



Full wwPDB EM Validation Report ⓘ

Jul 20, 2023 – 01:45 am BST

PDB ID : 8A5Y
EMDB ID : EMD-15199
Title : S. cerevisiae apo unphosphorylated APC/C.
Authors : Barford, D.; Fernandez-Vazquez, E.; Zhang, Z.; Yang, J.
Deposited on : 2022-06-16
Resolution : 4.90 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.dev50
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) : 2.34

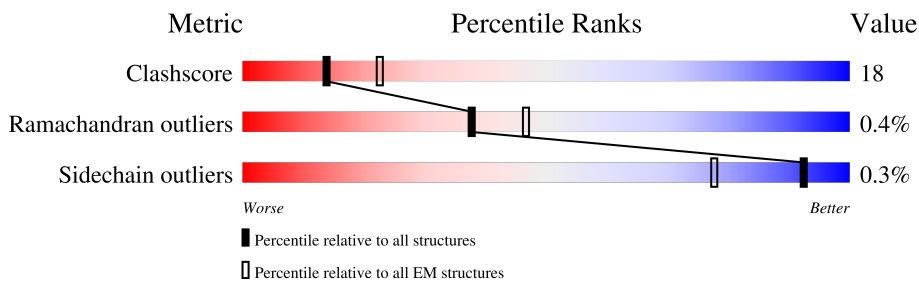
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.90 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	F	758	
1	H	758	
2	J	850	
2	K	850	
3	G	124	
3	W	124	
4	E	265	
5	T	853	

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Mol	Chain	Length	Quality of chain
6	U	165	
7	C	1748	
8	O	685	
9	D	626	
9	P	626	
10	I	170	
11	N	368	
12	Q	652	
13	A	250	

2 Entry composition [i](#)

There are 14 unique types of molecules in this entry. The entry contains 57866 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 Anaphase-promoting complex subunit CDC27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	F	502	Total	C	N	O	S	0	0
			3991	2569	656	739	27		
1	H	505	Total	C	N	O	S	0	0
			4038	2599	664	748	27		

- Molecule 2 is a protein called Anaphase-promoting complex subunit CDC16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	J	509	Total	C	N	O	S	0	0
			4124	2658	674	769	23		
2	K	505	Total	C	N	O	S	0	0
			4102	2642	673	764	23		

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	841	LYS	-	expression tag	UNP P09798
J	842	SER	-	expression tag	UNP P09798
J	843	SER	-	expression tag	UNP P09798
J	844	ILE	-	expression tag	UNP P09798
J	845	PRO	-	expression tag	UNP P09798
J	846	GLU	-	expression tag	UNP P09798
J	847	ASN	-	expression tag	UNP P09798
J	848	LEU	-	expression tag	UNP P09798
J	849	TYR	-	expression tag	UNP P09798
J	850	PHE	-	expression tag	UNP P09798
K	841	LYS	-	expression tag	UNP P09798
K	842	SER	-	expression tag	UNP P09798
K	843	SER	-	expression tag	UNP P09798
K	844	ILE	-	expression tag	UNP P09798
K	845	PRO	-	expression tag	UNP P09798
K	846	GLU	-	expression tag	UNP P09798
K	847	ASN	-	expression tag	UNP P09798

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Chain	Residue	Modelled	Actual	Comment	Reference
K	848	LEU	-	expression tag	UNP P09798
K	849	TYR	-	expression tag	UNP P09798
K	850	PHE	-	expression tag	UNP P09798

- Molecule 3 is a protein called Anaphase-promoting complex subunit CDC26.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	G	35	Total	C	N	O	S	0	0
			284	174	51	58	1		
3	W	35	Total	C	N	O	S	0	0
			284	174	51	58	1		

- Molecule 4 is a protein called Anaphase-promoting complex subunit 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	E	130	Total	C	N	O	S	0	0
			1091	678	201	205	7		

- Molecule 5 is a protein called Anaphase-promoting complex subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	T	650	Total	C	N	O	S	0	0
			5362	3476	877	985	24		

- Molecule 6 is a protein called Anaphase-promoting complex subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	U	114	Total	C	N	O	S	0	0
			912	574	164	162	12		

- Molecule 7 is a protein called Anaphase-promoting complex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	C	1406	Total	C	N	O	S	0	0
			10832	7003	1749	2034	46		

- Molecule 8 is a protein called Anaphase-promoting complex subunit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	O	658	Total	C	N	O	S	0	0
			5285	3399	869	990	27		

- Molecule 9 is a protein called Anaphase-promoting complex subunit CDC23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	D	560	Total	C	N	O	S	0	0
			4524	2925	729	844	26		
9	P	556	Total	C	N	O	S	0	0
			4520	2923	738	832	27		

- Molecule 10 is a protein called Anaphase-promoting complex subunit SWM1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	I	111	Total	C	N	O	S	0	0
			906	568	158	176	4		

- Molecule 11 is a protein called Anaphase-promoting complex subunit MND2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	N	96	Total	C	N	O	S	0	0
			784	504	138	139	3		

- Molecule 12 is a protein called Anaphase-promoting complex subunit 4.

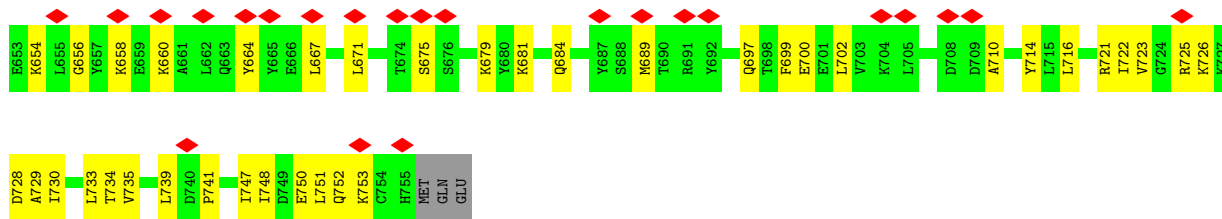
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	Q	623	Total	C	N	O	S	0	0
			5086	3279	842	952	13		

- Molecule 13 is a protein called Anaphase-promoting complex subunit DOC1.

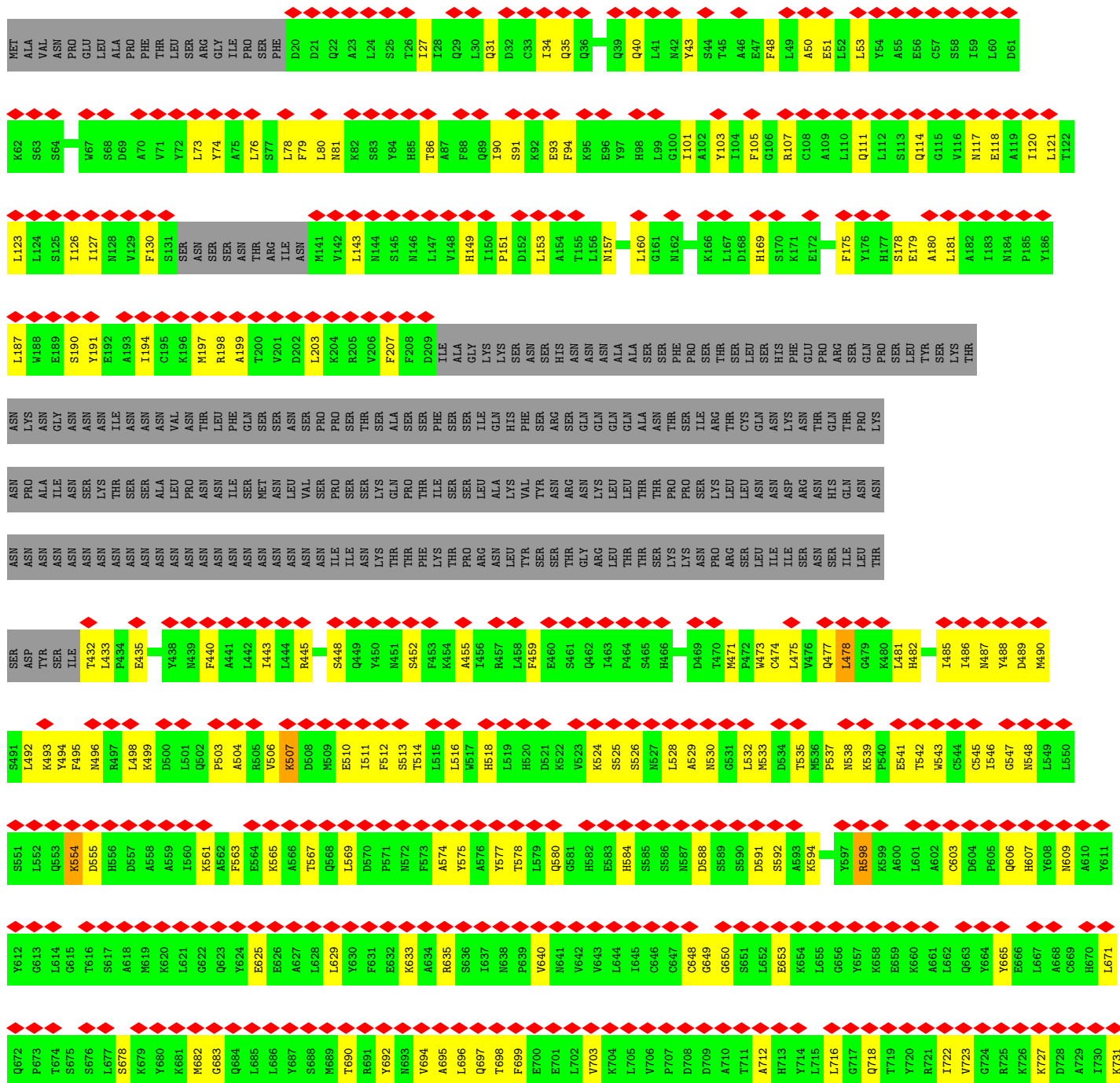
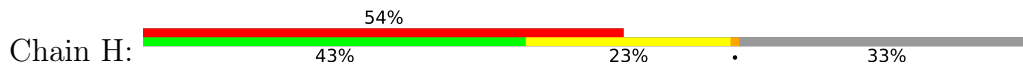
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	A	218	Total	C	N	O	S	0	0
			1738	1113	303	312	10		

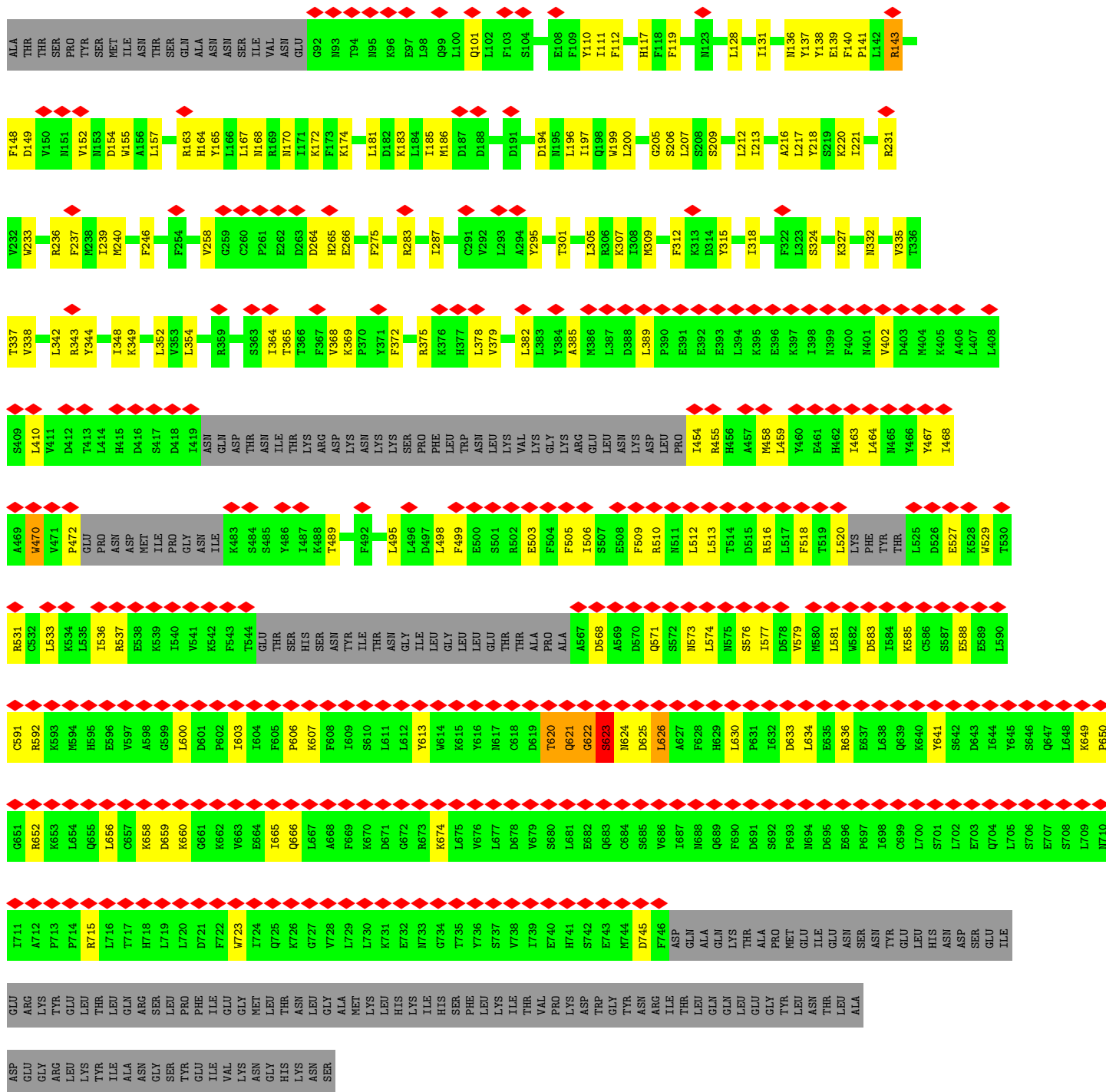
- Molecule 14 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
14	U	3	Total	Zn	0
			3	3	

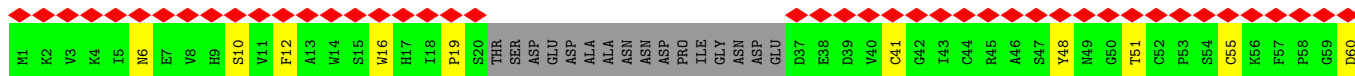


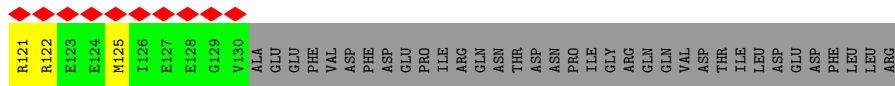
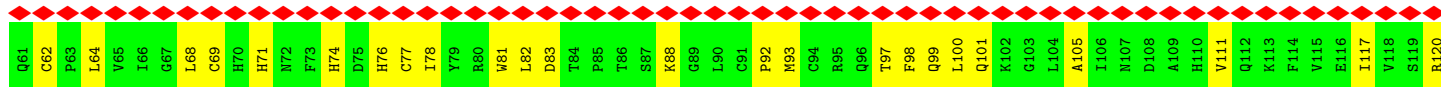
• Molecule 1: Anaphase-promoting complex subunit CDC27



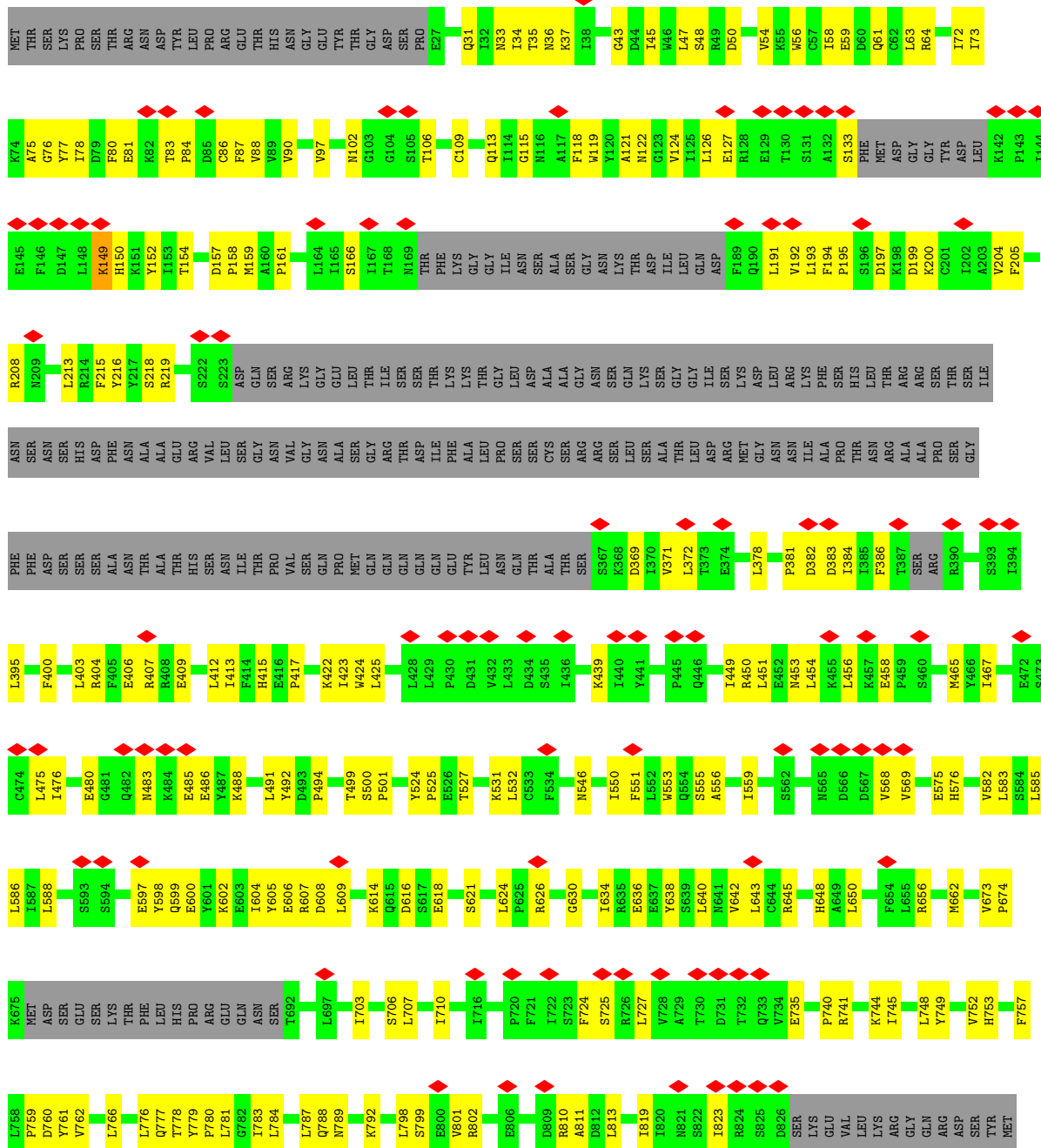


• Molecule 6: Anaphase-promoting complex subunit 11





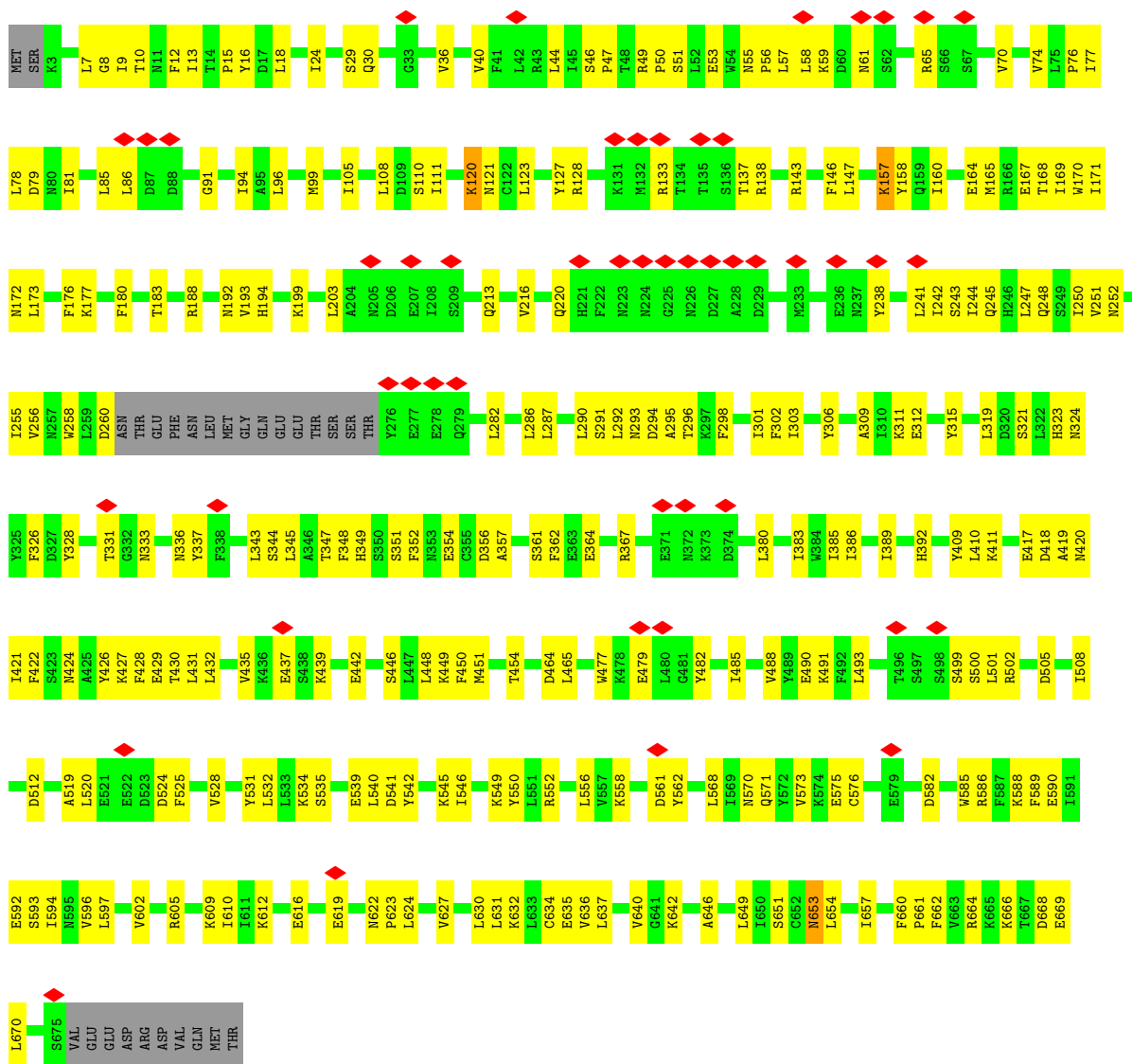
• Molecule 7: Anaphase-promoting complex subunit 1



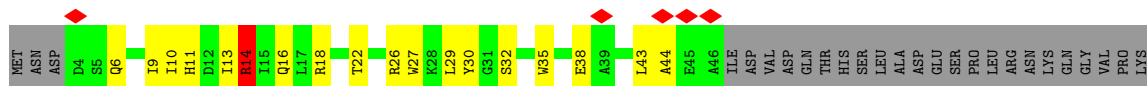
H1606	HI 607	H1615	H1616	H1617	K1618	D1619	V1620	S1621	A1622	S1623	D1624	F1625	S1626	G1627	G1628	G1629	T1630	I1631	Q1635	R1636	K1637	S1638	E1639	S1640	V1641	K1645	M1650	V1651	E1652	H1655	L1658	S1665	K1666	M1667	Y1668	S1669	L1670	LEU	ASN	LEU	LEU	LYS	ASN	ASN	GLN	G1678	M1679	Q1684																						
Y1532	T1533	T1534	P1535	H1536	P1537	L1538	Q1539	E1540	L1541	K1542	H1543	F1544	W1545	V1549	E1550	P1551	R1552	I1556	K1557	D1558	I1559	D1563	M1566	M1567	V1568	P1569	L1572	V1573	V1574	E1575	E1576	D1577	V1578	E1579	K1580	E1581	E1582	V1583	I1584	R1585	E1586	I1587	S1588	T1589	P1590	C1591	D1595	F1596	S1601	I1602	K1605																			
SER	SER	ASN	GLY	SER	ASP	ILE	S1475	D1476	P1477	T1478	A1479	Y1480	L1481	E1482	D1483	K1484	K1485	D1486	I1487	D1488	D1489	H1490	Y1491	G1492	F1493	F1494	I1495	S1496	T1497	M1498	L1499	A1500	L1501	F1505	S1508	G1509	Q1510	Y1511	A1512	L1513	M1514	T1515	S1516	T1517	L1518	E1519	S1520	I1521	A1522	F1523	M1526	S1527	V1528	L1529	P1530	T1531														
R1408	E1409	V1410	K1411	Y1412	L1413	H1414	E1415	V1416	A1417	S1418	G1419	P1420	Y1421	S1422	D1423	L1424	PHE	GLN	ILE	PRO	SER	SER	LYS	ASP	VAL	SER	GLY	VAL	THR	GLN	VAL	THR	SER	ASN	ASN	THR	PRO	GLY	ASN	SER	ASP	ARG	GLU	ARG	VAL	ASP	GLU	THR	ALA	SER	LEU	LEU	ASP	GLU	ARG															
R1342	F1343	A1344	S1345	N1348	L1349	K1350	I1351	R1352	L1355	L1356	D1360	K1361	F1362	L1363	P1364	L1365	Q1367	Y1368	P1369	G1370	K1371	Q1372	M1373	L1374	D1375	F1376	T1379	I1380	I1383	N1384	V1385	T1387	M1388	V1389	L1390	Y1391	V1392	S1393	L1394	S1395	M1396	V1397	M1398	C1399	A1400	S1401	G1402	D1403	L1404	E1405	V1406	L1407																		
M1278	I1279	M1280	T1281	R1282	P1283	E1284	L1285	L1286	E1290	W1291	A1292	I1296	L1297	M1298	E1299	F1300	I1301	G1302	D1303	D1304	L1305	F1306	I1307	I1308	M1309	K1310	L1311	V1312	D1313	I1314	G1315	V1316	K1317	F1318	S1319	E1320	L1321	M1322	T1323	D1324	L1325	L1326	P1327	I1328	I1329	L1330	L1331	M1332	L1333	L1334	M1335	M1337	S1338	L1339	Y1340	T1341	L1342	L1343	L1344	L1345	L1346	F1348	A1349	Q1350	L1351	M1352	L1353	L1354	L1355	M1356
E1218	D1219	L1220	T1221	T1222	K1223	L1224	L1225	E1226	I1227	V1228	T1229	S1230	T1231	Y1232	D1233	V1234	E1235	M1236	D1237	W1238	I1239	P1240	E1241	M1242	S1243	Q1244	K1245	G1246	A1247	V1248	I1249	A1250	M1252	F1253	L1254	F1255	M1256	K1257	S1258	N1259	M1260	F1261	G1262	I1263	S1264	M1265	M1266	L1267	K1268	V1269	D1270	L1271	K1272	E1273	I1274	L1275	K1276	A1277												
V1157	M1158	D1159	E1160	T1161	M1162	A1163	D1164	E1165	E1166	Y1167	R1168	L1169	A1170	A1171	G1172	I1173	S1174	L1175	G1176	L1177	L1180	G1181	A1182	G1183	Q1184	T1185	K1186	LEU	ARG	V1248	I1249	A1250	M1252	F1253	L1254	F1255	M1256	K1257	S1258	N1259	M1260	F1261	G1262	I1263	S1264	M1265	M1266	L1267	K1268	V1269	D1270	L1271	K1272	E1273	I1274	L1275	K1276	A1277												
K1097	L1098	I1099	K1100	V1101	I1102	S1103	V1104	H1105	L1106	V1107	A1108	F1109	L1110	M1111	S1112	G1113	M1114	S1115	D1116	L1117	M1118	I1119	D1120	L1121	K1122	L1123	Q1124	T1125	A1126	G1127	M1069	Y1070	L1071	S1072	P1073	M1074	M1075	T1076	H1077	S1079	I1080	G1081	H1082	L1083	M1084	G1085	M1086	S1087	S1088	I1089	M1090	K1091	M1092	S1093	M1094	D1095	S1096													
I1034	A1035	F1036	M1037	K1038	F1039	K1040	E1041	L1042	D1043	H1046	F1049	L1050	L1051	G1052	L1055	M1056	G1057	H1058	K1059	L1060	M1061	L1062	E1063	E1064	W1065	H1066	I1067	Y1068	N1069	D1001	I1002	A1003	H1004	D1005	I1006	V1007	W1009	G1010	Q1011	F1012	H1013	S1018	G1019	L1020	N1021	I1022	S1023	K1024	A1025	K1026	G1027	T1027	G1028	I1029	T1030															
A902	G903	L904	I905	F906	S907	E908	D909	K910	R911	V915	L919	Y922	R923	P924	T925	K926	Q928	F929	F930	T931	R932	K933	T934	E935	Y936	A937	Q938	I939	L940	Q942	K943	K944	Y945	F946	A947	K948	I949	M950	A951	L952	R953	C955	T956	N957	G958	V959	G960	W961	G962	A963	V964	A965																		
LEU	C842	K843	V844	L846	A847	K848	N849	R850	S851	S852	LEU	SER	K855	K856	P857	S858	D859	I860	Y861	S862	I863	L864	I867	V868	K869	S870	A871	S872	GLN	VAL	PRO	LEU	ASP	GLY	SER	ALA	MET	ARG	MET	SER	ASN	ILE	ASP	ASP	GLU	G895	R896	S897	L898	K899	L900	N901																		

