



# Full wwPDB X-ray Structure Validation Report ⓘ

Dec 15, 2024 – 10:55 AM EST

PDB ID : 5L1F  
Title : AMPA subtype ionotropic glutamate receptor GluA2 in complex with non-competitive inhibitor Perampanel  
Authors : Yelshanskaya, M.V.; Singh, A.K.; Sampson, J.M.; Sobolevsky, A.I.  
Deposited on : 2016-07-29  
Resolution : 4.00 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](mailto: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 types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Mogul : 2022.3.0, CSD as543be (2022)  
Xtriage (Phenix) : 1.21  
EDS : 3.0  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
CCP4 : 9.0.004 (Gargrove)  
Density-Fitness : 1.0.11  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.40

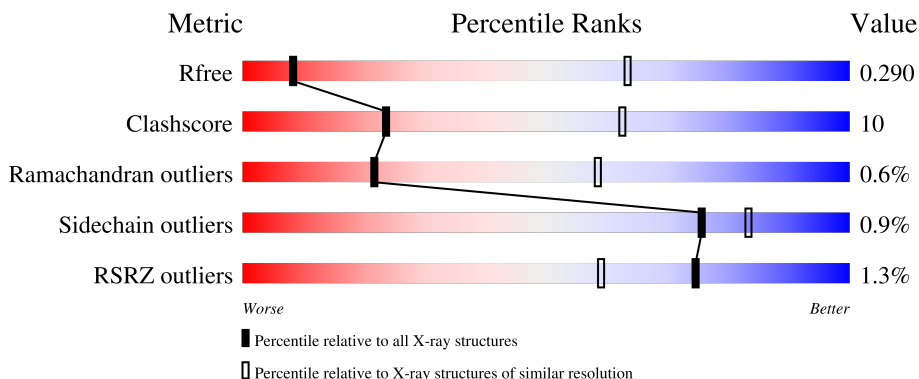
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 4.00 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))
$R_{free}$	164625	1028 (4.22-3.78)
Clashscore	180529	1055 (4.20-3.80)
Ramachandran outliers	177936	1004 (4.20-3.80)
Sidechain outliers	177891	1027 (4.22-3.78)
RSRZ outliers	164620	1029 (4.22-3.78)

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  $\geq 3$ , 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	803	
1	B	803	
1	C	803	
1	D	803	

## 2 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 24073 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 Glutamate receptor 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	777	5988	3848	992	1119	29	0	0	0
1	B	773	5990	3843	989	1129	29	0	0	0
1	C	773	5952	3825	985	1114	28	0	0	0
1	D	777	5979	3840	990	1121	28	0	0	0

There are 72 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	241	GLU	ASN	engineered mutation	UNP P19491
A	?	-	VAL	deletion	UNP P19491
A	?	-	THR	deletion	UNP P19491
A	?	-	LEU	deletion	UNP P19491
A	?	-	PRO	deletion	UNP P19491
A	?	-	SER	deletion	UNP P19491
A	?	-	GLY	deletion	UNP P19491
A	385	ASP	ASN	engineered mutation	UNP P19491
A	392	GLN	ASN	engineered mutation	UNP P19491
A	564	ASP	-	linker	UNP P19491
A	565	THR	-	linker	UNP P19491
A	566	ASP	-	linker	UNP P19491
A	589	ALA	CYS	engineered mutation	UNP P19491
A	827	GLY	-	cloning artifact	UNP P19491
A	828	LEU	-	cloning artifact	UNP P19491
A	829	VAL	-	cloning artifact	UNP P19491
A	830	PRO	-	cloning artifact	UNP P19491
A	831	ARG	-	cloning artifact	UNP P19491
B	241	GLU	ASN	engineered mutation	UNP P19491
B	?	-	VAL	deletion	UNP P19491
B	?	-	THR	deletion	UNP P19491

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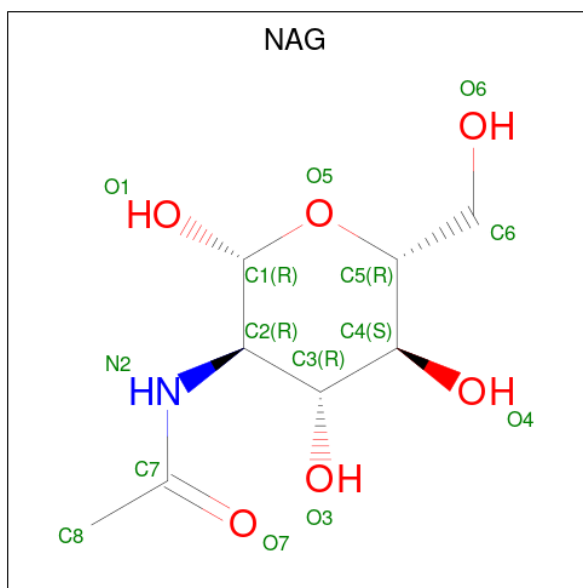
Chain	Residue	Modelled	Actual	Comment	Reference
B	?	-	LEU	deletion	UNP P19491
B	?	-	PRO	deletion	UNP P19491
B	?	-	SER	deletion	UNP P19491
B	?	-	GLY	deletion	UNP P19491
B	385	ASP	ASN	engineered mutation	UNP P19491
B	392	GLN	ASN	engineered mutation	UNP P19491
B	564	ASP	-	linker	UNP P19491
B	565	THR	-	linker	UNP P19491
B	566	ASP	-	linker	UNP P19491
B	589	ALA	CYS	engineered mutation	UNP P19491
B	827	GLY	-	cloning artifact	UNP P19491
B	828	LEU	-	cloning artifact	UNP P19491
B	829	VAL	-	cloning artifact	UNP P19491
B	830	PRO	-	cloning artifact	UNP P19491
B	831	ARG	-	cloning artifact	UNP P19491
C	241	GLU	ASN	engineered mutation	UNP P19491
C	?	-	VAL	deletion	UNP P19491
C	?	-	THR	deletion	UNP P19491
C	?	-	LEU	deletion	UNP P19491
C	?	-	PRO	deletion	UNP P19491
C	?	-	SER	deletion	UNP P19491
C	?	-	GLY	deletion	UNP P19491
C	385	ASP	ASN	engineered mutation	UNP P19491
C	392	GLN	ASN	engineered mutation	UNP P19491
C	564	ASP	-	linker	UNP P19491
C	565	THR	-	linker	UNP P19491
C	566	ASP	-	linker	UNP P19491
C	589	ALA	CYS	engineered mutation	UNP P19491
C	827	GLY	-	cloning artifact	UNP P19491
C	828	LEU	-	cloning artifact	UNP P19491
C	829	VAL	-	cloning artifact	UNP P19491
C	830	PRO	-	cloning artifact	UNP P19491
C	831	ARG	-	cloning artifact	UNP P19491
D	241	GLU	ASN	engineered mutation	UNP P19491
D	?	-	VAL	deletion	UNP P19491
D	?	-	THR	deletion	UNP P19491
D	?	-	LEU	deletion	UNP P19491
D	?	-	PRO	deletion	UNP P19491
D	?	-	SER	deletion	UNP P19491
D	?	-	GLY	deletion	UNP P19491
D	385	ASP	ASN	engineered mutation	UNP P19491
D	392	GLN	ASN	engineered mutation	UNP P19491

