



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 9, 2020 – 08:33 PM BST

PDB ID : 6PRW
Title : CRYSTAL STRUCTURE OF THE CARBOXYLTRANSFERASE SUBUNIT OF ACC (ACCD6) IN COMPLEX WITH INHIBITOR QUIZALOFOP-P DERIVATIVE FROM MYCOBACTERIUM TUBERCULOSIS
Authors : Reddy, M.C.M.; Nian, Z.; Michele, S.T.C.; Sacchettini, J.C.; TB Structural Genomics Consortium (TBSGC)
Deposited on : 2019-07-11
Resolution : 2.61 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.13.1
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.13.1

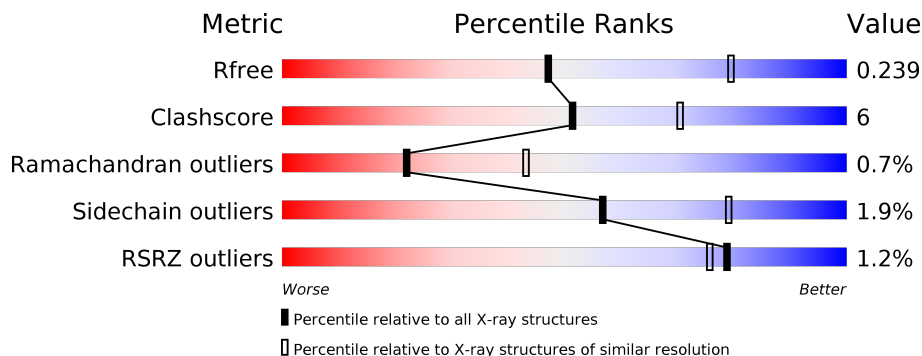
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.61 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)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3163 (2.60-2.60)
Clashscore	141614	3518 (2.60-2.60)
Ramachandran outliers	138981	3455 (2.60-2.60)
Sidechain outliers	138945	3455 (2.60-2.60)
RSRZ outliers	127900	3104 (2.60-2.60)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	473	
1	B	473	
1	C	473	
1	D	473	
1	E	473	
1	F	473	

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Mol	Chain	Length	Quality of chain
1	G	473	 <p>% 75% 11% 13%</p>
1	H	473	 <p>% 80% 10% 10%</p>

2 Entry composition [i](#)

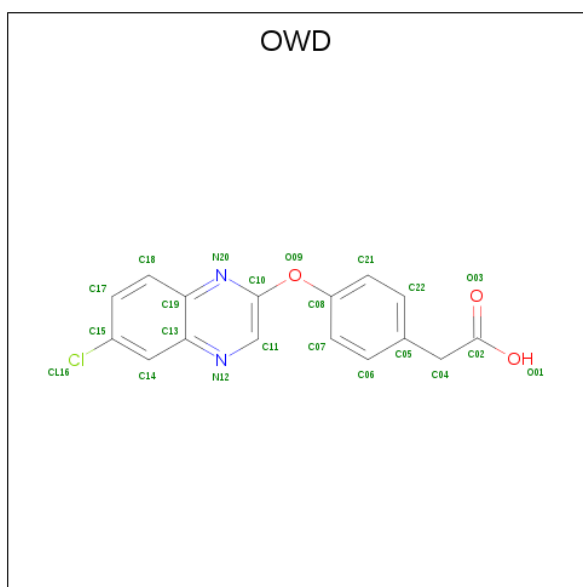
There are 3 unique types of molecules in this entry. The entry contains 25418 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 Propionyl-CoA carboxylase subunit beta.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	426	3147	1969	572	592	14	0	1	0
1	B	424	3123	1958	569	582	14	0	1	0
1	C	410	2991	1874	542	561	14	0	2	0
1	D	428	3093	1940	558	581	14	0	0	0
1	E	426	3147	1969	572	592	14	0	1	0
1	F	424	3123	1958	569	582	14	0	1	0
1	G	410	2991	1874	542	561	14	0	2	0
1	H	428	3093	1940	558	581	14	0	0	0

- Molecule 2 is {4-[(6-chloroquinoxalin-2-yl)oxy]phenyl}acetic acid (three-letter code: OWD) (formula: C₁₆H₁₁ClN₂O₃) (labeled as "Ligand of Interest" by author).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
			Total	C	Cl	N			O
2	A	1	22	16	1	2	3	0	0
2	B	1	22	16	1	2	3	0	0
2	C	1	22	16	1	2	3	0	0
2	D	1	22	16	1	2	3	0	0
2	E	1	22	16	1	2	3	0	0
2	F	1	22	16	1	2	3	0	0
2	G	1	22	16	1	2	3	0	0
2	H	1	22	16	1	2	3	0	0

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	63	Total	O	0	0
			63	63		
3	B	63	Total	O	0	0
			63	63		
3	C	76	Total	O	0	0
			76	76		
3	D	52	Total	O	0	0
			52	52		

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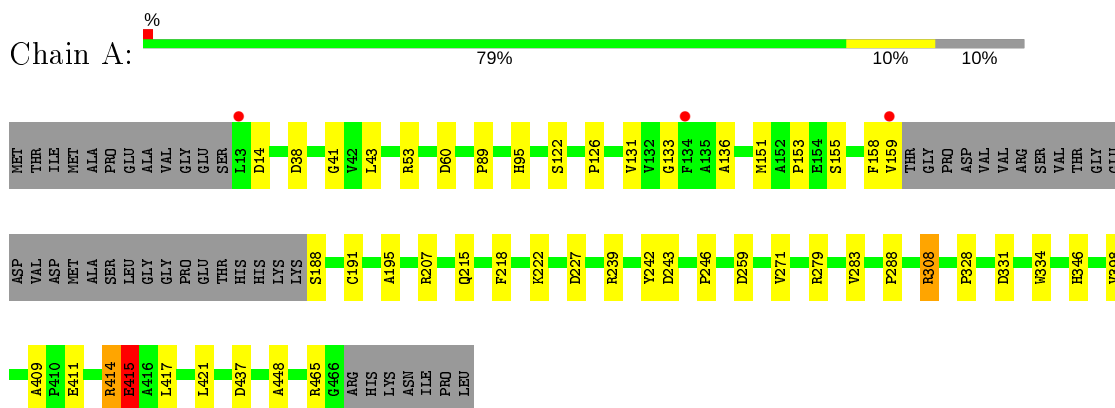
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	E	78	Total 78	O 78	0	0
3	F	55	Total 55	O 55	0	0
3	G	84	Total 84	O 84	0	0
3	H	63	Total 63	O 63	0	0

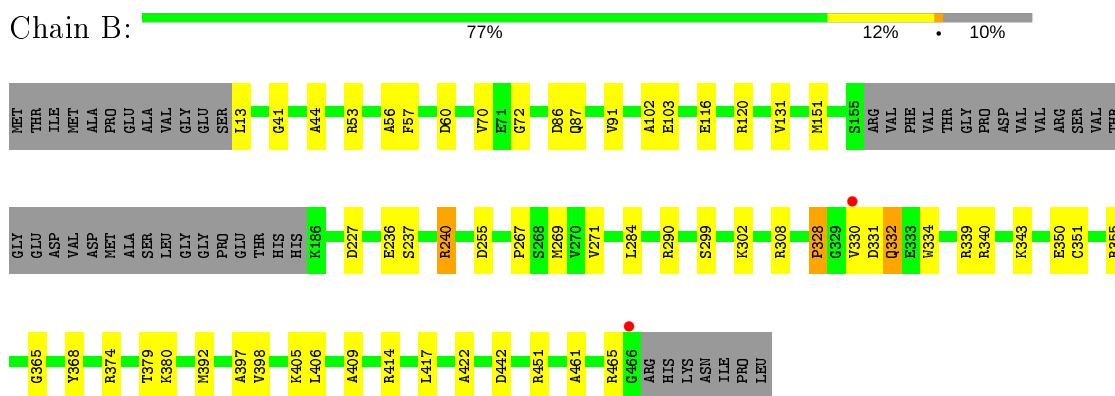
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron 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 dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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.

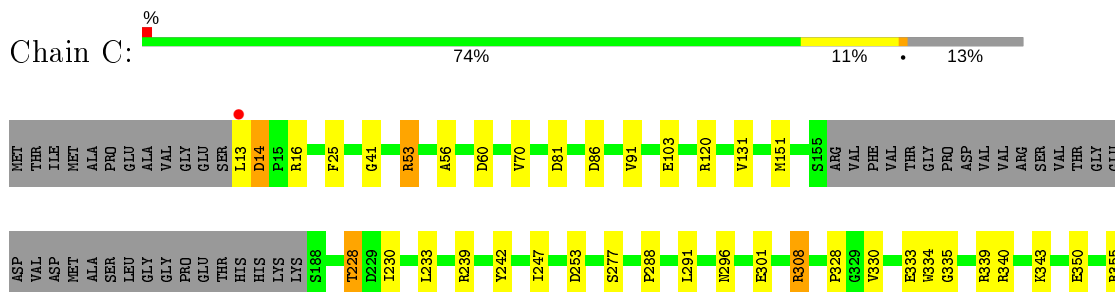
- Molecule 1: Propionyl-CoA carboxylase subunit beta

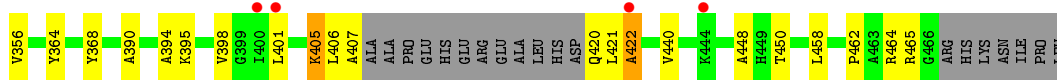


- Molecule 1: Propionyl-CoA carboxylase subunit beta

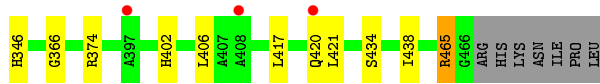
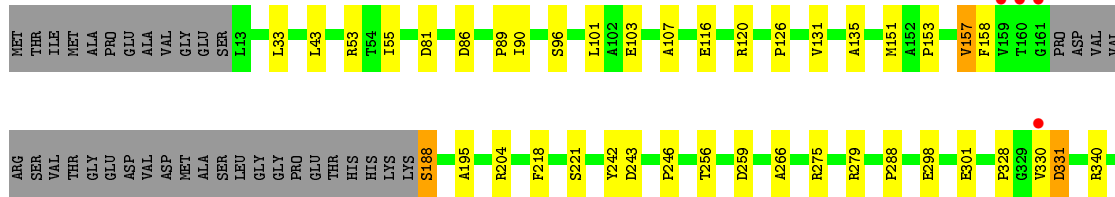
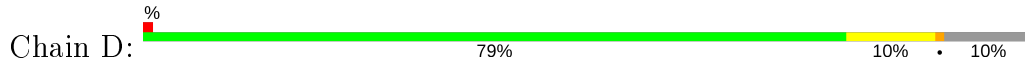


