W O R L D W I D E

wwPDB

P R O T E I N   D A T A   B A N K

Full wwPDB X-ray Structure Validation Report (i)

Sep 1, 2022 – 07:16 pm BST

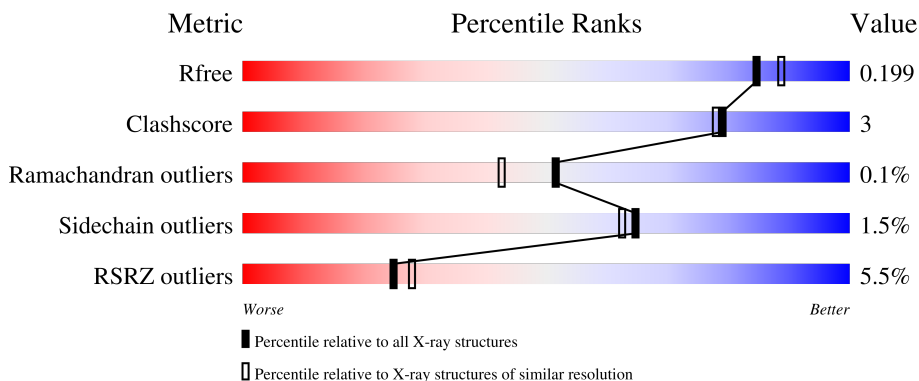|		
PDB ID	:	7R5Q
Title	:	Escherichia coli type II Asparaginase N24S mutant in complex with GLU
Authors	:	Maggi, M.; Scotti, C.
Deposited on	:	2022-02-11
Resolution	:	1.90 Å(reported)

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 1.90 Å.

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

Metric	Percentile Ranks	Value
Rfree		0.199
Clashscore		3
Ramachandran outliers		0.1%
Sidechain outliers		1.5%
RSRZ outliers		5.5%

Worse   *Better*

▌ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	6207 (1.90-1.90)
Clashscore	141614	6847 (1.90-1.90)
Ramachandran outliers	138981	6760 (1.90-1.90)
Sidechain outliers	138945	6760 (1.90-1.90)
RSRZ outliers	127900	6082 (1.90-1.90)

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 of 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 <=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	332	3% / 86% 5% 8%
1	B	332	8% / 83% 9% 8%
1	C	332	2% / 88% 5% 6%
1	D	332	7% / 81% 9% · 9%

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 18670 atoms, of which 8997 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 L-asparaginase 2.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	306	Total	C	H	N	O	S	0	0	0
			4517	1421	2245	387	456	8			
1	B	306	Total	C	H	N	O	S	0	0	0
			4496	1419	2224	385	460	8			
1	C	311	Total	C	H	N	O	S	0	0	0
			4601	1446	2288	394	465	8			
1	D	303	Total	C	H	N	O	S	0	0	0
			4477	1412	2220	382	455	8			

There are 28 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-5	HIS	-	expression tag	UNP P00805
A	-4	HIS	-	expression tag	UNP P00805
A	-3	HIS	-	expression tag	UNP P00805
A	-2	HIS	-	expression tag	UNP P00805
A	-1	HIS	-	expression tag	UNP P00805
A	0	HIS	-	expression tag	UNP P00805
A	24	SER	ASN	engineered mutation	UNP P00805
B	-5	HIS	-	expression tag	UNP P00805
B	-4	HIS	-	expression tag	UNP P00805
B	-3	HIS	-	expression tag	UNP P00805
B	-2	HIS	-	expression tag	UNP P00805
B	-1	HIS	-	expression tag	UNP P00805
B	0	HIS	-	expression tag	UNP P00805
B	24	SER	ASN	engineered mutation	UNP P00805
C	-5	HIS	-	expression tag	UNP P00805
C	-4	HIS	-	expression tag	UNP P00805
C	-3	HIS	-	expression tag	UNP P00805
C	-2	HIS	-	expression tag	UNP P00805
C	-1	HIS	-	expression tag	UNP P00805
C	0	HIS	-	expression tag	UNP P00805
C	24	SER	ASN	engineered mutation	UNP P00805

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-5	HIS	-	expression tag	UNP P00805
D	-4	HIS	-	expression tag	UNP P00805
D	-3	HIS	-	expression tag	UNP P00805
D	-2	HIS	-	expression tag	UNP P00805
D	-1	HIS	-	expression tag	UNP P00805
D	0	HIS	-	expression tag	UNP P00805
D	24	SER	ASN	engineered mutation	UNP P00805

- Molecule 2 is GLUTAMIC ACID (three-letter code: GLU) (formula: $C_5H_9NO_4$) (labeled as "Ligand of Interest" by depositor).
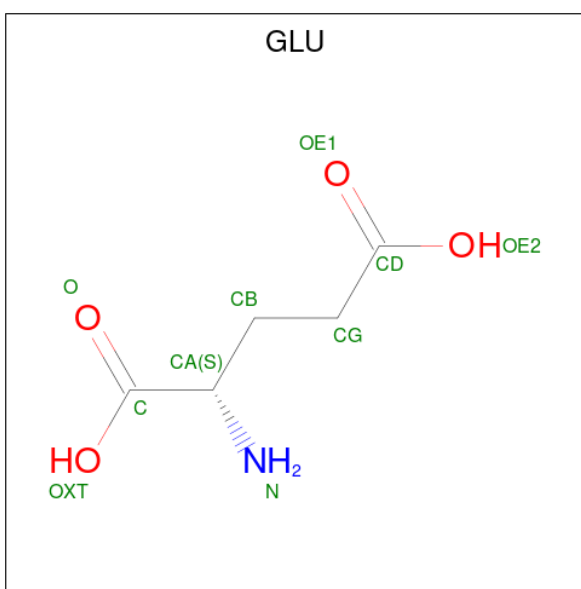
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	H	N	O	0	0
			15	5	5	1	4		
2	B	1	Total	C	H	N	O	0	0
			15	5	5	1	4		
2	C	1	Total	C	H	N	O	0	0
			15	5	5	1	4		
2	D	1	Total	C	H	N	O	0	0
			15	5	5	1	4		