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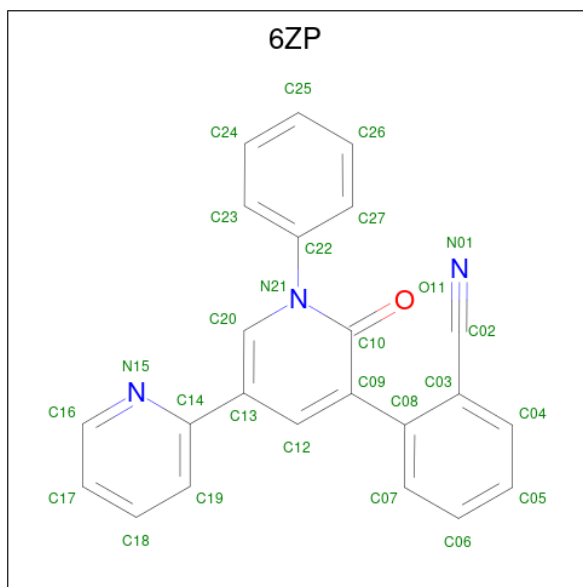
Chain	Residue	Modelled	Actual	Comment	Reference
D	564	ASP	-	linker	UNP P19491
D	565	THR	-	linker	UNP P19491
D	566	ASP	-	linker	UNP P19491
D	589	ALA	CYS	engineered mutation	UNP P19491
D	827	GLY	-	cloning artifact	UNP P19491
D	828	LEU	-	cloning artifact	UNP P19491
D	829	VAL	-	cloning artifact	UNP P19491
D	830	PRO	-	cloning artifact	UNP P19491
D	831	ARG	-	cloning artifact	UNP P19491

- Molecule 2 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula:  $C_8H_{15}NO_6$ ).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			14	8	1	5		
2	B	1	Total	C	N	O	0	0
			14	8	1	5		
2	C	1	Total	C	N	O	0	0
			14	8	1	5		
2	D	1	Total	C	N	O	0	0
			14	8	1	5		

- Molecule 3 is 2-(6'-oxo-1'-phenyl[1',6'-dihydro[2,3'-bipyridine]]-5'-yl)benzotrile (three-letter code: 6ZP) (formula:  $C_{23}H_{15}N_3O$ ).

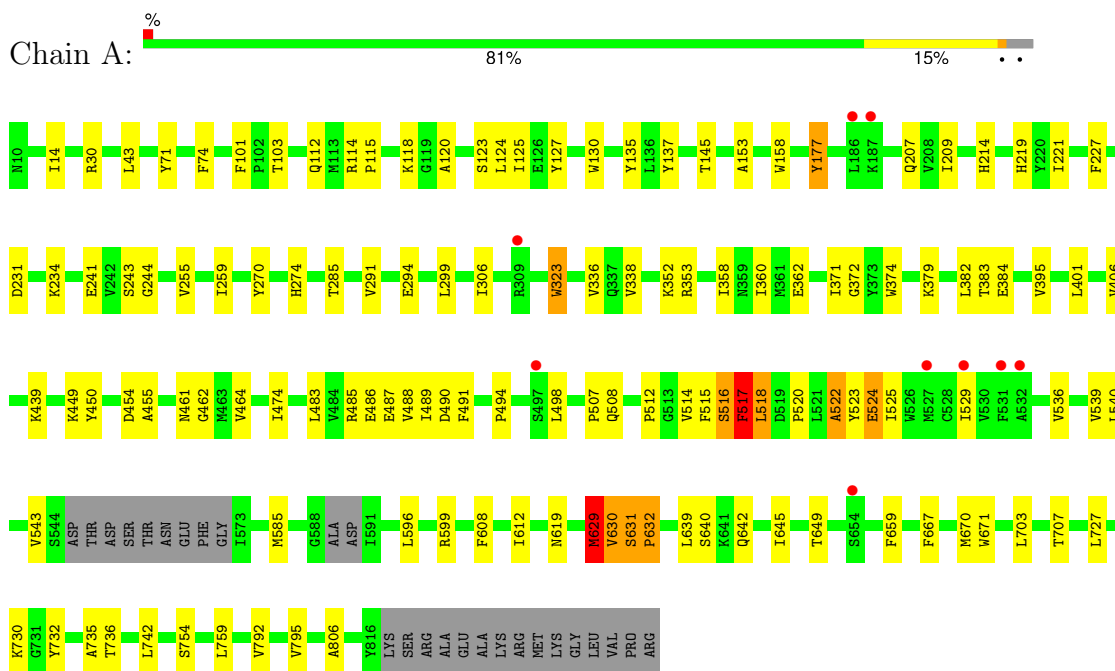


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
			Total	C	N	O			
3	A	1	Total	27	23	3	1	0	0
3	B	1	Total	27	23	3	1	0	0
3	C	1	Total	27	23	3	1	0	0
3	D	1	Total	27	23	3	1	0	0

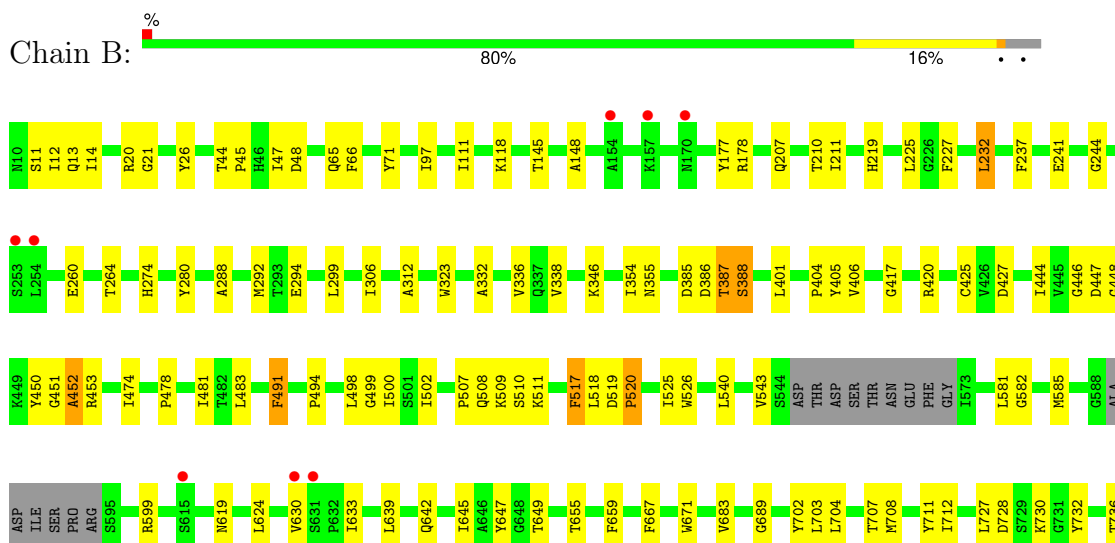
### 3 Residue-property plots [i](#)