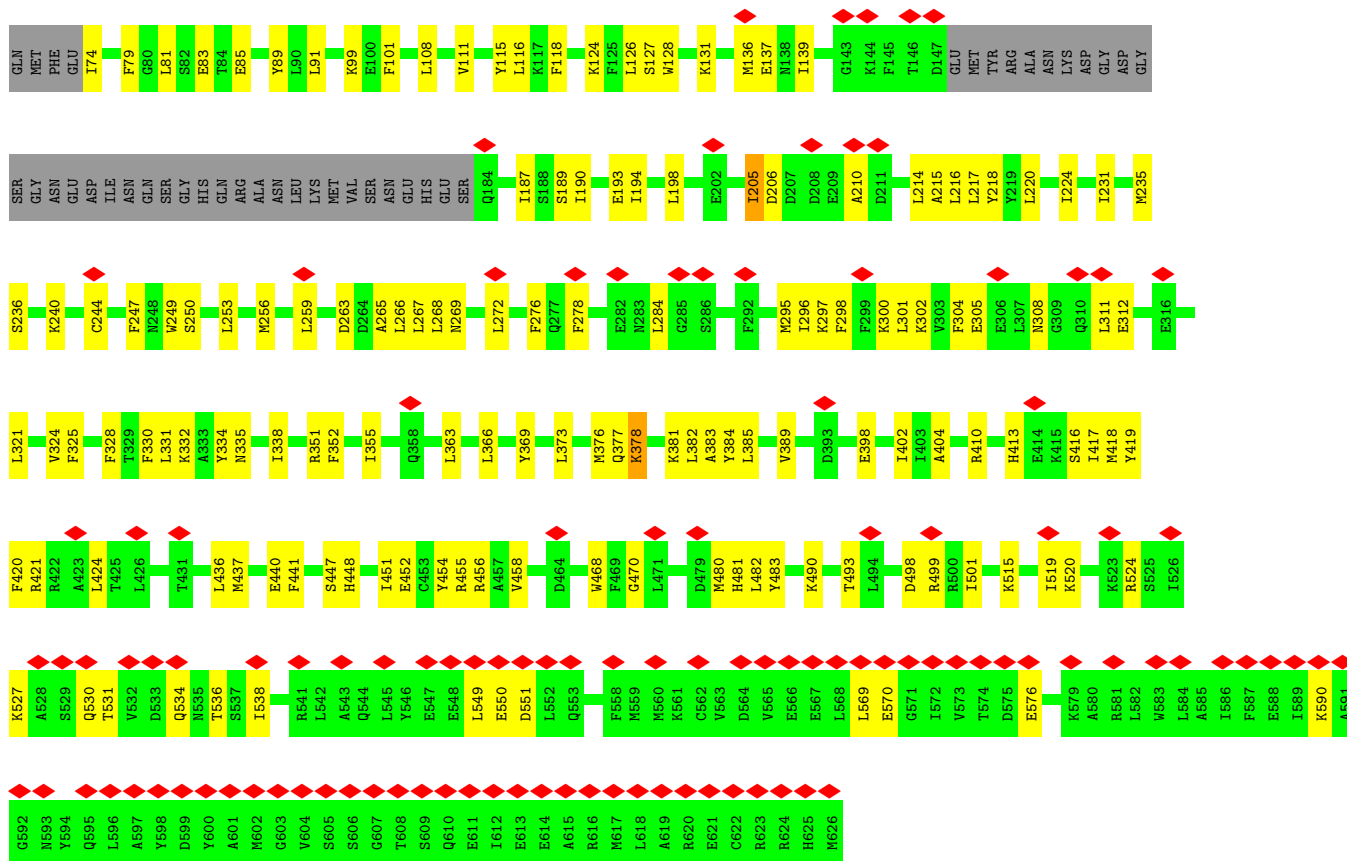


• Molecule 8: Anaphase-promoting complex subunit 5

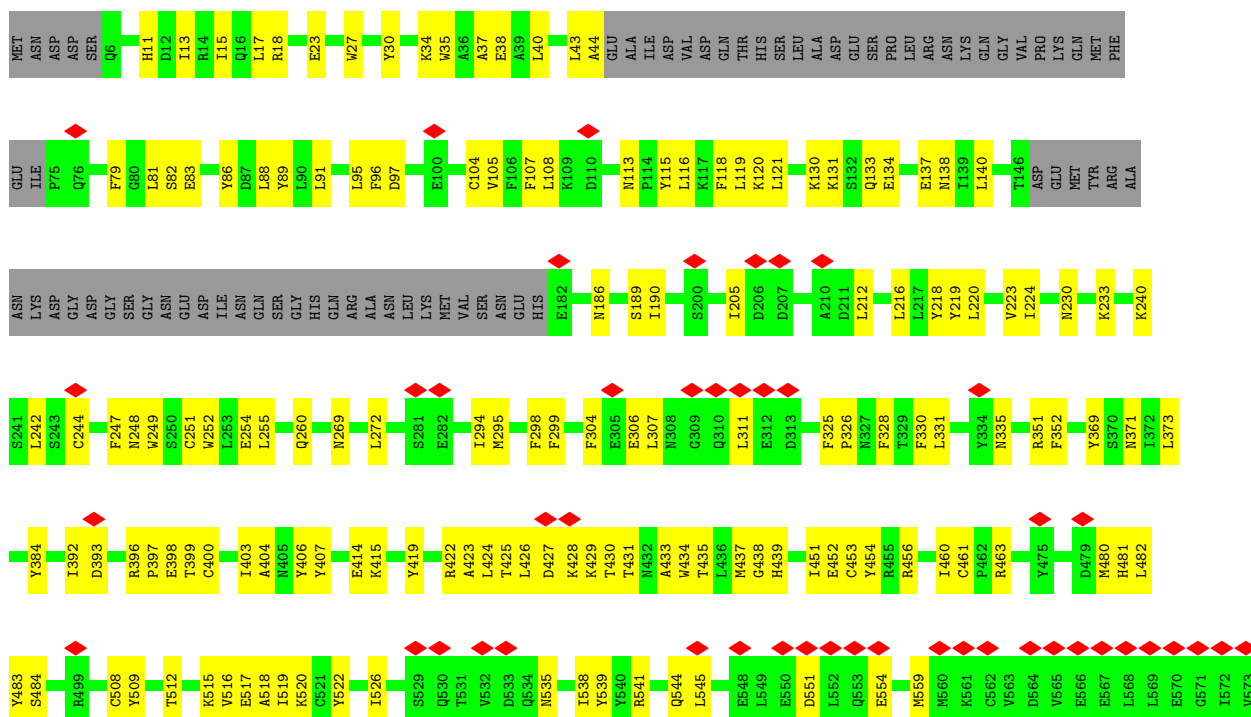


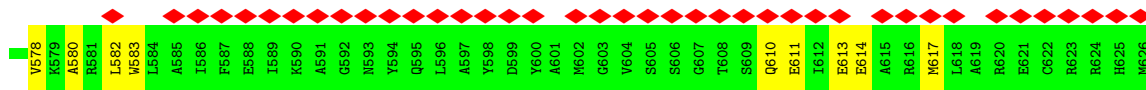
• Molecule 9: Anaphase-promoting complex subunit CDC23



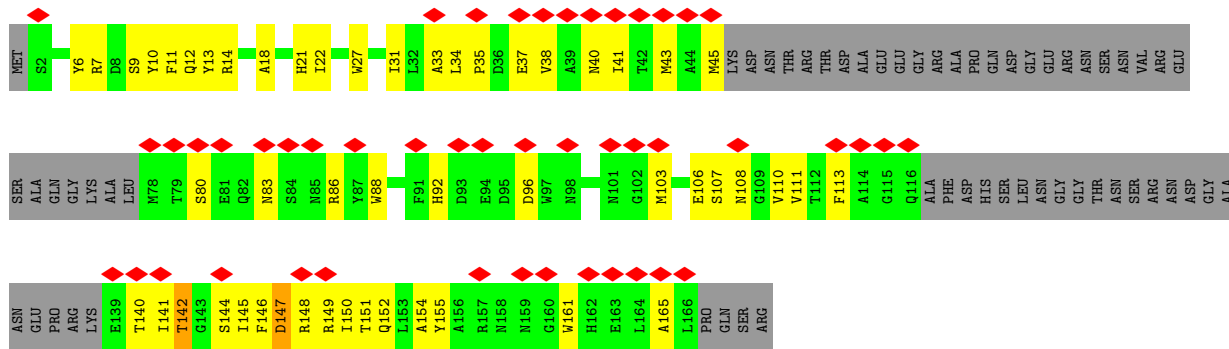
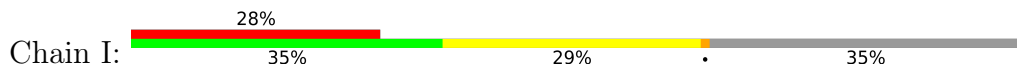


• Molecule 9: Anaphase-promoting complex subunit CDC23

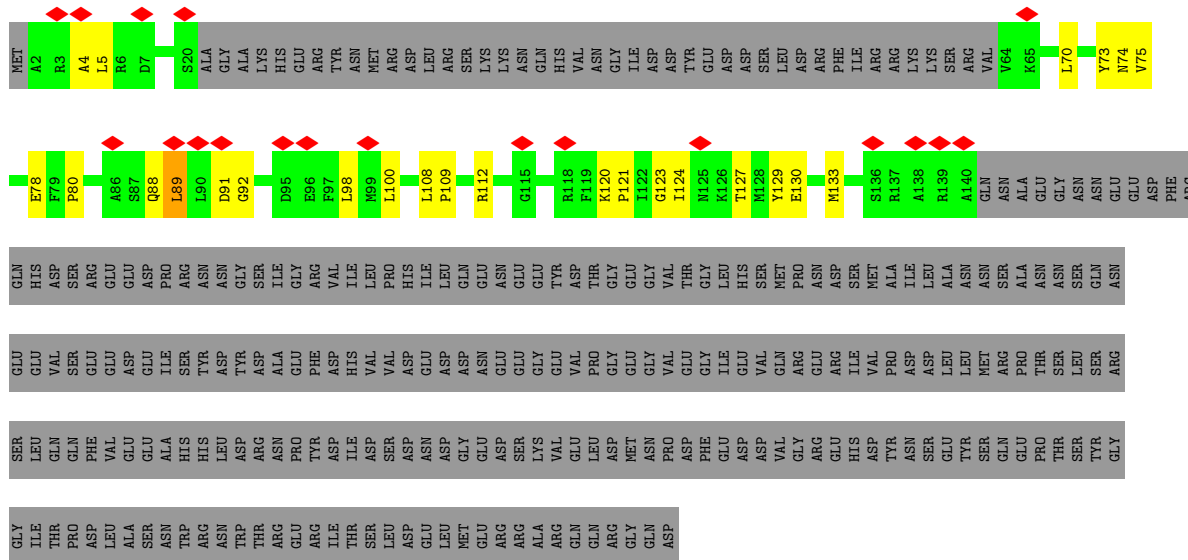




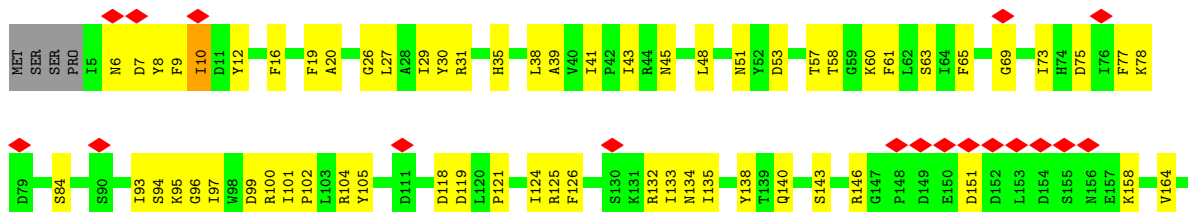
• Molecule 10: Anaphase-promoting complex subunit SWM1

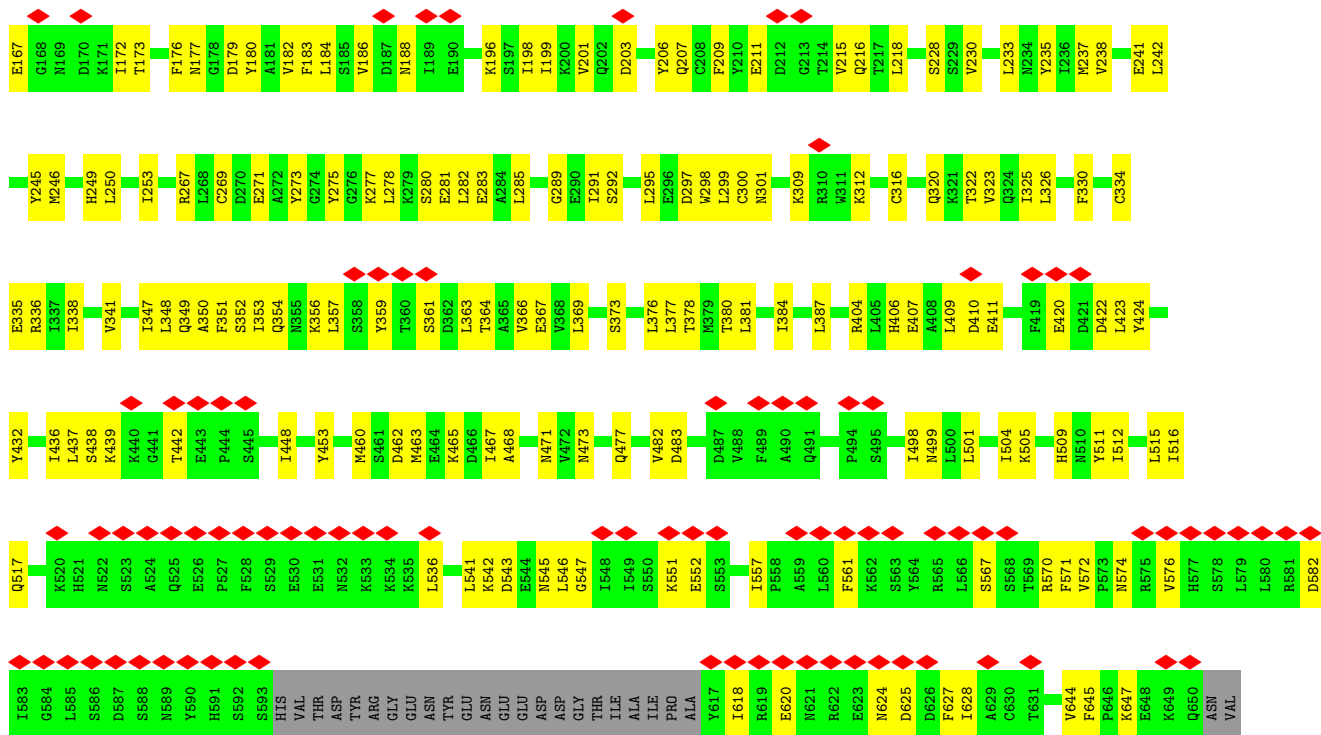


• Molecule 11: Anaphase-promoting complex subunit MND2

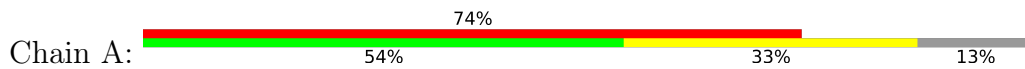


• Molecule 12: Anaphase-promoting complex subunit 4





● Molecule 13: Anaphase-promoting complex subunit DOC1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	372535	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 ($e^-/\text{\AA}^2$)	59	Depositor
Minimum defocus (nm)	2600	Depositor
Maximum defocus (nm)	9000	Depositor
Magnification	59000	Depositor
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.214	Depositor
Minimum map value	-0.106	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	353.28, 353.28, 353.28	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.38, 1.38, 1.38	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	F	0.31	0/4079	0.60	7/5525 (0.1%)
1	H	0.28	0/4126	0.53	1/5585 (0.0%)
2	J	0.30	0/4210	0.61	5/5688 (0.1%)
2	K	0.30	0/4188	0.57	0/5657
3	G	0.28	0/285	0.76	0/384
3	W	0.27	0/285	0.58	0/384
4	E	0.29	0/1108	0.60	1/1481 (0.1%)
5	T	0.26	0/5479	0.53	1/7420 (0.0%)
6	U	0.26	0/936	0.57	0/1265
7	C	0.28	0/11057	0.58	4/15038 (0.0%)
8	O	0.29	0/5384	0.58	0/7287
9	D	0.28	0/4621	0.56	2/6243 (0.0%)
9	P	0.27	0/4618	0.55	0/6231
10	I	0.32	0/930	0.66	0/1263
11	N	0.27	0/800	0.64	1/1076 (0.1%)
12	Q	0.27	0/5193	0.53	0/7024
13	A	0.25	0/1780	0.56	0/2411
All	All	0.28	0/59079	0.57	22/79962 (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
5	T	0	4
7	C	0	1
All	All	0	5

There are no bond length outliers.

All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	J	752	LEU	CB-CG-CD2	-7.79	97.76	111.00
7	C	1363	LEU	CA-CB-CG	6.89	131.16	115.30
2	J	482	CYS	CA-CB-SG	6.65	125.98	114.00
1	F	458	LEU	CA-CB-CG	6.61	130.51	115.30
1	F	181	LEU	CA-CB-CG	-6.18	101.08	115.30
2	J	752	LEU	CA-CB-CG	6.17	129.50	115.30
2	J	484	GLU	CA-CB-CG	6.10	126.82	113.40
5	T	626	LEU	CA-CB-CG	6.06	129.24	115.30
7	C	1094	MET	CA-CB-CG	6.00	123.50	113.30
2	J	269	LEU	CA-CB-CG	5.99	129.08	115.30
11	N	89	LEU	CA-CB-CG	5.81	128.67	115.30
7	C	845	PRO	N-CA-CB	5.76	110.21	103.30
1	F	564	GLU	N-CA-CB	5.73	120.92	110.60
1	H	478	LEU	CA-CB-CG	5.68	128.36	115.30
1	F	41	LEU	CA-CB-CG	5.50	127.96	115.30
7	C	1252	MET	CA-CB-CG	5.49	122.63	113.30
1	F	197	MET	CA-CB-CG	5.39	122.46	113.30
9	D	14	ARG	CD-NE-CZ	5.37	131.12	123.60
1	F	564	GLU	CA-CB-CG	5.25	124.95	113.40
4	E	173	LEU	CA-CB-CG	5.22	127.32	115.30
9	D	14	ARG	NE-CZ-NH1	5.22	122.91	120.30
1	F	619	MET	CG-SD-CE	-5.10	92.04	100.20

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
7	C	1551	PRO	Peptide
5	T	620	THR	Peptide
5	T	621	GLN	Peptide
5	T	622	GLY	Peptide
5	T	623	SER	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	F	3991	0	3947	183	0
1	H	4038	0	4010	141	0
2	J	4124	0	4085	186	0
2	K	4102	0	4065	184	0
3	G	284	0	293	19	0
3	W	284	0	293	21	0
4	E	1091	0	1058	38	0
5	T	5362	0	5336	157	0
6	U	912	0	873	31	0
7	C	10832	0	10637	435	0
8	O	5285	0	5290	235	0
9	D	4524	0	4391	139	0
9	P	4520	0	4415	143	0
10	I	906	0	813	60	0
11	N	784	0	784	24	0
12	Q	5086	0	5095	180	0
13	A	1738	0	1705	59	0
14	U	3	0	0	0	0
All	All	57866	0	57090	2031	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 18.

