



Full wwPDB EM Validation Report ⓘ

May 6, 2025 – 01:45 AM EDT

PDB ID : 8E6S / pdb_00008e6s
EMDB ID : EMD-27924
Title : Human TRPM2 ion channel in 1 mM dADPR and Ca²⁺
Authors : Wang, L.; Fu, T.M.; Xia, S.; Wu, H.
Deposited on : 2022-08-23
Resolution : 4.60 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev118
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0rc1
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.43.1

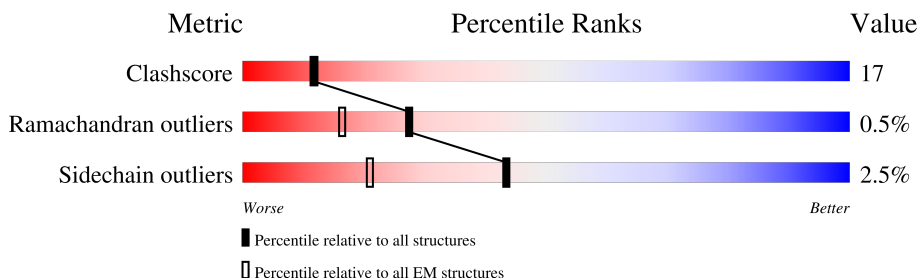
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.60 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	1503	39% 56% 31% 12%
1	B	1503	39% 56% 31% 12%
1	C	1503	40% 56% 30% 12%
1	D	1503	39% 56% 31% 12%

2 Entry composition [i](#)

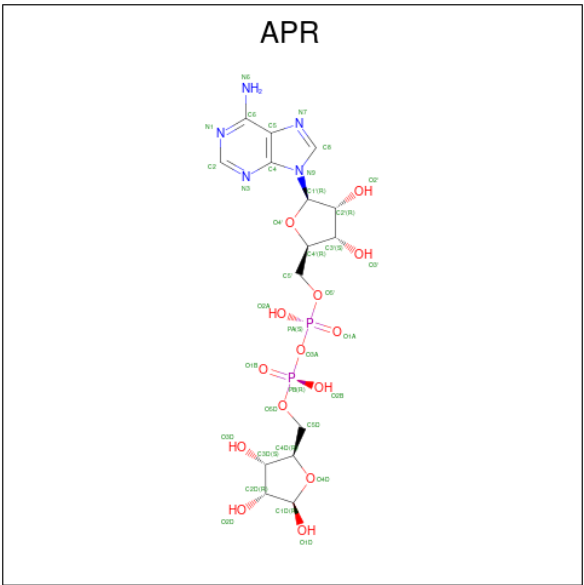
There are 5 unique types of molecules in this entry. The entry contains 42336 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Transient receptor potential cation channel subfamily M member 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1330	Total 10521	6791	1829	1851	50	0	0
1	B	1330	Total 10521	6791	1829	1851	50	0	0
1	C	1330	Total 10521	6791	1829	1851	50	0	0
1	D	1330	Total 10521	6791	1829	1851	50	0	0

- Molecule 2 is ADENOSINE-5-DIPHOSPHORIBOSE (CCD ID: APR) (formula: C₁₅H₂₃N₅O₁₄P₂) (labeled as "Ligand of Interest" by depositor).



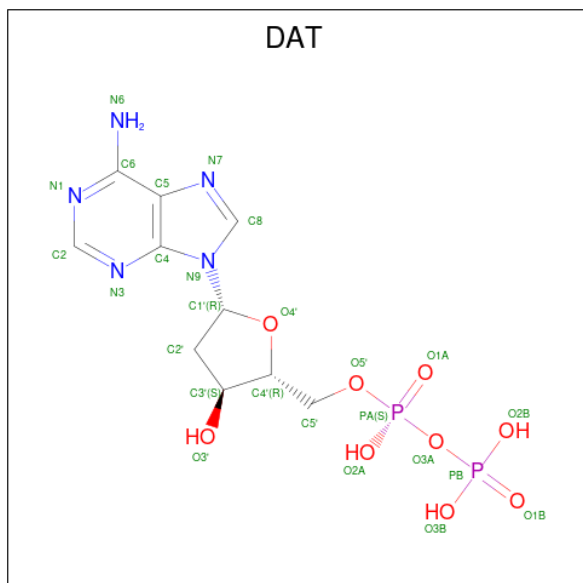
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
2	A	1	Total 35	15	5	13	2	0
2	B	1	Total 35	15	5	13	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
2	C	1	Total	C	N	O	P	0
			35	15	5	13	2	
2	D	1	Total	C	N	O	P	0
			35	15	5	13	2	

- Molecule 3 is 2'-DEOXYADENOSINE-5'-DIPHOSPHATE (CCD ID: DAT) (formula: $C_{10}H_{15}N_5O_9P_2$).



Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total	C	N	O	P	0
			26	10	5	9	2	
3	B	1	Total	C	N	O	P	0
			26	10	5	9	2	
3	C	1	Total	C	N	O	P	0
			26	10	5	9	2	
3	D	1	Total	C	N	O	P	0
			26	10	5	9	2	

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

Mol	Chain	Residues	Atoms		AltConf
4	A	1	Total	Zn	0
			1	1	
4	B	1	Total	Zn	0
			1	1	
4	C	1	Total	Zn	0
			1	1	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms		AltConf
4	D	1	Total	Zn	0
			1	1	

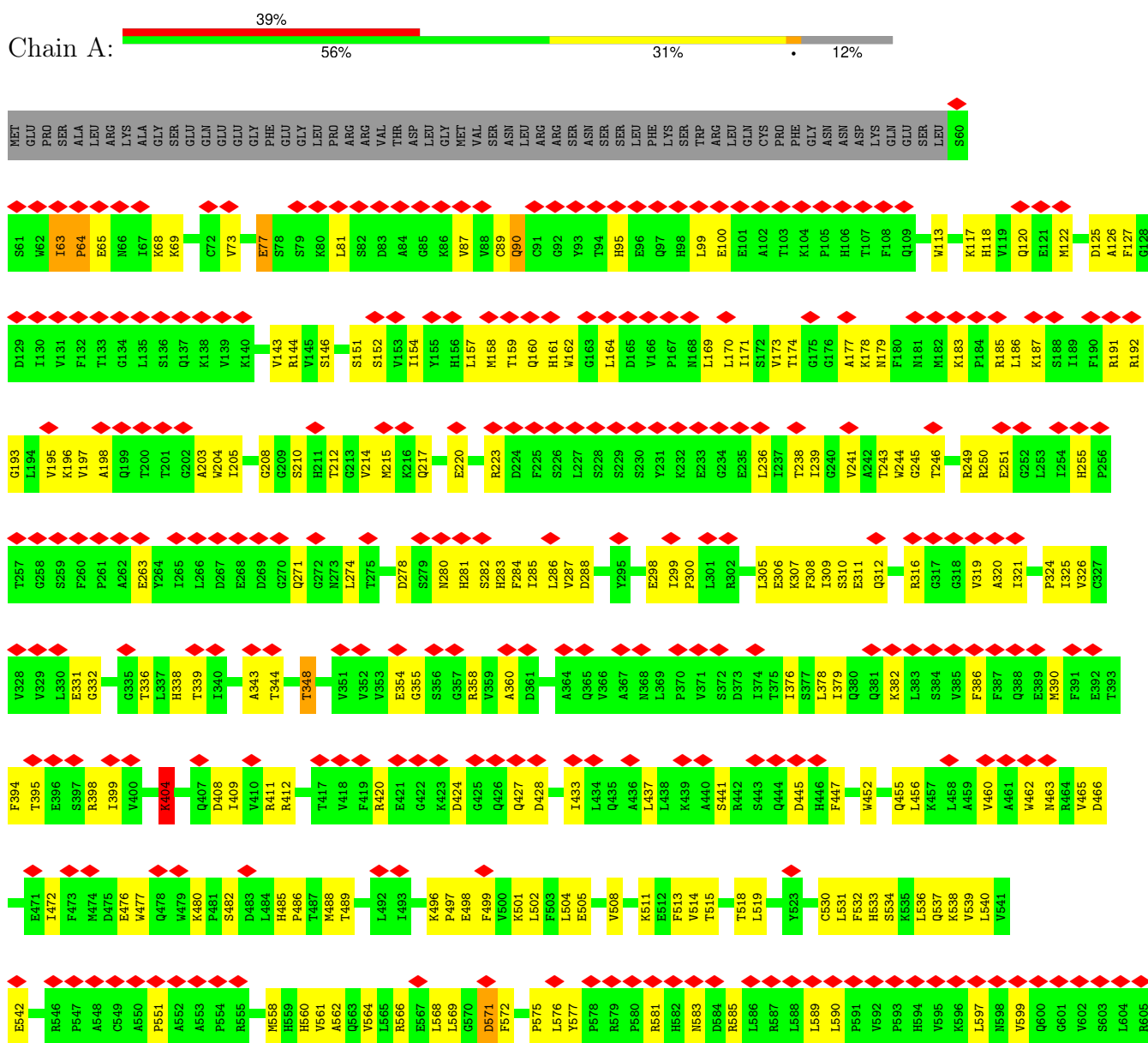
- Molecule 5 is CALCIUM ION (CCD ID: CA) (formula: Ca).

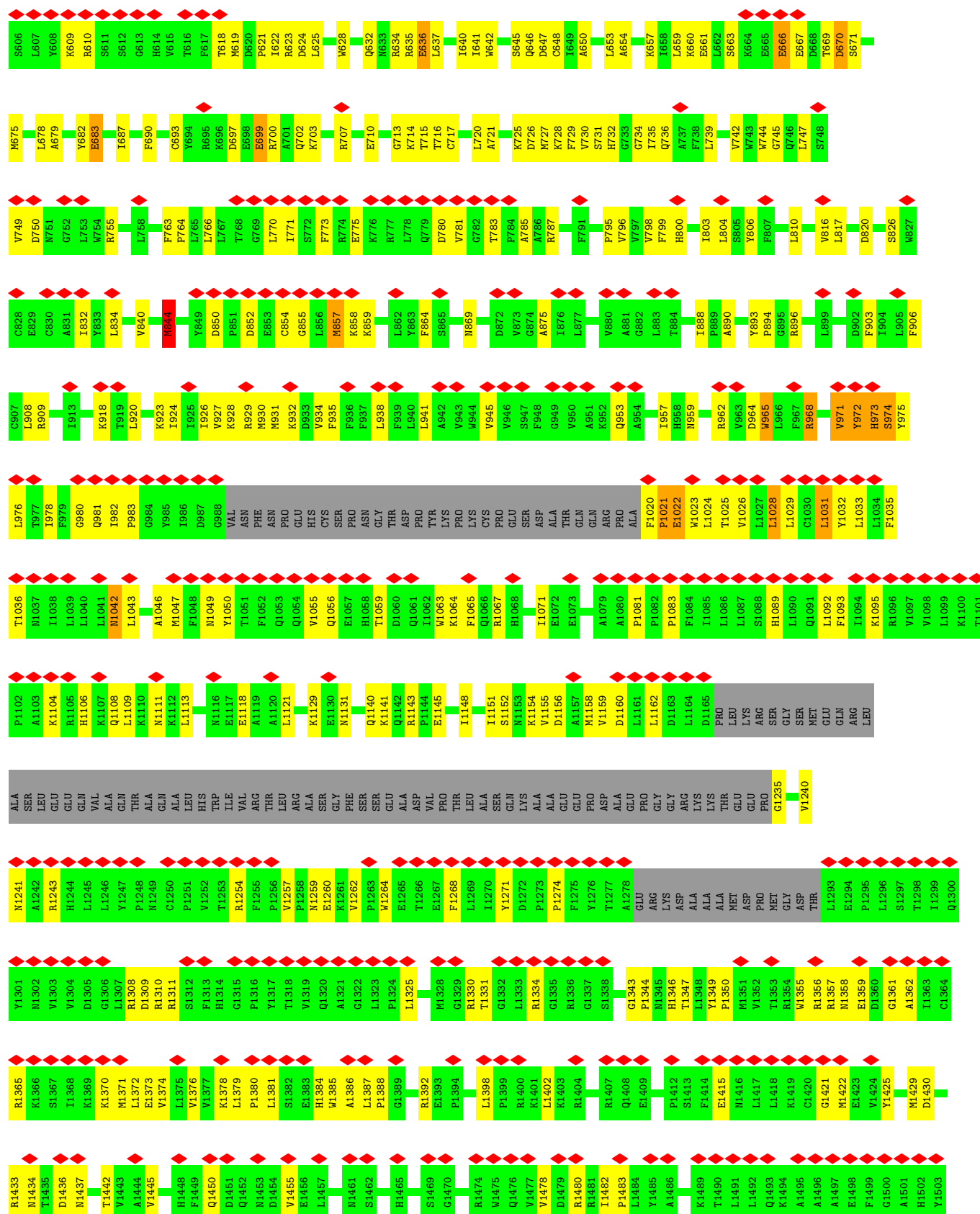
Mol	Chain	Residues	Atoms		AltConf
5	A	1	Total	Ca	0
			1	1	
5	B	1	Total	Ca	0
			1	1	
5	C	1	Total	Ca	0
			1	1	
5	D	1	Total	Ca	0
			1	1	

3 Residue-property plots

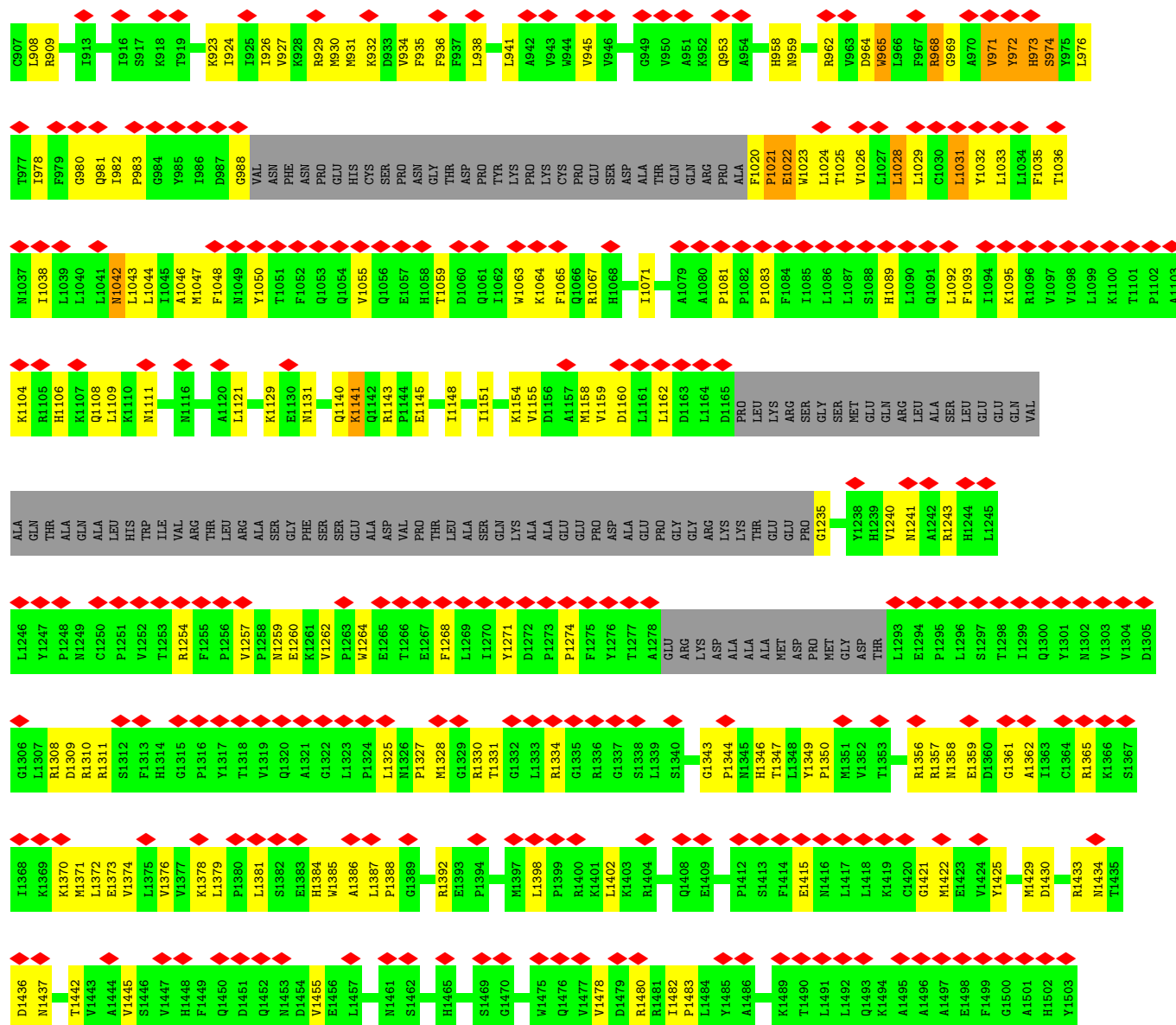
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: Transient receptor potential cation channel subfamily M member 2

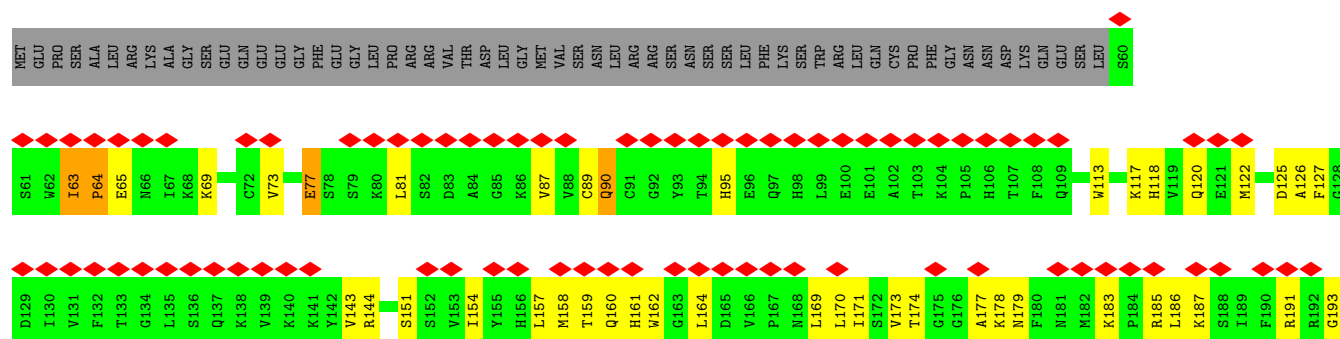
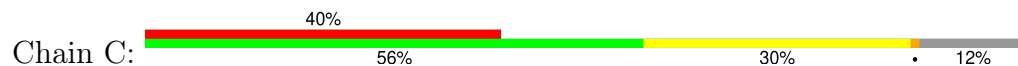




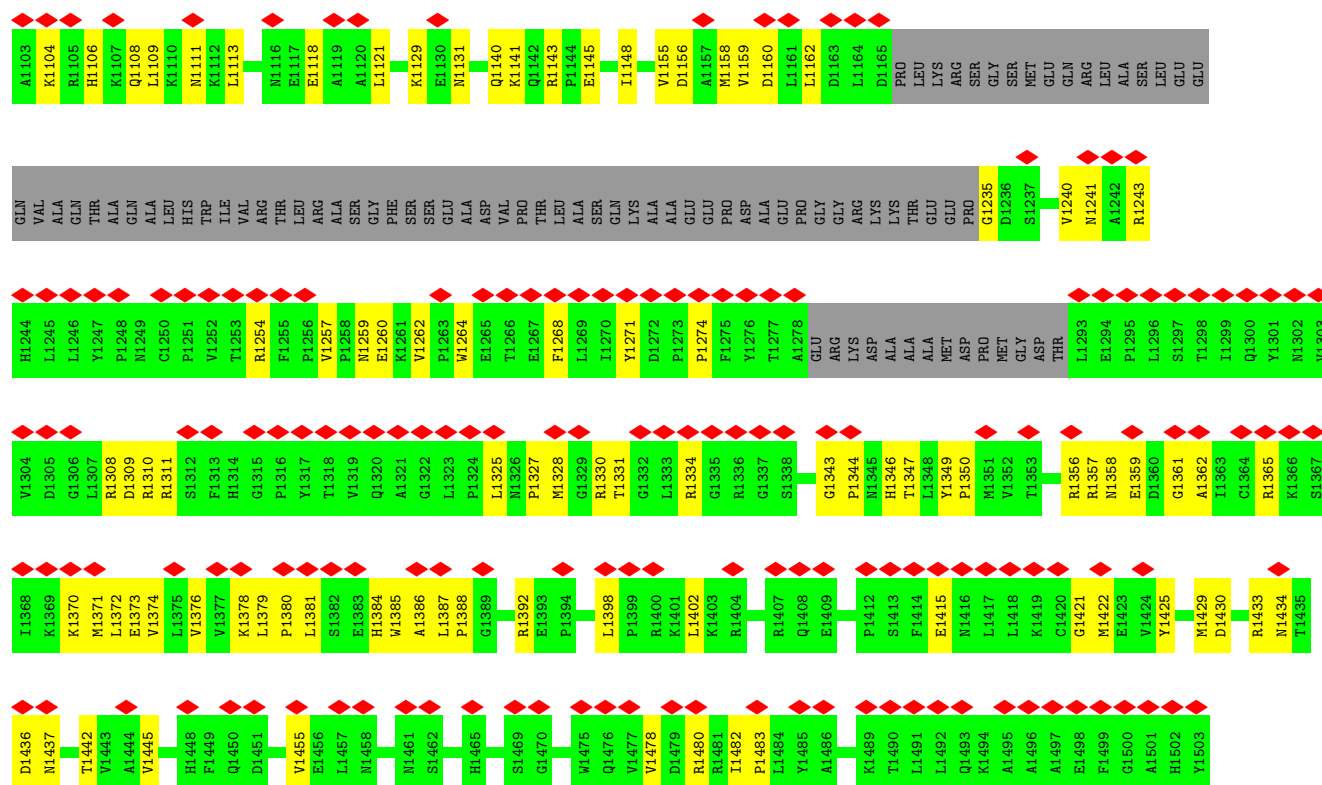




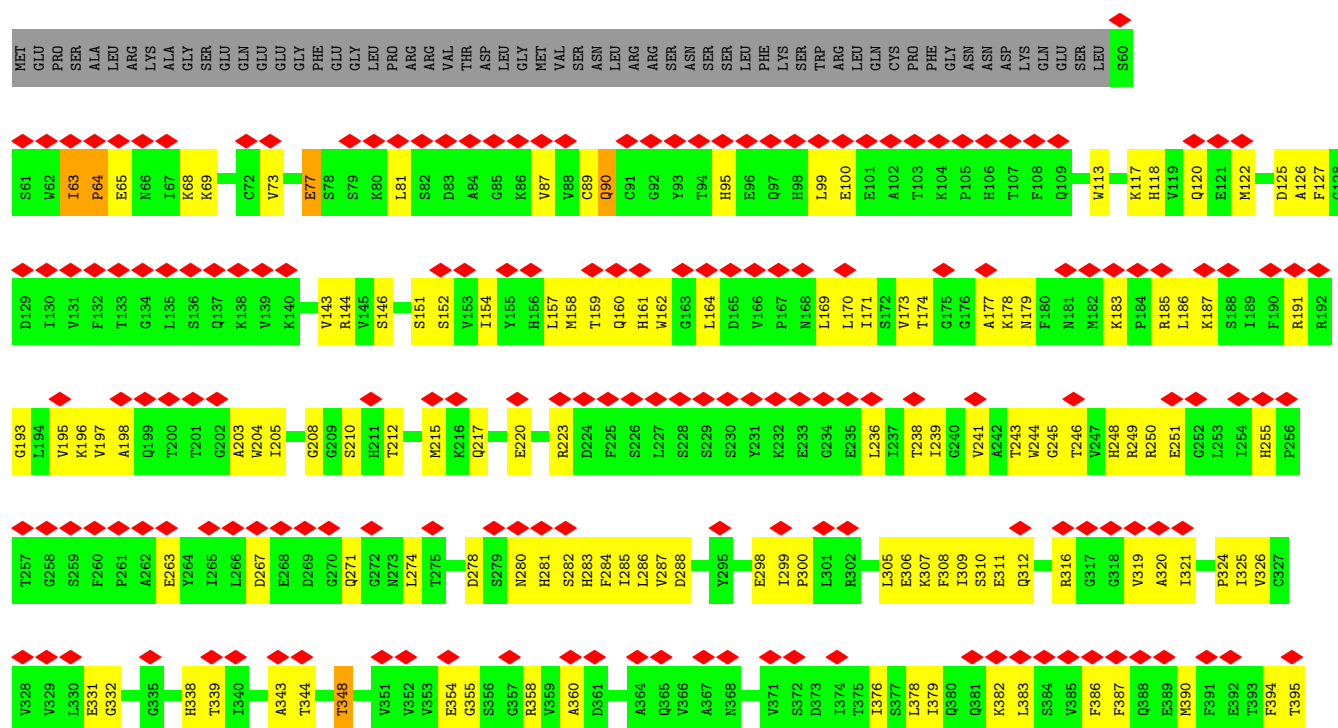
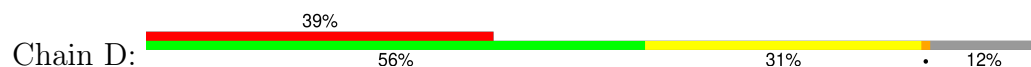
• Molecule 1: Transient receptor potential cation channel subfamily M member 2

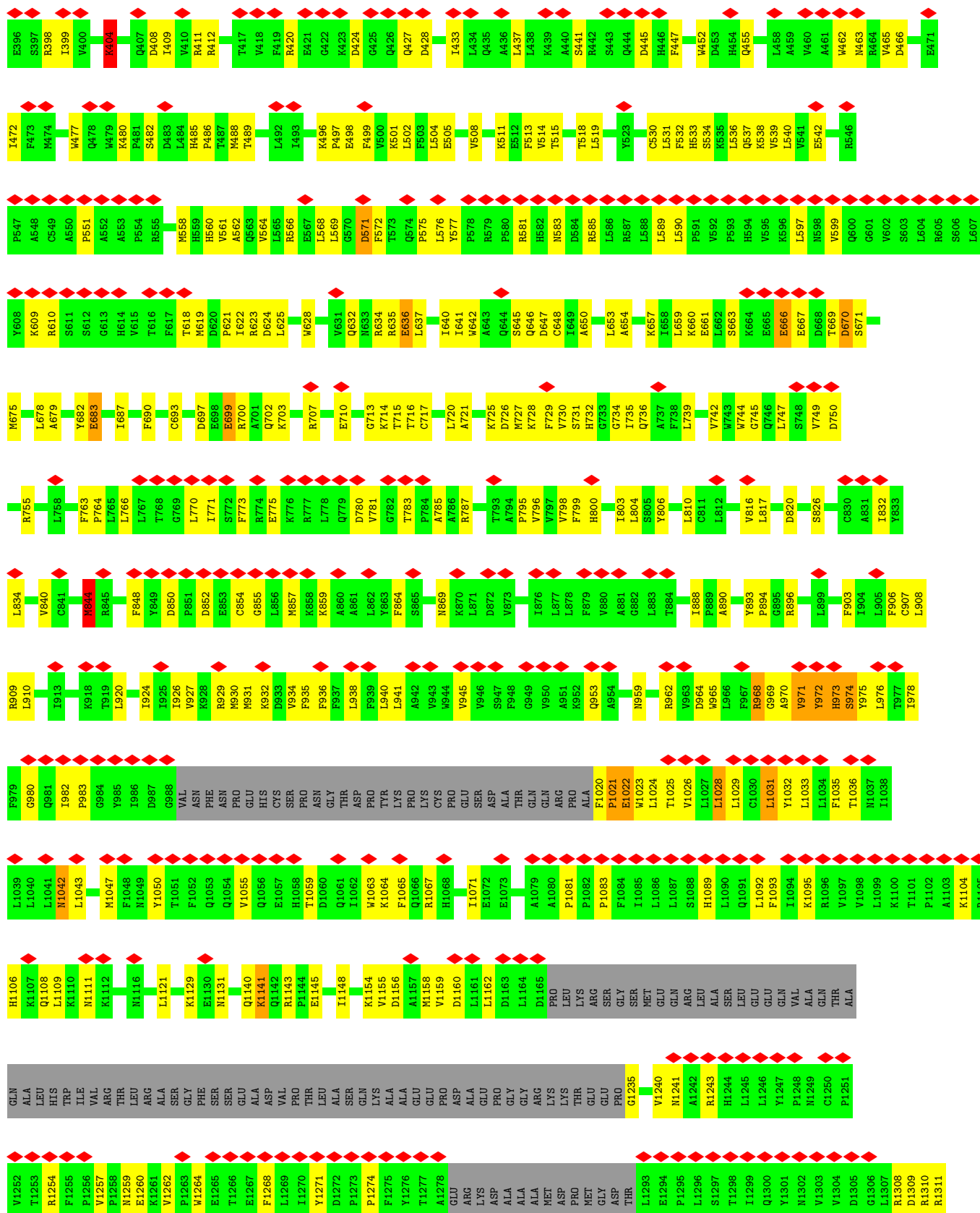






• Molecule 1: Transient receptor potential cation channel subfamily M member 2





SI312	F1313	HI314	GI315	P1316	Y1317	TI318	VI319	Q1320	A1321	GI322	L1323	P1324	L1325	N1326	P1327	M1328	GI329	R1330	TI331	GI332	L1333	R1334	GI335	R1336	GI337	SI338	GI343	P1344	N1345	HI346	TI347	L1348	Y1349	P1350	M1351	VI352	TI353	R1354	W1355	R1356	R1357	N1358	E1359	D1360	GI361	A1362	TI363	C1364	R1365	K1366	SI367	TI368	K1369	M1370	L1372	E1373	V1374
L1375	VI376	VI377	K1378	L1379	P1380	L1381	SI382	E1383	HI384	W1385	A1386	L1387	P1388	GI389	R1392	E1393	P1394	L1398	P1399	R1400	K1401	L1402	K1403	R1404	Q1408	E1409	P1412	S1413	F1414	E1415	N1416	L1417	L1418	K1419	C1420	GI421	M1422	E1423	VI424	Y1425	M1429	D1430	D1431	P1432	R1433	N1434	TI435	D1436	N1437	TI442	VI443	A1444					
HI448	F1449	Q1450	D1451	Q1452	N1453	D1454	VI455	E1456	L1457	N1458	M1461	SI462	HI465	SI469	GI470	W1475	Q1476	Y1477	VI478	D1479	R1480	R1481	I1482	P1483	L1484	Y1485	A1486	K1489	T1490	L1491	L1492	Q1493	K1494	A1495	A1496	A1497	E1498	F1499	GI500	A1501	HI502	Y1503															

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	95674	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	49	Depositor
Minimum defocus (nm)	8000	Depositor
Maximum defocus (nm)	22000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.852	Depositor
Minimum map value	-0.361	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.029	Depositor
Recommended contour level	0.169	Depositor
Map size (Å)	388.80002, 388.80002, 388.80002	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.08, 1.08, 1.08	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.18	0/10787	0.52	6/14658 (0.0%)
1	B	0.18	0/10787	0.52	6/14658 (0.0%)
1	C	0.18	0/10787	0.52	6/14658 (0.0%)
1	D	0.18	0/10787	0.52	6/14658 (0.0%)
All	All	0.18	0/43148	0.52	24/58632 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	6
1	B	0	6
1	C	0	6
1	D	0	6
All	All	0	24

There are no bond length outliers.