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: Glutamate receptor 2



- Molecule 1: Glutamate receptor 2







## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	91.74Å 109.34Å 594.84Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.57 – 4.00 49.57 – 4.00	Depositor EDS
% Data completeness (in resolution range)	99.4 (49.57-4.00) 99.4 (49.57-4.00)	Depositor EDS
$R_{merge}$	0.09	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.48 (at 4.00Å)	Xtrriage
Refinement program	PHENIX 1.10.1_2155	Depositor
R, $R_{free}$	0.237 , 0.272 0.264 , 0.290	Depositor DCC
$R_{free}$ test set	2581 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	196.2	Xtrriage
Anisotropy	0.312	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.27 , 194.2	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.38$ , $\langle L^2 \rangle = 0.21$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.87	EDS
Total number of atoms	24073	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	239.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.07% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: 6ZP, NAG

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	0.26	1/6111 (0.0%)	0.55	10/8272 (0.1%)
1	B	0.26	1/6112 (0.0%)	0.62	9/8270 (0.1%)
1	C	0.27	0/6074	0.52	8/8225 (0.1%)
1	D	0.30	2/6102 (0.0%)	0.56	13/8263 (0.2%)
All	All	0.27	4/24399 (0.0%)	0.56	40/33030 (0.1%)

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	1
1	C	0	1
All	All	0	2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	787	LEU	CA-C	7.70	1.73	1.52
1	D	632	PRO	N-CD	5.21	1.55	1.47
1	A	632	PRO	N-CD	5.15	1.55	1.47
1	B	388	SER	N-CA	5.13	1.56	1.46

All (40) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	388	SER	N-CA-CB	-19.81	80.78	110.50
1	B	452	ALA	CB-CA-C	-16.47	85.40	110.10
1	A	630	VAL	CB-CA-C	-13.05	86.60	111.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	630	VAL	CB-CA-C	-13.03	86.64	111.40
1	B	452	ALA	N-CA-C	12.07	143.58	111.00
1	A	524	GLU	N-CA-CB	-11.46	89.97	110.60
1	D	522	ALA	N-CA-CB	-11.28	94.31	110.10
1	A	522	ALA	CB-CA-C	-10.22	94.78	110.10
1	D	640	SER	N-CA-CB	9.27	124.41	110.50
1	A	629	MET	CB-CA-C	-9.21	91.98	110.40
1	C	629	MET	CB-CA-C	-9.20	91.99	110.40
1	B	388	SER	N-CA-C	9.06	135.47	111.00
1	B	453	ARG	N-CA-CB	-9.03	94.34	110.60
1	A	524	GLU	N-CA-C	8.94	135.14	111.00
1	B	783	LYS	N-CA-CB	-8.33	95.60	110.60
1	D	521	LEU	N-CA-C	-8.27	88.67	111.00
1	D	786	ALA	CB-CA-C	-8.16	97.86	110.10
1	B	232	LEU	CB-CA-C	-8.15	94.72	110.20
1	B	388	SER	CB-CA-C	-7.47	95.91	110.10
1	A	522	ALA	N-CA-C	7.38	130.93	111.00
1	B	387	THR	N-CA-C	7.29	130.69	111.00
1	D	518	LEU	N-CA-C	7.19	130.41	111.00
1	C	786	ALA	N-CA-C	-6.53	93.36	111.00
1	D	639	LEU	CB-CA-C	-6.47	97.91	110.20
1	C	786	ALA	CB-CA-C	-6.39	100.52	110.10
1	A	518	LEU	N-CA-CB	-6.36	97.68	110.40
1	A	517	PHE	CB-CA-C	6.09	122.59	110.40
1	C	581	LEU	CB-CA-C	-6.09	98.62	110.20
1	C	631	SER	C-N-CD	6.05	141.10	128.40
1	D	783	LYS	N-CA-C	6.02	127.26	111.00
1	D	518	LEU	N-CA-CB	-5.90	98.61	110.40
1	D	786	ALA	N-CA-C	-5.90	95.08	111.00
1	D	632	PRO	CA-N-CD	-5.75	103.45	111.50
1	C	113	MET	N-CA-CB	-5.75	100.26	110.60
1	D	787	LEU	N-CA-CB	-5.72	98.95	110.40
1	C	787	LEU	N-CA-C	5.57	126.04	111.00
1	A	518	LEU	N-CA-C	5.55	125.98	111.00
1	D	787	LEU	CB-CA-C	-5.46	99.84	110.20
1	A	516	SER	N-CA-CB	5.44	118.66	110.50
1	D	638	ASP	N-CA-C	5.09	124.75	111.00

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	629	MET	Peptide
1	C	629	MET	Peptide

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5988	0	5887	120	0
1	B	5990	0	5903	104	0
1	C	5952	0	5835	151	0
1	D	5979	0	5866	149	0
2	A	14	0	13	0	0
2	B	14	0	13	0	0
2	C	14	0	13	1	0
2	D	14	0	13	1	0
3	A	27	0	0	2	0
3	B	27	0	0	2	0
3	C	27	0	0	2	0
3	D	27	0	0	3	0
All	All	24073	0	23543	477	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 10.