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	188	Total	O	0	0
			188	188		

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| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	B	70	Total 70	O 70	0	0
3	C	206	Total 206	O 206	0	0
3	D	55	Total 55	O 55	0	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and 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.
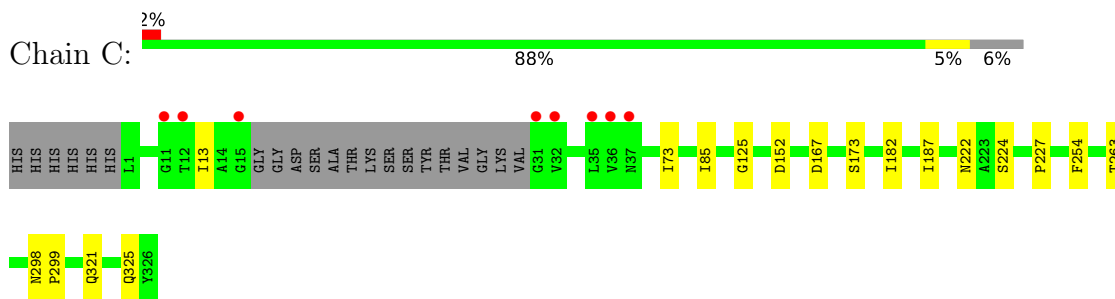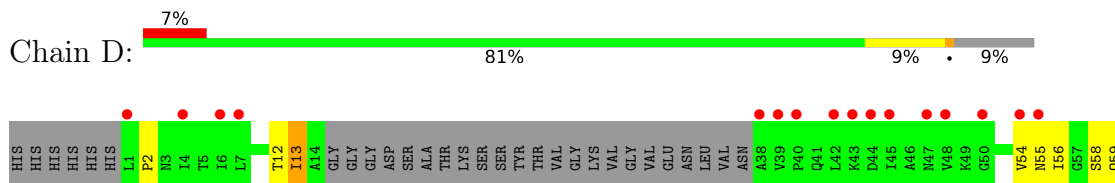
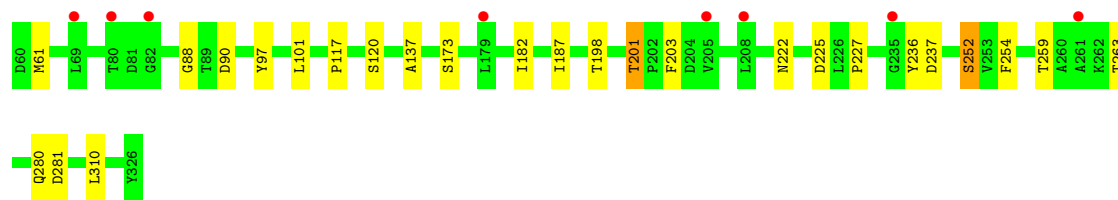- Molecule 1: L-asparaginase 2
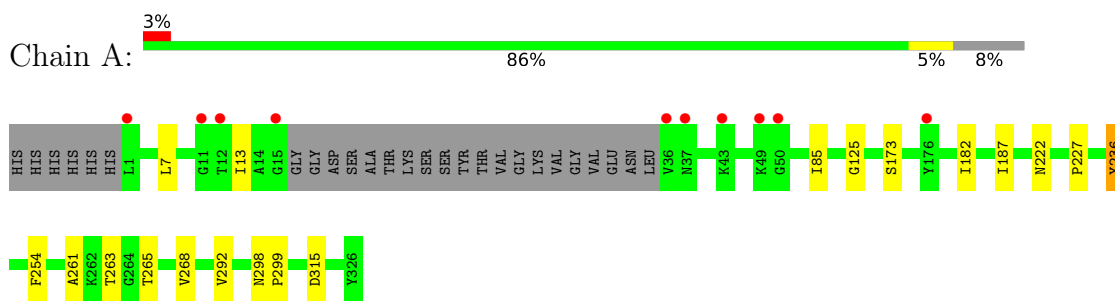
Chain A:

- Molecule 1: L-asparaginase 2

Chain B:

- Molecule 1: L-asparaginase 2

Chain C:

- Molecule 1: L-asparaginase 2

Chain D:
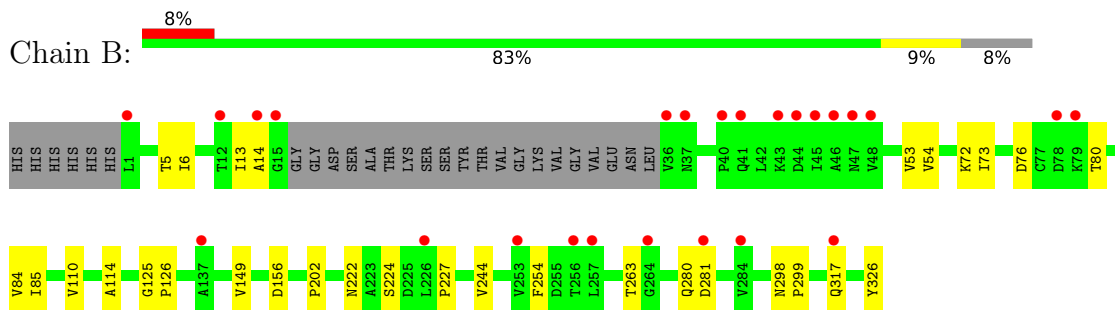
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	151.03Å 61.95Å 142.56Å 90.00° 118.31° 90.00°	Depositor
Resolution (Å)	47.81 – 1.90 47.81 – 1.57	Depositor EDS
% Data completeness (in resolution range)	99.0 (47.81-1.90) 99.3 (47.81-1.57)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.26 (at 1.57Å)	Xtriage
Refinement program	PHENIX 1.19.2	Depositor
R, R_{free}	0.170 , 0.198 0.172 , 0.199	Depositor DCC
R_{free} test set	1138 reflections (0.71%)	wwPDB-VP
Wilson B-factor (Å^2)	33.0	Xtriage
Anisotropy	0.175	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	(Not available) , (Not available)	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	18670	wwPDB-VP
Average B, all atoms (Å^2)	47.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 10.99% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	0.66	1/2307 (0.0%)	0.81	2/3146 (0.1%)
1	B	0.40	0/2307	0.66	0/3149
1	C	0.65	0/2348	0.81	3/3201 (0.1%)
1	D	0.41	0/2292	0.64	1/3126 (0.0%)
All	All	0.54	1/9254 (0.0%)	0.74	6/12622 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	236	TYR	CD2-CE2	-5.03	1.31	1.39

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	167	ASP	CB-CG-OD2	-6.20	112.72	118.30
1	A	315	ASP	CB-CG-OD1	5.84	123.55	118.30
1	C	152	ASP	CB-CG-OD1	5.64	123.38	118.30
1	C	173	SER	N-CA-C	-5.36	96.54	111.00
1	A	173	SER	N-CA-C	-5.34	96.57	111.00
1	D	173	SER	N-CA-C	-5.16	97.06	111.00

There are no chirality outliers.