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	974	SER	N-CA-C	5.98	121.14	113.18
1	B	974	SER	N-CA-C	5.96	121.11	113.18
1	D	974	SER	N-CA-C	5.96	121.10	113.18
1	A	974	SER	N-CA-C	5.93	121.07	113.18
1	A	404	LYS	CB-CG-CD	5.82	124.69	111.30
1	D	404	LYS	CB-CG-CD	5.82	124.69	111.30
1	C	404	LYS	CB-CG-CD	5.81	124.67	111.30
1	B	404	LYS	CB-CG-CD	5.81	124.66	111.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	973	HIS	N-CA-C	5.69	122.93	110.80
1	D	973	HIS	N-CA-C	5.68	122.89	110.80
1	A	973	HIS	N-CA-C	5.67	122.89	110.80
1	B	973	HIS	N-CA-C	5.67	122.87	110.80
1	D	844	MET	CA-CB-CG	5.61	125.33	114.10
1	B	972	TYR	CA-C-N	-5.60	110.84	121.54
1	B	972	TYR	C-N-CA	-5.60	110.84	121.54
1	D	972	TYR	CA-C-N	-5.60	110.84	121.54
1	D	972	TYR	C-N-CA	-5.60	110.84	121.54
1	A	844	MET	CA-CB-CG	5.60	125.29	114.10
1	C	972	TYR	CA-C-N	-5.59	110.86	121.54
1	C	972	TYR	C-N-CA	-5.59	110.86	121.54
1	C	844	MET	CA-CB-CG	5.59	125.28	114.10
1	B	844	MET	CA-CB-CG	5.58	125.27	114.10
1	A	972	TYR	CA-C-N	-5.57	110.91	121.54
1	A	972	TYR	C-N-CA	-5.57	110.91	121.54

There are no chirality outliers.

All (24) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1021	PRO	Peptide
1	A	63	ILE	Peptide
1	A	666	GLU	Peptide
1	A	965	TRP	Peptide
1	A	968	ARG	Peptide
1	A	971	VAL	Peptide
1	B	1021	PRO	Peptide
1	B	63	ILE	Peptide
1	B	666	GLU	Peptide
1	B	965	TRP	Peptide
1	B	968	ARG	Peptide
1	B	971	VAL	Peptide
1	C	1021	PRO	Peptide
1	C	63	ILE	Peptide
1	C	666	GLU	Peptide
1	C	965	TRP	Peptide
1	C	968	ARG	Peptide
1	C	971	VAL	Peptide
1	D	1021	PRO	Peptide
1	D	63	ILE	Peptide
1	D	666	GLU	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
1	D	965	TRP	Peptide
1	D	968	ARG	Peptide
1	D	971	VAL	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	10521	0	10407	395	0
1	B	10521	0	10407	409	0
1	C	10521	0	10407	392	0
1	D	10521	0	10407	373	0
2	A	35	0	19	1	0
2	B	35	0	19	1	0
2	C	35	0	19	1	0
2	D	35	0	19	0	0
3	A	26	0	12	1	0
3	B	26	0	12	1	0
3	C	26	0	12	1	0
3	D	26	0	12	1	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
5	C	1	0	0	0	0
5	D	1	0	0	0	0
All	All	42336	0	41752	1451	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 17.

All (1451) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1022:GLU:HB3	1:D:975:TYR:N	1.66	1.09
1:A:1024:LEU:H	1:B:972:TYR:C	1.70	0.99
1:C:1022:GLU:HB3	1:D:975:TYR:H	0.84	0.99
1:C:1022:GLU:CB	1:D:975:TYR:H	1.78	0.95
1:B:981:GLN:NE2	1:C:981:GLN:OE1	1.99	0.95
1:A:1042:ASN:HD22	1:B:930:MET:HE3	1.30	0.93
1:A:1025:THR:H	1:B:973:HIS:HA	1.37	0.88
1:B:1021:PRO:HA	1:C:971:VAL:H	1.35	0.88
1:B:1020:PHE:N	1:C:964:ASP:OD2	2.07	0.88
1:A:1021:PRO:HD3	1:B:965:TRP:HD1	1.40	0.85
1:B:687:ILE:HD11	1:B:729:PHE:HA	1.59	0.84
1:A:700:ARG:HA	1:A:703:LYS:HG2	1.59	0.84
1:D:700:ARG:HA	1:D:703:LYS:HG2	1.59	0.84
1:C:687:ILE:HD11	1:C:729:PHE:HA	1.59	0.84
1:A:687:ILE:HD11	1:A:729:PHE:HA	1.59	0.83
1:D:687:ILE:HD11	1:D:729:PHE:HA	1.59	0.83
1:B:278:ASP:HB2	1:B:280:ASN:HD22	1.45	0.82
1:C:278:ASP:HB2	1:C:280:ASN:HD22	1.45	0.82
1:C:700:ARG:HA	1:C:703:LYS:HG2	1.59	0.82
1:B:700:ARG:HA	1:B:703:LYS:HG2	1.59	0.82
1:B:1021:PRO:HB3	1:C:972:TYR:HB2	1.61	0.81
1:D:278:ASP:HB2	1:D:280:ASN:HD22	1.45	0.81
1:A:223:ARG:NH2	1:A:280:ASN:OD1	2.14	0.81
1:A:278:ASP:HB2	1:A:280:ASN:HD22	1.45	0.81
1:C:223:ARG:NH2	1:C:280:ASN:OD1	2.14	0.81
1:B:223:ARG:NH2	1:B:280:ASN:OD1	2.14	0.80
1:B:1038:ILE:HG23	1:C:1044:LEU:HD13	1.64	0.80
1:D:223:ARG:NH2	1:D:280:ASN:OD1	2.14	0.80
1:A:404:LYS:HA	1:A:404:LYS:HE3	1.63	0.80
1:A:1025:THR:OG1	1:B:973:HIS:O	1.99	0.79
1:B:404:LYS:HE3	1:B:404:LYS:HA	1.63	0.79
1:D:404:LYS:HE3	1:D:404:LYS:HA	1.63	0.79
1:B:659:LEU:HD22	1:B:679:ALA:HB2	1.64	0.79
1:C:1021:PRO:HB3	1:D:972:TYR:HB3	1.64	0.78
1:C:659:LEU:HD22	1:C:679:ALA:HB2	1.64	0.78
1:A:1158:MET:HE1	1:B:1158:MET:HG3	1.65	0.77
1:C:404:LYS:HE3	1:C:404:LYS:HA	1.63	0.77
1:A:659:LEU:HD22	1:A:679:ALA:HB2	1.64	0.77
1:A:957:ILE:HG23	1:B:819:VAL:HG22	1.67	0.77
1:D:659:LEU:HD22	1:D:679:ALA:HB2	1.64	0.76
1:B:1022:GLU:N	1:C:971:VAL:N	2.33	0.76
1:B:1026:VAL:HG13	1:B:1029:LEU:HD12	1.67	0.76

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1026:VAL:HG13	1:D:1029:LEU:HD12	1.67	0.76
1:A:1024:LEU:HB3	1:B:972:TYR:O	1.86	0.76
1:C:1026:VAL:HG13	1:C:1029:LEU:HD12	1.67	0.76
1:D:589:LEU:HD12	1:D:590:LEU:HG	1.68	0.76
1:A:589:LEU:HD12	1:A:590:LEU:HG	1.68	0.75
1:A:1026:VAL:HG13	1:A:1029:LEU:HD12	1.67	0.75
1:A:923:LYS:HE3	1:D:1043:LEU:HA	1.69	0.74
1:C:589:LEU:HD12	1:C:590:LEU:HG	1.68	0.74
1:A:973:HIS:H	1:D:1022:GLU:HA	1.50	0.74
1:B:589:LEU:HD12	1:B:590:LEU:HG	1.68	0.74
1:A:1023:TRP:NE1	1:B:968:ARG:O	2.22	0.73
1:C:973:HIS:HD2	1:C:974:SER:HB3	1.53	0.73
1:B:1021:PRO:CA	1:C:971:VAL:H	2.00	0.73
1:B:973:HIS:HD2	1:B:974:SER:HB3	1.53	0.73
1:C:1376:VAL:HG22	1:C:1478:VAL:HG11	1.70	0.73
1:B:1358:ASN:HD21	1:B:1362:ALA:HB3	1.54	0.72
1:C:700:ARG:HH21	1:C:1121:LEU:HA	1.55	0.72
1:D:973:HIS:HD2	1:D:974:SER:HB3	1.53	0.72
1:D:1376:VAL:HG22	1:D:1478:VAL:HG11	1.70	0.72
1:A:1376:VAL:HG22	1:A:1478:VAL:HG11	1.70	0.72
1:A:700:ARG:HH21	1:A:1121:LEU:HA	1.55	0.72
1:A:1021:PRO:HD3	1:B:965:TRP:CD1	2.24	0.72
1:C:1358:ASN:HD21	1:C:1362:ALA:HB3	1.55	0.72
1:A:1156:ASP:OD1	1:B:1154:LYS:NZ	2.20	0.72
1:B:700:ARG:HH21	1:B:1121:LEU:HA	1.55	0.72
1:B:1376:VAL:HG22	1:B:1478:VAL:HG11	1.70	0.72
1:A:973:HIS:HD2	1:A:974:SER:HB3	1.53	0.72
1:D:700:ARG:HH21	1:D:1121:LEU:HA	1.55	0.72
1:A:1358:ASN:HD21	1:A:1362:ALA:HB3	1.55	0.71
1:B:1020:PHE:O	1:C:971:VAL:N	2.23	0.71
1:C:325:ILE:HD12	1:C:348:THR:HG22	1.73	0.71
1:C:1020:PHE:O	1:D:971:VAL:N	2.17	0.71
1:A:1152:SER:HA	1:B:1151:ILE:HD11	1.72	0.71
1:C:332:GLY:H	1:C:358:ARG:HH21	1.39	0.71
1:D:332:GLY:H	1:D:358:ARG:HH21	1.38	0.70
1:A:1024:LEU:N	1:B:971:VAL:O	2.24	0.70
1:D:325:ILE:HD12	1:D:348:THR:HG22	1.73	0.70
1:D:1358:ASN:HD21	1:D:1362:ALA:HB3	1.55	0.70
1:C:1158:MET:HE1	1:D:1158:MET:HG3	1.73	0.70
1:A:325:ILE:HD12	1:A:348:THR:HG22	1.73	0.70
1:B:325:ILE:HD12	1:B:348:THR:HG22	1.73	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:332:GLY:H	1:B:358:ARG:HH21	1.38	0.69
1:A:1024:LEU:HB2	1:B:971:VAL:O	1.92	0.69
1:C:249:ARG:NH1	1:C:251:GLU:O	2.26	0.69
1:A:1042:ASN:ND2	1:B:930:MET:HE3	2.08	0.69
1:A:1049:ASN:HD22	1:B:1048:PHE:HE2	1.41	0.68
1:B:249:ARG:NH1	1:B:251:GLU:O	2.26	0.68
1:D:159:THR:OG1	1:D:160:GLN:OE1	2.10	0.68
1:D:249:ARG:NH1	1:D:251:GLU:O	2.26	0.68
1:A:249:ARG:NH1	1:A:251:GLU:O	2.26	0.68
1:A:332:GLY:H	1:A:358:ARG:HH21	1.39	0.68
1:C:683:GLU:N	1:C:683:GLU:OE1	2.26	0.68
1:B:278:ASP:HB2	1:B:280:ASN:ND2	2.08	0.68
1:C:278:ASP:HB2	1:C:280:ASN:ND2	2.08	0.68
1:A:683:GLU:N	1:A:683:GLU:OE1	2.26	0.68
1:A:159:THR:OG1	1:A:160:GLN:OE1	2.10	0.68
1:D:1357:ARG:HH21	1:D:1361:GLY:HA3	1.59	0.68
1:B:683:GLU:OE1	1:B:683:GLU:N	2.26	0.68
1:B:1038:ILE:HA	1:C:1044:LEU:HD22	1.76	0.68
1:D:959:ASN:HB3	1:D:962:ARG:HB2	1.76	0.68
1:C:159:THR:OG1	1:C:160:GLN:OE1	2.10	0.68
1:C:571:ASP:OD1	1:C:571:ASP:N	2.27	0.68
1:D:625:LEU:HG	1:D:641:ILE:HD13	1.76	0.68
1:A:959:ASN:HB3	1:A:962:ARG:HB2	1.76	0.67
1:B:625:LEU:HG	1:B:641:ILE:HD13	1.76	0.67
1:A:583:ASN:OD1	1:A:585:ARG:NH1	2.28	0.67
1:B:583:ASN:OD1	1:B:585:ARG:NH1	2.28	0.67
1:B:159:THR:OG1	1:B:160:GLN:OE1	2.10	0.67
1:B:1357:ARG:HH21	1:B:1361:GLY:HA3	1.59	0.67
1:C:1357:ARG:HH21	1:C:1361:GLY:HA3	1.59	0.67
1:D:278:ASP:HB2	1:D:280:ASN:ND2	2.08	0.67
1:D:583:ASN:OD1	1:D:585:ARG:NH1	2.28	0.67
1:D:683:GLU:OE1	1:D:683:GLU:N	2.27	0.67
1:A:278:ASP:HB2	1:A:280:ASN:ND2	2.08	0.67
1:B:571:ASP:OD1	1:B:571:ASP:N	2.27	0.67
1:D:571:ASP:OD1	1:D:571:ASP:N	2.27	0.67
1:A:571:ASP:N	1:A:571:ASP:OD1	2.27	0.67
1:A:625:LEU:HG	1:A:641:ILE:HD13	1.76	0.67
1:A:1357:ARG:HH21	1:A:1361:GLY:HA3	1.59	0.67
1:C:583:ASN:OD1	1:C:585:ARG:NH1	2.28	0.67
1:C:625:LEU:HG	1:C:641:ILE:HD13	1.76	0.67
1:D:183:LYS:NZ	1:D:355:GLY:O	2.27	0.67