- Molecule 1: Propionyl-CoA carboxylase subunit beta

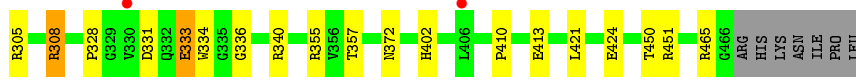
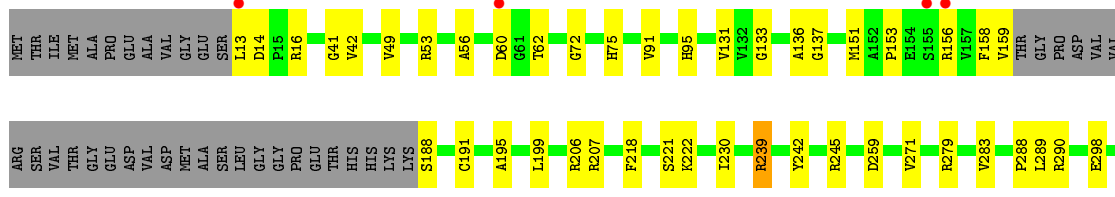
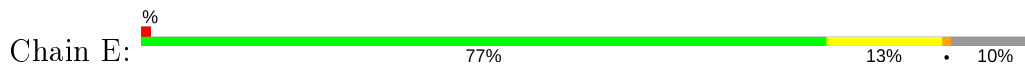




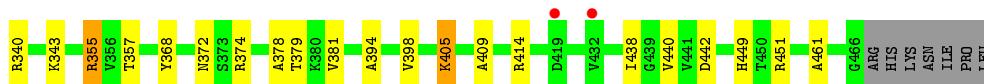
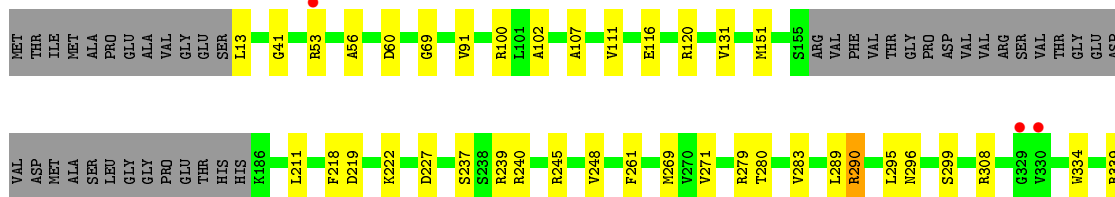
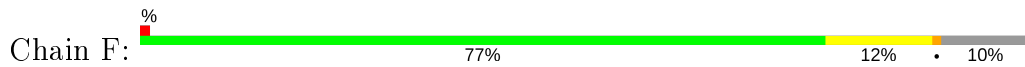
• Molecule 1: Propionyl-CoA carboxylase subunit beta



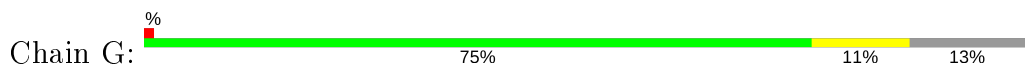
• Molecule 1: Propionyl-CoA carboxylase subunit beta

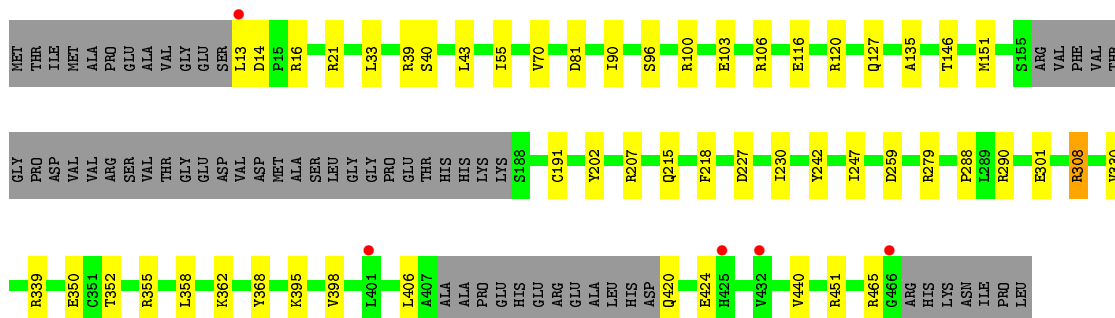


• Molecule 1: Propionyl-CoA carboxylase subunit beta

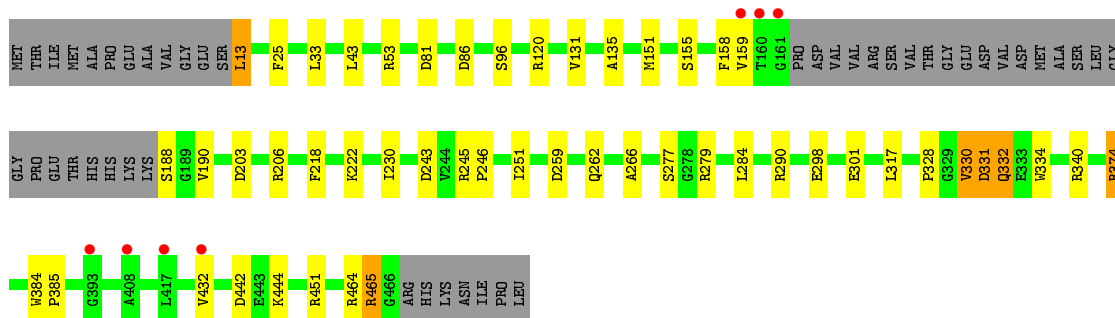
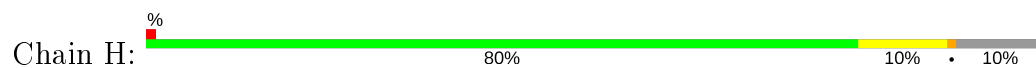


• Molecule 1: Propionyl-CoA carboxylase subunit beta





- Molecule 1: Propionyl-CoA carboxylase subunit beta



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	102.78Å 150.41Å 152.64Å 90.00° 89.73° 90.00°	Depositor
Resolution (Å)	42.54 – 2.61 42.53 – 2.61	Depositor EDS
% Data completeness (in resolution range)	95.0 (42.54-2.61) 94.9 (42.53-2.61)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.88 (at 2.61Å)	Xtriage
Refinement program	PHENIX 1.15.2_3472	Depositor
R, R_{free}	0.185 , 0.239 0.187 , 0.239	Depositor DCC
R_{free} test set	6712 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å ²)	43.9	Xtriage
Anisotropy	0.186	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 28.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	0.003 for -h,l,k 0.008 for -h,-l,-k 0.448 for h,-k,-l	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	25418	wwPDB-VP
Average B, all atoms (Å ²)	45.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.39% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: OWD

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	0.44	0/3209	0.63	0/4365
1	B	0.47	0/3185	0.61	0/4330
1	C	0.43	0/3051	0.62	0/4151
1	D	0.43	0/3151	0.59	0/4294
1	E	0.45	0/3209	0.63	0/4365
1	F	0.44	0/3185	0.58	0/4330
1	G	0.44	0/3051	0.64	0/4151
1	H	0.48	0/3151	0.62	0/4294
All	All	0.45	0/25192	0.62	0/34280

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3147	0	3090	30	0
1	B	3123	0	3075	39	0
1	C	2991	0	2919	38	0
1	D	3093	0	3000	30	0
1	E	3147	0	3090	44	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	F	3123	0	3075	44	0
1	G	2991	0	2919	34	0
1	H	3093	0	3000	35	0
2	A	22	0	0	0	0
2	B	22	0	0	0	0
2	C	22	0	0	2	0
2	D	22	0	0	0	0
2	E	22	0	0	1	0
2	F	22	0	0	0	0
2	G	22	0	0	0	0
2	H	22	0	0	0	0
3	A	63	0	0	2	0
3	B	63	0	0	4	0
3	C	76	0	0	1	0
3	D	52	0	0	1	0
3	E	78	0	0	1	0
3	F	55	0	0	2	0
3	G	84	0	0	4	0
3	H	63	0	0	2	0
All	All	25418	0	24168	275	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 6.