All (2031) 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)
5:T:463:ILE:HG12	7:C:1412:TYR:HE1	1.24	1.02
7:C:78:ILE:HD13	7:C:119:TRP:HD1	1.30	0.95
7:C:902:ALA:HA	7:C:905:ILE:HG12	1.49	0.92
9:P:95:LEU:HD11	9:P:104:CYS:HB2	1.53	0.91
2:K:453:LEU:HD12	2:K:459:LEU:HD23	1.52	0.90
5:T:623:SER:O	5:T:625:ASP:N	2.04	0.90
1:F:475:LEU:HD22	1:F:498:LEU:HB2	1.54	0.88
7:C:1051:LEU:HD12	7:C:1081:GLY:HA2	1.56	0.88
4:E:169:ASN:HB3	4:E:204:LYS:HZ3	1.39	0.87
8:O:216:VAL:O	8:O:220:GLN:NE2	2.07	0.87
2:K:569:LEU:O	2:K:573:HIS:ND1	2.07	0.86
8:O:290:LEU:HD23	8:O:292:LEU:H	1.40	0.86
7:C:1356:LEU:HD11	7:C:1405:GLU:HG3	1.59	0.85
10:I:40:ASN:HD22	10:I:80:SER:HA	1.41	0.85
7:C:905:ILE:HA	7:C:1590:PRO:HB2	1.58	0.83
7:C:199:ASP:O	7:C:404:ARG:NH2	2.11	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:750:ASN:HD22	3:W:20:ILE:HG13	1.44	0.82
9:P:541:ARG:NH2	9:P:544:GLN:OE1	2.13	0.82
12:Q:323:VAL:HG23	12:Q:384:ILE:HD11	1.62	0.82
1:H:187:LEU:HD11	1:H:190:SER:HB2	1.60	0.82
7:C:491:LEU:HB2	7:C:500:SER:HB3	1.61	0.82
8:O:61:ASN:HB2	8:O:65:ARG:HG2	1.62	0.81
5:T:327:LYS:HD3	12:Q:151:ASP:HA	1.63	0.81
9:P:559:MET:HE3	9:P:580:ALA:HA	1.61	0.81
2:J:435:ILE:HD11	2:J:465:VAL:HA	1.62	0.81
12:Q:57:THR:HG23	12:Q:58:THR:HG23	1.63	0.81
2:K:653:LYS:HE3	2:K:684:TYR:CE1	2.15	0.80
3:G:22:ASP:O	3:G:25:GLU:HG3	1.81	0.80
8:O:439:LYS:NZ	8:O:619:GLU:O	2.13	0.80
10:I:113:PHE:HB2	10:I:141:ILE:HB	1.64	0.80
2:J:544:LEU:HD22	2:J:546:ARG:HE	1.45	0.80
9:D:377:GLN:O	9:D:378:LYS:HB3	1.80	0.79
9:P:335:ASN:HB3	9:P:351:ARG:HH22	1.46	0.79
7:C:749:TYR:HA	7:C:752:VAL:HG12	1.65	0.79
6:U:55:CYS:SG	6:U:76:HIS:CE1	2.76	0.79
5:T:463:ILE:HG12	7:C:1412:TYR:CE1	2.15	0.79
2:J:434:LYS:HA	2:J:437:LEU:HD13	1.65	0.78
1:F:41:LEU:HD21	1:H:79:PHE:HE2	1.49	0.78
8:O:419:ALA:HB2	11:N:4:ALA:H	1.48	0.78
2:J:607:MET:SD	3:G:4:ARG:NH2	2.55	0.78
2:J:752:LEU:HD23	9:P:482:LEU:HB3	1.63	0.78
7:C:898:LEU:HD22	7:C:1510:GLN:HE22	1.47	0.78
5:T:50:HIS:O	5:T:53:ARG:HG3	1.84	0.78
2:K:546:ARG:HH11	2:K:546:ARG:HA	1.48	0.78
7:C:525:PRO:O	7:C:531:LYS:NZ	2.17	0.77
2:K:307:VAL:HG22	2:K:368:ILE:HD11	1.66	0.77
6:U:83:ASP:O	6:U:121:ARG:NH2	2.17	0.77
2:J:368:ILE:O	2:J:372:GLN:NE2	2.17	0.77
12:Q:100:ARG:HB3	12:Q:158:LYS:HE3	1.66	0.77
2:J:757:THR:HB	3:G:27:LYS:HE3	1.66	0.77
8:O:290:LEU:HD21	8:O:295:ALA:H	1.49	0.77
1:H:526:SER:O	1:H:530:ASN:ND2	2.18	0.77
7:C:1084:LEU:HD23	7:C:1544:PHE:HZ	1.50	0.77
8:O:50:PRO:HA	8:O:245:GLN:HG2	1.67	0.76
7:C:1526:MET:HG2	7:C:1541:LEU:HD21	1.66	0.76
5:T:149:ASP:HB3	5:T:152:VAL:HG12	1.68	0.76
7:C:78:ILE:HD13	7:C:119:TRP:CD1	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:475:LEU:HD11	7:C:491:LEU:HB3	1.68	0.76
2:J:278:GLN:OE1	2:J:281:ARG:NH1	2.19	0.75
5:T:503:GLU:OE2	5:T:573:ASN:ND2	2.18	0.75
2:J:682:HIS:HD2	2:J:685:ARG:HE	1.35	0.75
9:P:219:TYR:CE1	9:P:251:CYS:HA	2.22	0.75
1:F:512:PHE:HD2	1:F:528:LEU:HD22	1.52	0.75
2:K:241:LEU:HD21	2:K:272:VAL:HG22	1.69	0.75
1:H:90:ILE:O	1:H:93:GLU:HG2	1.87	0.75
7:C:1552:ARG:HH21	7:C:1595:ASP:HA	1.52	0.75
7:C:1368:TYR:H	7:C:1380:ILE:HD11	1.51	0.74
12:Q:134:ASN:OD1	12:Q:135:ILE:N	2.19	0.74
1:H:31:GLN:O	1:H:35:GLN:NE2	2.20	0.74
8:O:247:LEU:HD11	8:O:287:LEU:HD21	1.68	0.74
1:F:171:LYS:HA	4:E:165:VAL:HG11	1.70	0.74
5:T:174:LYS:HE2	5:T:207:LEU:HB2	1.67	0.74
8:O:479:GLU:OE2	8:O:622:ASN:ND2	2.21	0.74
1:F:735:VAL:HG22	2:J:593:ARG:HG3	1.70	0.74
8:O:568:LEU:HD12	8:O:571:GLN:HE21	1.53	0.73
7:C:454:LEU:HB3	7:C:456:LEU:HD23	1.71	0.73
2:J:656:LEU:HD22	2:J:680:LEU:HB2	1.70	0.73
1:F:175:PHE:HB2	4:E:176:LEU:HD13	1.71	0.73
1:F:516:LEU:HD13	1:F:525:SER:HB2	1.70	0.73
6:U:48:TYR:HB3	6:U:64:LEU:HD11	1.69	0.73
13:A:80:ARG:HH12	13:A:223:SER:H	1.35	0.73
8:O:192:ASN:O	8:O:194:HIS:N	2.19	0.72
2:J:752:LEU:HD21	9:P:483:TYR:CE1	2.25	0.72
9:P:429:LYS:HG3	9:P:460:ILE:HD11	1.72	0.72
8:O:464:ASP:OD1	8:O:465:LEU:N	2.22	0.72
8:O:349:HIS:ND1	8:O:354:GLU:OE1	2.17	0.72
7:C:1345:SER:HB3	7:C:1513:LEU:HG	1.72	0.72
7:C:1490:HIS:HA	7:C:1493:LYS:HE3	1.71	0.72
2:J:682:HIS:CD2	2:J:685:ARG:HE	2.07	0.71
9:P:230:ASN:HD21	9:P:233:LYS:HD3	1.54	0.71
7:C:950:MET:SD	7:C:953:ARG:NH1	2.62	0.71
5:T:110:TYR:HE2	5:T:155:TRP:HZ3	1.38	0.71
9:P:425:THR:HB	10:I:22:ILE:HD11	1.70	0.71
9:P:427:ASP:HB2	9:P:430:THR:HG22	1.72	0.71
2:J:507:LEU:HD11	2:J:516:LEU:HD13	1.73	0.71
9:P:328:PHE:HD2	9:P:331:LEU:HG	1.53	0.71
5:T:464:LEU:HD12	5:T:468:ILE:HD13	1.73	0.71
4:E:206:PHE:HE2	4:E:228:LEU:HD21	1.56	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:682:HIS:O	2:J:685:ARG:HG3	1.90	0.71
1:H:537:PRO:O	1:H:543:TRP:NE1	2.22	0.71
7:C:1326:LEU:HD21	7:C:1379:THR:HA	1.73	0.71
2:K:563:SER:HA	2:K:595:PHE:HZ	1.55	0.71
12:Q:57:THR:HG21	12:Q:158:LYS:HE2	1.72	0.70
7:C:858:SER:HG	7:C:862:SER:HG	1.39	0.70
7:C:1042:LEU:HD12	7:C:1078:ILE:HG12	1.73	0.70
8:O:13:ILE:HG13	8:O:157:LYS:HZ2	1.57	0.70
12:Q:542:LYS:HE2	12:Q:545:ASN:HB3	1.74	0.70
8:O:291:SER:OG	8:O:293:ASN:OD1	2.10	0.70
1:F:200:THR:OG1	1:F:445:ARG:NH1	2.24	0.69
2:K:473:CYS:HA	2:K:478:LYS:HE3	1.74	0.69
1:H:635:ARG:NH2	1:H:648:CYS:SG	2.65	0.69
7:C:1051:LEU:HD23	7:C:1055:LEU:HD23	1.73	0.69
12:Q:376:LEU:HD23	12:Q:460:MET:HE1	1.74	0.69
2:K:565:ALA:HB2	2:K:595:PHE:CD2	2.27	0.69
2:K:607:MET:HE3	3:W:4:ARG:HD3	1.75	0.69
1:H:533:MET:HE2	1:H:542:THR:HB	1.73	0.69
5:T:463:ILE:HD11	7:C:1416:VAL:HG11	1.74	0.69
8:O:386:ILE:HA	8:O:389:ILE:HG22	1.74	0.69
12:Q:353:ILE:O	12:Q:356:LYS:NZ	2.24	0.69
1:H:546:ILE:HD13	4:E:253:CYS:SG	2.32	0.69
5:T:576:SER:HB3	5:T:613:TYR:CD1	2.28	0.69
9:D:38:GLU:HG3	9:D:328:PHE:HE1	1.55	0.69
9:D:335:ASN:OD1	9:D:351:ARG:NH1	2.25	0.69
10:I:106:GLU:OE2	10:I:110:VAL:N	2.25	0.69
5:T:110:TYR:OH	5:T:138:TYR:O	2.11	0.69
12:Q:26:GLY:HA2	12:Q:43:ILE:HG22	1.73	0.69
12:Q:97:ILE:HD13	12:Q:198:ILE:HG21	1.75	0.68
1:F:155:THR:OG1	1:H:40:GLN:OE1	2.10	0.68
7:C:1116:ASP:OD2	7:C:1156:ASN:ND2	2.26	0.68
2:K:716:TYR:HE1	3:W:16:VAL:HA	1.58	0.68
7:C:779:TYR:O	8:O:605:ARG:NH2	2.25	0.68
9:D:137:GLU:N	9:D:137:GLU:OE1	2.26	0.68
2:K:653:LYS:HD2	2:K:653:LYS:O	1.93	0.68
5:T:518:PHE:HE2	5:T:660:LYS:HA	1.58	0.68
8:O:96:LEU:HD23	8:O:194:HIS:HB3	1.76	0.68
10:I:145:ILE:HG23	10:I:146:PHE:CD1	2.29	0.68
7:C:1403:ASP:HB3	7:C:1406:VAL:HG22	1.75	0.68
7:C:492:TYR:HD1	7:C:499:THR:HB	1.59	0.68
2:K:516:LEU:HD22	2:K:540:TYR:HB2	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:34:ILE:HG21	1:H:73:LEU:HD13	1.75	0.68
8:O:442:GLU:OE1	8:O:442:GLU:N	2.26	0.68
1:H:548:ASN:OD1	13:A:250:ARG:NE	2.24	0.68
9:D:79:PHE:HB3	9:D:81:LEU:HD23	1.76	0.68
1:F:31:GLN:HE21	1:F:73:LEU:HD11	1.59	0.68
2:J:281:ARG:NH2	2:K:497:THR:HG23	2.09	0.68
1:F:714:TYR:HE1	1:F:747:ILE:HG12	1.59	0.68
9:P:121:LEU:HD12	9:P:190:ILE:HG23	1.76	0.68
12:Q:31:ARG:HG3	12:Q:38:LEU:HD21	1.75	0.68
12:Q:124:ILE:O	12:Q:245:TYR:OH	2.12	0.68
1:F:175:PHE:HA	4:E:162:LEU:HD22	1.74	0.67
2:K:435:ILE:O	2:K:439:LYS:NZ	2.27	0.67
1:H:440:PHE:O	1:H:443:ILE:HG22	1.94	0.67
7:C:811:ALA:N	7:C:1635:GLN:OE1	2.25	0.67
7:C:1712:THR:N	7:C:1715:GLU:OE2	2.27	0.67
2:J:432:LEU:HD21	2:K:255:LYS:HG3	1.76	0.67
6:U:69:CYS:SG	6:U:71:HIS:HB2	2.35	0.67
7:C:1274:ILE:HB	7:C:1279:ILE:HD13	1.76	0.67
7:C:725:SER:HB2	7:C:735:GLU:OE1	1.94	0.67
12:Q:505:LYS:NZ	12:Q:543:ASP:HB3	2.09	0.67
8:O:651:SER:HA	8:O:654:LEU:HD23	1.76	0.67
1:F:199:ALA:HB2	4:E:166:PRO:HD3	1.76	0.67
1:H:580:GLN:O	1:H:584:HIS:ND1	2.27	0.67
1:H:703:VAL:HG12	1:H:712:ALA:HB1	1.76	0.67
6:U:41:CYS:HB2	6:U:74:HIS:CD2	2.29	0.67
7:C:1387:THR:HA	7:C:1390:ILE:HG12	1.76	0.67
9:D:332:LYS:HB2	9:D:355:ILE:HD11	1.76	0.66
13:A:132:ASP:HB3	13:A:192:LEU:HD13	1.77	0.66
2:K:747:LEU:HD22	3:W:20:ILE:HD12	1.76	0.66
1:H:533:MET:CE	1:H:542:THR:HB	2.26	0.66
4:E:233:LYS:HA	4:E:236:TYR:HD2	1.59	0.66
7:C:154:THR:HG21	7:C:369:ASP:HB2	1.78	0.66
4:E:216:LEU:HD11	4:E:220:HIS:CD2	2.30	0.66
7:C:656:ARG:HH12	7:C:673:VAL:HG23	1.60	0.66
7:C:1329:TYR:OH	13:A:13:LEU:O	2.13	0.66
13:A:181:LEU:HG	13:A:183:PHE:HE1	1.60	0.66
2:J:432:LEU:O	2:J:435:ILE:HG22	1.95	0.66
2:J:616:ASN:O	2:J:619:GLU:HG2	1.96	0.66
4:E:206:PHE:CE2	4:E:228:LEU:HD21	2.31	0.66
8:O:168:THR:O	8:O:172:ASN:ND2	2.28	0.66
7:C:576:HIS:CE1	7:C:650:LEU:HB3	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:382:LEU:HD13	5:T:498:LEU:HD11	1.76	0.66
7:C:424:TRP:HE1	7:C:449:ILE:HG23	1.61	0.66
2:K:459:LEU:HD11	2:K:462:ASN:HD22	1.60	0.65
4:E:97:CYS:HB3	4:E:102:LEU:HD21	1.77	0.65
9:P:519:ILE:HD11	9:P:545:LEU:HD22	1.78	0.65
9:P:559:MET:CE	9:P:583:TRP:HB3	2.26	0.65
1:F:550:LEU:HD13	1:F:558:ALA:HB1	1.79	0.65
2:K:470:VAL:HB	2:K:485:LEU:HD11	1.78	0.65
7:C:585:LEU:O	7:C:614:LYS:NZ	2.28	0.65
8:O:488:VAL:HG11	12:Q:377:LEU:HD23	1.76	0.65
7:C:568:VAL:HG13	7:C:569:VAL:HG22	1.78	0.65
7:C:1557:LYS:HD3	7:C:1631:ILE:HG21	1.79	0.65
7:C:34:ILE:HG21	7:C:45:ILE:HD12	1.78	0.65
7:C:425:LEU:HD23	7:C:450:ARG:HH11	1.61	0.65
13:A:166:PHE:HZ	13:A:169:MET:HG3	1.60	0.65
2:J:754:LEU:HD23	3:G:27:LYS:HE2	1.79	0.65
3:W:27:LYS:HA	3:W:30:GLN:HE22	1.62	0.65
12:Q:505:LYS:HZ3	12:Q:511:TYR:C	2.00	0.65
1:F:73:LEU:HD23	1:F:76:LEU:HD21	1.79	0.65
1:F:203:LEU:HD21	1:F:441:ALA:HB3	1.79	0.65
1:H:203:LEU:HD23	1:H:445:ARG:HH12	1.61	0.65
5:T:626:LEU:HB3	5:T:658:LYS:NZ	2.12	0.65
12:Q:357:LEU:HD23	12:Q:359:TYR:H	1.61	0.65
2:J:447:THR:O	2:J:451:GLU:HG2	1.96	0.65
2:J:756:VAL:HG13	9:P:512:THR:HB	1.79	0.65
1:H:194:ILE:HG23	1:H:199:ALA:HB3	1.77	0.65
8:O:146:PHE:HD2	8:O:147:LEU:HD22	1.61	0.65
1:F:191:TYR:HH	1:F:207:PHE:HE1	1.41	0.64
1:H:123:LEU:HB3	1:H:160:LEU:HD12	1.78	0.64
7:C:798:LEU:HD11	7:C:802:ARG:HG2	1.79	0.64
2:K:542:MET:HE3	2:K:547:ILE:HA	1.79	0.64
7:C:1148:PHE:HA	7:C:1175:LEU:HD11	1.79	0.64
4:E:254:ARG:NH2	4:E:258:SER:OG	2.30	0.64
5:T:5:ILE:HG13	7:C:1735:GLN:HE22	1.61	0.64
8:O:364:GLU:OE1	9:D:481:HIS:N	2.30	0.64
8:O:627:VAL:HG11	8:O:660:PHE:CD2	2.32	0.64
8:O:247:LEU:HD12	8:O:250:ILE:HD11	1.79	0.64
2:K:668:PRO:O	2:K:673:THR:OG1	2.14	0.64
7:C:59:GLU:HB2	8:O:534:LYS:HZ3	1.62	0.64
1:H:203:LEU:HD12	1:H:207:PHE:HE2	1.63	0.64
4:E:160:MET:SD	4:E:177:SER:HB3	2.37	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:1551:PRO:O	7:C:1552:ARG:HB2	1.96	0.64
2:J:411:TRP:HZ2	2:J:446:ILE:HD11	1.61	0.64
8:O:532:LEU:O	8:O:535:SER:OG	2.15	0.64
2:J:479:PHE:HB3	2:J:510:LEU:HD21	1.80	0.63
7:C:422:LYS:HB3	7:C:451:LEU:HD11	1.79	0.63
1:H:533:MET:SD	1:H:546:ILE:HD11	2.38	0.63
5:T:382:LEU:HD11	5:T:495:LEU:HD22	1.79	0.63
7:C:588:LEU:O	7:C:614:LYS:NZ	2.23	0.63
2:K:592:SER:HB2	2:K:602:LYS:HE3	1.80	0.63
1:H:516:LEU:HD23	1:H:525:SER:HB3	1.81	0.63
5:T:652:ARG:NH2	6:U:60:ASP:OD1	2.32	0.63
2:J:281:ARG:HH22	2:K:497:THR:HG23	1.64	0.63
2:J:302:LEU:HD22	2:J:318:VAL:HG21	1.80	0.63
7:C:102:ASN:ND2	8:O:356:ASP:OD2	2.31	0.63
10:I:148:ARG:HD2	10:I:148:ARG:H	1.64	0.63
2:K:486:CYS:HA	2:K:489:VAL:HG12	1.80	0.63
7:C:1177:LEU:HD13	7:C:1180:LEU:HD11	1.79	0.63
9:D:11:HIS:HA	9:D:14:ARG:HH11	1.62	0.63
5:T:112:PHE:HA	7:C:1739:TRP:HZ2	1.64	0.63
7:C:58:ILE:HG23	7:C:59:GLU:H	1.62	0.63
12:Q:347:ILE:HD11	12:Q:351:PHE:HE2	1.64	0.63
2:J:243:GLN:HG3	2:J:245:MET:HG2	1.79	0.63
9:P:242:LEU:HD22	9:P:252:TRP:HE1	1.64	0.63
9:P:113:ASN:HB3	9:P:116:LEU:HB2	1.81	0.63
1:F:734:THR:OG1	2:J:621:TYR:OH	2.15	0.62
5:T:58:ARG:HH21	5:T:62:ILE:HG13	1.63	0.62
9:P:223:VAL:HG21	10:I:9:SER:HB2	1.81	0.62
9:P:306:GLU:OE2	9:P:463:ARG:HB3	1.99	0.62
2:K:609:PHE:HA	2:K:612:MET:HG2	1.81	0.62
7:C:199:ASP:OD1	7:C:200:LYS:N	2.33	0.62
1:F:488:TYR:HE1	1:F:518:HIS:HB3	1.64	0.62
1:H:471:MET:HE2	1:H:473:TRP:HB3	1.82	0.62
7:C:952:LEU:HD11	7:C:1006:ILE:HD13	1.81	0.62
2:J:633:PRO:HB3	2:J:663:VAL:HG21	1.80	0.62
2:K:546:ARG:HA	2:K:546:ARG:NH1	2.12	0.62
7:C:1180:LEU:HD21	7:C:1253:PHE:HD1	1.65	0.62
8:O:76:PRO:HG3	8:O:242:ILE:HD11	1.80	0.62
5:T:170:ASN:OD1	5:T:172:LYS:HG2	2.00	0.62
7:C:707:LEU:HD12	7:C:749:TYR:HD2	1.65	0.62
7:C:1147:ILE:HG22	7:C:1175:LEU:HG	1.80	0.62
8:O:120:LYS:HD2	8:O:121:ASN:HB2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:35:GLN:HE22	1:F:148:VAL:H	1.47	0.62
2:K:756:VAL:HG22	1:H:633:LYS:HE3	1.81	0.62
2:J:290:ASN:ND2	4:E:100:ASN:OD1	2.33	0.62
5:T:464:LEU:HA	5:T:468:ILE:HD13	1.80	0.62
5:T:626:LEU:HD23	5:T:715:ARG:HH12	1.64	0.62
7:C:81:GLU:HB2	7:C:122:ASN:HB2	1.82	0.62
7:C:933:LYS:HZ1	7:C:942:GLN:HG3	1.65	0.62
9:D:398:GLU:O	9:D:402:ILE:HD12	1.99	0.62
12:Q:105:TYR:OH	12:Q:230:VAL:HG11	1.99	0.62
1:F:202:ASP:HB3	4:E:163:GLU:OE2	2.00	0.62
7:C:1101:VAL:HG12	7:C:1105:HIS:CE1	2.35	0.62
1:H:198:ARG:HG3	1:H:606:GLN:HE22	1.65	0.62
7:C:1087:SER:HA	7:C:1090:MET:SD	2.39	0.62
8:O:539:GLU:OE1	8:O:539:GLU:N	2.33	0.62
2:J:486:CYS:HB3	2:J:503:TYR:CD1	2.35	0.61
5:T:200:LEU:HD22	5:T:209:SER:HB3	1.81	0.61
5:T:470:TRP:H	7:C:1408:ARG:HD3	1.63	0.61
5:T:626:LEU:HB3	5:T:658:LYS:HZ1	1.63	0.61
9:P:481:HIS:O	9:P:484:SER:OG	2.18	0.61
1:F:457:ARG:HH21	4:E:96:PHE:HE2	1.47	0.61
7:C:159:MET:O	9:D:524:ARG:NH2	2.33	0.61
8:O:348:PHE:O	8:O:351:SER:OG	2.16	0.61
12:Q:140:GLN:HB2	12:Q:143:SER:HB3	1.82	0.61
7:C:406:GLU:OE1	7:C:407:ARG:HG2	2.01	0.61
7:C:956:THR:HG21	7:C:1494:PHE:HB3	1.83	0.61
7:C:1140:HIS:HD2	7:C:1143:MET:HG2	1.65	0.61
5:T:49:ASN:OD1	5:T:51:GLN:NE2	2.31	0.61
9:D:118:PHE:HB2	9:D:217:LEU:HD23	1.83	0.61
1:F:750:GLU:HA	1:F:753:LYS:HG2	1.83	0.61
2:J:661:GLU:HA	2:J:664:LYS:HG2	1.81	0.61
5:T:283:ARG:HG3	5:T:305:LEU:HD21	1.83	0.61
2:J:446:ILE:O	2:J:450:ASN:ND2	2.34	0.61
2:K:581:GLN:HB3	2:K:608:GLN:HE21	1.65	0.61
7:C:626:ARG:HH21	7:C:727:LEU:HB2	1.64	0.61
8:O:290:LEU:HD23	8:O:292:LEU:N	2.13	0.61
9:D:416:SER:OG	9:D:440:GLU:OE2	2.17	0.61
1:F:513:SER:OG	1:F:548:ASN:ND2	2.29	0.61
7:C:1150:GLN:NE2	7:C:1167:TYR:OH	2.32	0.61
8:O:427:LYS:HB3	8:O:450:PHE:CE1	2.35	0.61
9:P:130:LYS:O	9:P:133:GLN:NE2	2.31	0.61
10:I:111:VAL:CG2	10:I:145:ILE:HB	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:512:PHE:CD2	1:F:528:LEU:HD22	2.35	0.61
2:K:719:LEU:HD21	3:W:23:LEU:HD22	1.82	0.61
8:O:251:VAL:HG21	8:O:298:PHE:HZ	1.65	0.61
8:O:485:ILE:O	8:O:488:VAL:HG12	2.01	0.61
9:P:248:ASN:ND2	9:P:251:CYS:SG	2.74	0.61
2:K:307:VAL:HG21	2:K:364:LEU:HD11	1.83	0.61
2:K:709:GLU:HG2	3:W:10:GLN:HE22	1.65	0.61
7:C:115:GLY:N	7:C:127:GLU:O	2.34	0.61
1:F:631:PHE:CE2	1:F:647:CYS:HB3	2.36	0.60
6:U:41:CYS:HB2	6:U:74:HIS:NE2	2.16	0.60
8:O:630:LEU:HD11	8:O:649:LEU:HD21	1.83	0.60
12:Q:183:PHE:O	12:Q:477:GLN:NE2	2.33	0.60
1:F:189:GLU:O	1:F:192:GLU:HG3	2.01	0.60
2:K:750:ASN:HD21	3:W:23:LEU:HB3	1.65	0.60
1:H:538:ASN:OD1	1:H:569:LEU:HD12	2.01	0.60
6:U:68:LEU:HD12	6:U:99:GLN:HB2	1.82	0.60
7:C:1271:LEU:HD13	7:C:1274:ILE:HD11	1.83	0.60
9:P:429:LYS:HA	9:P:460:ILE:HD11	1.83	0.60
2:J:419:PHE:HB2	2:J:426:LYS:HE3	1.83	0.60
9:P:81:LEU:HD21	9:P:86:TYR:HA	1.83	0.60
9:D:35:TRP:CE3	9:D:249:TRP:HB2	2.36	0.60
12:Q:121:PRO:O	12:Q:336:ARG:NH2	2.34	0.60
5:T:518:PHE:CE2	5:T:660:LYS:HA	2.36	0.60
8:O:485:ILE:HD11	12:Q:335:GLU:HG2	1.83	0.60
1:F:751:LEU:HB3	2:J:617:LEU:HD21	1.82	0.60
9:D:91:LEU:HD13	9:P:38:GLU:HA	1.82	0.60
11:N:73:TYR:CE1	11:N:80:PRO:HB3	2.36	0.60
12:Q:499:ASN:HB3	12:Q:517:GLN:HB3	1.83	0.60
1:F:608:TYR:N	1:F:637:ILE:HD11	2.17	0.60
8:O:347:THR:HG23	8:O:501:LEU:HB3	1.84	0.60
8:O:505:ASP:O	8:O:508:ILE:HG22	2.02	0.60
2:K:313:ASP:OD1	2:K:314:ASP:N	2.35	0.60
8:O:482:TYR:HE1	8:O:660:PHE:HE1	1.50	0.60
12:Q:10:ILE:HG23	12:Q:19:PHE:HB2	1.84	0.60
1:F:93:GLU:HG3	1:F:94:PHE:CD2	2.37	0.59
1:F:475:LEU:CD2	1:F:498:LEU:HB2	2.29	0.59
2:J:585:LEU:HD22	2:J:609:PHE:CE1	2.37	0.59
1:H:514:THR:HG23	13:A:250:ARG:HB3	1.84	0.59
9:D:108:LEU:HD11	9:D:116:LEU:HD13	1.84	0.59
9:P:414:GLU:OE1	9:P:414:GLU:N	2.28	0.59
9:P:509:TYR:CE2	9:P:517:GLU:HB3	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:A:153:VAL:HB	13:A:170:LEU:HB2	1.83	0.59
1:F:152:ASP:H	1:H:40:GLN:NE2	1.99	0.59
2:K:462:ASN:OD1	2:K:464:ASP:N	2.34	0.59
9:P:518:ALA:O	9:P:522:TYR:N	2.30	0.59
5:T:365:THR:O	5:T:369:LYS:HG2	2.01	0.59
8:O:46:SER:HA	8:O:49:ARG:HG3	1.85	0.59
8:O:61:ASN:HD22	8:O:65:ARG:HE	1.49	0.59
9:P:95:LEU:CD1	9:P:104:CYS:HB2	2.31	0.59
12:Q:505:LYS:HZ1	12:Q:543:ASP:HB3	1.64	0.59
2:K:721:THR:HG22	2:K:722:LYS:H	1.66	0.59
7:C:1233:ASP:O	13:A:128:SER:OG	2.19	0.59
12:Q:267:ARG:O	12:Q:271:GLU:HG3	2.01	0.59
13:A:99:ASN:ND2	13:A:112:PHE:O	2.34	0.59
5:T:119:PHE:CD2	7:C:1740:TYR:HD1	2.20	0.59
2:K:684:TYR:HB2	2:K:693:ALA:HB2	1.84	0.59
5:T:167:LEU:HD21	5:T:207:LEU:H	1.67	0.59
7:C:1541:LEU:HG	7:C:1544:PHE:CD2	2.38	0.59
8:O:10:THR:HG22	8:O:12:PHE:H	1.68	0.59
8:O:570:ASN:OD1	8:O:571:GLN:N	2.36	0.59
10:I:111:VAL:O	10:I:142:THR:HA	2.02	0.59
7:C:1589:THR:HB	7:C:1590:PRO:HD3	1.82	0.59
8:O:40:VAL:O	8:O:44:LEU:HD23	2.03	0.59
2:K:565:ALA:HB2	2:K:595:PHE:HD2	1.68	0.59
10:I:33:ALA:HB1	10:I:38:VAL:HG11	1.83	0.59
12:Q:45:ASN:HB3	12:Q:48:LEU:HG	1.83	0.59
12:Q:94:SER:HB3	12:Q:167:GLU:HB3	1.85	0.59
1:F:607:HIS:CE1	1:F:609:ASN:HB2	2.38	0.59
2:J:481:GLU:HA	2:J:484:GLU:CD	2.23	0.59
2:K:581:GLN:O	2:K:608:GLN:NE2	2.36	0.59
8:O:58:LEU:HD21	8:O:343:LEU:HD11	1.84	0.59
7:C:745:ILE:HD12	7:C:783:ILE:HG21	1.84	0.59
2:J:747:LEU:HD23	3:G:20:ILE:HD11	1.85	0.58
5:T:221:ILE:HB	5:T:275:PHE:HE1	1.68	0.58
9:D:536:THR:HG22	9:D:576:GLU:HG2	1.85	0.58
9:D:456:ARG:HH21	11:N:70:LEU:HD11	1.68	0.58
10:I:40:ASN:ND2	10:I:83:ASN:HD22	2.01	0.58
7:C:404:ARG:HG3	7:C:409:GLU:OE2	2.04	0.58
7:C:979:ILE:HD11	7:C:1049:PHE:HB2	1.86	0.58
7:C:1249:ILE:HG13	7:C:1253:PHE:HE2	1.67	0.58
2:J:391:LYS:HD2	2:J:422:PHE:HE1	1.68	0.58
2:K:569:LEU:HD21	2:K:601:PRO:HB3	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:247:GLU:HG2	4:E:252:LYS:HD3	1.84	0.58
12:Q:250:LEU:HD11	12:Q:453:TYR:HB3	1.85	0.58
2:J:736:TYR:OH	9:P:456:ARG:NH1	2.37	0.58
5:T:537:ARG:NH2	5:T:574:LEU:O	2.37	0.58
7:C:907:SER:O	7:C:908:GLU:HG2	2.03	0.58
7:C:1626:PHE:HD2	7:C:1630:THR:HA	1.68	0.58
1:H:591:ASP:OD1	1:H:592:SER:N	2.36	0.58
5:T:217:LEU:HD11	7:C:1658:LEU:HD13	1.85	0.58
5:T:332:ASN:HB3	5:T:335:VAL:HG23	1.85	0.58
5:T:579:VAL:O	5:T:583:ASP:N	2.36	0.58
6:U:97:THR:HG21	6:U:122:ARG:HH21	1.68	0.58
9:D:268:LEU:HD12	9:D:269:ASN:N	2.18	0.58
9:P:30:TYR:HB2	10:I:14:ARG:HH12	1.68	0.58
9:P:186:ASN:O	9:P:189:SER:OG	2.15	0.58
1:F:741:PRO:HG3	10:I:108:ASN:HB3	1.85	0.58
2:K:568:TRP:HB3	2:K:591:ALA:HB2	1.86	0.58
1:H:198:ARG:NH2	1:H:448:SER:O	2.37	0.58
8:O:7:LEU:HD11	8:O:242:ILE:HD13	1.85	0.58
12:Q:498:ILE:HD11	12:Q:516:ILE:HB	1.86	0.58
1:F:494:TYR:HD1	1:F:497:ARG:HH21	1.49	0.58
1:F:725:ARG:NH1	1:F:728:ASP:OD2	2.37	0.58
10:I:41:ILE:O	10:I:45:MET:HG2	2.03	0.58
12:Q:242:LEU:HA	12:Q:245:TYR:HB3	1.85	0.58
1:F:191:TYR:OH	1:F:207:PHE:HE1	1.87	0.58
2:K:653:LYS:HE3	2:K:684:TYR:HE1	1.64	0.58
3:W:23:LEU:O	3:W:27:LYS:HG2	2.04	0.58
1:H:546:ILE:HG12	4:E:249:LEU:HD11	1.86	0.58
8:O:16:TYR:CD2	8:O:76:PRO:HA	2.38	0.58
9:D:205:ILE:HG12	9:D:206:ASP:H	1.68	0.58
9:P:427:ASP:O	9:P:428:LYS:HG2	2.04	0.58
13:A:183:PHE:HD2	13:A:193:LEU:HB2	1.68	0.58
1:F:632:GLU:O	1:F:635:ARG:HD3	2.03	0.57
2:K:481:GLU:OE2	2:K:485:LEU:HD23	2.04	0.57
2:J:309:LEU:O	2:J:310:GLN:HG2	2.04	0.57
2:J:718:TYR:HB2	2:J:727:ALA:HB2	1.86	0.57
7:C:576:HIS:HE1	7:C:650:LEU:HB3	1.68	0.57
11:N:73:TYR:CD1	11:N:80:PRO:HB3	2.39	0.57
12:Q:561:PHE:HD2	12:Q:628:ILE:HD13	1.68	0.57
2:J:580:GLU:HG3	2:J:583:GLN:HE21	1.68	0.57
2:J:552:LYS:O	2:J:555:SER:OG	2.19	0.57
7:C:1574:VAL:HG11	7:C:1585:ARG:HH11	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:74:ILE:N	9:P:83:GLU:OE2	2.37	0.57
9:D:247:PHE:CD1	9:D:295:MET:HG2	2.39	0.57
1:F:675:SER:O	1:F:679:LYS:HG2	2.03	0.57
2:K:466:VAL:HA	2:K:469:LYS:HG2	1.85	0.57
7:C:1587:ILE:HD12	7:C:1591:CYS:HB2	1.85	0.57
1:F:697:GLN:HA	1:F:700:GLU:HG3	1.87	0.57
1:H:751:LEU:HD22	1:H:755:HIS:HE1	1.69	0.57
7:C:1139:ARG:NH2	7:C:1181:GLY:O	2.37	0.57
9:D:328:PHE:HD2	9:D:331:LEU:HG	1.70	0.57
2:J:263:PRO:HB2	2:J:295:ASN:HD21	1.70	0.57
2:K:359:SER:HB2	2:K:392:ASN:ND2	2.20	0.57
2:K:387:LEU:HD21	2:K:413:LEU:HD12	1.86	0.57
9:D:26:ARG:O	9:D:89:TYR:OH	2.22	0.57
9:P:559:MET:HE2	9:P:583:TRP:HB3	1.85	0.57
8:O:85:LEU:HB3	8:O:94:ILE:HG23	1.87	0.57
8:O:520:LEU:HD21	8:O:528:VAL:HG21	1.85	0.57
9:D:253:LEU:HA	9:D:256:MET:HG3	1.87	0.57
9:D:259:LEU:HD11	9:D:268:LEU:HD23	1.86	0.57
12:Q:316:CYS:O	12:Q:320:GLN:NE2	2.38	0.57
1:F:98:HIS:HB3	1:F:101:ILE:HG13	1.87	0.57
1:F:492:LEU:O	1:F:496:ASN:HB2	2.05	0.57
4:E:206:PHE:HD2	4:E:228:LEU:HD11	1.69	0.57
7:C:952:LEU:HD21	7:C:1487:ILE:HD11	1.86	0.57
7:C:1414:HIS:HE1	7:C:1498:ASN:OD1	1.88	0.57
9:D:27:TRP:CH2	9:D:115:TYR:HB3	2.39	0.57
7:C:582:VAL:HG13	7:C:583:LEU:HD12	1.85	0.57
7:C:762:VAL:O	7:C:766:LEU:HD23	2.04	0.57
9:D:498:ASP:HB3	9:D:501:ILE:HG22	1.86	0.57
1:F:536:MET:HG2	1:F:539:LYS:HG2	1.86	0.56
2:J:547:ILE:HG13	2:J:577:LEU:HD22	1.85	0.56
2:K:504:ILE:HD11	2:K:536:SER:HA	1.87	0.56
1:F:30:LEU:HD12	1:H:433:LEU:HD11	1.87	0.56
1:F:495:PHE:CE2	1:F:512:PHE:HD1	2.23	0.56
2:J:507:LEU:HD12	2:J:508:TYR:N	2.19	0.56
5:T:168:ASN:HD21	5:T:206:SER:H	1.51	0.56
5:T:327:LYS:CD	12:Q:151:ASP:HA	2.34	0.56
7:C:382:ASP:OD1	7:C:383:ASP:N	2.39	0.56
7:C:1519:GLU:OE1	7:C:1519:GLU:N	2.28	0.56
1:F:461:SER:OG	1:F:462:GLN:OE1	2.22	0.56
2:K:323:ASN:HA	2:K:365:ARG:HH12	1.69	0.56
1:H:495:PHE:HD1	1:H:498:LEU:HD12	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:1022:ILE:O	7:C:1056:ASN:ND2	2.38	0.56
9:D:99:LYS:HE3	9:D:101:PHE:HE1	1.70	0.56
9:P:113:ASN:CG	9:P:116:LEU:HD23	2.25	0.56
9:P:434:TRP:HE3	9:P:453:CYS:HG	1.53	0.56
10:I:106:GLU:HG3	10:I:110:VAL:O	2.05	0.56
13:A:68:MET:HA	13:A:71:GLN:HG2	1.87	0.56
1:F:561:LYS:HA	1:F:564:GLU:OE1	2.05	0.56
8:O:552:ARG:O	8:O:556:LEU:HD23	2.06	0.56
2:J:447:THR:HA	2:J:450:ASN:HD21	1.70	0.56
7:C:1101:VAL:HG12	7:C:1105:HIS:HE1	1.69	0.56
9:D:249:TRP:CE2	9:D:253:LEU:HD21	2.41	0.56
1:F:157:ASN:HB2	1:F:180:ALA:HB2	1.87	0.56
1:F:521:ASP:HB3	1:F:524:LYS:NZ	2.21	0.56
2:J:656:LEU:CD2	2:J:680:LEU:HB2	2.35	0.56
7:C:1617:THR:HG23	7:C:1619:ASP:H	1.69	0.56
9:D:83:GLU:OE1	9:P:18:ARG:NH1	2.39	0.56
9:P:483:TYR:CE2	11:N:123:GLY:HA3	2.41	0.56
1:H:103:TYR:CD2	1:H:151:PRO:HG3	2.41	0.56
8:O:258:TRP:CZ2	8:O:311:LYS:HD3	2.40	0.56
9:D:247:PHE:HD1	9:D:295:MET:HG2	1.69	0.56
9:D:452:GLU:HB3	11:N:70:LEU:HD13	1.88	0.56
12:Q:179:ASP:OD2	12:Q:237:MET:HG2	2.06	0.56
2:J:541:TYR:HH	10:I:88:TRP:HD1	1.52	0.56
2:K:747:LEU:HD21	3:W:16:VAL:HG22	1.87	0.56
1:H:546:ILE:HG21	4:E:253:CYS:SG	2.46	0.56
7:C:378:LEU:HD11	7:C:451:LEU:HD22	1.87	0.56
9:D:38:GLU:HG3	9:D:328:PHE:CE1	2.38	0.56
1:F:458:LEU:HD12	4:E:140:ILE:HD11	1.88	0.56
1:F:679:LYS:HB2	1:F:702:LEU:HD12	1.88	0.56
7:C:35:THR:HG22	7:C:37:LYS:HG2	1.88	0.56
7:C:54:VAL:HG11	7:C:87:PHE:HZ	1.71	0.56
7:C:1278:ASN:O	7:C:1279:ILE:HG22	2.06	0.56
9:D:263:ASP:O	9:D:266:LEU:HG	2.06	0.56
12:Q:35:HIS:NE2	12:Q:582:ASP:HB3	2.21	0.56
2:J:724:LEU:O	2:J:728:ILE:HG12	2.06	0.55
1:H:194:ILE:HA	1:H:197:MET:HG2	1.87	0.55
5:T:110:TYR:HE2	5:T:155:TRP:CZ3	2.22	0.55
5:T:527:GLU:OE2	5:T:531:ARG:NH1	2.39	0.55
7:C:64:ARG:NH2	8:O:352:PHE:O	2.39	0.55
8:O:160:ILE:HD11	11:N:100:LEU:HD23	1.88	0.55
8:O:258:TRP:HZ2	8:O:311:LYS:HD3	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:633:PRO:HB3	2:K:663:VAL:HG21	1.89	0.55
2:K:636:LEU:HB3	2:K:659:ALA:HB2	1.87	0.55
1:H:93:GLU:HG3	1:H:94:PHE:CD2	2.41	0.55
7:C:1225:LEU:HA	7:C:1228:VAL:HG12	1.88	0.55
7:C:1552:ARG:NH2	7:C:1596:PHE:H	2.04	0.55
12:Q:241:GLU:HG3	12:Q:242:LEU:HD22	1.88	0.55
5:T:506:ILE:HG23	5:T:573:ASN:HB3	1.88	0.55
5:T:630:LEU:HD11	5:T:634:LEU:HD23	1.88	0.55
7:C:760:ASP:O	7:C:802:ARG:NH1	2.39	0.55
7:C:1140:HIS:CD2	7:C:1143:MET:HG2	2.40	0.55
8:O:111:ILE:HD11	8:O:173:LEU:HD21	1.88	0.55
5:T:459:LEU:HD21	7:C:930:PHE:CE2	2.41	0.55
6:U:71:HIS:CE1	6:U:93:MET:HB2	2.41	0.55
8:O:666:LYS:O	8:O:670:LEU:HD23	2.06	0.55
9:D:352:PHE:HB3	9:D:369:TYR:CD2	2.42	0.55
9:D:378:LYS:HG2	9:D:381:LYS:HB3	1.89	0.55
9:P:404:ALA:HB2	9:P:419:TYR:HB3	1.88	0.55
9:P:438:GLY:HA3	9:P:454:TYR:CE1	2.42	0.55
2:K:391:LYS:HG2	2:K:422:PHE:HE1	1.70	0.55
7:C:216:TYR:HB2	7:C:372:LEU:HD12	1.88	0.55
9:D:128:TRP:CD2	9:D:187:ILE:HD11	2.41	0.55
12:Q:31:ARG:HG3	12:Q:38:LEU:CD2	2.35	0.55
12:Q:100:ARG:HB3	12:Q:158:LYS:CE	2.35	0.55
1:F:625:GLU:O	1:F:628:LEU:HG	2.07	0.55
2:K:551:GLN:HE22	2:K:575:TYR:HE1	1.53	0.55
1:H:123:LEU:HA	1:H:126:ILE:HG22	1.87	0.55
7:C:1246:GLY:HA2	7:C:1249:ILE:HG22	1.88	0.55
9:D:410:ARG:HB2	9:D:410:ARG:NH1	2.21	0.55
12:Q:309:LYS:HD3	12:Q:312:LYS:HZ3	1.72	0.55
12:Q:436:ILE:HG13	12:Q:437:LEU:HG	1.89	0.55
7:C:645:ARG:O	7:C:648:HIS:HB3	2.07	0.55
7:C:860:ILE:HD13	12:Q:121:PRO:HB2	1.89	0.55
9:P:437:MET:HG3	9:P:453:CYS:SG	2.46	0.55
12:Q:410:ASP:O	12:Q:411:GLU:HG2	2.07	0.55
2:J:711:HIS:CD2	2:J:733:LYS:HD2	2.42	0.55
2:J:754:LEU:HA	3:G:27:LYS:HE2	1.89	0.55
1:H:737:MET:HE1	1:H:751:LEU:HD11	1.88	0.55
6:U:88:LYS:HG2	6:U:125:MET:HE1	1.89	0.55
7:C:75:ALA:HB1	7:C:87:PHE:HE1	1.71	0.55
7:C:422:LYS:HD2	7:C:451:LEU:HG	1.89	0.55
7:C:944:LYS:NZ	7:C:1001:ASP:OD1	2.33	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:1392:VAL:O	7:C:1396:MET:HG2	2.06	0.55
8:O:482:TYR:HE1	8:O:660:PHE:CE1	2.25	0.55
11:N:121:PRO:HG2	11:N:124:ILE:HB	1.88	0.55
1:F:491:SER:HB3	1:F:495:PHE:HE1	1.72	0.55
1:F:624:TYR:CE2	1:F:654:LYS:HE2	2.41	0.55
2:J:292:ASP:HA	2:J:298:CYS:SG	2.47	0.55
6:U:71:HIS:ND1	6:U:93:MET:SD	2.78	0.55
7:C:1109:PHE:HE1	7:C:1146:SER:HB2	1.72	0.55
8:O:108:LEU:H	8:O:108:LEU:HD12	1.72	0.55
9:D:531:THR:OG1	9:D:534:GLN:NE2	2.40	0.55
10:I:111:VAL:HG21	10:I:145:ILE:HB	1.87	0.55
2:K:256:VAL:HG12	2:K:265:ASP:OD2	2.07	0.55
2:K:643:TYR:CE2	2:K:651:LYS:HD2	2.41	0.55
5:T:174:LYS:NZ	5:T:206:SER:OG	2.31	0.55
6:U:88:LYS:HA	6:U:125:MET:HE3	1.89	0.55
7:C:608:ASP:OD1	7:C:609:LEU:N	2.40	0.55
7:C:783:ILE:HD12	7:C:783:ILE:H	1.71	0.55
7:C:1165:GLU:O	7:C:1169:LEU:HG	2.07	0.55
7:C:1177:LEU:HA	7:C:1180:LEU:HG	1.89	0.55
8:O:127:TYR:CZ	12:Q:291:ILE:HB	2.42	0.55
8:O:331:THR:HG21	9:D:452:GLU:CG	2.37	0.55
1:F:475:LEU:HD21	1:F:495:PHE:HA	1.88	0.54
1:H:455:ALA:HB3	1:H:481:LEU:HD21	1.87	0.54
1:H:539:LYS:NZ	1:H:541:GLU:OE1	2.27	0.54
8:O:15:PRO:HD2	8:O:241:LEU:HB2	1.90	0.54
9:D:111:VAL:HG21	9:D:116:LEU:HD12	1.88	0.54
9:D:124:LYS:O	9:D:127:SER:OG	2.25	0.54
2:K:459:LEU:HD12	2:K:462:ASN:HB2	1.89	0.54
5:T:649:LYS:NZ	6:U:60:ASP:OD2	2.32	0.54
7:C:48:SER:OG	7:C:50:ASP:O	2.25	0.54
8:O:422:PHE:CE2	11:N:5:LEU:HD22	2.42	0.54
1:F:107:ARG:CZ	1:F:159:LEU:HD13	2.37	0.54
2:J:722:LYS:O	2:J:723:LYS:HD3	2.06	0.54
5:T:181:LEU:HD13	5:T:196:LEU:HD22	1.88	0.54
8:O:290:LEU:HD21	8:O:295:ALA:N	2.20	0.54
9:D:420:PHE:CE2	9:D:436:LEU:HB3	2.41	0.54
9:P:559:MET:HE1	9:P:583:TRP:HB3	1.90	0.54
11:N:108:LEU:HB3	11:N:109:PRO:HD3	1.89	0.54
12:Q:180:TYR:HE1	12:Q:468:ALA:HB1	1.72	0.54
2:J:240:ALA:HA	2:J:243:GLN:NE2	2.23	0.54
2:K:451:GLU:OE1	2:K:455:LYS:NZ	2.36	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:1366:TYR:CD1	7:C:1387:THR:HG21	2.43	0.54
12:Q:63:SER:HA	12:Q:73:ILE:HG22	1.90	0.54
13:A:114:GLN:HE22	13:A:212:THR:H	1.53	0.54
1:F:440:PHE:HE1	1:F:471:MET:HE1	1.73	0.54
1:F:516:LEU:HD22	1:F:525:SER:HA	1.88	0.54
2:K:599:HIS:HB3	2:K:628:ILE:HD11	1.90	0.54
3:G:3:ARG:HH21	3:G:6:PRO:HA	1.71	0.54
7:C:1314:ILE:HG12	7:C:1316:VAL:HG12	1.89	0.54
7:C:1403:ASP:HB3	7:C:1406:VAL:CG2	2.38	0.54
8:O:77:ILE:HG22	8:O:79:ASP:H	1.72	0.54
12:Q:326:LEU:HD13	12:Q:330:PHE:CD2	2.42	0.54
1:F:116:VAL:HG23	1:F:163:LEU:HD23	1.89	0.54
2:K:277:ASN:OD1	2:K:279:TYR:OH	2.13	0.54
5:T:455:ARG:HA	5:T:458:MET:CE	2.38	0.54
7:C:996:VAL:HG13	7:C:1001:ASP:HB2	1.90	0.54
7:C:1145:ASP:OD1	7:C:1146:SER:N	2.40	0.54
12:Q:376:LEU:HD12	12:Q:377:LEU:N	2.22	0.54
1:F:697:GLN:O	1:F:700:GLU:HG3	2.08	0.54
7:C:1581:GLU:HG2	7:C:1582:GLU:H	1.73	0.54
7:C:1609:TYR:HD1	7:C:1636:ARG:HA	1.72	0.54
8:O:282:LEU:O	8:O:286:LEU:HD23	2.08	0.54
8:O:590:GLU:OE2	8:O:609:LYS:NZ	2.41	0.54
5:T:467:TYR:O	7:C:1411:LYS:HE3	2.08	0.54
7:C:200:LYS:HA	7:C:404:ARG:HH21	1.72	0.54
7:C:1128:ILE:HD11	7:C:1147:ILE:HD12	1.90	0.54
12:Q:551:LYS:NZ	12:Q:552:GLU:O	2.37	0.54
2:J:504:ILE:HD13	2:J:507:LEU:HD21	1.89	0.54
2:K:674:ILE:HD12	2:K:700:VAL:HG23	1.88	0.54
5:T:455:ARG:HA	5:T:458:MET:HE2	1.89	0.54
5:T:633:ASP:O	5:T:636:ARG:HG2	2.08	0.54
7:C:527:THR:O	7:C:531:LYS:NZ	2.40	0.54
7:C:1615:ASN:O	7:C:1620:TYR:OH	2.17	0.54
8:O:165:MET:O	8:O:169:ILE:HG12	2.07	0.54
12:Q:180:TYR:CE1	12:Q:468:ALA:HB1	2.42	0.54
13:A:154:LYS:HD3	13:A:166:PHE:HE2	1.73	0.54
7:C:127:GLU:HG2	7:C:152:TYR:HE1	1.73	0.54
7:C:1292:ALA:O	7:C:1296:ILE:HG12	2.08	0.54
7:C:1690:GLY:O	8:O:642:LYS:NZ	2.40	0.54
9:D:16:GLN:OE1	9:D:284:LEU:HD23	2.08	0.54
10:I:18:ALA:HB3	10:I:21:HIS:CD2	2.42	0.54
1:F:188:TRP:HA	1:F:191:TYR:HD2	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:471:MET:HE3	1:F:474:CYS:H	1.72	0.53
2:J:397:GLU:CD	2:K:247:ARG:HG2	2.29	0.53
8:O:296:THR:HA	8:O:328:TYR:CD2	2.43	0.53
2:J:756:VAL:HG13	9:P:512:THR:CB	2.38	0.53
7:C:1384:ASN:O	7:C:1388:ASN:ND2	2.41	0.53
12:Q:376:LEU:HD23	12:Q:460:MET:CE	2.37	0.53
13:A:31:VAL:HG22	13:A:169:MET:SD	2.49	0.53
5:T:265:HIS:CE1	5:T:266:GLU:HG3	2.42	0.53
8:O:24:ILE:HD12	8:O:147:LEU:HD12	1.89	0.53
12:Q:176:PHE:CD2	12:Q:233:LEU:HD11	2.43	0.53
12:Q:381:LEU:O	12:Q:384:ILE:HG22	2.09	0.53
1:F:546:ILE:O	1:F:549:LEU:HG	2.08	0.53
1:F:608:TYR:H	1:F:637:ILE:HD11	1.71	0.53
12:Q:196:LYS:HE3	12:Q:211:GLU:HB3	1.90	0.53
1:F:490:MET:SD	1:F:493:LYS:HE3	2.48	0.53
2:J:300:TYR:OH	2:K:243:GLN:O	2.19	0.53
2:K:534:TRP:CD2	2:K:556:LYS:HD2	2.43	0.53
1:H:625:GLU:O	1:H:629:LEU:HD23	2.08	0.53
7:C:219:ARG:HH22	7:C:439:LYS:HG2	1.73	0.53
7:C:381:PRO:HD2	7:C:384:ILE:HD12	1.91	0.53
7:C:1558:ASP:OD1	7:C:1559:ILE:N	2.41	0.53
9:D:410:ARG:HB2	9:D:410:ARG:HH11	1.72	0.53
2:K:452:ILE:HA	2:K:455:LYS:HZ2	1.72	0.53
7:C:1588:SER:OG	7:C:1591:CYS:SG	2.67	0.53
8:O:61:ASN:ND2	8:O:65:ARG:HE	2.05	0.53
8:O:541:ASP:OD1	8:O:542:TYR:N	2.42	0.53
12:Q:9:PHE:O	12:Q:10:ILE:HB	2.08	0.53
7:C:500:SER:HB2	7:C:551:PHE:CG	2.43	0.53
7:C:597:GLU:HA	7:C:600:GLU:HG2	1.91	0.53
8:O:13:ILE:HB	8:O:169:ILE:HD12	1.89	0.53
8:O:627:VAL:HG11	8:O:660:PHE:HD2	1.72	0.53
9:P:34:LYS:HE3	10:I:6:TYR:CD1	2.42	0.53
13:A:170:LEU:HD21	13:A:181:LEU:HD22	1.89	0.53
2:J:479:PHE:O	2:J:482:CYS:HB2	2.08	0.53
1:H:532:LEU:HD12	1:H:542:THR:HG22	1.90	0.53
9:P:130:LYS:C	9:P:133:GLN:HE22	2.12	0.53
12:Q:512:ILE:N	12:Q:541:LEU:O	2.37	0.53
1:F:205:ARG:HD3	4:E:161:LEU:CD2	2.39	0.53
1:F:439:ASN:O	1:F:443:ILE:HG12	2.09	0.53
2:K:565:ALA:HB2	2:K:595:PHE:CE2	2.43	0.53
1:H:692:TYR:HA	1:H:695:ALA:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:987:VAL:HG12	7:C:993:LYS:HG3	1.90	0.53
9:P:369:TYR:O	9:P:373:LEU:HD13	2.08	0.53
12:Q:625:ASP:OD1	12:Q:647:LYS:NZ	2.30	0.53
1:F:41:LEU:O	1:F:41:LEU:HD23	2.08	0.53
1:F:506:VAL:HG21	1:F:539:LYS:HG3	1.90	0.53
2:J:427:GLU:O	2:J:431:ASN:ND2	2.42	0.53
2:K:296:ILE:HG22	2:K:357:MET:HG2	1.90	0.53
5:T:165:TYR:CD2	7:C:1736:LEU:HD23	2.44	0.53