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1365:ARG:HH11	1:A:1370:LYS:HD3	1.60	0.67
1:B:183:LYS:NZ	1:B:355:GLY:O	2.27	0.67
1:A:621:PRO:HD2	1:A:622:ILE:H	1.60	0.66
1:A:472:ILE:HG23	1:A:477:TRP:HH2	1.61	0.66
1:B:472:ILE:HG23	1:B:477:TRP:HH2	1.61	0.66
1:C:472:ILE:HG23	1:C:477:TRP:HH2	1.61	0.66
1:D:1365:ARG:HH11	1:D:1370:LYS:HD3	1.60	0.66
1:C:533:HIS:O	1:C:537:GLN:NE2	2.29	0.66
1:C:1365:ARG:HH11	1:C:1370:LYS:HD3	1.60	0.66
1:B:1022:GLU:O	1:B:1023:TRP:HD1	1.78	0.66
1:B:959:ASN:HB3	1:B:962:ARG:HB2	1.76	0.66
1:C:183:LYS:NZ	1:C:355:GLY:O	2.27	0.66
1:C:959:ASN:HB3	1:C:962:ARG:HB2	1.76	0.66
1:D:533:HIS:O	1:D:537:GLN:NE2	2.29	0.66
1:D:621:PRO:HD2	1:D:622:ILE:H	1.60	0.66
1:B:621:PRO:HD2	1:B:622:ILE:H	1.60	0.66
1:B:1021:PRO:HA	1:C:971:VAL:N	2.10	0.66
1:C:707:ARG:HB3	1:C:717:CYS:HB2	1.78	0.66
1:B:480:LYS:HG3	1:B:482:SER:H	1.61	0.65
1:C:621:PRO:HD2	1:C:622:ILE:H	1.60	0.65
1:D:480:LYS:HG3	1:D:482:SER:H	1.62	0.65
1:D:1022:GLU:O	1:D:1023:TRP:HD1	1.78	0.65
1:A:480:LYS:HG3	1:A:482:SER:H	1.62	0.65
1:C:1022:GLU:O	1:C:1023:TRP:HD1	1.78	0.65
1:B:445:ASP:OD1	1:B:1480:ARG:NH2	2.29	0.65
1:B:1022:GLU:H	1:C:971:VAL:N	1.92	0.65
1:B:1031:LEU:HD11	1:C:945:VAL:HG11	1.77	0.65
1:A:445:ASP:OD1	1:A:1480:ARG:NH2	2.29	0.65
1:A:533:HIS:O	1:A:537:GLN:NE2	2.29	0.65
1:B:958:HIS:HB3	1:C:818:MET:SD	2.36	0.65
1:D:707:ARG:HB3	1:D:717:CYS:HB2	1.78	0.65
1:B:731:SER:HA	1:B:736:GLN:HE22	1.62	0.65
1:B:1022:GLU:N	1:C:971:VAL:H	1.93	0.65
1:B:1031:LEU:HD11	1:C:945:VAL:HG21	1.77	0.65
1:C:480:LYS:HG3	1:C:482:SER:H	1.62	0.65
1:D:445:ASP:OD1	1:D:1480:ARG:NH2	2.29	0.65
1:D:472:ILE:HG23	1:D:477:TRP:HH2	1.61	0.65
1:A:354:GLU:HA	1:A:360:ALA:HB1	1.79	0.65
1:B:1365:ARG:HH11	1:B:1370:LYS:HD3	1.60	0.65
1:A:179:ASN:HD22	1:A:390:MET:HE2	1.62	0.65
1:A:730:VAL:HA	1:A:735:ILE:HD13	1.79	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1022:GLU:O	1:A:1023:TRP:HD1	1.78	0.65
1:B:179:ASN:HD22	1:B:390:MET:HE2	1.62	0.65
1:C:445:ASP:OD1	1:C:1480:ARG:NH2	2.29	0.65
1:D:730:VAL:HA	1:D:735:ILE:HD13	1.79	0.65
1:B:354:GLU:HA	1:B:360:ALA:HB1	1.79	0.65
1:B:533:HIS:O	1:B:537:GLN:NE2	2.29	0.65
1:A:1020:PHE:HD1	1:B:965:TRP:NE1	1.96	0.64
1:B:707:ARG:HB3	1:B:717:CYS:HB2	1.78	0.64
1:C:354:GLU:HA	1:C:360:ALA:HB1	1.79	0.64
1:C:642:TRP:CD1	1:C:645:SER:HG	2.16	0.64
1:B:730:VAL:HA	1:B:735:ILE:HD13	1.79	0.64
1:C:731:SER:HA	1:C:736:GLN:HE22	1.62	0.64
1:C:179:ASN:HD22	1:C:390:MET:HE2	1.62	0.64
1:D:731:SER:HA	1:D:736:GLN:HE22	1.62	0.64
1:A:566:ARG:HD2	1:A:569:LEU:HD11	1.80	0.64
1:C:730:VAL:HA	1:C:735:ILE:HD13	1.79	0.64
1:C:1482:ILE:HD12	1:C:1483:PRO:HD2	1.80	0.64
1:B:1140:GLN:HA	1:B:1143:ARG:HH22	1.63	0.64
1:D:217:GLN:HA	1:D:220:GLU:HG2	1.80	0.64
1:A:707:ARG:HB3	1:A:717:CYS:HB2	1.78	0.64
1:D:354:GLU:HA	1:D:360:ALA:HB1	1.79	0.64
1:D:566:ARG:HD2	1:D:569:LEU:HD11	1.80	0.64
1:C:566:ARG:HD2	1:C:569:LEU:HD11	1.80	0.64
1:D:179:ASN:HD22	1:D:390:MET:HE2	1.61	0.64
1:A:1346:HIS:HB2	1:A:1392:ARG:H	1.63	0.64
1:C:1398:LEU:HD21	1:C:1415:GLU:HG2	1.80	0.64
1:A:632:GLN:HB3	1:A:634:ARG:NH1	2.13	0.63
1:B:1310:ARG:HH12	1:B:1344:PRO:HD3	1.64	0.63
1:B:1379:LEU:HD23	1:B:1381:LEU:H	1.63	0.63
1:A:731:SER:HA	1:A:736:GLN:HE22	1.62	0.63
1:A:1154:LYS:NZ	1:D:1156:ASP:OD1	2.29	0.63
1:B:1346:HIS:HB2	1:B:1392:ARG:H	1.63	0.63
1:D:1398:LEU:HD21	1:D:1415:GLU:HG2	1.80	0.63
1:A:183:LYS:NZ	1:A:355:GLY:O	2.27	0.63
1:B:358:ARG:HA	1:B:386:PHE:HB3	1.81	0.63
1:C:1310:ARG:HH12	1:C:1344:PRO:HD3	1.64	0.63
1:A:117:LYS:HE3	1:A:118:HIS:HD2	1.64	0.63
1:A:217:GLN:HA	1:A:220:GLU:HG2	1.80	0.63
1:A:1140:GLN:HA	1:A:1143:ARG:HH22	1.63	0.63
1:A:1379:LEU:HD23	1:A:1381:LEU:H	1.63	0.63
1:C:1140:GLN:HA	1:C:1143:ARG:HH22	1.63	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:187:LYS:HE3	1:D:217:GLN:HB3	1.80	0.63
1:D:1310:ARG:HH12	1:D:1344:PRO:HD3	1.64	0.63
1:A:1310:ARG:HH12	1:A:1344:PRO:HD3	1.64	0.63
1:C:358:ARG:HA	1:C:386:PHE:HB3	1.81	0.63
1:A:1028:LEU:HA	1:A:1031:LEU:HB2	1.81	0.63
1:A:1482:ILE:HD12	1:A:1483:PRO:HD2	1.80	0.63
1:B:187:LYS:HE3	1:B:217:GLN:HB3	1.80	0.63
1:B:1028:LEU:HA	1:B:1031:LEU:HB2	1.81	0.63
1:C:217:GLN:HA	1:C:220:GLU:HG2	1.80	0.63
1:A:77:GLU:HA	1:A:89:CYS:HA	1.81	0.63
1:A:144:ARG:NH2	1:A:288:ASP:OD2	2.28	0.63
1:B:117:LYS:HE3	1:B:118:HIS:HD2	1.64	0.63
1:B:566:ARG:HD2	1:B:569:LEU:HD11	1.80	0.63
1:B:632:GLN:HB3	1:B:634:ARG:NH1	2.14	0.63
1:C:1028:LEU:HA	1:C:1031:LEU:HB2	1.81	0.63
1:D:632:GLN:HB3	1:D:634:ARG:NH1	2.14	0.63
1:A:923:LYS:NZ	1:D:1042:ASN:OD1	2.28	0.62
1:B:1433:ARG:NH1	3:B:1602:DAT:N7	2.45	0.62
1:C:632:GLN:HB3	1:C:634:ARG:NH1	2.14	0.62
1:A:358:ARG:HA	1:A:386:PHE:HB3	1.81	0.62
1:D:1028:LEU:HA	1:D:1031:LEU:HB2	1.81	0.62
1:C:187:LYS:HE3	1:C:217:GLN:HB3	1.80	0.62
1:D:1140:GLN:HA	1:D:1143:ARG:HH22	1.63	0.62
1:D:1346:HIS:HB2	1:D:1392:ARG:H	1.63	0.62
1:A:1398:LEU:HD21	1:A:1415:GLU:HG2	1.80	0.62
1:B:193:GLY:HA2	1:B:196:LYS:HE3	1.81	0.62
1:B:217:GLN:HA	1:B:220:GLU:HG2	1.80	0.62
1:C:1021:PRO:HA	1:D:972:TYR:H	1.64	0.62
1:C:1379:LEU:HD23	1:C:1381:LEU:H	1.63	0.62
1:D:1433:ARG:NH1	3:D:1602:DAT:N7	2.45	0.62
1:A:193:GLY:HA2	1:A:196:LYS:HE3	1.81	0.62
1:A:1433:ARG:NH1	3:A:1602:DAT:N7	2.45	0.62
1:C:1350:PRO:HG2	1:C:1388:PRO:HG2	1.82	0.62
1:D:358:ARG:HA	1:D:386:PHE:HB3	1.81	0.62
1:D:642:TRP:CD1	1:D:645:SER:HG	2.17	0.62
1:D:1350:PRO:HG2	1:D:1388:PRO:HG2	1.82	0.62
1:C:77:GLU:HA	1:C:89:CYS:HA	1.81	0.62
1:C:1308:ARG:HH21	1:C:1343:GLY:HA3	1.65	0.62
1:C:1346:HIS:HB2	1:C:1392:ARG:H	1.63	0.62
1:D:1482:ILE:HD12	1:D:1483:PRO:HD2	1.80	0.62
1:A:187:LYS:HE3	1:A:217:GLN:HB3	1.80	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:117:LYS:HE3	1:D:118:HIS:HD2	1.64	0.62
1:A:1022:GLU:HG2	1:B:973:HIS:NE2	2.14	0.62
1:A:1350:PRO:HG2	1:A:1388:PRO:HG2	1.82	0.62
1:B:1350:PRO:HG2	1:B:1388:PRO:HG2	1.82	0.62
1:B:1482:ILE:HD12	1:B:1483:PRO:HD2	1.80	0.62
1:D:1308:ARG:HH21	1:D:1343:GLY:HA3	1.65	0.62
1:A:1308:ARG:HH21	1:A:1343:GLY:HA3	1.65	0.62
1:C:193:GLY:HA2	1:C:196:LYS:HE3	1.81	0.62
1:C:1023:TRP:CD2	1:D:976:LEU:HD13	2.34	0.62
1:D:710:GLU:HA	1:D:714:LYS:HE3	1.82	0.62
1:D:1379:LEU:HD23	1:D:1381:LEU:H	1.63	0.62
1:A:710:GLU:HA	1:A:714:LYS:HE3	1.82	0.61
1:B:1308:ARG:HH21	1:B:1343:GLY:HA3	1.65	0.61
1:C:117:LYS:HE3	1:C:118:HIS:HD2	1.64	0.61
1:D:193:GLY:HA2	1:D:196:LYS:HE3	1.81	0.61
1:A:763:PHE:HB3	1:A:764:PRO:HD3	1.83	0.61
1:B:77:GLU:HA	1:B:89:CYS:HA	1.81	0.61
1:B:287:VAL:HG21	1:B:298:GLU:HB3	1.82	0.61
1:B:710:GLU:HA	1:B:714:LYS:HE3	1.82	0.61
1:C:710:GLU:HA	1:C:714:LYS:HE3	1.82	0.61
1:A:642:TRP:CD1	1:A:645:SER:HG	2.18	0.61
1:B:144:ARG:NH2	1:B:288:ASP:OD2	2.28	0.61
1:B:1398:LEU:HD21	1:B:1415:GLU:HG2	1.80	0.61
1:C:763:PHE:HB3	1:C:764:PRO:HD3	1.83	0.61
1:D:763:PHE:HB3	1:D:764:PRO:HD3	1.83	0.61
1:A:1032:TYR:O	1:A:1036:THR:HG23	2.01	0.61
1:C:187:LYS:NZ	1:C:220:GLU:OE2	2.29	0.61
1:C:287:VAL:HG21	1:C:298:GLU:HB3	1.82	0.61
1:B:763:PHE:HB3	1:B:764:PRO:HD3	1.83	0.61
1:C:558:MET:HB2	1:C:577:TYR:CZ	2.36	0.61
1:C:1433:ARG:NH1	3:C:1602:DAT:N7	2.45	0.61
1:D:1310:ARG:NH1	1:D:1344:PRO:HD3	2.16	0.61
1:D:1032:TYR:O	1:D:1036:THR:HG23	2.01	0.61
1:B:1032:TYR:O	1:B:1036:THR:HG23	2.01	0.61
1:C:1349:TYR:HD2	1:C:1387:LEU:HD12	1.66	0.60
1:B:1349:TYR:HD2	1:B:1387:LEU:HD12	1.66	0.60
1:D:1349:TYR:HD2	1:D:1387:LEU:HD12	1.66	0.60
1:D:77:GLU:HA	1:D:89:CYS:HA	1.81	0.60
1:D:144:ARG:NH2	1:D:288:ASP:OD2	2.28	0.60
1:A:287:VAL:HG21	1:A:298:GLU:HB3	1.82	0.60
1:B:1310:ARG:NH1	1:B:1344:PRO:HD3	2.16	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:558:MET:HB2	1:A:577:TYR:CZ	2.36	0.60
1:B:404:LYS:HA	1:B:404:LYS:CE	2.32	0.60
1:B:1022:GLU:H	1:C:970:ALA:C	2.10	0.60
1:D:287:VAL:HG21	1:D:298:GLU:HB3	1.82	0.60
1:D:558:MET:HB2	1:D:577:TYR:CZ	2.36	0.60
1:C:1310:ARG:NH1	1:C:1344:PRO:HD3	2.16	0.60
1:B:519:LEU:HD21	1:B:618:THR:HG21	1.84	0.60
1:A:187:LYS:NZ	1:A:220:GLU:OE2	2.29	0.60
1:A:519:LEU:HD21	1:A:618:THR:HG21	1.84	0.59
1:A:1310:ARG:NH1	1:A:1344:PRO:HD3	2.16	0.59
1:C:144:ARG:NH2	1:C:288:ASP:OD2	2.28	0.59
1:C:514:VAL:HB	1:C:621:PRO:HB3	1.84	0.59
1:A:404:LYS:HA	1:A:404:LYS:CE	2.32	0.59
1:A:1021:PRO:CD	1:B:965:TRP:HD1	2.14	0.59
1:A:1349:TYR:HD2	1:A:1387:LEU:HD12	1.66	0.59
1:C:1032:TYR:O	1:C:1036:THR:HG23	2.01	0.59
1:D:519:LEU:HD21	1:D:618:THR:HG21	1.84	0.59
1:D:187:LYS:NZ	1:D:220:GLU:OE2	2.29	0.59
1:A:1022:GLU:HA	1:B:973:HIS:H	1.67	0.59
1:D:927:VAL:HA	1:D:930:MET:HG3	1.85	0.59
1:C:404:LYS:HA	1:C:404:LYS:CE	2.32	0.59
1:B:558:MET:HB2	1:B:577:TYR:CZ	2.36	0.59
1:D:514:VAL:HB	1:D:621:PRO:HB3	1.85	0.59
1:C:463:ASN:HB2	1:C:496:LYS:HE2	1.84	0.59
1:D:404:LYS:HA	1:D:404:LYS:CE	2.32	0.59
1:D:463:ASN:HB2	1:D:496:LYS:HE2	1.84	0.59
1:A:344:THR:HG22	1:A:412:ARG:HD2	1.84	0.59
1:A:1023:TRP:HB2	1:B:971:VAL:C	2.28	0.59
1:B:154:ILE:HG22	1:B:158:MET:HE2	1.85	0.59
1:C:927:VAL:HA	1:C:930:MET:HG3	1.85	0.59
1:A:463:ASN:HB2	1:A:496:LYS:HE2	1.84	0.59
1:A:927:VAL:HA	1:A:930:MET:HG3	1.85	0.58
1:B:642:TRP:CD1	1:B:645:SER:HG	2.20	0.58
1:A:514:VAL:HB	1:A:621:PRO:HB3	1.84	0.58
1:B:344:THR:HG22	1:B:412:ARG:HD2	1.84	0.58
1:B:1033:LEU:O	1:B:1036:THR:OG1	2.18	0.58
1:B:1268:PHE:HB3	1:B:1271:TYR:HB2	1.85	0.58
1:C:519:LEU:HD21	1:C:618:THR:HG21	1.84	0.58
1:B:463:ASN:HB2	1:B:496:LYS:HE2	1.84	0.58
1:B:927:VAL:HA	1:B:930:MET:HG3	1.85	0.58
1:C:73:VAL:HG11	1:C:120:GLN:HG3	1.86	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:394:PHE:HA	1:A:398:ARG:HD3	1.86	0.58
1:C:154:ILE:HG22	1:C:158:MET:HE2	1.85	0.58
1:A:154:ILE:HG22	1:A:158:MET:HE2	1.85	0.58
1:A:1033:LEU:O	1:A:1036:THR:OG1	2.18	0.58
1:A:1081:PRO:HB2	1:A:1083:PRO:HD2	1.86	0.58
1:B:514:VAL:HB	1:B:621:PRO:HB3	1.84	0.58
1:C:344:THR:HG22	1:C:412:ARG:HD2	1.84	0.58
1:D:697:ASP:OD2	1:D:700:ARG:NH1	2.37	0.58
1:B:621:PRO:HD2	1:B:622:ILE:HD12	1.86	0.58
1:B:1081:PRO:HB2	1:B:1083:PRO:HD2	1.86	0.58
1:D:621:PRO:HD2	1:D:622:ILE:HD12	1.86	0.58
1:D:1268:PHE:HB3	1:D:1271:TYR:HB2	1.85	0.58
1:A:249:ARG:NH2	1:A:263:GLU:O	2.37	0.58
1:C:621:PRO:HD2	1:C:622:ILE:HD12	1.86	0.58
1:A:1309:ASP:HA	1:A:1311:ARG:HH11	1.69	0.58
1:D:73:VAL:HG11	1:D:120:GLN:HG3	1.86	0.58
1:D:496:LYS:HD2	1:D:497:PRO:HD2	1.86	0.58
1:D:394:PHE:HA	1:D:398:ARG:HD3	1.86	0.58
1:B:1309:ASP:HA	1:B:1311:ARG:HH11	1.69	0.57
1:C:496:LYS:HD2	1:C:497:PRO:HD2	1.86	0.57
1:C:1309:ASP:HA	1:C:1311:ARG:HH11	1.69	0.57
1:C:170:LEU:HB2	1:C:325:ILE:HG22	1.86	0.57
1:B:212:THR:O	1:B:215:MET:HB3	2.04	0.57
1:B:249:ARG:NH2	1:B:263:GLU:O	2.37	0.57
1:B:394:PHE:HA	1:B:398:ARG:HD3	1.86	0.57
1:C:1033:LEU:O	1:C:1036:THR:OG1	2.18	0.57
1:C:1268:PHE:HB3	1:C:1271:TYR:HB2	1.85	0.57
1:D:154:ILE:HG22	1:D:158:MET:HE2	1.85	0.57
1:D:212:THR:O	1:D:215:MET:HB3	2.05	0.57
1:D:636:GLU:O	1:D:640:ILE:HG12	2.04	0.57
1:D:1081:PRO:HB2	1:D:1083:PRO:HD2	1.86	0.57
1:D:1309:ASP:HA	1:D:1311:ARG:HH11	1.69	0.57
1:A:212:THR:O	1:A:215:MET:HB3	2.05	0.57
1:A:621:PRO:HD2	1:A:622:ILE:HD12	1.86	0.57
1:A:1268:PHE:HB3	1:A:1271:TYR:HB2	1.85	0.57
1:A:697:ASP:OD2	1:A:700:ARG:NH1	2.37	0.57
1:B:496:LYS:HD2	1:B:497:PRO:HD2	1.86	0.57
1:B:697:ASP:OD2	1:B:700:ARG:NH1	2.37	0.57
1:A:744:TRP:HB3	1:A:747:LEU:HB3	1.86	0.57
1:B:73:VAL:HG11	1:B:120:GLN:HG3	1.86	0.57
1:C:1081:PRO:HB2	1:C:1083:PRO:HD2	1.86	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:344:THR:HG22	1:D:412:ARG:HD2	1.84	0.57
1:D:654:ALA:HB2	1:D:720:LEU:HD21	1.87	0.57
1:A:1308:ARG:O	1:A:1310:ARG:NH1	2.38	0.57
1:A:73:VAL:HG11	1:A:120:GLN:HG3	1.86	0.57
1:B:170:LEU:HD23	1:B:204:TRP:HB2	1.87	0.57
1:B:636:GLU:O	1:B:640:ILE:HG12	2.04	0.57
1:C:636:GLU:O	1:C:640:ILE:HG12	2.04	0.57
1:C:654:ALA:HB2	1:C:720:LEU:HD21	1.87	0.57
1:A:1026:VAL:HG21	1:B:974:SER:O	2.05	0.57
1:A:1042:ASN:OD1	1:A:1042:ASN:C	2.48	0.57
1:B:1042:ASN:OD1	1:B:1042:ASN:C	2.48	0.57
1:C:394:PHE:HA	1:C:398:ARG:HD3	1.86	0.57
1:A:496:LYS:HD2	1:A:497:PRO:HD2	1.86	0.56
1:A:1032:TYR:HA	1:A:1035:PHE:HD2	1.70	0.56
1:B:744:TRP:HB3	1:B:747:LEU:HB3	1.86	0.56
1:C:249:ARG:NH2	1:C:263:GLU:O	2.37	0.56
1:C:697:ASP:OD2	1:C:700:ARG:NH1	2.37	0.56
1:D:170:LEU:HD23	1:D:204:TRP:HB2	1.87	0.56
1:A:1159:VAL:HG21	1:B:1154:LYS:HE2	1.87	0.56
1:B:170:LEU:HB2	1:B:325:ILE:HG22	1.86	0.56
1:C:744:TRP:HB3	1:C:747:LEU:HB3	1.86	0.56
1:D:170:LEU:HB2	1:D:325:ILE:HG22	1.86	0.56
1:C:1308:ARG:O	1:C:1310:ARG:NH1	2.38	0.56
1:D:538:LYS:O	1:D:542:GLU:HG2	2.06	0.56
1:D:744:TRP:HB3	1:D:747:LEU:HB3	1.86	0.56
1:A:636:GLU:O	1:A:640:ILE:HG12	2.04	0.56
1:C:1425:TYR:O	1:C:1442:THR:OG1	2.24	0.56
1:D:249:ARG:NH2	1:D:263:GLU:O	2.37	0.56
1:A:170:LEU:HB2	1:A:325:ILE:HG22	1.86	0.56
1:A:1425:TYR:O	1:A:1442:THR:OG1	2.24	0.56
1:B:1308:ARG:O	1:B:1310:ARG:NH1	2.38	0.56
1:C:212:THR:O	1:C:215:MET:HB3	2.04	0.56
1:D:568:LEU:O	1:D:657:LYS:NZ	2.39	0.56
1:A:538:LYS:O	1:A:542:GLU:HG2	2.06	0.56
1:A:1274:PRO:O	1:A:1334:ARG:NH1	2.39	0.56
1:C:170:LEU:HD23	1:C:204:TRP:HB2	1.87	0.56
1:C:568:LEU:O	1:C:657:LYS:NZ	2.39	0.56
1:A:654:ALA:HB2	1:A:720:LEU:HD21	1.87	0.56
1:D:1042:ASN:OD1	1:D:1042:ASN:C	2.48	0.56
1:D:1274:PRO:O	1:D:1334:ARG:NH1	2.39	0.56
1:A:1378:LYS:HG3	1:A:1385:TRP:HA	1.88	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1331:THR:HG21	1:B:1434:ASN:HB2	1.88	0.56
1:D:1032:TYR:HA	1:D:1035:PHE:HD2	1.70	0.56
1:D:1378:LYS:HG3	1:D:1385:TRP:HA	1.88	0.56
1:C:1274:PRO:O	1:C:1334:ARG:NH1	2.39	0.56
1:D:1308:ARG:O	1:D:1310:ARG:NH1	2.38	0.56
1:A:727:MET:HB3	1:A:728:LYS:HZ2	1.72	0.55
1:B:187:LYS:NZ	1:B:220:GLU:OE2	2.29	0.55
1:B:515:THR:H	1:B:518:THR:HB	1.72	0.55
1:B:540:LEU:HA	1:B:560:HIS:CE1	2.42	0.55
1:B:1046:ALA:HA	1:C:1048:PHE:CZ	2.40	0.55
1:B:1274:PRO:O	1:B:1334:ARG:NH1	2.39	0.55
1:B:538:LYS:O	1:B:542:GLU:HG2	2.06	0.55
1:C:660:LYS:O	1:C:663:SER:OG	2.22	0.55
1:C:1032:TYR:HA	1:C:1035:PHE:HD2	1.70	0.55
1:C:1042:ASN:C	1:C:1042:ASN:OD1	2.48	0.55
1:C:1055:VAL:O	1:C:1059:THR:N	2.39	0.55
1:C:1437:ASN:ND2	1:C:1437:ASN:O	2.39	0.55
1:D:1331:THR:HG21	1:D:1434:ASN:HB2	1.88	0.55
1:A:965:TRP:HA	1:D:1020:PHE:N	2.22	0.55
1:A:1042:ASN:HB2	1:B:1044:LEU:HD11	1.89	0.55
1:B:654:ALA:HB2	1:B:720:LEU:HD21	1.87	0.55
1:D:1437:ASN:O	1:D:1437:ASN:ND2	2.39	0.55
1:A:515:THR:H	1:A:518:THR:HB	1.72	0.55
1:A:1023:TRP:H	1:B:972:TYR:N	2.04	0.55
1:A:1437:ASN:ND2	1:A:1437:ASN:O	2.39	0.55
1:B:568:LEU:O	1:B:657:LYS:NZ	2.39	0.55
1:C:540:LEU:HA	1:C:560:HIS:CE1	2.42	0.55
1:C:1022:GLU:HG2	1:D:974:SER:H	1.70	0.55
1:A:540:LEU:HA	1:A:560:HIS:CE1	2.42	0.55
1:A:568:LEU:O	1:A:657:LYS:NZ	2.39	0.55
1:A:1035:PHE:HE1	1:B:938:LEU:HD22	1.72	0.55
1:A:238:THR:HG22	1:A:281:HIS:CD2	2.42	0.55
1:B:238:THR:HG22	1:B:281:HIS:CD2	2.42	0.55
1:B:1437:ASN:O	1:B:1437:ASN:ND2	2.39	0.55
1:C:1331:THR:HG21	1:C:1434:ASN:HB2	1.88	0.55
1:C:1022:GLU:OE1	1:D:974:SER:OG	2.24	0.55
1:A:170:LEU:HD23	1:A:204:TRP:HB2	1.87	0.55
1:C:538:LYS:O	1:C:542:GLU:HG2	2.06	0.54
1:C:1023:TRP:CG	1:D:976:LEU:HD13	2.42	0.54
1:B:164:LEU:HB3	1:B:204:TRP:HH2	1.72	0.54
1:B:1032:TYR:HA	1:B:1035:PHE:HD2	1.70	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:515:THR:H	1:C:518:THR:HB	1.72	0.54
1:D:486:PRO:O	1:D:489:THR:OG1	2.23	0.54
1:B:1378:LYS:HG3	1:B:1385:TRP:HA	1.88	0.54
1:C:164:LEU:HB3	1:C:204:TRP:HH2	1.73	0.54
1:D:164:LEU:HB3	1:D:204:TRP:HH2	1.73	0.54
1:D:540:LEU:HA	1:D:560:HIS:CE1	2.41	0.54
1:D:1241:ASN:HB3	1:D:1430:ASP:HB3	1.90	0.54
1:B:1055:VAL:O	1:B:1059:THR:N	2.39	0.54
1:C:1378:LYS:HG3	1:C:1385:TRP:HA	1.88	0.54
1:B:427:GLN:HG2	1:B:428:ASP:H	1.71	0.54
1:B:1235:GLY:N	1:B:1260:GLU:OE1	2.41	0.54
1:C:1241:ASN:HB3	1:C:1430:ASP:HB3	1.90	0.54
1:A:427:GLN:HG2	1:A:428:ASP:H	1.71	0.54
1:C:427:GLN:HG2	1:C:428:ASP:H	1.72	0.54
1:C:973:HIS:CD2	1:C:974:SER:HB3	2.40	0.54
1:D:238:THR:HG22	1:D:281:HIS:CD2	2.42	0.54
1:D:278:ASP:OD2	1:D:281:HIS:ND1	2.40	0.54
1:D:515:THR:H	1:D:518:THR:HB	1.72	0.54
1:A:173:VAL:HG23	1:A:205:ILE:HD11	1.90	0.54
1:A:1043:LEU:HA	1:B:923:LYS:HE3	1.90	0.54
1:C:982:ILE:HD12	1:C:983:PRO:HD2	1.90	0.54
1:D:982:ILE:HD12	1:D:983:PRO:HD2	1.90	0.54
1:C:238:THR:HG22	1:C:281:HIS:CD2	2.42	0.53
1:B:1241:ASN:HB3	1:B:1430:ASP:HB3	1.90	0.53
1:C:486:PRO:O	1:C:489:THR:OG1	2.23	0.53
1:D:1425:TYR:O	1:D:1442:THR:OG1	2.24	0.53
1:A:486:PRO:O	1:A:489:THR:OG1	2.23	0.53
1:A:1331:THR:HG21	1:A:1434:ASN:HB2	1.88	0.53
1:B:973:HIS:CD2	1:B:974:SER:HB3	2.40	0.53
1:C:561:VAL:HA	1:C:564:VAL:HG12	1.90	0.53
1:A:657:LYS:NZ	1:A:661:GLU:OE2	2.40	0.53
1:A:1241:ASN:HB3	1:A:1430:ASP:HB3	1.90	0.53
1:B:173:VAL:HG23	1:B:205:ILE:HD11	1.90	0.53
1:C:278:ASP:OD2	1:C:281:HIS:ND1	2.40	0.53
1:D:660:LYS:O	1:D:663:SER:OG	2.22	0.53
1:C:566:ARG:HA	1:C:569:LEU:HG	1.90	0.53
1:A:663:SER:HB3	1:A:675:MET:SD	2.49	0.53
1:D:173:VAL:HG23	1:D:205:ILE:HD11	1.90	0.53
1:A:1254:ARG:NH2	1:A:1331:THR:O	2.42	0.53
1:B:1425:TYR:O	1:B:1442:THR:OG1	2.24	0.53
1:D:427:GLN:HG2	1:D:428:ASP:H	1.72	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:663:SER:HB3	1:B:675:MET:SD	2.49	0.53
1:B:1358:ASN:OD1	1:B:1359:GLU:N	2.38	0.53
1:C:1235:GLY:N	1:C:1260:GLU:OE1	2.41	0.53
1:A:775:GLU:O	1:A:780:ASP:N	2.38	0.53
1:C:1254:ARG:NH2	1:C:1331:THR:O	2.42	0.53
1:D:566:ARG:HA	1:D:569:LEU:HG	1.90	0.53
1:A:1022:GLU:HG2	1:B:973:HIS:CE1	2.44	0.53
1:B:739:LEU:HA	1:B:742:VAL:HG12	1.91	0.53
1:B:1254:ARG:NH2	1:B:1331:THR:O	2.42	0.53
1:A:566:ARG:HA	1:A:569:LEU:HG	1.90	0.52
1:B:1109:LEU:H	1:B:1109:LEU:HD23	1.75	0.52
1:C:1020:PHE:HA	1:D:970:ALA:H	1.74	0.52
1:D:727:MET:HB3	1:D:728:LYS:HZ2	1.75	0.52
1:D:840:VAL:O	1:D:844:MET:HB2	2.09	0.52
1:D:1235:GLY:N	1:D:1260:GLU:OE1	2.41	0.52
1:A:164:LEU:HB3	1:A:204:TRP:HH2	1.73	0.52
1:A:395:THR:O	1:A:399:ILE:N	2.42	0.52
1:A:725:LYS:HA	1:A:1065:PHE:CZ	2.45	0.52
1:A:840:VAL:O	1:A:844:MET:HB2	2.09	0.52
1:A:1235:GLY:N	1:A:1260:GLU:OE1	2.41	0.52
1:C:173:VAL:HG23	1:C:205:ILE:HD11	1.90	0.52
1:D:1254:ARG:NH2	1:D:1331:THR:O	2.42	0.52
1:B:278:ASP:OD2	1:B:281:HIS:ND1	2.40	0.52
1:B:671:SER:O	1:B:675:MET:HG3	2.10	0.52
1:B:936:PHE:HD2	1:C:919:THR:OG1	1.92	0.52
1:C:940:LEU:HD13	1:D:920:LEU:HD21	1.91	0.52
1:A:982:ILE:HD12	1:A:983:PRO:HD2	1.90	0.52
1:A:1109:LEU:HD23	1:A:1109:LEU:H	1.74	0.52
1:B:657:LYS:NZ	1:B:661:GLU:OE2	2.40	0.52
1:C:840:VAL:O	1:C:844:MET:HB2	2.09	0.52
1:D:618:THR:OG1	1:D:619:MET:N	2.43	0.52
1:D:1109:LEU:HD23	1:D:1109:LEU:H	1.75	0.52
1:B:395:THR:O	1:B:399:ILE:N	2.42	0.52
1:B:725:LYS:HA	1:B:1065:PHE:CZ	2.45	0.52
1:B:978:ILE:C	1:B:980:GLY:H	2.18	0.52
1:B:982:ILE:HD12	1:B:983:PRO:HD2	1.90	0.52
1:C:671:SER:O	1:C:675:MET:HG3	2.10	0.52
1:C:978:ILE:C	1:C:980:GLY:H	2.18	0.52
1:C:1109:LEU:HD23	1:C:1109:LEU:H	1.75	0.52
1:D:69:LYS:NZ	1:D:125:ASP:OD1	2.43	0.52
1:D:725:LYS:HA	1:D:1065:PHE:CZ	2.45	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1023:TRP:HB2	1:B:971:VAL:O	2.10	0.52
1:B:566:ARG:HA	1:B:569:LEU:HG	1.90	0.52
1:B:727:MET:HB3	1:B:728:LYS:HZ2	1.75	0.52
1:B:840:VAL:O	1:B:844:MET:HB2	2.09	0.52
1:C:725:LYS:HA	1:C:1065:PHE:CZ	2.45	0.52
1:D:973:HIS:CD2	1:D:974:SER:HB3	2.40	0.52
1:B:69:LYS:NZ	1:B:125:ASP:OD1	2.43	0.52
1:B:241:VAL:HG12	1:B:285:ILE:HB	1.91	0.52
1:B:485:HIS:HD2	1:B:513:PHE:HD1	1.58	0.52
1:D:561:VAL:HA	1:D:564:VAL:HG12	1.90	0.52
1:D:1033:LEU:O	1:D:1036:THR:OG1	2.18	0.52
1:A:485:HIS:HD2	1:A:513:PHE:HD1	1.58	0.52
1:A:561:VAL:HA	1:A:564:VAL:HG12	1.90	0.52
1:A:678:LEU:HG	1:A:682:TYR:CE2	2.45	0.52
1:C:69:LYS:NZ	1:C:125:ASP:OD1	2.43	0.52
1:C:739:LEU:HA	1:C:742:VAL:HG12	1.91	0.52
1:D:739:LEU:HA	1:D:742:VAL:HG12	1.91	0.52
1:D:1140:GLN:HA	1:D:1143:ARG:NH2	2.25	0.52
1:A:700:ARG:NH2	1:A:1121:LEU:HA	2.25	0.52
1:A:973:HIS:CD2	1:A:974:SER:HB3	2.40	0.52
1:A:343:ALA:O	1:A:348:THR:OG1	2.28	0.52
1:B:561:VAL:HA	1:B:564:VAL:HG12	1.90	0.52
1:D:205:ILE:HG23	1:D:238:THR:HG23	1.93	0.52
1:D:663:SER:HB3	1:D:675:MET:SD	2.49	0.52
1:A:472:ILE:HG23	1:A:477:TRP:CH2	2.45	0.51
1:A:671:SER:O	1:A:675:MET:HG3	2.10	0.51
1:A:1374:VAL:HG23	1:A:1478:VAL:HG23	1.92	0.51
1:B:486:PRO:O	1:B:489:THR:OG1	2.23	0.51
1:C:241:VAL:HG12	1:C:285:ILE:HB	1.91	0.51
1:D:657:LYS:NZ	1:D:661:GLU:OE2	2.40	0.51
1:D:1155:VAL:O	1:D:1159:VAL:HG23	2.11	0.51
1:A:1140:GLN:HA	1:A:1143:ARG:NH2	2.25	0.51