There are no planarity outliers.

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.

WORLDWIDE
wwPDB
PROTEIN DATA BANK

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2272	2245	2249	10	0
1	B	2272	2224	2229	18	0
1	C	2313	2288	2292	7	0
1	D	2257	2220	2227	21	0
2	A	10	5	5	0	0
2	B	10	5	5	0	0
2	C	10	5	5	0	0
2	D	10	5	5	3	0
3	A	188	0	0	0	0
3	B	70	0	0	0	0
3	C	206	0	0	0	0
3	D	55	0	0	0	0
All	All	9673	8997	9017	50	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 3.

All (50) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:263:THR:HG22	1:A:263:THR:O	1.87	0.74
1:D:182:ILE:HG12	1:D:187:ILE:HG12	1.78	0.65
1:B:263:THR:HG22	1:B:263:THR:O	1.98	0.63
1:D:101:LEU:O	1:D:201:THR:HG21	2.00	0.62
1:C:182:ILE:HG12	1:C:187:ILE:HG12	1.86	0.57
1:D:201:THR:HG23	1:D:203:PHE:CD2	2.40	0.57
1:B:227:PRO:HB3	1:D:227:PRO:HB3	1.86	0.56
1:A:227:PRO:HB3	1:C:227:PRO:HB3	1.87	0.56
1:D:225:ASP:HB3	1:D:252:SER:OG	2.06	0.55
1:A:263:THR:O	1:A:263:THR:CG2	2.55	0.54
1:D:237:ASP:HB3	1:D:310:LEU:HD13	1.90	0.53
1:D:58:SER:HB3	1:D:88:GLY:HA3	1.91	0.53
1:C:13:ILE:O	1:C:125:GLY:HA3	2.10	0.52
1:A:298:ASN:HB2	1:A:299:PRO:CD	2.40	0.51
1:B:72:LYS:HE3	1:B:76:ASP:OD2	2.12	0.50
1:A:13:ILE:O	1:A:125:GLY:HA3	2.12	0.49
1:B:224:SER:HB2	1:D:236:TYR:OH	2.13	0.49
1:D:117:PRO:HG2	1:D:120:SER:HB3	1.94	0.49
1:A:182:ILE:HG12	1:A:187:ILE:HG12	1.94	0.48
1:D:259:THR:O	1:D:263:THR:HG23	2.14	0.47
1:B:280:GLN:O	1:B:281:ASP:HB2	2.15	0.47
1:D:12:THR:HG23	2:D:401:GLU:CG	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:5:THR:HG23	1:B:80:THR:OG1	2.15	0.46
1:B:13:ILE:O	1:B:125:GLY:HA3	2.16	0.46
1:B:6:ILE:HA	1:B:84:VAL:O	2.16	0.46
1:A:7:LEU:HB2	1:A:85:ILE:HD12	1.97	0.45
1:D:54:VAL:HG22	1:D:55:ASN:N	2.32	0.45
1:D:2:PRO:HG3	1:D:137:ALA:HB1	1.98	0.45
1:B:263:THR:O	1:B:263:THR:CG2	2.64	0.45
1:D:59:GLN:OE1	2:D:401:GLU:N	2.50	0.45
1:B:53:VAL:O	1:B:54:VAL:HG13	2.17	0.44
1:C:321:GLN:HG3	1:C:325:GLN:OE1	2.18	0.44
1:B:14:ALA:HB1	1:B:126:PRO:HG3	2.00	0.44
1:A:261:ALA:HA	1:A:265:THR:O	2.18	0.43
1:B:244:VAL:HG23	1:D:90:ASP:HB3	2.01	0.43
1:B:202:PRO:HD3	1:B:326:TYR:OH	2.18	0.43
1:D:56:ILE:HD11	1:D:61:MET:HE2	2.01	0.43
1:D:97:TYR:CZ	1:D:101:LEU:HD11	2.54	0.43
1:B:110:VAL:HG13	1:B:149:VAL:HG23	2.02	0.42
1:A:236:TYR:OH	1:C:224:SER:HB2	2.19	0.42
1:B:244:VAL:CG2	1:D:90:ASP:HB3	2.50	0.42
1:B:13:ILE:HB	1:B:114:ALA:HB2	2.01	0.42
1:B:73:ILE:HD11	1:B:85:ILE:HD11	2.02	0.42
1:D:12:THR:HG23	2:D:401:GLU:HG2	2.01	0.42
1:C:298:ASN:HB2	1:C:299:PRO:CD	2.51	0.41
1:D:13:ILE:HG12	1:D:13:ILE:O	2.21	0.41
1:D:198:THR:O	1:D:201:THR:HB	2.21	0.40
1:B:298:ASN:HB2	1:B:299:PRO:CD	2.52	0.40
1:C:73:ILE:HD11	1:C:85:ILE:HD11	2.03	0.40
1:A:268:VAL:HG22	1:A:292:VAL:HB	2.03	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 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	302/332 (91%)	298 (99%)	4 (1%)	0	100	100
1	B	302/332 (91%)	293 (97%)	9 (3%)	0	100	100
1	C	307/332 (92%)	303 (99%)	4 (1%)	0	100	100
1	D	299/332 (90%)	289 (97%)	9 (3%)	1 (0%)	41	31
All	All	1210/1328 (91%)	1183 (98%)	26 (2%)	1 (0%)	51	42

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	13	ILE

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 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	246/272 (90%)	244 (99%)	2 (1%)	81	82
1	B	245/272 (90%)	241 (98%)	4 (2%)	62	60
1	C	251/272 (92%)	248 (99%)	3 (1%)	71	70
1	D	244/272 (90%)	238 (98%)	6 (2%)	47	41
All	All	986/1088 (91%)	971 (98%)	15 (2%)	65	62

All (15) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	222	ASN
1	A	254	PHE
1	B	156	ASP
1	B	222	ASN
1	B	254	PHE
1	B	317	GLN
1	C	222	ASN
1	C	254	PHE
1	C	263	THR
1	D	201	THR