7:C:501:PRO:HG3	7:C:608:ASP:OD1	2.08	0.53
7:C:606:GLU:OE1	7:C:606:GLU:N	2.39	0.53
7:C:985:ILE:HG12	7:C:995:THR:HG23	1.91	0.53
7:C:1490:HIS:O	7:C:1493:LYS:HG2	2.09	0.53
7:C:1731:ILE:O	7:C:1735:GLN:HG3	2.09	0.53
8:O:296:THR:HG21	9:D:456:ARG:NH2	2.25	0.53
9:D:205:ILE:HD13	9:D:240:LYS:HB3	1.91	0.53
2:J:705:ASP:OD1	2:J:706:LYS:N	2.42	0.52
5:T:40:TRP:HA	5:T:49:ASN:HA	1.91	0.52
9:D:383:ALA:HB1	10:I:35:PRO:HA	1.91	0.52
12:Q:101:ILE:HG23	12:Q:203:ASP:HB3	1.91	0.52
12:Q:292:SER:OG	12:Q:295:LEU:HG	2.08	0.52
13:A:137:ALA:HB2	13:A:220:TYR:HE2	1.74	0.52
2:J:465:VAL:O	2:J:469:LYS:HG2	2.10	0.52
2:J:603:LEU:HD11	2:J:638:GLU:HG3	1.91	0.52
2:K:303:GLY:O	2:K:307:VAL:HG23	2.09	0.52
2:K:719:LEU:HD22	3:W:19:LEU:HD21	1.91	0.52
8:O:616:GLU:O	8:O:619:GLU:HG2	2.09	0.52
1:F:178:SER:HB3	4:E:162:LEU:HD13	1.90	0.52
1:H:574:ALA:HB2	1:H:603:CYS:HB3	1.90	0.52
7:C:1515:THR:HG23	7:C:1521:ILE:HG13	1.91	0.52
9:P:218:TYR:CD1	9:P:240:LYS:HG2	2.45	0.52
12:Q:99:ASP:OD2	12:Q:206:TYR:OH	2.22	0.52
2:J:248:THR:OG1	2:K:393:PHE:HB3	2.09	0.52
2:K:396:PHE:HZ	2:K:437:LEU:HG	1.75	0.52
2:K:485:LEU:HD12	2:K:486:CYS:N	2.24	0.52
2:K:541:TYR:HH	10:I:161:TRP:HE1	1.58	0.52
7:C:643:LEU:O	8:O:562:TYR:HB2	2.10	0.52
7:C:1097:LYS:HG3	7:C:1098:LEU:HD22	1.92	0.52
8:O:570:ASN:HA	8:O:573:VAL:HG12	1.90	0.52
8:O:631:LEU:HA	8:O:634:CYS:SG	2.49	0.52
12:Q:6:ASN:ND2	12:Q:618:ILE:O	2.42	0.52
5:T:128:LEU:O	5:T:131:ILE:HG22	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:600:LEU:HD13	5:T:641:TYR:CE1	2.45	0.52
7:C:61:GLN:OE1	8:O:534:LYS:NZ	2.39	0.52
8:O:427:LYS:HB3	8:O:450:PHE:CD1	2.45	0.52
1:F:660:LYS:O	1:F:660:LYS:HD2	2.10	0.52
2:J:248:THR:O	2:J:252:ILE:HG22	2.09	0.52
2:J:551:GLN:HG2	2:J:571:PHE:HE1	1.73	0.52
7:C:485:GLU:OE1	7:C:485:GLU:N	2.43	0.52
7:C:1526:MET:O	7:C:1529:LEU:HD22	2.09	0.52
8:O:29:SER:O	8:O:30:GLN:HG3	2.09	0.52
9:D:328:PHE:CD2	9:D:331:LEU:HG	2.44	0.52
9:P:397:PRO:HG3	9:P:426:LEU:HB3	1.92	0.52
9:P:424:LEU:HD21	9:P:434:TRP:CE2	2.44	0.52
13:A:136:MET:HB3	13:A:181:LEU:HB3	1.90	0.52
2:J:757:THR:CB	3:G:27:LYS:HE3	2.39	0.52
7:C:500:SER:HB2	7:C:551:PHE:CD2	2.45	0.52
11:N:89:LEU:HD12	11:N:89:LEU:O	2.10	0.52
12:Q:27:LEU:HB2	12:Q:41:ILE:HB	1.92	0.52
1:F:443:ILE:HG21	1:F:459:PHE:CZ	2.45	0.52
6:U:88:LYS:HA	6:U:125:MET:CE	2.40	0.52
7:C:915:VAL:HG21	7:C:1505:PHE:CE2	2.45	0.52
7:C:1609:TYR:CD1	7:C:1636:ARG:HA	2.44	0.52
9:P:407:TYR:CD2	9:P:415:LYS:HG3	2.45	0.52
9:P:614:GLU:O	9:P:617:MET:HG2	2.09	0.52
11:N:88:GLN:HA	11:N:98:LEU:HD23	1.92	0.52
12:Q:19:PHE:CZ	12:Q:30:TYR:HB2	2.45	0.52
12:Q:515:LEU:HD11	12:Q:536:LEU:HB2	1.91	0.52
2:K:485:LEU:O	2:K:488:THR:OG1	2.24	0.52
4:E:169:ASN:OD1	4:E:172:ASP:N	2.34	0.52
7:C:193:LEU:HD13	7:C:400:PHE:HB2	1.91	0.52
7:C:586:LEU:HD21	7:C:624:LEU:HD21	1.92	0.52
8:O:55:ASN:HD22	8:O:59:LYS:HD3	1.75	0.52
8:O:213:GLN:HA	8:O:216:VAL:HB	1.91	0.52
9:P:422:ARG:O	9:P:426:LEU:HD13	2.10	0.52
2:J:621:TYR:HA	2:J:624:LEU:HD12	1.93	0.52
2:K:684:TYR:CB	2:K:693:ALA:HB2	2.39	0.52
5:T:338:VAL:HG11	5:T:402:VAL:HG13	1.91	0.52
7:C:1566:ASN:OD1	7:C:1590:PRO:HD3	2.10	0.52
8:O:482:TYR:CE1	8:O:660:PHE:HE1	2.28	0.52
9:D:253:LEU:O	9:D:256:MET:HG3	2.09	0.52
12:Q:298:TRP:HE3	12:Q:299:LEU:HD22	1.75	0.52
12:Q:376:LEU:O	12:Q:380:THR:HG23	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:A:139:PHE:HD2	13:A:215:ARG:HB2	1.74	0.52
2:J:434:LYS:NZ	2:J:445:ASP:OD1	2.35	0.51
2:K:276:ASN:ND2	2:K:278:GLN:OE1	2.43	0.51
2:K:449:SER:O	2:K:453:LEU:HD23	2.10	0.51
5:T:622:GLY:O	5:T:623:SER:HB3	2.09	0.51
7:C:1641:VAL:HG11	7:C:1692:GLN:NE2	2.25	0.51
9:D:101:PHE:CZ	9:D:126:LEU:HD22	2.44	0.51
12:Q:201:VAL:HG21	12:Q:207:GLN:HE22	1.75	0.51
13:A:73:ILE:HG23	13:A:218:ARG:HH22	1.74	0.51
13:A:205:ASN:OD1	13:A:212:THR:OG1	2.27	0.51
1:H:749:ASP:O	1:H:752:GLN:HG3	2.10	0.51
7:C:524:TYR:CG	7:C:525:PRO:HD2	2.45	0.51
7:C:532:LEU:HD21	7:C:638:TYR:OH	2.10	0.51
7:C:819:ILE:O	7:C:823:ILE:HG12	2.09	0.51
9:P:582:LEU:HD12	9:P:583:TRP:N	2.25	0.51
12:Q:281:GLU:N	12:Q:281:GLU:OE1	2.43	0.51
2:J:544:LEU:O	2:J:544:LEU:HD23	2.10	0.51
2:K:467:ARG:HA	2:K:470:VAL:HG12	1.92	0.51
2:K:504:ILE:HD11	2:K:539:THR:OG1	2.11	0.51
1:H:575:TYR:HA	1:H:578:THR:HG22	1.92	0.51
9:P:526:ILE:HG23	9:P:535:ASN:ND2	2.26	0.51
1:F:107:ARG:NE	1:F:159:LEU:HD13	2.25	0.51
1:F:614:LEU:HD13	1:F:630:TYR:CE1	2.45	0.51
2:K:486:CYS:SG	2:K:503:TYR:HB2	2.51	0.51
5:T:233:TRP:O	5:T:301:THR:OG1	2.23	0.51
5:T:666:GLN:HE21	5:T:674:LYS:HD3	1.75	0.51
7:C:1514:ASN:HD22	7:C:1550:GLU:HG2	1.75	0.51
9:P:352:PHE:CD2	9:P:369:TYR:HD1	2.29	0.51
9:P:526:ILE:HG12	9:P:538:ILE:HD12	1.91	0.51
2:K:621:TYR:O	2:K:624:LEU:HG	2.10	0.51
1:H:694:VAL:O	1:H:697:GLN:HG3	2.11	0.51
7:C:905:ILE:HD11	7:C:1508:SER:O	2.10	0.51
8:O:435:VAL:HG13	8:O:582:ASP:HA	1.91	0.51
8:O:592:GLU:OE1	8:O:592:GLU:N	2.40	0.51
12:Q:51:ASN:ND2	12:Q:95:LYS:HG3	2.25	0.51
1:F:162:ASN:HA	1:F:165:MET:HG3	1.92	0.51
2:J:384:GLU:HA	2:J:387:LEU:HG	1.92	0.51
2:K:476:GLN:HB2	2:K:478:LYS:HE2	1.93	0.51
7:C:205:PHE:HB2	7:C:216:TYR:HE1	1.76	0.51
8:O:15:PRO:O	8:O:18:LEU:HG	2.11	0.51
8:O:78:LEU:HA	8:O:81:ILE:HG12	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Q:216:GLN:NE2	12:Q:483:ASP:O	2.44	0.51
12:Q:269:CYS:HG	12:Q:275:TYR:HD1	1.58	0.51
12:Q:326:LEU:O	12:Q:330:PHE:HB2	2.11	0.51
1:F:526:SER:OG	10:I:165:ALA:HB3	2.11	0.51
2:J:692:ILE:HA	2:J:695:LYS:HZ3	1.76	0.51
2:J:731:LEU:HB3	2:J:748:LEU:HD13	1.93	0.51
2:K:644:PHE:HE2	2:K:686:LYS:HG3	1.75	0.51
1:H:703:VAL:HG21	1:H:716:LEU:HD22	1.92	0.51
7:C:752:VAL:HG13	7:C:753:HIS:CD2	2.46	0.51
7:C:1143:MET:O	7:C:1147:ILE:HG12	2.11	0.51
7:C:1576:GLU:HG2	7:C:1583:VAL:HG12	1.92	0.51
8:O:343:LEU:O	8:O:347:THR:N	2.38	0.51
8:O:640:VAL:HG23	8:O:642:LYS:HG3	1.92	0.51
9:D:300:LYS:HD3	9:D:304:PHE:CD1	2.46	0.51
1:F:181:LEU:HD22	1:F:191:TYR:CZ	2.45	0.51
2:K:231:GLU:O	2:K:235:LEU:HG	2.11	0.51
3:G:3:ARG:NH2	3:G:6:PRO:HA	2.26	0.51
1:H:529:ALA:O	1:H:533:MET:HE3	2.11	0.51
4:E:253:CYS:HB3	4:E:257:TYR:CE2	2.46	0.51
7:C:80:PHE:CD2	7:C:158:PRO:HD3	2.46	0.51
7:C:546:ASN:O	7:C:550:ILE:HD12	2.11	0.51
7:C:568:VAL:HG13	7:C:569:VAL:H	1.75	0.51
7:C:741:ARG:NH2	7:C:778:THR:OG1	2.36	0.51
8:O:78:LEU:HD11	8:O:99:MET:HE3	1.92	0.51
8:O:296:THR:HA	8:O:328:TYR:HD2	1.76	0.51
9:D:32:SER:OG	9:D:249:TRP:N	2.44	0.51
10:I:40:ASN:HD21	10:I:83:ASN:HB2	1.75	0.51
10:I:83:ASN:O	10:I:86:ARG:HG2	2.11	0.51
11:N:109:PRO:O	11:N:112:ARG:HG2	2.11	0.51
12:Q:126:PHE:H	12:Q:249:HIS:HE2	1.59	0.51
13:A:114:GLN:NE2	13:A:211:ASP:HB3	2.26	0.51
3:G:15:ASP:OD1	3:G:16:VAL:N	2.44	0.51
7:C:1596:PHE:HB3	7:C:1622:ALA:HB3	1.93	0.51
7:C:1637:LYS:HG2	7:C:1638:SER:H	1.76	0.51
8:O:654:LEU:CD1	12:Q:350:ALA:HB1	2.40	0.51
9:D:272:LEU:HD12	9:D:276:PHE:CD2	2.45	0.51
12:Q:281:GLU:HB3	12:Q:295:LEU:HD11	1.92	0.51
5:T:197:ILE:HD11	5:T:209:SER:HB2	1.92	0.51
7:C:159:MET:HG3	9:D:520:LYS:HB3	1.92	0.51
7:C:1514:ASN:HD22	7:C:1550:GLU:CG	2.24	0.51
9:D:376:MET:SD	9:D:378:LYS:NZ	2.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:492:LEU:O	1:H:496:ASN:ND2	2.29	0.50
7:C:674:PRO:HB3	7:C:1710:ALA:HA	1.93	0.50
7:C:1228:VAL:HG13	7:C:1229:THR:HG23	1.92	0.50
9:D:81:LEU:HD12	9:D:85:GLU:HG3	1.92	0.50
9:P:428:LYS:NZ	10:I:11:PHE:O	2.45	0.50
1:F:667:LEU:O	1:F:671:LEU:HB2	2.11	0.50
2:K:566:ALA:HA	3:W:1:MET:SD	2.52	0.50
2:K:721:THR:HG22	2:K:722:LYS:N	2.26	0.50
7:C:789:ASN:HA	7:C:792:LYS:HB2	1.93	0.50
7:C:1164:ASP:OD2	7:C:1166:GLU:HB2	2.11	0.50
7:C:1606:MET:SD	7:C:1609:TYR:HB2	2.51	0.50
8:O:519:ALA:HB1	8:O:524:ASP:HB3	1.92	0.50
2:J:432:LEU:HD11	2:K:255:LYS:HE2	1.93	0.50
2:K:699:CYS:HB3	2:K:703:LYS:NZ	2.26	0.50
7:C:1352:ARG:NH1	7:C:1403:ASP:OD2	2.44	0.50
8:O:10:THR:OG1	8:O:241:LEU:HD23	2.11	0.50
7:C:559:ILE:HD13	7:C:604:ILE:HD11	1.93	0.50
7:C:927:THR:HG21	7:C:986:SER:HB2	1.94	0.50
8:O:482:TYR:O	8:O:485:ILE:HG22	2.11	0.50
9:D:276:PHE:CE2	9:D:278:PHE:HE1	2.30	0.50
12:Q:60:LYS:HG3	12:Q:77:PHE:CD2	2.45	0.50
2:J:476:GLN:HG3	2:J:666:LEU:HD22	1.94	0.50
3:G:16:VAL:O	3:G:20:ILE:HG12	2.12	0.50
5:T:327:LYS:HD3	12:Q:151:ASP:CA	2.40	0.50
8:O:13:ILE:HA	8:O:157:LYS:NZ	2.26	0.50
9:P:294:ILE:HD12	9:P:325:PHE:HZ	1.76	0.50
1:F:471:MET:CE	1:F:474:CYS:HB2	2.41	0.50
1:F:506:VAL:HG23	1:F:541:GLU:OE2	2.12	0.50
2:J:729:ASP:OD1	2:J:729:ASP:N	2.44	0.50
7:C:1407:LEU:HA	7:C:1410:VAL:HG12	1.92	0.50
8:O:431:LEU:HD12	8:O:432:LEU:N	2.26	0.50
9:P:427:ASP:C	9:P:429:LYS:H	2.13	0.50
1:F:632:GLU:OE2	1:F:635:ARG:NH2	2.45	0.50
2:J:256:VAL:O	2:J:259:ILE:HG22	2.12	0.50
2:J:583:GLN:OE1	10:I:107:SER:HB3	2.12	0.50
2:K:483:LEU:HD11	2:K:510:LEU:HG	1.94	0.50
2:K:585:LEU:HD11	2:K:609:PHE:CE1	2.47	0.50
1:H:50:ALA:HB1	1:H:74:TYR:HA	1.93	0.50
1:H:554:LYS:HG3	1:H:555:ASP:H	1.77	0.50
7:C:922:TYR:O	7:C:923:ARG:HB3	2.11	0.50
7:C:1739:TRP:CD1	7:C:1743:PHE:HD2	2.30	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:O:105:ILE:HG23	8:O:110:SER:OG	2.12	0.50
8:O:364:GLU:HG3	8:O:367:ARG:NH2	2.26	0.50
9:P:393:ASP:OD2	9:P:396:ARG:HG3	2.11	0.50
1:H:563:PHE:HB3	1:H:580:GLN:HG3	1.94	0.50
7:C:1066:HIS:HD2	7:C:1070:TYR:CE1	2.30	0.50
1:F:521:ASP:HB3	1:F:524:LYS:HZ3	1.77	0.50
1:F:536:MET:HG3	1:F:536:MET:O	2.11	0.50
2:K:635:VAL:O	2:K:639:MET:HG2	2.12	0.50
1:H:43:TYR:CE2	1:H:80:LEU:HB3	2.47	0.50
1:H:490:MET:HA	1:H:493:LYS:NZ	2.26	0.50
7:C:77:TYR:O	7:C:77:TYR:CD1	2.65	0.50
8:O:49:ARG:HH12	12:Q:420:GLU:HA	1.76	0.50
8:O:345:LEU:HD23	8:O:349:HIS:CD2	2.47	0.50
9:D:236:SER:O	9:D:240:LYS:HG2	2.12	0.50
9:P:298:PHE:HE2	9:P:325:PHE:HE2	1.60	0.50
9:P:431:THR:O	9:P:433:ALA:N	2.40	0.50
10:I:144:SER:O	10:I:150:ILE:HD13	2.11	0.50
12:Q:628:ILE:HB	12:Q:645:PHE:HB2	1.94	0.50
13:A:37:ARG:NH2	13:A:52:GLN:O	2.42	0.50
1:F:443:ILE:HD11	1:F:458:LEU:HB2	1.94	0.49
2:K:523:LEU:HG	2:K:533:THR:HB	1.93	0.49
5:T:537:ARG:HH21	5:T:577:ILE:HD11	1.76	0.49
7:C:159:MET:SD	7:C:159:MET:N	2.84	0.49
7:C:703:ILE:O	7:C:707:LEU:HD23	2.12	0.49
8:O:418:ASP:O	8:O:420:ASN:N	2.45	0.49
8:O:540:LEU:H	8:O:545:LYS:HZ1	1.59	0.49
12:Q:238:VAL:O	12:Q:241:GLU:HG2	2.12	0.49
2:J:685:ARG:HD2	2:J:686:LYS:N	2.27	0.49
7:C:1140:HIS:NE2	7:C:1142:ARG:HB3	2.26	0.49
8:O:86:LEU:HD21	8:O:188:ARG:NH2	2.27	0.49
8:O:331:THR:HG21	9:D:452:GLU:HG3	1.94	0.49
10:I:92:HIS:HD2	10:I:96:ASP:OD2	1.95	0.49
12:Q:338:ILE:HA	12:Q:341:VAL:HG22	1.93	0.49
2:J:364:LEU:O	2:J:368:ILE:HG12	2.11	0.49
2:J:632:ASP:HB3	2:J:635:VAL:HG12	1.95	0.49
1:H:727:LYS:O	1:H:731:LYS:HG3	2.11	0.49
7:C:1735:GLN:O	7:C:1738:LEU:HG	2.11	0.49
8:O:9:ILE:HD11	8:O:244:ILE:HG13	1.94	0.49
8:O:287:LEU:HD22	8:O:301:ILE:HD13	1.95	0.49
8:O:345:LEU:HD23	8:O:349:HIS:HD2	1.77	0.49
12:Q:172:ILE:HD12	12:Q:218:LEU:HD11	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:A:172:VAL:HG13	13:A:175:VAL:HG22	1.93	0.49
2:K:699:CYS:HB3	2:K:703:LYS:HZ1	1.78	0.49
4:E:103:ARG:HH21	4:E:106:ARG:HH11	1.59	0.49
7:C:480:GLU:O	7:C:488:LYS:N	2.44	0.49
7:C:933:LYS:NZ	7:C:942:GLN:HE21	2.10	0.49
7:C:999:PRO:HB3	7:C:1004:HIS:HB2	1.94	0.49
7:C:1248:VAL:O	7:C:1251:ILE:HG22	2.12	0.49
9:D:385:LEU:CD2	9:D:402:ILE:HG21	2.43	0.49
9:P:205:ILE:HG21	9:P:240:LYS:HD2	1.94	0.49
12:Q:289:GLY:O	12:Q:291:ILE:HD12	2.13	0.49
1:F:561:LYS:HA	1:F:564:GLU:CD	2.33	0.49
1:F:748:ILE:O	1:F:752:GLN:HG2	2.13	0.49
2:K:280:VAL:O	2:K:284:GLU:OE1	2.30	0.49
3:G:3:ARG:HG3	3:G:4:ARG:O	2.12	0.49
1:H:640:VAL:HG13	1:H:671:LEU:HD21	1.95	0.49
7:C:568:VAL:HG13	7:C:569:VAL:N	2.27	0.49
7:C:1491:TYR:OH	7:C:1539:GLN:NE2	2.36	0.49
8:O:549:LYS:NZ	8:O:575:GLU:OE2	2.41	0.49
10:I:113:PHE:CD2	10:I:154:ALA:HB2	2.48	0.49
12:Q:572:VAL:HG23	12:Q:576:VAL:HG21	1.94	0.49
2:K:610:MET:HE1	2:K:641:VAL:HG12	1.95	0.49
1:H:175:PHE:O	1:H:179:GLU:OE1	2.31	0.49
5:T:165:TYR:CG	7:C:1736:LEU:HD23	2.47	0.49
7:C:745:ILE:HD11	7:C:779:TYR:CZ	2.47	0.49
7:C:1248:VAL:HG21	7:C:1285:LEU:HD11	1.94	0.49
7:C:1290:GLU:OE1	7:C:1331:THR:HG23	2.13	0.49
8:O:448:LEU:HA	8:O:451:MET:HG3	1.94	0.49
9:P:30:TYR:HB2	10:I:14:ARG:NH1	2.28	0.49
13:A:104:ALA:HB2	13:A:113:TRP:HB3	1.93	0.49
1:F:628:LEU:O	1:F:632:GLU:HB2	2.12	0.49
2:J:730:HIS:HA	2:J:733:LYS:HG2	1.93	0.49
1:H:48:PHE:HA	1:H:51:GLU:HG2	1.94	0.49
5:T:10:ASP:O	5:T:14:ILE:HG12	2.12	0.49
5:T:194:ASP:O	5:T:197:ILE:HG22	2.13	0.49
7:C:36:ASN:ND2	7:C:121:ALA:HA	2.27	0.49
7:C:977:TRP:HZ2	7:C:1018:SER:HG	1.59	0.49
7:C:1484:LYS:HA	7:C:1487:ILE:HG22	1.95	0.49
8:O:164:GLU:O	8:O:167:GLU:HG3	2.13	0.49
8:O:343:LEU:HD12	8:O:344:SER:N	2.28	0.49
10:I:40:ASN:O	10:I:43:MET:HG2	2.13	0.49
1:F:116:VAL:HG11	1:F:167:LEU:HD13	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:652:LEU:HD13	1:F:660:LYS:HG3	1.95	0.49
2:J:756:VAL:HG21	9:P:482:LEU:CD1	2.42	0.49
2:K:501:PRO:HA	2:K:504:ILE:HG22	1.95	0.49
1:H:181:LEU:HA	1:H:187:LEU:HD21	1.93	0.49
1:H:530:ASN:HA	4:E:252:LYS:NZ	2.28	0.49
5:T:389:LEU:HD11	5:T:512:LEU:HD13	1.93	0.49
5:T:510:ARG:NH1	5:T:573:ASN:OD1	2.46	0.49
7:C:1135:TYR:CE2	7:C:1143:MET:HG3	2.48	0.49
8:O:199:LYS:O	8:O:203:LEU:HG	2.12	0.49
8:O:490:GLU:O	8:O:493:LEU:HG	2.13	0.49
9:D:454:TYR:CE1	9:D:470:GLY:HA3	2.48	0.49
9:P:140:LEU:HD11	9:P:452:GLU:HG3	1.94	0.49
13:A:164:ALA:HB2	13:A:197:PHE:CE2	2.48	0.49
1:H:114:GLN:OE1	1:H:114:GLN:N	2.44	0.49
7:C:749:TYR:HE1	7:C:787:LEU:HD11	1.77	0.49
9:P:260:GLN:HA	9:P:463:ARG:HG3	1.94	0.49
12:Q:501:LEU:HD22	12:Q:567:SER:HA	1.95	0.49
1:F:499:LYS:NZ	1:F:509:MET:SD	2.69	0.49
2:J:355:ILE:N	2:K:239:ASP:OD2	2.42	0.49
2:J:605:LEU:HD22	2:J:621:TYR:CE2	2.47	0.49
5:T:309:MET:HE3	5:T:354:LEU:HD11	1.95	0.49
5:T:510:ARG:NH1	5:T:573:ASN:HA	2.28	0.49
7:C:45:ILE:HD13	7:C:75:ALA:HB3	1.95	0.49
7:C:618:GLU:O	7:C:621:SER:OG	2.25	0.49
7:C:1083:LEU:HD22	7:C:1102:ILE:HG13	1.95	0.49
7:C:1084:LEU:HD21	7:C:1129:ILE:HD11	1.94	0.49
7:C:1100:LYS:O	7:C:1104:VAL:HG23	2.13	0.49
8:O:56:PRO:HG3	8:O:326:PHE:HE1	1.77	0.49
9:P:429:LYS:HD2	10:I:10:TYR:CE1	2.48	0.49
12:Q:285:LEU:HD12	12:Q:289:GLY:HA2	1.95	0.49
13:A:49:ASN:OD1	13:A:178:TRP:N	2.46	0.49
2:K:472:ILE:O	2:K:475:THR:OG1	2.30	0.48
7:C:109:CYS:SG	9:D:493:THR:HA	2.52	0.48
9:P:91:LEU:HD21	9:P:107:PHE:HD2	1.77	0.48
9:P:352:PHE:HD2	9:P:369:TYR:HD1	1.61	0.48
13:A:113:TRP:CZ2	13:A:115:SER:HB3	2.48	0.48
1:F:495:PHE:CZ	1:F:515:LEU:HD13	2.48	0.48
1:F:565:LYS:HA	1:F:568:GLN:HG2	1.95	0.48
1:H:471:MET:CE	1:H:473:TRP:HB3	2.42	0.48
7:C:1251:ILE:HD12	7:C:1254:LEU:HD12	1.95	0.48
7:C:1739:TRP:HD1	7:C:1743:PHE:HD2	1.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:O:16:TYR:OH	8:O:74:VAL:HB	2.13	0.48
12:Q:209:PHE:CE1	12:Q:215:VAL:HG13	2.48	0.48
1:F:568:GLN:OE1	4:E:259:ASN:ND2	2.46	0.48
2:J:539:THR:HA	2:J:542:MET:HB3	1.96	0.48
1:H:91:SER:OG	1:H:101:ILE:O	2.31	0.48
7:C:995:THR:HG22	7:C:997:LYS:HE3	1.96	0.48
7:C:1084:LEU:HD23	7:C:1544:PHE:CZ	2.39	0.48
12:Q:275:TYR:CE2	12:Q:442:THR:HG22	2.49	0.48
12:Q:347:ILE:HG23	12:Q:348:LEU:HD12	1.95	0.48
1:H:563:PHE:O	1:H:567:THR:HG23	2.13	0.48
5:T:666:GLN:NE2	5:T:674:LYS:HD3	2.29	0.48
7:C:133:SER:O	9:D:267:LEU:HG	2.14	0.48
9:P:27:TRP:CZ2	9:P:115:TYR:HE2	2.32	0.48
12:Q:8:TYR:HA	12:Q:644:VAL:HG11	1.96	0.48
12:Q:29:ILE:HD13	12:Q:39:ALA:HB3	1.96	0.48
13:A:26:HIS:CE1	13:A:28:LYS:HG2	2.47	0.48
13:A:106:ASP:OD2	13:A:111:THR:OG1	2.20	0.48
2:J:288:ARG:CZ	2:K:492:ASN:HB3	2.42	0.48
2:K:359:SER:HB2	2:K:392:ASN:HD22	1.77	0.48
1:H:175:PHE:O	1:H:178:SER:OG	2.25	0.48
8:O:324:ASN:CG	9:D:455:ARG:HH21	2.16	0.48
8:O:512:ASP:HB3	8:O:531:TYR:HE2	1.78	0.48
9:P:460:ILE:HG23	9:P:461:CYS:H	1.78	0.48
12:Q:439:LYS:O	12:Q:442:THR:OG1	2.29	0.48
2:J:472:ILE:O	2:J:476:GLN:OE1	2.31	0.48
2:J:478:LYS:HB3	2:J:481:GLU:CD	2.34	0.48
2:J:643:TYR:HE2	2:J:655:TYR:HE2	1.61	0.48
5:T:217:LEU:HD12	5:T:218:TYR:N	2.29	0.48
8:O:56:PRO:HG3	8:O:326:PHE:CE1	2.49	0.48
8:O:561:ASP:OD1	8:O:561:ASP:N	2.46	0.48
9:D:300:LYS:O	9:D:304:PHE:HB2	2.12	0.48
9:D:515:LYS:O	9:D:519:ILE:HG12	2.14	0.48
1:F:440:PHE:CE2	1:F:463:ILE:HD12	2.48	0.48
2:K:609:PHE:HE2	2:K:621:TYR:HE2	1.61	0.48
2:K:644:PHE:CE2	2:K:686:LYS:HG3	2.49	0.48
1:H:478:LEU:HD22	1:H:494:TYR:HD2	1.77	0.48
5:T:49:ASN:ND2	5:T:137:TYR:OH	2.47	0.48
7:C:1499:LEU:HD11	7:C:1542:LYS:HD2	1.95	0.48
10:I:145:ILE:HG12	10:I:146:PHE:H	1.79	0.48
2:J:654:LYS:O	2:J:657:LYS:HG2	2.14	0.48
5:T:200:LEU:HD21	5:T:207:LEU:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:379:VAL:HG13	5:T:499:PHE:HE1	1.78	0.48
5:T:454:ILE:O	5:T:458:MET:HG3	2.14	0.48
5:T:626:LEU:CD2	5:T:715:ARG:HH12	2.27	0.48
8:O:36:VAL:HG22	8:O:94:ILE:HD11	1.95	0.48
8:O:57:LEU:O	8:O:58:LEU:HB2	2.13	0.48
8:O:287:LEU:HB3	8:O:301:ILE:HD11	1.95	0.48
8:O:499:SER:HB3	8:O:502:ARG:HD3	1.96	0.48
9:P:526:ILE:HG23	9:P:535:ASN:HD21	1.76	0.48
10:I:12:GLN:HG3	10:I:13:TYR:H	1.78	0.48
2:K:504:ILE:HD13	2:K:535:PHE:CE2	2.48	0.48
2:K:573:HIS:NE2	3:W:4:ARG:HB2	2.29	0.48
2:K:702:GLU:OE2	1:H:169:HIS:NE2	2.45	0.48
3:W:17:THR:HA	3:W:20:ILE:HG22	1.96	0.48
1:H:554:LYS:HG3	1:H:555:ASP:N	2.28	0.48
5:T:185:ILE:HG21	5:T:216:ALA:HB1	1.95	0.48
5:T:505:PHE:HE2	5:T:536:ILE:HG12	1.77	0.48
7:C:56:TRP:O	7:C:63:LEU:HB2	2.13	0.48
7:C:1180:LEU:HD23	7:C:1253:PHE:HB3	1.94	0.48
8:O:7:LEU:HD22	8:O:286:LEU:HB3	1.96	0.48
9:D:499:ARG:NH1	9:D:534:GLN:OE1	2.47	0.48
9:P:116:LEU:O	9:P:119:LEU:HG	2.13	0.48
10:I:31:ILE:HG13	10:I:31:ILE:O	2.14	0.48
12:Q:422:ASP:OD1	12:Q:423:LEU:N	2.47	0.48
2:K:362:CYS:HA	2:K:365:ARG:HE	1.79	0.48
2:K:738:LYS:NZ	2:K:740:ASN:O	2.47	0.48
1:H:117:ASN:HA	1:H:120:ILE:HG12	1.96	0.48
5:T:163:ARG:HG2	5:T:199:TRP:CZ2	2.49	0.48
5:T:520:LEU:O	5:T:607:LYS:NZ	2.43	0.48
7:C:1308:ILE:HG22	7:C:1309:MET:HE2	1.96	0.48
9:D:35:TRP:NE1	9:D:328:PHE:HZ	2.12	0.48
9:D:136:MET:HE2	9:D:139:ILE:HB	1.96	0.48
9:D:373:LEU:HB3	9:D:382:LEU:HD21	1.96	0.48
10:I:141:ILE:HG22	10:I:141:ILE:O	2.14	0.48
12:Q:12:TYR:CD1	12:Q:19:PHE:HB3	2.48	0.48
2:J:368:ILE:HG22	2:J:372:GLN:HE22	1.79	0.47
2:J:393:PHE:HD2	2:K:248:THR:HG22	1.78	0.47
2:J:622:PHE:CE2	2:J:638:GLU:HB3	2.49	0.47
2:K:515:LYS:O	2:K:518:LEU:HG	2.14	0.47
1:H:485:ILE:HG23	1:H:487:ASN:HB2	1.96	0.47
1:H:718:GLN:O	1:H:722:ILE:HG12	2.14	0.47
5:T:650:PRO:HB2	6:U:105:ALA:HB1	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:194:PHE:CG	7:C:195:PRO:HD2	2.48	0.47
7:C:1249:ILE:O	7:C:1252:MET:HB3	2.14	0.47
8:O:55:ASN:HB2	8:O:59:LYS:HD3	1.96	0.47
9:D:18:ARG:O	9:D:22:THR:OG1	2.23	0.47
12:Q:35:HIS:CE1	12:Q:582:ASP:HB3	2.49	0.47
5:T:506:ILE:HD13	5:T:536:ILE:HG21	1.96	0.47
6:U:117:ILE:HG13	6:U:120:ARG:HH21	1.78	0.47
7:C:810:ARG:HD3	7:C:813:LEU:HD23	1.97	0.47
7:C:949:ILE:HG21	7:C:1417:ALA:HB2	1.95	0.47
7:C:1099:ILE:HD13	7:C:1134:LEU:HD22	1.94	0.47
8:O:446:SER:HA	8:O:449:LYS:HD2	1.95	0.47
8:O:488:VAL:HG23	12:Q:378:THR:OG1	2.15	0.47
8:O:637:LEU:HD23	8:O:646:ALA:HB2	1.96	0.47
9:P:255:LEU:HD23	9:P:299:PHE:CE2	2.49	0.47
9:P:515:LYS:HB3	9:P:545:LEU:HD21	1.95	0.47
12:Q:228:SER:HB2	12:Q:347:ILE:CD1	2.44	0.47
1:F:710:ALA:HA	1:F:739:LEU:HD13	1.95	0.47
1:F:721:ARG:HH12	1:F:722:ILE:CD1	2.27	0.47
2:J:481:GLU:HA	2:J:484:GLU:OE1	2.14	0.47
2:K:306:PHE:HB3	2:K:315:ALA:HB2	1.96	0.47
1:H:607:HIS:NE2	1:H:609:ASN:HB2	2.29	0.47
5:T:518:PHE:CD2	5:T:660:LYS:HD2	2.49	0.47
5:T:588:GLU:O	5:T:592:ARG:HG2	2.14	0.47
7:C:1329:TYR:CZ	7:C:1383:ILE:HD11	2.49	0.47
9:D:363:LEU:HD23	9:D:366:LEU:HD12	1.95	0.47
9:P:428:LYS:NZ	10:I:11:PHE:HB3	2.28	0.47
12:Q:309:LYS:HA	12:Q:312:LYS:HZ3	1.79	0.47
1:F:34:ILE:HD11	1:F:49:LEU:HB3	1.97	0.47
2:J:674:ILE:HG13	2:J:675:SER:N	2.30	0.47
6:U:81:TRP:CE2	6:U:92:PRO:HB3	2.49	0.47
7:C:475:LEU:CD1	7:C:491:LEU:HB3	2.40	0.47
7:C:759:PRO:O	7:C:762:VAL:HG12	2.14	0.47
7:C:954:THR:HG21	7:C:984:LEU:H	1.79	0.47
7:C:1303:ASP:HB2	7:C:1351:ILE:HD11	1.95	0.47
7:C:1415:GLU:O	7:C:1416:VAL:HG12	2.15	0.47
7:C:1687:GLU:HA	7:C:1692:GLN:CD	2.34	0.47
8:O:623:PRO:HB2	8:O:660:PHE:HZ	1.79	0.47
8:O:661:PRO:O	8:O:664:ARG:HG2	2.14	0.47
8:O:668:ASP:OD1	8:O:669:GLU:N	2.48	0.47
12:Q:235:TYR:O	12:Q:238:VAL:HG12	2.15	0.47
13:A:44:LYS:HZ2	13:A:50:GLY:HA2	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:A:100:PRO:HG2	13:A:102:ASP:OD1	2.15	0.47
2:J:288:ARG:HG3	2:J:289:ASN:N	2.29	0.47
2:J:319:ILE:HD12	2:J:361:LEU:HD22	1.96	0.47
2:J:507:LEU:CD1	2:J:516:LEU:HD13	2.40	0.47
2:J:528:PRO:O	2:J:534:TRP:NE1	2.45	0.47
2:J:538:ALA:HB2	2:J:553:TYR:HB3	1.96	0.47
2:J:638:GLU:HA	2:J:641:VAL:HG12	1.95	0.47
2:J:668:PRO:O	2:J:673:THR:HG21	2.14	0.47
2:J:721:THR:HB	2:J:723:LYS:NZ	2.30	0.47
2:J:754:LEU:CD2	3:G:27:LYS:HE2	2.44	0.47
2:K:504:ILE:HG21	2:K:535:PHE:HE2	1.79	0.47
5:T:576:SER:HB2	5:T:613:TYR:HB3	1.96	0.47
7:C:1102:ILE:HG21	7:C:1131:MET:HG3	1.95	0.47
7:C:1339:MET:CE	7:C:1355:LEU:HD21	2.44	0.47
9:P:295:MET:HA	9:P:298:PHE:HD2	1.80	0.47
9:P:396:ARG:CZ	9:P:396:ARG:HB3	2.45	0.47
13:A:124:ASP:OD2	13:A:126:MET:HG2	2.14	0.47
1:F:616:THR:HA	1:F:619:MET:HE1	1.96	0.47
2:J:718:TYR:CB	2:J:727:ALA:HB2	2.44	0.47
2:K:284:GLU:HA	2:K:287:THR:HG22	1.95	0.47
1:H:31:GLN:O	1:H:34:ILE:HG22	2.13	0.47
9:D:321:LEU:HA	9:D:324:VAL:HG12	1.96	0.47
13:A:164:ALA:HB2	13:A:197:PHE:HE2	1.78	0.47
1:F:195:CYS:SG	1:F:444:LEU:HG	2.55	0.47
2:J:663:VAL:HG13	2:J:666:LEU:HD12	1.97	0.47
1:H:482:HIS:HA	1:H:485:ILE:HG22	1.97	0.47
7:C:31:GLN:HE22	7:C:33:ASN:H	1.60	0.47
7:C:75:ALA:HB1	7:C:87:PHE:CE1	2.50	0.47
7:C:760:ASP:OD1	7:C:761:TYR:N	2.48	0.47
8:O:356:ASP:OD1	8:O:357:ALA:N	2.47	0.47
9:D:6:GLN:O	9:D:10:ILE:HG12	2.15	0.47
9:D:352:PHE:HB3	9:D:369:TYR:HD2	1.79	0.47
9:P:34:LYS:HG3	9:P:35:TRP:N	2.30	0.47
9:P:82:SER:O	9:P:86:TYR:N	2.46	0.47
9:P:516:VAL:HG22	9:P:520:LYS:NZ	2.30	0.47
12:Q:347:ILE:HD11	12:Q:351:PHE:CE2	2.47	0.47
12:Q:404:ARG:O	12:Q:407:GLU:HG2	2.15	0.47
2:J:523:LEU:HB3	2:J:533:THR:OG1	2.14	0.47
2:K:501:PRO:O	2:K:504:ILE:HG22	2.15	0.47
1:H:506:VAL:HG13	1:H:507:LYS:N	2.29	0.47
1:H:649:GLY:HA3	1:H:665:TYR:CE1	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:650:GLY:O	1:H:653:GLU:HG3	2.15	0.47
7:C:412:LEU:HD21	7:C:465:MET:HG3	1.96	0.47
7:C:1055:LEU:HA	7:C:1088:SER:OG	2.15	0.47
1:F:82:LYS:HE3	1:F:84:TYR:HE1	1.80	0.47
2:J:675:SER:O	2:J:678:LEU:HG	2.14	0.47
2:K:653:LYS:HE3	2:K:684:TYR:CZ	2.49	0.47
3:G:25:GLU:HA	3:G:28:LEU:HG	1.97	0.47
5:T:183:LYS:O	5:T:186:MET:HG2	2.13	0.47
5:T:603:ILE:HG23	6:U:6:ASN:O	2.15	0.47
7:C:83:THR:N	7:C:84:PRO:HD3	2.30	0.47
7:C:208:ARG:HG3	7:C:386:PHE:HE2	1.79	0.47
7:C:555:SER:O	7:C:559:ILE:HG23	2.15	0.47
8:O:294:ASP:O	8:O:298:PHE:N	2.47	0.47
8:O:573:VAL:HA	8:O:576:CYS:HB3	1.95	0.47
8:O:588:LYS:O	8:O:592:GLU:OE1	2.33	0.47
9:D:418:MET:HE3	11:N:75:VAL:O	2.15	0.47
9:P:88:LEU:HB3	9:P:108:LEU:HD11	1.97	0.47
9:P:134:GLU:HB3	9:P:137:GLU:HG3	1.97	0.47
12:Q:69:GLY:HA2	12:Q:93:ILE:HG12	1.96	0.47
1:F:73:LEU:O	1:F:76:LEU:HG	2.15	0.47
2:K:504:ILE:HG21	2:K:535:PHE:CE2	2.50	0.47
1:H:157:ASN:HB2	1:H:180:ALA:HB2	1.96	0.47
5:T:344:TYR:O	5:T:348:ILE:HG12	2.15	0.47
5:T:581:LEU:O	5:T:585:LYS:HG2	2.15	0.47
7:C:524:TYR:CD1	7:C:525:PRO:HD2	2.50	0.47
8:O:168:THR:HA	8:O:171:ILE:HG22	1.96	0.47
8:O:635:GLU:OE1	8:O:670:LEU:HD11	2.15	0.47
9:D:549:LEU:O	9:D:551:ASP:N	2.48	0.47
9:P:484:SER:OG	9:P:508:CYS:SG	2.63	0.47
2:J:693:ALA:HA	2:J:696:CYS:SG	2.55	0.46
7:C:1303:ASP:HB3	7:C:1343:PHE:HE2	1.80	0.46
7:C:1309:MET:HG3	13:A:6:ILE:CG2	2.45	0.46
8:O:12:PHE:C	8:O:157:LYS:HD3	2.35	0.46
8:O:331:THR:HG21	9:D:452:GLU:HG2	1.97	0.46
8:O:550:TYR:HB2	8:O:589:PHE:HE1	1.79	0.46
13:A:40:ASP:HB3	13:A:43:THR:HG22	1.96	0.46
2:J:400:LEU:HD23	2:J:437:LEU:HA	1.96	0.46
7:C:656:ARG:HH12	7:C:673:VAL:CG2	2.25	0.46
8:O:123:LEU:HD21	8:O:143:ARG:HD3	1.96	0.46
8:O:248:GLN:HG3	8:O:252:ASN:ND2	2.30	0.46
8:O:417:GLU:H	11:N:4:ALA:HB1	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:A:48:VAL:HG21	13:A:76:LEU:HD21	1.96	0.46
13:A:189:ASP:OD1	13:A:189:ASP:N	2.47	0.46
2:K:229:ALA:N	2:K:231:GLU:OE1	2.49	0.46
2:K:523:LEU:HD21	2:K:532:ILE:HG23	1.97	0.46
3:W:15:ASP:OD1	3:W:16:VAL:N	2.48	0.46
7:C:127:GLU:HG2	7:C:152:TYR:CE1	2.49	0.46
8:O:488:VAL:O	8:O:491:LYS:HG2	2.16	0.46
2:J:479:PHE:CZ	2:J:509:GLU:HG2	2.51	0.46
1:H:76:LEU:O	1:H:80:LEU:HD13	2.16	0.46
5:T:613:TYR:OH	6:U:51:THR:N	2.48	0.46
9:P:105:VAL:HA	9:P:120:LYS:HG3	1.96	0.46
13:A:44:LYS:NZ	13:A:50:GLY:HA2	2.31	0.46
1:F:199:ALA:HB2	4:E:166:PRO:CD	2.46	0.46
2:K:234:ARG:HG2	2:K:237:ARG:HH12	1.81	0.46
2:K:705:ASP:O	2:K:711:HIS:HE1	1.97	0.46
1:H:567:THR:HB	1:H:577:TYR:HE1	1.80	0.46
5:T:213:ILE:HG21	5:T:258:VAL:HG22	1.97	0.46
7:C:867:ILE:HB	8:O:426:TYR:OH	2.15	0.46
7:C:895:GLY:HA2	7:C:898:LEU:HD12	1.97	0.46
7:C:1291:TRP:HD1	7:C:1338:ALA:HB2	1.81	0.46
9:P:205:ILE:HD11	9:P:244:CYS:HB2	1.97	0.46
9:P:427:ASP:OD1	10:I:12:GLN:OE1	2.32	0.46
9:P:551:ASP:HB3	9:P:554:GLU:HB2	1.96	0.46
11:N:120:LYS:HZ3	11:N:127:THR:N	2.13	0.46
1:F:24:LEU:HD23	1:F:24:LEU:H	1.81	0.46
1:F:723:VAL:HG13	1:F:725:ARG:HG2	1.97	0.46
2:J:517:PHE:HB2	2:J:540:TYR:CE1	2.51	0.46
2:J:604:PHE:O	2:J:607:MET:HG3	2.16	0.46
1:H:696:LEU:HD21	1:H:723:VAL:HG21	1.96	0.46
5:T:468:ILE:O	7:C:1408:ARG:HD3	2.15	0.46
7:C:34:ILE:HG13	7:C:35:THR:N	2.30	0.46
7:C:157:ASP:OD1	7:C:157:ASP:N	2.49	0.46
8:O:167:GLU:OE2	8:O:168:THR:HG23	2.15	0.46
8:O:333:ASN:ND2	11:N:91:ASP:O	2.49	0.46
12:Q:349:GLN:O	12:Q:352:SER:OG	2.27	0.46
1:F:49:LEU:HA	1:F:52:LEU:HD12	1.97	0.46
1:F:120:ILE:HD12	1:F:164:TYR:CE1	2.51	0.46
2:J:663:VAL:HG13	2:J:666:LEU:CD1	2.46	0.46
2:K:459:LEU:CD1	2:K:462:ASN:HB2	2.45	0.46
2:K:569:LEU:HD13	2:K:604:PHE:CD2	2.51	0.46
1:H:91:SER:OG	1:H:105:PHE:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:30:ILE:O	5:T:34:LEU:N	2.39	0.46
5:T:164:HIS:HE1	7:C:1733:ASP:HB2	1.81	0.46
5:T:265:HIS:ND1	5:T:266:GLU:HG3	2.30	0.46
7:C:31:GLN:NE2	7:C:33:ASN:H	2.14	0.46
7:C:959:VAL:HG23	7:C:1498:ASN:HB3	1.97	0.46
7:C:972:ILE:HB	7:C:975:GLN:CG	2.46	0.46
7:C:1298:TRP:HA	7:C:1301:ILE:HD11	1.97	0.46
7:C:1309:MET:HG3	13:A:6:ILE:HG23	1.97	0.46
7:C:1344:ALA:HB1	7:C:1513:LEU:HD11	1.96	0.46
9:P:247:PHE:HA	9:P:295:MET:SD	2.55	0.46
12:Q:334:CYS:O	12:Q:338:ILE:HG12	2.15	0.46
13:A:81:MET:HE3	13:A:220:TYR:CE1	2.50	0.46
1:F:78:LEU:HD23	1:F:86:THR:OG1	2.16	0.46
3:G:22:ASP:O	3:G:26:GLN:OE1	2.33	0.46
1:H:514:THR:O	1:H:518:HIS:ND1	2.49	0.46
5:T:168:ASN:ND2	5:T:206:SER:HB3	2.31	0.46
7:C:80:PHE:CZ	7:C:88:VAL:HG21	2.51	0.46
7:C:166:SER:HB2	7:C:371:VAL:HG12	1.98	0.46
7:C:1136:LEU:HD23	7:C:1137:ASN:HB2	1.97	0.46
9:D:302:LYS:HZ1	9:D:330:PHE:HZ	1.64	0.46
9:D:373:LEU:HB3	9:D:382:LEU:CD2	2.46	0.46
9:P:610:GLN:O	9:P:613:GLU:HG3	2.16	0.46
1:F:471:MET:HE3	1:F:474:CYS:HB2	1.98	0.46
1:F:495:PHE:HZ	1:F:515:LEU:HD13	1.80	0.46
1:F:536:MET:HG2	1:F:539:LYS:CG	2.46	0.46
2:J:581:GLN:HE21	2:J:608:GLN:HG3	1.81	0.46
2:K:575:TYR:HB2	2:K:584:ALA:HB2	1.98	0.46
5:T:111:ILE:HG22	7:C:1739:TRP:CH2	2.51	0.46
7:C:35:THR:OG1	7:C:77:TYR:HB3	2.16	0.46
7:C:927:THR:HG22	7:C:950:MET:HG3	1.98	0.46
8:O:627:VAL:HG11	8:O:660:PHE:CE2	2.51	0.46
9:D:194:ILE:HD11	9:D:220:LEU:CD2	2.46	0.46
9:D:272:LEU:HD21	9:D:296:ILE:HG23	1.97	0.46
9:P:95:LEU:HD11	9:P:104:CYS:CB	2.36	0.46
9:P:269:ASN:O	9:P:272:LEU:HG	2.16	0.46
9:P:400:CYS:HB2	9:P:423:ALA:HB2	1.97	0.46
10:I:40:ASN:HD21	10:I:83:ASN:CB	2.29	0.46
2:J:355:ILE:HG12	2:J:391:LYS:HB3	1.98	0.46
2:J:496:ASN:O	2:J:500:LEU:HG	2.16	0.46
2:J:679:ASN:O	2:J:683:THR:HG23	2.16	0.46
1:H:181:LEU:HA	1:H:187:LEU:CD2	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:295:TYR:HE2	5:T:349:LYS:HE2	1.81	0.46
5:T:342:LEU:HD13	5:T:410:LEU:HB3	1.99	0.46
7:C:740:PRO:O	7:C:744:LYS:HG2	2.16	0.46
7:C:901:ASN:O	7:C:905:ILE:N	2.40	0.46
8:O:13:ILE:HA	8:O:157:LYS:HZ2	1.81	0.46
8:O:385:ILE:HB	8:O:386:ILE:HD12	1.98	0.46
8:O:609:LYS:HA	8:O:612:LYS:HE2	1.98	0.46
1:F:656:GLY:HA2	1:F:658:LYS:NZ	2.31	0.45
1:F:681:LYS:HA	1:F:684:GLN:HG2	1.97	0.45
1:F:714:TYR:CE1	1:F:747:ILE:HG12	2.45	0.45
1:H:191:TYR:CE2	1:H:203:LEU:HD11	2.51	0.45
7:C:616:ASP:N	7:C:616:ASP:OD1	2.48	0.45
8:O:91:GLY:O	8:O:94:ILE:HG22	2.16	0.45
8:O:448:LEU:HD12	12:Q:121:PRO:HG2	1.98	0.45
9:D:231:ILE:H	9:D:231:ILE:HD12	1.80	0.45
9:D:235:MET:SD	9:D:236:SER:N	2.89	0.45
9:P:23:GLU:HG3	9:P:212:LEU:HD11	1.98	0.45
12:Q:387:LEU:HD21	12:Q:448:ILE:HG22	1.98	0.45
12:Q:542:LYS:NZ	12:Q:547:GLY:HA3	2.31	0.45
13:A:8:LYS:O	13:A:12:HIS:ND1	2.49	0.45
1:F:50:ALA:HA	1:F:53:LEU:HG	1.98	0.45
2:J:445:ASP:HA	2:J:448:LYS:HG2	1.98	0.45
2:J:701:LEU:HD11	2:J:711:HIS:CE1	2.50	0.45
2:K:375:PHE:O	2:K:379:ARG:HG3	2.17	0.45
1:H:43:TYR:HB3	1:H:81:ASN:OD1	2.15	0.45
5:T:136:ASN:HA	5:T:139:GLU:HG2	1.98	0.45
7:C:149:LYS:HD2	7:C:150:HIS:HB2	1.97	0.45
7:C:779:TYR:HB2	7:C:784:LEU:HB2	1.97	0.45
7:C:1005:ASP:HA	7:C:1008:GLU:OE2	2.15	0.45
8:O:426:TYR:O	8:O:430:THR:HG23	2.17	0.45
9:D:404:ALA:HB2	9:D:419:TYR:CB	2.46	0.45
9:D:419:TYR:HE1	10:I:27:TRP:HZ3	1.65	0.45
11:N:127:THR:HG23	11:N:129:TYR:H	1.80	0.45
12:Q:216:GLN:NE2	12:Q:482:VAL:HG13	2.31	0.45
1:F:196:LYS:HE2	1:F:196:LYS:HB2	1.80	0.45
2:J:752:LEU:HD23	9:P:482:LEU:CB	2.40	0.45
2:K:504:ILE:CD1	2:K:536:SER:HA	2.46	0.45
2:K:564:PHE:HD2	2:K:567:ALA:HB2	1.82	0.45
2:K:648:GLU:OE1	2:K:651:LYS:NZ	2.49	0.45
5:T:186:MET:O	5:T:220:LYS:NZ	2.50	0.45
6:U:10:SER:HG	6:U:12:PHE:HE1	1.62	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:1163:ALA:HB1	7:C:1168:ARG:HH12	1.82	0.45
8:O:361:SER:HA	9:D:482:LEU:HD23	1.99	0.45
12:Q:104:ARG:NH1	12:Q:104:ARG:O	2.49	0.45
12:Q:186:VAL:HG12	12:Q:188:ASN:H	1.81	0.45
1:F:67:TRP:HZ2	1:F:94:PHE:CZ	2.34	0.45
1:F:640:VAL:O	1:F:640:VAL:HG13	2.16	0.45
2:J:425:ASP:O	2:J:429:MET:HG2	2.16	0.45
2:J:716:TYR:CZ	3:G:19:LEU:HD13	2.50	0.45
5:T:148:PHE:CE2	5:T:155:TRP:HE3	2.35	0.45
7:C:78:ILE:HD11	7:C:80:PHE:HE1	1.82	0.45
9:D:458:VAL:HG11	9:D:468:TRP:CZ2	2.51	0.45
9:P:451:ILE:HD11	11:N:121:PRO:HB3	1.98	0.45
12:Q:369:LEU:HD23	12:Q:467:ILE:HD11	1.98	0.45
1:F:560:ILE:O	1:F:564:GLU:OE1	2.35	0.45
2:J:470:VAL:HA	2:J:473:CYS:SG	2.56	0.45
2:K:575:TYR:CB	2:K:584:ALA:HB2	2.46	0.45
5:T:468:ILE:HD11	7:C:1412:TYR:CD1	2.51	0.45
7:C:197:ASP:N	7:C:197:ASP:OD1	2.50	0.45
7:C:598:TYR:HA	7:C:605:TYR:HE2	1.80	0.45
7:C:1407:LEU:HD11	7:C:1505:PHE:CZ	2.52	0.45
7:C:1691:ILE:O	7:C:1691:ILE:HG22	2.17	0.45
7:C:1712:THR:HB	7:C:1715:GLU:OE1	2.17	0.45
9:D:32:SER:OG	9:D:250:SER:N	2.37	0.45
9:D:297:LYS:HB3	9:D:321:LEU:HD21	1.98	0.45
9:D:447:SER:O	9:D:451:ILE:HG12	2.16	0.45
9:P:426:LEU:HD12	10:I:22:ILE:HG12	1.98	0.45
10:I:12:GLN:CG	10:I:13:TYR:H	2.30	0.45
12:Q:273:TYR:CD2	12:Q:278:LEU:HD13	2.52	0.45
12:Q:323:VAL:HG23	12:Q:384:ILE:CD1	2.40	0.45
1:F:161:GLY:HA2	1:F:173:GLY:HA2	1.98	0.45
1:F:168:ASP:HB3	1:F:169:HIS:CD2	2.51	0.45
1:F:202:ASP:O	1:F:206:VAL:HG23	2.17	0.45
1:F:681:LYS:HD3	1:F:684:GLN:OE1	2.17	0.45
1:F:697:GLN:HA	1:F:700:GLU:CG	2.46	0.45
2:J:756:VAL:HG21	9:P:482:LEU:HD13	1.98	0.45
2:K:464:ASP:O	2:K:467:ARG:HG2	2.17	0.45
2:K:604:PHE:HD1	2:K:607:MET:CE	2.30	0.45
2:K:609:PHE:HE2	2:K:621:TYR:CE2	2.34	0.45
2:K:716:TYR:CZ	3:W:19:LEU:HD13	2.51	0.45