All (477) 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:D:628:ARG:CB	1:D:630:VAL:HG22	1.33	1.58
1:D:628:ARG:CB	1:D:630:VAL:CG2	1.93	1.43
1:C:629:MET:HB2	1:C:630:VAL:CA	1.47	1.36
1:A:629:MET:HB2	1:A:630:VAL:CA	1.47	1.30
1:D:787:LEU:O	1:D:787:LEU:HD22	1.30	1.29
1:C:629:MET:CB	1:C:630:VAL:HA	1.66	1.26
1:A:629:MET:CB	1:A:630:VAL:HA	1.65	1.24
1:C:633:ILE:CG2	1:C:723:VAL:CG1	2.16	1.23
1:C:633:ILE:HG21	1:C:723:VAL:CG1	1.68	1.23
1:B:518:LEU:HD12	1:B:518:LEU:O	1.48	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:631:SER:HB2	1:A:632:PRO:HA	1.32	1.11
1:C:633:ILE:HG21	1:C:723:VAL:HG12	1.20	1.08
1:C:634:GLU:HG3	1:C:635:SER:H	1.17	1.08
1:C:633:ILE:HG23	1:C:723:VAL:HG11	1.34	1.06
1:A:485:ARG:HB3	1:A:491:PHE:HZ	1.20	1.05
1:C:382:LEU:O	1:C:382:LEU:HD12	1.54	1.03
1:C:633:ILE:CG2	1:C:723:VAL:HB	1.89	1.03
1:B:599:ARG:CB	1:C:581:LEU:HD11	1.89	1.02
1:D:632:PRO:O	1:D:633:ILE:O	1.80	0.99
1:C:633:ILE:CG2	1:C:723:VAL:CB	2.41	0.98
1:C:633:ILE:HG23	1:C:723:VAL:CG1	1.91	0.97
1:D:489:ILE:HG21	1:D:735:ALA:HB1	1.42	0.97
1:C:581:LEU:HA	1:C:584:PHE:HB3	1.45	0.97
1:A:631:SER:CB	1:A:632:PRO:HA	1.95	0.95
1:D:787:LEU:O	1:D:787:LEU:CD2	2.14	0.94
1:C:619:ASN:ND2	1:D:787:LEU:HB3	1.81	0.94
1:D:485:ARG:HB3	1:D:491:PHE:HZ	1.30	0.93
1:D:789:LEU:HA	1:D:792:VAL:HG13	1.52	0.91
1:A:599:ARG:O	1:B:585:MET:HE1	1.70	0.91
1:A:489:ILE:HG21	1:A:735:ALA:HB1	1.49	0.91
1:C:619:ASN:HD21	1:D:787:LEU:HB3	1.36	0.90
1:C:522:ALA:HB2	1:D:787:LEU:HD21	1.52	0.90
1:D:629:MET:HA	1:D:630:VAL:CG2	2.01	0.89
1:D:629:MET:HA	1:D:630:VAL:HG23	1.53	0.89
1:A:485:ARG:HB3	1:A:491:PHE:CZ	2.09	0.88
1:D:628:ARG:CB	1:D:630:VAL:HG21	2.03	0.88
1:C:522:ALA:CA	1:D:787:LEU:HD21	2.04	0.88
1:C:518:LEU:HD12	1:C:518:LEU:O	1.75	0.87
1:C:633:ILE:CG2	1:C:723:VAL:HG11	1.93	0.85
1:A:629:MET:CB	1:A:630:VAL:CA	2.40	0.85
1:D:791:ASN:O	1:D:791:ASN:OD1	1.95	0.84
1:D:488:VAL:HG23	1:D:489:ILE:HG12	1.58	0.83
1:C:629:MET:CB	1:C:630:VAL:CA	2.40	0.83
1:C:522:ALA:CB	1:D:787:LEU:HD21	2.08	0.82
1:C:633:ILE:HG22	1:C:723:VAL:HB	1.60	0.82
1:A:488:VAL:HG23	1:A:489:ILE:HG12	1.62	0.81
1:B:232:LEU:C	1:B:232:LEU:HD12	2.00	0.81
1:D:485:ARG:HB3	1:D:491:PHE:CZ	2.15	0.80
1:A:485:ARG:C	1:A:491:PHE:HE2	1.85	0.79
1:D:631:SER:CB	1:D:632:PRO:HA	2.14	0.78
1:B:518:LEU:O	1:B:518:LEU:CD1	2.32	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:371:ILE:O	1:C:382:LEU:CD2	2.31	0.77
1:D:519:ASP:O	1:D:521:LEU:O	2.02	0.77
1:C:371:ILE:O	1:C:382:LEU:HD22	1.83	0.77
1:C:581:LEU:C	1:C:581:LEU:HD12	2.05	0.76
1:D:628:ARG:N	1:D:629:MET:HB3	2.00	0.76
1:A:524:GLU:OE1	1:B:789:LEU:HD22	1.85	0.76
1:C:522:ALA:HB2	1:D:787:LEU:CD2	2.15	0.75
1:A:486:GLU:OE1	1:A:491:PHE:HD2	1.69	0.75
1:C:634:GLU:HG3	1:C:635:SER:N	1.98	0.75
1:B:451:GLY:HA2	1:B:452:ALA:HB3	1.68	0.75
1:C:522:ALA:N	1:D:787:LEU:HD21	2.01	0.74
1:D:628:ARG:CB	1:D:629:MET:HA	2.17	0.74
1:A:631:SER:HB2	1:A:632:PRO:CA	2.16	0.74
1:C:581:LEU:HA	1:C:584:PHE:CB	2.18	0.74
1:B:502:ILE:HD13	1:B:639:LEU:HD13	1.70	0.74
1:D:628:ARG:CA	1:D:630:VAL:HG22	2.18	0.74
1:C:630:VAL:O	1:C:631:SER:HB2	1.89	0.73
1:D:377:VAL:HG13	1:D:378:ASP:H	1.53	0.73
1:D:787:LEU:H	1:D:787:LEU:HD13	1.53	0.73
1:C:360:ILE:HB	1:C:372:GLY:HA3	1.71	0.73
1:A:629:MET:HB2	1:A:630:VAL:HA	0.74	0.72
1:B:649:THR:HG22	1:B:703:LEU:HB2	1.70	0.72
1:C:581:LEU:CA	1:C:584:PHE:HB3	2.18	0.72
1:C:630:VAL:O	1:C:631:SER:CB	2.37	0.72
1:C:147:GLN:HE21	1:D:143:LEU:HD21	1.53	0.72
1:D:486:GLU:OE1	1:D:491:PHE:HD2	1.72	0.72
1:D:627:GLU:CB	1:D:629:MET:HG2	2.20	0.72
1:C:629:MET:HB2	1:C:630:VAL:HA	0.74	0.71
1:D:485:ARG:C	1:D:491:PHE:HE2	1.92	0.71
1:C:630:VAL:O	1:C:630:VAL:HG22	1.90	0.71
1:A:631:SER:CB	1:A:632:PRO:CA	2.69	0.71
1:D:787:LEU:H	1:D:787:LEU:CD1	2.02	0.71
1:B:346:LYS:HG3	1:B:354:ILE:HG13	1.70	0.71
1:A:485:ARG:CB	1:A:491:PHE:HZ	2.01	0.70
1:B:494:PRO:HG3	1:C:494:PRO:HG3	1.72	0.70
1:C:525:ILE:HD11	1:D:789:LEU:HB3	1.72	0.70
1:A:630:VAL:HG22	1:A:630:VAL:O	1.90	0.70
