:HD21	1.80	0.62
3:G:446:GLN:HA	5:F:84:ARG:HG2	1.81	0.62
3:G:300:PRO:HG2	3:G:361:PRO:HB2	1.81	0.62
1:A:394:TYR:HE1	1:A:414:LEU:HD13	1.64	0.62
1:A:1605:VAL:HG22	1:A:1650:LEU:HD23	1.81	0.62
4:E:448:PHE:HB3	4:E:452:ASP:HB2	1.81	0.62
5:F:81:ASN:C	5:F:83:ALA:H	2.03	0.62
1:A:1703:LEU:HA	1:A:1706:LEU:HD12	1.81	0.62
1:A:388:TRP:CZ3	1:A:1691:PRO:HD2	2.35	0.61
1:A:1209:TYR:OH	1:A:1213:ARG:NH1	2.32	0.61
1:A:1747:VAL:HA	1:A:1787:ILE:HD13	1.81	0.61
1:A:811:LEU:HD11	1:A:1382:LYS:HG3	1.81	0.61
4:E:417:ILE:HG13	6:C:563:LEU:HB2	1.80	0.61
1:A:1352:GLU:HB3	1:A:1356:ARG:HH12	1.65	0.61
1:A:2665:LEU:HD13	1:A:2681:TRP:CE2	2.35	0.61
4:E:535:LYS:HE2	4:E:616:ARG:HB3	1.83	0.61
1:A:2446:GLU:HG3	1:A:2448:ASP:H	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2690:THR:OG1	1:A:2731:TRP:NE1	2.23	0.61
4:E:597:TRP:NE1	4:E:601:GLU:OE2	2.34	0.60
1:A:3639:ILE:HD12	1:A:3784:VAL:HG22	1.83	0.60
3:G:145:PHE:HA	4:E:300:MET:HE3	1.84	0.60
4:E:546:GLU:O	4:E:639:ARG:NH1	2.34	0.60
1:A:1925:LEU:HB3	1:A:1967:ILE:HD13	1.84	0.59
1:A:1023:MET:HA	1:A:1026:ILE:HG12	1.84	0.59
1:A:1398:LEU:HD12	1:A:1420:ILE:HD12	1.85	0.59
1:A:1792:SER:HA	1:A:1795:HIS:HB3	1.84	0.59
3:G:9:GLY:HA2	4:E:302:TRP:CH2	2.38	0.59
1:A:689:GLN:HB3	1:A:696:LEU:HD13	1.84	0.59
1:A:1727:LYS:HA	1:A:1730:LYS:HE2	1.83	0.59
1:A:416:LEU:O	1:A:419:ILE:HG22	2.03	0.59
1:A:1063:GLU:HG3	1:A:1130:TYR:CD2	2.38	0.59
1:A:1964:TYR:HA	1:A:1967:ILE:HG22	1.84	0.59
3:G:376:ASP:OD1	3:G:377:VAL:N	2.35	0.59
2:B:89:HIS:HD2	2:B:93:ASN:HB2	1.67	0.59
1:A:1004:LEU:HD13	1:A:2488:ILE:HG22	1.83	0.59
1:A:1918:ARG:HA	1:A:1921:VAL:HG22	1.84	0.59
4:E:332:GLY:O	4:E:334:ILE:N	2.36	0.59
2:B:96:ARG:NE	4:E:345:LEU:O	2.30	0.58
1:A:1574:GLU:HG3	1:A:1575:PRO:HD3	1.85	0.58
1:A:3502:ARG:NH2	1:A:3524:PRO:O	2.36	0.58
1:A:3511:LYS:NZ	1:A:3737:GLU:OE2	2.35	0.58
1:A:3513:GLN:OE1	1:A:3517:ARG:NH1	2.32	0.58
1:A:3703:PHE:HE2	1:A:3804:LEU:HB3	1.66	0.58
1:A:1352:GLU:HB3	1:A:1356:ARG:NH1	2.18	0.58
1:A:802:GLU:HB2	1:A:844:VAL:HG23	1.86	0.58
1:A:1079:LYS:HG3	1:A:1142:MET:HE1	1.85	0.58
1:A:1523:LEU:HD11	1:A:1564:LEU:HD21	1.84	0.58
1:A:331:LEU:HD13	1:A:373:ASP:HB2	1.85	0.58
1:A:432:ARG:NH1	1:A:582:SER:O	2.36	0.58
4:E:499:TRP:HE1	6:C:555:ARG:NH2	2.02	0.58
1:A:1680:LEU:HB2	1:A:1700:PHE:HZ	1.69	0.57
1:A:3443:ASN:O	1:A:3443:ASN:ND2	2.37	0.57
3:G:48:LYS:HD3	3:G:66:PRO:HB2	1.86	0.57
3:G:251:LEU:HD11	3:G:275:PHE:HB2	1.85	0.57
4:E:651:ILE:HG21	4:E:657:ARG:HB2	1.84	0.57
1:A:444:LYS:O	1:A:448:MET:HG3	2.05	0.57
2:B:114:LYS:NZ	3:G:31:SER:OG	2.36	0.57
2:B:132:ALA:HB1	2:B:357:TRP:HB3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3570:LYS:HD3	6:C:644:GLN:HE21	1.69	0.57
2:B:103:PRO:HB3	2:B:132:ALA:HB3	1.86	0.57
4:E:332:GLY:C	4:E:334:ILE:H	2.08	0.57
1:A:435:LEU:HA	1:A:438:ILE:HD12	1.87	0.57
1:A:1726:ASP:O	1:A:1730:LYS:NZ	2.26	0.57
4:E:542:ILE:HD11	4:E:548:ARG:HD2	1.87	0.57
1:A:2856:GLU:OE1	1:A:2889:ARG:NH2	2.38	0.57
1:A:764:HIS:NE2	1:A:1525:ASN:OD1	2.28	0.57
4:E:245:THR:O	4:E:249:GLU:HG2	2.03	0.57
1:A:1677:SER:HA	1:A:1730:LYS:HD2	1.86	0.57
4:H:403:VAL:HA	4:H:406:LEU:CB	2.34	0.57
3:G:204:PRO:HD2	3:G:207:LYS:HD2	1.86	0.56
3:G:24:ARG:HD3	3:G:38:ASN:HB2	1.88	0.56
3:G:155:VAL:HG23	3:G:164:ILE:HG12	1.87	0.56
1:A:325:HIS:O	1:A:328:ARG:HG3	2.06	0.56
1:A:2853:GLU:HB3	1:A:2906:TRP:CH2	2.31	0.56
1:A:1189:LYS:HE2	1:A:1227:ASP:HB3	1.87	0.56
1:A:1861:MET:O	1:A:1865:ILE:HG13	2.06	0.56
2:B:220:VAL:HG22	2:B:259:PRO:HB3	1.87	0.56
1:A:1817:ASP:HA	1:A:1821:TRP:CZ3	2.41	0.56
1:A:3643:ASN:OD1	1:A:3667:THR:OG1	2.24	0.56
2:B:152:ILE:HD11	2:B:283:ILE:HD13	1.86	0.56
3:G:48:LYS:HB2	3:G:67:ASP:HB3	1.86	0.56
1:A:394:TYR:CE1	1:A:414:LEU:HD13	2.41	0.56
1:A:1652:GLU:OE2	1:A:1702:THR:HB	2.05	0.56
1:A:1886:VAL:HG22	1:A:1924:ALA:HB2	1.88	0.56
4:E:194:GLU:HG3	4:E:201:THR:HG21	1.87	0.56
4:E:419:PRO:HB2	6:C:567:ARG:HH21	1.71	0.56
1:A:1411:GLN:HE22	1:A:1417:ARG:HB3	1.71	0.56
6:C:556:LYS:HZ1	6:C:563:LEU:HB3	1.71	0.56
1:A:456:ILE:HG12	1:A:557:LEU:HB3	1.86	0.56
1:A:3508:LEU:HD11	1:A:3729:ILE:HG12	1.88	0.56
1:A:704:LEU:HD13	1:A:749:SER:HB3	1.87	0.56
4:E:414:ASP:O	4:E:415:GLU:C	2.43	0.56
1:A:428:LYS:HG3	1:A:431:SER:H	1.71	0.55
5:F:292:ARG:CG	5:F:297:ASP:HB2	2.35	0.55
1:A:1200:LEU:HD12	1:A:1243:LEU:HD21	1.87	0.55
3:G:113:ASN:HB3	3:G:118:LYS:HE3	1.89	0.55
1:A:314:SER:HA	1:A:320:ARG:HH12	1.72	0.55
1:A:1327:PHE:HB3	1:A:1386:GLN:NE2	2.21	0.55
4:E:209:ILE:HD11	4:E:496:ASP:HA	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:687:TYR:CZ	1:A:691:LEU:HD21	2.41	0.55
1:A:3156:HIS:ND1	1:A:3160:GLN:OE1	2.39	0.55
2:B:270:LEU:HG	2:B:272:ALA:H	1.72	0.55
1:A:1639:GLU:O	1:A:1643:ARG:NH2	2.40	0.55
2:B:167:TYR:CE1	4:E:430:LYS:HE3	2.42	0.55
1:A:961:GLY:HA3	1:A:2449:ILE:HG22	1.89	0.55
1:A:1878:ASN:OD1	1:A:1879:THR:N	2.39	0.55
2:B:83:MET:HE3	2:B:87:TRP:CE2	2.42	0.55
1:A:1591:PHE:CD2	1:A:1604:PHE:HD1	2.24	0.55
1:A:2710:GLU:OE2	4:E:674:ARG:NH2	2.40	0.55
1:A:3167:GLN:HE21	1:A:3300:LEU:HD12	1.71	0.55
1:A:3629:GLN:HG3	1:A:3658:ASN:HA	1.88	0.55
2:B:87:TRP:HA	2:B:90:THR:HG22	1.89	0.55
6:C:438:ASP:OD1	6:C:439:GLU:N	2.40	0.55
1:A:825:GLU:OE1	1:A:832:ARG:NH1	2.39	0.55
2:B:347:LEU:HD12	2:B:350:LEU:HD12	1.89	0.55
1:A:1515:LEU:HD22	1:A:1564:LEU:HB2	1.89	0.54
1:A:774:LYS:O	1:A:777:THR:OG1	2.19	0.54
1:A:1762:THR:O	1:A:1765:ARG:HG3	2.07	0.54
1:A:3701:VAL:HG23	1:A:3808:ALA:HA	1.90	0.54
2:B:325:SER:HB2	6:C:605:ASN:HD22	1.72	0.54
1:A:3550:GLU:OE2	1:A:3560:ARG:NH1	2.39	0.54
1:A:691:LEU:HD22	1:A:735:LYS:HG2	1.90	0.54
5:F:310:PHE:CG	5:F:311:ASP:N	2.74	0.54
2:B:30:THR:HG21	2:B:94:GLU:HB3	1.90	0.54
4:E:494:PRO:HB3	6:C:501:ASN:HD21	1.72	0.54
1:A:1518:LEU:HD13	1:A:1521:GLN:HB2	1.89	0.54
1:A:3429:ASP:HB2	1:A:3448:LYS:HD3	1.90	0.54
1:A:1913:HIS:CD2	1:A:1921:VAL:HG21	2.43	0.54
3:G:75:LYS:NZ	3:G:80:ASP:OD2	2.38	0.54
3:G:465:ASP:O	5:F:253:LYS:NZ	2.36	0.54
1:A:934:ARG:HD2	1:A:2842:ILE:HG12	1.90	0.53
1:A:1133:SER:HB2	1:A:1191:ALA:HB2	1.89	0.53
1:A:3136:ILE:HD13	1:A:3161:ILE:HD11	1.88	0.53
1:A:3767:ASN:OD1	1:A:3768:GLN:N	2.41	0.53
2:B:12:ASP:HB3	2:B:19:LYS:HB2	1.90	0.53
1:A:2908:GLN:NE2	1:A:2949:ILE:HD11	2.23	0.53
5:F:106:SER:O	5:F:108:TYR:N	2.42	0.53
6:C:620:ARG:HH21	6:C:621:PHE:HZ	1.56	0.53
1:A:765:LEU:HD11	1:A:792:LEU:HD11	1.89	0.53
5:F:292:ARG:HB3	5:F:297:ASP:HB2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2762:LEU:HG	1:A:2767:ARG:HH12	1.72	0.53
2:B:296:SER:OG	2:B:297:ASN:OD1	2.25	0.53
1:A:3574:ALA:O	6:C:649:ARG:NH1	2.42	0.53
5:F:237:ALA:HB1	5:F:239:TRP:CD1	2.43	0.53
1:A:1432:SER:O	1:A:1436:ILE:HG12	2.09	0.53
1:A:1890:TYR:HE1	1:A:1927:LEU:HG	1.73	0.53
1:A:1664:ASP:OD1	1:A:1665:LYS:NZ	2.36	0.53
1:A:1763:ILE:O	1:A:1780:TYR:OH	2.27	0.53
1:A:1915:ILE:HD12	1:A:1918:ARG:HD2	1.90	0.53
1:A:2764:CYS:O	1:A:2769:ALA:N	2.41	0.53
1:A:970:ILE:HD11	1:A:2543:ILE:HG21	1.91	0.53
1:A:2823:ILE:O	1:A:2827:LEU:HD23	2.09	0.53
1:A:3539:ASP:OD1	1:A:3540:LYS:N	2.42	0.53
2:B:143:LEU:HB2	2:B:153:VAL:HG21	1.91	0.53
1:A:1660:GLU:HA	1:A:1663:LYS:HD3	1.91	0.52
4:E:592:GLU:OE2	4:E:656:ARG:NH2	2.42	0.52
1:A:1704:GLN:O	1:A:1708:ILE:HG12	2.10	0.52
1:A:1748:VAL:HG22	1:A:1790:TYR:HE2	1.74	0.52
1:A:1881:LYS:O	1:A:1885:TYR:HD1	1.92	0.52
1:A:2884:GLN:NE2	1:A:2888:GLU:OE2	2.35	0.52
1:A:2601:ARG:HB2	1:A:2602:PRO:HD3	1.91	0.52
6:C:568:LYS:HB2	6:C:626:ASP:HB3	1.91	0.52
1:A:350:ARG:CZ	1:A:367:ALA:HB1	2.39	0.52
1:A:2457:ILE:HG13	1:A:2581:PHE:HE1	1.74	0.52
1:A:3579:LEU:HD11	6:C:649:ARG:NE	2.25	0.52
1:A:1068:ALA:HB1	1:A:1074:VAL:HG11	1.92	0.52
3:G:23:TYR:N	7:G:501:ATP:O2B	2.27	0.52
3:G:119:THR:HB	3:G:460:LYS:HE3	1.92	0.52
1:A:1813:LEU:HA	1:A:1816:PHE:HB3	1.90	0.52
3:G:228:ASP:OD1	3:G:229:PHE:N	2.42	0.52
1:A:691:LEU:HD22	1:A:735:LYS:HE3	1.92	0.52
1:A:905:LEU:HD22	1:A:922:THR:HG23	1.91	0.52
1:A:3066:ASN:HD21	1:A:3082:ASN:HB2	1.75	0.52
3:G:411:ASN:HD21	3:G:414:LEU:HD23	1.75	0.52
4:E:220:LEU:N	5:F:347:GLU:OE2	2.43	0.52
4:E:535:LYS:NZ	4:E:614:ASP:O	2.26	0.52
1:A:685:PHE:HE1	1:A:689:GLN:HE21	1.56	0.52
1:A:2791:PRO:O	1:A:2795:ILE:HD12	2.10	0.52
2:B:211:ARG:O	2:B:215:GLU:HG3	2.09	0.52
3:G:13:ILE:HG22	3:G:15:ALA:HB2	1.92	0.52
1:A:883:ASP:OD1	1:A:884:ASN:ND2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:190:GLN:O	3:G:193:GLN:HG3	2.10	0.52
6:C:657:LYS:O	6:C:660:GLU:HG3	2.10	0.52
1:A:364:ARG:HD2	1:A:403:LEU:HD21	1.92	0.51
1:A:3064:PHE:HZ	1:A:3101:LYS:HD2	1.75	0.51
2:B:165:PRO:HG2	2:B:175:ALA:HB1	1.93	0.51
1:A:1147:VAL:HA	1:A:1150:ILE:HD12	1.92	0.51
1:A:1399:SER:O	1:A:1403:THR:OG1	2.17	0.51
4:E:280:ARG:HH22	4:E:480:GLU:HG3	1.75	0.51
1:A:1079:LYS:HG2	1:A:1083:ARG:NE	2.26	0.51
2:B:84:GLU:HA	2:B:87:TRP:HE3	1.72	0.51
1:A:1325:LEU:HD12	1:A:1329:MET:HG2	1.92	0.51
1:A:1747:VAL:HG12	1:A:1790:TYR:HD2	1.75	0.51
1:A:3704:ARG:NH2	1:A:3825:LEU:O	2.39	0.51
3:G:308:SER:O	3:G:310:PRO:HD3	2.11	0.51
4:E:336:CYS:SG	4:E:337:ILE:N	2.83	0.51
1:A:375:ILE:HG23	1:A:382:LEU:HD11	1.91	0.51
1:A:1140:ARG:O	1:A:1144:LEU:HG	2.11	0.51
1:A:1913:HIS:CE1	1:A:1963:ILE:HG13	2.38	0.51
1:A:2605:ILE:HG21	1:A:2632:TYR:HD2	1.76	0.51
3:G:454:TYR:HE1	3:G:460:LYS:HD2	1.74	0.51
1:A:1680:LEU:HB2	1:A:1700:PHE:CZ	2.45	0.51
2:B:311:ALA:HA	2:B:330:ILE:HD13	1.93	0.51
1:A:411:SER:O	1:A:415:LEU:HD23	2.11	0.51
1:A:2692:ALA:HA	1:A:3796:VAL:HG23	1.93	0.51
4:E:197:ASP:OD1	4:E:198:ARG:N	2.44	0.51
4:E:246:ASP:OD1	6:C:484:HIS:NE2	2.35	0.51
1:A:1688:VAL:HG13	1:A:1691:PRO:HD3	1.93	0.51
3:G:250:THR:HB	6:C:606:VAL:HG21	1.93	0.51
5:F:292:ARG:CB	5:F:297:ASP:HB2	2.40	0.51
1:A:880:LEU:O	1:A:884:ASN:ND2	2.43	0.50
5:F:81:ASN:C	5:F:83:ALA:N	2.64	0.50
1:A:717:LEU:HD22	1:A:746:CYS:HB2	1.92	0.50
1:A:3653:ASN:OD1	1:A:3654:GLU:N	2.44	0.50
5:F:268:ASP:OD2	5:F:270:ARG:HG3	2.11	0.50
1:A:721:LEU:HB3	1:A:743:PHE:CZ	2.46	0.50
1:A:899:ASP:OD1	1:A:900:ASP:N	2.44	0.50
1:A:1661:TRP:O	1:A:1665:LYS:NZ	2.34	0.50
1:A:1680:LEU:HD22	1:A:1730:LYS:HA	1.93	0.50
1:A:3652:ILE:HG22	1:A:3659:ILE:HD12	1.92	0.50
5:F:237:ALA:HB1	5:F:239:TRP:HD1	1.76	0.50
6:C:614:ASN:OD1	6:C:618:ARG:NH2	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2904:VAL:O	1:A:2908:GLN:HG2	2.11	0.50
1:A:3059:TRP:HB3	1:A:3090:ALA:HB2	1.93	0.50
1:A:3517:ARG:HD3	1:A:3725:TYR:CE1	2.47	0.50
4:E:416:ILE:HG22	4:E:444:GLY:HA3	1.93	0.50
1:A:312:CYS:SG	1:A:320:ARG:NH2	2.85	0.50
1:A:956:MET:HE3	1:A:956:MET:HA	1.93	0.50
1:A:1648:VAL:O	1:A:1652:GLU:OE1	2.30	0.50
1:A:1322:LEU:O	1:A:1330:GLN:NE2	2.43	0.50
5:F:83:ALA:HB3	5:F:114:ASN:HD22	1.76	0.50
1:A:439:ILE:O	1:A:443:THR:HG23	2.10	0.50
1:A:583:ASN:HD21	1:A:601:ARG:HH21	1.58	0.50
1:A:1257:ARG:HE	1:A:1258:ASN:H	1.60	0.50
1:A:1503:LEU:HD22	1:A:1549:PHE:CD2	2.47	0.50
1:A:1262:SER:HA	1:A:1266:GLN:HB2	1.94	0.49
4:E:487:ILE:HD11	5:F:326:LEU:HD22	1.94	0.49
1:A:367:ALA:O	1:A:370:THR:OG1	2.23	0.49
1:A:846:LEU:HD22	1:A:880:LEU:HG	1.93	0.49
1:A:3064:PHE:CZ	1:A:3101:LYS:HD2	2.47	0.49
3:G:7:VAL:HG11	5:F:109:LEU:HD13	1.94	0.49