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Mol	Chain	Res	Type
1	D	222	ASN
1	D	252	SER
1	D	254	PHE
1	D	280	GLN
1	D	281	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

4 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	GLU	A	401	-	8,9,9	1.06	1 (12%)	10,11,11	1.35	1 (10%)
2	GLU	D	401	-	8,9,9	1.06	0	10,11,11	1.40	2 (20%)
2	GLU	C	401	-	8,9,9	0.87	0	10,11,11	1.43	3 (30%)
2	GLU	B	401	-	8,9,9	1.17	1 (12%)	10,11,11	1.11	1 (10%)

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	GLU	A	401	-	-	4/9/9/9	-
2	GLU	D	401	-	-	2/9/9/9	-
2	GLU	C	401	-	-	5/9/9/9	-
2	GLU	B	401	-	-	2/9/9/9	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	401	GLU	OXT-C	-2.05	1.23	1.30
2	B	401	GLU	OXT-C	-2.01	1.24	1.30

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	401	GLU	OXT-C-CA	2.99	123.55	113.38
2	A	401	GLU	OXT-C-CA	2.67	122.47	113.38
2	C	401	GLU	OXT-C-O	-2.33	118.80	124.09
2	C	401	GLU	OXT-C-CA	2.28	121.16	113.38
2	C	401	GLU	OE1-CD-CG	-2.23	115.91	123.08
2	B	401	GLU	OXT-C-CA	2.14	120.67	113.38
2	D	401	GLU	OXT-C-O	-2.11	119.29	124.09

There are no chirality outliers.

All (13) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	C	401	GLU	O-C-CA-N
2	A	401	GLU	OXT-C-CA-N
2	D	401	GLU	OXT-C-CA-N
2	C	401	GLU	CA-CB-CG-CD
2	C	401	GLU	OXT-C-CA-N
2	A	401	GLU	O-C-CA-N
2	D	401	GLU	O-C-CA-N
2	C	401	GLU	OE2-CD-CG-CB
2	C	401	GLU	OE1-CD-CG-CB
2	B	401	GLU	OE2-CD-CG-CB
2	A	401	GLU	OE2-CD-CG-CB

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Mol	Chain	Res	Type	Atoms
2	B	401	GLU	OE1-CD-CG-CB
2	A	401	GLU	OE1-CD-CG-CB

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	401	GLU	3	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 then 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 GLU A 401