1:B:618:THR:OG1	1:B:619:MET:N	2.43	0.51
1:B:1374:VAL:HG23	1:B:1478:VAL:HG23	1.92	0.51
1:C:663:SER:HB3	1:C:675:MET:SD	2.49	0.51
1:D:671:SER:O	1:D:675:MET:HG3	2.10	0.51
1:D:678:LEU:HG	1:D:682:TYR:CE2	2.45	0.51
1:A:69:LYS:NZ	1:A:125:ASP:OD1	2.43	0.51
1:A:241:VAL:HG12	1:A:285:ILE:HB	1.91	0.51
1:A:437:LEU:O	1:A:441:SER:HB2	2.10	0.51
1:A:739:LEU:HA	1:A:742:VAL:HG12	1.91	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:205:ILE:HG23	1:C:238:THR:HG23	1.93	0.51
1:C:343:ALA:O	1:C:348:THR:OG1	2.28	0.51
1:D:978:ILE:C	1:D:980:GLY:H	2.18	0.51
1:A:978:ILE:C	1:A:980:GLY:H	2.18	0.51
1:A:1055:VAL:O	1:A:1059:THR:N	2.39	0.51
1:A:1365:ARG:NH1	1:A:1370:LYS:HD3	2.26	0.51
1:B:982:ILE:HG23	1:C:981:GLN:HG2	1.92	0.51
1:B:1021:PRO:C	1:C:971:VAL:H	2.18	0.51
1:C:437:LEU:O	1:C:441:SER:HB2	2.10	0.51
1:C:1140:GLN:HA	1:C:1143:ARG:NH2	2.25	0.51
1:D:581:ARG:NH1	1:D:599:VAL:O	2.43	0.51
1:A:660:LYS:O	1:A:663:SER:OG	2.22	0.51
1:C:1020:PHE:N	1:D:969:GLY:HA3	2.25	0.51
1:C:1374:VAL:HG23	1:C:1478:VAL:HG23	1.92	0.51
1:D:1055:VAL:O	1:D:1059:THR:N	2.39	0.51
1:A:1155:VAL:O	1:A:1159:VAL:HG23	2.11	0.51
1:C:208:GLY:C	1:C:215:MET:HE1	2.36	0.51
1:B:1155:VAL:O	1:B:1159:VAL:HG23	2.11	0.51
1:D:934:VAL:HG13	1:D:1047:MET:HE3	1.92	0.51
1:A:205:ILE:HG23	1:A:238:THR:HG23	1.93	0.51
1:A:208:GLY:C	1:A:215:MET:HE1	2.36	0.51
1:A:278:ASP:OD2	1:A:281:HIS:ND1	2.40	0.51
1:A:581:ARG:NH1	1:A:599:VAL:O	2.43	0.51
1:A:1140:GLN:HG3	1:A:1143:ARG:HH22	1.76	0.51
1:B:1365:ARG:NH1	1:B:1370:LYS:HD3	2.26	0.51
1:C:1155:VAL:O	1:C:1159:VAL:HG23	2.11	0.51
1:A:926:ILE:O	1:A:929:ARG:HG3	2.11	0.51
1:A:1023:TRP:N	1:B:973:HIS:N	2.59	0.51
1:B:208:GLY:C	1:B:215:MET:HE1	2.36	0.51
1:B:581:ARG:NH1	1:B:599:VAL:O	2.43	0.51
1:B:1140:GLN:HA	1:B:1143:ARG:NH2	2.25	0.51
1:C:344:THR:HG21	1:C:409:ILE:HA	1.93	0.51
1:C:926:ILE:O	1:C:929:ARG:HG3	2.11	0.51
1:A:344:THR:HG21	1:A:409:ILE:HA	1.93	0.51
1:B:205:ILE:HG23	1:B:238:THR:HG23	1.93	0.51
1:B:343:ALA:O	1:B:348:THR:OG1	2.28	0.51
1:B:926:ILE:O	1:B:929:ARG:HG3	2.11	0.51
1:B:1020:PHE:O	1:C:970:ALA:HB3	2.10	0.51
1:B:1140:GLN:HG3	1:B:1143:ARG:HH22	1.76	0.51
1:C:452:TRP:CZ3	1:C:477:TRP:HB3	2.46	0.51
1:C:934:VAL:HG13	1:C:1047:MET:HE3	1.92	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:660:LYS:O	1:B:663:SER:OG	2.23	0.50
1:C:581:ARG:NH1	1:C:599:VAL:O	2.43	0.50
1:C:1140:GLN:HG3	1:C:1143:ARG:HH22	1.76	0.50
1:D:727:MET:HB3	1:D:728:LYS:NZ	2.26	0.50
1:D:1140:GLN:HG3	1:D:1143:ARG:HH22	1.76	0.50
1:A:727:MET:HB3	1:A:728:LYS:NZ	2.26	0.50
1:A:820:ASP:OD2	1:A:826:SER:OG	2.30	0.50
1:B:678:LEU:HG	1:B:682:TYR:CE2	2.45	0.50
1:B:1095:LYS:HD2	1:B:1095:LYS:O	2.12	0.50
1:C:678:LEU:HG	1:C:682:TYR:CE2	2.45	0.50
1:D:299:ILE:HD13	1:D:338:HIS:HB3	1.93	0.50
1:D:926:ILE:O	1:D:929:ARG:HG3	2.11	0.50
1:A:669:THR:OG1	1:A:670:ASP:OD1	2.28	0.50
1:A:981:GLN:NE2	1:B:981:GLN:OE1	2.45	0.50
1:B:197:VAL:HG23	1:B:462:TRP:HZ2	1.77	0.50
1:B:437:LEU:O	1:B:441:SER:HB2	2.10	0.50
1:B:934:VAL:HG13	1:B:1047:MET:HE3	1.92	0.50
1:D:208:GLY:C	1:D:215:MET:HE1	2.36	0.50
1:D:241:VAL:HG12	1:D:285:ILE:HB	1.91	0.50
1:D:452:TRP:CZ3	1:D:477:TRP:HB3	2.46	0.50
1:D:820:ASP:OD2	1:D:826:SER:OG	2.30	0.50
1:D:1374:VAL:HG23	1:D:1478:VAL:HG23	1.92	0.50
1:A:197:VAL:HG23	1:A:462:TRP:HZ2	1.76	0.50
1:A:452:TRP:CZ3	1:A:477:TRP:HB3	2.46	0.50
1:B:230:SER:HA	1:C:696:LYS:HE2	1.93	0.50
1:B:852:ASP:H	1:B:859:LYS:HD3	1.77	0.50
1:C:727:MET:HB3	1:C:728:LYS:NZ	2.26	0.50
1:D:395:THR:O	1:D:399:ILE:N	2.42	0.50
1:D:485:HIS:HD2	1:D:513:PHE:HD1	1.58	0.50
1:A:924:ILE:HA	1:A:927:VAL:HG22	1.94	0.50
1:B:299:ILE:HD13	1:B:338:HIS:HB3	1.93	0.50
1:D:319:VAL:HG23	1:D:320:ALA:H	1.77	0.50
1:A:452:TRP:CH2	1:A:477:TRP:HB3	2.47	0.50
1:A:852:ASP:H	1:A:859:LYS:HD3	1.77	0.50
1:B:452:TRP:CH2	1:B:477:TRP:HB3	2.47	0.50
1:B:820:ASP:OD2	1:B:826:SER:OG	2.30	0.50
1:C:197:VAL:HG23	1:C:462:TRP:HZ2	1.76	0.50
1:D:437:LEU:O	1:D:441:SER:HB2	2.10	0.50
1:A:934:VAL:HG13	1:A:1047:MET:HE3	1.92	0.50
1:A:1043:LEU:O	1:A:1047:MET:HG3	2.12	0.50
1:B:924:ILE:HA	1:B:927:VAL:HG22	1.94	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1478:VAL:HG12	1:B:1482:ILE:HD13	1.94	0.50
1:C:485:HIS:HD2	1:C:513:PHE:HD1	1.58	0.50
1:C:1095:LYS:HD2	1:C:1095:LYS:O	2.12	0.50
1:D:852:ASP:H	1:D:859:LYS:HD3	1.77	0.50
1:D:1095:LYS:O	1:D:1095:LYS:HD2	2.12	0.50
1:A:299:ILE:HD13	1:A:338:HIS:HB3	1.93	0.50
1:A:1478:VAL:HG12	1:A:1482:ILE:HD13	1.94	0.50
1:B:452:TRP:CZ3	1:B:477:TRP:HB3	2.46	0.50
1:B:775:GLU:O	1:B:780:ASP:N	2.38	0.50
1:C:1384:HIS:CE1	1:C:1386:ALA:HB2	2.47	0.50
1:D:1243:ARG:NH1	1:D:1257:VAL:O	2.45	0.50
1:A:441:SER:HA	1:A:447:PHE:HD2	1.77	0.50
1:A:618:THR:OG1	1:A:619:MET:N	2.43	0.50
1:A:1095:LYS:HD2	1:A:1095:LYS:O	2.12	0.50
1:A:1384:HIS:CE1	1:A:1386:ALA:HB2	2.47	0.50
1:B:344:THR:HG21	1:B:409:ILE:HA	1.93	0.50
1:B:700:ARG:NH2	1:B:1121:LEU:HA	2.25	0.50
1:B:727:MET:HB3	1:B:728:LYS:NZ	2.26	0.50
1:C:1043:LEU:O	1:C:1047:MET:HG3	2.12	0.50
1:D:343:ALA:O	1:D:348:THR:OG1	2.28	0.50
1:D:441:SER:HA	1:D:447:PHE:HD2	1.77	0.50
1:D:775:GLU:O	1:D:780:ASP:N	2.38	0.50
1:B:1384:HIS:CE1	1:B:1386:ALA:HB2	2.47	0.49
1:C:284:PHE:CZ	1:C:286:LEU:HD13	2.47	0.49
1:C:452:TRP:CH2	1:C:477:TRP:HB3	2.47	0.49
1:C:924:ILE:HA	1:C:927:VAL:HG22	1.94	0.49
1:D:284:PHE:CZ	1:D:286:LEU:HD13	2.47	0.49
1:D:344:THR:HG21	1:D:409:ILE:HA	1.93	0.49
1:D:924:ILE:HA	1:D:927:VAL:HG22	1.94	0.49
1:A:284:PHE:CZ	1:A:286:LEU:HD13	2.47	0.49
1:B:669:THR:OG1	1:B:670:ASP:OD1	2.28	0.49
1:B:1043:LEU:O	1:B:1047:MET:HG3	2.12	0.49
1:D:197:VAL:HG23	1:D:462:TRP:HZ2	1.76	0.49
1:D:452:TRP:CH2	1:D:477:TRP:HB3	2.47	0.49
1:D:1384:HIS:CE1	1:D:1386:ALA:HB2	2.47	0.49
1:A:319:VAL:HG23	1:A:320:ALA:H	1.77	0.49
1:B:1243:ARG:NH1	1:B:1257:VAL:O	2.45	0.49
1:C:395:THR:O	1:C:399:ILE:N	2.42	0.49
1:C:1243:ARG:NH1	1:C:1257:VAL:O	2.45	0.49
1:B:284:PHE:CZ	1:B:286:LEU:HD13	2.47	0.49
1:B:1020:PHE:C	1:C:970:ALA:H	2.21	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:299:ILE:HD13	1:C:338:HIS:HB3	1.93	0.49
1:C:852:ASP:H	1:C:859:LYS:HD3	1.77	0.49
1:C:1022:GLU:CG	1:D:974:SER:H	2.25	0.49
1:A:127:PHE:O	1:A:255:HIS:NE2	2.46	0.49
1:A:245:GLY:O	1:A:250:ARG:NH1	2.46	0.49
1:B:1026:VAL:CG1	1:C:976:LEU:HD23	2.42	0.49
1:A:1243:ARG:NH1	1:A:1257:VAL:O	2.45	0.49
1:B:864:PHE:CD1	1:B:869:ASN:HB3	2.48	0.49
1:D:699:GLU:OE1	1:D:702:GLN:NE2	2.46	0.49
1:B:127:PHE:O	1:B:255:HIS:NE2	2.46	0.49
1:B:888:ILE:HG22	1:B:890:ALA:H	1.78	0.49
1:D:174:THR:HG21	1:D:339:THR:HG21	1.94	0.49
1:D:245:GLY:O	1:D:250:ARG:NH1	2.46	0.49
1:B:699:GLU:OE1	1:B:702:GLN:NE2	2.46	0.49
1:C:669:THR:OG1	1:C:670:ASP:OD1	2.28	0.49
1:C:699:GLU:OE1	1:C:702:GLN:NE2	2.46	0.49
1:C:820:ASP:OD2	1:C:826:SER:OG	2.30	0.49
1:C:864:PHE:CD1	1:C:869:ASN:HB3	2.48	0.49
1:D:906:PHE:HA	1:D:909:ARG:HD3	1.94	0.49
1:A:326:VAL:HG21	1:A:433:ILE:HG23	1.95	0.49
1:B:307:LYS:O	1:B:310:SER:HB3	2.13	0.49
1:B:319:VAL:HG23	1:B:320:ALA:H	1.77	0.49
1:B:326:VAL:HG21	1:B:433:ILE:HG23	1.95	0.49
1:D:1043:LEU:O	1:D:1047:MET:HG3	2.12	0.49
1:A:324:PRO:HB3	1:A:437:LEU:HD22	1.95	0.49
1:A:906:PHE:HA	1:A:909:ARG:HD3	1.95	0.49
1:C:245:GLY:O	1:C:250:ARG:NH1	2.46	0.49
1:C:307:LYS:O	1:C:310:SER:HB3	2.13	0.49
1:C:1022:GLU:HA	1:D:974:SER:H	1.76	0.49
1:C:1478:VAL:HG12	1:C:1482:ILE:HD13	1.94	0.49
1:D:324:PRO:HB3	1:D:437:LEU:HD22	1.95	0.49
1:D:669:THR:OG1	1:D:670:ASP:OD1	2.28	0.49
1:D:745:GLY:H	1:D:795:PRO:HD2	1.78	0.49
1:B:245:GLY:O	1:B:250:ARG:NH1	2.46	0.48
1:C:700:ARG:NH2	1:C:1121:LEU:HA	2.25	0.48
1:D:816:VAL:HG11	1:D:832:ILE:HG12	1.95	0.48
1:A:174:THR:HG21	1:A:339:THR:HG21	1.94	0.48
1:A:307:LYS:O	1:A:310:SER:HB3	2.13	0.48
1:A:679:ALA:HA	1:A:682:TYR:HD2	1.78	0.48
1:B:713:GLY:O	1:B:715:THR:HG23	2.14	0.48
1:C:127:PHE:O	1:C:255:HIS:NE2	2.46	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:816:VAL:HG11	1:C:832:ILE:HG12	1.95	0.48
1:D:864:PHE:CD1	1:D:869:ASN:HB3	2.48	0.48
1:D:1330:ARG:NE	1:D:1436:ASP:OD2	2.40	0.48
1:D:1478:VAL:HG12	1:D:1482:ILE:HD13	1.94	0.48
1:A:699:GLU:OE1	1:A:702:GLN:NE2	2.46	0.48
1:A:816:VAL:HG11	1:A:832:ILE:HG12	1.95	0.48
1:B:690:PHE:HA	1:B:693:CYS:SG	2.54	0.48
1:C:906:PHE:HA	1:C:909:ARG:HD3	1.94	0.48
1:C:1022:GLU:HG2	1:D:974:SER:N	2.29	0.48
1:D:485:HIS:O	1:D:489:THR:HG23	2.14	0.48
1:B:1141:LYS:HE3	1:B:1141:LYS:HB3	1.70	0.48
1:C:319:VAL:HG23	1:C:320:ALA:H	1.77	0.48
1:D:888:ILE:HG22	1:D:890:ALA:H	1.78	0.48
1:A:223:ARG:HH12	1:A:280:ASN:HB3	1.78	0.48
1:A:690:PHE:HA	1:A:693:CYS:SG	2.54	0.48
1:B:177:ALA:O	1:B:178:LYS:HG2	2.14	0.48
1:B:324:PRO:HB3	1:B:437:LEU:HD22	1.95	0.48
1:B:679:ALA:HA	1:B:682:TYR:HD2	1.78	0.48
1:B:906:PHE:HA	1:B:909:ARG:HD3	1.94	0.48
1:C:679:ALA:HA	1:C:682:TYR:HD2	1.78	0.48
1:C:745:GLY:H	1:C:795:PRO:HD2	1.78	0.48
1:C:888:ILE:HG22	1:C:890:ALA:H	1.78	0.48
1:D:307:LYS:O	1:D:310:SER:HB3	2.13	0.48
1:D:326:VAL:HG21	1:D:433:ILE:HG23	1.95	0.48
1:D:472:ILE:HG23	1:D:477:TRP:CH2	2.45	0.48
1:A:177:ALA:O	1:A:178:LYS:HG2	2.14	0.48
1:A:713:GLY:O	1:A:715:THR:HG23	2.14	0.48
1:A:864:PHE:CD1	1:A:869:ASN:HB3	2.48	0.48
1:B:183:LYS:HE3	1:B:185:ARG:NH1	2.29	0.48
1:C:653:LEU:HD13	1:C:721:ALA:HB2	1.96	0.48
1:D:679:ALA:HA	1:D:682:TYR:HD2	1.78	0.48
1:D:690:PHE:HA	1:D:693:CYS:SG	2.54	0.48
1:D:700:ARG:NH2	1:D:1121:LEU:HA	2.25	0.48
1:A:745:GLY:H	1:A:795:PRO:HD2	1.78	0.48
1:A:1026:VAL:HG23	1:B:974:SER:HA	1.96	0.48
1:B:816:VAL:HG11	1:B:832:ILE:HG12	1.95	0.48
1:C:713:GLY:O	1:C:715:THR:HG23	2.14	0.48
1:D:223:ARG:HH12	1:D:280:ASN:HB3	1.78	0.48
1:D:941:LEU:O	1:D:945:VAL:HG23	2.14	0.48
1:A:420:ARG:HB2	1:A:424:ASP:HB3	1.95	0.48
1:A:888:ILE:HG22	1:A:890:ALA:H	1.78	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:223:ARG:HH12	1:B:280:ASN:HB3	1.78	0.48
1:B:653:LEU:HD13	1:B:721:ALA:HB2	1.96	0.48
1:B:941:LEU:O	1:B:945:VAL:HG23	2.14	0.48
1:C:326:VAL:HG21	1:C:433:ILE:HG23	1.95	0.48
1:C:441:SER:HA	1:C:447:PHE:HD2	1.77	0.48
1:C:727:MET:HB3	1:C:728:LYS:HZ2	1.78	0.48
1:D:183:LYS:HE3	1:D:185:ARG:NH1	2.29	0.48
1:A:208:GLY:O	1:A:215:MET:HE1	2.14	0.48
1:A:485:HIS:O	1:A:489:THR:HG23	2.14	0.48
1:B:420:ARG:HB2	1:B:424:ASP:HB3	1.95	0.48
1:D:713:GLY:O	1:D:715:THR:HG23	2.14	0.48
1:C:174:THR:HG21	1:C:339:THR:HG21	1.94	0.48
1:C:223:ARG:HH12	1:C:280:ASN:HB3	1.78	0.48
1:C:1365:ARG:NH1	1:C:1370:LYS:HD3	2.26	0.48
1:D:177:ALA:O	1:D:178:LYS:HG2	2.14	0.48
1:D:647:ASP:OD2	1:D:650:ALA:HB3	2.14	0.48
1:C:597:LEU:HB3	1:C:599:VAL:HG22	1.96	0.47
1:C:941:LEU:O	1:C:945:VAL:HG23	2.14	0.47
1:A:647:ASP:OD2	1:A:650:ALA:HB3	2.14	0.47
1:A:941:LEU:O	1:A:945:VAL:HG23	2.14	0.47
1:B:597:LEU:HB3	1:B:599:VAL:HG22	1.96	0.47
1:B:745:GLY:H	1:B:795:PRO:HD2	1.78	0.47
1:B:817:LEU:O	1:B:896:ARG:NH1	2.47	0.47
1:B:1330:ARG:NE	1:B:1436:ASP:OD2	2.40	0.47
1:A:576:LEU:HD11	1:A:619:MET:HE3	1.96	0.47
1:B:174:THR:HG21	1:B:339:THR:HG21	1.94	0.47
1:C:177:ALA:O	1:C:178:LYS:HG2	2.14	0.47
1:C:183:LYS:HE3	1:C:185:ARG:NH1	2.29	0.47
1:C:1089:HIS:HA	1:C:1093:PHE:HD2	1.80	0.47
1:D:208:GLY:O	1:D:215:MET:HE1	2.14	0.47
1:A:306:GLU:HA	1:A:309:ILE:HG12	1.97	0.47
1:A:597:LEU:HB3	1:A:599:VAL:HG22	1.96	0.47
1:B:187:LYS:HE2	1:B:191:ARG:HH21	1.80	0.47
1:C:81:LEU:H	1:C:81:LEU:HD23	1.79	0.47
1:C:208:GLY:O	1:C:215:MET:HE1	2.14	0.47
1:C:647:ASP:OD2	1:C:650:ALA:HB3	2.14	0.47
1:A:781:VAL:HG11	1:A:787:ARG:HH11	1.79	0.47
1:A:931:MET:HA	1:A:934:VAL:HG22	1.97	0.47
1:A:1023:TRP:H	1:B:973:HIS:N	2.12	0.47
1:B:441:SER:HA	1:B:447:PHE:HD2	1.77	0.47
1:B:936:PHE:HD2	1:C:919:THR:HG1	1.62	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:485:HIS:O	1:C:489:THR:HG23	2.14	0.47
1:C:690:PHE:HA	1:C:693:CYS:SG	2.54	0.47
1:C:781:VAL:HG11	1:C:787:ARG:HH11	1.79	0.47
1:D:781:VAL:HG11	1:D:787:ARG:HH11	1.79	0.47
1:A:973:HIS:CD2	1:D:1022:GLU:HG2	2.50	0.47
1:A:1063:TRP:NE1	1:A:1067:ARG:HD2	2.30	0.47
1:B:208:GLY:O	1:B:215:MET:HE1	2.14	0.47
1:B:485:HIS:O	1:B:489:THR:HG23	2.14	0.47
1:B:781:VAL:HG11	1:B:787:ARG:HH11	1.79	0.47
1:D:1089:HIS:HA	1:D:1093:PHE:HD2	1.80	0.47
1:A:183:LYS:HE3	1:A:185:ARG:NH1	2.29	0.47
1:A:653:LEU:HD13	1:A:721:ALA:HB2	1.96	0.47
1:A:817:LEU:O	1:A:896:ARG:NH1	2.47	0.47
1:B:81:LEU:HD23	1:B:81:LEU:H	1.79	0.47
1:B:1063:TRP:NE1	1:B:1067:ARG:HD2	2.30	0.47
1:C:324:PRO:HB3	1:C:437:LEU:HD22	1.95	0.47
1:C:657:LYS:NZ	1:C:661:GLU:OE2	2.40	0.47
1:C:1156:ASP:OD1	1:D:1154:LYS:NZ	2.31	0.47
1:C:1358:ASN:OD1	1:C:1359:GLU:N	2.38	0.47
1:D:597:LEU:HB3	1:D:599:VAL:HG22	1.96	0.47
1:C:775:GLU:O	1:C:780:ASP:N	2.38	0.47
1:D:187:LYS:HE2	1:D:191:ARG:HH21	1.80	0.47
1:D:306:GLU:HA	1:D:309:ILE:HG12	1.97	0.47
1:D:576:LEU:HD11	1:D:619:MET:HE3	1.96	0.47
1:A:187:LYS:HE2	1:A:191:ARG:HH21	1.80	0.47
1:A:749:VAL:HG22	1:A:750:ASP:H	1.80	0.47
1:B:647:ASP:OD2	1:B:650:ALA:HB3	2.14	0.47
1:B:1089:HIS:HA	1:B:1093:PHE:HD2	1.80	0.47
1:C:420:ARG:HB2	1:C:424:ASP:HB3	1.95	0.47
1:C:817:LEU:O	1:C:896:ARG:NH1	2.47	0.47
1:D:127:PHE:O	1:D:255:HIS:NE2	2.46	0.47
1:A:715:THR:HB	1:A:720:LEU:H	1.80	0.47
1:A:770:LEU:HG	1:A:771:ILE:H	1.80	0.47
1:B:931:MET:HA	1:B:934:VAL:HG22	1.97	0.47
1:C:310:SER:HB2	1:C:325:ILE:HG21	1.97	0.47
1:C:1063:TRP:NE1	1:C:1067:ARG:HD2	2.30	0.47
1:D:420:ARG:HB2	1:D:424:ASP:HB3	1.95	0.47
1:D:452:TRP:HA	1:D:455:GLN:OE1	2.15	0.47
1:D:653:LEU:HD13	1:D:721:ALA:HB2	1.96	0.47
1:D:1063:TRP:NE1	1:D:1067:ARG:HD2	2.30	0.47
1:D:1365:ARG:NH1	1:D:1370:LYS:HD3	2.26	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:732:HIS:O	1:A:734:GLY:N	2.48	0.46
1:A:1020:PHE:N	1:B:965:TRP:CD1	2.83	0.46
1:B:306:GLU:HA	1:B:309:ILE:HG12	1.97	0.46
1:B:310:SER:HB2	1:B:325:ILE:HG21	1.97	0.46
1:B:576:LEU:HD11	1:B:619:MET:HE3	1.96	0.46
1:B:732:HIS:O	1:B:734:GLY:N	2.48	0.46
1:B:749:VAL:HG22	1:B:750:ASP:H	1.80	0.46
1:C:940:LEU:HD22	1:D:920:LEU:HD11	1.97	0.46
1:D:817:LEU:O	1:D:896:ARG:NH1	2.47	0.46
1:B:311:GLU:HB2	1:B:312:GLN:OE1	2.15	0.46
1:B:619:MET:SD	1:B:623:ARG:HD3	2.54	0.46
1:B:715:THR:HB	1:B:720:LEU:H	1.81	0.46
1:C:452:TRP:HA	1:C:455:GLN:OE1	2.15	0.46
1:D:569:LEU:HD13	1:D:572:PHE:HB2	1.98	0.46
1:D:770:LEU:HG	1:D:771:ILE:H	1.80	0.46
1:A:619:MET:SD	1:A:623:ARG:HD3	2.55	0.46
1:A:800:HIS:HA	1:A:803:ILE:HD12	1.98	0.46
1:B:198:ALA:HB1	1:B:236:LEU:HD22	1.97	0.46
1:C:311:GLU:HB2	1:C:312:GLN:OE1	2.16	0.46
1:D:311:GLU:HB2	1:D:312:GLN:OE1	2.15	0.46
1:D:619:MET:SD	1:D:623:ARG:HD3	2.55	0.46
1:D:931:MET:HA	1:D:934:VAL:HG22	1.97	0.46
1:A:783:THR:HG22	1:A:785:ALA:H	1.80	0.46
1:A:1046:ALA:CB	1:B:923:LYS:HE2	2.45	0.46
1:A:1089:HIS:HA	1:A:1093:PHE:HD2	1.80	0.46
1:B:452:TRP:CD1	1:B:452:TRP:C	2.93	0.46
1:C:198:ALA:HB1	1:C:236:LEU:HD22	1.97	0.46
1:C:472:ILE:HG23	1:C:477:TRP:CH2	2.45	0.46
1:C:619:MET:SD	1:C:623:ARG:HD3	2.54	0.46
1:D:331:GLU:HB3	1:D:358:ARG:NH2	2.30	0.46
1:A:198:ALA:HB1	1:A:236:LEU:HD22	1.97	0.46
1:A:311:GLU:HB2	1:A:312:GLN:OE1	2.16	0.46
1:B:569:LEU:HD13	1:B:572:PHE:HB2	1.98	0.46
1:C:331:GLU:HB3	1:C:358:ARG:NH2	2.30	0.46
1:C:576:LEU:HD11	1:C:619:MET:HE3	1.96	0.46
1:D:646:GLN:HG2	1:D:647:ASP:N	2.30	0.46
1:A:378:LEU:HD21	1:A:382:LYS:HE2	1.97	0.46
1:A:437:LEU:O	1:A:441:SER:CB	2.64	0.46
1:A:569:LEU:HD13	1:A:572:PHE:HB2	1.98	0.46
1:A:920:LEU:HD11	1:D:940:LEU:HD22	1.97	0.46
1:B:331:GLU:HB3	1:B:358:ARG:NH2	2.30	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:783:THR:HG22	1:B:785:ALA:H	1.80	0.46
1:B:800:HIS:HA	1:B:803:ILE:HD12	1.98	0.46
1:C:1022:GLU:HG2	1:D:974:SER:OG	2.15	0.46
1:D:63:ILE:HD13	1:D:127:PHE:CE2	2.51	0.46
1:D:800:HIS:HA	1:D:803:ILE:HD12	1.98	0.46
1:B:77:GLU:HB3	1:B:95:HIS:NE2	2.31	0.46
1:C:646:GLN:HG2	1:C:647:ASP:N	2.30	0.46
1:C:749:VAL:HG22	1:C:750:ASP:H	1.80	0.46
1:C:931:MET:HA	1:C:934:VAL:HG22	1.97	0.46
1:D:81:LEU:HD23	1:D:81:LEU:H	1.79	0.46
1:D:452:TRP:CD1	1:D:452:TRP:C	2.93	0.46
1:D:732:HIS:O	1:D:734:GLY:N	2.48	0.46
1:D:1358:ASN:OD1	1:D:1359:GLU:N	2.38	0.46
1:A:975:TYR:H	1:D:1022:GLU:HB3	1.81	0.46
1:B:770:LEU:HG	1:B:771:ILE:H	1.80	0.46
1:C:306:GLU:HA	1:C:309:ILE:HG12	1.97	0.46
1:D:715:THR:HB	1:D:720:LEU:H	1.81	0.46
1:D:783:THR:HG22	1:D:785:ALA:H	1.80	0.46
1:A:63:ILE:HD13	1:A:127:PHE:CE2	2.51	0.46
1:A:81:LEU:H	1:A:81:LEU:HD23	1.79	0.46
1:B:63:ILE:HD13	1:B:127:PHE:CE2	2.51	0.46
1:C:63:ILE:HD13	1:C:127:PHE:CE2	2.51	0.46
1:C:193:GLY:HA2	1:C:196:LYS:HG2	1.98	0.46
1:A:185:ARG:NH1	1:A:186:LEU:HB2	2.31	0.46
1:A:244:TRP:O	1:A:250:ARG:HD3	2.16	0.46
1:A:331:GLU:HB3	1:A:358:ARG:NH2	2.30	0.46
1:B:196:LYS:HG3	1:B:197:VAL:N	2.31	0.46
1:B:452:TRP:HA	1:B:455:GLN:OE1	2.15	0.46
1:B:558:MET:SD	1:B:575:PRO:HG2	2.57	0.46
1:B:646:GLN:HG2	1:B:647:ASP:N	2.30	0.46
1:B:1145:GLU:O	1:B:1148:ILE:HG22	2.16	0.46
1:C:196:LYS:HG3	1:C:197:VAL:N	2.31	0.46
1:C:378:LEU:HD21	1:C:382:LYS:HE2	1.97	0.46
1:C:796:VAL:HA	1:C:799:PHE:HD2	1.81	0.46
1:D:185:ARG:NH1	1:D:186:LEU:HB2	2.31	0.46
1:A:127:PHE:H	1:A:255:HIS:HE2	1.63	0.45
1:A:310:SER:HB2	1:A:325:ILE:HG21	1.97	0.45
1:B:755:ARG:HD3	1:B:771:ILE:HD11	1.99	0.45
1:C:77:GLU:HB3	1:C:95:HIS:NE2	2.31	0.45
1:C:127:PHE:H	1:C:255:HIS:HE2	1.63	0.45
1:C:187:LYS:HE2	1:C:191:ARG:HH21	1.80	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:569:LEU:HD13	1:C:572:PHE:HB2	1.98	0.45
1:C:1308:ARG:HB3	1:C:1310:ARG:HH11	1.81	0.45
1:D:77:GLU:HB3	1:D:95:HIS:NE2	2.31	0.45
1:D:198:ALA:HB1	1:D:236:LEU:HD22	1.97	0.45
1:D:310:SER:HB2	1:D:325:ILE:HG21	1.97	0.45
1:A:193:GLY:HA2	1:A:196:LYS:HG2	1.98	0.45
1:B:623:ARG:HG3	1:B:624:ASP:N	2.32	0.45
1:C:618:THR:OG1	1:C:619:MET:N	2.43	0.45
1:D:244:TRP:O	1:D:250:ARG:HD3	2.16	0.45
1:D:437:LEU:O	1:D:441:SER:CB	2.64	0.45
1:A:810:LEU:HG	1:A:903:PHE:CE1	2.52	0.45
1:B:437:LEU:O	1:B:441:SER:CB	2.64	0.45
1:B:1308:ARG:HB3	1:B:1310:ARG:HH11	1.81	0.45
1:C:336:THR:OG1	2:C:1601:APR:O2B	2.33	0.45
1:C:697:ASP:OD2	1:C:700:ARG:HD3	2.17	0.45
1:C:715:THR:HB	1:C:720:LEU:H	1.81	0.45
1:C:755:ARG:HD3	1:C:771:ILE:HD11	1.99	0.45
1:D:127:PHE:H	1:D:255:HIS:HE2	1.63	0.45
1:D:796:VAL:HA	1:D:799:PHE:HD2	1.82	0.45
1:A:452:TRP:HA	1:A:455:GLN:OE1	2.15	0.45
1:A:558:MET:SD	1:A:575:PRO:HG2	2.56	0.45
1:A:623:ARG:HG3	1:A:624:ASP:N	2.32	0.45
1:A:646:GLN:HG2	1:A:647:ASP:N	2.30	0.45
1:B:697:ASP:OD2	1:B:700:ARG:HD3	2.17	0.45
1:C:534:SER:O	1:C:538:LYS:HG2	2.17	0.45
1:C:690:PHE:HD2	1:C:732:HIS:CD2	2.34	0.45
1:C:800:HIS:HA	1:C:803:ILE:HD12	1.98	0.45
1:A:1145:GLU:O	1:A:1148:ILE:HG22	2.16	0.45
1:B:244:TRP:O	1:B:250:ARG:HD3	2.16	0.45
1:B:864:PHE:HA	1:B:869:ASN:HB2	1.99	0.45
1:C:185:ARG:NH1	1:C:186:LEU:HB2	2.31	0.45
1:C:437:LEU:O	1:C:441:SER:CB	2.64	0.45
1:C:770:LEU:HG	1:C:771:ILE:H	1.80	0.45
1:C:864:PHE:HA	1:C:869:ASN:HB2	1.99	0.45
1:D:378:LEU:HD21	1:D:382:LYS:HE2	1.97	0.45
1:A:1330:ARG:NE	1:A:1436:ASP:OD2	2.40	0.45
1:B:127:PHE:H	1:B:255:HIS:HE2	1.63	0.45
1:B:810:LEU:HG	1:B:903:PHE:CE1	2.52	0.45
1:C:558:MET:SD	1:C:575:PRO:HG2	2.56	0.45
1:D:558:MET:SD	1:D:575:PRO:HG2	2.56	0.45
1:D:810:LEU:HG	1:D:903:PHE:CE1	2.52	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1145:GLU:O	1:D:1148:ILE:HG22	2.16	0.45
1:A:77:GLU:HB3	1:A:95:HIS:NE2	2.31	0.45
1:A:196:LYS:HG3	1:A:197:VAL:N	2.31	0.45
1:B:185:ARG:NH1	1:B:186:LEU:HB2	2.32	0.45
1:B:193:GLY:HA2	1:B:196:LYS:HG2	1.98	0.45
1:C:783:THR:HG22	1:C:785:ALA:H	1.80	0.45
1:D:238:THR:N	1:D:282:SER:OG	2.49	0.45
1:D:697:ASP:OD2	1:D:700:ARG:HD3	2.17	0.45
1:B:378:LEU:HD21	1:B:382:LYS:HE2	1.97	0.45
1:B:642:TRP:HA	1:B:645:SER:HG	1.82	0.45
1:C:609:LYS:O	1:C:610:ARG:HG2	2.17	0.45
1:A:923:LYS:HZ1	1:D:1042:ASN:CG	2.20	0.45
1:A:1358:ASN:OD1	1:A:1359:GLU:N	2.38	0.45
1:B:246:THR:HA	1:B:274:LEU:HD23	1.99	0.45
1:B:472:ILE:HG23	1:B:477:TRP:CH2	2.45	0.45
1:B:796:VAL:HA	1:B:799:PHE:HD2	1.82	0.45
1:D:749:VAL:HG22	1:D:750:ASP:H	1.80	0.45
1:A:697:ASP:OD2	1:A:700:ARG:HD3	2.17	0.45
1:A:864:PHE:HA	1:A:869:ASN:HB2	1.99	0.45
1:B:534:SER:O	1:B:538:LYS:HG2	2.17	0.45
1:D:623:ARG:HG3	1:D:624:ASP:N	2.32	0.45
1:A:246:THR:HA	1:A:274:LEU:HD23	1.99	0.44
1:A:452:TRP:CD1	1:A:452:TRP:C	2.93	0.44
1:A:1308:ARG:HB3	1:A:1310:ARG:HH11	1.81	0.44
1:B:857:MET:SD	1:B:858:LYS:NZ	2.86	0.44
1:B:1043:LEU:HD12	1:C:923:LYS:HE3	1.99	0.44
1:C:244:TRP:O	1:C:250:ARG:HD3	2.16	0.44