1:A:790:ARG:HB2	1:A:838:LEU:HD21	1.93	0.49
2:B:301:SER:OG	2:B:302:GLY:N	2.45	0.49
2:B:318:LEU:HD23	2:B:322:ALA:HB2	1.94	0.49
1:A:1574:GLU:O	1:A:1578:LYS:NZ	2.44	0.49
1:A:1760:LEU:HD21	1:A:1787:ILE:HG21	1.94	0.49
1:A:1915:ILE:O	1:A:1918:ARG:HG2	2.12	0.49
1:A:1960:VAL:HG12	1:A:1964:TYR:CE2	2.48	0.49
3:G:66:PRO:HA	3:G:229:PHE:CG	2.46	0.49
1:A:3501:PHE:HB2	1:A:3523:LEU:HD21	1.92	0.49
4:E:458:LYS:HD2	6:C:523:PHE:CE1	2.48	0.49
1:A:1315:ALA:HB3	1:A:1316:PRO:HD3	1.95	0.49
1:A:1531:ILE:O	1:A:1535:ILE:HG12	2.12	0.49
1:A:3501:PHE:CE1	1:A:3636:MET:HG3	2.48	0.49
2:B:276:ASP:OD2	2:B:317:GLU:HB3	2.13	0.49
1:A:1333:ASN:O	1:A:1337:ILE:HG12	2.13	0.49
1:A:2270:LEU:HA	1:A:2314:GLU:HA	1.95	0.49
2:B:138:GLN:HB2	2:B:340:VAL:HG21	1.95	0.49
3:G:157:LEU:O	3:G:393:THR:OG1	2.22	0.49
1:A:346:LEU:HB2	1:A:349:LEU:HD23	1.95	0.49
1:A:1557:LEU:HD22	1:A:1576:LEU:HG	1.94	0.49
1:A:3586:SER:OG	6:C:652:CYS:SG	2.47	0.49
3:G:49:ASP:N	3:G:49:ASP:OD1	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:114:LYS:HB2	2:B:372:HIS:NE2	2.28	0.49
2:B:240:SER:HB3	2:B:250:THR:HG22	1.94	0.49
4:E:447:ASP:OD1	4:E:448:PHE:N	2.46	0.49
3:G:145:PHE:HA	4:E:300:MET:CE	2.42	0.48
1:A:341:PRO:HD3	1:A:374:PHE:HZ	1.78	0.48
1:A:1144:LEU:HB3	1:A:1198:MET:HE1	1.95	0.48
1:A:2674:ASP:OD1	1:A:2839:ARG:NH1	2.46	0.48
2:B:33:PRO:HB2	2:B:35:VAL:HG23	1.95	0.48
1:A:407:VAL:O	1:A:410:MET:HG3	2.13	0.48
1:A:1311:HIS:HA	1:A:1314:LEU:HB2	1.94	0.48
1:A:1753:ILE:HG22	1:A:1755:THR:HG22	1.95	0.48
1:A:1763:ILE:O	1:A:1767:THR:OG1	2.27	0.48
1:A:3586:SER:HB2	6:C:655:LEU:HD22	1.96	0.48
1:A:928:LYS:HG3	1:A:2889:ARG:NH1	2.29	0.48
3:G:372:LEU:HA	3:G:375:LEU:HD12	1.94	0.48
5:F:315:GLU:OE1	5:F:318:ARG:HD3	2.14	0.48
1:A:2523:ASP:O	1:A:2527:LYS:HG2	2.13	0.48
1:A:2696:TYR:CE2	1:A:3797:ALA:HB2	2.49	0.48
1:A:3431:GLU:HA	1:A:3448:LYS:HA	1.95	0.48
1:A:1278:ASN:O	1:A:1284:ARG:NH1	2.46	0.48
1:A:1792:SER:O	1:A:1795:HIS:ND1	2.25	0.48
2:B:118:GLU:HG2	2:B:372:HIS:HE1	1.79	0.48
5:F:103:ALA:O	5:F:104:LYS:HB2	2.12	0.48
5:F:304:VAL:O	5:F:305:GLN:C	2.51	0.48
1:A:1237:THR:HG22	1:A:1241:LYS:HE2	1.96	0.48
3:G:445:HIS:CD2	3:G:448:TRP:HE1	2.25	0.48
3:G:453:GLU:HG3	5:F:88:ASP:OD2	2.13	0.48
1:A:416:LEU:O	1:A:416:LEU:HD23	2.13	0.48
1:A:1221:LEU:HD11	1:A:1243:LEU:HD22	1.95	0.48
1:A:1416:ILE:O	1:A:1420:ILE:HG12	2.14	0.48
3:G:389:LEU:HD13	3:G:418:ILE:HD11	1.94	0.48
1:A:301:ILE:O	1:A:305:ILE:HG12	2.14	0.48
1:A:1598:ARG:HA	1:A:1646:ASN:HD21	1.77	0.48
1:A:2681:TRP:CZ2	4:E:583:PRO:HB2	2.49	0.48
1:A:1645:SER:HA	1:A:1648:VAL:HG22	1.96	0.47
4:E:553:TRP:CD2	4:E:602:ARG:HG2	2.49	0.47
5:F:130:PHE:HZ	5:F:287:LEU:HB2	1.79	0.47
1:A:2688:PHE:HZ	1:A:3795:ASN:HA	1.79	0.47
2:B:217:LEU:HD13	2:B:255:ARG:HG2	1.94	0.47
5:F:292:ARG:HE	5:F:292:ARG:HA	1.79	0.47
1:A:1762:THR:O	1:A:1766:MET:HG3	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:339:ARG:HH21	4:E:342:LEU:HD21	1.79	0.47
1:A:434:LEU:O	1:A:438:ILE:HG13	2.15	0.47
1:A:3555:ARG:NH1	1:A:3611:GLU:OE2	2.48	0.47
1:A:3703:PHE:CE2	1:A:3804:LEU:HB3	2.49	0.47
3:G:142:CYS:SG	3:G:435:GLY:N	2.87	0.47
4:E:273:TRP:NE1	4:E:275:LEU:HB2	2.29	0.47
4:E:499:TRP:HE1	6:C:555:ARG:CZ	2.27	0.47
1:A:836:VAL:HG12	1:A:859:PRO:HB3	1.95	0.47
1:A:1525:ASN:HA	1:A:1530:GLN:HE22	1.79	0.47
1:A:3082:ASN:HB3	4:E:699:PRO:CG	2.44	0.47
2:B:156:SER:HB2	2:B:161:THR:HG23	1.97	0.47
1:A:1392:VAL:HG23	1:A:1438:ALA:HB2	1.97	0.47
1:A:3133:TRP:HE1	1:A:3441:ASP:HA	1.80	0.47
4:E:540:PRO:HG3	4:E:619:TYR:CE2	2.50	0.47
1:A:1323:ARG:NH1	1:A:1323:ARG:HA	2.29	0.47
1:A:1357:LEU:O	1:A:1360:GLU:HG3	2.14	0.47
1:A:3053:LEU:HB3	4:E:706:LYS:HD3	1.96	0.47
5:F:272:MET:O	5:F:276:LYS:HG2	2.15	0.47
1:A:2795:ILE:HG13	1:A:2851:TYR:CE1	2.50	0.47
4:E:640:ARG:HG2	4:E:644:LEU:HD23	1.96	0.47
6:C:545:LEU:HD23	6:C:545:LEU:H	1.80	0.47
1:A:580:LYS:HD2	1:A:669:HIS:HB3	1.96	0.47
1:A:1334:ILE:HG13	1:A:1397:LEU:HD22	1.97	0.47
1:A:1854:ALA:HB2	1:A:1894:ARG:HD2	1.97	0.47
3:G:382:GLN:HA	4:E:479:TYR:CE2	2.50	0.47
1:A:447:LYS:HE2	1:A:617:GLU:OE2	2.15	0.47
1:A:2707:GLN:HA	1:A:2710:GLU:OE1	2.14	0.47
5:F:79:PHE:O	5:F:80:SER:HB3	2.14	0.47
6:C:482:LYS:HD2	6:C:540:ALA:HA	1.97	0.47
1:A:376:HIS:O	1:A:379:ARG:NH1	2.48	0.46
1:A:1314:LEU:HD21	1:A:1347:PHE:CE1	2.50	0.46
1:A:1704:GLN:NE2	1:A:1734:PRO:HA	2.30	0.46
5:F:109:LEU:O	5:F:110:PHE:HB2	2.15	0.46
1:A:415:LEU:HD12	1:A:438:ILE:HG12	1.96	0.46
2:B:347:LEU:HD21	4:E:321:LEU:HD21	1.97	0.46
4:E:658:LEU:HD13	6:C:422:ILE:HB	1.98	0.46
5:F:282:VAL:HA	5:F:285:ARG:HG2	1.96	0.46
5:F:298:ASP:HA	5:F:302:LEU:HB3	1.98	0.46
1:A:583:ASN:HB2	1:A:597:ASN:HA	1.97	0.46
1:A:2767:ARG:HG2	1:A:2905:THR:HG21	1.97	0.46
1:A:3545:LEU:HD13	1:A:3650:ILE:HG13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:167:TYR:CZ	4:E:430:LYS:HE3	2.50	0.46
3:G:145:PHE:HE2	3:G:438:LEU:HD13	1.79	0.46
4:E:345:LEU:HD13	4:E:349:GLU:HB2	1.97	0.46
1:A:1258:ASN:HA	1:A:1261:PHE:HB2	1.98	0.46
1:A:3430:ILE:O	1:A:3449:ILE:HG22	2.16	0.46
4:E:263:ARG:HG3	5:F:339:LEU:HD21	1.97	0.46
5:F:110:PHE:HA	5:F:113:TYR:HD2	1.79	0.46
1:A:620:LEU:HD12	1:A:623:ARG:HE	1.79	0.46
2:B:211:ARG:O	2:B:214:LYS:HG3	2.15	0.46
3:G:426:GLU:O	3:G:430:SER:OG	2.21	0.46
5:F:90:LEU:HD13	5:F:92:LEU:HD11	1.97	0.46
1:A:840:LEU:HD23	1:A:856:LEU:HD22	1.97	0.46
1:A:1317:ILE:HG13	1:A:1333:ASN:OD1	2.15	0.46
1:A:1536:LEU:HD12	1:A:1576:LEU:HD21	1.97	0.46
1:A:1601:THR:HG21	1:A:1646:ASN:HB3	1.97	0.46
1:A:3285:ASP:O	1:A:3289:ILE:HD12	2.16	0.46
1:A:3650:ILE:HG22	1:A:3661:THR:HB	1.98	0.46
1:A:1591:PHE:HD2	1:A:1604:PHE:CD1	2.31	0.46
1:A:3412:LEU:N	1:A:3454:PRO:O	2.41	0.46
5:F:90:LEU:HD23	5:F:90:LEU:HA	1.59	0.46
1:A:712:SER:O	1:A:716:ILE:HD12	2.16	0.46
1:A:1082:ILE:HA	1:A:1085:THR:HG22	1.98	0.46
1:A:1171:ASN:OD1	1:A:1209:TYR:OH	2.31	0.46
1:A:1644:PHE:HE1	1:A:1672:LEU:HD22	1.81	0.46
1:A:1728:ILE:HG13	1:A:1729:SER:N	2.31	0.46
1:A:1881:LYS:HG2	1:A:1885:TYR:HE1	1.80	0.46
1:A:2547:LEU:HA	1:A:2550:ILE:HG22	1.97	0.46
5:F:96:ILE:HD12	5:F:96:ILE:HA	1.73	0.46
1:A:2598:GLN:HG2	1:A:2632:TYR:HE1	1.81	0.45
2:B:129:ASN:HD21	5:F:70:LYS:CB	2.19	0.45
2:B:212:ASP:O	2:B:216:LYS:HG3	2.16	0.45
3:G:204:PRO:HG3	3:G:236:GLU:HG2	1.97	0.45
3:G:379:LEU:HD23	3:G:379:LEU:H	1.81	0.45
5:F:120:PRO:HD2	5:F:284:GLU:OE2	2.15	0.45
1:A:399:GLN:HE22	1:A:444:LYS:HB3	1.81	0.45
1:A:1882:GLN:O	1:A:1886:VAL:HG23	2.16	0.45
1:A:853:LEU:HD12	1:A:856:LEU:HD12	1.98	0.45
1:A:1443:LEU:HA	1:A:1446:VAL:HG22	1.97	0.45
1:A:3082:ASN:HB3	4:E:699:PRO:HG2	1.97	0.45
1:A:1739:PHE:O	1:A:1743:ILE:HG12	2.16	0.45
1:A:1961:ALA:O	1:A:1965:GLN:HG2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2864:LEU:HG	1:A:2917:VAL:HG11	1.99	0.45
2:B:168:ALA:HB2	4:E:430:LYS:HZ3	1.80	0.45
2:B:313:ARG:HA	2:B:316:LYS:HG2	1.98	0.45
4:E:251:ALA:O	4:E:254:GLU:HG3	2.16	0.45
4:E:348:GLU:O	4:E:351:LYS:HB2	2.15	0.45
4:E:663:MET:O	4:E:667:MET:HG3	2.17	0.45
5:F:257:ARG:O	5:F:260:ILE:HG22	2.16	0.45
1:A:615:PHE:HD1	1:A:667:PHE:HE2	1.64	0.45
1:A:834:ILE:O	1:A:838:LEU:HD23	2.17	0.45
1:A:2450:ASP:OD1	1:A:2451:LYS:N	2.49	0.45
2:B:190:LEU:HA	2:B:193:ILE:HG12	1.97	0.45
2:B:290:VAL:HG12	2:B:294:LEU:HG	1.98	0.45
1:A:148:SER:O	1:A:151:PRO:HD2	2.17	0.45
1:A:372:ALA:HA	1:A:414:LEU:HD12	1.98	0.45
1:A:959:ILE:HB	1:A:962:LEU:HB2	1.97	0.45
1:A:2397:ASN:O	1:A:2401:VAL:HG23	2.16	0.45
3:G:155:VAL:O	3:G:155:VAL:HG13	2.17	0.45
1:A:3315:PHE:HD1	1:A:3467:LYS:HG3	1.81	0.45
5:F:348:LEU:HB3	6:C:539:VAL:HG21	1.99	0.45
1:A:548:GLN:OE1	1:A:548:GLN:N	2.49	0.45
1:A:717:LEU:O	1:A:721:LEU:HD23	2.16	0.45
1:A:923:LEU:HD13	1:A:2823:ILE:HG23	1.99	0.45
1:A:1893:SER:HA	1:A:1931:VAL:HG21	1.99	0.45
1:A:3508:LEU:HB2	1:A:3733:LEU:HD11	1.99	0.45
1:A:3612:LYS:NZ	1:A:3654:GLU:OE1	2.50	0.45
2:B:358:ILE:HD11	2:B:374:LYS:HB3	1.98	0.45
4:E:178:GLU:OE1	4:E:179:VAL:N	2.47	0.45
4:E:458:LYS:NZ	6:C:528:LEU:HB2	2.32	0.45
1:A:823:ILE:HG12	1:A:831:GLU:HG3	1.98	0.45
1:A:1480:LEU:HD12	1:A:1538:VAL:HG11	1.98	0.45
1:A:1604:PHE:HD2	1:A:1650:LEU:HD21	1.80	0.45
1:A:1668:LEU:O	1:A:1672:LEU:HG	2.17	0.45
2:B:15:SER:H	7:B:401:ATP:PG	2.40	0.45
1:A:1693:TYR:O	1:A:1696:VAL:HG12	2.17	0.45
1:A:3067:ASP:CG	1:A:3105:ARG:HH21	2.20	0.45
2:B:203:THR:HG22	2:B:205:ALA:H	1.81	0.45
1:A:303:ASP:HB3	1:A:307:ARG:HH21	1.83	0.44
1:A:1556:ALA:O	1:A:1560:LEU:HD23	2.18	0.44
1:A:2423:LEU:HD12	1:A:2464:TYR:HE2	1.82	0.44
2:B:374:LYS:HE2	6:C:561:ARG:HH11	1.82	0.44
5:F:272:MET:SD	5:F:273:GLU:N	2.90	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:379:SER:OG	5:F:380:GLN:OE1	2.35	0.44
1:A:3765:GLN:NE2	1:A:3766:THR:OG1	2.50	0.44
3:G:313:VAL:HG12	3:G:314:VAL:N	2.32	0.44
1:A:744:LYS:HG2	1:A:748:MET:CE	2.47	0.44
1:A:815:LEU:HG	1:A:1231:GLU:HB3	2.00	0.44
1:A:1776:ARG:HD3	1:A:1776:ARG:HA	1.70	0.44
1:A:2590:PHE:HE2	4:E:568:TYR:CG	2.35	0.44
1:A:3546:MET:O	1:A:3550:GLU:HG2	2.17	0.44
4:E:448:PHE:O	4:E:449:LYS:HG2	2.18	0.44
1:A:302:PRO:HB3	1:A:340:ILE:HD11	2.00	0.44
1:A:943:LEU:HB2	1:A:3655:GLY:O	2.17	0.44
1:A:973:GLY:HA2	1:A:2557:THR:HG22	1.99	0.44
1:A:3066:ASN:ND2	1:A:3082:ASN:HB2	2.32	0.44
1:A:366:LEU:O	1:A:369:SER:OG	2.24	0.44
1:A:2523:ASP:OD1	1:A:2523:ASP:N	2.50	0.44
1:A:2665:LEU:HA	1:A:2665:LEU:HD23	1.72	0.44
1:A:3604:LEU:HD23	1:A:3825:LEU:HD13	1.99	0.44
5:F:277:GLU:O	5:F:281:LYS:HG2	2.17	0.44
5:F:346:PHE:CD1	6:C:486:PRO:HB3	2.53	0.44
1:A:1314:LEU:HA	1:A:1317:ILE:HG22	2.00	0.44
1:A:1547:HIS:HD2	1:A:1550:MET:N	2.15	0.44
1:A:1648:VAL:O	1:A:1651:CYS:HB2	2.16	0.44
1:A:3718:LEU:HD23	1:A:3722:LEU:HD23	1.99	0.44
2:B:156:SER:HA	2:B:161:THR:HA	2.00	0.44
1:A:312:CYS:O	1:A:320:ARG:NH2	2.50	0.44
1:A:1443:LEU:HD21	1:A:1489:LEU:HD12	1.99	0.44
1:A:2488:ILE:HD11	1:A:2540:ALA:HA	2.00	0.44
1:A:3431:GLU:HG2	1:A:3446:PHE:HB3	1.98	0.44
1:A:3562:GLU:OE1	4:E:174:TYR:OH	2.21	0.44
3:G:27:ILE:HB	3:G:92:MET:SD	2.58	0.44
3:G:249:GLU:HG2	7:G:501:ATP:N6	2.32	0.44
3:G:457:VAL:HG11	3:G:463:ILE:HG13	1.99	0.44
4:E:256:LYS:HA	4:E:259:VAL:HG12	2.00	0.44
1:A:704:LEU:HD12	1:A:745:LEU:HG	2.00	0.44
3:G:457:VAL:HG13	3:G:462:LEU:HD23	2.00	0.44
4:E:668:ARG:HD2	4:E:672:ARG:HH21	1.83	0.44
5:F:79:PHE:HB2	5:F:94:HIS:CD2	2.52	0.44
5:F:85:GLU:CD	5:F:85:GLU:H	2.21	0.44
1:A:200:LEU:O	1:A:204:PRO:HD3	2.18	0.43
3:G:152:CYS:SG	3:G:388:ILE:HD12	2.58	0.43
4:E:454:VAL:HA	4:E:457:GLU:HG2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:113:TYR:C	5:F:115:GLN:H	2.21	0.43
1:A:1391:ARG:O	1:A:1395:ILE:HG12	2.18	0.43
1:A:1527:SER:O	1:A:1531:ILE:HG12	2.18	0.43
1:A:2716:ALA:HB1	1:A:2723:PHE:HD1	1.84	0.43
2:B:318:LEU:O	2:B:322:ALA:N	2.52	0.43
2:B:332:ALA:HB1	2:B:336:ARG:NH1	2.33	0.43
4:E:418:PRO:HA	4:E:419:PRO:HD3	1.91	0.43
1:A:331:LEU:O	1:A:337:LYS:NZ	2.33	0.43
2:B:181:LEU:HD22	2:B:270:LEU:HD23	1.98	0.43
2:B:186:LEU:O	2:B:190:LEU:HD23	2.18	0.43
2:B:190:LEU:O	2:B:194:LEU:HD23	2.19	0.43
3:G:190:GLN:OE1	3:G:293:LEU:HD12	2.18	0.43
3:G:359:ASP:OD1	3:G:360:LYS:N	2.51	0.43
4:E:538:LYS:HG3	4:E:620:ALA:HA	2.01	0.43