1:A:485:ARG:CB	1:A:491:PHE:CZ	2.76	0.69
1:B:387:THR:O	1:B:387:THR:OG1	2.09	0.69
1:D:639:LEU:C	1:D:639:LEU:HD12	2.12	0.69
1:A:486:GLU:N	1:A:491:PHE:HE2	1.91	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:387:THR:N	1:B:388:SER:HA	2.08	0.69
1:D:632:PRO:O	1:D:633:ILE:C	2.31	0.68
1:C:649:THR:HG22	1:C:703:LEU:HB2	1.74	0.68
1:C:522:ALA:N	1:D:787:LEU:CD2	2.56	0.68
1:A:485:ARG:C	1:A:491:PHE:CE2	2.68	0.67
1:B:274:HIS:O	1:B:274:HIS:ND1	2.27	0.67
1:C:498:LEU:HD21	1:C:732:TYR:CZ	2.30	0.67
1:A:649:THR:HG22	1:A:703:LEU:HB2	1.76	0.66
1:D:628:ARG:H	1:D:629:MET:HB3	1.61	0.66
1:D:489:ILE:HG22	1:D:490:ASP:N	2.11	0.66
1:B:518:LEU:HB2	1:B:526:TRP:CD1	2.32	0.66
1:D:649:THR:HG22	1:D:703:LEU:HB2	1.77	0.66
1:C:98:THR:O	1:C:112:GLN:HA	1.95	0.65
1:C:394:THR:HG23	1:C:394:THR:O	1.94	0.65
1:D:377:VAL:HG13	1:D:378:ASP:N	2.10	0.65
1:B:474:ILE:HG13	1:B:736:THR:HG22	1.79	0.64
1:C:581:LEU:HD12	1:C:582:GLY:N	2.11	0.64
1:D:450:TYR:HA	1:D:462:GLY:HA3	1.78	0.64
1:C:147:GLN:HE21	1:D:143:LEU:CD2	2.10	0.63
1:B:633:ILE:HD13	1:B:639:LEU:HD12	1.80	0.63
1:A:619:ASN:HA	1:B:624:LEU:HD13	1.81	0.63
1:C:402:GLU:OE1	1:C:450:TYR:OH	2.15	0.63
1:D:509:LYS:N	1:D:510:SER:HB2	2.13	0.62
1:A:608:PHE:CD2	1:B:799:LEU:HD22	2.35	0.62
1:C:633:ILE:HG23	1:C:723:VAL:CB	2.24	0.62
1:D:789:LEU:HB2	1:D:792:VAL:HG22	1.82	0.62
1:B:581:LEU:O	1:B:585:MET:HE2	1.99	0.62
1:C:382:LEU:HD12	1:C:382:LEU:C	2.20	0.62
1:B:387:THR:H	1:B:388:SER:HA	1.63	0.62
1:D:502:ILE:HD13	1:D:639:LEU:CD2	2.29	0.62
1:C:519:ASP:HB2	3:C:902:6ZP:C20	2.29	0.62
1:D:581:LEU:HA	1:D:584:PHE:HB3	1.81	0.62
1:B:498:LEU:HD21	1:B:732:TYR:CZ	2.35	0.61
1:C:177:TYR:HB3	1:C:207:GLN:HG2	1.82	0.61
1:C:642:GLN:HE22	1:C:645:ILE:HB	1.65	0.61
1:A:486:GLU:HA	1:A:491:PHE:CE2	2.36	0.61
1:B:502:ILE:HD13	1:B:639:LEU:CD1	2.30	0.61
1:C:524:GLU:HB2	1:D:789:LEU:CD2	2.30	0.61
1:C:633:ILE:HG21	1:C:723:VAL:CB	2.18	0.61
1:B:232:LEU:C	1:B:232:LEU:CD1	2.69	0.61
1:C:382:LEU:O	1:C:382:LEU:CD1	2.41	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:510:SER:H	1:B:511:LYS:HA	1.66	0.61
1:A:523:TYR:CD2	1:A:524:GLU:HG3	2.36	0.60
1:B:26:TYR:HE1	1:B:47:ILE:HG12	1.66	0.60
1:D:169:ASN:ND2	1:D:171:ASP:OD1	2.35	0.60
1:A:489:ILE:HG22	1:A:490:ASP:N	2.15	0.60
1:D:485:ARG:CB	1:D:491:PHE:CZ	2.84	0.60
1:D:629:MET:HA	1:D:630:VAL:HG22	1.80	0.60
1:A:299:LEU:HD13	1:A:306:ILE:HG21	1.82	0.60
1:C:12:ILE:HG23	1:C:71:TYR:HD2	1.67	0.60
1:B:177:TYR:HB3	1:B:207:GLN:HG2	1.84	0.60
1:C:101:PHE:HA	1:C:114:ARG:HD2	1.84	0.60
1:D:628:ARG:N	1:D:629:MET:CB	2.65	0.59
1:C:498:LEU:CD1	1:C:730:LYS:HD2	2.33	0.59
1:D:143:LEU:HD23	1:D:146:LEU:HD23	1.84	0.59
1:B:260:GLU:O	1:B:264:THR:OG1	2.19	0.59
1:C:522:ALA:H	1:C:525:ILE:HD12	1.67	0.59
1:C:112:GLN:NE2	1:C:352:LYS:HD3	2.17	0.59
1:C:634:GLU:CG	1:C:635:SER:H	2.01	0.59
1:C:299:LEU:HD13	1:C:306:ILE:HG21	1.85	0.58
1:D:632:PRO:C	1:D:633:ILE:O	2.40	0.58
1:D:519:ASP:C	1:D:521:LEU:O	2.41	0.58
1:C:474:ILE:HG13	1:C:736:THR:HG22	1.84	0.58
1:B:447:ASP:N	1:B:448:GLY:HA2	2.18	0.58
1:C:141:ARG:NH2	1:C:195:ASP:OD1	2.36	0.58
1:A:362:GLU:HG3	1:A:371:ILE:HG21	1.85	0.58
1:D:374:TRP:CD1	1:D:379:LYS:O	2.57	0.58
1:C:640:SER:HB3	1:C:670:MET:HG2	1.86	0.57
1:B:582:GLY:HA2	1:B:585:MET:HE2	1.86	0.57
1:C:632:PRO:HG2	1:C:633:ILE:HD12	1.86	0.57
1:B:385:ASP:OD1	1:B:386:ASP:N	2.37	0.57
1:B:582:GLY:HA2	1:B:585:MET:CE	2.35	0.56
1:A:474:ILE:HG13	1:A:736:THR:HG22	1.88	0.56
1:C:498:LEU:HD11	1:C:730:LYS:CD	2.35	0.56
1:C:619:ASN:ND2	1:D:787:LEU:CB	2.64	0.56
1:B:14:ILE:HD13	1:B:292:MET:HE1	1.87	0.56
1:D:377:VAL:HG13	1:D:378:ASP:OD1	2.04	0.56
1:C:371:ILE:O	1:C:382:LEU:HD23	2.05	0.56
1:B:11:SER:OG	1:B:44:THR:OG1	2.23	0.56
1:B:599:ARG:CA	1:C:581:LEU:HD11	2.36	0.56
1:D:629:MET:N	1:D:630:VAL:HA	2.21	0.56
1:A:14:ILE:HD13	1:A:43:LEU:HD23	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:631:SER:HB2	1:D:632:PRO:HA	1.88	0.56
1:A:103:THR:O	1:A:352:LYS:NZ	2.37	0.56