1:H:499:LYS:HE2	1:H:503:PRO:HA	1.97	0.45
1:H:555:ASP:N	1:H:555:ASP:OD1	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:561:LYS:O	1:H:565:LYS:HD3	2.17	0.45
8:O:585:TRP:CZ3	8:O:588:LYS:HD2	2.51	0.45
9:D:16:GLN:HG2	9:D:247:PHE:HE2	1.82	0.45
9:D:187:ILE:HG23	9:D:224:ILE:HD11	1.98	0.45
1:F:116:VAL:O	1:F:120:ILE:HG12	2.16	0.45
2:J:304:LEU:O	2:J:307:VAL:HG12	2.16	0.45
2:K:547:ILE:HG21	2:K:578:GLU:HB2	1.99	0.45
2:K:683:THR:O	2:K:687:LEU:HG	2.17	0.45
7:C:97:VAL:HB	7:C:106:THR:OG1	2.16	0.45
7:C:1052:GLY:HA2	7:C:1055:LEU:HG	1.99	0.45
7:C:1060:LYS:NZ	7:C:1090:MET:HA	2.31	0.45
7:C:1679:ASN:HA	7:C:1684:GLN:OE1	2.17	0.45
7:C:1691:ILE:HG23	7:C:1697:VAL:HG21	1.97	0.45
8:O:8:GLY:HA3	8:O:238:TYR:CD2	2.52	0.45
8:O:180:PHE:O	8:O:183:THR:OG1	2.25	0.45
8:O:437:GLU:HG2	8:O:437:GLU:O	2.17	0.45
8:O:654:LEU:HD12	12:Q:350:ALA:HB1	1.99	0.45
12:Q:118:ASP:OD1	12:Q:119:ASP:N	2.49	0.45
1:F:91:SER:HB2	1:F:105:PHE:HB2	1.99	0.45
2:J:564:PHE:CE2	2:J:566:ALA:HB3	2.52	0.45
7:C:73:ILE:HG22	7:C:90:VAL:O	2.17	0.45
7:C:901:ASN:O	7:C:905:ILE:HG23	2.17	0.45
7:C:1326:LEU:N	7:C:1327:PRO:HD2	2.31	0.45
2:J:400:LEU:CD2	2:J:437:LEU:HA	2.47	0.45
2:J:638:GLU:O	2:J:641:VAL:HG12	2.16	0.45
2:J:641:VAL:HG11	3:G:7:THR:CG2	2.47	0.45
5:T:16:ASP:O	5:T:19:GLN:HG3	2.16	0.45
5:T:332:ASN:ND2	12:Q:16:PHE:CD2	2.84	0.45
7:C:467:ILE:HA	7:C:476:ILE:HD12	1.99	0.45
8:O:331:THR:HA	9:D:448:HIS:HB3	1.99	0.45
8:O:500:SER:O	8:O:501:LEU:HG	2.17	0.45
12:Q:536:LEU:HD22	12:Q:557:ILE:HD11	1.99	0.45
13:A:142:MET:N	13:A:176:ASN:OD1	2.50	0.45
2:J:356:LYS:HE3	2:J:358:GLU:HB3	1.97	0.45
8:O:13:ILE:H	8:O:13:ILE:HD12	1.82	0.45
9:P:89:TYR:HB2	9:P:116:LEU:HD11	1.98	0.45
9:P:220:LEU:O	9:P:224:ILE:HG12	2.16	0.45
12:Q:462:ASP:HA	12:Q:465:LYS:NZ	2.32	0.45
1:F:164:TYR:CD2	1:F:172:GLU:HB3	2.52	0.44
2:K:584:ALA:HB3	2:K:608:GLN:NE2	2.32	0.44
7:C:556:ALA:O	7:C:559:ILE:HG12	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:1019:GLY:HA3	7:C:1052:GLY:HA3	1.99	0.44
9:P:79:PHE:HB2	9:P:115:TYR:OH	2.17	0.44
2:J:263:PRO:HB2	2:J:295:ASN:ND2	2.33	0.44
5:T:46:ALA:O	5:T:51:GLN:NE2	2.50	0.44
7:C:1405:GLU:HB3	7:C:1408:ARG:NH1	2.32	0.44
7:C:1552:ARG:HH21	7:C:1595:ASP:CA	2.25	0.44
7:C:1574:VAL:HG23	7:C:1576:GLU:H	1.81	0.44
8:O:13:ILE:HD11	8:O:158:TYR:HA	1.99	0.44
9:D:124:LYS:HD3	9:D:190:ILE:HG12	2.00	0.44
10:I:40:ASN:ND2	10:I:80:SER:HA	2.20	0.44
1:F:152:ASP:CG	1:H:40:GLN:HE22	2.21	0.44
1:F:751:LEU:HB3	2:J:617:LEU:CD2	2.47	0.44
2:J:267:PHE:HE2	2:J:297:LEU:O	1.99	0.44
7:C:415:HIS:CE1	7:C:417:PRO:HD2	2.52	0.44
7:C:501:PRO:HB2	7:C:607:ARG:NH1	2.32	0.44
7:C:777:GLN:HG3	7:C:777:GLN:O	2.17	0.44
7:C:1125:THR:HG22	7:C:1167:TYR:HA	1.99	0.44
7:C:1365:LEU:HD21	13:A:14:ALA:HA	1.99	0.44
7:C:1485:LYS:HD3	7:C:1485:LYS:HA	1.68	0.44
7:C:1641:VAL:HG11	7:C:1692:GLN:HE22	1.81	0.44
8:O:512:ASP:HB3	8:O:531:TYR:CE2	2.52	0.44
9:P:304:PHE:CE1	9:P:311:LEU:HA	2.52	0.44
10:I:7:ARG:HE	10:I:10:TYR:HE1	1.65	0.44
12:Q:60:LYS:HZ2	12:Q:61:PHE:HE1	1.61	0.44
1:F:632:GLU:HA	1:F:635:ARG:CD	2.48	0.44
2:J:306:PHE:HD1	2:J:311:ARG:HB3	1.83	0.44
2:J:599:HIS:NE2	2:J:632:ASP:OD2	2.45	0.44
2:K:754:LEU:HD22	3:W:23:LEU:HD11	2.00	0.44
2:K:756:VAL:HG11	1:H:629:LEU:HD13	1.98	0.44
1:H:547:GLY:HA3	1:H:563:PHE:CE1	2.53	0.44
1:H:678:SER:O	1:H:682:MET:HG2	2.17	0.44
7:C:752:VAL:HG23	7:C:757:PHE:CE2	2.52	0.44
9:P:404:ALA:HB2	9:P:419:TYR:CB	2.47	0.44
2:K:376:ASN:OD1	2:K:377:LYS:N	2.50	0.44
1:H:107:ARG:NH1	1:H:111:GLN:HB2	2.33	0.44
5:T:111:ILE:HG22	7:C:1739:TRP:HH2	1.83	0.44
5:T:516:ARG:HB2	5:T:529:TRP:HZ3	1.83	0.44
8:O:303:ILE:HA	8:O:306:TYR:HB3	2.00	0.44
10:I:83:ASN:HA	10:I:86:ARG:HG2	1.98	0.44
12:Q:297:ASP:OD1	12:Q:301:ASN:ND2	2.34	0.44
12:Q:322:THR:O	12:Q:326:LEU:HD23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:A:89:LEU:HB3	13:A:126:MET:HB2	1.99	0.44
1:F:495:PHE:HE2	1:F:512:PHE:HD1	1.64	0.44
2:J:643:TYR:HA	2:J:646:LYS:HG2	1.99	0.44
2:K:246:TYR:CZ	2:K:275:ASN:HB3	2.53	0.44
2:K:542:MET:HA	2:K:542:MET:CE	2.48	0.44
1:H:475:LEU:HD23	1:H:498:LEU:HG	1.98	0.44
1:H:513:SER:HB3	1:H:545:CYS:SG	2.58	0.44
5:T:181:LEU:HD23	5:T:212:LEU:HB3	1.99	0.44
5:T:324:SER:HA	5:T:327:LYS:HE3	1.99	0.44
5:T:470:TRP:O	5:T:472:PRO:HD3	2.18	0.44
7:C:208:ARG:HG3	7:C:386:PHE:CE2	2.53	0.44
8:O:173:LEU:O	8:O:177:LYS:N	2.45	0.44
8:O:315:TYR:HA	8:O:352:PHE:HE2	1.83	0.44
8:O:336:ASN:O	8:O:337:TYR:HD1	2.00	0.44
9:P:429:LYS:HA	9:P:460:ILE:CD1	2.47	0.44
12:Q:125:ARG:HG3	12:Q:138:TYR:HA	1.98	0.44
1:F:78:LEU:O	1:F:83:SER:OG	2.30	0.44
1:F:510:GLU:HG3	1:F:575:TYR:CD2	2.53	0.44
1:F:729:ALA:O	1:F:733:LEU:HD23	2.17	0.44
2:K:452:ILE:HA	2:K:455:LYS:NZ	2.33	0.44
2:K:542:MET:CE	2:K:547:ILE:HD13	2.47	0.44
1:H:130:PHE:CD2	1:H:153:LEU:HD21	2.53	0.44
1:H:495:PHE:CD1	1:H:498:LEU:HD12	2.50	0.44
1:H:749:ASP:HA	1:H:752:GLN:HG3	1.99	0.44
4:E:108:ASP:OD1	4:E:108:ASP:N	2.49	0.44
6:U:74:HIS:HB2	6:U:77:CYS:SG	2.57	0.44
7:C:118:PHE:HE2	7:C:191:LEU:O	2.00	0.44
7:C:1043:ASP:N	7:C:1043:ASP:OD1	2.51	0.44
7:C:1281:THR:HG22	7:C:1282:ARG:N	2.32	0.44
8:O:389:ILE:HD12	8:O:392:HIS:O	2.18	0.44
9:D:418:MET:SD	11:N:78:GLU:HB3	2.58	0.44
12:Q:209:PHE:HE1	12:Q:215:VAL:HG13	1.81	0.44
1:F:575:TYR:HE1	1:F:607:HIS:HE2	1.66	0.44
2:J:479:PHE:HB3	2:J:510:LEU:CD2	2.47	0.44
2:J:514:ASN:OD1	9:D:384:TYR:HD1	2.00	0.44
2:K:257:TYR:CE1	2:K:266:ALA:HB2	2.53	0.44
1:H:118:GLU:HA	1:H:121:LEU:HG	1.99	0.44
1:H:443:ILE:HD11	1:H:459:PHE:CE2	2.53	0.44
1:H:751:LEU:O	1:H:755:HIS:ND1	2.40	0.44
5:T:307:LYS:O	5:T:307:LYS:HD3	2.18	0.44
7:C:35:THR:HG23	7:C:78:ILE:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:36:ASN:HD22	7:C:121:ALA:HA	1.83	0.44
7:C:423:ILE:O	7:C:451:LEU:HD12	2.18	0.44
7:C:972:ILE:O	7:C:972:ILE:HG22	2.17	0.44
7:C:1244:GLN:HB3	7:C:1285:LEU:HD22	2.00	0.44
7:C:1344:ALA:CB	7:C:1513:LEU:HD11	2.47	0.44
8:O:58:LEU:HD11	8:O:343:LEU:HD11	2.00	0.44
9:D:210:ALA:HA	9:D:214:LEU:HD21	2.00	0.44
9:P:396:ARG:NH1	9:P:398:GLU:OE2	2.51	0.44
1:F:616:THR:HA	1:F:619:MET:CE	2.48	0.44
2:K:691:GLU:HG3	2:K:692:ILE:HD13	1.99	0.44
7:C:218:SER:HB3	7:C:372:LEU:HD13	1.99	0.44
7:C:630:GLY:O	7:C:634:ILE:HG12	2.17	0.44
7:C:1059:LEU:O	7:C:1089:SER:OG	2.35	0.44
8:O:46:SER:OG	8:O:47:PRO:HD3	2.17	0.44
9:P:425:THR:CB	10:I:22:ILE:HD11	2.45	0.44
12:Q:182:VAL:HG13	12:Q:473:ASN:HD22	1.83	0.44
12:Q:363:LEU:O	12:Q:366:VAL:HG22	2.18	0.44
12:Q:504:ILE:HG12	12:Q:571:PHE:CG	2.53	0.44
13:A:133:ILE:HA	13:A:221:VAL:HG12	2.00	0.44
2:K:430:LYS:HG3	2:K:431:ASN:OD1	2.18	0.43
2:K:457:TYR:O	2:K:458:LYS:HG2	2.17	0.43
5:T:221:ILE:HG22	5:T:246:PHE:CZ	2.53	0.43
7:C:1249:ILE:O	7:C:1253:PHE:HD2	2.01	0.43
7:C:1264:SER:O	7:C:1268:LYS:N	2.30	0.43
7:C:1299:GLU:OE1	7:C:1300:PHE:HD1	2.01	0.43
8:O:172:ASN:O	8:O:176:PHE:N	2.39	0.43
8:O:323:HIS:CD2	9:D:483:TYR:HE1	2.35	0.43
8:O:429:GLU:O	8:O:432:LEU:HG	2.18	0.43
8:O:450:PHE:O	8:O:454:THR:HG23	2.18	0.43
8:O:546:ILE:O	8:O:550:TYR:N	2.42	0.43
8:O:624:LEU:HD11	8:O:662:PHE:HE1	1.81	0.43
11:N:74:ASN:OD1	11:N:75:VAL:N	2.38	0.43
12:Q:249:HIS:HB3	12:Q:325:ILE:HD11	1.99	0.43
1:F:457:ARG:NH2	4:E:96:PHE:HE2	2.16	0.43
2:J:321:GLU:HG3	4:E:104:GLU:HB3	2.00	0.43
1:H:694:VAL:O	1:H:698:THR:HG23	2.17	0.43
7:C:58:ILE:HG23	7:C:59:GLU:N	2.31	0.43
7:C:640:LEU:O	7:C:780:PRO:HD3	2.18	0.43
7:C:642:VAL:HG21	8:O:602:VAL:HG21	1.99	0.43
8:O:309:ALA:HA	8:O:312:GLU:OE2	2.18	0.43
9:D:247:PHE:HA	9:D:295:MET:SD	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:298:PHE:CE1	9:D:331:LEU:HD21	2.54	0.43
9:D:413:HIS:HA	9:D:440:GLU:OE2	2.19	0.43
9:P:254:GLU:OE1	10:I:7:ARG:HG3	2.18	0.43
10:I:148:ARG:HD2	10:I:148:ARG:N	2.31	0.43
12:Q:164:VAL:HB	12:Q:173:THR:HB	2.00	0.43
13:A:190:ASP:HB3	13:A:192:LEU:HG	1.98	0.43
2:J:268:TRP:O	2:J:272:VAL:HG23	2.19	0.43
2:K:255:LYS:HD3	2:K:255:LYS:HA	1.68	0.43
2:K:590:THR:HA	2:K:593:ARG:HD2	1.99	0.43
4:E:216:LEU:HD21	4:E:220:HIS:HD2	1.83	0.43
5:T:236:ARG:HG2	5:T:237:PHE:CD2	2.53	0.43
5:T:312:PHE:HA	5:T:315:TYR:CD2	2.53	0.43
7:C:861:TYR:CE1	12:Q:135:ILE:HB	2.53	0.43
7:C:1007:VAL:O	7:C:1011:GLN:HG3	2.18	0.43
8:O:409:TYR:HD2	8:O:410:LEU:HD22	1.83	0.43
8:O:424:ASN:O	8:O:427:LYS:HG2	2.18	0.43
8:O:428:PHE:O	8:O:431:LEU:HG	2.18	0.43
8:O:477:TRP:HB3	8:O:485:ILE:CG2	2.48	0.43
8:O:593:SER:O	8:O:597:LEU:HG	2.18	0.43
8:O:653:ASN:O	8:O:657:ILE:HG23	2.19	0.43
9:P:480:MET:SD	9:P:482:LEU:HD23	2.58	0.43
10:I:113:PHE:CE2	10:I:154:ALA:HB2	2.53	0.43
1:F:34:ILE:HD12	1:F:53:LEU:HD23	1.99	0.43
1:F:47:GLU:O	1:F:51:GLU:HG2	2.18	0.43
1:F:488:TYR:HD1	1:F:519:LEU:HD22	1.82	0.43
1:F:624:TYR:CZ	1:F:654:LYS:HE2	2.52	0.43
2:J:580:GLU:CG	2:J:583:GLN:HE21	2.32	0.43
1:H:471:MET:HG3	1:H:474:CYS:H	1.83	0.43
5:T:327:LYS:HE3	5:T:327:LYS:HB3	1.82	0.43
5:T:568:ASP:O	5:T:571:GLN:HG3	2.18	0.43
5:T:665:ILE:HD11	5:T:723:TRP:HH2	1.83	0.43
7:C:113:GLN:OE1	7:C:113:GLN:N	2.45	0.43
7:C:119:TRP:CD1	7:C:124:VAL:HG22	2.54	0.43
7:C:1368:TYR:CZ	13:A:20:LYS:HB3	2.54	0.43
8:O:78:LEU:HD11	8:O:99:MET:CE	2.48	0.43
8:O:491:LYS:HD3	12:Q:378:THR:HG23	1.99	0.43
8:O:651:SER:O	8:O:654:LEU:HG	2.18	0.43
9:D:378:LYS:HG2	9:D:378:LYS:O	2.17	0.43
9:P:335:ASN:HB3	9:P:351:ARG:NH2	2.25	0.43
9:P:460:ILE:HG23	9:P:461:CYS:N	2.33	0.43
9:P:578:VAL:HG13	9:P:611:GLU:HG2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Q:97:ILE:HD13	12:Q:198:ILE:CG2	2.47	0.43
13:A:34:LEU:H	13:A:173:ARG:HH12	1.65	0.43
2:K:600:LEU:CD2	3:W:1:MET:HG2	2.47	0.43
2:K:683:THR:O	2:K:687:LEU:N	2.51	0.43
5:T:327:LYS:HD3	12:Q:151:ASP:OD1	2.19	0.43
5:T:352:LEU:HD11	5:T:489:THR:HA	1.99	0.43
7:C:871:ALA:HA	8:O:411:LYS:O	2.18	0.43
8:O:362:PHE:CZ	8:O:385:ILE:HD11	2.54	0.43
8:O:477:TRP:CD2	8:O:485:ILE:HD13	2.54	0.43
9:D:9:ILE:O	9:D:13:ILE:HG12	2.18	0.43
9:D:29:LEU:HD21	9:D:216:LEU:HD11	2.00	0.43
9:D:421:ARG:O	9:D:424:LEU:HG	2.19	0.43
10:I:150:ILE:HG13	10:I:151:THR:N	2.34	0.43
12:Q:172:ILE:HG13	12:Q:184:LEU:HB2	2.01	0.43
1:F:148:VAL:HG22	1:F:149:HIS:ND1	2.33	0.43
5:T:287:ILE:HD13	5:T:318:ILE:HG23	2.01	0.43
5:T:656:LEU:HD13	6:U:12:PHE:CZ	2.54	0.43
1:F:457:ARG:HB3	4:E:140:ILE:HD12	2.00	0.43
2:J:368:ILE:CG2	2:J:372:GLN:HE22	2.31	0.43
2:K:697:PHE:HA	2:K:700:VAL:HG12	2.01	0.43
1:H:123:LEU:O	1:H:127:ILE:HG22	2.18	0.43
1:H:488:TYR:O	1:H:492:LEU:HD23	2.18	0.43
5:T:43:PRO:HB2	5:T:117:HIS:CD2	2.54	0.43
7:C:929:PHE:HE1	7:C:989:PRO:HD2	1.84	0.43
8:O:70:VAL:HG21	12:Q:424:TYR:CE1	2.53	0.43
9:D:205:ILE:CD1	9:D:240:LYS:HB3	2.48	0.43
1:F:611:TYR:HB2	1:F:634:ALA:HB2	2.00	0.43
2:J:521:HIS:NE2	2:J:525:GLU:OE2	2.50	0.43
6:U:100:LEU:HD12	6:U:111:VAL:HA	2.01	0.43
7:C:781:LEU:HD21	7:C:1698:GLU:HG2	2.01	0.43
7:C:916:VAL:HA	7:C:919:LEU:HG	2.00	0.43
8:O:293:ASN:ND2	9:D:139:ILE:HD12	2.34	0.43
8:O:594:ILE:HD13	8:O:610:ILE:HG22	2.01	0.43
12:Q:75:ASP:OD2	12:Q:78:LYS:N	2.52	0.43
12:Q:246:MET:HB2	12:Q:246:MET:HE2	1.87	0.43
12:Q:280:SER:O	12:Q:283:GLU:HG2	2.18	0.43
2:J:382:PHE:HD1	2:J:395:ALA:HB1	1.84	0.43
2:J:663:VAL:O	2:J:663:VAL:HG12	2.19	0.43
2:K:262:ASP:N	2:K:262:ASP:OD1	2.51	0.43
2:K:563:SER:HA	2:K:595:PHE:CZ	2.45	0.43
2:K:731:LEU:HD21	2:K:747:LEU:HB3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:154:ASP:O	5:T:157:LEU:N	2.52	0.43
7:C:35:THR:OG1	7:C:76:GLY:O	2.37	0.43
7:C:585:LEU:HA	7:C:588:LEU:HG	2.00	0.43
7:C:860:ILE:HD12	8:O:448:LEU:HD11	2.00	0.43
7:C:1724:SER:O	7:C:1724:SER:OG	2.32	0.43
9:P:13:ILE:HG23	9:P:17:LEU:HD23	2.01	0.43
1:F:110:LEU:HD11	1:F:162:ASN:HB3	1.99	0.43
1:F:165:MET:SD	1:F:166:LYS:N	2.92	0.43
2:K:679:ASN:O	2:K:683:THR:HG23	2.19	0.43
5:T:139:GLU:HG3	5:T:143:ARG:NH1	2.34	0.43
7:C:784:LEU:O	7:C:788:GLN:OE1	2.37	0.43
7:C:911:ARG:HH11	7:C:1404:LEU:HD21	1.83	0.43
8:O:78:LEU:HB2	8:O:176:PHE:CZ	2.53	0.43
8:O:427:LYS:O	8:O:430:THR:OG1	2.32	0.43
8:O:586:ARG:O	8:O:590:GLU:HG2	2.19	0.43
9:D:247:PHE:H	9:D:295:MET:HG3	1.84	0.43
1:F:99:LEU:HD23	1:F:143:LEU:HA	2.00	0.42
1:F:194:ILE:HA	1:F:197:MET:SD	2.58	0.42
2:J:240:ALA:HA	2:J:243:GLN:HG2	2.00	0.42
1:H:533:MET:CG	1:H:546:ILE:HD11	2.49	0.42
1:H:563:PHE:HB3	1:H:580:GLN:CG	2.48	0.42
1:H:633:LYS:HE2	1:H:633:LYS:HA	2.00	0.42
5:T:140:PHE:HB3	5:T:141:PRO:HD3	2.01	0.42
7:C:1312:VAL:HG13	7:C:1328:ILE:HD13	2.01	0.42
8:O:128:ARG:HA	8:O:128:ARG:HD3	1.93	0.42
8:O:525:PHE:HE1	8:O:558:LYS:HB3	1.84	0.42
9:D:189:SER:O	9:D:193:GLU:OE1	2.37	0.42
9:D:530:GLN:NE2	9:D:534:GLN:HE22	2.17	0.42
12:Q:8:TYR:HD2	12:Q:570:ARG:NH1	2.16	0.42
12:Q:53:ASP:O	12:Q:63:SER:OG	2.36	0.42
12:Q:95:LYS:HB3	12:Q:95:LYS:HE2	1.82	0.42
12:Q:373:SER:O	12:Q:376:LEU:HG	2.19	0.42
1:F:699:PHE:HB3	1:F:716:LEU:HD22	2.01	0.42
1:H:107:ARG:HH12	1:H:111:GLN:HB2	1.84	0.42
7:C:525:PRO:HD3	7:C:553:TRP:CZ3	2.53	0.42
7:C:1569:PRO:HG2	7:C:1605:LYS:O	2.19	0.42
8:O:143:ARG:HH11	8:O:143:ARG:HG3	1.84	0.42
9:D:198:LEU:HD21	9:D:218:TYR:CZ	2.54	0.42
10:I:140:THR:HG22	10:I:142:THR:HG23	2.01	0.42
12:Q:438:SER:O	12:Q:442:THR:HG23	2.19	0.42
1:F:119:ALA:O	1:F:123:LEU:HD23	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:120:ILE:HD11	1:F:163:LEU:HB3	2.01	0.42
1:F:551:SER:HA	1:F:555:ASP:O	2.18	0.42
2:J:756:VAL:HG13	9:P:512:THR:CG2	2.49	0.42
2:K:264:ASP:OD1	2:K:265:ASP:N	2.52	0.42
2:K:571:PHE:O	2:K:574:THR:OG1	2.32	0.42
1:H:495:PHE:CD2	1:H:512:PHE:HD1	2.37	0.42
5:T:592:ARG:N	5:T:592:ARG:HD3	2.33	0.42
7:C:458:GLU:HB2	7:C:480:GLU:OE2	2.19	0.42
7:C:575:GLU:HG2	7:C:576:HIS:N	2.34	0.42
7:C:1733:ASP:O	7:C:1737:GLU:OE1	2.37	0.42
9:P:582:LEU:HB3	9:P:611:GLU:OE2	2.19	0.42
12:Q:60:LYS:HG2	12:Q:75:ASP:OD1	2.20	0.42
12:Q:357:LEU:HD23	12:Q:359:TYR:N	2.32	0.42
12:Q:462:ASP:OD1	12:Q:463:MET:N	2.52	0.42
12:Q:505:LYS:HD2	12:Q:509:HIS:O	2.19	0.42
12:Q:551:LYS:HA	12:Q:551:LYS:HD2	1.90	0.42
1:F:181:LEU:HD23	1:F:181:LEU:HA	1.84	0.42
2:J:693:ALA:O	2:J:697:PHE:HD1	2.02	0.42
5:T:509:PHE:CE2	5:T:533:LEU:HB3	2.54	0.42
6:U:16:TRP:CG	6:U:64:LEU:HD12	2.54	0.42
7:C:465:MET:N	7:C:465:MET:SD	2.93	0.42
7:C:1141:LYS:NZ	7:C:1216:MET:SD	2.78	0.42
7:C:1235:GLU:N	13:A:128:SER:HB3	2.34	0.42
10:I:38:VAL:O	10:I:41:ILE:HG22	2.19	0.42
12:Q:376:LEU:HD23	12:Q:460:MET:SD	2.59	0.42
12:Q:572:VAL:HG21	12:Q:644:VAL:HG23	2.00	0.42
12:Q:627:PHE:HD1	12:Q:647:LYS:H	1.68	0.42
2:J:246:TYR:CD2	2:J:276:ASN:HB3	2.55	0.42
2:J:658:LYS:O	2:J:661:GLU:HG2	2.20	0.42
2:K:432:LEU:HA	2:K:435:ILE:HD12	2.01	0.42
2:K:464:ASP:HA	2:K:467:ARG:HG2	2.02	0.42
2:K:684:TYR:CE2	2:K:692:ILE:HB	2.54	0.42
2:K:754:LEU:N	3:W:27:LYS:HZ3	2.18	0.42
1:H:543:TRP:HZ2	4:E:256:HIS:ND1	2.18	0.42
5:T:53:ARG:NH1	5:T:55:PRO:HA	2.35	0.42
5:T:239:ILE:HG13	5:T:240:MET:SD	2.58	0.42
5:T:372:PHE:HD1	5:T:378:LEU:HD13	1.83	0.42
7:C:213:LEU:HD23	7:C:215:PHE:CE1	2.54	0.42
7:C:864:LEU:HA	7:C:867:ILE:HG12	2.01	0.42
7:C:1531:THR:HB	7:C:1537:PRO:HD2	2.00	0.42
7:C:1572:LEU:HG	7:C:1602:ILE:HD12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:O:255:ILE:HG13	8:O:256:VAL:N	2.34	0.42
9:D:590:LYS:HA	9:D:590:LYS:HD3	1.90	0.42
10:I:34:LEU:HD11	10:I:37:GLU:OE2	2.20	0.42
12:Q:300:CYS:SG	12:Q:301:ASN:N	2.92	0.42
2:K:467:ARG:O	2:K:470:VAL:HG12	2.20	0.42
2:K:643:TYR:CD2	2:K:651:LYS:HD2	2.54	0.42
1:H:78:LEU:HD13	1:H:86:THR:HG22	2.01	0.42
5:T:5:ILE:HA	7:C:1735:GLN:OE1	2.20	0.42
6:U:74:HIS:O	6:U:78:ILE:HG22	2.18	0.42
7:C:586:LEU:CD2	7:C:624:LEU:HD21	2.50	0.42
7:C:858:SER:OG	7:C:859:ASP:N	2.50	0.42
8:O:242:ILE:HG22	8:O:243:SER:O	2.19	0.42
9:P:131:LYS:HB3	9:P:131:LYS:HE3	1.91	0.42
12:Q:199:ILE:HD11	12:Q:505:LYS:HB3	2.00	0.42
13:A:186:ASN:OD1	13:A:187:ARG:N	2.52	0.42
1:F:53:LEU:HD12	1:F:54:TYR:N	2.34	0.42
1:F:123:LEU:O	1:F:127:ILE:HG12	2.20	0.42
1:F:477:GLN:O	1:F:481:LEU:HG	2.20	0.42
1:F:563:PHE:HB3	1:F:580:GLN:HG2	2.01	0.42
1:F:726:LYS:O	1:F:730:ILE:HG12	2.20	0.42
2:K:615:LEU:HD21	2:K:645:LYS:HB2	2.00	0.42
1:H:486:ILE:HG23	1:H:488:TYR:HE1	1.84	0.42
5:T:231:ARG:HD3	5:T:233:TRP:CH2	2.55	0.42
7:C:706:SER:O	7:C:710:ILE:HG22	2.19	0.42
7:C:1072:SER:HB2	7:C:1073:PRO:HD3	2.00	0.42
7:C:1117:LEU:HD23	7:C:1117:LEU:H	1.83	0.42
7:C:1366:TYR:OH	7:C:1493:LYS:HD3	2.20	0.42
7:C:1610:PHE:CZ	7:C:1635:GLN:HB3	2.55	0.42
9:P:242:LEU:HD22	9:P:252:TRP:NE1	2.32	0.42
10:I:145:ILE:HG23	10:I:146:PHE:HD1	1.76	0.42
12:Q:381:LEU:HA	12:Q:384:ILE:HG22	2.02	0.42
1:F:153:LEU:H	1:F:153:LEU:HD23	1.85	0.42
1:F:475:LEU:HD23	1:F:475:LEU:C	2.40	0.42
2:J:692:ILE:H	2:J:692:ILE:HD12	1.84	0.42
2:K:484:GLU:O	2:K:488:THR:HG23	2.20	0.42
2:K:684:TYR:HD1	2:K:687:LEU:HD12	1.84	0.42
1:H:734:THR:HA	1:H:737:MET:HG2	2.02	0.42
4:E:103:ARG:NH2	4:E:106:ARG:HH11	2.18	0.42
7:C:643:LEU:HD11	8:O:597:LEU:HD23	2.00	0.42
7:C:724:PHE:HB2	7:C:727:LEU:HD11	2.02	0.42
8:O:244:ILE:H	8:O:244:ILE:HD12	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:O:302:PHE:O	8:O:321:SER:OG	2.37	0.42
9:D:131:LYS:NZ	9:P:392:ILE:O	2.52	0.42
9:D:325:PHE:HB3	9:D:328:PHE:HB2	2.01	0.42
9:P:95:LEU:HD12	9:P:96:PHE:N	2.35	0.42
9:P:393:ASP:OD1	9:P:399:THR:HG21	2.20	0.42
12:Q:282:LEU:HD13	12:Q:285:LEU:HD23	2.01	0.42
1:F:194:ILE:O	1:F:197:MET:SD	2.78	0.42
1:F:457:ARG:HD3	1:F:457:ARG:HA	1.81	0.42
2:J:234:ARG:HG3	2:J:237:ARG:NH1	2.35	0.42
5:T:626:LEU:HD23	5:T:715:ARG:NH1	2.32	0.42
6:U:74:HIS:HB2	6:U:77:CYS:HB2	2.02	0.42
7:C:192:VAL:HG23	7:C:395:LEU:HD22	2.02	0.42
7:C:501:PRO:HB2	7:C:607:ARG:HH11	1.85	0.42
7:C:707:LEU:HD13	7:C:707:LEU:HA	1.82	0.42
7:C:724:PHE:CZ	7:C:735:GLU:HG3	2.55	0.42
7:C:776:LEU:O	7:C:784:LEU:HD13	2.20	0.42
7:C:1372:GLN:OE1	13:A:27:ASN:ND2	2.49	0.42
8:O:44:LEU:O	8:O:47:PRO:HD2	2.20	0.42
9:D:377:GLN:O	9:D:378:LYS:CB	2.58	0.42
9:P:118:PHE:CE2	9:P:216:LEU:HD23	2.55	0.42
9:P:328:PHE:CE2	9:P:330:PHE:HB3	2.54	0.42
12:Q:132:ARG:HG2	12:Q:133:ILE:H	1.85	0.42
2:J:464:ASP:OD1	2:J:465:VAL:N	2.53	0.42
2:J:479:PHE:CE2	2:J:509:GLU:HG2	2.54	0.42
2:K:535:PHE:HD1	2:K:554:TYR:HE1	1.67	0.42
2:K:697:PHE:HB3	2:K:714:LEU:HD21	2.01	0.42
1:H:486:ILE:O	1:H:486:ILE:HG22	2.20	0.42
5:T:510:ARG:CZ	5:T:576:SER:OG	2.68	0.42
5:T:576:SER:HB3	5:T:613:TYR:HD1	1.77	0.42
5:T:576:SER:CB	5:T:613:TYR:HB3	2.50	0.42
5:T:606:PRO:HG3	5:T:641:TYR:CD2	2.55	0.42
6:U:62:CYS:HA	6:U:76:HIS:HE1	1.85	0.42
6:U:82:LEU:HD11	6:U:98:PHE:CD2	2.54	0.42
7:C:1095:ASP:OD1	7:C:1097:LYS:HG2	2.19	0.42
8:O:91:GLY:HA2	8:O:94:ILE:HG22	2.01	0.42
8:O:121:ASN:ND2	8:O:138:ARG:HD2	2.35	0.42
8:O:328:TYR:HA	9:D:452:GLU:OE1	2.20	0.42
9:D:480:MET:N	9:D:480:MET:SD	2.92	0.42
9:P:11:HIS:HE1	9:P:15:ILE:HD11	1.84	0.42
9:P:35:TRP:CE3	9:P:249:TRP:HB2	2.55	0.42
9:P:526:ILE:HG12	9:P:538:ILE:CD1	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Q:273:TYR:CE2	12:Q:277:LYS:HG2	2.54	0.42
1:F:469:ASP:OD1	1:F:470:THR:N	2.53	0.41
1:F:611:TYR:CB	1:F:634:ALA:HB2	2.50	0.41
2:J:274:TYR:CE2	2:K:244:HIS:CD2	3.08	0.41
2:J:282:ALA:O	2:J:286:ILE:HG13	2.20	0.41
2:J:620:SER:O	2:J:623:VAL:HG12	2.20	0.41
2:K:309:LEU:HD23	2:K:309:LEU:O	2.20	0.41
2:K:535:PHE:CE1	3:W:2:ILE:HD11	2.55	0.41
7:C:45:ILE:HD13	7:C:75:ALA:CB	2.50	0.41
7:C:86:CYS:SG	7:C:97:VAL:HG13	2.60	0.41
7:C:215:PHE:CE2	7:C:378:LEU:HD23	2.55	0.41
12:Q:330:PHE:O	12:Q:334:CYS:SG	2.78	0.41
13:A:130:ARG:HH21	13:A:194:LYS:HB3	1.84	0.41
1:F:103:TYR:CG	1:F:151:PRO:HG3	2.56	0.41
1:F:204:LYS:HD2	1:F:438:TYR:CE1	2.55	0.41
1:F:557:ASP:O	1:F:561:LYS:HG3	2.20	0.41
1:F:621:LEU:HB3	1:F:623:GLN:OE1	2.20	0.41
2:J:392:ASN:OD1	2:J:393:PHE:N	2.52	0.41
2:J:514:ASN:O	2:J:518:LEU:HD23	2.19	0.41
2:J:612:MET:O	2:J:613:ASN:HB2	2.20	0.41
2:K:584:ALA:HB3	2:K:608:GLN:HE22	1.85	0.41
2:K:622:PHE:CE2	2:K:638:GLU:HB3	2.55	0.41
1:H:126:ILE:HD11	1:H:143:LEU:HD22	2.02	0.41
5:T:168:ASN:HD21	5:T:206:SER:HB3	1.83	0.41
7:C:43:GLY:HA3	7:C:56:TRP:CH2	2.55	0.41
7:C:126:LEU:O	7:C:152:TYR:HA	2.21	0.41
7:C:213:LEU:HD23	7:C:215:PHE:HE1	1.85	0.41
7:C:422:LYS:HE2	7:C:453:ASN:OD1	2.20	0.41
7:C:799:SER:O	7:C:799:SER:OG	2.34	0.41
7:C:898:LEU:HD22	7:C:1510:GLN:NE2	2.26	0.41
7:C:945:TYR:OH	7:C:1486:ASP:OD2	2.27	0.41
7:C:1253:PHE:O	7:C:1256:LEU:HD22	2.20	0.41
8:O:333:ASN:HA	11:N:92:GLY:O	2.19	0.41
9:D:35:TRP:HE1	9:D:328:PHE:HZ	1.68	0.41
9:D:269:ASN:ND2	9:D:312:GLU:OE2	2.53	0.41
9:D:385:LEU:O	9:D:389:VAL:HG22	2.20	0.41
9:D:404:ALA:HB2	9:D:419:TYR:HB2	2.01	0.41
9:D:538:ILE:H	9:D:538:ILE:HD12	1.85	0.41
9:P:424:LEU:HD21	9:P:434:TRP:CZ2	2.55	0.41
10:I:106:GLU:OE1	10:I:108:ASN:N	2.36	0.41
13:A:81:MET:HE3	13:A:220:TYR:CD1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:241:LEU:HD11	2:J:275:ASN:OD1	2.19	0.41
2:J:541:TYR:HD1	2:J:546:ARG:HD2	1.84	0.41
5:T:591:CYS:SG	5:T:606:PRO:HD2	2.60	0.41
7:C:869:LYS:HE2	7:C:869:LYS:HB3	1.84	0.41
7:C:1173:ILE:O	7:C:1177:LEU:HD23	2.20	0.41
7:C:1581:GLU:HG2	7:C:1582:GLU:N	2.34	0.41
8:O:65:ARG:NH2	8:O:260:ASP:OD2	2.45	0.41
8:O:592:GLU:O	8:O:596:VAL:HG23	2.20	0.41
9:P:414:GLU:H	9:P:414:GLU:CD	2.18	0.41
10:I:113:PHE:O	10:I:140:THR:HG23	2.20	0.41
12:Q:12:TYR:HB2	12:Q:574:ASN:HB2	2.01	0.41
12:Q:102:PRO:HB3	12:Q:158:LYS:HZ2	1.85	0.41
12:Q:269:CYS:SG	12:Q:278:LEU:HD23	2.60	0.41
12:Q:406:HIS:HA	12:Q:409:LEU:HG	2.01	0.41
1:F:532:LEU:HB3	1:F:542:THR:HG22	2.02	0.41
2:K:239:ASP:HA	2:K:242:MET:CE	2.51	0.41
2:K:470:VAL:CB	2:K:485:LEU:HD11	2.48	0.41
2:K:632:ASP:CG	2:K:633:PRO:HD2	2.41	0.41
1:H:489:ASP:OD1	1:H:490:MET:N	2.53	0.41
1:H:524:LYS:HZ3	1:H:528:LEU:HD12	1.85	0.41
1:H:594:LYS:C	1:H:598:ARG:HE	2.23	0.41
1:H:737:MET:HE3	1:H:751:LEU:HD21	2.02	0.41
5:T:264:ASP:CG	7:C:1655:HIS:HE2	2.23	0.41
5:T:382:LEU:HD21	5:T:495:LEU:HB3	2.00	0.41
7:C:77:TYR:O	7:C:77:TYR:HD1	2.03	0.41
7:C:404:ARG:HG3	7:C:409:GLU:CD	2.41	0.41
7:C:599:GLN:HA	7:C:602:LYS:HZ3	1.85	0.41
7:C:952:LEU:O	7:C:956:THR:HG22	2.20	0.41
7:C:1142:ARG:HG3	7:C:1143:MET:CE	2.50	0.41
7:C:1280:ASN:HB3	13:A:129:LYS:HE2	2.02	0.41
8:O:108:LEU:HG	8:O:170:TRP:HB2	2.02	0.41
8:O:216:VAL:HG13	9:P:384:TYR:CE1	2.55	0.41
8:O:573:VAL:HG21	8:O:590:GLU:OE1	2.20	0.41
9:P:328:PHE:CD2	9:P:331:LEU:HG	2.42	0.41
12:Q:253:ILE:HD11	12:Q:322:THR:HG23	2.01	0.41
12:Q:377:LEU:O	12:Q:381:LEU:HD23	2.20	0.41
13:A:135:VAL:HB	13:A:220:TYR:HB2	2.01	0.41
2:J:428:ILE:HG23	2:J:429:MET:SD	2.60	0.41
5:T:167:LEU:HD22	5:T:205:GLY:HA3	2.02	0.41
7:C:425:LEU:HD23	7:C:450:ARG:HD2	2.03	0.41
7:C:599:GLN:HG3	7:C:602:LYS:HZ1	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:977:TRP:NE1	7:C:1018:SER:OG	2.52	0.41
7:C:1082:LEU:O	7:C:1086:MET:HG2	2.21	0.41
7:C:1375:ASP:O	7:C:1379:THR:HG23	2.20	0.41
8:O:654:LEU:HD21	12:Q:354:GLN:OE1	2.20	0.41
9:P:384:TYR:N	9:P:384:TYR:CD2	2.88	0.41
9:P:403:ILE:O	9:P:406:TYR:HB3	2.19	0.41
1:F:103:TYR:CD1	1:F:151:PRO:HG3	2.56	0.41
2:J:411:TRP:CZ2	2:J:446:ILE:HD11	2.49	0.41
1:H:504:ALA:HB1	1:H:535:THR:HG21	2.03	0.41
1:H:690:THR:HA	1:H:692:TYR:CZ	2.56	0.41
5:T:21:LEU:HD11	5:T:101:GLN:OE1	2.20	0.41
5:T:659:ASP:OD1	5:T:660:LYS:HG2	2.19	0.41
7:C:47:LEU:HD22	7:C:72:ILE:CD1	2.51	0.41
7:C:422:LYS:HD2	7:C:451:LEU:CG	2.50	0.41
7:C:762:VAL:HG22	7:C:766:LEU:HD23	2.01	0.41
8:O:58:LEU:HD11	8:O:343:LEU:CD1	2.50	0.41
8:O:386:ILE:CA	8:O:389:ILE:HG22	2.47	0.41
9:D:301:LEU:HB2	9:D:334:TYR:CE2	2.56	0.41
9:D:305:GLU:HG3	9:D:338:ILE:HD11	2.03	0.41
9:P:463:ARG:NH1	9:P:463:ARG:HB2	2.36	0.41
12:Q:65:PHE:CE2	12:Q:96:GLY:HA3	2.56	0.41
12:Q:102:PRO:CB	12:Q:158:LYS:HZ2	2.34	0.41
12:Q:334:CYS:CB	12:Q:377:LEU:HD13	2.50	0.41
1:F:181:LEU:HD22	1:F:191:TYR:OH	2.21	0.41
1:F:513:SER:O	1:F:516:LEU:HG	2.21	0.41
2:J:386:ILE:HD11	2:J:396:PHE:H	1.85	0.41
2:J:752:LEU:HD11	9:P:483:TYR:HE1	1.85	0.41
3:W:17:THR:O	3:W:20:ILE:HG22	2.20	0.41
1:H:74:TYR:CE2	1:H:78:LEU:HD11	2.56	0.41
1:H:452:SER:HA	1:H:481:LEU:HD11	2.01	0.41
5:T:337:THR:HB	5:T:375:ARG:HH11	1.86	0.41
7:C:905:ILE:HG13	7:C:906:PHE:CD1	2.56	0.41
7:C:973:SER:OG	7:C:974:THR:N	2.54	0.41
7:C:1312:VAL:HG21	7:C:1332:MET:HE1	2.02	0.41
7:C:1637:LYS:HG2	7:C:1638:SER:N	2.35	0.41
9:D:126:LEU:O	9:D:126:LEU:HD23	2.21	0.41
9:D:441:PHE:HE1	11:N:73:TYR:CE2	2.39	0.41
9:P:254:GLU:OE1	10:I:9:SER:HB3	2.21	0.41
10:I:152:GLN:HA	10:I:155:TYR:HD2	1.86	0.41
1:F:461:SER:HG	1:F:462:GLN:CD	2.23	0.41
1:F:648:CYS:HG	1:F:664:TYR:HE2	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:241:LEU:HD13	2:J:272:VAL:HG22	2.03	0.41
2:J:253:ALA:HA	2:J:256:VAL:HG22	2.03	0.41
2:J:466:VAL:O	2:J:470:VAL:HG23	2.20	0.41
2:J:541:TYR:HE1	2:J:546:ARG:NH1	2.18	0.41
2:J:742:SER:O	2:J:745:THR:OG1	2.28	0.41
2:K:466:VAL:HG11	2:K:489:VAL:HB	2.03	0.41
4:E:195:ILE:O	4:E:199:GLU:N	2.48	0.41
6:U:71:HIS:ND1	6:U:93:MET:HB2	2.36	0.41
7:C:483:ASN:HB2	7:C:486:GLU:HG2	2.02	0.41
7:C:1064:GLU:OE2	7:C:1097:LYS:HE3	2.21	0.41
7:C:1176:GLY:CA	7:C:1253:PHE:HB2	2.50	0.41
8:O:133:ARG:HD2	8:O:133:ARG:HA	1.78	0.41
8:O:137:THR:HG23	8:O:138:ARG:HG3	2.01	0.41
8:O:464:ASP:OD1	8:O:465:LEU:HD13	2.19	0.41
9:P:535:ASN:ND2	9:P:539:TYR:OH	2.54	0.41
10:I:147:ASP:OD1	10:I:150:ILE:HG23	2.20	0.41
13:A:80:ARG:NH2	13:A:223:SER:OG	2.54	0.41
1:F:486:ILE:O	1:F:488:TYR:CD2	2.74	0.41
2:J:500:LEU:O	2:J:504:ILE:HG12	2.21	0.41
2:J:737:LEU:HD23	2:J:737:LEU:HA	1.89	0.41
2:J:754:LEU:HA	3:G:27:LYS:CE	2.50	0.41
2:K:570:GLY:O	2:K:574:THR:HG23	2.21	0.41
2:K:643:TYR:HE2	2:K:655:TYR:CE2	2.39	0.41
1:H:473:TRP:CZ2	1:H:477:GLN:HG3	2.56	0.41
1:H:567:THR:HB	1:H:577:TYR:CE1	2.56	0.41
5:T:385:ALA:HB1	5:T:410:LEU:HD13	2.03	0.41
5:T:509:PHE:O	5:T:513:LEU:HD23	2.21	0.41
7:C:636:GLU:OE2	7:C:703:ILE:HB	2.20	0.41
7:C:1092:GLY:HA2	7:C:1134:LEU:O	2.21	0.41
7:C:1320:GLU:OE2	7:C:1322:ASN:ND2	2.54	0.41
7:C:1336:ILE:HG13	7:C:1337:LEU:N	2.36	0.41
7:C:1529:LEU:HD22	7:C:1541:LEU:HD22	2.03	0.41
7:C:1596:PHE:CD2	7:C:1623:SER:HA	2.56	0.41
8:O:632:LYS:O	8:O:636:VAL:HG23	2.19	0.41
9:P:306:GLU:OE1	9:P:307:LEU:HD22	2.21	0.41
12:Q:132:ARG:HG2	12:Q:133:ILE:N	2.35	0.41
12:Q:364:THR:O	12:Q:367:GLU:HG3	2.21	0.41
13:A:120:PRO:O	13:A:122:GLN:NE2	2.53	0.41
1:F:157:ASN:CB	1:F:180:ALA:HB2	2.50	0.41
2:J:615:LEU:O	2:J:642:MET:HE1	2.21	0.41
2:K:648:GLU:HB3	2:K:651:LYS:HZ3	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:649:GLY:HA3	1:H:665:TYR:HE1	1.86	0.41
5:T:167:LEU:HD13	5:T:205:GLY:HA3	2.03	0.41
7:C:56:TRP:O	7:C:56:TRP:CG	2.74	0.41
7:C:161:PRO:HG3	9:D:527:LYS:HE2	2.02	0.41
7:C:662:MET:O	7:C:662:MET:HG3	2.20	0.41
7:C:922:TYR:O	7:C:922:TYR:CG	2.74	0.41
7:C:1301:ILE:HD13	7:C:1342:ARG:HD3	2.02	0.41
8:O:380:LEU:O	8:O:383:ILE:HG22	2.21	0.41
9:P:44:ALA:HB2	9:P:326:PRO:HG2	2.02	0.41
1:F:39:GLN:O	1:H:149:HIS:ND1	2.52	0.40
2:J:466:VAL:HG23	2:J:485:LEU:HD22	2.03	0.40
2:J:699:CYS:HA	2:J:702:GLU:HG3	2.03	0.40
2:K:535:PHE:O	2:K:539:THR:HG23	2.21	0.40
1:H:27:ILE:HG23	1:H:53:LEU:HD11	2.02	0.40
7:C:403:LEU:HD13	7:C:494:PRO:HG3	2.03	0.40
7:C:748:LEU:HD21	7:C:787:LEU:HD21	2.03	0.40
7:C:752:VAL:HG13	7:C:753:HIS:HD2	1.86	0.40
7:C:1368:TYR:H	7:C:1380:ILE:CD1	2.27	0.40
7:C:1578:VAL:HG23	7:C:1580:LYS:H	1.86	0.40
7:C:1716:SER:O	7:C:1719:LEU:HG	2.21	0.40
8:O:76:PRO:HG3	8:O:242:ILE:CD1	2.50	0.40
9:D:210:ALA:HB1	9:D:214:LEU:HD11	2.02	0.40
9:D:215:ALA:HB2	9:D:244:CYS:SG	2.61	0.40
9:D:468:TRP:CE2	9:D:490:LYS:HG2	2.56	0.40
9:D:569:LEU:O	9:D:570:GLU:HG2	2.20	0.40
11:N:130:GLU:HA	11:N:133:MET:HB2	2.03	0.40
12:Q:215:VAL:HG11	12:Q:546:LEU:HD21	2.03	0.40
3:G:27:LYS:HA	3:G:30:GLN:HE22	1.85	0.40
1:H:120:ILE:HG13	1:H:121:LEU:N	2.36	0.40
1:H:432:THR:O	1:H:435:GLU:HG2	2.21	0.40
1:H:692:TYR:O	1:H:696:LEU:HG	2.21	0.40
5:T:231:ARG:HD3	5:T:233:TRP:HH2	1.87	0.40
5:T:600:LEU:HB3	5:T:641:TYR:HE1	1.86	0.40
6:U:68:LEU:HD23	6:U:101:GLN:HA	2.03	0.40
7:C:1004:HIS:O	7:C:1007:VAL:HG12	2.22	0.40
7:C:1051:LEU:CD2	7:C:1055:LEU:HD23	2.47	0.40
9:P:435:THR:OG1	9:P:439:HIS:HE1	2.04	0.40
12:Q:73:ILE:HD11	12:Q:84:SER:HB3	2.02	0.40
12:Q:334:CYS:HB2	12:Q:377:LEU:HD13	2.03	0.40
1:F:516:LEU:HD12	1:F:517:TRP:N	2.37	0.40
2:J:295:ASN:N	2:J:295:ASN:OD1	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:435:ILE:HG21	2:J:435:ILE:HD13	1.90	0.40
2:J:569:LEU:O	2:J:573:HIS:ND1	2.55	0.40
1:H:76:LEU:HD11	1:H:149:HIS:HB2	2.02	0.40
1:H:510:GLU:HG3	1:H:511:ILE:N	2.37	0.40
7:C:413:ILE:O	7:C:413:ILE:HG13	2.21	0.40
7:C:957:ASN:HA	7:C:1498:ASN:ND2	2.36	0.40
9:D:30:TYR:CE1	9:P:97:ASP:HB3	2.56	0.40
9:P:37:ALA:HA	9:P:40:LEU:HD13	2.02	0.40
9:P:43:LEU:HD13	9:P:325:PHE:CD1	2.57	0.40
12:Q:7:ASP:N	12:Q:7:ASP:OD1	2.55	0.40
12:Q:10:ILE:HA	12:Q:20:ALA:O	2.21	0.40
12:Q:146:ARG:NH1	12:Q:177:ASN:HB3	2.36	0.40
12:Q:432:TYR:O	12:Q:436:ILE:HG12	2.22	0.40
1:F:464:PRO:HG2	1:F:467:ILE:HD13	2.03	0.40
2:K:297:LEU:H	2:K:297:LEU:HD23	1.86	0.40
2:K:542:MET:HE1	2:K:547:ILE:HD13	2.03	0.40
5:T:9:ARG:O	5:T:13:VAL:HB	2.21	0.40
5:T:19:GLN:NE2	5:T:20:THR:HG23	2.37	0.40
7:C:204:VAL:HG22	7:C:215:PHE:CE1	2.57	0.40
7:C:1637:LYS:CG	7:C:1638:SER:H	2.35	0.40
8:O:410:LEU:HD12	8:O:421:ILE:CG2	2.51	0.40
8:O:660:PHE:HA	8:O:661:PRO:HD3	1.97	0.40
9:D:311:LEU:H	9:D:311:LEU:HD23	1.85	0.40
9:D:417:ILE:CD1	9:D:437:MET:HG3	2.51	0.40
10:I:103:MET:HE3	10:I:111:VAL:HG13	2.04	0.40
12:Q:278:LEU:HA	12:Q:278:LEU:HD12	1.75	0.40
12:Q:361:SER:OG	12:Q:471:ASN:OD1	2.38	0.40
12:Q:620:GLU:O	12:Q:624:ASN:HB2	2.21	0.40
1:F:41:LEU:HD12	1:H:149:HIS:CD2	2.57	0.40
1:F:182:ALA:CB	4:E:161:LEU:HD12	2.51	0.40
1:F:187:LEU:O	1:F:190:SER:N	2.53	0.40
1:F:633:LYS:O	1:F:636:SER:OG	2.34	0.40
1:F:658:LYS:HD2	1:F:689:MET:SD	2.62	0.40
2:J:447:THR:HA	2:J:450:ASN:ND2	2.35	0.40
2:J:583:GLN:H	2:J:583:GLN:HG3	1.64	0.40
2:K:230:ILE:H	2:K:230:ILE:HD12	1.87	0.40
2:K:402:LYS:HD2	2:K:563:SER:HB2	2.03	0.40
2:K:479:PHE:O	2:K:482:CYS:HB3	2.21	0.40
1:H:48:PHE:O	1:H:51:GLU:HG2	2.21	0.40
1:H:683:GLY:HA3	1:H:699:PHE:HE1	1.87	0.40
5:T:344:TYR:CE1	5:T:368:VAL:HG11	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:364:ILE:HG13	5:T:365:THR:N	2.36	0.40
8:O:319:LEU:HD13	8:O:348:PHE:CE2	2.56	0.40
9:D:43:LEU:HD23	9:D:44:ALA:O	2.20	0.40
9:D:247:PHE:HD1	9:D:295:MET:CG	2.33	0.40
9:D:265:ALA:HA	9:D:268:LEU:HG	2.04	0.40
13:A:29:PRO:HG2	13:A:169:MET:HE1	2.03	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	F	496/758 (65%)	479 (97%)	17 (3%)	0	100	100
1	H	499/758 (66%)	483 (97%)	13 (3%)	3 (1%)	25	65
2	J	505/850 (59%)	488 (97%)	17 (3%)	0	100	100
2	K	501/850 (59%)	487 (97%)	14 (3%)	0	100	100
3	G	33/124 (27%)	33 (100%)	0	0	100	100
3	W	33/124 (27%)	33 (100%)	0	0	100	100
4	E	120/265 (45%)	118 (98%)	2 (2%)	0	100	100
5	T	638/853 (75%)	613 (96%)	19 (3%)	6 (1%)	17	56
6	U	110/165 (67%)	108 (98%)	1 (1%)	1 (1%)	17	56
7	C	1380/1748 (79%)	1287 (93%)	87 (6%)	6 (0%)	34	72
8	O	654/685 (96%)	625 (96%)	26 (4%)	3 (0%)	29	68
9	D	554/626 (88%)	536 (97%)	15 (3%)	3 (0%)	29	68
9	P	550/626 (88%)	527 (96%)	23 (4%)	0	100	100
10	I	105/170 (62%)	94 (90%)	10 (10%)	1 (1%)	15	54
11	N	92/368 (25%)	89 (97%)	3 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	Q	619/652 (95%)	597 (96%)	21 (3%)	1 (0%)	47	81
13	A	212/250 (85%)	203 (96%)	8 (4%)	1 (0%)	29	68
All	All	7101/9872 (72%)	6800 (96%)	276 (4%)	25 (0%)	38	72