6:C:447:GLU:HA	6:C:450:ARG:HG2	1.99	0.43
1:A:374:PHE:O	1:A:378:VAL:HG12	2.18	0.43
1:A:403:LEU:HD12	1:A:407:VAL:HG21	2.01	0.43
1:A:842:VAL:HG12	1:A:844:VAL:HG12	2.01	0.43
1:A:1279:ALA:HB1	1:A:1328:GLN:HB3	2.00	0.43
1:A:1665:LYS:HD2	1:A:1668:LEU:HD22	2.00	0.43
1:A:2479:TYR:HD2	1:A:2548:ILE:HD11	1.82	0.43
1:A:2749:THR:OG1	1:A:2763:GLU:OE1	2.24	0.43
1:A:3736:SER:O	1:A:3737:GLU:HG2	2.19	0.43
5:F:258:TRP:CE2	5:F:277:GLU:HG2	2.53	0.43
1:A:388:TRP:CH2	1:A:1691:PRO:HD2	2.54	0.43
1:A:683:LEU:N	1:A:684:PRO:HD2	2.33	0.43
1:A:1325:LEU:HD13	1:A:1326:PRO:HD2	2.00	0.43
1:A:2963:GLU:OE2	1:A:2967:ASN:HB2	2.19	0.43
1:A:3805:ILE:O	1:A:3809:VAL:HG23	2.19	0.43
4:E:332:GLY:C	4:E:334:ILE:N	2.71	0.43
5:F:83:ALA:HB2	5:F:111:GLU:HG3	2.00	0.43
5:F:382:LEU:HD23	5:F:382:LEU:HA	1.79	0.43
1:A:769:ILE:HD11	1:A:792:LEU:HD23	1.99	0.43
1:A:1059:VAL:HG22	1:A:1123:CYS:HB2	2.00	0.43
1:A:1659:LYS:O	1:A:1663:LYS:NZ	2.51	0.43
1:A:1958:THR:N	1:A:1961:ALA:HB3	2.33	0.43
1:A:2486:SER:HB3	1:A:2539:THR:HA	2.00	0.43
5:F:337:GLU:O	5:F:341:ILE:HG12	2.18	0.43
1:A:1507:LEU:C	1:A:1511:GLN:HE22	2.22	0.43
1:A:3065:PHE:HZ	1:A:3069:ARG:HH21	1.67	0.43
3:G:13:ILE:O	3:G:14:ASN:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:443:ILE:HD12	4:E:448:PHE:CE1	2.54	0.43
4:E:547:LEU:H	4:E:547:LEU:HD23	1.84	0.43
4:E:548:ARG:HH21	4:E:598:GLN:HE22	1.66	0.43
2:B:227:GLU:O	2:B:230:THR:OG1	2.30	0.43
2:B:333:PRO:O	2:B:336:ARG:HG3	2.18	0.43
1:A:1540:HIS:CE1	1:A:1578:LYS:HB2	2.54	0.43
1:A:2590:PHE:HE1	1:A:2624:LEU:HD22	1.84	0.43
2:B:292:LYS:HA	2:B:326:MET:SD	2.59	0.43
2:B:354:GLN:HA	2:B:357:TRP:CD1	2.54	0.43
4:E:476:LEU:H	4:E:481:LYS:HZ1	1.67	0.43
4:E:612:PHE:HD2	4:E:624:GLN:HG3	1.83	0.43
6:C:572:ASP:OD1	6:C:573:GLU:N	2.51	0.43
1:A:902:MET:HG2	1:A:936:PHE:CE1	2.54	0.42
1:A:1094:PHE:O	1:A:1098:VAL:HG23	2.19	0.42
1:A:1146:SER:O	1:A:1150:ILE:HG13	2.19	0.42
1:A:1513:ARG:HH21	1:A:1516:GLN:CB	2.32	0.42
1:A:1789:ILE:O	1:A:1793:GLU:HG2	2.19	0.42
1:A:1895:PHE:O	1:A:1935:ARG:NH2	2.52	0.42
2:B:89:HIS:CD2	2:B:93:ASN:HD22	2.35	0.42
2:B:219:TYR:OH	2:B:227:GLU:OE2	2.28	0.42
3:G:19:ASP:OD1	3:G:20:ALA:N	2.52	0.42
3:G:450:SER:HB2	5:F:90:LEU:HG	2.01	0.42
4:E:196:LEU:HD23	4:E:196:LEU:H	1.84	0.42
1:A:1295:SER:CB	1:A:1302:ILE:HG13	2.49	0.42
1:A:1774:ASP:OD1	1:A:1775:ALA:N	2.52	0.42
1:A:1868:PHE:CE1	1:A:1872:TYR:HE2	2.37	0.42
2:B:143:LEU:HB2	2:B:153:VAL:CG2	2.48	0.42
1:A:721:LEU:HD12	1:A:743:PHE:CE2	2.54	0.42
1:A:957:PHE:HE2	1:A:2544:LEU:HD21	1.84	0.42
1:A:1226:ARG:HG2	1:A:1283:VAL:HG21	2.01	0.42
1:A:1572:PHE:C	1:A:1575:PRO:HD2	2.40	0.42
1:A:1783:ILE:O	1:A:1786:PRO:HD2	2.19	0.42
1:A:2533:ASP:HA	1:A:2536:ARG:HG2	2.00	0.42
2:B:125:PHE:CE2	2:B:133:PHE:HB3	2.54	0.42
2:B:219:TYR:O	2:B:259:PRO:HG2	2.19	0.42
3:G:57:GLU:O	3:G:61:MET:HG3	2.19	0.42
1:A:1915:ILE:HG23	1:A:1916:ASP:N	2.34	0.42
1:A:697:LEU:HD21	1:A:741:ARG:HB3	2.02	0.42
1:A:1698:GLN:HA	1:A:1701:GLU:OE2	2.19	0.42
1:A:3158:LEU:HA	1:A:3161:ILE:HG22	2.01	0.42
4:E:257:ILE:HD13	5:F:346:PHE:HD2	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:85:GLU:O	5:F:86:SER:CB	2.68	0.42
1:A:1440:HIS:NE2	1:A:1488:LYS:HD3	2.35	0.42
1:A:1673:LEU:HD12	1:A:1673:LEU:HA	1.89	0.42
1:A:2423:LEU:HD12	1:A:2464:TYR:CE2	2.54	0.42
1:A:1157:LEU:HD21	1:A:2524:PHE:CE2	2.54	0.42
1:A:1839:TYR:O	1:A:1842:GLU:HG3	2.20	0.42
1:A:2999:SER:HA	4:E:685:ARG:HA	2.02	0.42
1:A:3088:LEU:HD11	1:A:3123:PHE:CD1	2.55	0.42
3:G:187:LEU:HD11	3:G:297:LEU:HD11	2.01	0.42
5:F:100:SER:HB3	5:F:103:ALA:HB2	2.02	0.42
1:A:1317:ILE:HD11	1:A:1337:ILE:HD13	2.01	0.42
1:A:1960:VAL:HG12	1:A:1964:TYR:HE2	1.85	0.42
4:E:479:TYR:CE1	4:E:493:PRO:HG2	2.55	0.42
5:F:101:GLU:H	5:F:101:GLU:HG3	1.60	0.42
1:A:316:LEU:HB3	1:A:319:ALA:HB3	2.02	0.42
1:A:360:TYR:O	1:A:364:ARG:NH2	2.53	0.42
1:A:1483:LEU:HD23	1:A:1487:LEU:HD23	2.01	0.42
1:A:1863:LYS:O	1:A:1866:ILE:HG22	2.20	0.42
1:A:3167:GLN:HG2	1:A:3304:LEU:HD11	2.01	0.42
3:G:192:ARG:HG3	3:G:244:LEU:HD21	2.02	0.42
3:G:307:GLU:O	3:G:308:SER:OG	2.31	0.42
6:C:554:VAL:HA	6:C:566:ASP:O	2.20	0.42
1:A:605:ASN:ND2	1:A:1567:CYS:HB3	2.34	0.42
1:A:687:TYR:O	1:A:691:LEU:HG	2.19	0.42
1:A:773:LEU:HD23	1:A:773:LEU:HA	1.92	0.42
1:A:852:HIS:HB3	1:A:855:TYR:HD2	1.85	0.42
1:A:1247:SER:HB2	1:A:1251:TRP:CH2	2.55	0.42
1:A:3749:ARG:NH2	1:A:3750:ASP:OD1	2.39	0.42
2:B:89:HIS:CD2	2:B:93:ASN:HB2	2.53	0.42
3:G:298:PHE:CD2	3:G:402:ARG:HD3	2.55	0.42
5:F:130:PHE:HE2	5:F:283:SER:HB3	1.85	0.42
6:C:468:ASN:C	6:C:468:ASN:HD22	2.22	0.42
1:A:327:THR:O	1:A:330:ILE:HB	2.20	0.41
1:A:616:ARG:HD3	1:A:685:PHE:CE2	2.55	0.41
1:A:1442:GLY:O	1:A:1446:VAL:HG13	2.20	0.41
1:A:1786:PRO:HA	1:A:1789:ILE:HG22	2.01	0.41
1:A:2761:LEU:HD21	1:A:2781:SER:HB2	2.01	0.41
2:B:212:ASP:O	2:B:215:GLU:HB2	2.20	0.41
3:G:262:LYS:HE3	3:G:262:LYS:HB2	1.81	0.41
3:G:382:GLN:HA	4:E:479:TYR:HE2	1.84	0.41
5:F:289:HIS:NE2	5:F:305:GLN:HG3	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:292:ARG:HG3	5:F:297:ASP:HB2	2.01	0.41
1:A:615:PHE:HD2	1:A:682:GLU:HG2	1.84	0.41
1:A:1084:GLY:HA3	1:A:2531:PHE:CE1	2.55	0.41
1:A:1178:ILE:HD11	1:A:1217:ILE:HG12	2.01	0.41
1:A:1352:GLU:HA	1:A:1355:ASN:HB2	2.02	0.41
1:A:1354:LEU:HD23	1:A:1354:LEU:HA	1.92	0.41
3:G:142:CYS:O	3:G:434:GLY:HA3	2.20	0.41
4:E:270:GLN:HB3	4:E:272:LYS:HE3	2.02	0.41
6:C:480:LEU:HD12	6:C:481:GLU:N	2.36	0.41
1:A:409:ILE:HD12	1:A:409:ILE:HA	1.81	0.41
1:A:616:ARG:HD3	1:A:685:PHE:HE2	1.85	0.41
1:A:1261:PHE:O	1:A:1265:PHE:HB3	2.19	0.41
1:A:1302:ILE:H	1:A:1302:ILE:HD12	1.85	0.41
1:A:3547:GLY:O	1:A:3551:GLU:HG2	2.20	0.41
2:B:254:GLU:HG3	2:B:257:ARG:HH21	1.84	0.41
3:G:376:ASP:OD2	5:F:319:LYS:NZ	2.53	0.41
6:C:572:ASP:OD1	6:C:625:ARG:NH2	2.53	0.41
1:A:350:ARG:NH1	1:A:371:VAL:HG23	2.35	0.41
1:A:366:LEU:O	1:A:370:THR:HG23	2.20	0.41
1:A:1561:GLU:OE1	1:A:1603:ARG:NE	2.40	0.41
1:A:2629:GLY:HA2	1:A:2634:ALA:HB3	2.03	0.41
1:A:3504:PHE:HB3	1:A:3733:LEU:HD21	2.01	0.41
4:E:473:LYS:HD2	4:E:473:LYS:HA	1.72	0.41
5:F:79:PHE:HE1	5:F:108:TYR:CZ	2.38	0.41
5:F:110:PHE:HA	5:F:113:TYR:CD2	2.56	0.41
5:F:113:TYR:O	5:F:115:GLN:N	2.50	0.41
1:A:613:SER:O	1:A:616:ARG:HB3	2.21	0.41
1:A:747:PHE:CE1	1:A:792:LEU:HD13	2.56	0.41
1:A:1145:GLU:O	1:A:1149:LEU:HD23	2.21	0.41
1:A:1688:VAL:HG22	1:A:1689:VAL:H	1.85	0.41
1:A:2715:LYS:HG2	5:F:373:ILE:HG13	2.02	0.41
1:A:2856:GLU:CD	1:A:2889:ARG:HH22	2.24	0.41
1:A:3562:GLU:HB3	1:A:3563:PRO:HD3	2.02	0.41
2:B:154:LEU:HD11	2:B:275:ILE:CG2	2.51	0.41
5:F:297:ASP:OD2	5:F:302:LEU:N	2.53	0.41
1:A:603:PHE:HB3	1:A:607:ASP:HB2	2.02	0.41
1:A:734:ILE:HG13	1:A:735:LYS:N	2.35	0.41
1:A:1816:PHE:CE1	1:A:1820:VAL:HG21	2.55	0.41
1:A:1914:GLN:N	1:A:1917:THR:OG1	2.48	0.41
1:A:1970:PHE:HB3	1:A:1971:PRO:HD3	2.02	0.41
4:E:185:ASP:O	4:E:187:THR:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:266:GLU:OE2	4:E:270:GLN:NE2	2.54	0.41
1:A:822:LEU:HD23	1:A:1232:LEU:HD21	2.02	0.41
3:G:62:LEU:O	3:G:239:HIS:NE2	2.47	0.41
4:E:230:PHE:CE2	4:E:235:LEU:HD21	2.55	0.41
4:E:494:PRO:HD3	6:C:502:TYR:O	2.20	0.41
1:A:350:ARG:NH1	1:A:367:ALA:HB1	2.35	0.41
1:A:405:LEU:HD22	1:A:560:ASP:OD1	2.21	0.41
1:A:686:MET:HG3	1:A:690:MET:CE	2.51	0.41
1:A:1129:ILE:HD13	1:A:1180:CYS:SG	2.61	0.41
1:A:2395:LYS:HB3	1:A:2395:LYS:HE3	1.74	0.41
1:A:2681:TRP:HZ2	4:E:583:PRO:HB2	1.85	0.41
3:G:43:TYR:HB2	3:G:56:PHE:CE1	2.56	0.41
4:E:285:PHE:HZ	5:F:284:GLU:HG2	1.84	0.41
1:A:314:SER:OG	1:A:1833:SER:OG	2.37	0.41
1:A:359:ALA:HA	1:A:362:THR:HG22	2.02	0.41
1:A:415:LEU:HD12	1:A:438:ILE:HG23	2.03	0.41
1:A:415:LEU:CD1	1:A:438:ILE:HG12	2.51	0.41
1:A:445:ARG:HD2	1:A:445:ARG:HA	1.75	0.41
1:A:766:ASN:HB2	1:A:804:LEU:HD21	2.02	0.41
1:A:858:LYS:HA	1:A:858:LYS:HD3	1.84	0.41
1:A:1087:ASN:O	1:A:1090:ILE:HG22	2.20	0.41
1:A:1157:LEU:HD21	1:A:2524:PHE:CD2	2.56	0.41
1:A:1182:PHE:CZ	1:A:3413:GLU:HG2	2.56	0.41
1:A:1640:LYS:HA	1:A:1643:ARG:HH22	1.86	0.41
1:A:1680:LEU:HD13	1:A:1730:LYS:HG3	2.03	0.41
1:A:1817:ASP:HA	1:A:1821:TRP:HZ3	1.85	0.41
1:A:1879:THR:OG1	1:A:1916:ASP:OD2	2.39	0.41
1:A:1894:ARG:HE	1:A:1894:ARG:HB2	1.69	0.41
1:A:2722:PRO:HA	6:C:428:ILE:HG13	2.02	0.41
1:A:2785:VAL:HG22	1:A:2793:ARG:HE	1.85	0.41
1:A:3101:LYS:HG3	1:A:3743:TYR:CE2	2.55	0.41
1:A:3498:PHE:HD1	1:A:3523:LEU:HD23	1.85	0.41
2:B:154:LEU:HD23	2:B:154:LEU:O	2.21	0.41
3:G:115:TYR:O	3:G:119:THR:HG23	2.21	0.41
3:G:126:LEU:HD21	3:G:134:THR:HG21	2.03	0.41
3:G:381:PRO:HA	3:G:414:LEU:HD11	2.03	0.41
4:E:177:ASP:CG	4:E:178:GLU:H	2.24	0.41
4:E:271:ARG:NH2	5:F:317:GLU:OE2	2.46	0.41
5:F:379:SER:O	5:F:383:THR:HG23	2.21	0.41
1:A:388:TRP:HA	1:A:391:VAL:HG12	2.02	0.41
1:A:842:VAL:HA	1:A:843:PRO:HD3	1.95	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1293:THR:O	1:A:1296:GLU:HG3	2.21	0.41
1:A:1382:LYS:HD3	1:A:1385:GLU:HG3	2.02	0.41
1:A:1515:LEU:HD11	1:A:1560:LEU:HD13	2.03	0.41
1:A:2674:ASP:HA	1:A:2677:PHE:HB3	2.03	0.41
2:B:57:ASP:OD1	2:B:57:ASP:N	2.53	0.41
4:E:667:MET:O	4:E:671:MET:HG2	2.21	0.41
1:A:394:TYR:HD1	1:A:414:LEU:HD22	1.86	0.40
1:A:412:ALA:HB1	1:A:442:TYR:OH	2.21	0.40
1:A:997:TYR:CZ	1:A:1001:ILE:HD11	2.56	0.40
1:A:2590:PHE:CE1	1:A:2624:LEU:HD22	2.57	0.40
3:G:145:PHE:CE2	3:G:438:LEU:HD13	2.55	0.40
1:A:1878:ASN:O	1:A:1881:LYS:N	2.54	0.40
1:A:2641:LEU:O	1:A:2644:GLU:HG2	2.22	0.40
1:A:2785:VAL:HG22	1:A:2793:ARG:NE	2.36	0.40
3:G:252:LEU:HB2	3:G:396:ILE:HD12	2.03	0.40
1:A:663:PHE:HA	1:A:666:MET:HG2	2.03	0.40
1:A:752:LEU:HD23	1:A:752:LEU:HA	1.95	0.40
1:A:765:LEU:HD12	1:A:765:LEU:HA	1.97	0.40
1:A:858:LYS:HB3	1:A:859:PRO:HD3	2.03	0.40
1:A:1248:LEU:HD11	1:A:1268:LEU:HD21	2.03	0.40
3:G:203:VAL:HG22	3:G:279:ASN:HB2	2.02	0.40
3:G:298:PHE:HD2	3:G:402:ARG:HD3	1.85	0.40
5:F:351:LYS:HB2	5:F:351:LYS:HE2	1.81	0.40
1:A:2473:GLN:OE1	1:A:2473:GLN:N	2.54	0.40
1:A:3556:LYS:HE2	1:A:3556:LYS:HB2	1.80	0.40
1:A:3638:TYR:HE2	1:A:3787:LEU:HD11	1.85	0.40
2:B:193:ILE:O	2:B:196:GLU:HG3	2.22	0.40
2:B:215:GLU:HG2	7:B:401:ATP:C2	2.57	0.40
2:B:221:ALA:O	2:B:313:ARG:HD2	2.21	0.40
3:G:242:ARG:O	3:G:246:GLU:OE1	2.39	0.40
4:E:181:ILE:HG21	4:E:187:THR:HG22	2.03	0.40
4:E:345:LEU:HD11	4:E:350:ILE:HG23	2.03	0.40
5:F:79:PHE:CE1	5:F:108:TYR:CZ	3.10	0.40
1:A:925:ILE:HD13	1:A:925:ILE:HA	1.89	0.40
1:A:1221:LEU:O	1:A:1224:VAL:HG12	2.21	0.40
1:A:1601:THR:O	1:A:1605:VAL:HG23	2.21	0.40
1:A:3167:GLN:NE2	1:A:3430:ILE:HD13	2.37	0.40
1:A:3173:LEU:O	1:A:3176:THR:HG22	2.22	0.40
4:E:275:LEU:HD12	6:C:462:LEU:HB2	2.04	0.40
5:F:348:LEU:HD13	6:C:539:VAL:HG11	2.04	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	3148/3825 (82%)	3050 (97%)	98 (3%)	0	100	100
2	B	344/376 (92%)	330 (96%)	14 (4%)	0	100	100
3	G	418/468 (89%)	404 (97%)	14 (3%)	0	100	100
4	E	482/1051 (46%)	448 (93%)	29 (6%)	5 (1%)	15	46
4	H	20/1051 (2%)	16 (80%)	2 (10%)	2 (10%)	0	4
5	F	219/565 (39%)	201 (92%)	15 (7%)	3 (1%)	11	37
6	C	220/752 (29%)	211 (96%)	9 (4%)	0	100	100
All	All	4851/8088 (60%)	4660 (96%)	181 (4%)	10 (0%)	50	78