1:C:810:LEU:HG	1:C:903:PHE:CE1	2.52	0.44
1:C:1067:ARG:O	1:C:1071:ILE:HG12	2.17	0.44
1:C:1370:LYS:HE3	1:C:1372:LEU:HA	1.99	0.44
1:D:193:GLY:HA2	1:D:196:LYS:HG2	1.98	0.44
1:A:796:VAL:HA	1:A:799:PHE:HD2	1.82	0.44
1:A:923:LYS:HG2	1:D:1043:LEU:HD12	1.99	0.44
1:B:169:LEU:HG	1:B:171:ILE:HG12	1.98	0.44
1:C:1145:GLU:O	1:C:1148:ILE:HG22	2.16	0.44
1:D:169:LEU:HG	1:D:171:ILE:HG12	1.98	0.44
1:D:196:LYS:HG3	1:D:197:VAL:N	2.31	0.44
1:D:534:SER:O	1:D:538:LYS:HG2	2.17	0.44
1:D:755:ARG:HD3	1:D:771:ILE:HD11	1.99	0.44
1:A:731:SER:HA	1:A:736:GLN:NE2	2.31	0.44
1:A:744:TRP:CD1	1:A:747:LEU:HD23	2.53	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1370:LYS:HE3	1:A:1372:LEU:HA	1.99	0.44
1:B:562:ALA:O	1:B:566:ARG:HG2	2.18	0.44
1:C:732:HIS:O	1:C:734:GLY:N	2.48	0.44
1:C:744:TRP:CD1	1:C:747:LEU:HD23	2.53	0.44
1:D:731:SER:HA	1:D:736:GLN:NE2	2.31	0.44
1:D:744:TRP:CD1	1:D:747:LEU:HD23	2.53	0.44
1:A:169:LEU:HG	1:A:171:ILE:HG12	1.99	0.44
1:A:1067:ARG:O	1:A:1071:ILE:HG12	2.17	0.44
1:B:1025:THR:OG1	1:C:973:HIS:O	2.30	0.44
1:D:864:PHE:HA	1:D:869:ASN:HB2	1.99	0.44
1:A:766:LEU:HD11	1:A:773:PHE:CZ	2.53	0.44
1:A:795:PRO:O	1:A:798:VAL:HG22	2.18	0.44
1:B:609:LYS:O	1:B:610:ARG:HG2	2.17	0.44
1:B:1106:HIS:CE1	1:B:1108:GLN:HG2	2.53	0.44
1:B:1370:LYS:HE3	1:B:1372:LEU:HA	1.99	0.44
1:C:452:TRP:CD1	1:C:452:TRP:C	2.93	0.44
1:C:466:ASP:OD1	1:C:466:ASP:N	2.50	0.44
1:C:623:ARG:HG3	1:C:624:ASP:N	2.31	0.44
1:D:151:SER:HA	1:D:154:ILE:HD12	1.99	0.44
1:D:795:PRO:O	1:D:798:VAL:HG22	2.18	0.44
1:A:1024:LEU:CB	1:B:971:VAL:O	2.62	0.44
1:B:336:THR:OG1	2:B:1601:APR:O2B	2.33	0.44
1:D:246:THR:HA	1:D:274:LEU:HD23	1.99	0.44
1:D:1067:ARG:O	1:D:1071:ILE:HG12	2.17	0.44
1:B:463:ASN:HA	1:B:499:PHE:HE2	1.83	0.44
1:B:744:TRP:CD1	1:B:747:LEU:HD23	2.53	0.44
1:C:238:THR:N	1:C:282:SER:OG	2.49	0.44
1:C:730:VAL:O	1:C:1064:LYS:NZ	2.51	0.44
1:C:1022:GLU:O	1:C:1023:TRP:CD1	2.66	0.44
1:D:1370:LYS:HE3	1:D:1372:LEU:HA	1.99	0.44
1:A:534:SER:O	1:A:538:LYS:HG2	2.17	0.44
1:A:1035:PHE:HE1	1:B:938:LEU:CD2	2.31	0.44
1:B:766:LEU:HD11	1:B:773:PHE:CZ	2.53	0.44
1:B:850:ASP:O	1:B:859:LYS:NZ	2.51	0.44
1:C:562:ALA:O	1:C:566:ARG:HG2	2.18	0.44
1:C:971:VAL:HG12	1:C:972:TYR:HA	2.00	0.44
1:D:562:ALA:O	1:D:566:ARG:HG2	2.18	0.44
1:A:536:LEU:HA	1:A:539:VAL:HG22	2.00	0.44
1:A:562:ALA:O	1:A:566:ARG:HG2	2.17	0.44
1:A:755:ARG:HD3	1:A:771:ILE:HD11	1.99	0.44
1:A:850:ASP:O	1:A:859:LYS:NZ	2.51	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1067:ARG:O	1:B:1071:ILE:HG12	2.17	0.44
1:D:766:LEU:HD11	1:D:773:PHE:CZ	2.53	0.44
1:D:971:VAL:HG12	1:D:972:TYR:HA	2.00	0.44
1:A:532:PHE:O	1:A:536:LEU:HD23	2.18	0.43
1:A:1106:HIS:CE1	1:A:1108:GLN:HG2	2.53	0.43
1:B:725:LYS:HG2	1:B:727:MET:HE3	2.00	0.43
1:B:795:PRO:O	1:B:798:VAL:HG22	2.18	0.43
1:B:958:HIS:ND1	1:C:818:MET:SD	2.91	0.43
1:C:169:LEU:HG	1:C:171:ILE:HG12	1.99	0.43
1:C:850:ASP:O	1:C:859:LYS:NZ	2.51	0.43
1:C:1022:GLU:CA	1:D:974:SER:H	2.31	0.43
1:C:1330:ARG:NE	1:C:1436:ASP:OD2	2.40	0.43
1:D:536:LEU:HA	1:D:539:VAL:HG22	2.00	0.43
1:D:850:ASP:O	1:D:859:LYS:NZ	2.51	0.43
1:A:463:ASN:HA	1:A:499:PHE:HE2	1.83	0.43
1:A:932:LYS:HA	1:A:932:LYS:HD2	1.86	0.43
1:B:89:CYS:O	1:B:90:GLN:HB2	2.18	0.43
1:C:463:ASN:HA	1:C:499:PHE:HE2	1.83	0.43
1:D:63:ILE:C	1:D:65:GLU:H	2.26	0.43
1:D:609:LYS:O	1:D:610:ARG:HG2	2.17	0.43
1:D:1308:ARG:HB3	1:D:1310:ARG:HH11	1.81	0.43
1:A:157:LEU:O	1:A:161:HIS:HB2	2.18	0.43
1:A:609:LYS:O	1:A:610:ARG:HG2	2.17	0.43
1:A:1151:ILE:HG22	1:B:1151:ILE:HD12	2.00	0.43
1:B:63:ILE:C	1:B:65:GLU:H	2.26	0.43
1:B:151:SER:HA	1:B:154:ILE:HD12	1.99	0.43
1:B:485:HIS:HD2	1:B:513:PHE:CD1	2.37	0.43
1:B:953:GLN:NE2	1:B:968:ARG:HH12	2.16	0.43
1:B:1031:LEU:HD21	1:C:945:VAL:HG21	2.00	0.43
1:C:151:SER:HA	1:C:154:ILE:HD12	1.99	0.43
1:C:246:THR:HA	1:C:274:LEU:HD23	1.99	0.43
1:C:725:LYS:HG2	1:C:727:MET:HE3	2.00	0.43
1:C:766:LEU:HD11	1:C:773:PHE:CZ	2.53	0.43
1:C:795:PRO:O	1:C:798:VAL:HG22	2.18	0.43
1:C:935:PHE:HA	1:C:938:LEU:HD12	2.00	0.43
1:D:157:LEU:O	1:D:161:HIS:HB2	2.18	0.43
1:A:238:THR:N	1:A:282:SER:OG	2.49	0.43
1:A:725:LYS:NZ	1:A:727:MET:HE3	2.34	0.43
1:B:628:TRP:O	1:B:632:GLN:HG3	2.19	0.43
1:B:731:SER:HA	1:B:736:GLN:NE2	2.31	0.43
1:C:511:LYS:HA	1:C:621:PRO:HG2	2.00	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:466:ASP:N	1:D:466:ASP:OD1	2.50	0.43
1:A:63:ILE:C	1:A:65:GLU:H	2.26	0.43
1:A:89:CYS:O	1:A:90:GLN:HB2	2.18	0.43
1:A:120:GLN:NE2	1:A:122:MET:SD	2.92	0.43
1:A:628:TRP:O	1:A:632:GLN:HG3	2.19	0.43
1:A:1056:GLN:HB2	1:D:1050:TYR:HB3	1.99	0.43
1:B:408:ASP:OD1	1:B:411:ARG:NH1	2.51	0.43
1:C:157:LEU:O	1:C:161:HIS:HB2	2.18	0.43
1:C:316:ARG:HB3	1:C:321:ILE:HG13	2.01	0.43
1:D:89:CYS:O	1:D:90:GLN:HB2	2.18	0.43
1:D:316:ARG:HB3	1:D:321:ILE:HG13	2.01	0.43
1:A:441:SER:HA	1:A:447:PHE:CD2	2.54	0.43
1:B:1023:TRP:H	1:C:971:VAL:C	2.26	0.43
1:C:532:PHE:O	1:C:536:LEU:HD23	2.18	0.43
1:C:731:SER:HA	1:C:736:GLN:NE2	2.31	0.43
1:C:953:GLN:NE2	1:C:968:ARG:HH12	2.16	0.43
1:D:120:GLN:NE2	1:D:122:MET:SD	2.92	0.43
1:A:151:SER:HA	1:A:154:ILE:HD12	1.99	0.43
1:A:336:THR:OG1	2:A:1601:APR:O2B	2.33	0.43
1:A:485:HIS:HD2	1:A:513:PHE:CD1	2.36	0.43
1:B:120:GLN:NE2	1:B:122:MET:SD	2.92	0.43
1:B:532:PHE:O	1:B:536:LEU:HD23	2.18	0.43
1:B:1347:THR:HB	1:B:1349:TYR:HE1	1.83	0.43
1:C:530:CYS:SG	1:C:531:LEU:N	2.92	0.43
1:C:725:LYS:NZ	1:C:727:MET:HE3	2.33	0.43
1:D:725:LYS:HG2	1:D:727:MET:HE3	2.00	0.43
1:A:376:ILE:O	1:A:379:ILE:HB	2.19	0.43
1:A:953:GLN:NE2	1:A:968:ARG:HH12	2.16	0.43
1:B:157:LEU:O	1:B:161:HIS:HB2	2.18	0.43
1:C:63:ILE:C	1:C:65:GLU:H	2.26	0.43
1:C:657:LYS:HG2	1:C:661:GLU:OE2	2.19	0.43
1:D:441:SER:HA	1:D:447:PHE:CD2	2.54	0.43
1:D:530:CYS:SG	1:D:531:LEU:N	2.92	0.43
1:D:1141:LYS:HB3	1:D:1141:LYS:HE3	1.70	0.43
1:A:1024:LEU:N	1:B:972:TYR:O	2.48	0.43
1:C:120:GLN:NE2	1:C:122:MET:SD	2.92	0.43
1:C:932:LYS:HA	1:C:932:LYS:HD2	1.86	0.43
1:C:1106:HIS:CE1	1:C:1108:GLN:HG2	2.53	0.43
1:D:463:ASN:HA	1:D:499:PHE:HE2	1.83	0.43
1:D:657:LYS:HG2	1:D:661:GLU:OE2	2.19	0.43
1:D:730:VAL:O	1:D:1064:LYS:NZ	2.51	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:953:GLN:NE2	1:D:968:ARG:HH12	2.16	0.43
1:D:1106:HIS:CE1	1:D:1108:GLN:HG2	2.53	0.43
1:A:857:MET:SD	1:A:858:LYS:NZ	2.86	0.43
1:C:1384:HIS:HE1	1:C:1386:ALA:HB2	1.84	0.43
1:D:408:ASP:OD1	1:D:411:ARG:NH1	2.51	0.43
1:D:725:LYS:NZ	1:D:727:MET:HE3	2.34	0.43
1:D:854:CYS:SG	1:D:855:GLY:N	2.92	0.43
1:D:1347:THR:HB	1:D:1349:TYR:HE1	1.83	0.43
1:A:725:LYS:HG2	1:A:727:MET:HE3	2.00	0.42
1:A:1347:THR:HB	1:A:1349:TYR:HE1	1.83	0.42
1:B:99:LEU:HB3	1:B:100:GLU:H	1.66	0.42
1:B:501:LYS:O	1:B:504:LEU:HG	2.19	0.42
1:B:1063:TRP:CE2	1:B:1067:ARG:HD2	2.54	0.42
1:B:1356:ARG:HH12	1:B:1358:ASN:HD22	1.67	0.42
1:C:63:ILE:C	1:C:65:GLU:N	2.77	0.42
1:C:89:CYS:O	1:C:90:GLN:HB2	2.18	0.42
1:C:1347:THR:HB	1:C:1349:TYR:HE1	1.83	0.42
1:A:99:LEU:HB3	1:A:100:GLU:H	1.66	0.42
1:B:90:GLN:HG2	1:B:113:TRP:CG	2.54	0.42
1:B:982:ILE:CG2	1:C:981:GLN:HG2	2.50	0.42
1:C:501:LYS:O	1:C:504:LEU:HG	2.19	0.42
1:C:959:ASN:HB2	1:C:964:ASP:HB2	2.01	0.42
1:C:1259:ASN:HA	1:C:1262:VAL:HG13	2.01	0.42
1:D:511:LYS:HA	1:D:621:PRO:HG2	2.00	0.42
1:D:532:PHE:O	1:D:536:LEU:HD23	2.18	0.42
1:D:533:HIS:CD2	1:D:537:GLN:HE22	2.38	0.42
1:D:935:PHE:HA	1:D:938:LEU:HD12	2.00	0.42
1:A:63:ILE:C	1:A:65:GLU:N	2.77	0.42
1:A:730:VAL:O	1:A:1064:LYS:NZ	2.51	0.42
1:B:725:LYS:NZ	1:B:727:MET:HE3	2.33	0.42
1:D:63:ILE:C	1:D:65:GLU:N	2.77	0.42
1:D:485:HIS:HD2	1:D:513:PHE:CD1	2.36	0.42
1:D:959:ASN:HB2	1:D:964:ASP:HB2	2.01	0.42
1:D:1063:TRP:CE2	1:D:1067:ARG:HD2	2.55	0.42
1:D:1398:LEU:HD12	1:D:1402:LEU:HB3	2.01	0.42
1:A:530:CYS:SG	1:A:531:LEU:N	2.92	0.42
1:A:959:ASN:HB2	1:A:964:ASP:HB2	2.01	0.42
1:A:1022:GLU:O	1:A:1023:TRP:CD1	2.66	0.42
1:A:1154:LYS:HE2	1:D:1159:VAL:HG21	2.02	0.42
1:B:63:ILE:C	1:B:65:GLU:N	2.77	0.42
1:B:316:ARG:HB3	1:B:321:ILE:HG13	2.01	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1022:GLU:HA	1:C:972:TYR:N	2.34	0.42
1:B:1259:ASN:HA	1:B:1262:VAL:HG13	2.02	0.42
1:C:376:ILE:O	1:C:379:ILE:HB	2.19	0.42
1:C:408:ASP:OD1	1:C:411:ARG:NH1	2.51	0.42
1:C:628:TRP:O	1:C:632:GLN:HG3	2.19	0.42
1:D:1356:ARG:HH12	1:D:1358:ASN:HD22	1.67	0.42
1:D:1373:GLU:CD	1:D:1373:GLU:H	2.28	0.42
1:A:169:LEU:HB3	1:A:203:ALA:HA	2.02	0.42
1:A:657:LYS:HG2	1:A:661:GLU:OE2	2.19	0.42
1:A:935:PHE:HA	1:A:938:LEU:HD12	2.00	0.42
1:A:971:VAL:HG12	1:A:972:TYR:HA	2.00	0.42
1:A:1063:TRP:CE2	1:A:1067:ARG:HD2	2.55	0.42
1:A:1356:ARG:HH12	1:A:1358:ASN:HD22	1.67	0.42
1:B:376:ILE:O	1:B:379:ILE:HB	2.19	0.42
1:B:530:CYS:SG	1:B:531:LEU:N	2.92	0.42
1:B:959:ASN:HB2	1:B:964:ASP:HB2	2.01	0.42
1:B:971:VAL:HG12	1:B:972:TYR:HA	2.00	0.42
1:B:1022:GLU:O	1:B:1023:TRP:CD1	2.66	0.42
1:B:1024:LEU:O	1:B:1028:LEU:HD23	2.20	0.42
1:C:90:GLN:HG2	1:C:113:TRP:CG	2.54	0.42
1:C:536:LEU:HA	1:C:539:VAL:HG22	2.00	0.42
1:D:63:ILE:HG22	1:D:64:PRO:HD3	2.02	0.42
1:D:126:ALA:HB3	1:D:144:ARG:HB2	2.02	0.42
1:D:1384:HIS:HE1	1:D:1386:ALA:HB2	1.84	0.42
1:A:316:ARG:HB3	1:A:321:ILE:HG13	2.00	0.42
1:A:854:CYS:SG	1:A:855:GLY:N	2.93	0.42
1:A:972:TYR:HB3	1:D:1021:PRO:HB3	2.01	0.42
1:B:536:LEU:HA	1:B:539:VAL:HG22	2.00	0.42
1:C:63:ILE:HG22	1:C:64:PRO:HD3	2.02	0.42
1:C:1373:GLU:H	1:C:1373:GLU:CD	2.28	0.42
1:D:99:LEU:HB3	1:D:100:GLU:H	1.66	0.42
1:D:501:LYS:O	1:D:504:LEU:HG	2.19	0.42
1:A:637:LEU:O	1:A:641:ILE:HG13	2.20	0.42
1:A:642:TRP:HA	1:A:645:SER:HG	1.84	0.42
1:A:648:CYS:SG	1:A:1129:LYS:HD3	2.59	0.42
1:A:973:HIS:N	1:D:1022:GLU:HA	2.28	0.42
1:A:1373:GLU:CD	1:A:1373:GLU:H	2.28	0.42
1:B:657:LYS:HG2	1:B:661:GLU:OE2	2.19	0.42
1:B:1373:GLU:CD	1:B:1373:GLU:H	2.28	0.42
1:C:465:VAL:HG11	1:C:498:GLU:HB3	2.02	0.42
1:C:533:HIS:CD2	1:C:537:GLN:HE22	2.38	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1158:MET:SD	1:C:1162:LEU:HD21	2.60	0.42
1:D:143:VAL:HB	1:D:162:TRP:HZ2	1.85	0.42
1:D:485:HIS:HA	1:D:488:MET:HG2	2.01	0.42
1:A:408:ASP:OD1	1:A:411:ARG:NH1	2.51	0.42
1:A:1024:LEU:O	1:A:1028:LEU:HD23	2.20	0.42
1:B:271:GLN:HB2	1:B:274:LEU:O	2.20	0.42
1:B:730:VAL:O	1:B:1064:LYS:NZ	2.51	0.42
1:C:854:CYS:SG	1:C:855:GLY:N	2.92	0.42
1:C:1024:LEU:O	1:C:1028:LEU:HD23	2.20	0.42
1:C:1356:ARG:HH12	1:C:1358:ASN:HD22	1.67	0.42
1:D:642:TRP:HA	1:D:645:SER:HG	1.85	0.42
1:D:1259:ASN:HA	1:D:1262:VAL:HG13	2.02	0.42
1:A:533:HIS:CD2	1:A:537:GLN:HE22	2.38	0.42
1:A:1259:ASN:HA	1:A:1262:VAL:HG13	2.02	0.42
1:B:485:HIS:HA	1:B:488:MET:HG2	2.01	0.42
1:B:533:HIS:CD2	1:B:537:GLN:HE22	2.38	0.42
1:B:854:CYS:SG	1:B:855:GLY:N	2.92	0.42
1:C:126:ALA:HB3	1:C:144:ARG:HB2	2.02	0.42
1:C:284:PHE:HZ	1:C:286:LEU:HD13	1.85	0.42
1:C:637:LEU:O	1:C:641:ILE:HG13	2.20	0.42
1:D:90:GLN:HG2	1:D:113:TRP:CG	2.54	0.42
1:A:973:HIS:O	1:D:1025:THR:OG1	2.35	0.42
1:B:284:PHE:HZ	1:B:286:LEU:HD13	1.85	0.42
1:B:511:LYS:HA	1:B:621:PRO:HG2	2.00	0.42
1:B:935:PHE:HA	1:B:938:LEU:HD12	2.00	0.42
1:B:1021:PRO:CA	1:C:972:TYR:H	2.32	0.42
1:B:1046:ALA:HA	1:C:1048:PHE:CE2	2.55	0.42
1:B:1140:GLN:HA	1:B:1143:ARG:HH12	1.85	0.42
1:C:485:HIS:HA	1:C:488:MET:HG2	2.01	0.42
1:C:976:LEU:HD11	1:C:978:ILE:HB	2.02	0.42
1:D:376:ILE:O	1:D:379:ILE:HB	2.19	0.42
1:D:628:TRP:O	1:D:632:GLN:HG3	2.19	0.42
1:D:1024:LEU:O	1:D:1028:LEU:HD23	2.20	0.42
1:D:1429:MET:HG3	1:D:1430:ASP:N	2.35	0.42
1:A:502:LEU:O	1:A:505:GLU:HG3	2.20	0.41
1:B:930:MET:HB2	1:B:1047:MET:HE1	2.02	0.41
1:B:1347:THR:HB	1:B:1349:TYR:CE1	2.55	0.41
1:C:169:LEU:HB3	1:C:203:ALA:HA	2.02	0.41
1:C:1398:LEU:HD12	1:C:1402:LEU:HB3	2.02	0.41
1:D:657:LYS:O	1:D:661:GLU:HG3	2.20	0.41
1:D:930:MET:HB2	1:D:1047:MET:HE1	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1022:GLU:O	1:D:1023:TRP:CD1	2.66	0.41
1:D:1158:MET:SD	1:D:1162:LEU:HD21	2.60	0.41
1:D:1431:ASP:HA	1:D:1432:PRO:HD3	1.94	0.41
1:A:90:GLN:HG2	1:A:113:TRP:CG	2.55	0.41
1:A:465:VAL:HG11	1:A:498:GLU:HB3	2.02	0.41
1:A:920:LEU:HD21	1:D:940:LEU:HD22	2.01	0.41
1:B:243:THR:HG22	1:B:245:GLY:H	1.85	0.41
1:B:558:MET:O	1:B:562:ALA:HB2	2.20	0.41
1:B:731:SER:CA	1:B:736:GLN:HE22	2.31	0.41
1:B:1092:LEU:HD11	1:B:1104:LYS:HD2	2.02	0.41
1:C:143:VAL:HB	1:C:162:TRP:HZ2	1.85	0.41
1:C:558:MET:O	1:C:562:ALA:HB2	2.20	0.41
1:C:1063:TRP:CE2	1:C:1067:ARG:HD2	2.55	0.41
1:D:169:LEU:HB3	1:D:203:ALA:HA	2.02	0.41
1:D:271:GLN:HB2	1:D:274:LEU:O	2.20	0.41
1:D:465:VAL:HG11	1:D:498:GLU:HB3	2.02	0.41
1:D:806:TYR:OH	1:D:909:ARG:HB2	2.20	0.41
1:A:63:ILE:HG22	1:A:64:PRO:HD3	2.02	0.41
1:A:143:VAL:HB	1:A:162:TRP:HZ2	1.85	0.41
1:A:192:ARG:HA	1:A:192:ARG:HD3	1.91	0.41
1:A:411:ARG:CZ	1:A:1240:VAL:HG11	2.51	0.41
1:A:466:ASP:OD1	1:A:466:ASP:N	2.50	0.41
1:A:1092:LEU:HD11	1:A:1104:LYS:HD2	2.02	0.41
1:A:1347:THR:HB	1:A:1349:TYR:CE1	2.55	0.41
1:B:143:VAL:HB	1:B:162:TRP:HZ2	1.85	0.41
1:B:465:VAL:HG11	1:B:498:GLU:HB3	2.02	0.41
1:B:637:LEU:O	1:B:641:ILE:HG13	2.20	0.41
1:B:648:CYS:SG	1:B:1129:LYS:HD3	2.59	0.41
1:C:151:SER:OG	1:C:305:LEU:HD12	2.20	0.41
1:C:441:SER:HA	1:C:447:PHE:CD2	2.54	0.41
1:C:502:LEU:O	1:C:505:GLU:HG3	2.20	0.41
1:C:648:CYS:SG	1:C:1129:LYS:HD3	2.59	0.41
1:C:1023:TRP:HA	1:D:976:LEU:HB2	2.02	0.41
1:C:1347:THR:HB	1:C:1349:TYR:CE1	2.55	0.41
1:A:126:ALA:HB3	1:A:144:ARG:HB2	2.02	0.41
1:A:271:GLN:HB2	1:A:274:LEU:O	2.20	0.41
1:A:501:LYS:O	1:A:504:LEU:HG	2.19	0.41
1:A:511:LYS:HA	1:A:621:PRO:HG2	2.00	0.41
1:A:558:MET:O	1:A:562:ALA:HB2	2.21	0.41
1:A:657:LYS:O	1:A:661:GLU:HG3	2.20	0.41
1:A:726:ASP:HB2	1:A:1065:PHE:HE1	1.85	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:731:SER:CA	1:A:736:GLN:HE22	2.31	0.41
1:A:806:TYR:OH	1:A:909:ARG:HB2	2.20	0.41
1:A:1429:MET:HG3	1:A:1430:ASP:N	2.35	0.41
1:B:117:LYS:HE3	1:B:118:HIS:CD2	2.50	0.41
1:B:411:ARG:CZ	1:B:1240:VAL:HG11	2.51	0.41
1:B:466:ASP:OD1	1:B:466:ASP:N	2.50	0.41
1:B:502:LEU:O	1:B:505:GLU:HG3	2.20	0.41
1:B:657:LYS:O	1:B:661:GLU:HG3	2.20	0.41
1:B:806:TYR:OH	1:B:909:ARG:HB2	2.20	0.41
1:C:243:THR:HG22	1:C:245:GLY:H	1.85	0.41
1:D:117:LYS:HE3	1:D:118:HIS:CD2	2.50	0.41
1:D:932:LYS:HA	1:D:932:LYS:HD2	1.86	0.41
1:A:918:LYS:HZ3	1:D:936:PHE:HE2	1.67	0.41
1:A:1140:GLN:HA	1:A:1143:ARG:HH12	1.85	0.41
1:A:1398:LEU:HD12	1:A:1402:LEU:HB3	2.02	0.41
1:B:441:SER:HA	1:B:447:PHE:CD2	2.54	0.41
1:B:893:TYR:HB3	1:B:894:PRO:HD3	2.03	0.41
1:C:1140:GLN:HA	1:C:1143:ARG:HH12	1.85	0.41
1:D:637:LEU:O	1:D:641:ILE:HG13	2.20	0.41
1:D:648:CYS:SG	1:D:1129:LYS:HD3	2.59	0.41
1:A:243:THR:HG22	1:A:245:GLY:H	1.85	0.41
1:A:331:GLU:HB3	1:A:358:ARG:HH21	1.86	0.41
1:A:1384:HIS:HE1	1:A:1386:ALA:HB2	1.84	0.41
1:B:239:ILE:HG13	1:B:283:HIS:HB2	2.02	0.41
1:B:932:LYS:HD2	1:B:932:LYS:HA	1.86	0.41
1:B:1042:ASN:HB3	1:C:1044:LEU:HD21	2.03	0.41
1:B:1264:TRP:CE2	1:B:1325:LEU:HD13	2.56	0.41
1:C:731:SER:CA	1:C:736:GLN:HE22	2.31	0.41
1:D:502:LEU:O	1:D:505:GLU:HG3	2.20	0.41
1:A:485:HIS:HA	1:A:488:MET:HG2	2.01	0.41
1:B:63:ILE:HG22	1:B:64:PRO:HD3	2.02	0.41
1:B:126:ALA:HB3	1:B:144:ARG:HB2	2.02	0.41
1:B:1021:PRO:HA	1:C:972:TYR:H	1.86	0.41
1:C:411:ARG:CZ	1:C:1240:VAL:HG11	2.51	0.41
1:C:1429:MET:HG3	1:C:1430:ASP:N	2.35	0.41
1:D:243:THR:HG22	1:D:245:GLY:H	1.85	0.41
1:D:411:ARG:CZ	1:D:1240:VAL:HG11	2.51	0.41
1:D:1347:THR:HB	1:D:1349:TYR:CE1	2.55	0.41
1:A:299:ILE:HB	1:A:300:PRO:HD3	2.03	0.41
1:C:379:ILE:HD13	1:C:379:ILE:HA	1.93	0.41
1:C:930:MET:HB2	1:C:1047:MET:HE1	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1092:LEU:HD11	1:C:1104:LYS:HD2	2.02	0.41
1:D:151:SER:OG	1:D:305:LEU:HD12	2.20	0.41
1:D:299:ILE:HB	1:D:300:PRO:HD3	2.03	0.41
1:D:331:GLU:HB3	1:D:358:ARG:HH21	1.86	0.41
1:D:731:SER:CA	1:D:736:GLN:HE22	2.31	0.41
1:D:1264:TRP:CE2	1:D:1325:LEU:HD13	2.56	0.41
1:A:151:SER:OG	1:A:305:LEU:HD12	2.20	0.41
1:A:875:ALA:HB1	1:A:906:PHE:HE1	1.86	0.41
1:A:927:VAL:HA	1:A:930:MET:CG	2.50	0.41
1:A:1024:LEU:CB	1:B:972:TYR:O	2.64	0.41
1:A:1264:TRP:CE2	1:A:1325:LEU:HD13	2.56	0.41
1:B:151:SER:OG	1:B:305:LEU:HD12	2.20	0.41
1:B:238:THR:N	1:B:282:SER:OG	2.49	0.41
1:B:299:ILE:HB	1:B:300:PRO:HD3	2.03	0.41
1:B:976:LEU:HD11	1:B:978:ILE:HB	2.02	0.41
1:B:1042:ASN:CB	1:C:1044:LEU:HD21	2.51	0.41
1:B:1158:MET:SD	1:B:1162:LEU:HD21	2.60	0.41
1:B:1398:LEU:HD12	1:B:1402:LEU:HB3	2.02	0.41
1:B:1429:MET:HG3	1:B:1430:ASP:N	2.36	0.41
1:C:271:GLN:HB2	1:C:274:LEU:O	2.20	0.41
1:C:632:GLN:HB3	1:C:634:ARG:HH12	1.86	0.41
1:C:657:LYS:O	1:C:661:GLU:HG3	2.20	0.41
1:C:928:LYS:HB2	1:C:928:LYS:HE2	1.95	0.41
1:D:1327:PRO:O	1:D:1328:MET:HB3	2.21	0.41
1:A:214:VAL:HA	1:A:217:GLN:HB2	2.03	0.41
1:A:239:ILE:HG13	1:A:283:HIS:HB2	2.02	0.41
1:A:538:LYS:HA	1:A:538:LYS:HD3	1.82	0.41
1:A:893:TYR:HB3	1:A:894:PRO:HD3	2.03	0.41
1:A:1158:MET:SD	1:A:1162:LEU:HD21	2.60	0.41
1:B:586:LEU:HB3	1:B:587:ARG:HE	1.86	0.41
1:B:690:PHE:HD2	1:B:732:HIS:ND1	2.19	0.41
1:C:1379:LEU:HG	1:C:1380:PRO:HD2	2.03	0.41
1:D:210:SER:C	1:D:278:ASP:HB3	2.46	0.41
1:D:284:PHE:HZ	1:D:286:LEU:HD13	1.85	0.41
1:D:976:LEU:HD11	1:D:978:ILE:HB	2.03	0.41
1:D:1089:HIS:HA	1:D:1093:PHE:CD2	2.56	0.41
1:D:1355:TRP:HE1	1:D:1450:GLN:C	2.30	0.41
1:A:569:LEU:HD13	1:A:572:PHE:CG	2.56	0.40
1:A:930:MET:HB2	1:A:1047:MET:HE1	2.02	0.40
1:A:1113:LEU:HB3	1:A:1118:GLU:HG3	2.03	0.40
1:A:1379:LEU:HG	1:A:1380:PRO:HD2	2.03	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:726:ASP:HB2	1:B:1065:PHE:HE1	1.85	0.40
1:B:875:ALA:HB1	1:B:906:PHE:HE1	1.86	0.40
1:B:1327:PRO:O	1:B:1328:MET:HB3	2.21	0.40
1:C:299:ILE:HB	1:C:300:PRO:HD3	2.03	0.40
1:C:383:LEU:HA	1:C:387:PHE:HD2	1.86	0.40
1:C:806:TYR:OH	1:C:909:ARG:HB2	2.20	0.40
1:C:844:MET:HE1	1:C:848:PHE:CE2	2.56	0.40
1:D:68:LYS:O	1:D:146:SER:HB3	2.21	0.40
1:D:239:ILE:HG13	1:D:283:HIS:HB2	2.02	0.40
1:D:726:ASP:HB2	1:D:1065:PHE:HE1	1.86	0.40
1:D:893:TYR:HB3	1:D:894:PRO:HD3	2.03	0.40
1:D:907:CYS:HA	1:D:910:LEU:HD12	2.03	0.40
1:D:1092:LEU:HD11	1:D:1104:LYS:HD2	2.02	0.40
1:A:210:SER:C	1:A:278:ASP:HB3	2.47	0.40
1:A:456:LEU:O	1:A:460:VAL:HG13	2.22	0.40
1:B:1047:MET:HA	1:B:1050:TYR:CE2	2.56	0.40
1:C:1089:HIS:HA	1:C:1093:PHE:CD2	2.56	0.40
1:D:569:LEU:HD13	1:D:572:PHE:CG	2.56	0.40
1:D:1140:GLN:HA	1:D:1143:ARG:HH12	1.85	0.40
1:A:152:SER:HA	1:A:308:PHE:CE2	2.57	0.40
1:A:476:GLU:O	1:A:476:GLU:HG2	2.21	0.40
1:A:928:LYS:HB2	1:A:928:LYS:HE2	1.95	0.40
1:B:169:LEU:HB3	1:B:203:ALA:HA	2.02	0.40
1:B:569:LEU:HD13	1:B:572:PHE:CG	2.56	0.40
1:B:1421:GLY:HA3	1:B:1445:VAL:HG22	2.04	0.40
1:C:117:LYS:HE3	1:C:118:HIS:CD2	2.50	0.40
1:C:210:SER:C	1:C:278:ASP:HB3	2.47	0.40
1:C:331:GLU:HB3	1:C:358:ARG:HH21	1.86	0.40
1:C:1113:LEU:HB3	1:C:1118:GLU:HG3	2.03	0.40
1:C:1264:TRP:CE2	1:C:1325:LEU:HD13	2.56	0.40
1:C:1327:PRO:O	1:C:1328:MET:HB3	2.21	0.40
1:D:152:SER:HA	1:D:308:PHE:CE2	2.57	0.40
1:D:248:HIS:NE2	1:D:267:ASP:OD2	2.52	0.40
1:D:558:MET:O	1:D:562:ALA:HB2	2.20	0.40
1:D:1064:LYS:HE2	1:D:1064:LYS:HB3	1.93	0.40
1:A:68:LYS:O	1:A:146:SER:HB3	2.21	0.40
1:A:690:PHE:HD2	1:A:732:HIS:ND1	2.19	0.40
1:A:1355:TRP:HE1	1:A:1450:GLN:C	2.30	0.40
1:B:210:SER:C	1:B:278:ASP:HB3	2.47	0.40
1:B:988:GLY:C	1:C:985:TYR:HB2	2.46	0.40
1:C:460:VAL:HG12	1:C:499:PHE:CD1	2.57	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:476:GLU:O	1:C:476:GLU:HG2	2.22	0.40
1:C:696:LYS:HD2	1:C:696:LYS:HA	1.82	0.40
1:C:875:ALA:HB1	1:C:906:PHE:HE1	1.86	0.40
1:D:690:PHE:HD2	1:D:732:HIS:ND1	2.19	0.40
1:A:976:LEU:HD11	1:A:978:ILE:HB	2.02	0.40
1:A:1043:LEU:HA	1:B:923:LYS:CE	2.52	0.40
1:A:1047:MET:HA	1:A:1050:TYR:CE2	2.56	0.40
1:A:1421:GLY:HA3	1:A:1445:VAL:HG22	2.04	0.40
1:B:68:LYS:O	1:B:146:SER:HB3	2.21	0.40
1:B:844:MET:HE1	1:B:848:PHE:CE2	2.56	0.40
1:C:456:LEU:O	1:C:460:VAL:HG13	2.22	0.40
1:C:1309:ASP:HA	1:C:1311:ARG:NH1	2.36	0.40
1:C:1421:GLY:HA3	1:C:1445:VAL:HG22	2.04	0.40
1:D:383:LEU:HA	1:D:387:PHE:HD2	1.87	0.40
1:D:844:MET:HE1	1:D:848:PHE:CE2	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1322/1503 (88%)	1169 (88%)	147 (11%)	6 (0%)	25	64
1	B	1322/1503 (88%)	1170 (88%)	145 (11%)	7 (0%)	25	64
1	C	1322/1503 (88%)	1171 (89%)	144 (11%)	7 (0%)	25	64
1	D	1322/1503 (88%)	1171 (89%)	145 (11%)	6 (0%)	25	64
All	All	5288/6012 (88%)	4681 (88%)	581 (11%)	26 (0%)	27	64