All (25) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	H	588	ASP
5	T	621	GLN
5	T	624	ASN
5	T	745	ASP
7	C	844	VAL
7	C	1279	ILE
7	C	1552	ARG
8	O	193	VAL
9	D	205	ILE
9	D	378	LYS
9	D	550	GLU
1	H	554	LYS
5	T	620	THR
5	T	623	SER
12	Q	10	ILE
1	H	507	LYS
5	T	470	TRP
7	C	1416	VAL
8	O	51	SER
8	O	53	GLU
13	A	21	PRO
7	C	801	VAL
7	C	923	ARG
10	I	142	THR
6	U	19	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	F	433/684 (63%)	432 (100%)	1 (0%)	93	96
1	H	440/684 (64%)	439 (100%)	1 (0%)	93	96
2	J	450/760 (59%)	449 (100%)	1 (0%)	93	96
2	K	448/760 (59%)	445 (99%)	3 (1%)	84	90
3	G	34/115 (30%)	34 (100%)	0	100	100
3	W	34/115 (30%)	34 (100%)	0	100	100
4	E	123/246 (50%)	123 (100%)	0	100	100
5	T	608/804 (76%)	606 (100%)	2 (0%)	92	95
6	U	103/149 (69%)	103 (100%)	0	100	100
7	C	1177/1568 (75%)	1174 (100%)	3 (0%)	92	95
8	O	597/643 (93%)	594 (100%)	3 (0%)	88	93
9	D	477/560 (85%)	475 (100%)	2 (0%)	91	94
9	P	477/560 (85%)	475 (100%)	2 (0%)	91	94
10	I	95/144 (66%)	93 (98%)	2 (2%)	53	72
11	N	83/332 (25%)	83 (100%)	0	100	100
12	Q	572/598 (96%)	572 (100%)	0	100	100
13	A	190/226 (84%)	188 (99%)	2 (1%)	73	85
All	All	6341/8948 (71%)	6319 (100%)	22 (0%)	92	95