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	E	333	LYS
4	E	412	PRO
5	F	311	ASP
4	H	393	GLN
4	E	300	MET
4	E	415	GLU
5	F	86	SER
4	E	414	ASP
5	F	310	PHE
4	H	392	ASN

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	2299/3450 (67%)	2296 (100%)	3 (0%)	93	98
2	B	300/322 (93%)	299 (100%)	1 (0%)	92	97
3	G	362/419 (86%)	358 (99%)	4 (1%)	73	86
4	E	422/940 (45%)	418 (99%)	4 (1%)	78	90
5	F	209/520 (40%)	187 (90%)	22 (10%)	7	25
6	C	206/682 (30%)	199 (97%)	7 (3%)	37	65
All	All	3798/6333 (60%)	3757 (99%)	41 (1%)	74	86

All (41) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1083	ARG
1	A	1413	ARG
1	A	3443	ASN
2	B	214	LYS
3	G	7	VAL
3	G	8	TYR
3	G	12	GLU
3	G	13	ILE
4	E	198	ARG
4	E	330	THR
4	E	460	PRO
4	E	696	VAL
5	F	69	ASN
5	F	70	LYS
5	F	76	TYR
5	F	79	PHE
5	F	90	LEU
5	F	91	LYS
5	F	94	HIS
5	F	96	ILE
5	F	100	SER
5	F	101	GLU
5	F	102	LEU
5	F	105	ASN
5	F	108	TYR
5	F	109	LEU
5	F	290	LYS
5	F	292	ARG
5	F	296	MET
5	F	302	LEU