1:B:639:LEU:HD21	1:B:647:TYR:CG	2.40	0.56
1:C:219:HIS:HD2	1:C:241:GLU:O	1.89	0.56
1:D:631:SER:HB2	1:D:632:PRO:CA	2.36	0.56
1:A:71:TYR:HA	1:A:323:TRP:HH2	1.71	0.56
1:C:522:ALA:HB3	1:C:525:ILE:HG13	1.86	0.55
1:D:502:ILE:HD13	1:D:639:LEU:HD23	1.86	0.55
1:B:508:GLN:N	1:B:509:LYS:HA	2.21	0.55
1:C:581:LEU:C	1:C:581:LEU:CD1	2.74	0.55
1:A:118:LYS:HG2	1:A:145:THR:HG22	1.89	0.55
1:A:358:ILE:HD12	1:A:374:TRP:HE1	1.71	0.55
1:A:449:LYS:HD3	1:A:461:ASN:HB2	1.89	0.55
1:C:630:VAL:CG1	1:C:631:SER:N	2.64	0.55
1:D:631:SER:CB	1:D:632:PRO:CA	2.85	0.55
1:D:489:ILE:CG2	1:D:735:ALA:HB1	2.29	0.54
1:D:498:LEU:HD21	1:D:732:TYR:CZ	2.42	0.54
1:A:642:GLN:HE22	1:A:645:ILE:HB	1.72	0.54
1:A:372:GLY:HA2	1:A:382:LEU:HB3	1.90	0.54
1:B:483:LEU:N	1:C:755:GLU:OE2	2.37	0.54
1:C:630:VAL:HG13	1:C:631:SER:N	2.11	0.54
1:C:634:GLU:HG2	1:C:638:ASP:HB2	1.88	0.54
1:D:784:THR:HA	1:D:785:SER:HB3	1.90	0.54
1:C:540:LEU:HA	1:C:543:VAL:HG22	1.89	0.54
1:D:628:ARG:CB	1:D:630:VAL:HG23	2.21	0.54
2:C:901:NAG:H83	2:C:901:NAG:H3	1.89	0.54
1:A:659:PHE:HB3	1:A:671:TRP:HB2	1.90	0.54
1:C:754:SER:HB2	1:C:759:LEU:HD12	1.90	0.54
1:D:628:ARG:C	1:D:630:VAL:HG22	2.28	0.54
1:A:486:GLU:CA	1:A:491:PHE:HE2	2.21	0.54
1:C:169:ASN:HD21	1:C:172:LYS:HD3	1.72	0.54
1:A:177:TYR:CD2	1:A:207:GLN:HG3	2.43	0.53
1:C:600:ILE:HD11	1:D:806:ALA:HA	1.90	0.53
1:D:474:ILE:HG13	1:D:736:THR:HG22	1.90	0.53
1:A:515:PHE:O	1:A:515:PHE:CD2	2.62	0.53
1:C:14:ILE:HD13	1:C:43:LEU:HD23	1.90	0.53
1:D:141:ARG:NH2	1:D:195:ASP:OD1	2.40	0.53
1:D:789:LEU:HA	1:D:792:VAL:CG1	2.31	0.53
1:B:517:PHE:O	3:B:902:6ZP:C18	2.56	0.53
1:D:498:LEU:HB3	1:D:707:THR:HG23	1.91	0.53
1:A:494:PRO:HG3	1:D:494:PRO:HG3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:485:ARG:C	1:D:491:PHE:CE2	2.78	0.53
1:B:498:LEU:HB3	1:B:707:THR:HG23	1.89	0.53
1:A:599:ARG:HA	1:B:585:MET:HE3	1.91	0.52
1:D:517:PHE:HA	3:D:902:6ZP:C18	2.39	0.52
1:D:540:LEU:HA	1:D:543:VAL:HG22	1.91	0.52
1:A:536:VAL:HG22	1:B:803:LEU:HD21	1.91	0.52
1:C:498:LEU:HB3	1:C:707:THR:HG23	1.89	0.52
1:C:518:LEU:O	1:C:518:LEU:CD1	2.53	0.52
1:D:377:VAL:CG1	1:D:378:ASP:H	2.20	0.52
1:A:209:ILE:HA	1:A:214:HIS:CD2	2.44	0.52
1:A:498:LEU:HD12	1:A:730:LYS:HG3	1.91	0.52
1:C:362:GLU:HG3	1:C:371:ILE:HG21	1.91	0.52
1:C:607:PHE:HE1	1:D:584:PHE:HZ	1.56	0.52
1:B:659:PHE:HB3	1:B:671:TRP:HB2	1.91	0.52
1:D:209:ILE:HA	1:D:214:HIS:CD2	2.45	0.52
1:A:221:ILE:HG12	1:A:243:SER:HB2	1.92	0.52
1:A:274:HIS:O	1:A:274:HIS:CG	2.63	0.52
1:C:112:GLN:HE21	1:C:352:LYS:HD3	1.73	0.51
1:A:515:PHE:O	1:A:515:PHE:CG	2.63	0.51
1:D:337:GLN:NE2	2:D:901:NAG:O7	2.41	0.51
1:A:517:PHE:O	3:A:902:6ZP:C18	2.58	0.51
1:C:87:SER:OG	1:D:54:ASN:OD1	2.29	0.51
1:A:135:TYR:CE1	1:A:137:TYR:HB3	2.46	0.51
1:B:427:ASP:OD2	1:B:766:TRP:NE1	2.37	0.51
1:C:498:LEU:CD1	1:C:730:LYS:CD	2.88	0.51
1:A:124:LEU:HD13	1:A:360:ILE:HD13	1.92	0.51
1:C:450:TYR:O	1:C:462:GLY:HA3	2.11	0.51
1:D:12:ILE:HG23	1:D:71:TYR:HD2	1.75	0.51
1:A:630:VAL:HG13	1:A:631:SER:N	2.15	0.51
1:D:486:GLU:N	1:D:491:PHE:HE2	2.09	0.51
1:D:489:ILE:CG2	1:D:490:ASP:N	2.74	0.51
1:A:742:LEU:O	1:A:742:LEU:HD12	2.11	0.51
1:C:498:LEU:CD2	1:C:732:TYR:CZ	2.94	0.51
1:D:382:LEU:HD12	1:D:382:LEU:C	2.32	0.50
1:D:498:LEU:CD1	1:D:730:LYS:HD2	2.41	0.50
1:B:540:LEU:HA	1:B:543:VAL:HG22	1.94	0.50
1:D:299:LEU:HD13	1:D:306:ILE:HG21	1.92	0.50
1:A:630:VAL:O	1:A:631:SER:CB	2.60	0.50
1:B:12:ILE:HG23	1:B:71:TYR:HD2	1.77	0.50
1:D:789:LEU:HD12	1:D:789:LEU:C	2.32	0.50
1:A:754:SER:HB2	1:A:759:LEU:HD12	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:517:PHE:C	3:B:902:6ZP:C18	2.80	0.50
1:D:101:PHE:HA	1:D:114:ARG:HD2	1.94	0.50
1:B:508:GLN:H	1:B:509:LYS:HA	1.77	0.49
1:C:498:LEU:HD12	1:C:730:LYS:HG3	1.94	0.49
1:C:626:VAL:HG11	1:D:782:GLU:O	2.12	0.49
1:D:629:MET:CA	1:D:630:VAL:CG2	2.82	0.49
1:A:525:ILE:HG12	1:B:792:VAL:HG21	1.94	0.49
1:B:498:LEU:HD12	1:B:730:LYS:HG3	1.94	0.49
1:C:166:GLY:HA2	1:C:200:LYS:HE2	1.94	0.49