All (275) 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:H:330:VAL:O	1:H:331:ASP:CB	1.92	1.14
1:H:331:ASP:O	1:H:332:GLN:CB	2.07	0.98
1:F:53:ARG:HG3	1:F:53:ARG:HH21	1.33	0.91
1:F:405:LYS:H	1:F:405:LYS:HD2	1.32	0.91
1:G:13:LEU:HA	1:G:16:ARG:HH21	1.40	0.86
1:D:330:VAL:O	1:D:331:ASP:CB	2.32	0.78
1:C:41:GLY:HA2	1:C:60:ASP:HB3	1.66	0.77
1:H:464:ARG:O	1:H:465:ARG:HB2	1.86	0.76
1:C:398:VAL:HG21	1:C:422:ALA:HA	1.68	0.75
1:E:305:ARG:HD3	1:E:308[B]:ARG:HH21	1.53	0.73
1:G:40:SER:O	1:G:100:ARG:NH2	2.21	0.73
1:B:116:GLU:OE1	1:B:120:ARG:NH1	2.25	0.70
1:C:13:LEU:HA	1:C:16:ARG:HH21	1.56	0.70
1:G:339:ARG:NH1	1:H:188:SER:O	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:405:LYS:N	1:B:405:LYS:HD3	2.07	0.69
1:D:53:ARG:NH1	1:D:86:ASP:OD2	2.24	0.69
1:F:374:ARG:NH1	1:F:442:ASP:OD2	2.27	0.68
1:B:409:ALA:O	1:B:414:ARG:NH2	2.27	0.67
1:A:89:PRO:HB3	1:A:126:PRO:HG2	1.78	0.66
1:E:188:SER:O	1:F:339:ARG:NH1	2.29	0.66
1:B:13:LEU:N	3:B:603:HOH:O	2.28	0.66
1:F:289:LEU:CD1	1:F:290:ARG:HE	2.08	0.66
1:H:374:ARG:NH2	1:H:442:ASP:OD2	2.29	0.65
1:F:289:LEU:HD12	1:F:290:ARG:HE	1.61	0.65
1:F:41:GLY:HA2	1:F:60:ASP:HB3	1.79	0.65
1:B:374:ARG:NH2	1:B:442:ASP:OD2	2.28	0.64
1:A:415:GLU:OE2	1:A:415:GLU:C	2.36	0.64
1:A:188:SER:O	1:B:339:ARG:NH1	2.30	0.64
1:A:188:SER:N	3:A:604:HOH:O	2.31	0.62
1:H:464:ARG:O	1:H:465:ARG:CB	2.46	0.62
1:D:81:ASP:OD1	1:D:120:ARG:NH2	2.32	0.62
1:C:41:GLY:O	1:C:60:ASP:N	2.30	0.62
1:C:53:ARG:NH1	1:C:86:ASP:OD2	2.33	0.61
1:F:227:ASP:OD1	1:F:451:ARG:HB2	2.01	0.61
1:B:271:VAL:HG22	1:B:302:LYS:HE2	1.82	0.60
1:E:222:LYS:HE3	1:E:451:ARG:HH22	1.67	0.59
1:C:296:ASN:HB2	3:C:605:HOH:O	2.02	0.58
1:D:406:LEU:HD23	1:D:417:LEU:HD23	1.86	0.58
1:B:13:LEU:N	3:B:605:HOH:O	2.37	0.58
1:C:405:LYS:O	1:C:407:ALA:N	2.36	0.58
1:E:188:SER:N	3:E:603:HOH:O	2.35	0.58
1:H:243:ASP:O	1:H:246:PRO:HD2	2.04	0.58
1:A:159:VAL:HG23	1:B:334:TRP:CD2	2.39	0.57
1:C:394:ALA:O	1:C:398:VAL:HG23	2.03	0.57
1:B:398:VAL:HG21	1:B:422:ALA:HA	1.86	0.57
1:H:222:LYS:HE3	1:H:277:SER:HA	1.86	0.57
1:A:308[A]:ARG:HH22	1:A:346:HIS:HD2	1.53	0.57
1:B:72:GLY:HA3	3:B:627:HOH:O	2.04	0.57
1:F:116:GLU:O	1:F:120:ARG:HG2	2.05	0.57
1:C:301:GLU:HB2	1:C:340:ARG:HG2	1.87	0.57
1:D:157:VAL:HG13	1:D:158:PHE:N	2.20	0.56
1:G:39:ARG:NH1	3:G:609:HOH:O	2.38	0.56
1:H:188:SER:HB3	1:H:190:VAL:HG23	1.86	0.56
1:G:301:GLU:OE2	1:H:340:ARG:NH2	2.39	0.56
1:D:96:SER:O	1:D:135:ALA:HA	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:53:ARG:HG3	1:F:53:ARG:NH2	2.10	0.56
1:G:290:ARG:NH2	3:G:606:HOH:O	2.32	0.56
1:E:42:VAL:HG11	1:E:72:GLY:O	2.06	0.55
1:G:352:THR:HB	1:G:465:ARG:H	1.72	0.55
1:F:409:ALA:O	1:F:414:ARG:NH2	2.40	0.55
1:C:339:ARG:NH1	1:D:188:SER:O	2.40	0.55
1:G:151:MET:CE	1:G:191:CYS:HB2	2.37	0.55
1:E:357:THR:OG1	1:E:372:ASN:ND2	2.39	0.55
1:A:159:VAL:HG23	1:B:334:TRP:CE3	2.43	0.54
1:C:308[A]:ARG:NH2	1:C:350:GLU:OE1	2.39	0.54
1:A:218:PHE:CZ	1:A:279:ARG:HG2	2.43	0.54
1:A:398:VAL:HG11	1:A:421:LEU:HB3	1.89	0.54
1:B:392:MET:HG3	1:B:397:ALA:HB2	1.89	0.54
1:C:253:ASP:OD2	1:C:277:SER:N	2.40	0.54
1:E:402:HIS:CD2	1:E:421:LEU:HD22	2.42	0.54
1:E:410:PRO:HG2	1:E:413:GLU:HB2	1.88	0.54
1:H:245:ARG:NH1	3:H:602:HOH:O	2.33	0.54
1:G:81:ASP:OD1	1:G:120:ARG:NH2	2.41	0.54
1:G:308[A]:ARG:NH2	1:G:350:GLU:OE1	2.42	0.54
1:C:81:ASP:OD1	1:C:120:ARG:NH2	2.41	0.53
1:D:103:GLU:HB2	1:D:107:ALA:HB2	1.91	0.53
1:E:13:LEU:N	1:E:16:ARG:HH21	2.06	0.53
1:F:405:LYS:H	1:F:405:LYS:CD	2.10	0.53
1:H:328:PRO:HB3	1:H:334:TRP:CE2	2.43	0.53
1:B:255:ASP:OD1	1:B:255:ASP:N	2.38	0.53
1:B:328:PRO:HB3	1:B:334:TRP:CE3	2.44	0.53
1:G:33:LEU:HD13	1:G:43:LEU:HD11	1.90	0.53
1:G:395:LYS:O	1:G:398:VAL:HG22	2.08	0.53
1:H:218:PHE:CZ	1:H:279:ARG:HG2	2.44	0.53
1:B:41:GLY:HA2	1:B:60:ASP:HB3	1.91	0.53
1:G:420:GLN:NE2	3:G:616:HOH:O	2.42	0.53
1:H:25:PHE:O	1:H:206:ARG:HD2	2.08	0.53
1:A:417:LEU:O	1:A:421:LEU:HB2	2.08	0.53
1:F:289:LEU:HD12	1:F:290:ARG:NE	2.24	0.53
1:H:33:LEU:HD13	1:H:43:LEU:HD11	1.90	0.52
1:A:215:GLN:HB3	1:A:279:ARG:NH1	2.24	0.52
1:E:207:ARG:NH1	1:E:259:ASP:OD2	2.42	0.52
1:D:298:GLU:OE2	1:D:298:GLU:N	2.41	0.52
1:G:116:GLU:OE1	1:G:120:ARG:NH1	2.43	0.52
1:E:230:ILE:HD12	1:E:450:THR:HB	1.91	0.52
1:E:131:VAL:HB	1:E:151:MET:HG2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:331:ASP:OD1	1:E:333:GLU:HB2	2.10	0.51
1:C:14:ASP:HB3	1:F:102:ALA:CB	2.41	0.51
1:F:374:ARG:NH2	1:F:378:ALA:O	2.43	0.51
1:H:96:SER:O	1:H:135:ALA:HA	2.11	0.51
1:D:301:GLU:HB2	1:D:340:ARG:HD3	1.93	0.51
1:E:151:MET:HE1	1:E:156:ARG:HA	1.93	0.51
1:G:242:TYR:CE1	1:G:288:PRO:HG2	2.45	0.51
1:B:70:VAL:HG23	1:B:103:GLU:OE1	2.11	0.50
1:D:218:PHE:CZ	1:D:279:ARG:HG2	2.46	0.50
1:C:242:TYR:CE1	1:C:288:PRO:HG2	2.47	0.50
1:B:308[A]:ARG:NH2	1:B:350:GLU:OE1	2.44	0.50
1:E:242:TYR:CE1	1:E:288:PRO:HG2	2.46	0.50
1:E:239:ARG:NH2	1:H:159:VAL:H	2.09	0.50
1:A:133:GLY:O	1:A:155:SER:HB2	2.12	0.49
1:B:237:SER:HB3	1:B:240:ARG:HB2	1.94	0.49
1:D:374:ARG:HG2	1:D:374:ARG:HH11	1.77	0.49
1:G:227:ASP:OD1	1:G:451:ARG:HB3	2.12	0.49
2:C:501:OWD:C07	2:C:501:OWD:C11	2.90	0.49
1:G:424:GLU:OE2	1:G:424:GLU:N	2.45	0.49
1:E:271:VAL:HA	1:E:283:VAL:O	2.12	0.49
1:H:385:PRO:HA	1:H:444:LYS:HD3	1.94	0.49
1:B:340:ARG:HH22	1:B:343:LYS:HE2	1.78	0.49
1:B:331:ASP:O	1:B:332:GLN:CB	2.60	0.48
1:C:14:ASP:HB3	1:F:102:ALA:HB1	1.96	0.48
1:F:239:ARG:NH1	1:F:240:ARG:HH21	2.11	0.48
1:A:222:LYS:NZ	3:A:609:HOH:O	2.46	0.48
1:E:336:GLY:O	1:E:340:ARG:HG3	2.14	0.48
1:D:434:SER:O	1:D:438:ILE:HG13	2.13	0.48
1:G:127:GLN:HB2	1:G:146:THR:HB	1.96	0.48
1:E:218:PHE:CZ	1:E:279:ARG:HG2	2.48	0.48
1:A:131:VAL:HB	1:A:151:MET:HG2	1.96	0.48
1:A:271:VAL:HA	1:A:283:VAL:O	2.13	0.48
1:A:41:GLY:HA2	1:A:60:ASP:HB3	1.95	0.48
1:F:355:ARG:NH1	1:F:372:ASN:OD1	2.47	0.48
1:B:102:ALA:CB	1:G:14:ASP:HB3	2.44	0.48
1:C:368:TYR:OH	1:C:440:VAL:HB	2.13	0.47
1:H:131:VAL:HB	1:H:151:MET:HG2	1.96	0.47
1:B:227:ASP:OD1	1:B:451:ARG:HB2	2.14	0.47
1:F:248:VAL:HG13	1:F:283:VAL:HG11	1.96	0.47
1:H:262:GLN:HG2	3:H:615:HOH:O	2.14	0.47
1:A:95:HIS:CD2	1:A:133:GLY:HA3	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:405:LYS:N	1:B:405:LYS:CD	2.73	0.47
1:E:289:LEU:O	1:E:290:ARG:HD2	2.14	0.47
1:H:230:ILE:CD1	1:H:251:ILE:HG13	2.44	0.47
1:D:266:ALA:HB2	1:D:298:GLU:HB3	1.95	0.47
1:E:402:HIS:HD2	1:E:421:LEU:HD22	1.78	0.47