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Mol	Chain	Res	Type
5	F	303	LEU
5	F	305	GLN
5	F	314	ARG
5	F	316	THR
6	C	468	ASN
6	C	556	LYS
6	C	560	ARG
6	C	561	ARG
6	C	563	LEU
6	C	565	ILE
6	C	616	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1511	GLN
1	A	1526	ASN
1	A	1568	GLN
1	A	1913	HIS
1	A	3167	GLN
1	A	3629	GLN
1	A	3765	GLN
2	B	89	HIS
3	G	14	ASN
3	G	445	HIS
4	E	240	HIS
5	F	69	ASN
5	F	93	HIS
5	F	94	HIS
5	F	114	ASN
6	C	644	GLN

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 4 ligands modelled in this entry, 2 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
7	ATP	G	501	8	26,33,33	0.61	0	31,52,52	0.73	2 (6%)
7	ATP	B	401	8	26,33,33	0.59	0	31,52,52	0.74	2 (6%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	ATP	G	501	8	-	8/18/38/38	0/3/3/3
7	ATP	B	401	8	-	5/18/38/38	0/3/3/3

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	B	401	ATP	C5-C6-N6	2.32	123.87	120.35
7	G	501	ATP	C5-C6-N6	2.30	123.85	120.35
7	B	401	ATP	PB-O3B-PG	2.05	139.85	132.83
7	G	501	ATP	PB-O3B-PG	2.04	139.82	132.83

There are no chirality outliers.