All (26) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	64	PRO
1	A	87	VAL
1	B	64	PRO
1	B	87	VAL
1	C	64	PRO
1	C	87	VAL
1	D	64	PRO
1	D	87	VAL
1	A	90	GLN
1	A	1022	GLU
1	B	90	GLN
1	B	1022	GLU
1	C	90	GLN
1	C	1022	GLU
1	D	90	GLN
1	D	1022	GLU
1	A	1455	VAL
1	B	1455	VAL
1	C	1455	VAL
1	D	1455	VAL
1	A	551	PRO
1	B	551	PRO
1	C	551	PRO
1	D	551	PRO
1	B	969	GLY
1	C	969	GLY

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1109/1318 (84%)	1081 (98%)	28 (2%)	42	62
1	B	1109/1318 (84%)	1081 (98%)	28 (2%)	42	62
1	C	1109/1318 (84%)	1081 (98%)	28 (2%)	42	62
1	D	1109/1318 (84%)	1081 (98%)	28 (2%)	42	62
All	All	4436/5272 (84%)	4324 (98%)	112 (2%)	43	62

All (112) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	77	GLU
1	A	195	VAL
1	A	348	THR
1	A	404	LYS
1	A	508	VAL
1	A	571	ASP
1	A	635	ARG
1	A	636	GLU
1	A	666	GLU
1	A	667	GLU
1	A	670	ASP
1	A	683	GLU
1	A	699	GLU
1	A	716	THR
1	A	804	LEU
1	A	834	LEU
1	A	844	MET
1	A	857	MET
1	A	908	LEU
1	A	1028	LEU
1	A	1031	LEU
1	A	1042	ASN
1	A	1111	ASN
1	A	1131	ASN
1	A	1141	LYS
1	A	1160	ASP
1	A	1371	MET
1	A	1422	MET
1	B	77	GLU
1	B	195	VAL
1	B	348	THR
1	B	404	LYS
1	B	508	VAL
1	B	571	ASP
1	B	635	ARG
1	B	636	GLU
1	B	666	GLU
1	B	667	GLU
1	B	670	ASP
1	B	683	GLU
1	B	699	GLU
1	B	716	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	804	LEU
1	B	834	LEU
1	B	844	MET
1	B	857	MET
1	B	908	LEU
1	B	1028	LEU
1	B	1031	LEU
1	B	1042	ASN
1	B	1111	ASN
1	B	1131	ASN
1	B	1141	LYS
1	B	1160	ASP
1	B	1371	MET
1	B	1422	MET
1	C	77	GLU
1	C	195	VAL
1	C	348	THR
1	C	404	LYS
1	C	508	VAL
1	C	571	ASP
1	C	635	ARG
1	C	636	GLU
1	C	666	GLU
1	C	667	GLU
1	C	670	ASP
1	C	683	GLU
1	C	699	GLU
1	C	716	THR
1	C	804	LEU
1	C	834	LEU
1	C	844	MET
1	C	857	MET
1	C	908	LEU
1	C	1028	LEU
1	C	1031	LEU
1	C	1042	ASN
1	C	1111	ASN
1	C	1131	ASN
1	C	1141	LYS
1	C	1160	ASP
1	C	1371	MET
1	C	1422	MET

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	77	GLU
1	D	195	VAL
1	D	348	THR
1	D	404	LYS
1	D	508	VAL
1	D	571	ASP
1	D	635	ARG
1	D	636	GLU
1	D	666	GLU
1	D	667	GLU
1	D	670	ASP
1	D	683	GLU
1	D	699	GLU
1	D	716	THR
1	D	804	LEU
1	D	834	LEU
1	D	844	MET
1	D	857	MET
1	D	908	LEU
1	D	1028	LEU
1	D	1031	LEU
1	D	1042	ASN
1	D	1111	ASN
1	D	1131	ASN
1	D	1141	LYS
1	D	1160	ASP
1	D	1371	MET
1	D	1422	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (61) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	66	ASN
1	A	118	HIS
1	A	156	HIS
1	A	179	ASN
1	A	211	HIS
1	A	294	GLN
1	A	451	ASN
1	A	454	HIS
1	A	537	GLN
1	A	632	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	684	HIS
1	A	732	HIS
1	A	869	ASN
1	A	981	GLN
1	A	1061	GLN
1	A	1384	HIS
1	A	1437	ASN
1	A	1448	HIS
1	B	66	ASN
1	B	118	HIS
1	B	156	HIS
1	B	179	ASN
1	B	211	HIS
1	B	451	ASN
1	B	454	HIS
1	B	537	GLN
1	B	632	GLN
1	B	684	HIS
1	B	732	HIS
1	B	869	ASN
1	B	1061	GLN
1	B	1384	HIS
1	B	1437	ASN
1	B	1448	HIS
1	C	66	ASN
1	C	118	HIS
1	C	156	HIS
1	C	179	ASN
1	C	451	ASN
1	C	454	HIS
1	C	537	GLN
1	C	632	GLN
1	C	684	HIS
1	C	869	ASN
1	C	1384	HIS
1	C	1437	ASN
1	C	1448	HIS
1	D	66	ASN
1	D	118	HIS
1	D	156	HIS
1	D	179	ASN
1	D	454	HIS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	537	GLN
1	D	632	GLN
1	D	684	HIS
1	D	732	HIS
1	D	869	ASN
1	D	1061	GLN
1	D	1384	HIS
1	D	1437	ASN
1	D	1448	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 16 ligands modelled in this entry, 8 are monoatomic - leaving 8 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
2	APR	A	1601	-	35,38,39	0.63	0	43,58,60	0.83	2 (4%)
2	APR	B	1601	-	35,38,39	0.63	0	43,58,60	0.83	2 (4%)
2	APR	C	1601	-	35,38,39	0.62	0	43,58,60	0.83	2 (4%)
3	DAT	C	1602	-	24,28,28	0.78	0	30,43,43	0.86	1 (3%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	DAT	B	1602	-	24,28,28	0.77	0	30,43,43	0.86	1 (3%)
3	DAT	A	1602	-	24,28,28	0.77	0	30,43,43	0.87	1 (3%)
3	DAT	D	1602	-	24,28,28	0.78	0	30,43,43	0.86	1 (3%)
2	APR	D	1601	-	35,38,39	0.63	0	43,58,60	0.83	2 (4%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	APR	A	1601	-	-	0/18/50/54	0/4/4/4
2	APR	B	1601	-	-	0/18/50/54	0/4/4/4
2	APR	C	1601	-	-	0/18/50/54	0/4/4/4
3	DAT	C	1602	-	-	1/12/28/28	0/3/3/3
3	DAT	B	1602	-	-	1/12/28/28	0/3/3/3
3	DAT	A	1602	-	-	1/12/28/28	0/3/3/3
3	DAT	D	1602	-	-	1/12/28/28	0/3/3/3
2	APR	D	1601	-	-	0/18/50/54	0/4/4/4

There are no bond length outliers.

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	1601	APR	C1D-C2D-C3D	-3.04	98.54	102.29
2	A	1601	APR	C1D-C2D-C3D	-3.04	98.55	102.29
2	B	1601	APR	C1D-C2D-C3D	-3.02	98.57	102.29
2	C	1601	APR	C1D-C2D-C3D	-3.01	98.59	102.29
2	D	1601	APR	C5-C6-N6	2.34	123.87	120.31
2	A	1601	APR	C5-C6-N6	2.33	123.86	120.31
3	A	1602	DAT	C5-C6-N6	2.33	123.85	120.31
3	C	1602	DAT	C5-C6-N6	2.32	123.84	120.31
2	B	1601	APR	C5-C6-N6	2.31	123.83	120.31
3	D	1602	DAT	C5-C6-N6	2.31	123.83	120.31
2	C	1601	APR	C5-C6-N6	2.30	123.82	120.31
3	B	1602	DAT	C5-C6-N6	2.30	123.82	120.31

There are no chirality outliers.

All (4) torsion outliers are listed below:

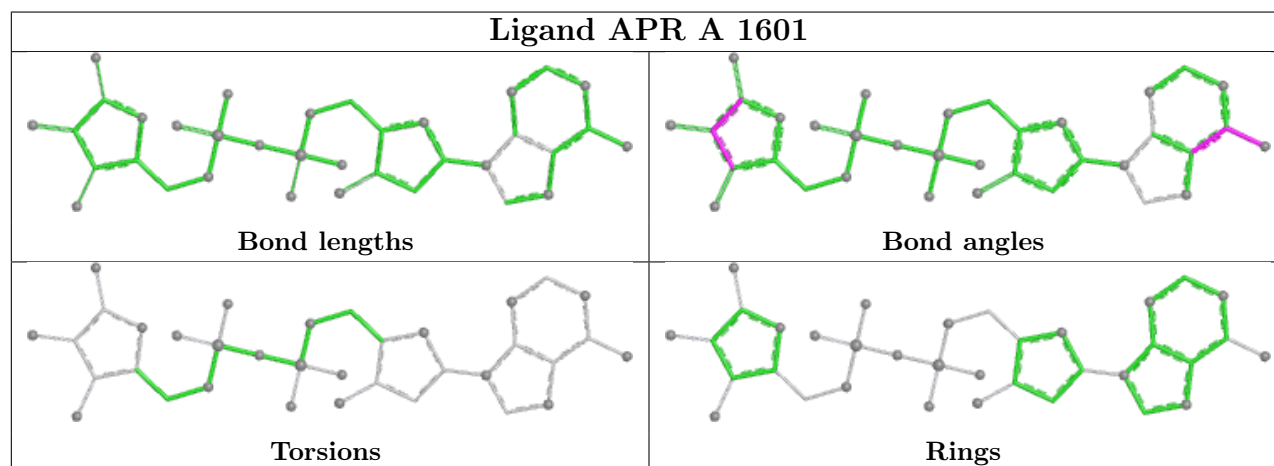
Mol	Chain	Res	Type	Atoms
3	A	1602	DAT	PB-O3A-PA-O5'
3	B	1602	DAT	PB-O3A-PA-O5'
3	C	1602	DAT	PB-O3A-PA-O5'
3	D	1602	DAT	PB-O3A-PA-O5'

There are no ring outliers.