1:B:308[A]:ARG:NH1	3:B:608:HOH:O	2.48	0.47
1:B:102:ALA:HB1	1:G:14:ASP:HB3	1.95	0.47
1:H:81:ASP:OD1	1:H:120:ARG:NH2	2.48	0.47
1:B:405:LYS:H	1:B:405:LYS:CD	2.27	0.47
1:C:25:PHE:CZ	1:C:91:VAL:HG21	2.50	0.47
1:E:242:TYR:CZ	1:E:288:PRO:HG2	2.50	0.47
1:F:53:ARG:NH2	1:F:53:ARG:CG	2.72	0.47
1:A:207:ARG:NH1	1:A:259:ASP:OD1	2.48	0.47
1:A:411:GLU:HB2	1:C:291:LEU:HD22	1.97	0.47
1:E:42:VAL:HG11	1:E:75:HIS:HB2	1.97	0.47
1:H:432:VAL:HB	1:H:444:LYS:HE2	1.96	0.47
1:A:53:ARG:HH11	1:A:53:ARG:HG2	1.79	0.47
1:E:159:VAL:HG23	1:F:334:TRP:CE3	2.50	0.47
1:H:301:GLU:HB2	1:H:340:ARG:HD2	1.97	0.46
1:C:401:LEU:HB2	1:D:101:LEU:HD23	1.97	0.46
1:B:351:CYS:HB3	1:B:355:ARG:NE	2.31	0.46
1:E:331:ASP:OD1	1:E:331:ASP:N	2.36	0.46
1:B:236:GLU:OE1	1:B:236:GLU:N	2.48	0.46
1:F:308[A]:ARG:HD3	3:F:625:HOH:O	2.14	0.46
1:E:340:ARG:HH21	1:F:340:ARG:HH21	1.63	0.46
1:H:222:LYS:HE3	1:H:451:ARG:HH22	1.80	0.46
1:B:86:ASP:O	1:B:87:GLN:HB3	2.16	0.46
1:D:256:THR:HG21	1:D:275:ARG:HB2	1.98	0.46
1:D:33:LEU:HD13	1:D:43:LEU:HD11	1.98	0.45
1:C:356:VAL:HG22	1:C:458:LEU:HD21	1.96	0.45
1:D:55:ILE:O	1:D:90:ILE:HA	2.16	0.45
1:F:379:THR:HG21	1:F:461:ALA:HB2	1.97	0.45
1:C:233:LEU:HB2	1:C:247:ILE:HD11	1.99	0.45
1:D:131:VAL:HB	1:D:151:MET:HG2	1.98	0.45
1:C:41:GLY:HA2	1:C:60:ASP:CB	2.43	0.45
1:A:409:ALA:HB3	1:A:414:ARG:HB2	1.97	0.45
1:A:414:ARG:O	1:A:415:GLU:HB2	2.17	0.45
2:C:501:OWD:C11	1:D:366:GLY:HA3	2.47	0.45
1:F:296:ASN:H	1:F:299:SER:HG	1.63	0.45
1:E:239:ARG:NH2	1:H:158:PHE:HA	2.32	0.45
1:H:53:ARG:NH1	1:H:86:ASP:OD2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:266:ALA:HB2	1:H:298:GLU:HB3	1.98	0.45
1:C:328:PRO:HD3	1:C:334:TRP:CH2	2.53	0.44
1:A:243:ASP:O	1:A:246:PRO:HD2	2.18	0.44
1:A:328:PRO:HB3	1:A:334:TRP:CD2	2.52	0.44
1:B:56:ALA:HA	1:B:91:VAL:O	2.16	0.44
1:C:228:THR:O	1:C:448:ALA:HA	2.17	0.44
1:F:368:TYR:OH	1:F:440:VAL:HB	2.17	0.44
1:G:207:ARG:NH1	1:G:259:ASP:OD1	2.51	0.44
1:C:333:GLU:OE2	1:D:188:SER:HA	2.17	0.44
1:G:218:PHE:CZ	1:G:279:ARG:HG2	2.53	0.44
1:F:237:SER:HB3	1:F:240:ARG:HG2	1.98	0.43
1:G:106:ARG:NH1	3:G:625:HOH:O	2.51	0.43
1:G:215:GLN:HB3	1:G:279:ARG:NH1	2.32	0.43
1:G:368:TYR:OH	1:G:440:VAL:HB	2.17	0.43
1:D:242:TYR:CE1	1:D:288:PRO:HG2	2.53	0.43
1:H:151:MET:HE3	1:H:155:SER:OG	2.17	0.43
1:C:239:ARG:HD3	1:C:239:ARG:HA	1.82	0.43
1:F:56:ALA:HA	1:F:91:VAL:O	2.17	0.43
1:H:218:PHE:CE2	1:H:279:ARG:HG2	2.53	0.43
1:H:230:ILE:HG22	1:H:384:TRP:HH2	1.83	0.43
1:F:240:ARG:HD3	1:F:240:ARG:HA	1.79	0.43
1:F:218:PHE:CZ	1:F:279:ARG:HG2	2.53	0.43
1:F:357:THR:HB	1:F:381:VAL:HG22	1.99	0.43
1:G:151:MET:HE2	1:G:191:CYS:HB2	2.00	0.43
1:F:438:ILE:HG22	1:F:440:VAL:HG13	2.01	0.43
1:C:395:LYS:HA	1:C:422:ALA:HB1	1.99	0.43
1:G:55:ILE:O	1:G:90:ILE:HA	2.19	0.43
1:B:365:GLY:O	1:B:368:TYR:HB3	2.18	0.43
1:E:49:VAL:HG13	1:E:206:ARG:HG2	2.01	0.43
1:D:89:PRO:HB3	1:D:126:PRO:HG2	2.00	0.43
1:E:222:LYS:HE3	1:E:451:ARG:NH2	2.34	0.42
1:B:267:PRO:HB2	1:B:290:ARG:HG3	2.01	0.42
1:C:70:VAL:HG23	1:C:103:GLU:OE1	2.20	0.42
1:E:42:VAL:HG12	1:E:72:GLY:HA2	1.99	0.42
1:A:227:ASP:HB3	1:A:448:ALA:O	2.19	0.42
1:E:328:PRO:HB3	1:E:334:TRP:CE2	2.54	0.42
1:F:13:LEU:N	3:F:608:HOH:O	2.52	0.42
1:H:13:LEU:HD23	1:H:13:LEU:HA	1.86	0.42
1:C:131:VAL:HB	1:C:151:MET:HG2	2.01	0.42
1:G:230:ILE:HG21	1:G:247:ILE:HG23	2.01	0.42
1:B:379:THR:HG21	1:B:461:ALA:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:41:GLY:HA2	1:E:60:ASP:HB3	2.02	0.42
1:H:284:LEU:HD11	1:H:317:LEU:HD22	2.00	0.42
1:F:227:ASP:OD2	1:F:449:HIS:HA	2.20	0.42
1:G:301:GLU:CD	1:H:340:ARG:HH21	2.23	0.42
1:A:43:LEU:HA	1:A:43:LEU:HD12	1.92	0.42
1:D:204:ARG:HD3	3:D:604:HOH:O	2.19	0.42
1:F:261:PHE:HB2	1:F:271:VAL:HG23	2.01	0.42
1:G:207:ARG:HD2	1:G:259:ASP:OD2	2.19	0.42
1:A:239:ARG:HB2	1:A:239:ARG:NH1	2.35	0.42
1:B:131:VAL:HB	1:B:151:MET:HG2	2.02	0.42
1:C:462:PRO:HB2	1:C:464:ARG:O	2.20	0.42
1:H:222:LYS:CE	1:H:277:SER:HA	2.49	0.42
1:F:343:LYS:HD2	1:F:343:LYS:HA	1.86	0.42
1:C:301:GLU:CD	1:D:340:ARG:HH12	2.22	0.42
1:F:394:ALA:O	1:F:398:VAL:HG13	2.20	0.42
1:G:70:VAL:HG23	1:G:103:GLU:OE1	2.19	0.42
1:F:219:ASP:OD1	1:F:222:LYS:HG3	2.20	0.41
1:G:96:SER:O	1:G:135:ALA:HA	2.21	0.41
1:E:95:HIS:CD2	1:E:133:GLY:HA3	2.55	0.41
1:F:131:VAL:HB	1:F:151:MET:HG2	2.02	0.41
1:F:69:GLY:HA3	1:F:100:ARG:HD2	2.01	0.41
1:A:153:PRO:HD3	1:A:195:ALA:O	2.20	0.41
1:F:269:MET:HB2	1:F:299:SER:HB2	2.01	0.41
1:G:151:MET:HE3	1:G:191:CYS:HB2	2.01	0.41
1:E:137:GLY:HA2	1:E:159:VAL:HG12	2.01	0.41
2:E:501:OWD:CL16	1:F:295:LEU:HD13	2.58	0.41
1:C:343:LYS:HD3	1:C:343:LYS:HA	1.69	0.41
1:C:230:ILE:CD1	1:C:450:THR:HB	2.51	0.41
1:E:136:ALA:HA	1:E:158:PHE:O	2.19	0.41
1:E:199:LEU:HD23	1:E:199:LEU:HA	1.82	0.41
1:B:44:ALA:HA	1:B:57:PHE:HA	2.02	0.41
1:C:364:TYR:HA	1:C:390:ALA:O	2.20	0.41
1:D:153:PRO:HD3	1:D:195:ALA:O	2.21	0.41
1:A:136:ALA:HA	1:A:158:PHE:O	2.20	0.41
1:C:13:LEU:CA	1:C:16:ARG:HH21	2.30	0.41
1:D:243:ASP:O	1:D:246:PRO:HD2	2.21	0.40
1:E:355:ARG:HD2	1:E:372:ASN:OD1	2.21	0.40
1:E:56:ALA:HA	1:E:91:VAL:O	2.21	0.40
1:C:56:ALA:HA	1:C:91:VAL:O	2.21	0.40
1:E:298:GLU:N	1:E:298:GLU:OE2	2.55	0.40
1:B:269:MET:HB2	1:B:299:SER:HB2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:271:VAL:HG12	1:B:284:LEU:HG	2.02	0.40
1:E:158:PHE:O	1:E:159:VAL:HG13	2.21	0.40
1:E:16:ARG:HB2	1:E:62:THR:HG22	2.03	0.40
1:A:242:TYR:CZ	1:A:288:PRO:HG2	2.56	0.40
1:B:406:LEU:HD23	1:B:417:LEU:HD23	2.03	0.40
1:C:335:GLY:O	1:C:339:ARG:HB2	2.20	0.40
1:D:116:GLU:OE1	1:D:120:ARG:NH1	2.48	0.40
1:D:374:ARG:O	1:D:374:ARG:HD3	2.21	0.40
1:D:402:HIS:ND1	1:D:421:LEU:HD22	2.37	0.40
1:E:153:PRO:HD3	1:E:195:ALA:O	2.21	0.40
1:E:207:ARG:HD2	1:E:207:ARG:HH11	1.73	0.40
1:G:21:ARG:HG2	1:G:202:TYR:OH	2.21	0.40
1:E:218:PHE:CE2	1:E:279:ARG:HG2	2.56	0.40
1:F:107:ALA:O	1:F:111:VAL:HG23	2.22	0.40
1:F:211:LEU:HD22	1:F:280:THR:HG23	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	423/473 (89%)	403 (95%)	16 (4%)	4 (1%)	17	35
1	B	421/473 (89%)	399 (95%)	19 (4%)	3 (1%)	22	43
1	C	406/473 (86%)	384 (95%)	17 (4%)	5 (1%)	13	27
1	D	424/473 (90%)	405 (96%)	15 (4%)	4 (1%)	17	35
1	E	423/473 (89%)	403 (95%)	19 (4%)	1 (0%)	47	71
1	F	421/473 (89%)	407 (97%)	14 (3%)	0	100	100
1	G	406/473 (86%)	385 (95%)	19 (5%)	2 (0%)	29	52
1	H	424/473 (90%)	406 (96%)	15 (4%)	3 (1%)	22	43