Bond lengths

Bond angles

Torsions

Rings

Ligand GLU D 401

Bond lengths

Bond angles

Torsions

Rings

Ligand GLU C 401

Bond lengths

Bond angles

Torsions

Rings

Ligand GLU B 401

Bond lengths

Bond angles

Torsions

Rings
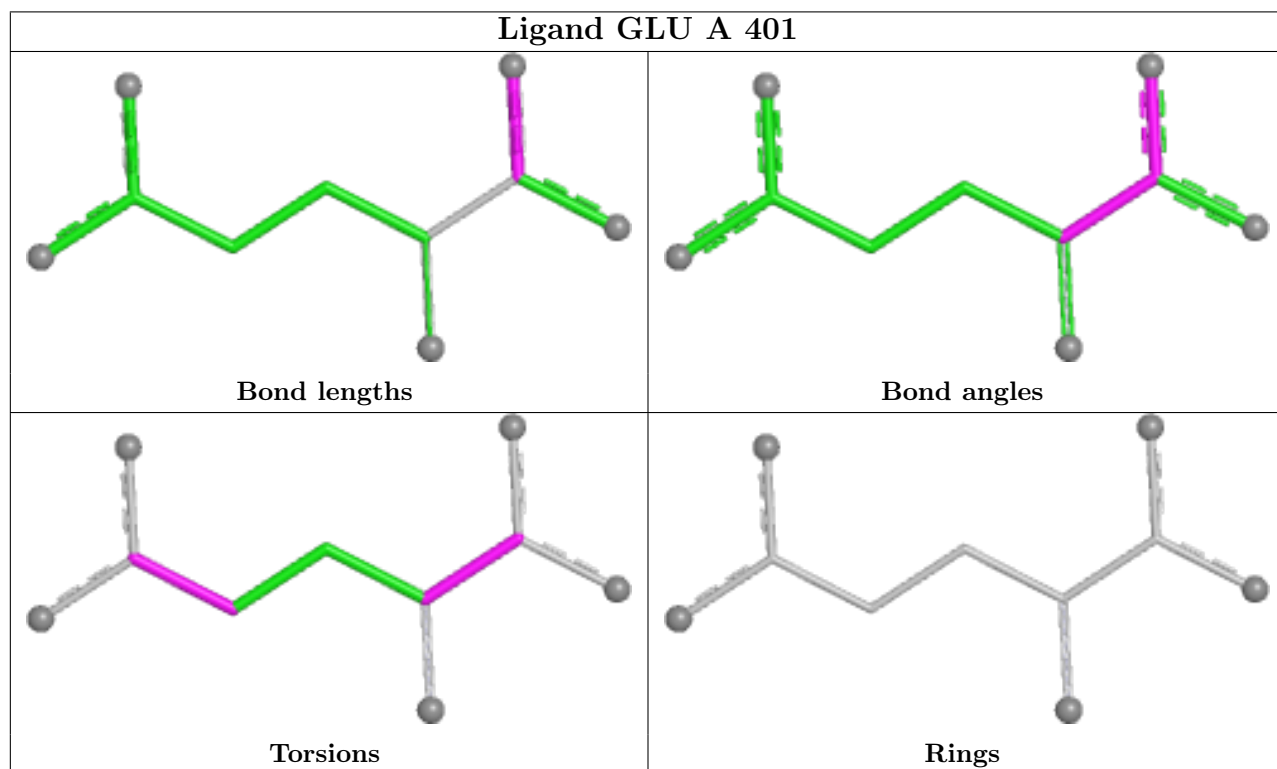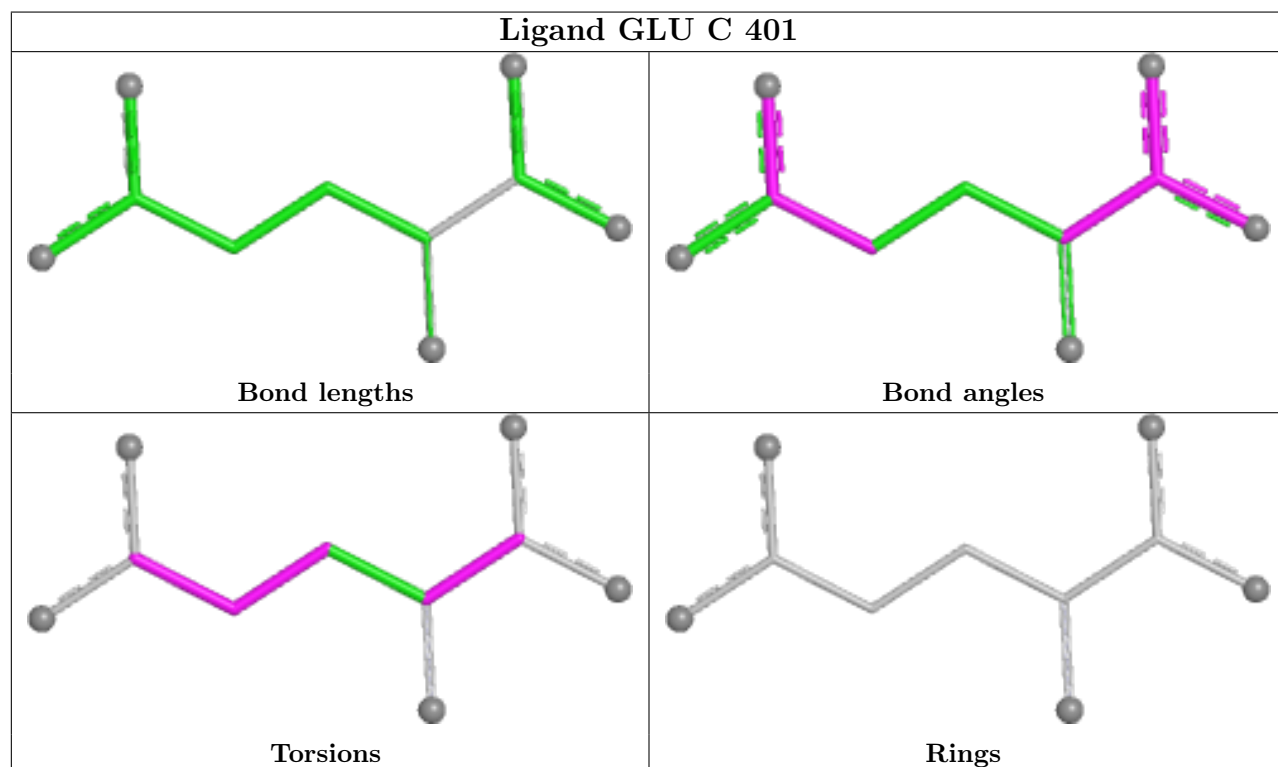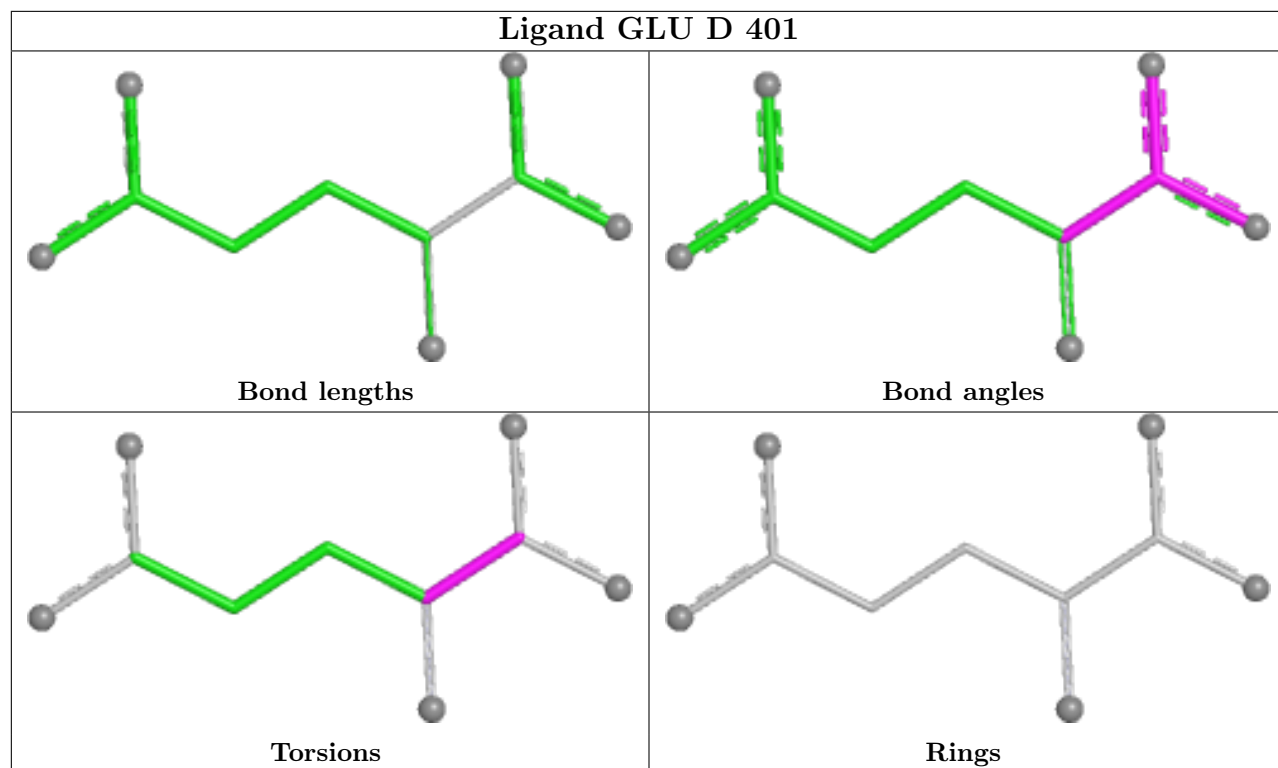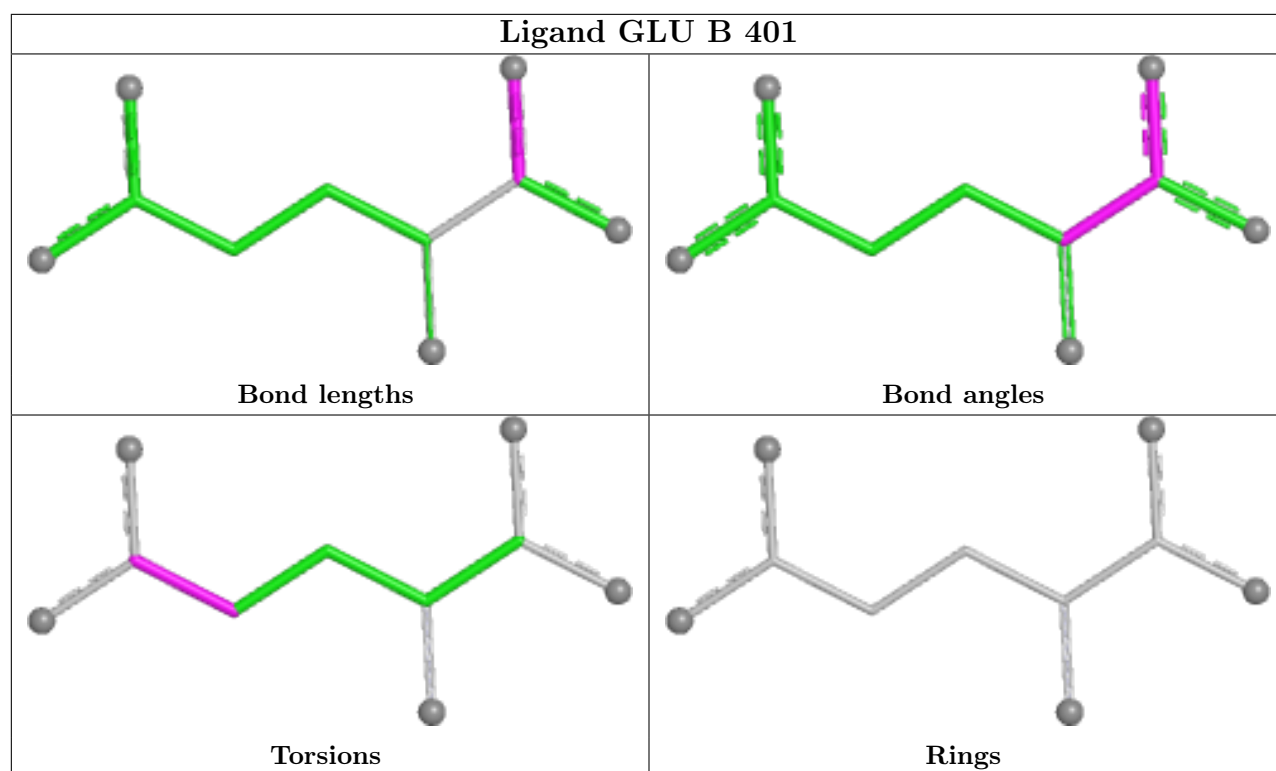
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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(Å²)	Q<0.9
1	A	306/332 (92%)	-0.10	10 (3%)	46	49	22, 31, 54, 86	0
1	B	306/332 (92%)	0.34	25 (8%)	11	13	36, 48, 71, 92	0
1	C	311/332 (93%)	-0.05	8 (2%)	56	58	22, 31, 55, 74	0
1	D	303/332 (91%)	0.40	24 (7%)	12	14	37, 53, 75, 92	0
All	All	1226/1328 (92%)	0.15	67 (5%)	25	28	22, 42, 70, 92	0