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

Mol	Chain	Res	Type
1	F	635	ARG
2	J	750	ASN
2	K	258	ASN
2	K	299	ARG
2	K	725	GLN
1	H	598	ARG
5	T	143	ARG
5	T	343	ARG
7	C	149	LYS
7	C	1100	LYS
7	C	1137	ASN
8	O	120	LYS
8	O	157	LYS
8	O	653	ASN
9	D	14	ARG

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Mol	Chain	Res	Type
9	D	308	ASN
9	P	138	ASN
9	P	371	ASN
10	I	147	ASP
10	I	149	ARG
13	A	28	LYS
13	A	96	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (29) such sidechains are listed below:

Mol	Chain	Res	Type
1	F	31	GLN
2	J	372	GLN
2	J	450	ASN
2	K	608	GLN
2	K	711	HIS
5	T	666	GLN
7	C	576	HIS
7	C	753	HIS
7	C	942	GLN
7	C	1056	ASN
7	C	1140	HIS
7	C	1414	HIS
7	C	1510	GLN
7	C	1514	ASN
8	O	61	ASN
8	O	172	ASN
8	O	220	GLN
8	O	333	ASN
8	O	571	GLN
9	D	371	ASN
9	D	534	GLN
9	P	16	GLN
9	P	230	ASN
9	P	248	ASN
9	P	535	ASN
10	I	40	ASN
12	Q	191	ASN
12	Q	320	GLN
13	A	206	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 3 ligands modelled in this entry, 3 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

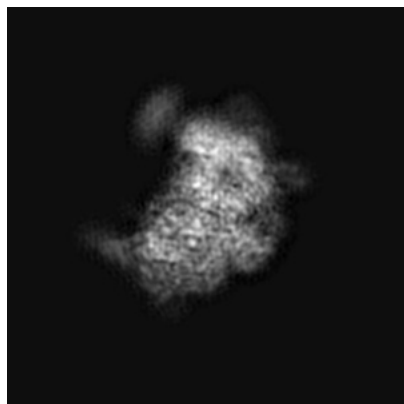
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-15199. These allow visual inspection of the internal detail of the map and identification of artifacts.

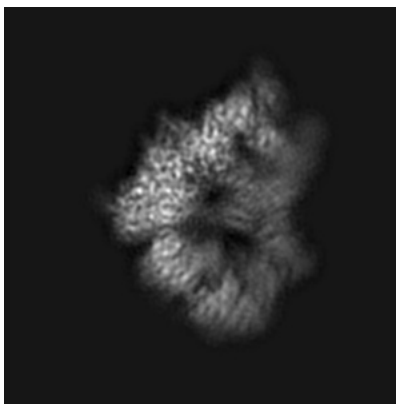
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

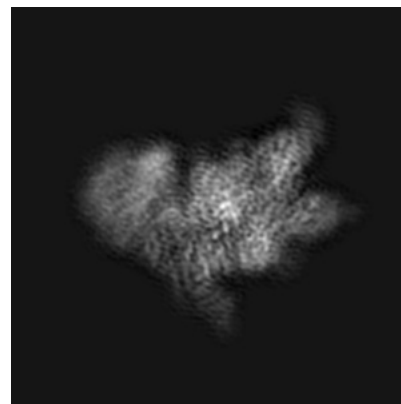
6.1.1 Primary map



X

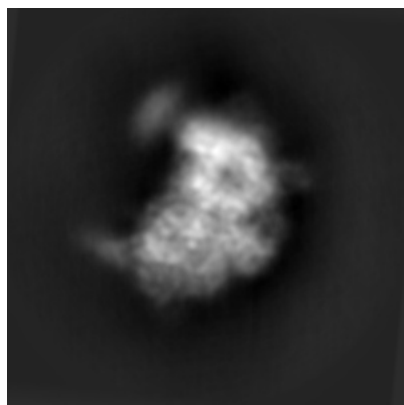


Y

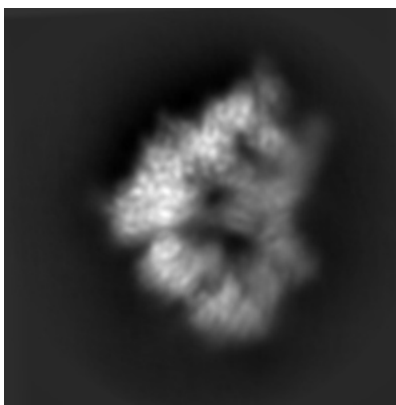


Z

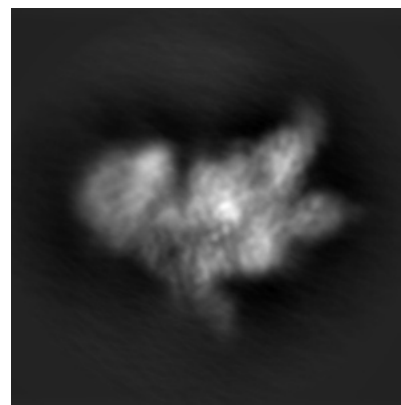
6.1.2 Raw map



X



Y

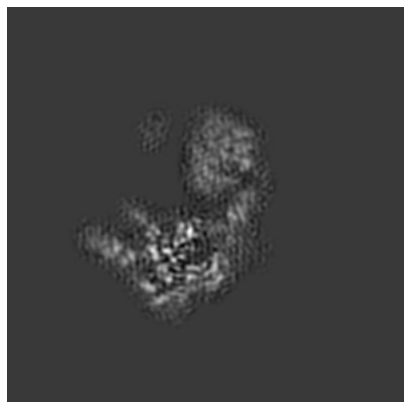


Z

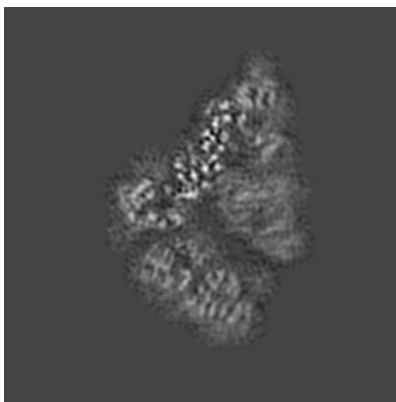
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