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	3348/3784 (88%)	3192 (95%)	134 (4%)	22 (1%)	22 43

All (22) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	332	GLN
1	C	330	VAL
1	C	421	LEU
1	D	328	PRO
1	D	331	ASP
1	G	330	VAL
1	H	331	ASP
1	H	332	GLN
1	H	465	ARG
1	A	414	ARG
1	A	415	GLU
1	A	465	ARG
1	C	406	LEU
1	D	465	ARG
1	E	465	ARG
1	G	406	LEU
1	C	405	LYS
1	C	422	ALA
1	B	465	ARG
1	D	157	VAL
1	A	14	ASP
1	B	328	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	316/362 (87%)	308 (98%)	8 (2%)	47 73
1	B	311/362 (86%)	307 (99%)	4 (1%)	69 86
1	C	295/362 (82%)	287 (97%)	8 (3%)	44 71

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	D	302/362 (83%)	296 (98%)	6 (2%)	55	78
1	E	316/362 (87%)	306 (97%)	10 (3%)	39	65
1	F	311/362 (86%)	307 (99%)	4 (1%)	69	86
1	G	295/362 (82%)	290 (98%)	5 (2%)	60	81
1	H	302/362 (83%)	296 (98%)	6 (2%)	55	78
All	All	2448/2896 (84%)	2397 (98%)	51 (2%)	57	77

All (51) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	38	ASP
1	A	122	SER
1	A	191	CYS
1	A	308[A]	ARG
1	A	308[B]	ARG
1	A	331	ASP
1	A	415	GLU
1	A	437	ASP
1	B	53	ARG
1	B	240	ARG
1	B	330	VAL
1	B	380	LYS
1	C	14	ASP
1	C	53	ARG
1	C	228	THR
1	C	308[A]	ARG
1	C	308[B]	ARG
1	C	355	ARG
1	C	420	GLN
1	C	465	ARG
1	D	188	SER
1	D	221	SER
1	D	259	ASP
1	D	346	HIS
1	D	420	GLN
1	D	465	ARG
1	E	14	ASP
1	E	53	ARG
1	E	191	CYS
1	E	221	SER

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Mol	Chain	Res	Type
1	E	239	ARG
1	E	245	ARG
1	E	308[A]	ARG
1	E	308[B]	ARG
1	E	333	GLU
1	E	424	GLU
1	F	245	ARG
1	F	290	ARG
1	F	355	ARG
1	F	405	LYS
1	G	308[A]	ARG
1	G	308[B]	ARG
1	G	355	ARG
1	G	358	LEU
1	G	362	LYS
1	H	13	LEU
1	H	203	ASP
1	H	259	ASP
1	H	290	ARG
1	H	330	VAL
1	H	374	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	87	GLN
1	B	87	GLN
1	E	87	GLN
1	F	460	GLN
1	H	346	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

8 ligands are modelled in this entry.

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	OWD	E	501	-	21,24,24	1.24	3 (14%)	29,33,33	2.21	3 (10%)
2	OWD	G	501	-	21,24,24	1.14	2 (9%)	29,33,33	2.11	3 (10%)
2	OWD	A	501	-	21,24,24	1.33	1 (4%)	29,33,33	2.16	3 (10%)
2	OWD	D	501	-	21,24,24	1.17	1 (4%)	29,33,33	1.94	3 (10%)
2	OWD	F	501	-	21,24,24	1.31	3 (14%)	29,33,33	2.41	4 (13%)
2	OWD	B	501	-	21,24,24	1.17	1 (4%)	29,33,33	2.35	4 (13%)
2	OWD	C	501	-	21,24,24	1.31	2 (9%)	29,33,33	3.32	9 (31%)
2	OWD	H	501	-	21,24,24	1.24	2 (9%)	29,33,33	2.13	4 (13%)

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	OWD	E	501	-	-	0/6/8/8	0/3/3/3
2	OWD	G	501	-	-	0/6/8/8	0/3/3/3
2	OWD	A	501	-	-	0/6/8/8	0/3/3/3
2	OWD	D	501	-	-	0/6/8/8	0/3/3/3
2	OWD	F	501	-	-	0/6/8/8	0/3/3/3
2	OWD	B	501	-	-	0/6/8/8	0/3/3/3
2	OWD	C	501	-	-	1/6/8/8	0/3/3/3
2	OWD	H	501	-	-	0/6/8/8	0/3/3/3

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	501	OWD	C13-N12	-3.44	1.31	1.37
2	F	501	OWD	O09-C10	3.43	1.41	1.36
2	A	501	OWD	O09-C10	3.37	1.41	1.36
2	B	501	OWD	O09-C10	3.08	1.40	1.36
2	C	501	OWD	O09-C10	3.05	1.40	1.36
2	E	501	OWD	O09-C10	3.02	1.40	1.36
2	G	501	OWD	O09-C10	2.98	1.40	1.36
2	H	501	OWD	O09-C10	2.88	1.40	1.36
2	F	501	OWD	C15-CL16	2.55	1.80	1.74
2	E	501	OWD	C15-CL16	2.33	1.79	1.74
2	D	501	OWD	O09-C10	2.25	1.39	1.36
2	F	501	OWD	C19-C13	-2.11	1.38	1.42
2	G	501	OWD	C15-CL16	2.07	1.79	1.74
2	H	501	OWD	C15-CL16	2.03	1.78	1.74
2	E	501	OWD	C10-N20	2.03	1.33	1.30

All (33) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	501	OWD	C11-C10-N20	-11.93	118.06	124.09
2	B	501	OWD	C11-C10-N20	-9.91	119.08	124.09
2	F	501	OWD	C11-C10-N20	-9.86	119.11	124.09
2	E	501	OWD	C11-C10-N20	-9.64	119.22	124.09
2	A	501	OWD	C11-C10-N20	-9.49	119.29	124.09
2	H	501	OWD	C11-C10-N20	-9.42	119.33	124.09
2	G	501	OWD	C11-C10-N20	-8.97	119.56	124.09
2	C	501	OWD	C10-C11-N12	8.15	126.79	121.86
2	D	501	OWD	C11-C10-N20	-8.06	120.01	124.09
2	B	501	OWD	C10-N20-C19	5.25	119.64	115.79
2	C	501	OWD	C14-C13-C19	5.11	125.05	119.51
2	A	501	OWD	C10-N20-C19	4.76	119.27	115.79
2	E	501	OWD	C10-N20-C19	4.68	119.22	115.79
2	C	501	OWD	C15-C14-C13	-4.67	115.55	119.50
2	F	501	OWD	C10-N20-C19	4.53	119.11	115.79
2	D	501	OWD	C10-N20-C19	4.35	118.97	115.79
2	G	501	OWD	C10-N20-C19	4.27	118.92	115.79
2	G	501	OWD	O09-C10-N20	4.15	125.41	120.14
2	F	501	OWD	O09-C10-N20	4.12	125.37	120.14
2	C	501	OWD	C18-C17-C15	4.07	123.94	119.21
2	B	501	OWD	O09-C10-N20	3.54	124.64	120.14
2	H	501	OWD	C10-N20-C19	3.42	118.29	115.79
2	H	501	OWD	O09-C10-N20	3.31	124.34	120.14
2	E	501	OWD	O09-C10-N20	2.96	123.90	120.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	501	OWD	O09-C10-N20	2.79	123.69	120.14
2	C	501	OWD	C17-C18-C19	-2.58	117.59	120.84
2	D	501	OWD	O09-C10-N20	2.58	123.41	120.14
2	C	501	OWD	C14-C15-CL16	2.55	122.83	119.64
2	C	501	OWD	C13-C19-N20	2.27	124.14	121.18
2	H	501	OWD	C10-C11-N12	2.23	123.21	121.86
2	F	501	OWD	C06-C05-C22	2.15	121.54	118.17
2	B	501	OWD	C06-C05-C22	2.12	121.50	118.17
2	C	501	OWD	C19-C13-N12	-2.02	119.07	121.00

There are no chirality outliers.