All (13) torsion outliers are listed below:

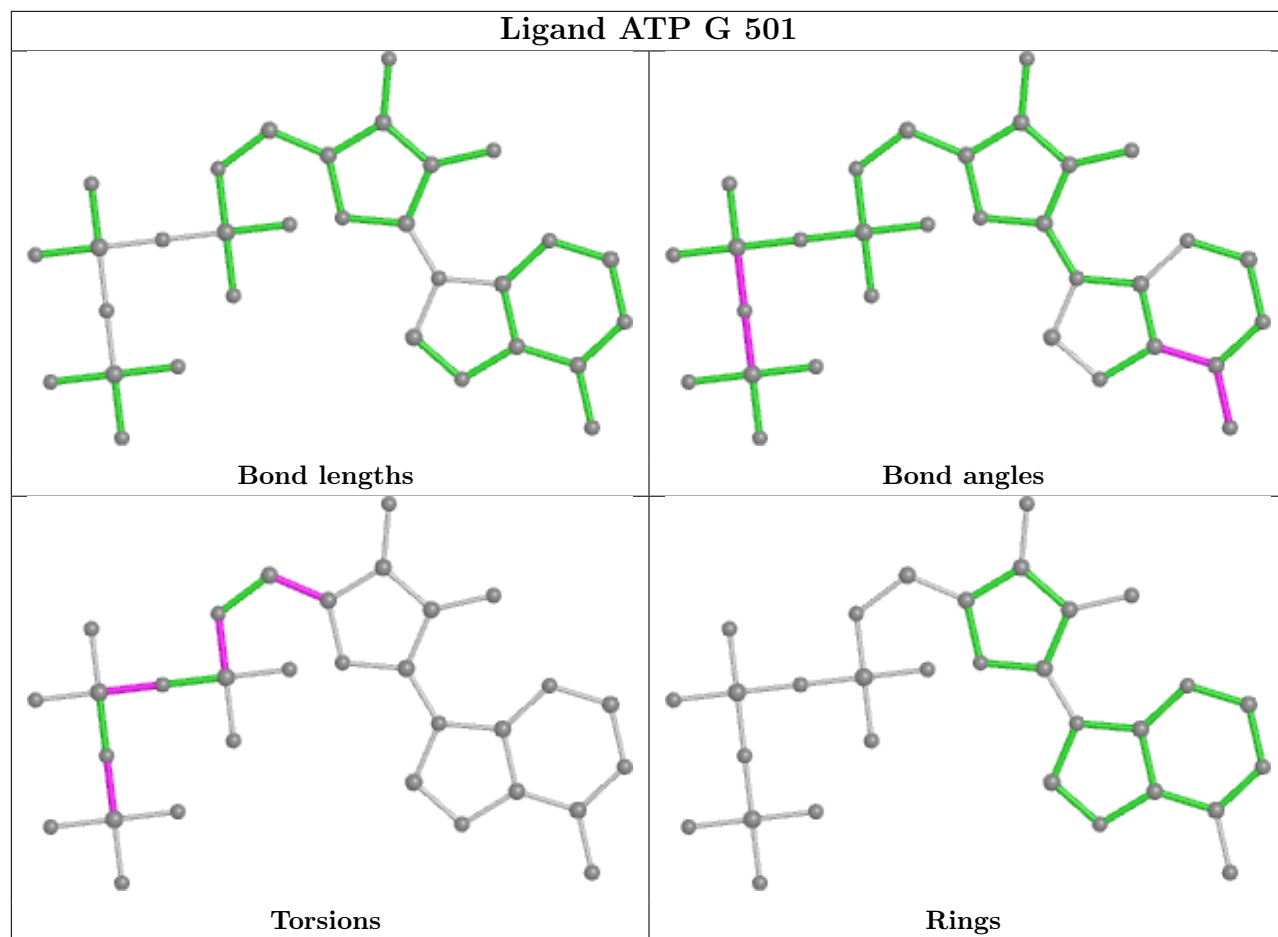
Mol	Chain	Res	Type	Atoms
7	B	401	ATP	PB-O3B-PG-O3G
7	B	401	ATP	C3'-C4'-C5'-O5'
7	G	501	ATP	PB-O3B-PG-O2G
7	G	501	ATP	C5'-O5'-PA-O1A
7	G	501	ATP	C5'-O5'-PA-O2A
7	G	501	ATP	C5'-O5'-PA-O3A
7	G	501	ATP	O4'-C4'-C5'-O5'
7	B	401	ATP	O4'-C4'-C5'-O5'
7	B	401	ATP	C4'-C5'-O5'-PA
7	G	501	ATP	PB-O3B-PG-O3G
7	B	401	ATP	PB-O3B-PG-O1G
7	G	501	ATP	PB-O3B-PG-O1G
7	G	501	ATP	PA-O3A-PB-O1B

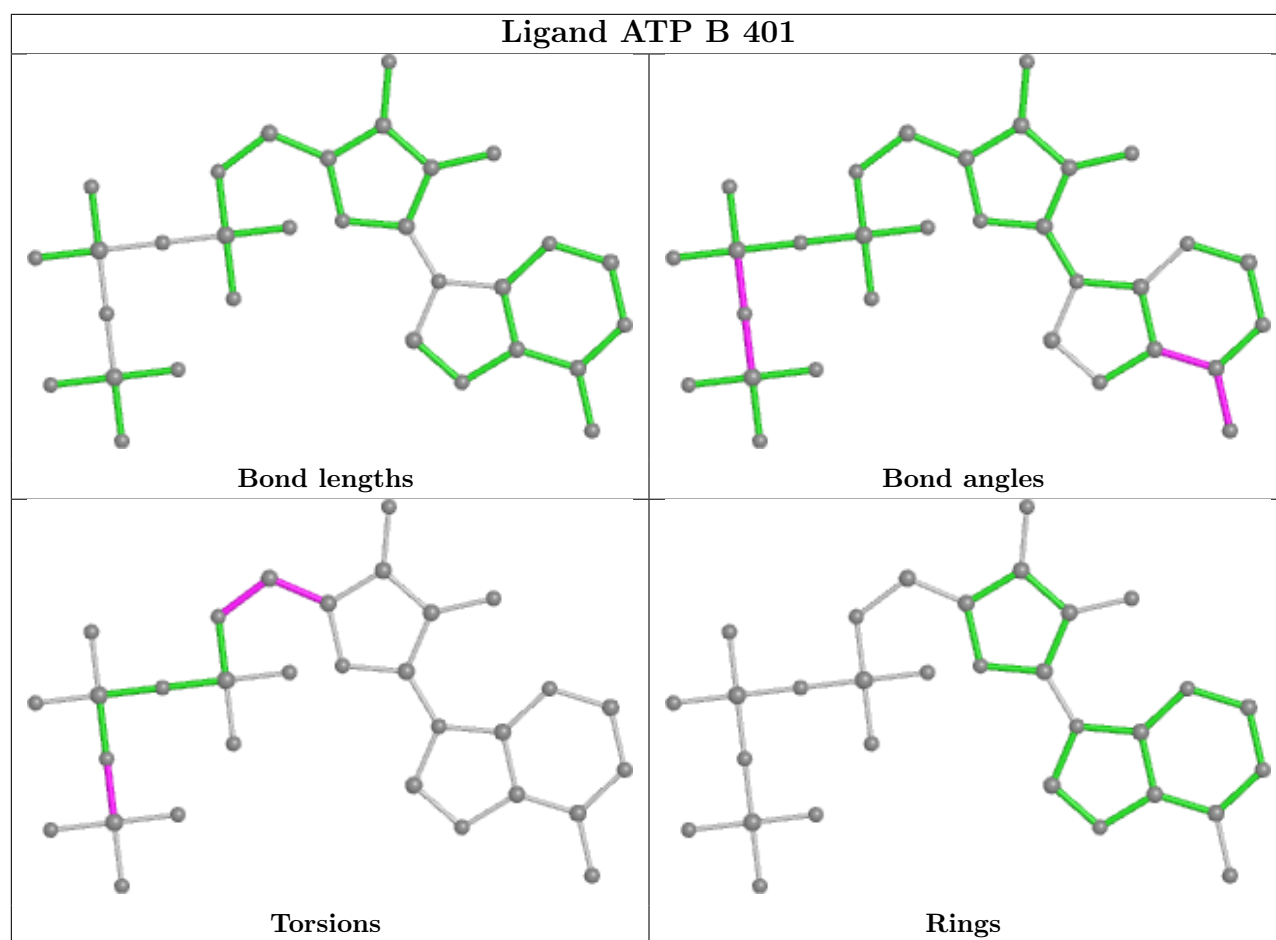
There are no ring outliers.

2 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	G	501	ATP	3	0
7	B	401	ATP	2	0

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





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.

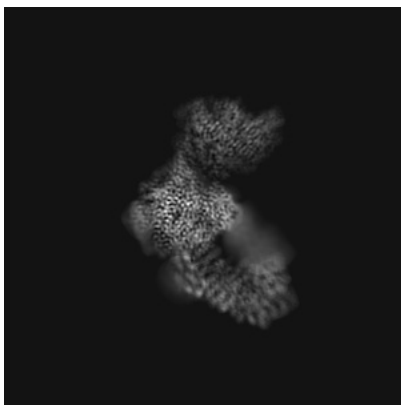
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-14989. These allow visual inspection of the internal detail of the map and identification of artifacts.

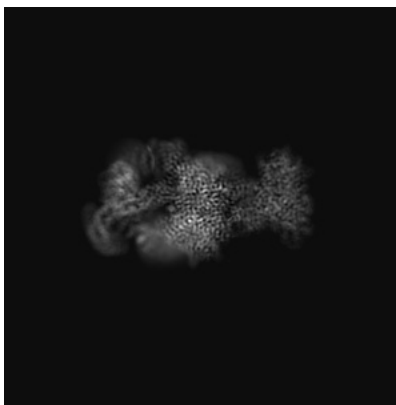
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

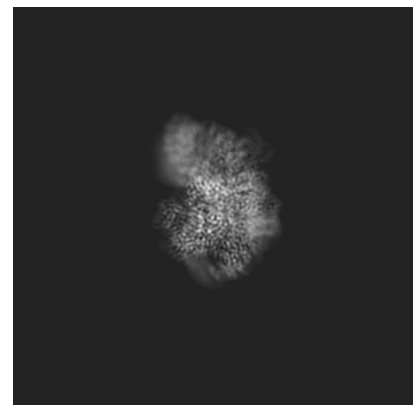
6.1.1 Primary map



X



Y

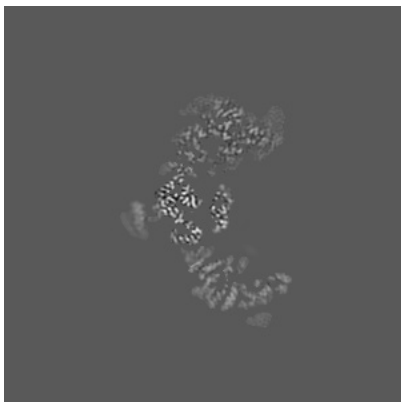


Z

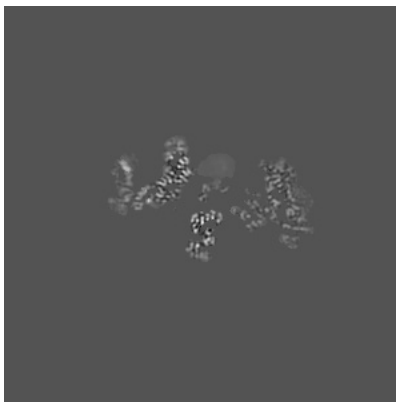
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