All (67) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	205	VAL	5.5
1	D	1	LEU	5.5
1	D	40	PRO	5.2
1	C	37	ASN	4.7
1	C	35	LEU	4.6
1	B	46	ALA	4.4
1	B	284	VAL	4.2
1	C	36	VAL	4.0
1	D	45	ILE	3.9
1	A	36	VAL	3.8
1	C	11	GLY	3.8
1	B	40	PRO	3.8
1	C	15	GLY	3.7
1	B	1	LEU	3.7
1	D	47	ASN	3.6
1	B	45	ILE	3.6
1	B	226	LEU	3.5
1	D	42	LEU	3.4
1	C	32	VAL	3.4
1	A	37	ASN	3.3
1	A	1	LEU	3.3

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Mol	Chain	Res	Type	RSRZ
1	D	44	ASP	3.3
1	C	31	GLY	3.2
1	B	317	GLN	3.2
1	A	15	GLY	3.2
1	D	43	LYS	3.2
1	D	6	ILE	3.2
1	D	54	VAL	3.2
1	D	208	LEU	3.1
1	B	264	GLY	2.9
1	B	281	ASP	2.9
1	D	38	ALA	2.9
1	B	15	GLY	2.8
1	B	256	THR	2.7
1	D	4	ILE	2.7
1	D	7	LEU	2.7
1	A	49	LYS	2.7
1	C	12	THR	2.7
1	B	37	ASN	2.6
1	A	12	THR	2.6
1	B	43	LYS	2.6
1	B	79	LYS	2.5
1	D	50	GLY	2.5
1	D	39	VAL	2.5
1	B	12	THR	2.5
1	B	137	ALA	2.5
1	B	36	VAL	2.5
1	B	44	ASP	2.5
1	B	47	ASN	2.3
1	B	257	LEU	2.3
1	B	14	ALA	2.3
1	B	253	VAL	2.2
1	D	48	VAL	2.2
1	A	176	TYR	2.2
1	D	69	LEU	2.1
1	A	50	GLY	2.1
1	B	41	GLN	2.1
1	A	43	LYS	2.1
1	D	235	GLY	2.1
1	A	11	GLY	2.1
1	D	82	GLY	2.1
1	B	78	ASP	2.0
1	D	261	ALA	2.0

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Full wwPDB X-ray Structure Validation Report