All (1) torsion outliers are listed below:

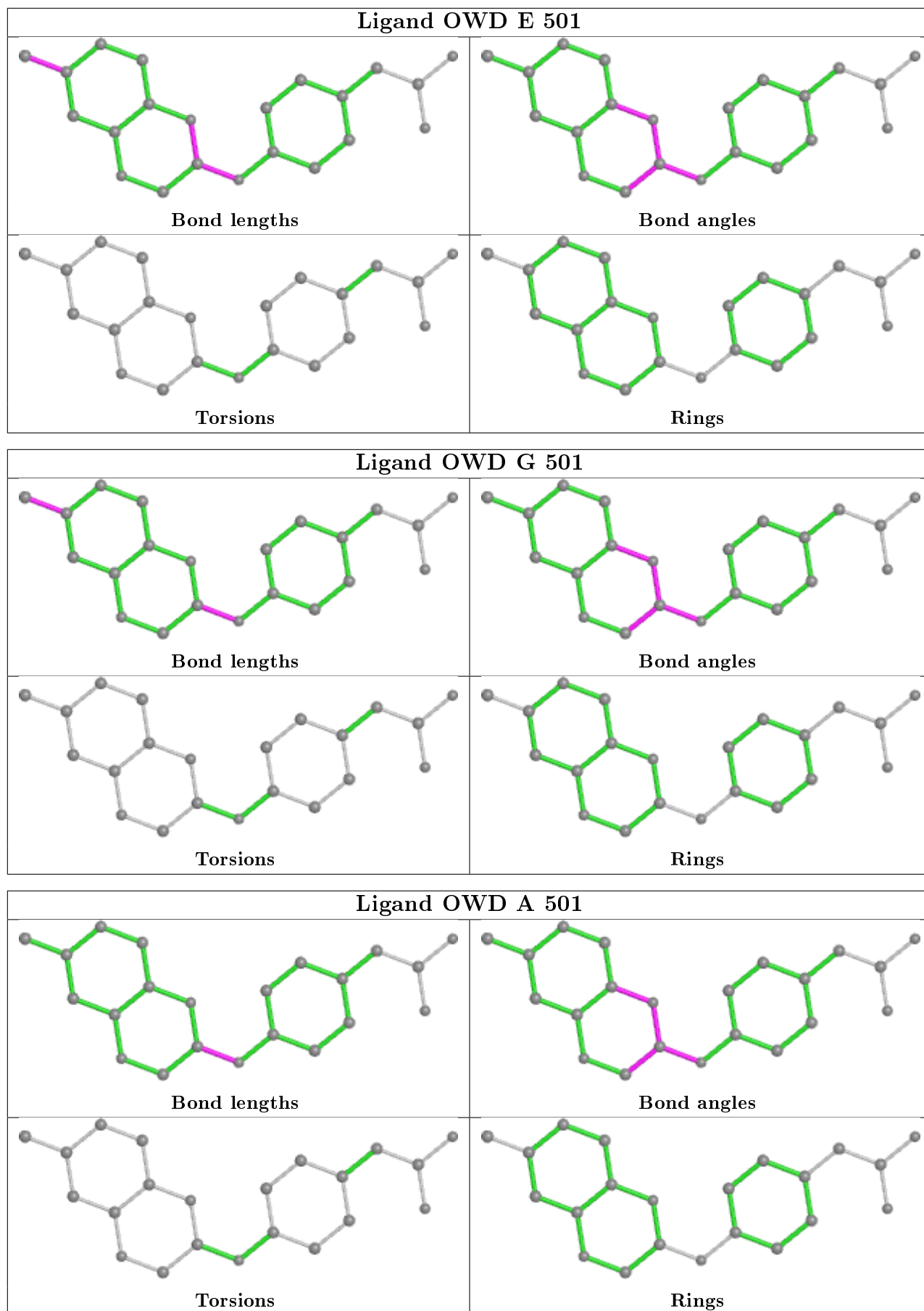
Mol	Chain	Res	Type	Atoms
2	C	501	OWD	C11-C10-O09-C08

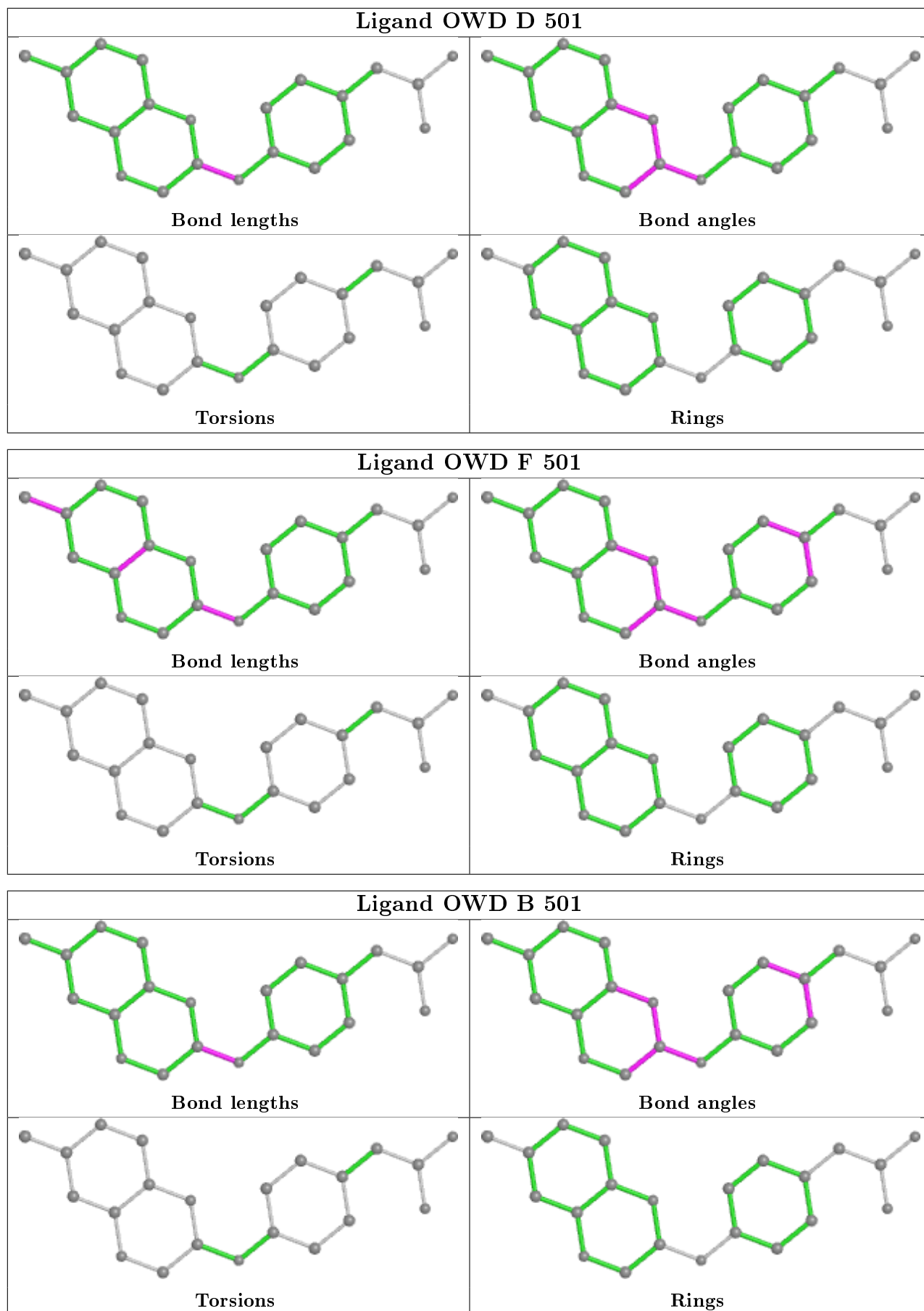
There are no ring outliers.

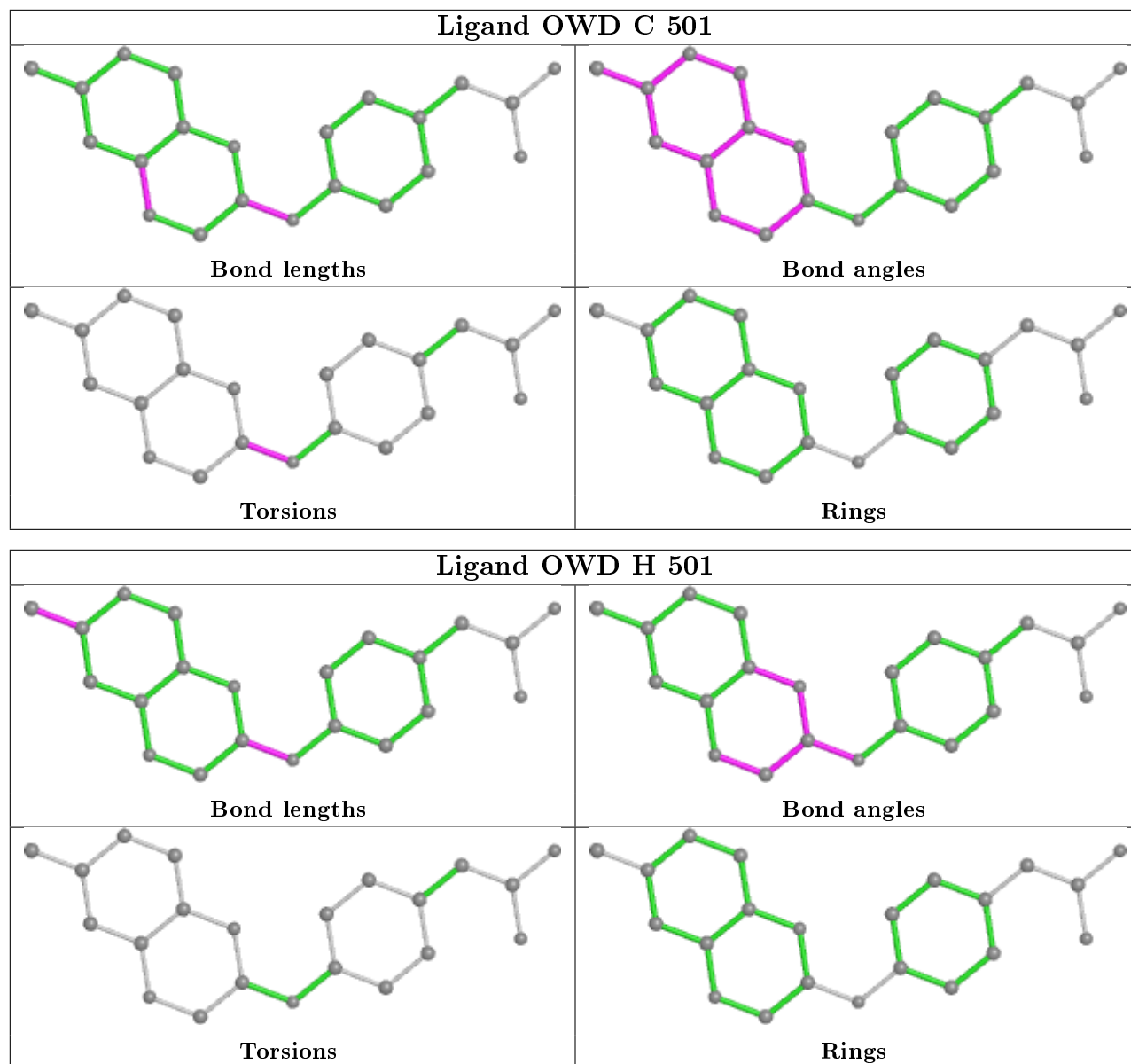
2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	E	501	OWD	1	0
2	C	501	OWD	2	0