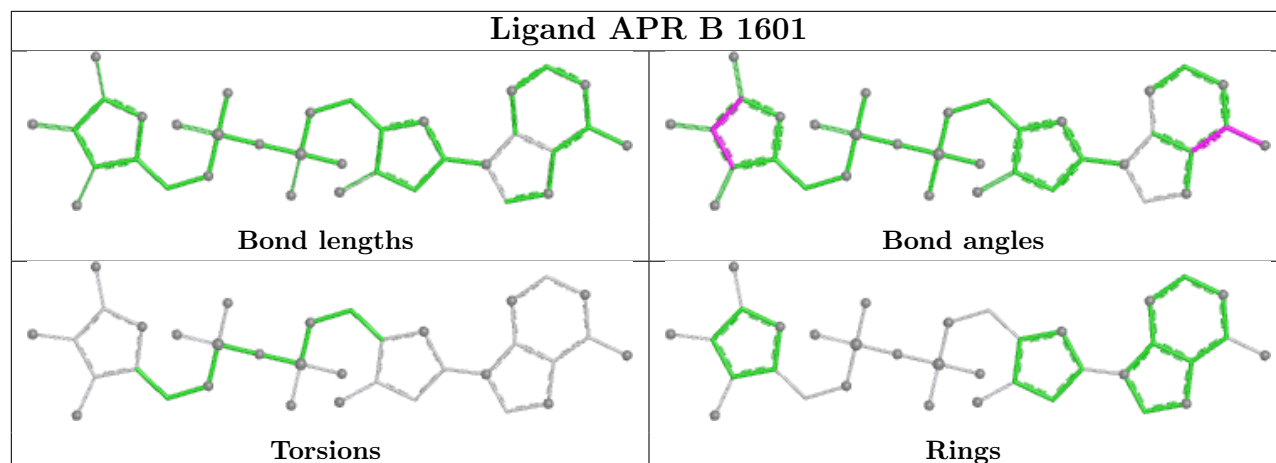
7 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	1601	APR	1	0
2	B	1601	APR	1	0
2	C	1601	APR	1	0
3	C	1602	DAT	1	0
3	B	1602	DAT	1	0
3	A	1602	DAT	1	0
3	D	1602	DAT	1	0

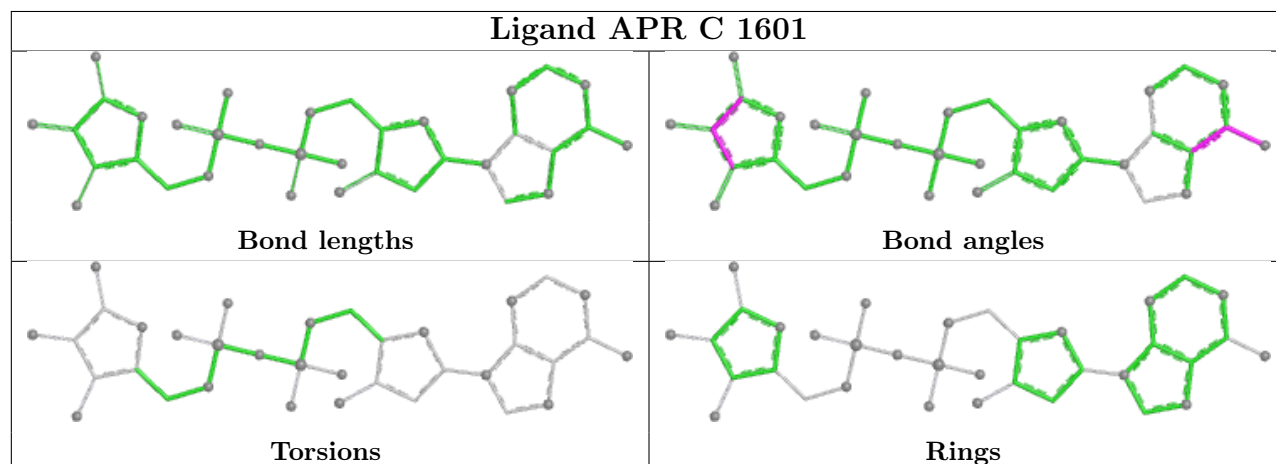
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



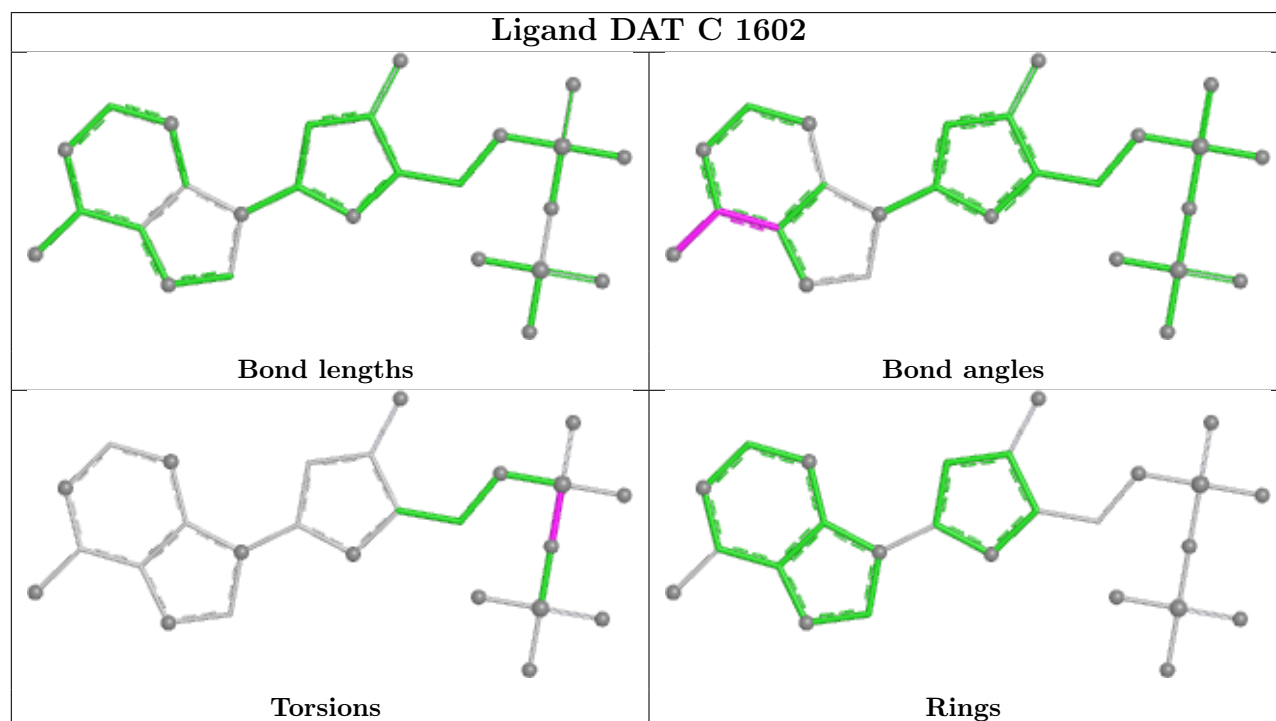
Ligand APR B 1601

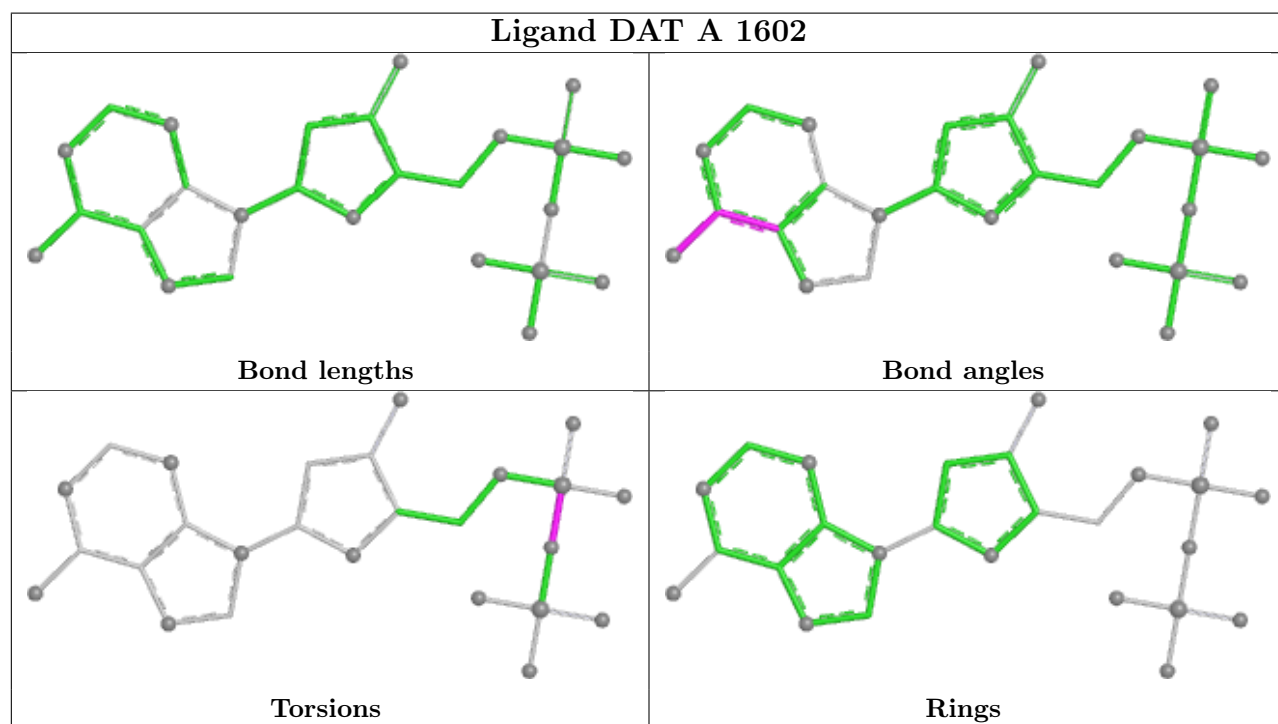
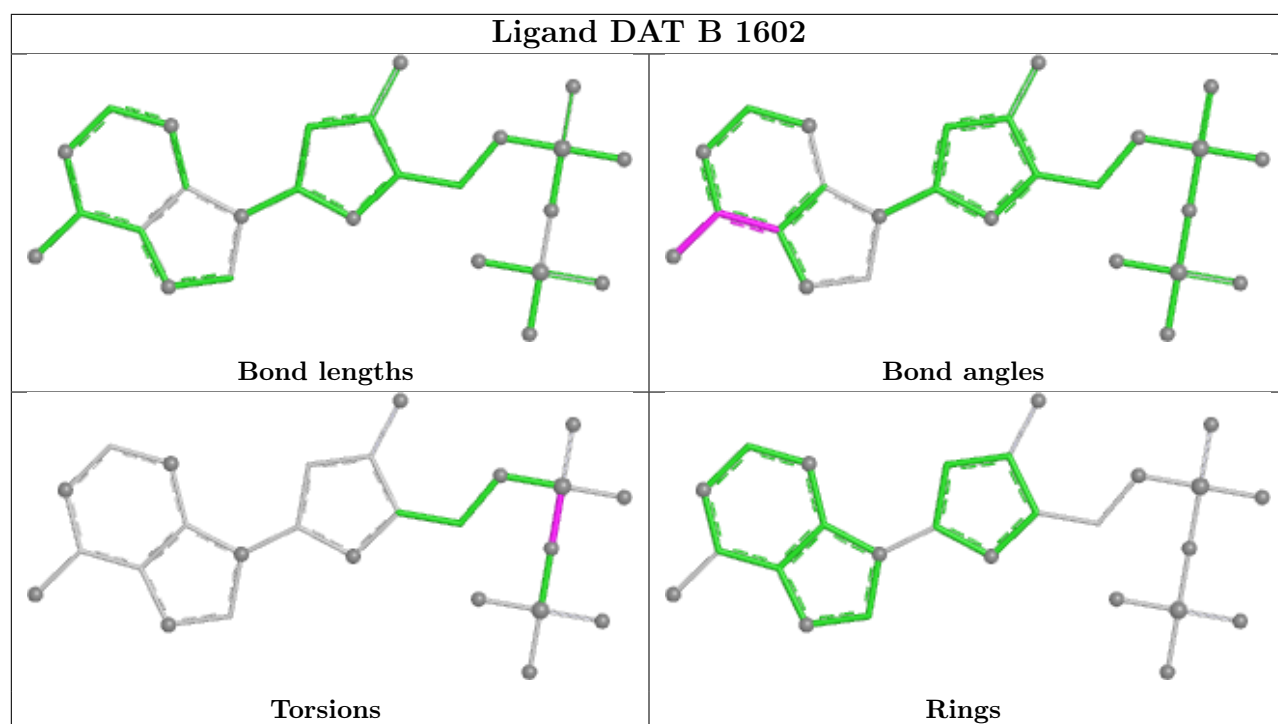


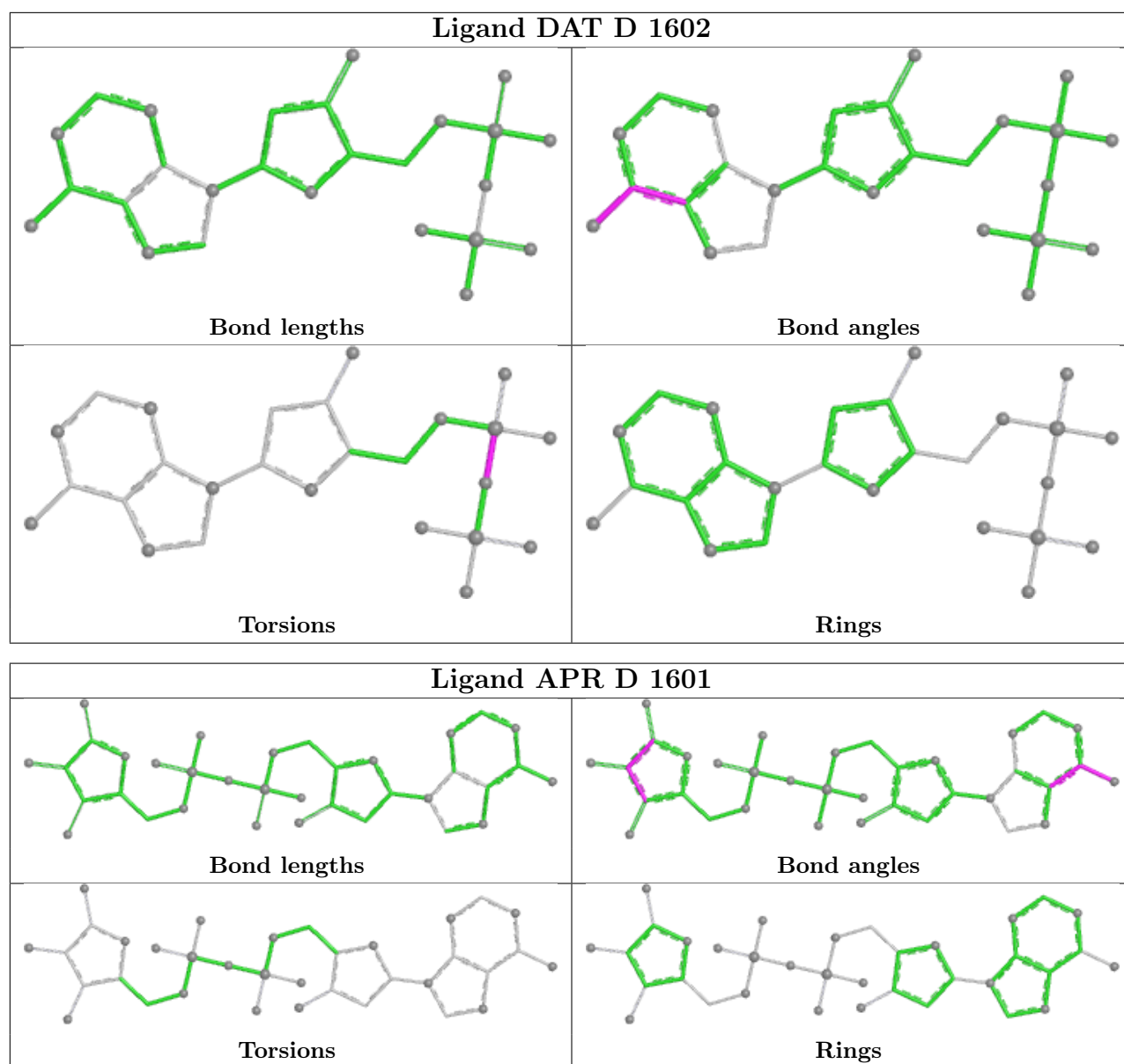
Ligand APR C 1601



Ligand DAT C 1602







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.

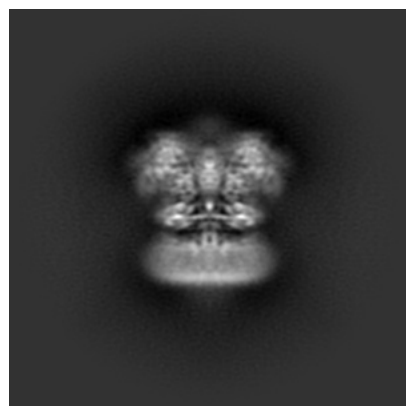
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-27924. These allow visual inspection of the internal detail of the map and identification of artifacts.

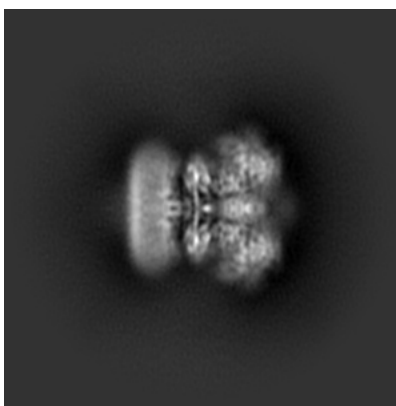
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

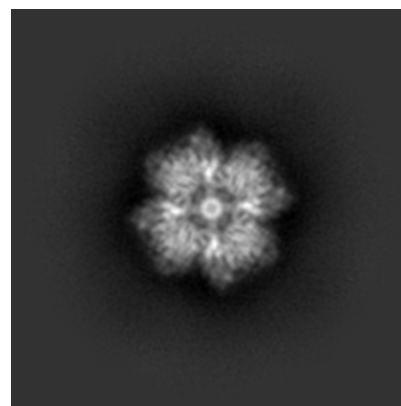
6.1.1 Primary map



X

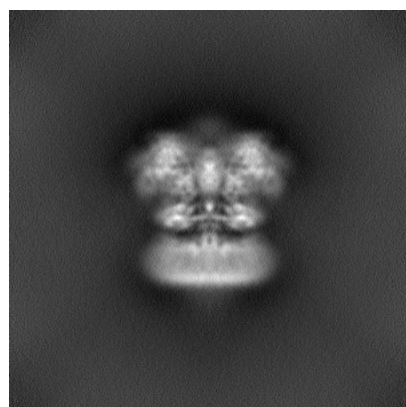


Y

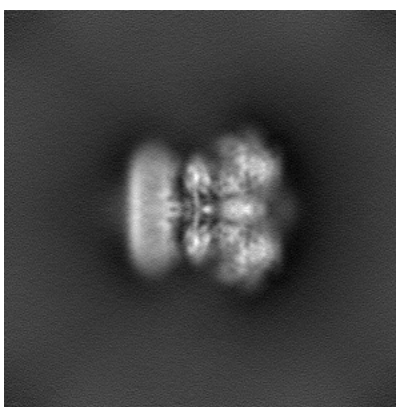


Z

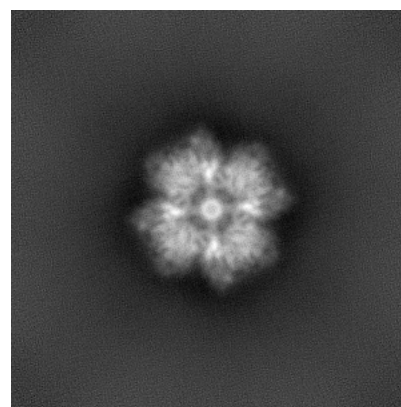
6.1.2 Raw map



X



Y

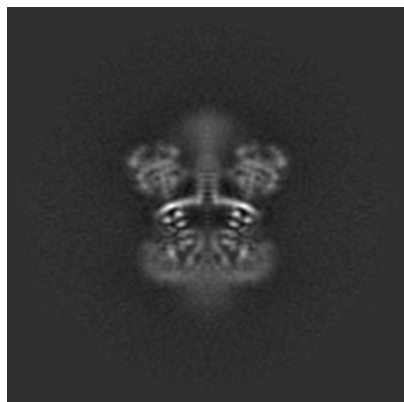


Z

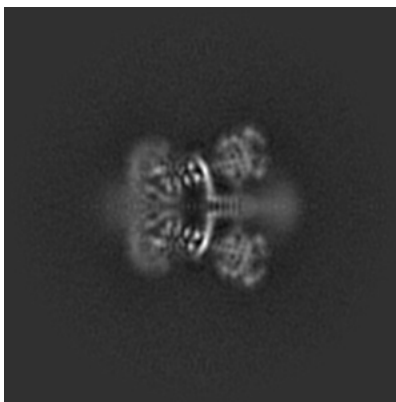
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

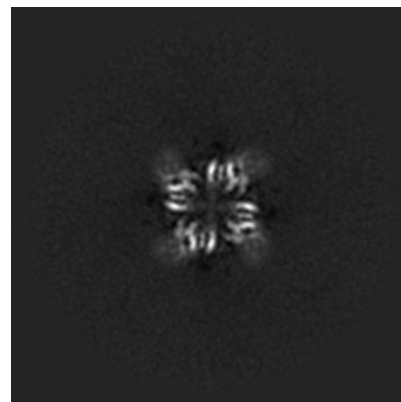
6.2.1 Primary map



X Index: 180

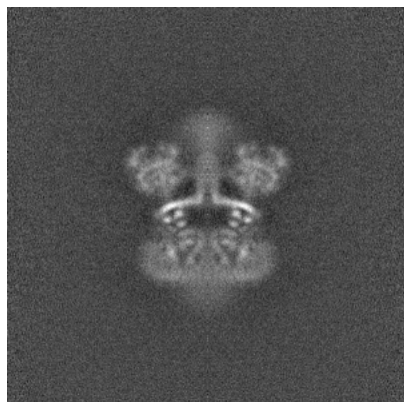


Y Index: 180

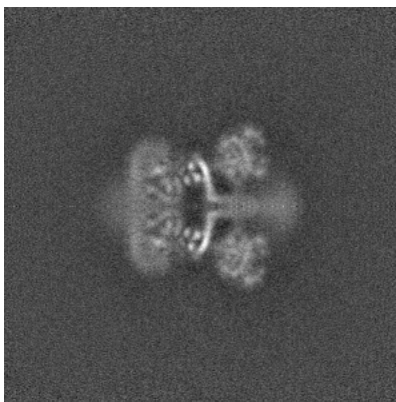


Z Index: 180

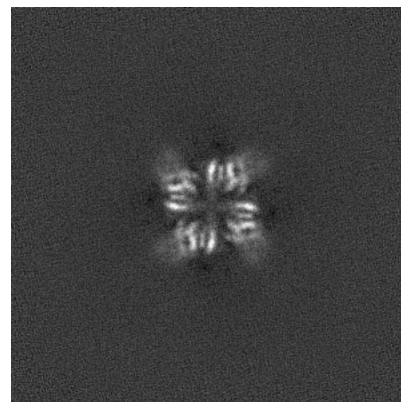
6.2.2 Raw map



X Index: 180



Y Index: 180

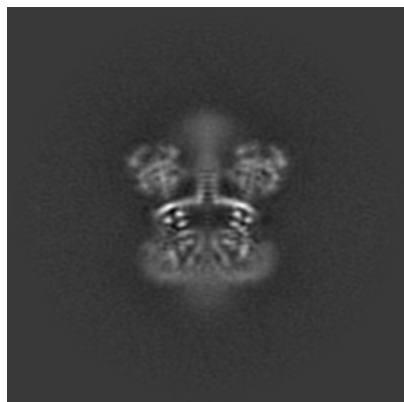


Z Index: 180

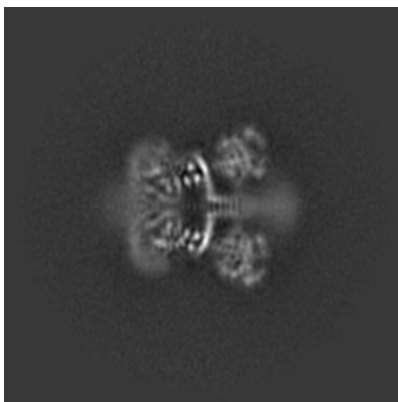
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

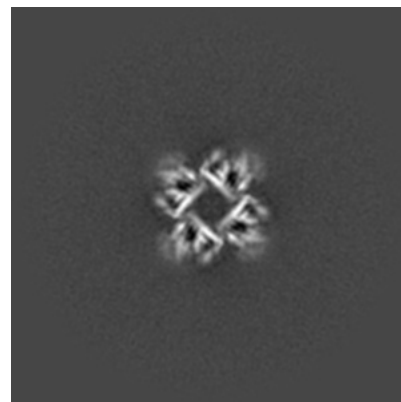
6.3.1 Primary map



X Index: 179

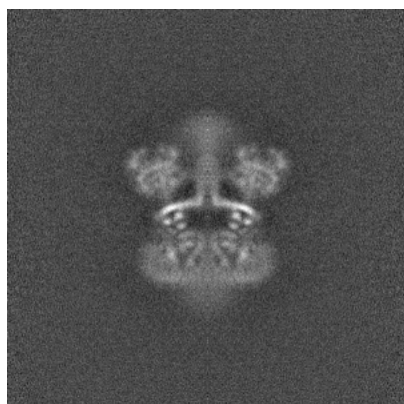


Y Index: 179

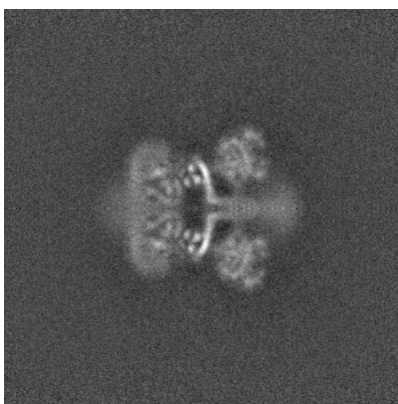


Z Index: 173

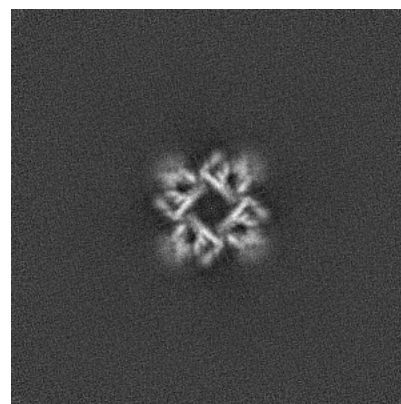
6.3.2 Raw map



X Index: 180



Y Index: 180

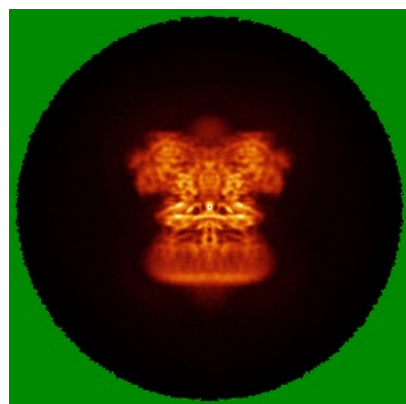


Z Index: 173

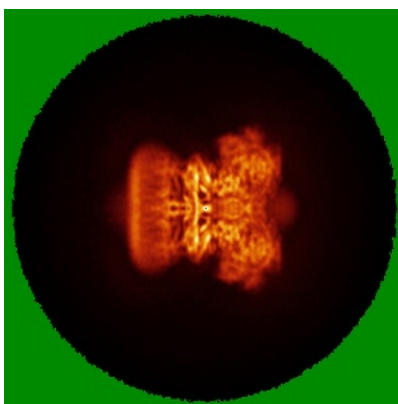
The images above show the largest variance slices of the map in three orthogonal directions.

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

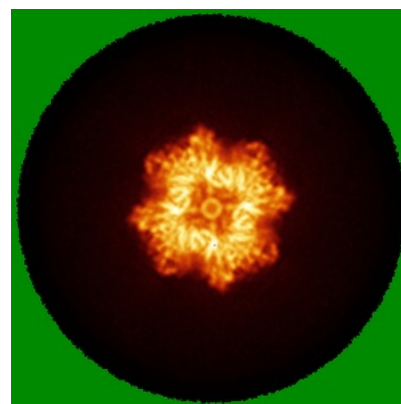
6.4.1 Primary map



X

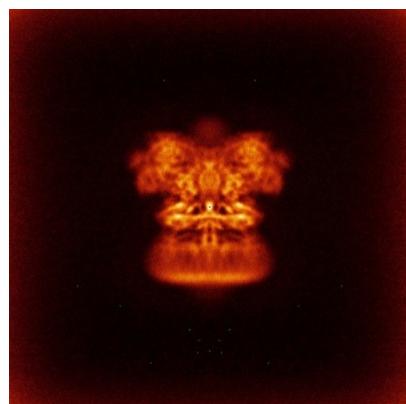


Y

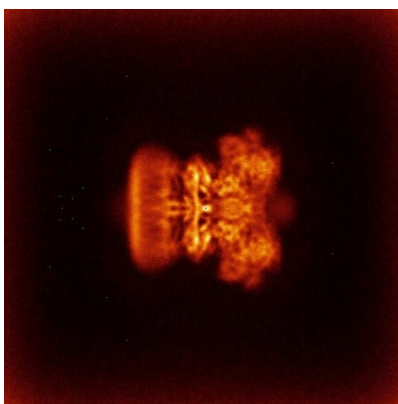


Z

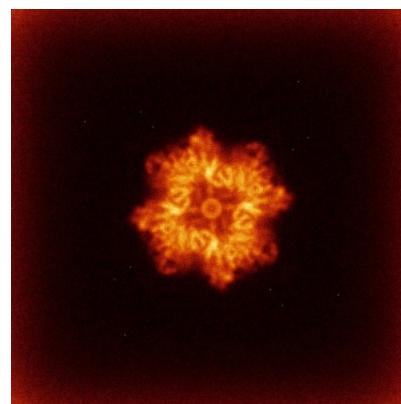
6.4.2 Raw map



X



Y

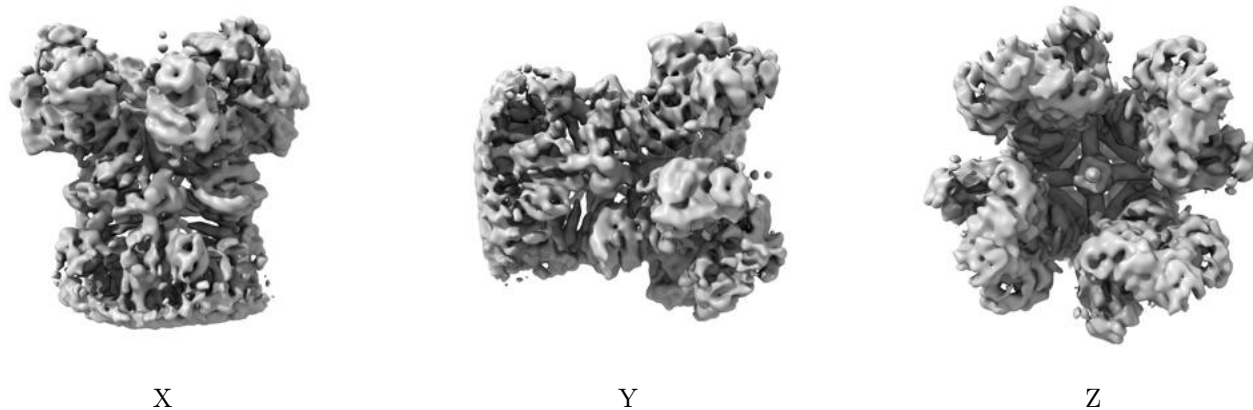


Z

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.