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Mol	Chain	Res	Type	RSRZ
1	D	179	LEU	2.0
1	D	55	ASN	2.0
1	D	80	THR	2.0
1	B	48	VAL	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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(Å^2)	Q<0.9
2	GLU	B	401	10/10	0.86	0.15	45,61,77,77	0
2	GLU	C	401	10/10	0.92	0.11	30,44,57,57	0
2	GLU	D	401	10/10	0.92	0.13	56,67,87,87	0
2	GLU	A	401	10/10	0.95	0.09	33,47,62,62	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.
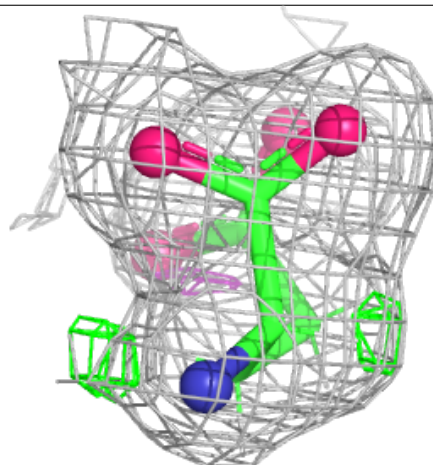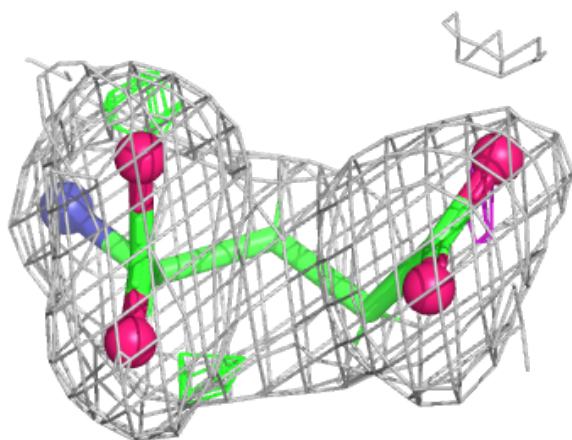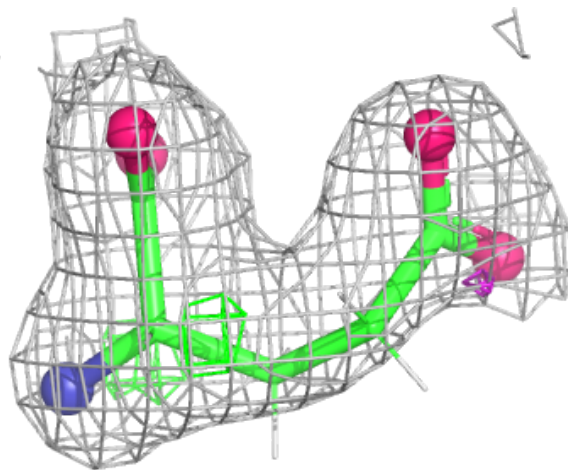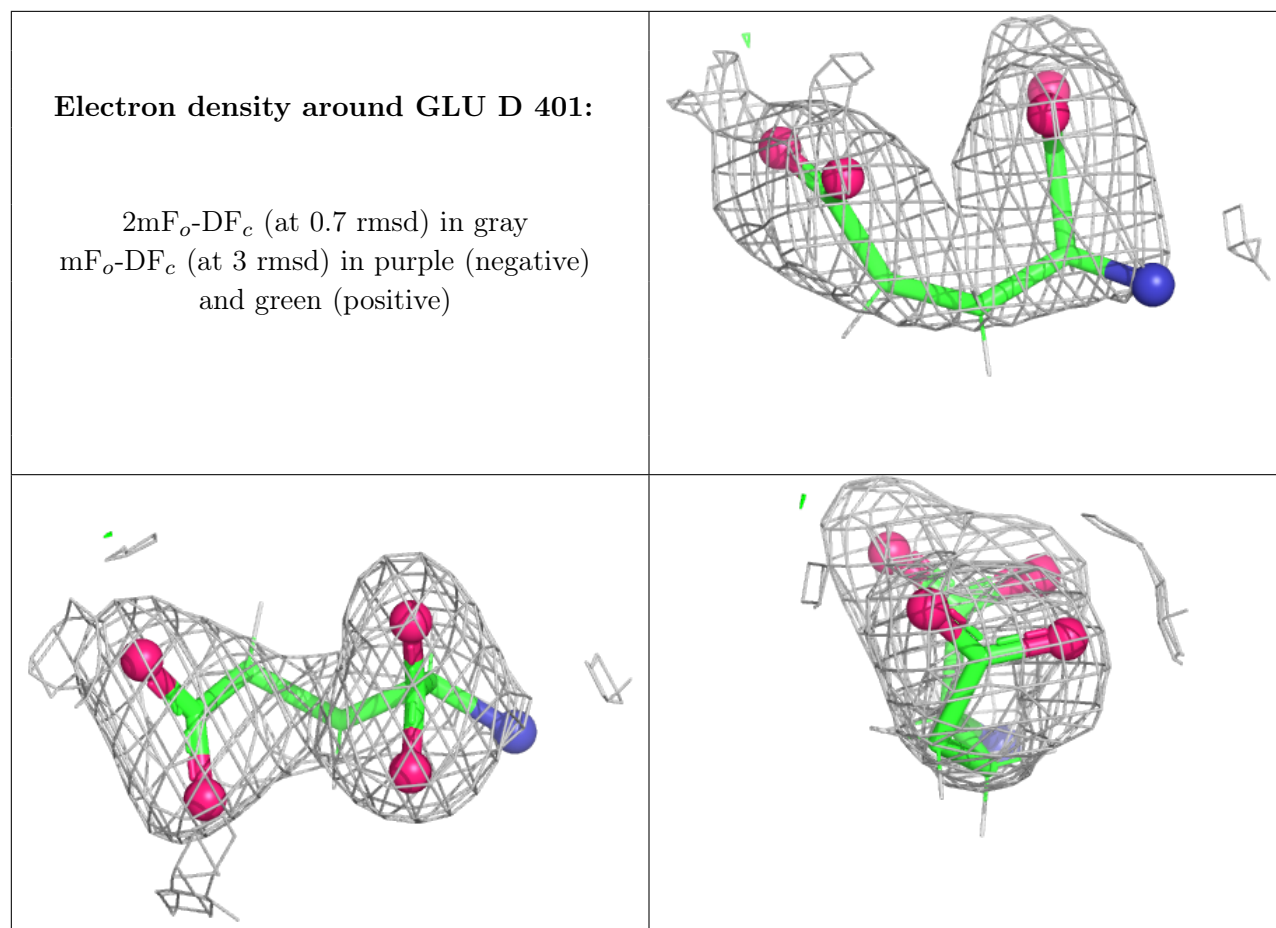
Electron density around GLU B 401:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
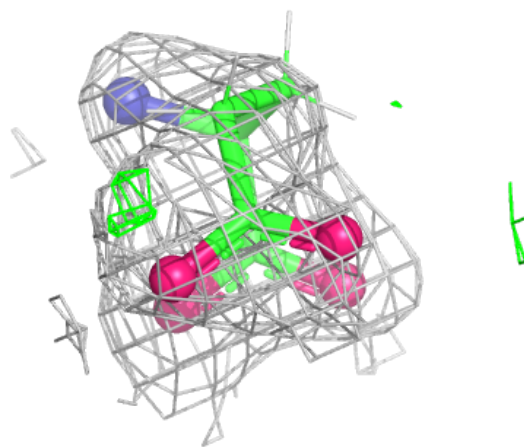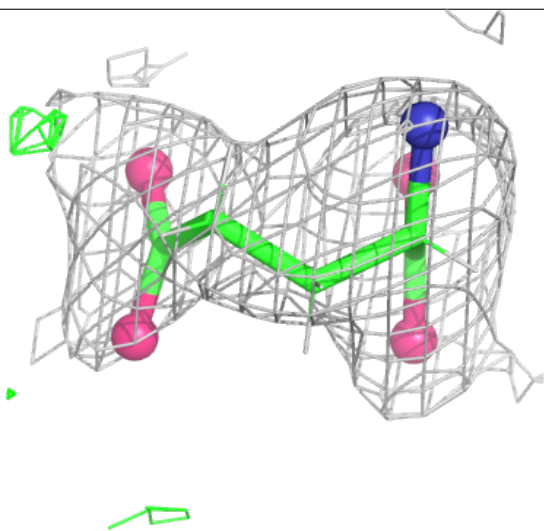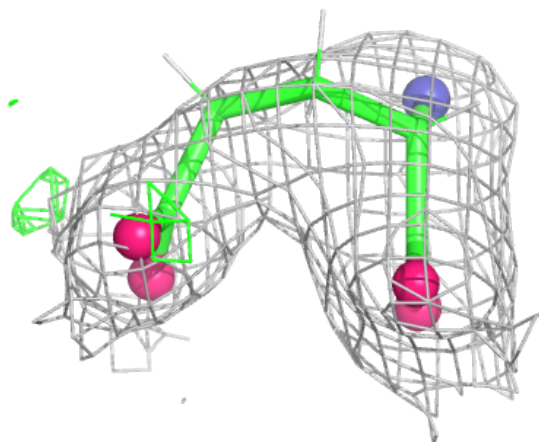
Electron density around GLU C 401:

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

Electron density around GLU D 401:

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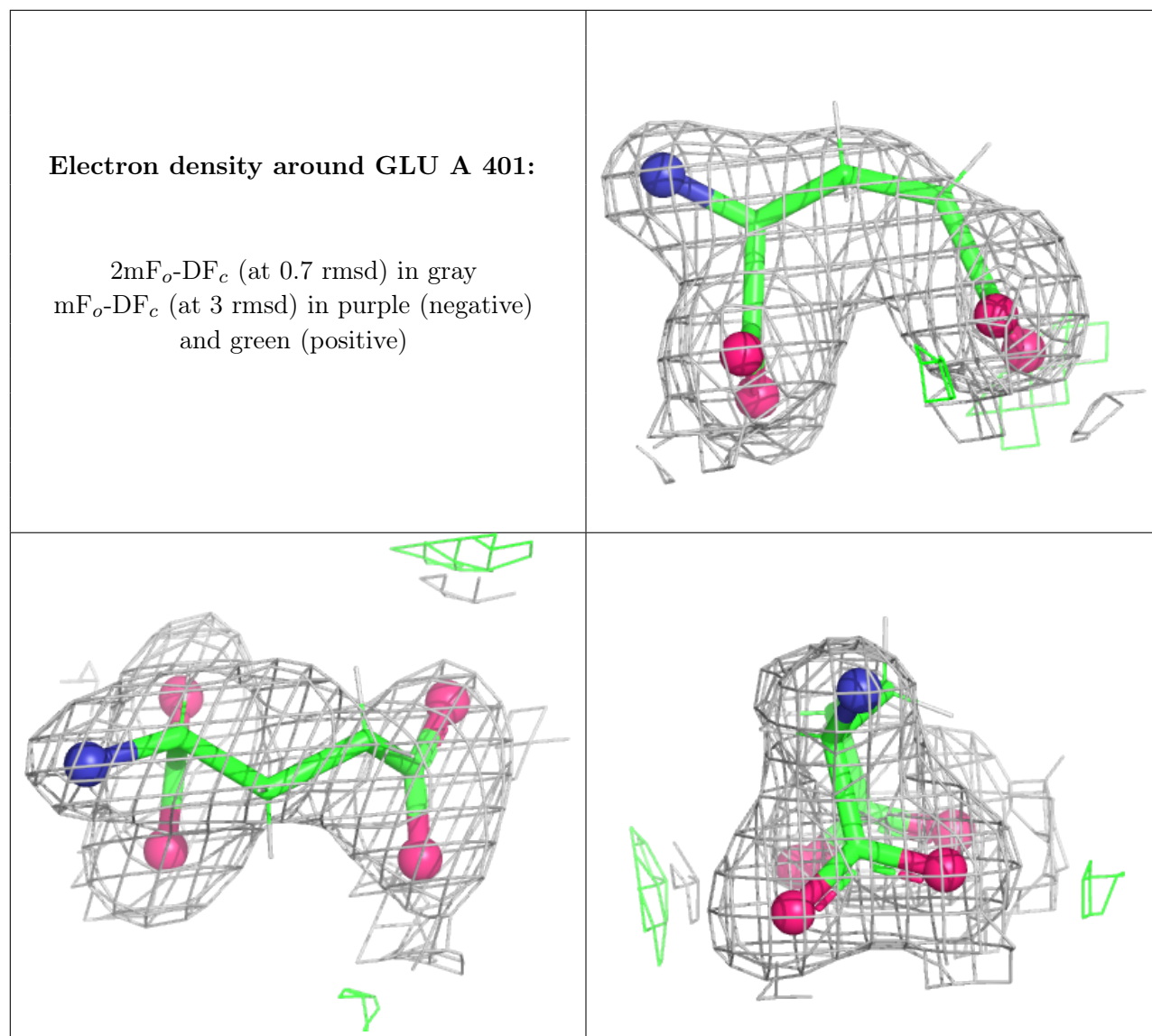and green (positive)

Electron density around GLU A 401:

$2mF_o$-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 ⓘ

There are no such residues in this entry.