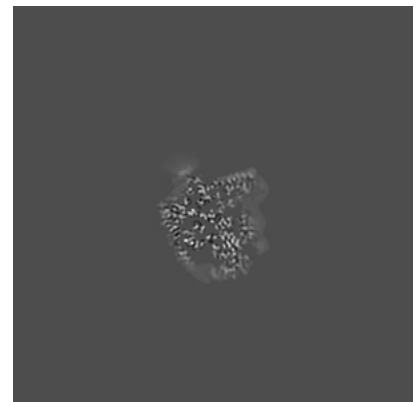
6.2.1 Primary map



X Index: 224



Y Index: 224

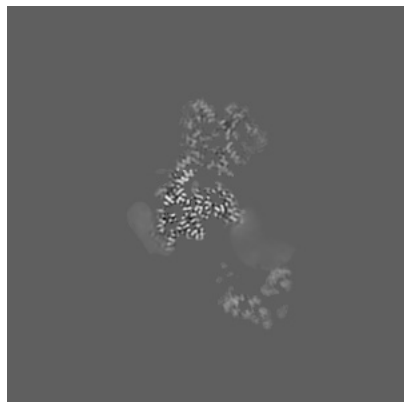


Z Index: 224

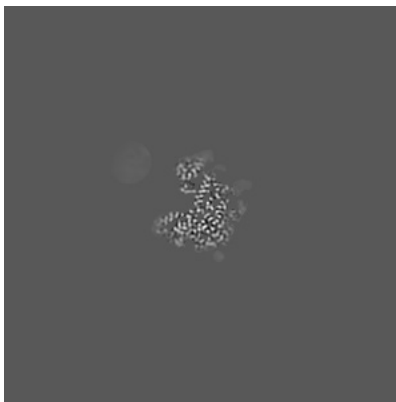
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

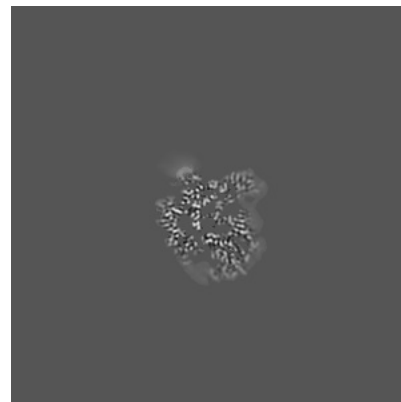
6.3.1 Primary map



X Index: 209



Y Index: 182

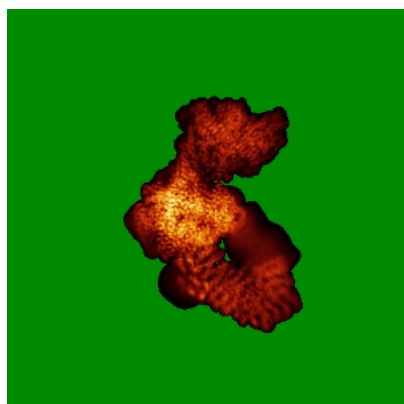


Z Index: 221

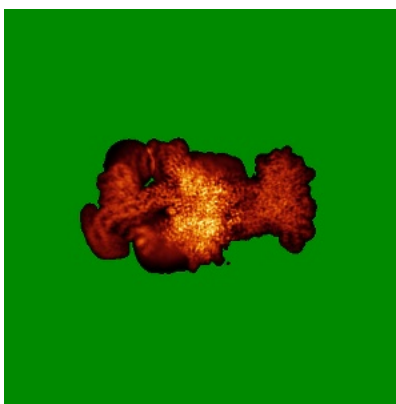
The images above show the largest variance slices of the map in three orthogonal directions.

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

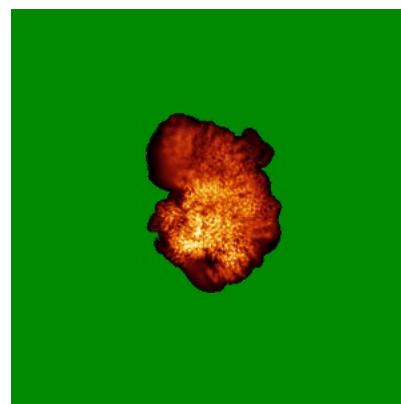
6.4.1 Primary map



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



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.

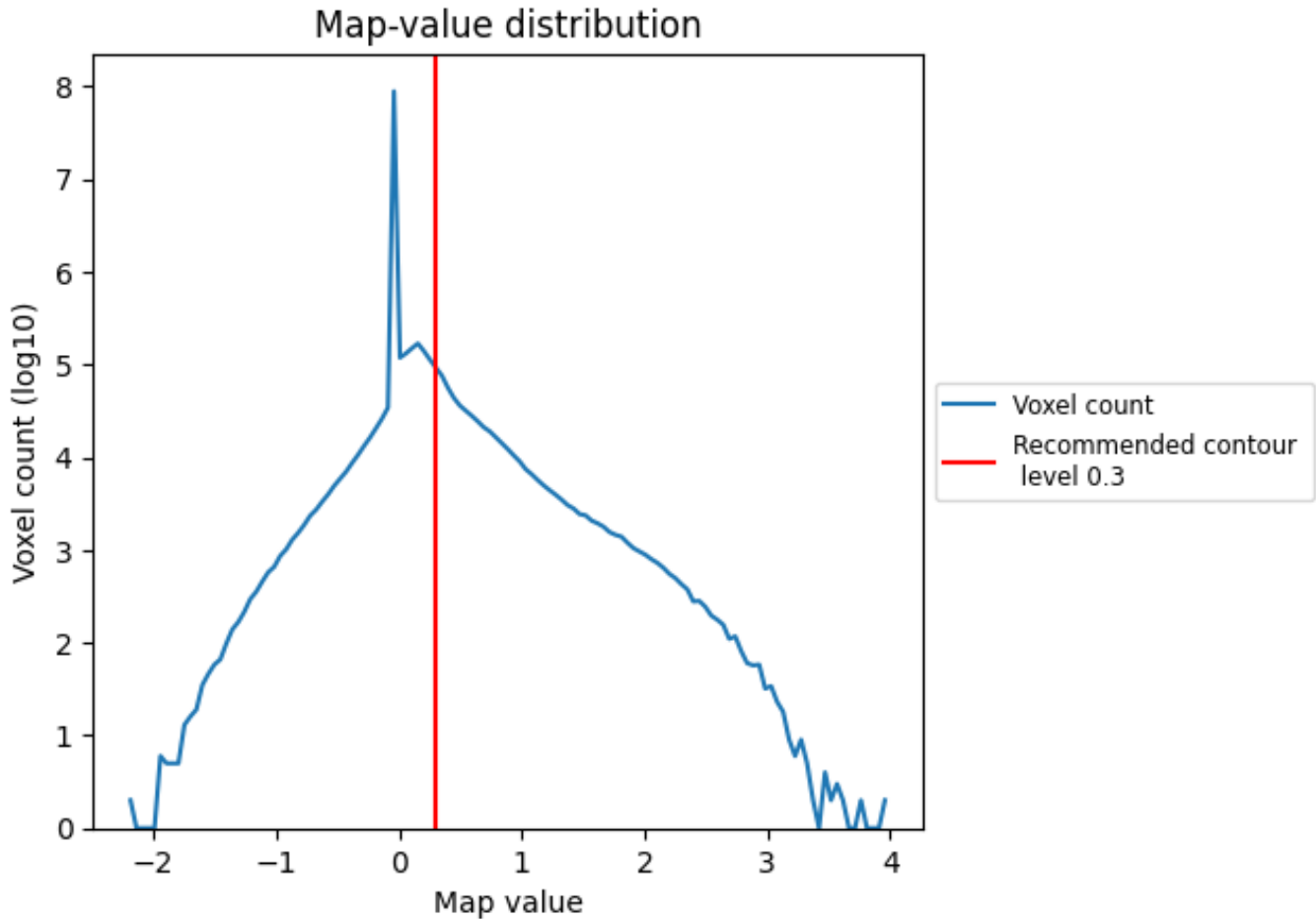
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

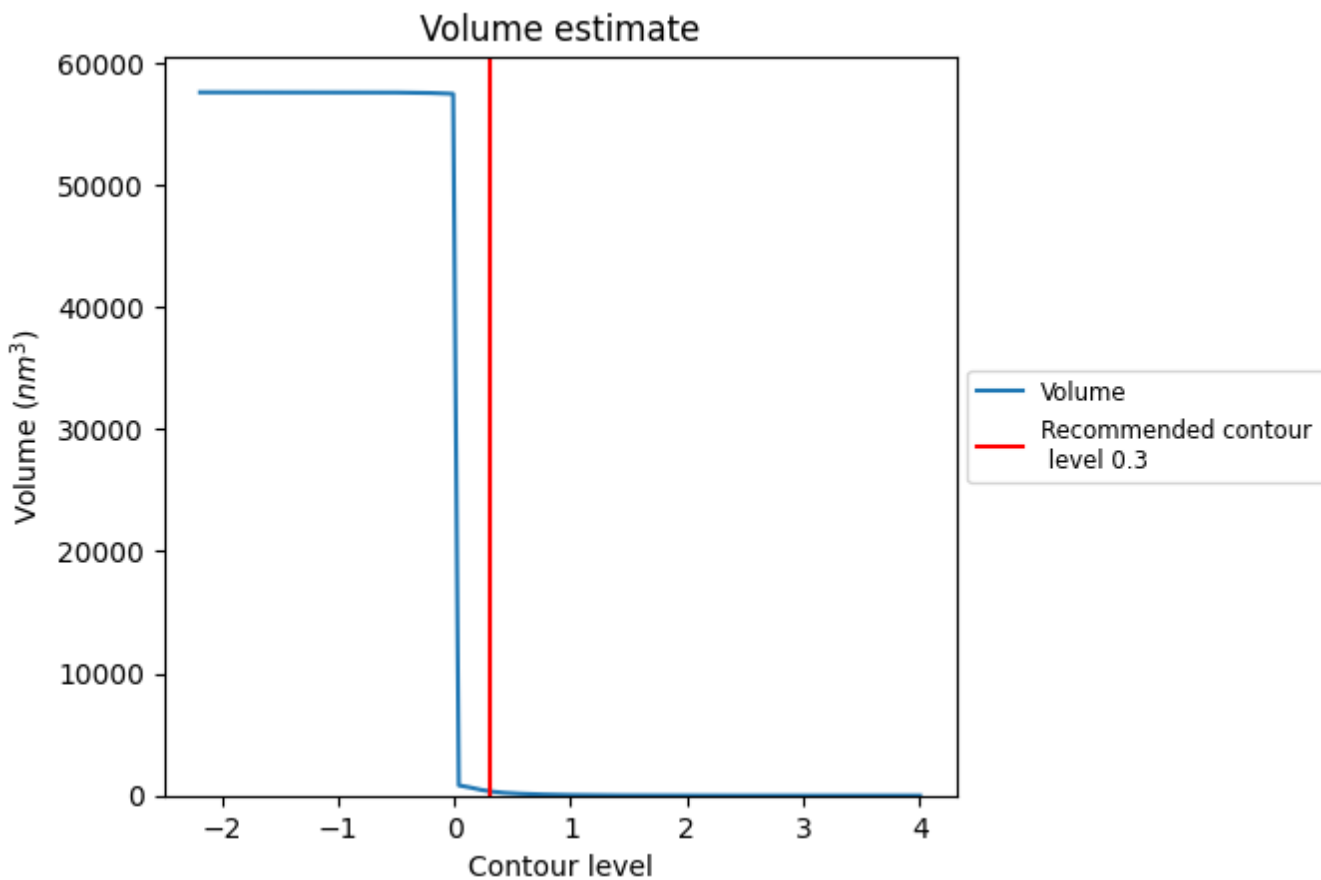
This section contains the results of statistical analysis of the map.

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.