1:B:642:GLN:HE22	1:B:645:ILE:HB	1.78	0.49
1:B:227:PHE:CD1	1:B:244:GLY:HA3	2.48	0.49
1:A:539:VAL:HG21	1:B:803:LEU:HD22	1.93	0.49
1:B:754:SER:HB2	1:B:759:LEU:HD12	1.95	0.49
1:C:388:SER:H	1:C:389:GLY:HA2	1.76	0.49
1:D:71:TYR:HA	1:D:323:TRP:HH2	1.78	0.49
1:A:498:LEU:HB3	1:A:707:THR:HG23	1.95	0.49
1:A:294:GLU:HG3	1:A:338:VAL:HG11	1.95	0.48
1:C:23:ASP:HB3	1:C:271:PRO:HG2	1.95	0.48
1:C:387:THR:HA	1:C:388:SER:HA	1.55	0.48
1:A:540:LEU:HA	1:A:543:VAL:HG22	1.95	0.48
1:A:454:ASP:OD1	1:A:455:ALA:N	2.46	0.48
1:B:232:LEU:HD12	1:B:232:LEU:O	2.13	0.48
1:B:237:PHE:HB2	1:D:210:THR:HG22	1.95	0.48
1:C:48:ASP:OD1	1:C:65:GLN:NE2	2.46	0.48
1:A:177:TYR:HD2	1:A:207:GLN:HG3	1.78	0.48
1:B:288:ALA:O	1:B:292:MET:HG3	2.14	0.48
1:B:498:LEU:HD12	1:B:499:GLY:N	2.28	0.48
1:D:498:LEU:HD11	1:D:730:LYS:HD2	1.95	0.48
1:D:787:LEU:CD1	1:D:787:LEU:N	2.73	0.48
1:A:608:PHE:CG	1:B:799:LEU:HD22	2.49	0.48
1:A:486:GLU:OE1	1:A:491:PHE:CD2	2.59	0.48
1:B:20:ARG:HG3	1:B:21:GLY:N	2.29	0.48
1:C:622:ALA:O	1:C:626:VAL:HG23	2.14	0.48
1:D:521:LEU:HB2	1:D:526:TRP:NE1	2.29	0.48
1:A:489:ILE:CG2	1:A:490:ASP:N	2.78	0.47
1:C:498:LEU:HD11	1:C:730:LYS:HD2	1.96	0.47
1:D:639:LEU:HD12	1:D:640:SER:N	2.29	0.47
1:A:516:SER:O	1:A:518:LEU:N	2.47	0.47
1:A:498:LEU:CD1	1:A:730:LYS:HG3	2.44	0.47
1:C:77:TYR:HE2	1:C:98:THR:HG21	1.80	0.47
1:D:274:HIS:CG	1:D:274:HIS:O	2.67	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:444:ILE:HG22	1:B:446:GLY:H	1.80	0.47
1:C:103:THR:O	1:C:352:LYS:NZ	2.46	0.47
1:D:294:GLU:HG3	1:D:338:VAL:HG11	1.95	0.47
1:C:10:ASN:HB3	1:C:300:ARG:HH22	1.79	0.47
1:D:377:VAL:CG1	1:D:378:ASP:N	2.77	0.47
1:B:386:ASP:OD1	1:B:386:ASP:O	2.32	0.47
1:B:498:LEU:CD2	1:B:732:TYR:CE2	2.98	0.47
1:A:115:PRO:HA	1:A:353:ARG:HB2	1.98	0.46
1:C:632:PRO:CG	1:C:633:ILE:H	2.27	0.46
1:D:14:ILE:HD13	1:D:43:LEU:HD23	1.97	0.46
1:D:498:LEU:HD11	1:D:730:LYS:CD	2.45	0.46
1:A:120:ALA:HB2	1:A:374:TRP:NE1	2.30	0.46
1:B:274:HIS:O	1:B:274:HIS:CG	2.68	0.46
1:B:401:LEU:HD23	1:B:406:VAL:HG12	1.98	0.46
1:B:417:GLY:O	1:B:420:ARG:NE	2.46	0.46
1:C:481:ILE:HA	1:C:491:PHE:CE2	2.50	0.46
1:A:486:GLU:CA	1:A:491:PHE:CE2	2.98	0.46
1:B:14:ILE:O	1:B:45:PRO:HA	2.16	0.46
1:A:219:HIS:HA	1:A:241:GLU:O	2.15	0.46
1:B:294:GLU:HG3	1:B:338:VAL:HG11	1.98	0.46
1:C:174:ASP:OD1	1:C:207:GLN:NE2	2.49	0.46
1:C:524:GLU:HB2	1:D:789:LEU:HD21	1.96	0.46
1:A:449:LYS:HB2	1:A:462:GLY:HA2	1.98	0.46
1:A:630:VAL:CG1	1:A:631:SER:N	2.68	0.46
1:D:134:ALA:HB2	1:D:189:GLU:HG2	1.98	0.46
1:D:334:LYS:NZ	1:D:349:GLN:O	2.32	0.46
1:C:517:PHE:CE1	1:C:795:VAL:HG22	2.51	0.46
1:D:789:LEU:HB2	1:D:792:VAL:CG2	2.44	0.46
1:C:242:VAL:HB	1:C:363:LEU:HB3	1.98	0.46
1:B:66:PHE:CZ	1:B:312:ALA:HB1	2.51	0.46
1:D:486:GLU:HA	1:D:491:PHE:CE2	2.51	0.46
1:C:522:ALA:H	1:D:787:LEU:CD2	2.27	0.46
1:C:634:GLU:CG	1:C:638:ASP:HB2	2.46	0.46
1:C:118:LYS:HG2	1:C:145:THR:HG22	1.97	0.45
1:C:274:HIS:CG	1:C:274:HIS:O	2.68	0.45
1:A:123:SER:O	1:A:127:TYR:N	2.49	0.45
1:A:524:GLU:OE1	1:B:789:LEU:CD2	2.60	0.45
1:B:219:HIS:HA	1:B:241:GLU:O	2.17	0.45
1:C:659:PHE:HB3	1:C:671:TRP:HB2	1.98	0.45
1:D:639:LEU:C	1:D:639:LEU:CD1	2.80	0.45
1:A:485:ARG:O	1:A:491:PHE:CE2	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:498:LEU:HD11	1:A:730:LYS:CD	2.46	0.45
1:A:792:VAL:HG21	1:D:525:ILE:HG12	1.97	0.45
1:A:383:THR:HA	1:A:384:GLU:HA	1.64	0.45
1:C:494:PRO:HA	1:C:732:TYR:O	2.17	0.45
1:C:517:PHE:HE1	1:C:795:VAL:HG22	1.81	0.45
1:B:225:LEU:HB2	1:B:280:TYR:CD2	2.52	0.45
1:D:522:ALA:HB3	1:D:525:ILE:HD12	1.99	0.45
1:D:227:PHE:CD2	1:D:244:GLY:HA3	2.52	0.45
1:A:523:TYR:HD2	1:A:524:GLU:HG3	1.79	0.45
1:C:394:THR:O	1:C:394:THR:CG2	2.63	0.45
1:A:219:HIS:HD2	1:A:241:GLU:O	2.00	0.45
1:A:291:VAL:HA	1:A:336:VAL:HG11	1.98	0.45
1:A:498:LEU:HD21	1:A:732:TYR:CZ	2.52	0.45
1:D:521:LEU:HD13	1:D:616:TYR:HD2	1.80	0.45
1:B:507:PRO:N	1:B:508:GLN:HA	2.32	0.44
1:C:112:GLN:OE1	1:C:112:GLN:N	2.44	0.44