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







5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ > 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q < 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ > 2	OWAB(Å ²)	Q < 0.9
1	A	426/473 (90%)	-0.03	3 (0%) 87 86	26, 42, 67, 87	0
1	B	424/473 (89%)	-0.04	2 (0%) 91 89	30, 44, 70, 90	0
1	C	410/473 (86%)	-0.07	5 (1%) 79 76	29, 41, 85, 118	0
1	D	428/473 (90%)	-0.05	7 (1%) 72 68	27, 42, 77, 100	0
1	E	426/473 (90%)	0.01	6 (1%) 75 71	26, 43, 65, 82	0
1	F	424/473 (89%)	-0.05	5 (1%) 79 76	27, 44, 71, 100	0
1	G	410/473 (86%)	-0.11	5 (1%) 79 76	27, 40, 83, 114	0
1	H	428/473 (90%)	-0.03	7 (1%) 72 68	28, 42, 76, 93	0
All	All	3376/3784 (89%)	-0.05	40 (1%) 79 76	26, 42, 73, 118	0

All (40) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	160	THR	7.2
1	C	401	LEU	4.8
1	C	13	LEU	4.7
1	G	13	LEU	4.5
1	E	13	LEU	4.3
1	D	159	VAL	4.0
1	F	432	VAL	4.0
1	H	160	THR	3.8
1	A	13	LEU	3.8
1	D	330	VAL	3.8
1	E	155	SER	3.5
1	H	432	VAL	3.5
1	F	330	VAL	3.3
1	D	161	GLY	3.3
1	H	417	LEU	3.3
1	D	408	ALA	3.3

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Mol	Chain	Res	Type	RSRZ
1	C	400	ILE	3.2
1	H	159	VAL	3.1
1	B	330	VAL	3.0
1	F	53	ARG	3.0
1	H	408	ALA	2.8
1	E	60	ASP	2.8
1	C	422	ALA	2.7
1	C	444	LYS	2.6
1	B	466	GLY	2.6
1	D	397	ALA	2.5
1	E	156	ARG	2.5
1	A	134	PHE	2.5
1	H	161	GLY	2.4
1	G	432	VAL	2.4
1	G	466	GLY	2.3
1	F	329	GLY	2.3
1	D	420	GLN	2.3
1	E	330	VAL	2.2
1	E	406	LEU	2.2
1	H	393	GLY	2.1
1	G	401	LEU	2.1
1	A	159	VAL	2.1
1	G	425	HIS	2.1
1	F	419	ASP	2.1

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

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

6.3 Carbohydrates [i](#)

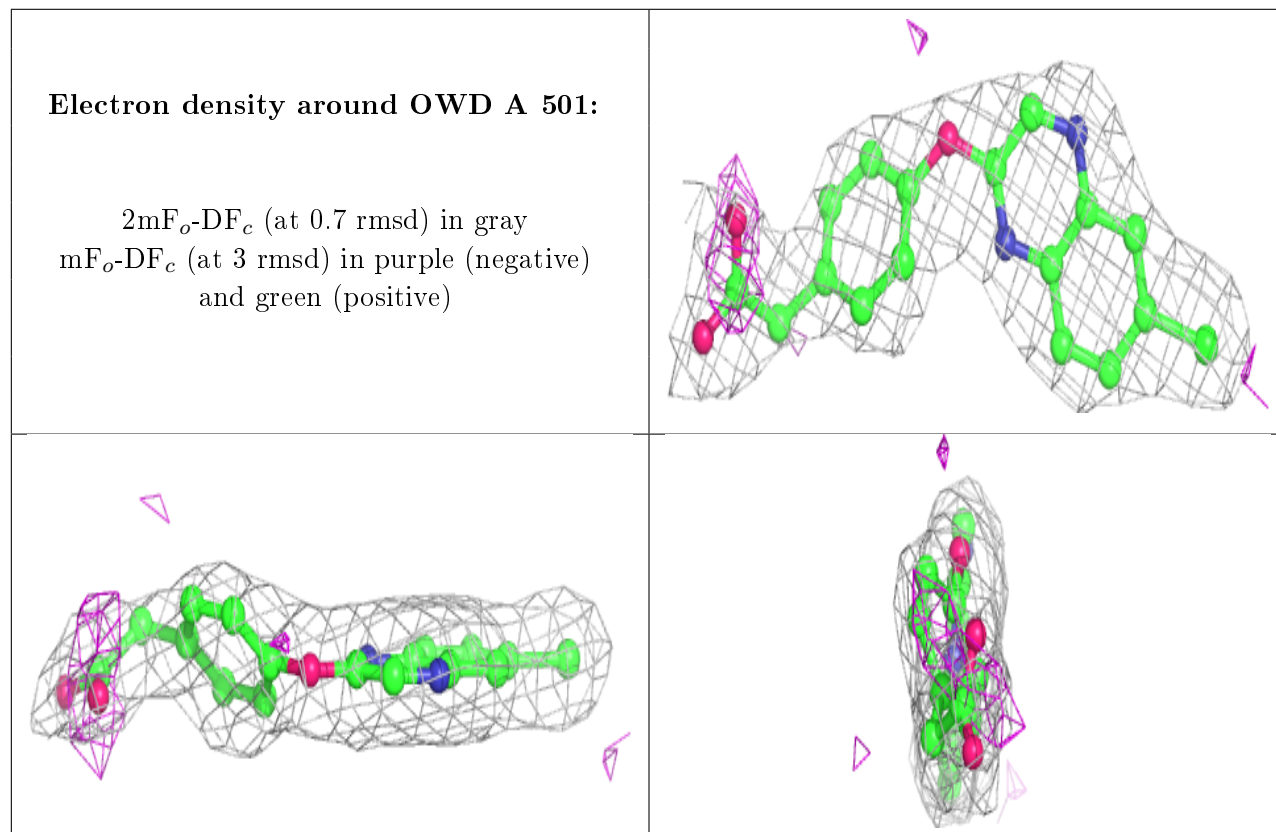
There are no monosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

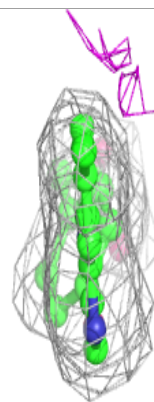
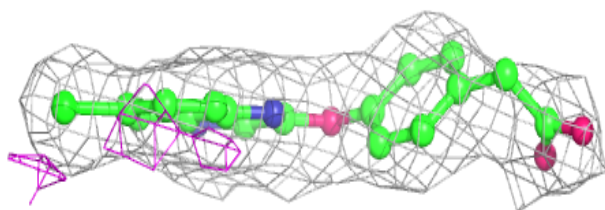
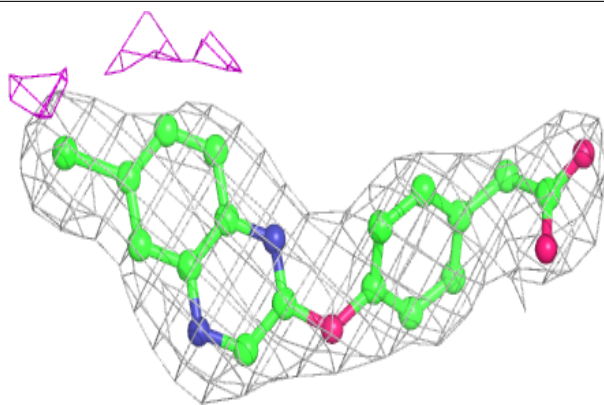
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
2	OWD	A	501	22/22	0.95	0.21	40,42,52,53	0
2	OWD	D	501	22/22	0.95	0.18	37,44,53,54	0
2	OWD	C	501	22/22	0.95	0.19	34,41,48,56	0
2	OWD	G	501	22/22	0.96	0.19	32,39,47,57	0
2	OWD	F	501	22/22	0.96	0.17	25,35,42,53	0
2	OWD	B	501	22/22	0.96	0.18	27,34,41,62	0
2	OWD	E	501	22/22	0.96	0.20	40,45,53,56	0
2	OWD	H	501	22/22	0.96	0.20	37,42,51,53	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

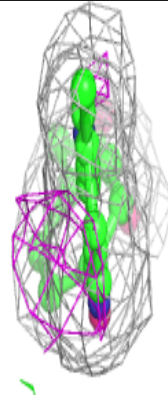
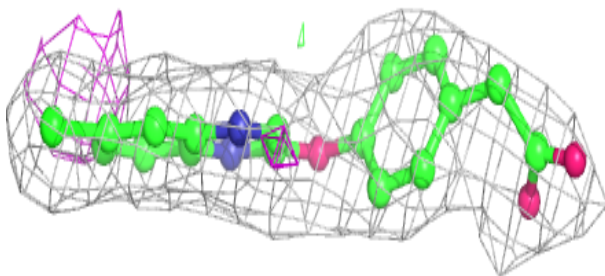
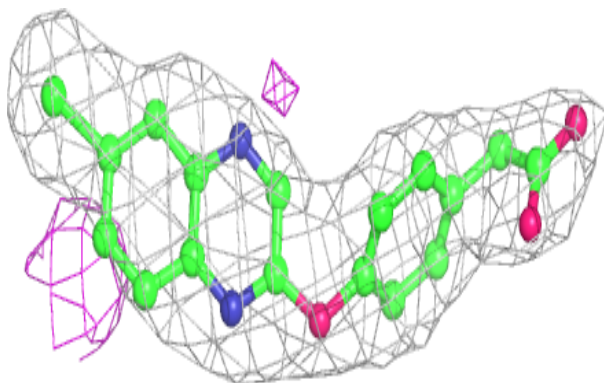