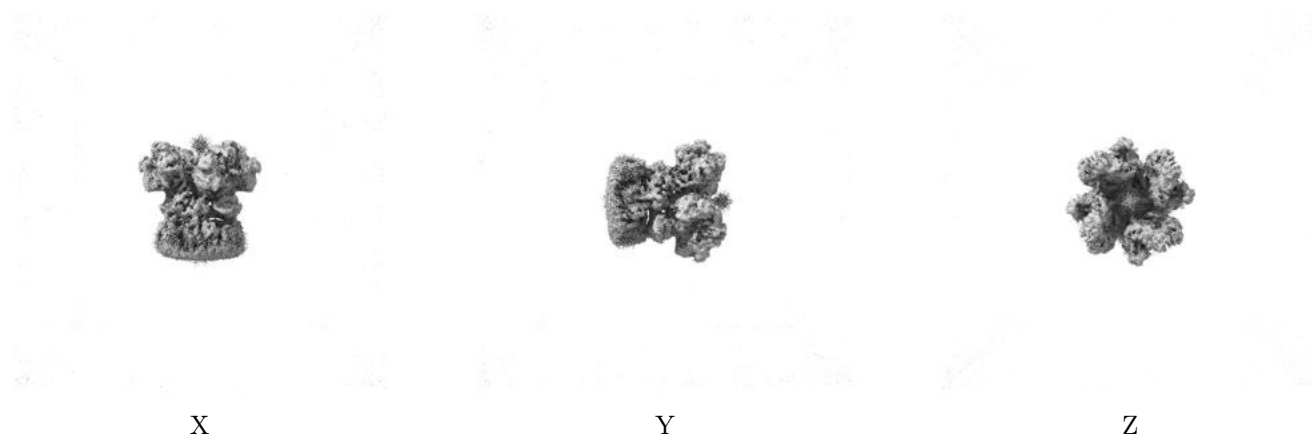
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.169. 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.

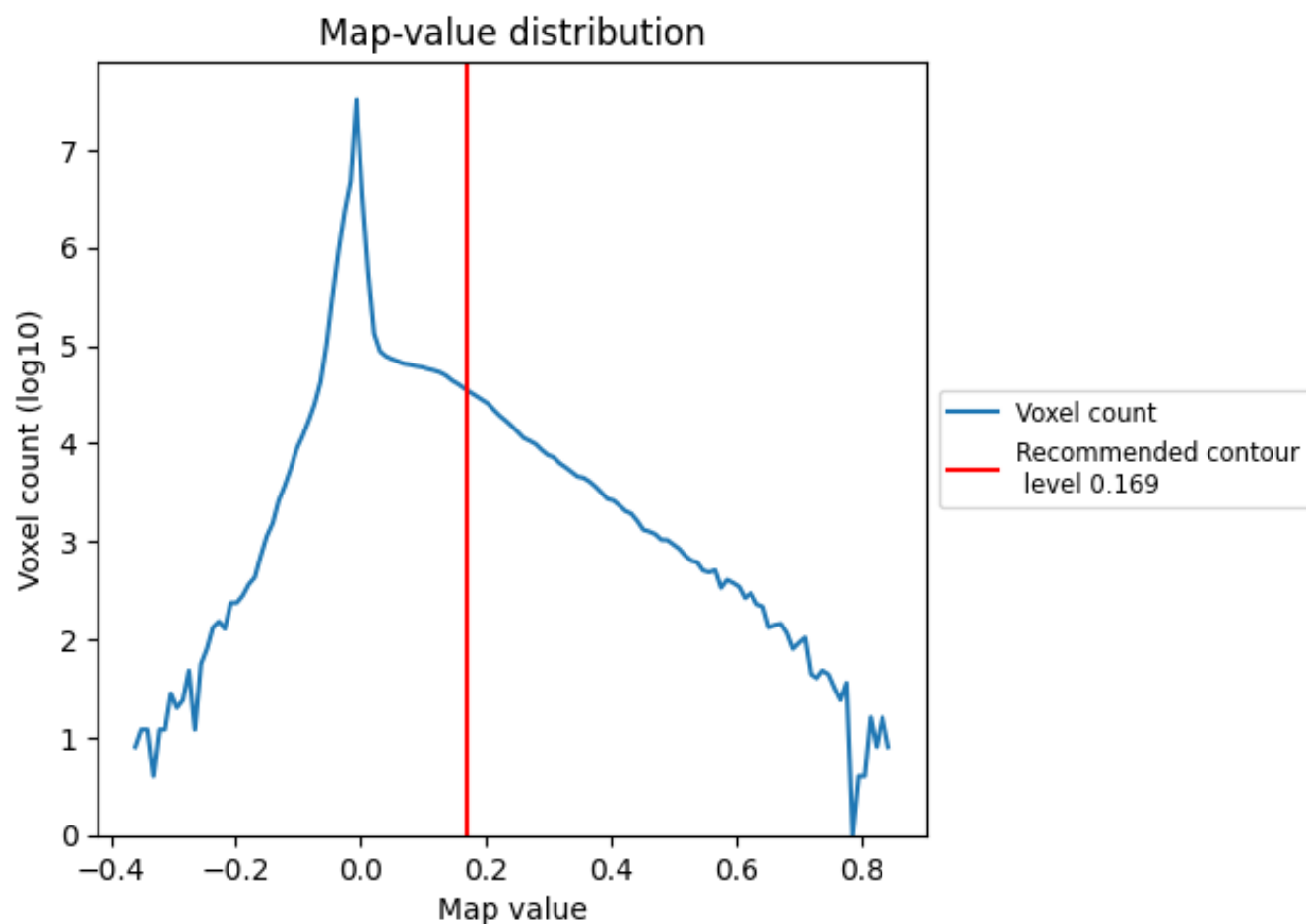
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

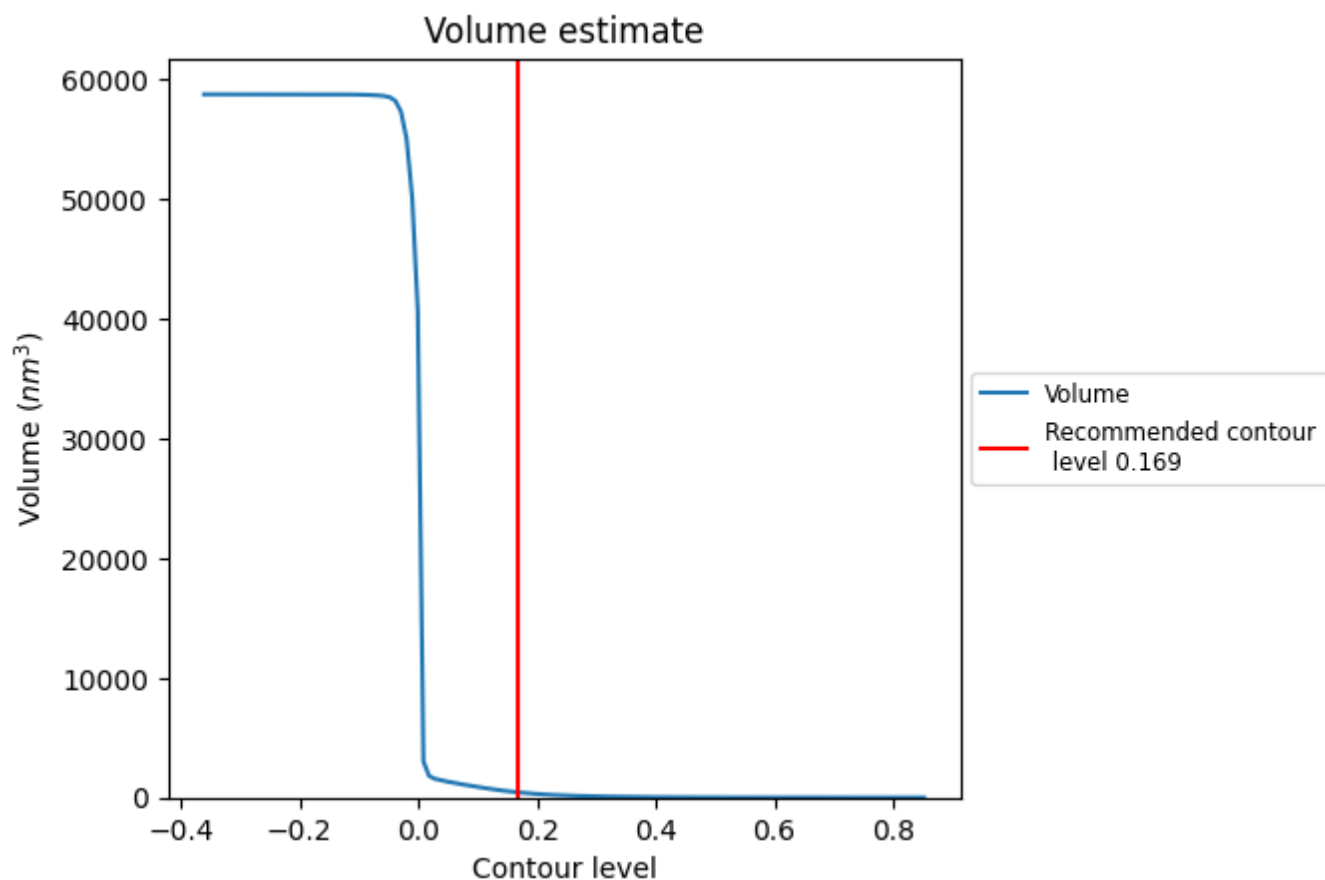
This section contains the results of statistical analysis of the map.

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.

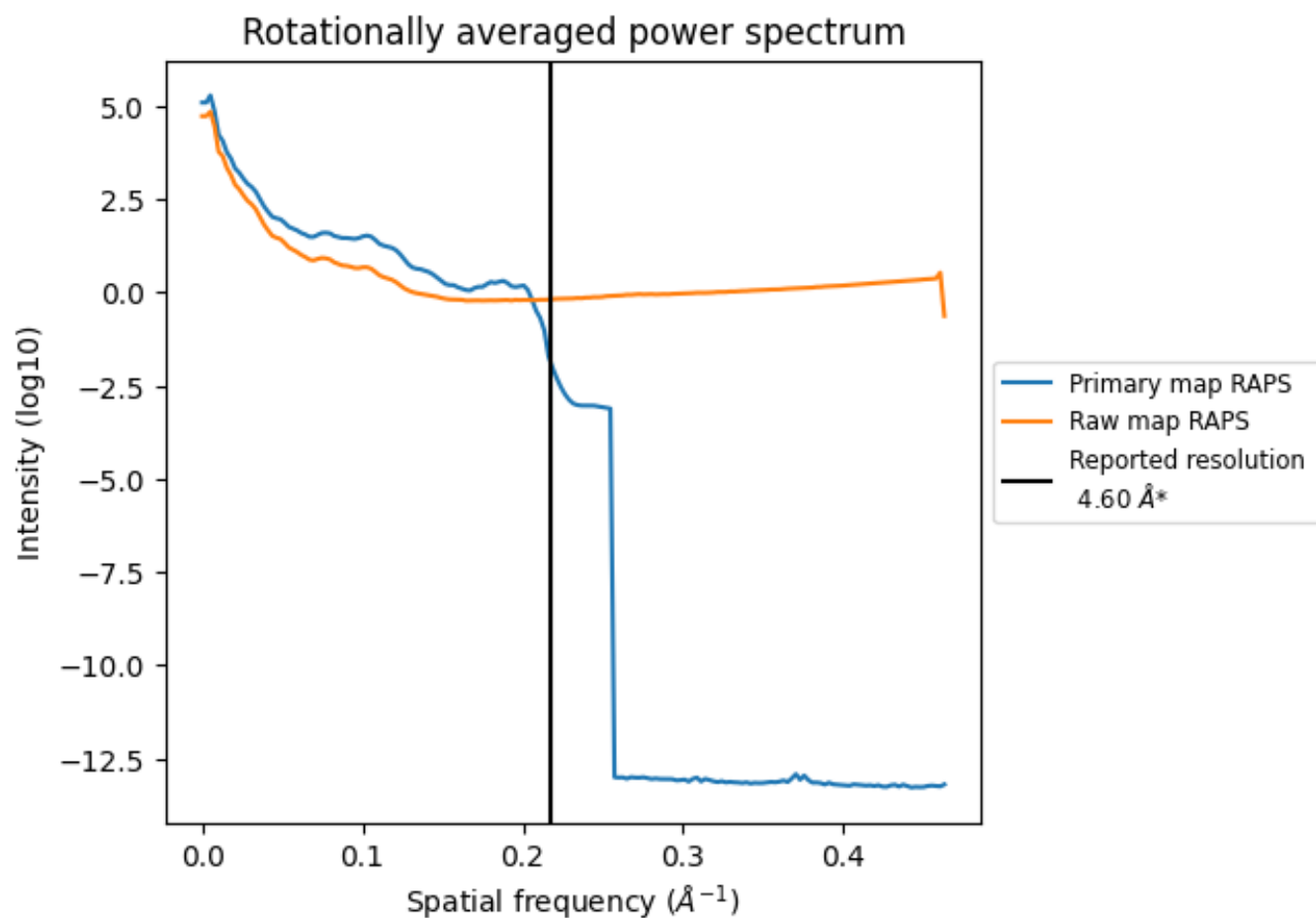
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 431 nm³; this corresponds to an approximate mass of 390 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 ⓘ

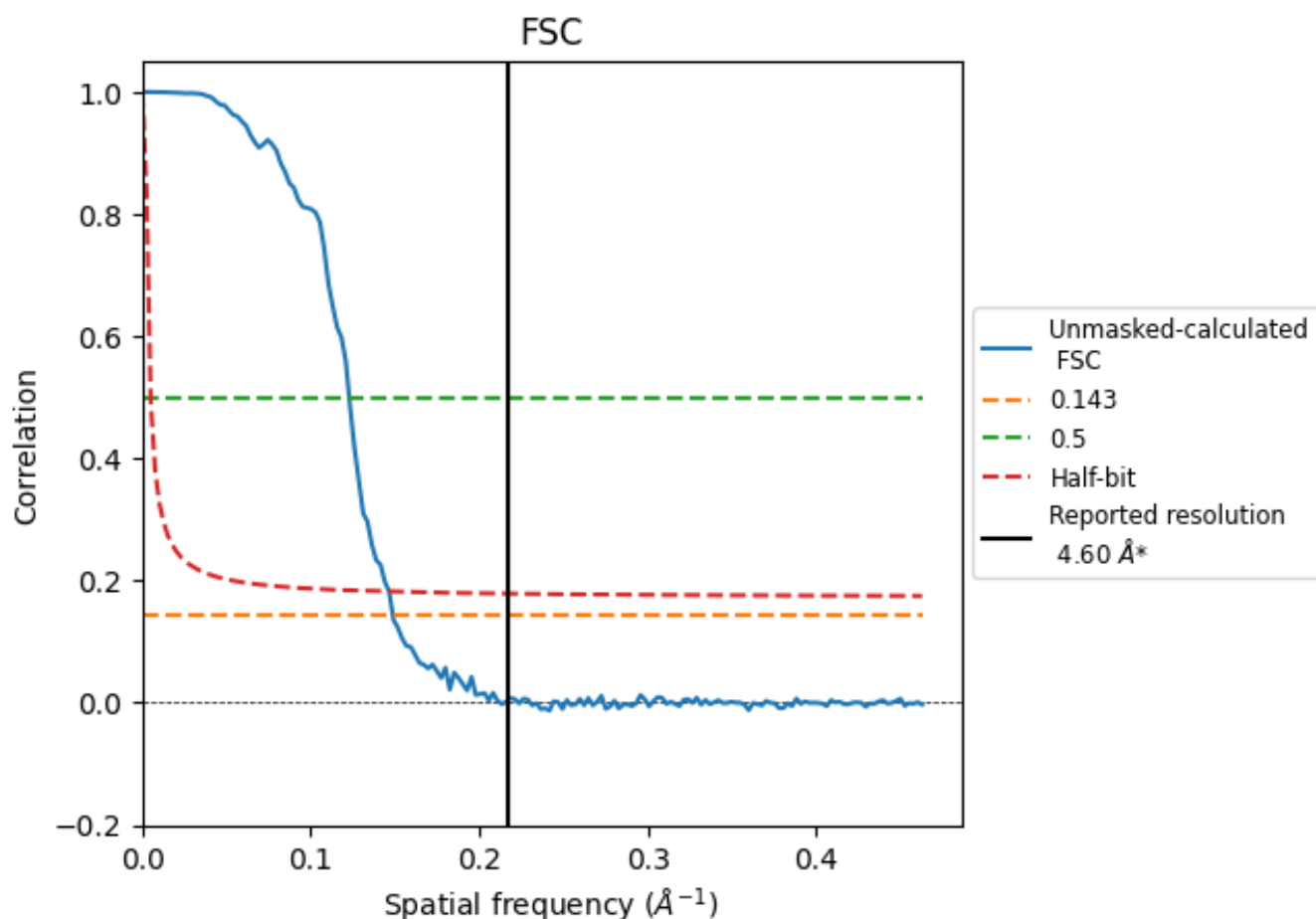


*Reported resolution corresponds to spatial frequency of 0.217 Å⁻¹

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 0.217 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

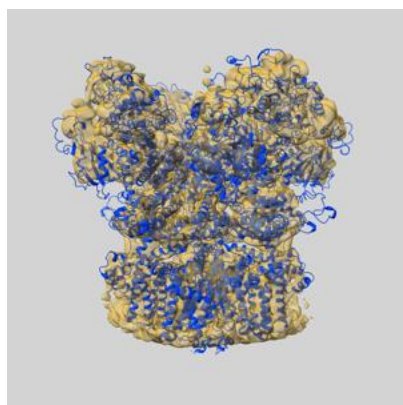
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.60	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	6.72	8.14	6.82

*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 6.72 differs from the reported value 4.6 by more than 10 %

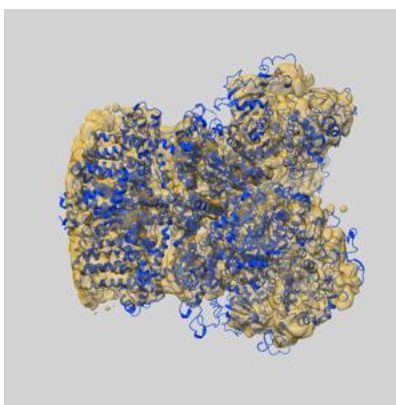
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-27924 and PDB model 8E6S. Per-residue inclusion information can be found in section [3](#) on page [6](#).

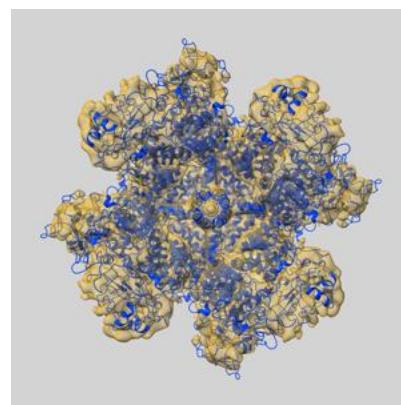
9.1 Map-model overlay [i](#)



X



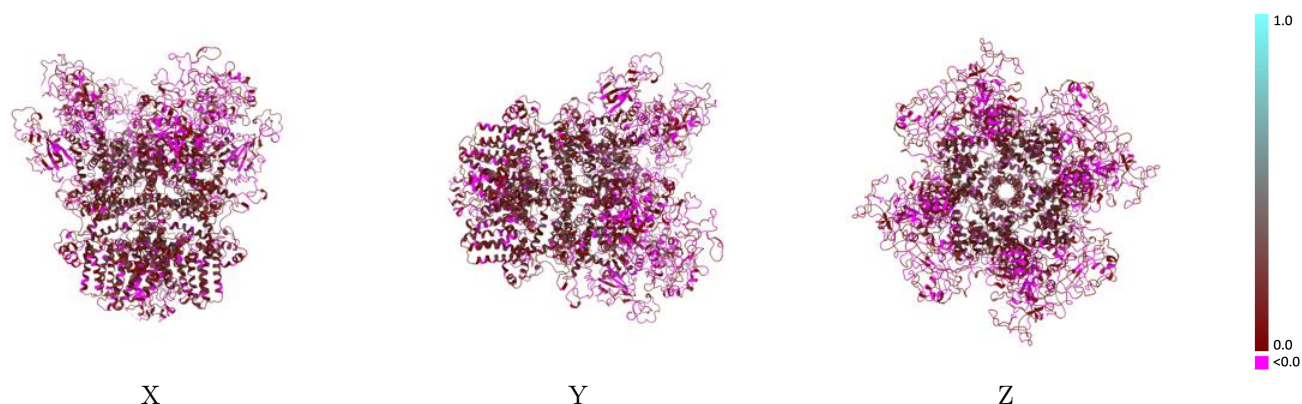
Y



Z

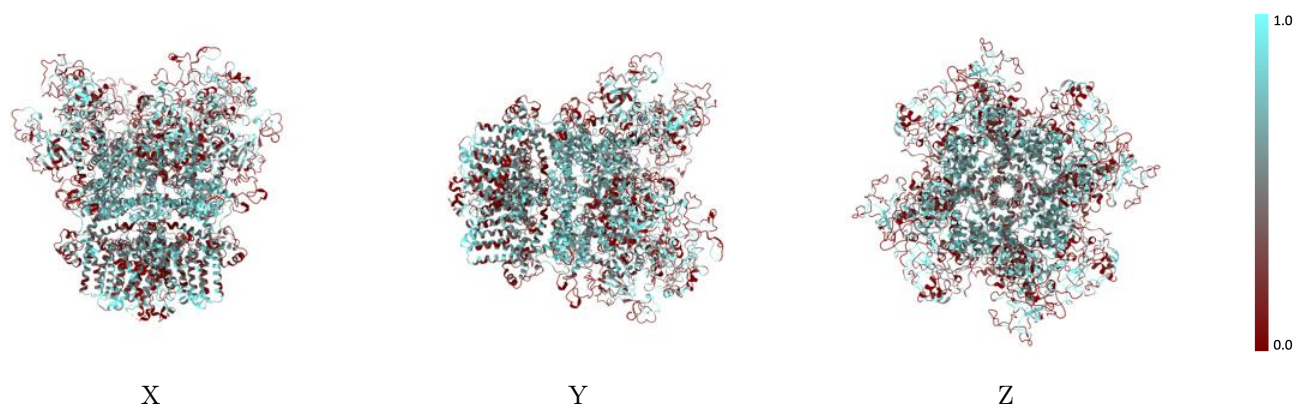
The images above show the 3D surface view of the map at the recommended contour level 0.169 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



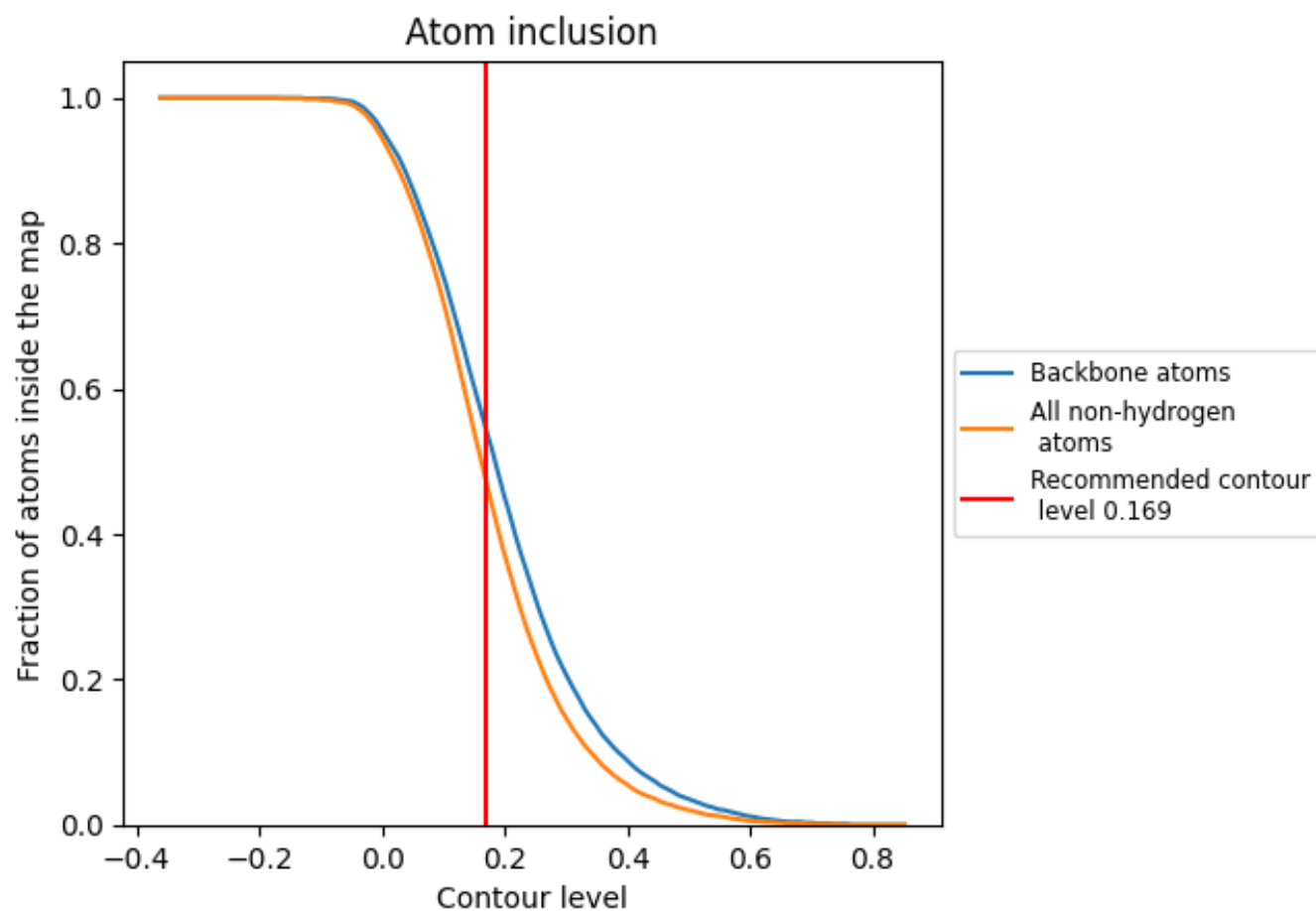
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.169).

9.4 Atom inclusion [i](#)



At the recommended contour level, 55% of all backbone atoms, 48% 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 (0.169) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.4750	0.0970
A	0.4750	0.0990
B	0.4760	0.0970
C	0.4710	0.0940
D	0.4760	0.0970