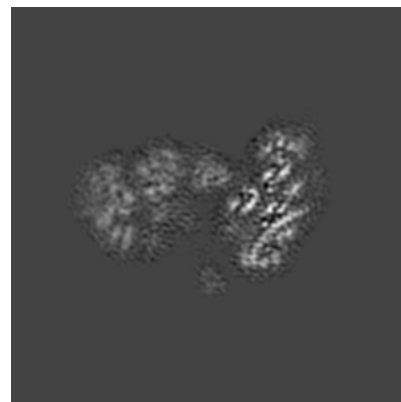
6.2.1 Primary map



X Index: 128

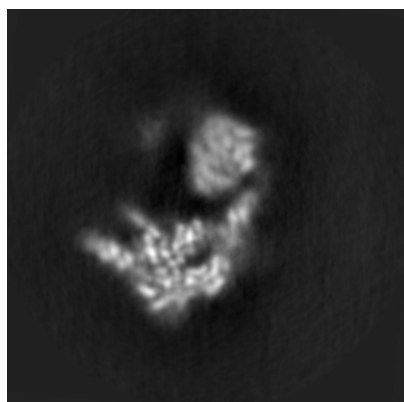


Y Index: 128

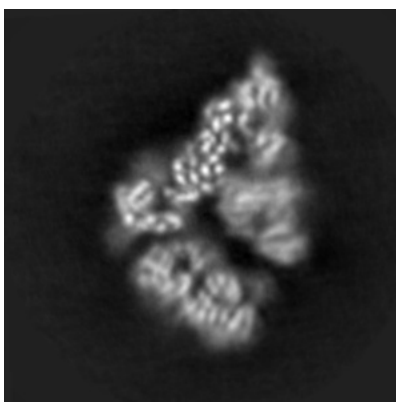


Z Index: 128

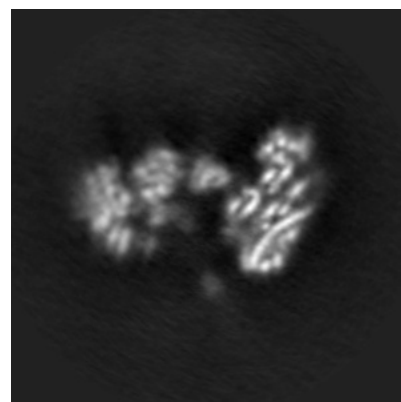
6.2.2 Raw map



X Index: 128



Y Index: 128

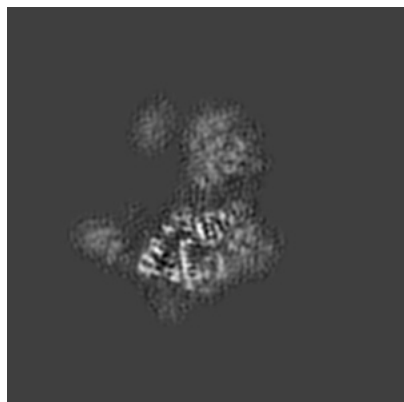


Z Index: 128

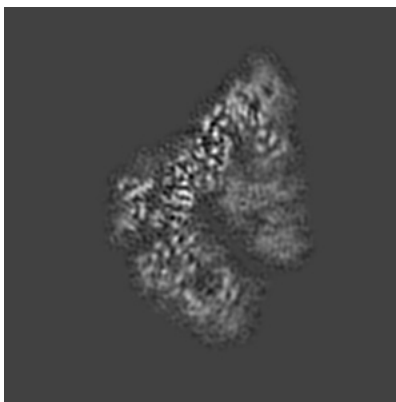
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

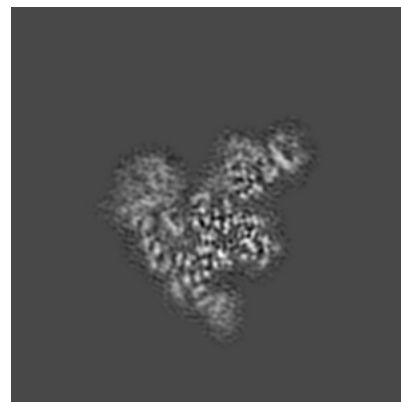
6.3.1 Primary map



X Index: 137

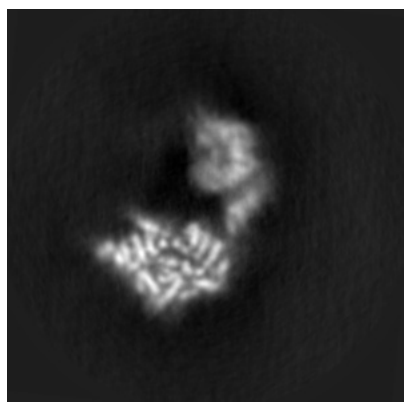


Y Index: 122

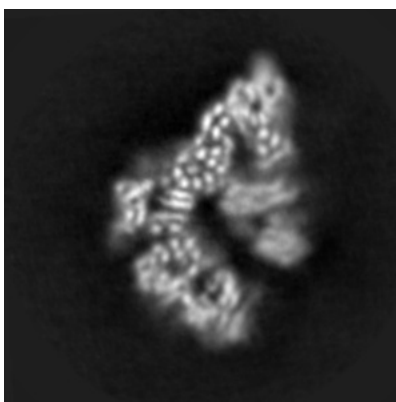


Z Index: 105

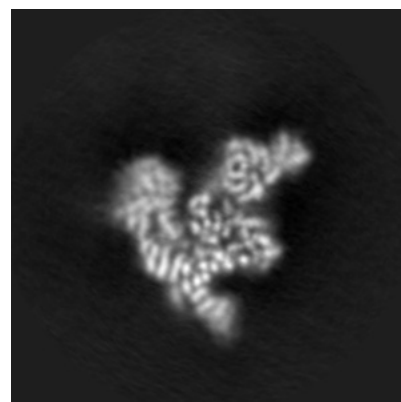
6.3.2 Raw map



X Index: 123



Y Index: 123

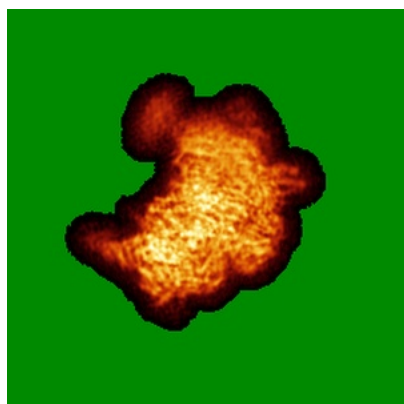


Z Index: 103

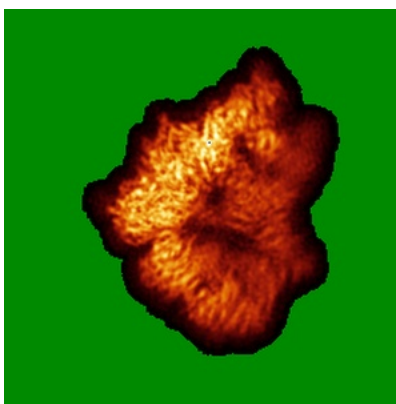
The images above show the largest variance slices of the map in three orthogonal directions.

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

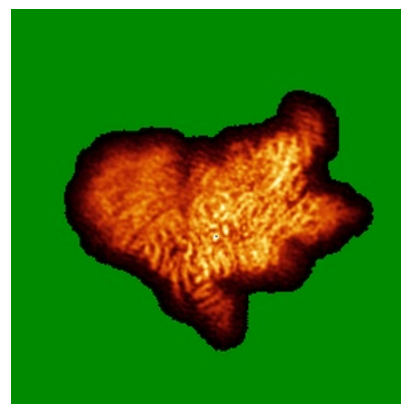
6.4.1 Primary map



X

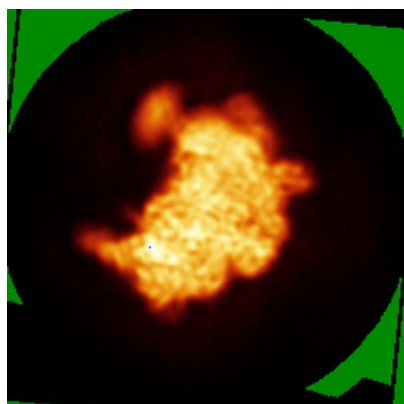


Y

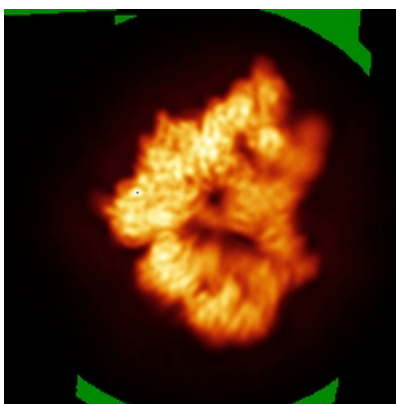


Z

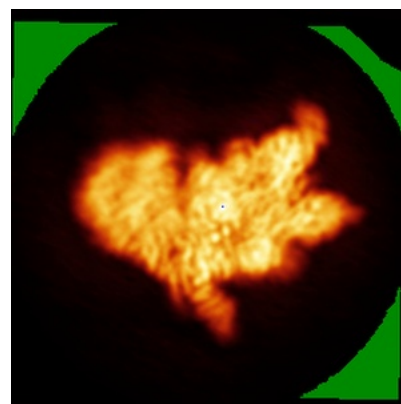
6.4.2 Raw map



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.

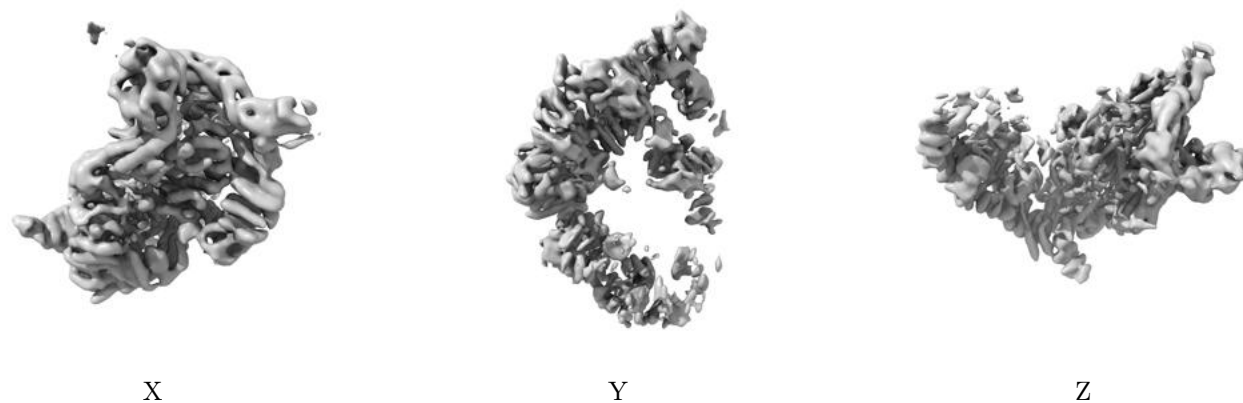
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.05. 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.

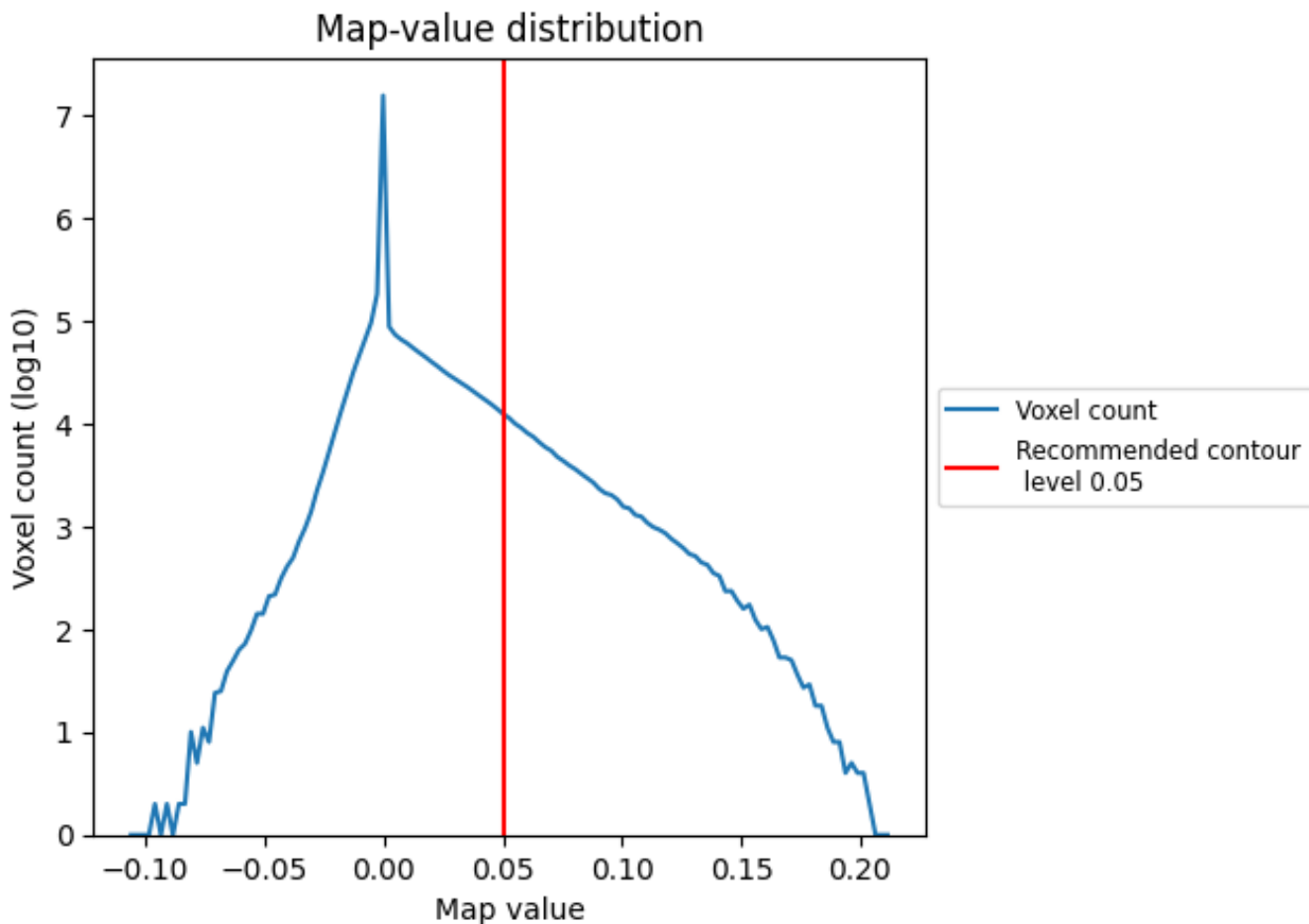
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

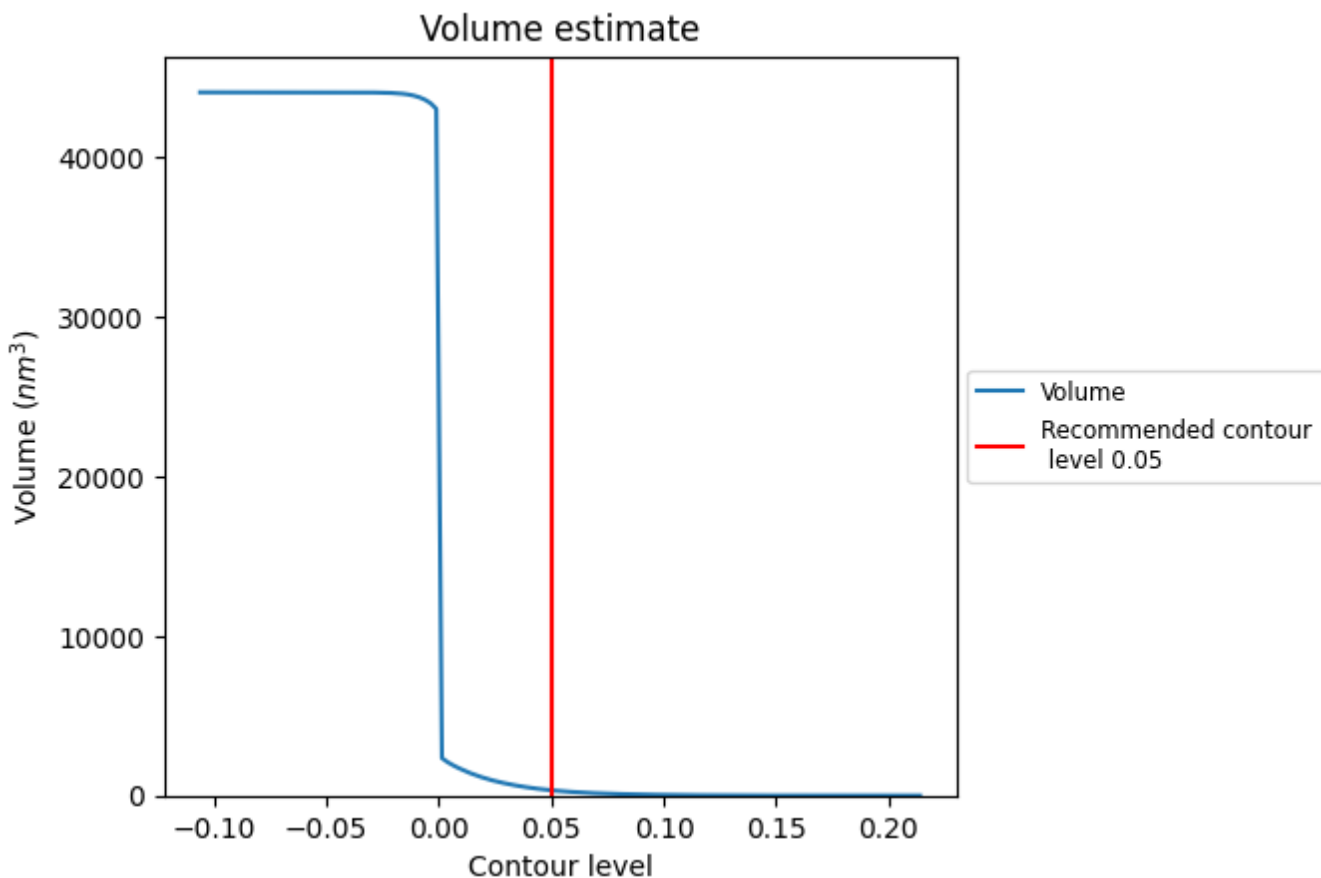
This section contains the results of statistical analysis of the map.

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.

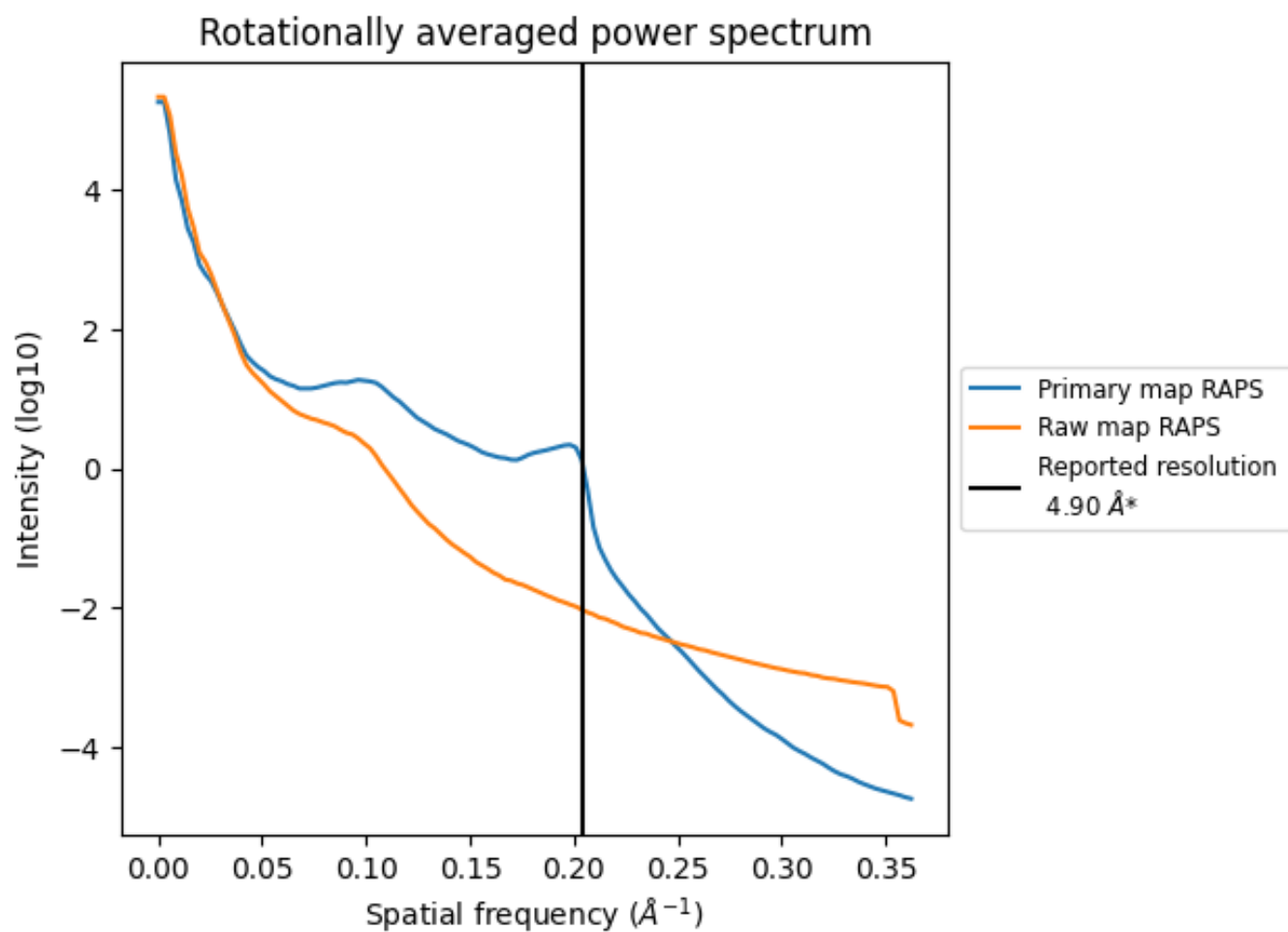
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 332 nm³; this corresponds to an approximate mass of 300 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

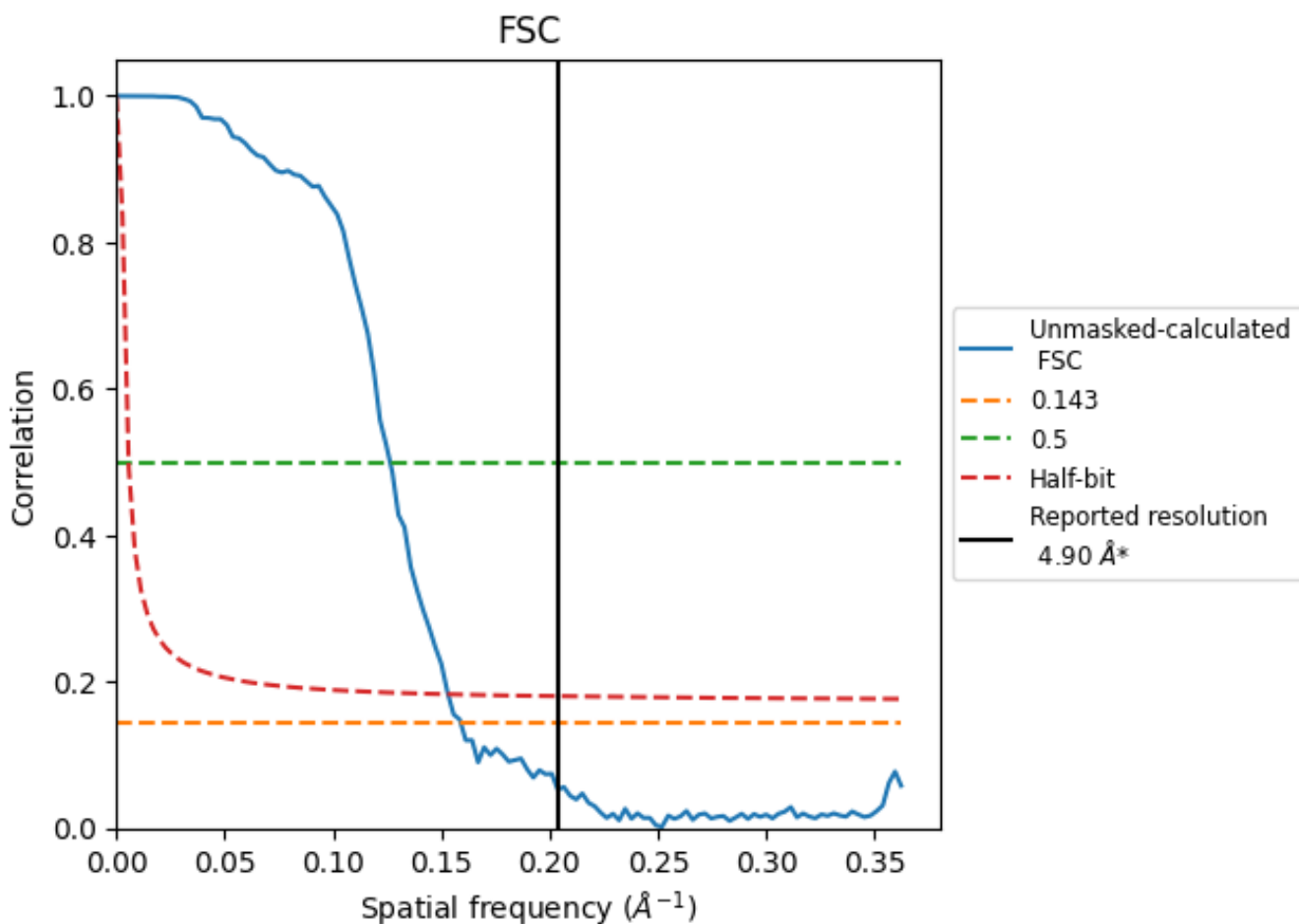


*Reported resolution corresponds to spatial frequency of 0.204 Å⁻¹

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 0.204 Å⁻¹

8.2 Resolution estimates [i](#)

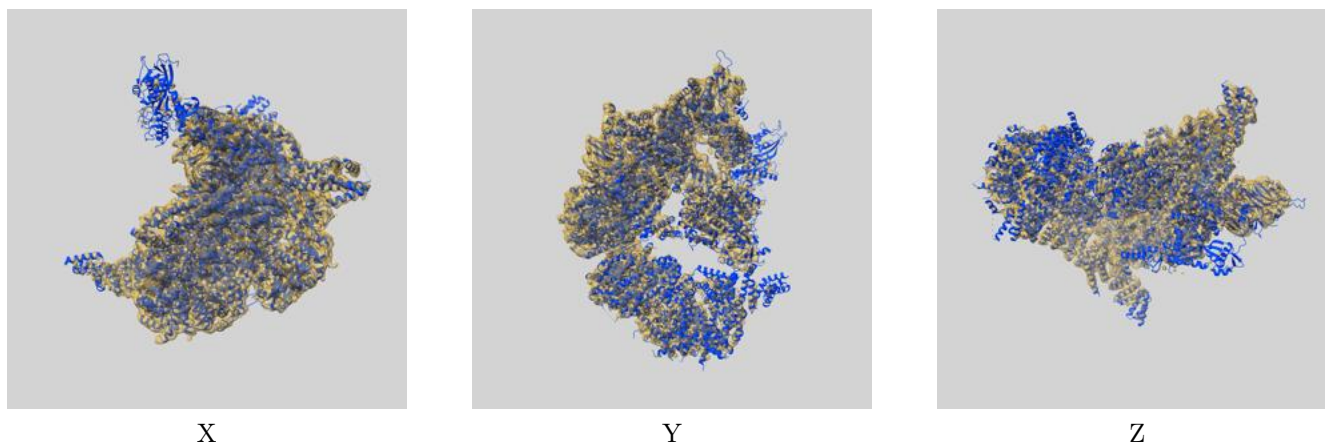
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.90	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	6.29	7.92	6.53

*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 6.29 differs from the reported value 4.9 by more than 10 %

9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-15199 and PDB model 8A5Y. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay [i](#)



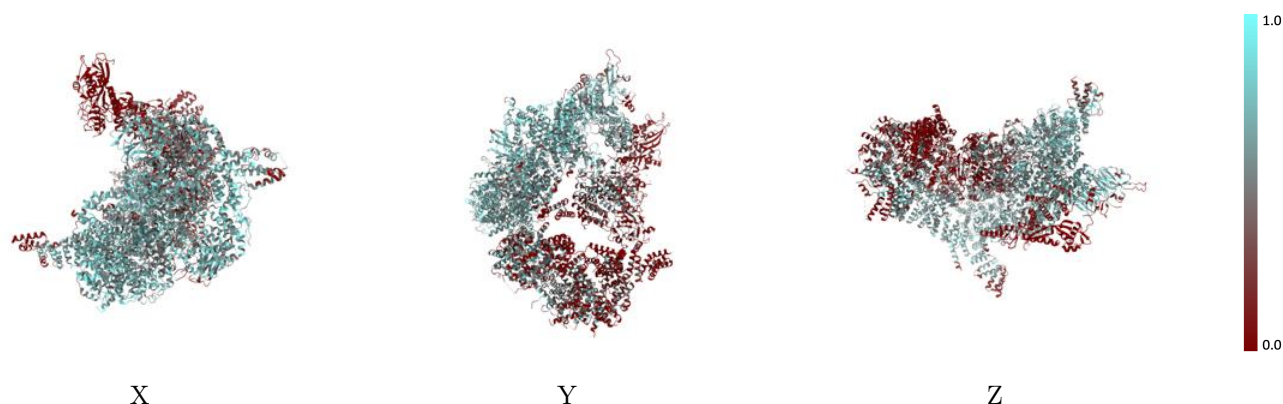
The images above show the 3D surface view of the map at the recommended contour level 0.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



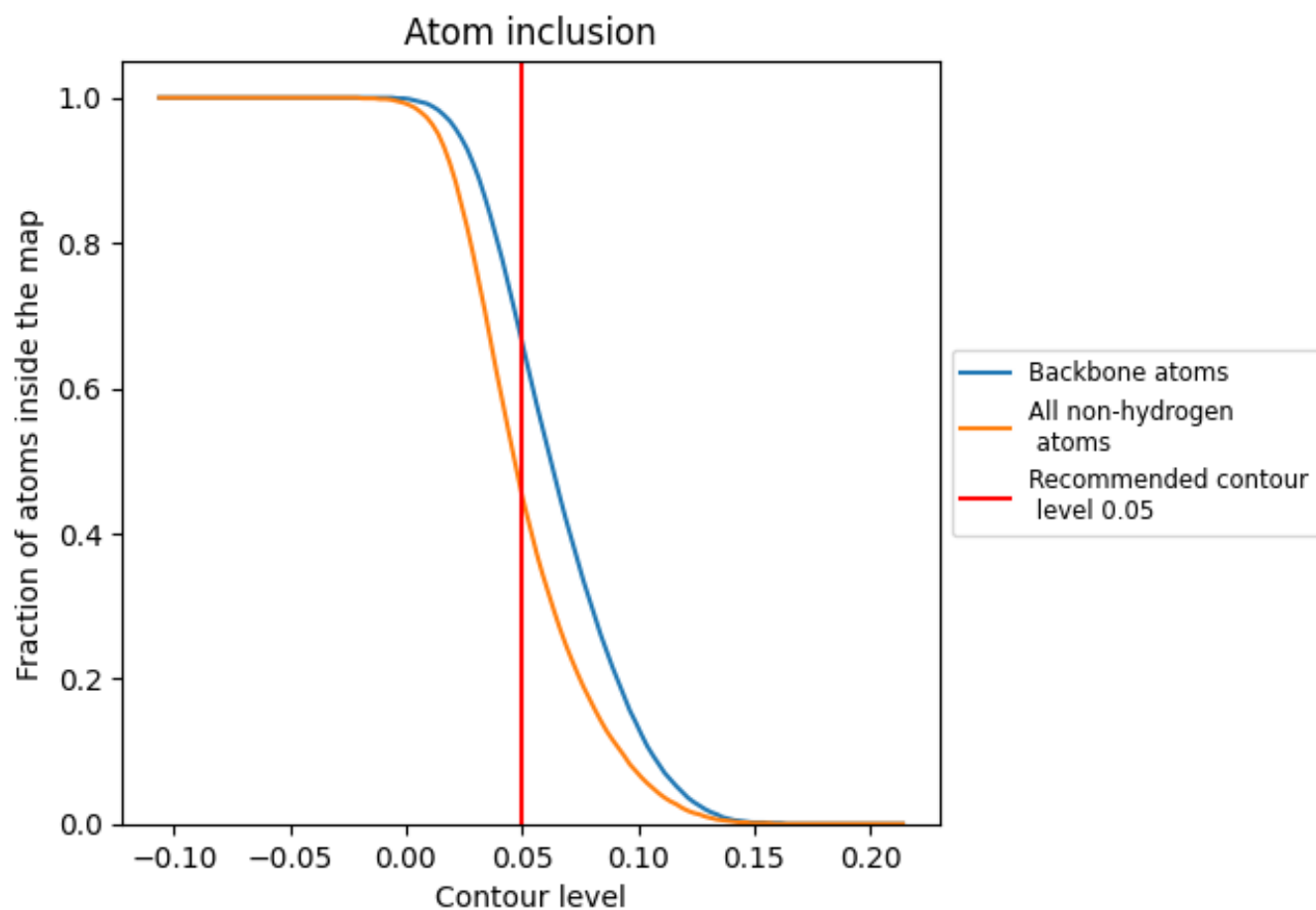
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.05).





































9.4 Atom inclusion [i](#)



At the recommended contour level, 66% of all backbone atoms, 45% 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 (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.4520	 0.1920
A	 0.1560	 0.1200
C	 0.4760	 0.2100
D	 0.5670	 0.2290
E	 0.2190	 0.1580
F	 0.4520	 0.1750
G	 0.5320	 0.2140
H	 0.1840	 0.1270
I	 0.4670	 0.2180
J	 0.5690	 0.2010
K	 0.2380	 0.1160
N	 0.6130	 0.2960
O	 0.6550	 0.2750
P	 0.6030	 0.2300
Q	 0.5890	 0.2310
T	 0.3430	 0.1390
U	 0.0110	 0.0180
W	 0.0070	 0.0220