Electron density around OWD D 501:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

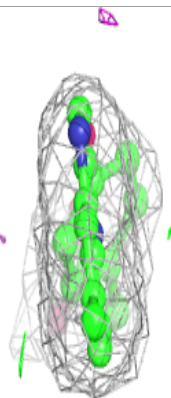
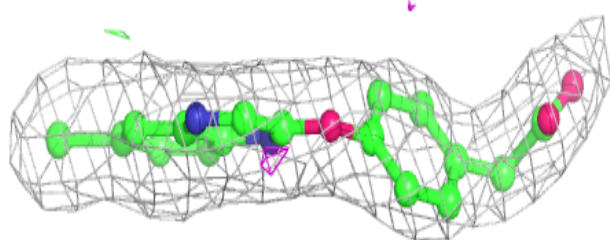
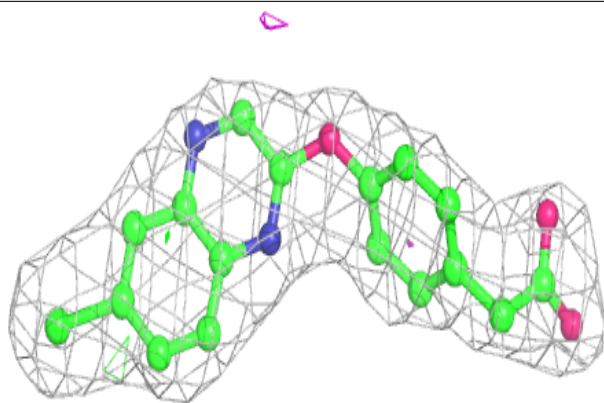
**Electron density around OWD C 501:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

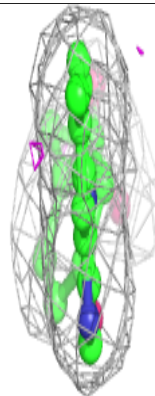
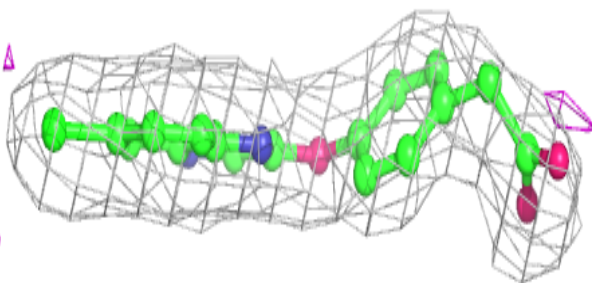
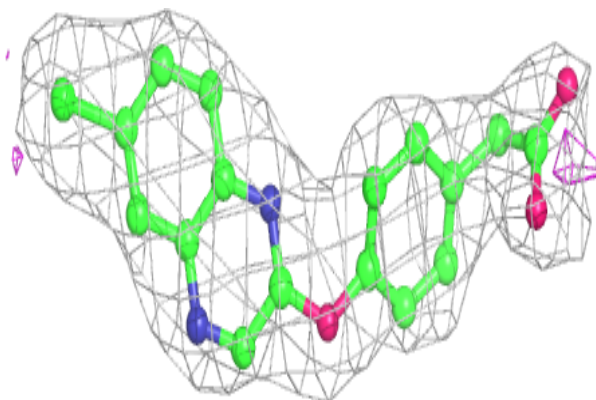


Electron density around OWD G 501:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

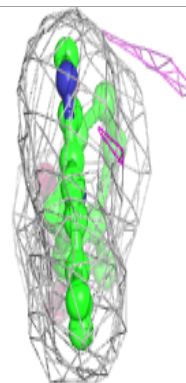
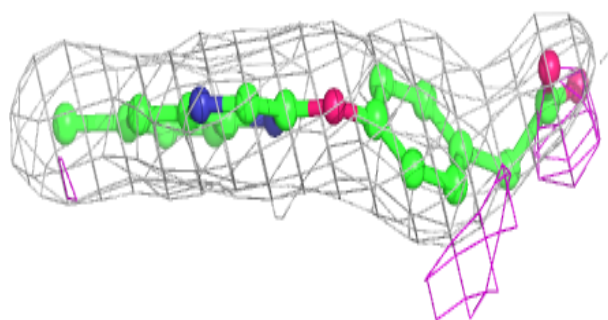
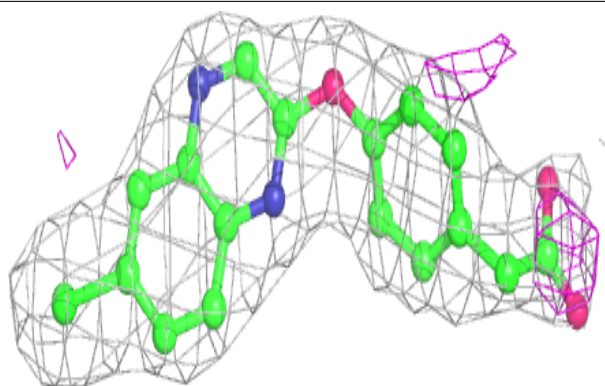
**Electron density around OWD F 501:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

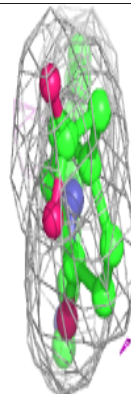
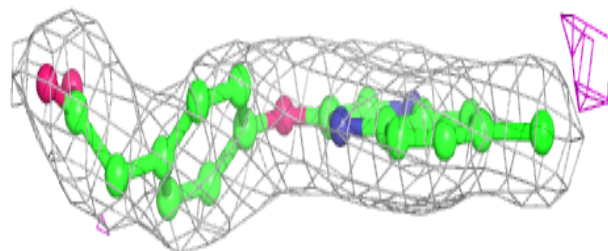
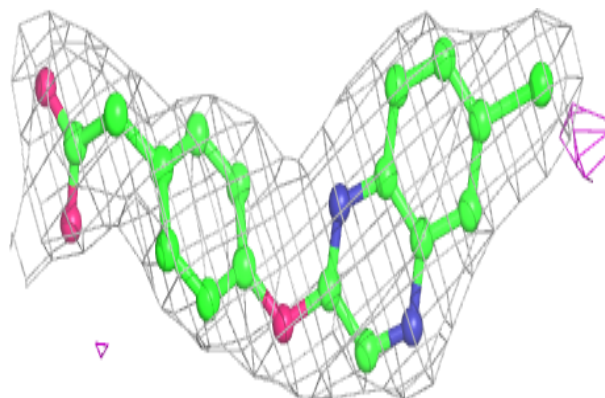


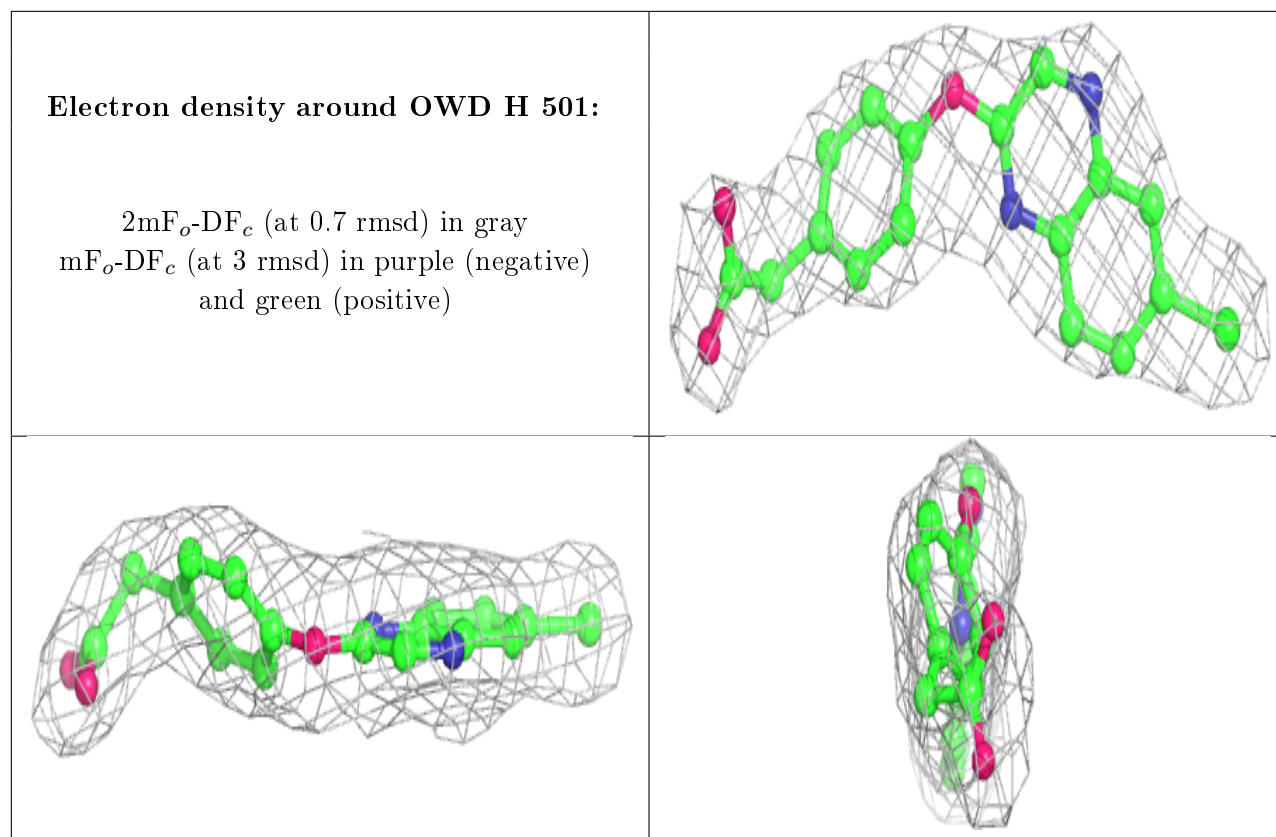
Electron density around OWD B 501:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around OWD E 501:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





6.5 Other polymers [i](#)

There are no such residues in this entry.