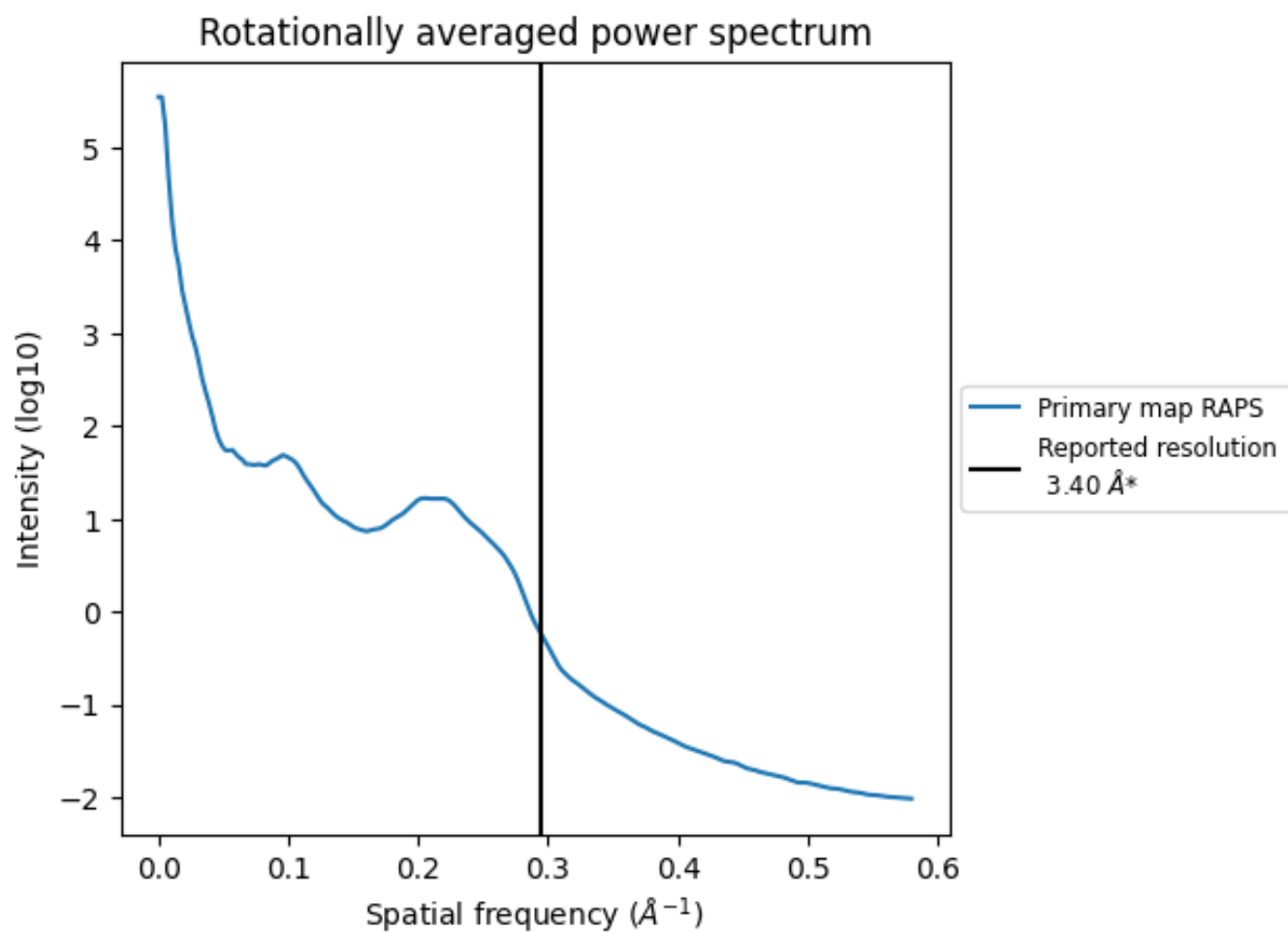
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 358 nm³; this corresponds to an approximate mass of 323 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 0.294\AA^{-1}

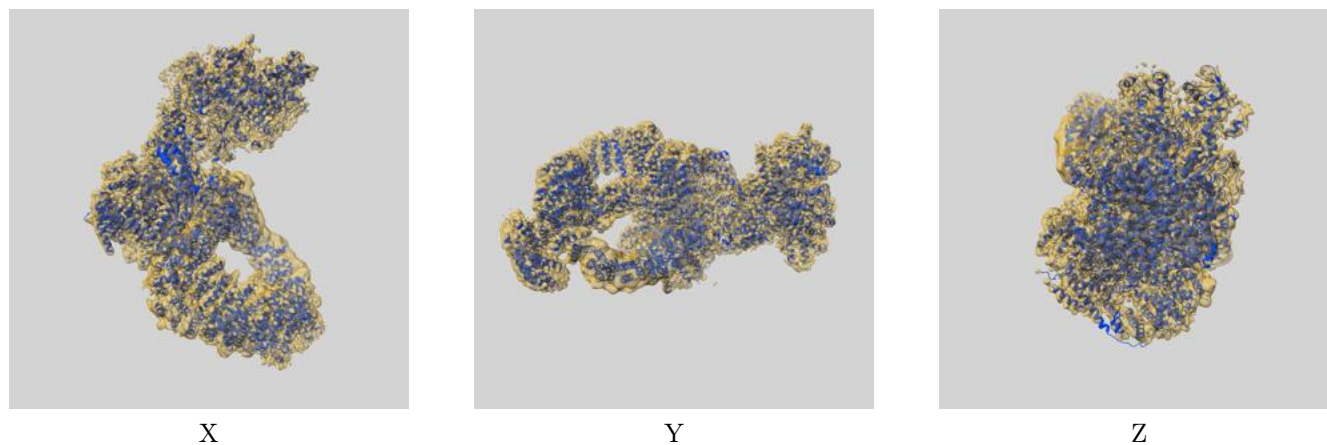
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

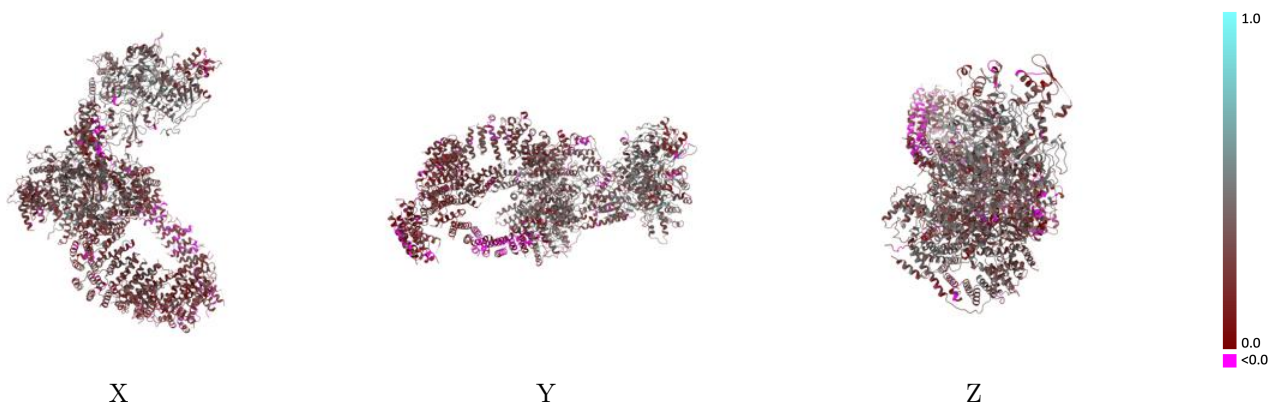
This section contains information regarding the fit between EMDB map EMD-14989 and PDB model 7ZVW. Per-residue inclusion information can be found in section [3](#) on page [5](#).

9.1 Map-model overlay [i](#)



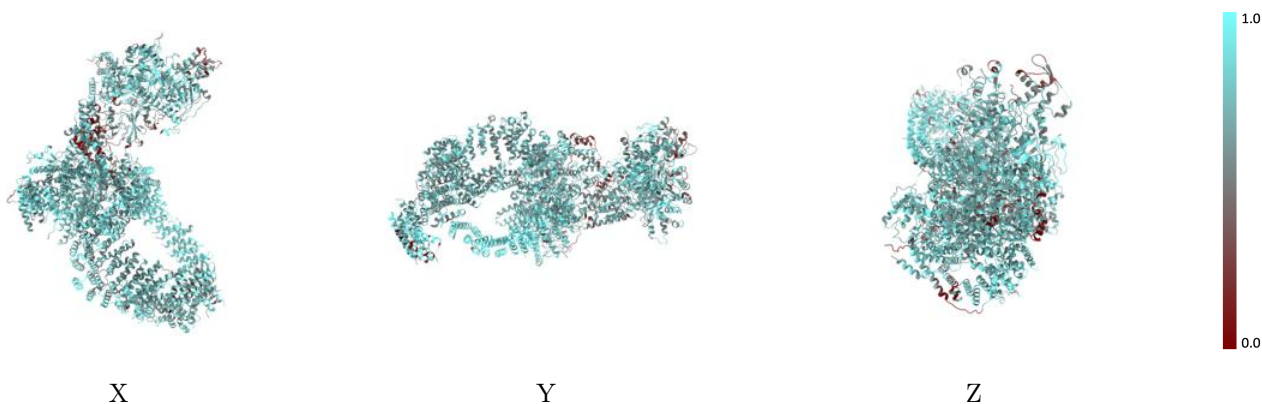
The images above show the 3D surface view of the map at the recommended contour level 0.3 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



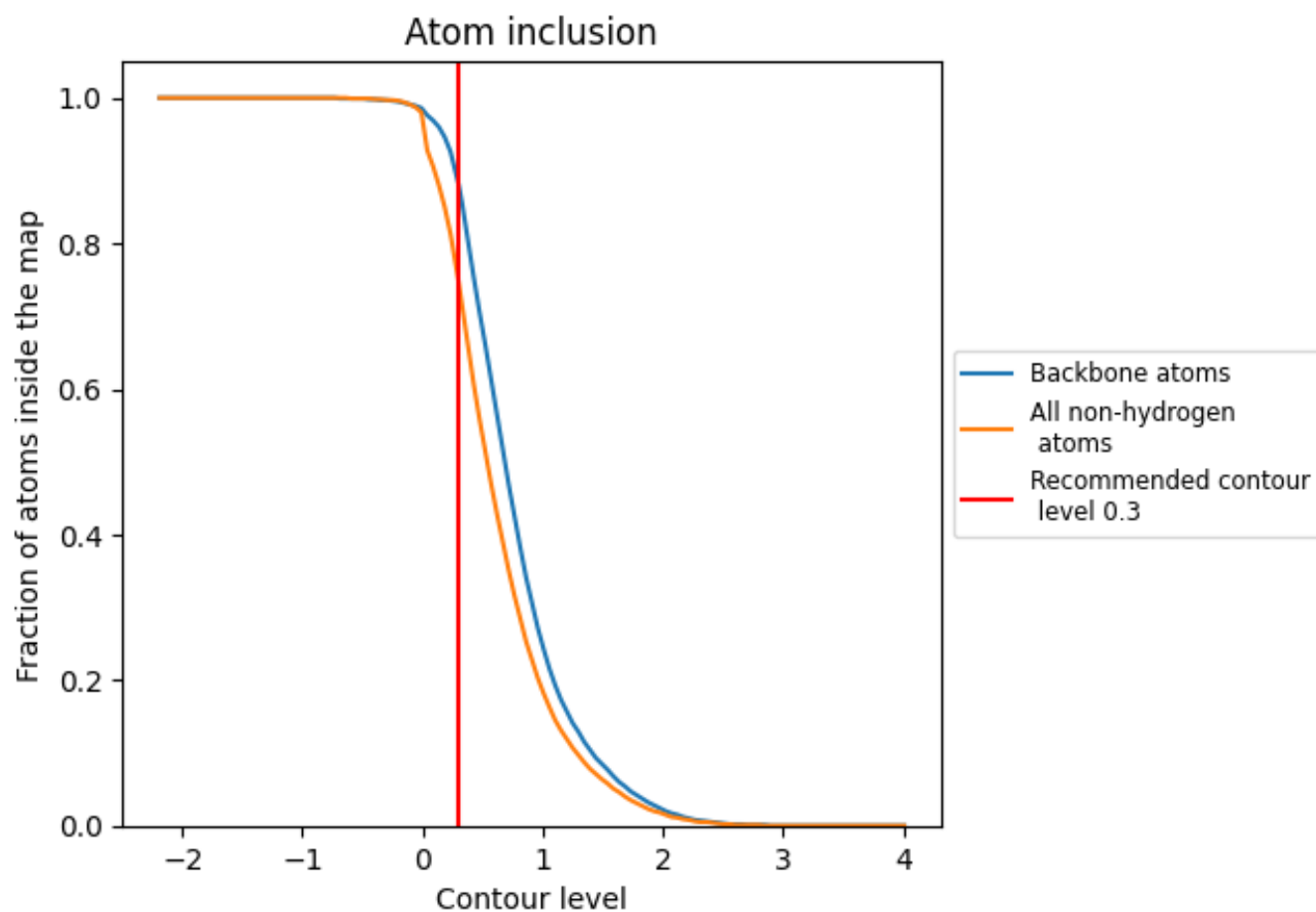
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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



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, 88% of all backbone atoms, 75% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

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

Chain	Atom inclusion	Q-score
All	 0.7460	 0.3090
A	 0.7740	 0.2840
B	 0.6900	 0.3500
C	 0.5820	 0.2910
E	 0.6980	 0.3340
F	 0.7400	 0.3760
G	 0.7390	 0.3920
H	 0.7000	 0.4500