1:C:536:VAL:HG22	1:D:803:LEU:HD21	1.98	0.44
1:C:634:GLU:HG2	1:C:638:ASP:CB	2.47	0.44
1:D:788:SER:HB2	3:D:902:6ZP:C06	2.47	0.44
1:A:489:ILE:HG21	1:A:735:ALA:CB	2.35	0.44
1:C:219:HIS:HA	1:C:241:GLU:O	2.17	0.44
1:D:502:ILE:HB	1:D:723:VAL:HG23	2.00	0.44
1:C:498:LEU:HD12	1:C:730:LYS:CG	2.48	0.44
1:C:522:ALA:N	1:D:787:LEU:HD23	2.32	0.44
1:D:395:VAL:HG13	1:D:473:ASP:HB2	1.99	0.44
1:A:101:PHE:HA	1:A:114:ARG:HD2	1.99	0.44
1:A:522:ALA:O	1:A:523:TYR:C	2.56	0.44
1:C:98:THR:HG23	1:C:112:GLN:HA	1.99	0.44
1:C:632:PRO:CD	1:C:633:ILE:H	2.30	0.44
1:C:401:LEU:HD23	1:C:406:VAL:HG12	1.99	0.44
1:D:659:PHE:HB3	1:D:671:TRP:HB2	1.99	0.44
1:D:754:SER:HB2	1:D:759:LEU:HD12	1.98	0.44
1:A:474:ILE:HD12	1:A:742:LEU:HD13	1.99	0.43
1:B:20:ARG:HG3	1:B:21:GLY:H	1.83	0.43
1:B:118:LYS:HB3	1:B:145:THR:HG22	2.00	0.43
1:D:520:PRO:C	1:D:521:LEU:O	2.49	0.43
1:A:529:ILE:HD13	1:A:612:ILE:HD12	2.00	0.43
1:B:667:PHE:HE1	1:B:727:LEU:HD13	1.81	0.43
1:C:522:ALA:H	1:D:787:LEU:HD23	1.82	0.43
1:D:494:PRO:HA	1:D:732:TYR:O	2.18	0.43
1:B:498:LEU:CD1	1:B:730:LYS:HG3	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:486:GLU:HA	1:A:491:PHE:HE2	1.75	0.43
1:C:112:GLN:NE2	1:C:352:LYS:HA	2.34	0.43
1:A:629:MET:SD	1:A:630:VAL:HA	2.59	0.43
1:B:299:LEU:HD13	1:B:306:ILE:HG21	2.01	0.43
1:B:517:PHE:CE1	1:B:795:VAL:HG22	2.54	0.43
1:C:221:ILE:HG12	1:C:243:SER:HB2	2.01	0.43
1:A:464:VAL:HG13	1:A:489:ILE:HG13	2.01	0.43
1:B:118:LYS:HE2	1:B:148:ALA:HB2	2.01	0.43
1:D:118:LYS:HG2	1:D:145:THR:HG22	2.01	0.43
1:B:178:ARG:HD3	1:B:211:ILE:HG22	2.01	0.42
1:C:520:PRO:HD3	3:C:902:6ZP:C20	2.49	0.42
1:C:667:PHE:HE1	1:C:727:LEU:HD13	1.84	0.42
1:D:579:PHE:O	1:D:583:ALA:N	2.46	0.42
1:A:667:PHE:HE1	1:A:727:LEU:HD13	1.83	0.42
1:B:525:ILE:HG12	1:C:792:VAL:HG21	2.01	0.42
1:C:71:TYR:HA	1:C:323:TRP:HH2	1.83	0.42
1:C:231:ASP:HB3	1:C:234:LYS:HE2	2.02	0.42
1:A:379:LYS:O	1:A:379:LYS:HG3	2.19	0.42
1:B:97:ILE:HG12	1:B:111:ILE:HB	2.01	0.42
1:B:405:TYR:CD1	1:B:478:PRO:HG3	2.55	0.42
1:D:132:LYS:NZ	1:D:187:LYS:HB3	2.34	0.42
1:A:507:PRO:HA	1:A:508:GLN:CB	2.50	0.42
1:B:520:PRO:O	1:C:787:LEU:HB2	2.19	0.42
1:B:728:ASP:OD1	1:B:728:ASP:N	2.52	0.42
1:C:581:LEU:HA	1:C:584:PHE:H	1.84	0.42
1:A:231:ASP:HB3	1:A:234:LYS:HE2	2.01	0.42
1:D:219:HIS:HA	1:D:241:GLU:O	2.19	0.42
1:A:486:GLU:N	1:A:491:PHE:CE2	2.80	0.42
1:A:608:PHE:HD1	1:B:795:VAL:HG12	1.84	0.42
1:B:210:THR:HG22	1:D:237:PHE:HB2	2.01	0.42
1:C:628:ARG:O	1:C:629:MET:C	2.58	0.42
1:D:522:ALA:O	1:D:526:TRP:HD1	2.01	0.42
1:A:514:VAL:O	1:A:514:VAL:HG22	2.20	0.42
1:B:498:LEU:HD23	1:B:707:THR:HG21	2.02	0.42
1:C:382:LEU:C	1:C:382:LEU:CD1	2.87	0.42
1:C:498:LEU:HD12	1:C:499:GLY:N	2.34	0.42
1:D:520:PRO:HD3	3:D:902:6ZP:C19	2.50	0.42
1:A:125:ILE:HG23	1:A:130:TRP:HB2	2.02	0.42
1:C:388:SER:N	1:C:389:GLY:HA2	2.34	0.42
1:C:629:MET:SD	1:C:630:VAL:HA	2.59	0.42
1:D:172:LYS:NZ	1:D:175:GLU:OE1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:401:LEU:HD23	1:A:406:VAL:HG12	2.02	0.42
1:D:642:GLN:HE22	1:D:645:ILE:HB	1.85	0.42
1:D:809:VAL:HA	1:D:812:ILE:HG12	2.02	0.42
1:A:255:VAL:O	1:A:259:ILE:HG12	2.20	0.41
1:B:346:LYS:HE3	1:B:355:ASN:HD22	1.85	0.41
1:B:619:ASN:HA	1:C:624:LEU:HD13	2.02	0.41
1:D:498:LEU:HD12	1:D:730:LYS:HG3	2.01	0.41
1:A:517:PHE:HE1	1:A:795:VAL:HG22	1.85	0.41
1:B:405:TYR:HB3	1:B:425:CYS:SG	2.60	0.41
1:C:702:TYR:CE2	1:C:704:LEU:HB3	2.55	0.41
1:D:447:ASP:OD1	1:D:447:ASP:N	2.53	0.41
1:B:404:PRO:HB3	1:B:711:TYR:CE1	2.55	0.41
1:B:481:ILE:HA	1:B:491:PHE:CE2	2.55	0.41
1:A:486:GLU:HA	1:A:491:PHE:CD2	2.54	0.41
1:A:596:LEU:HD12	1:A:596:LEU:HA	1.80	0.41
1:B:332:ALA:O	1:B:336:VAL:HG23	2.20	0.41
1:C:405:TYR:CD2	1:C:478:PRO:HG3	2.56	0.41
1:D:171:ASP:OD1	1:D:172:LYS:N	2.49	0.41
1:D:185:GLU:OE1	1:D:213:LYS:NZ	2.40	0.41
1:D:632:PRO:O	1:D:632:PRO:HD2	2.20	0.41
1:A:619:ASN:HA	1:B:624:LEU:CD1	2.49	0.41
1:A:640:SER:HB3	1:A:670:MET:HG2	2.02	0.41
1:C:115:PRO:HA	1:C:353:ARG:HB2	2.02	0.41
1:D:485:ARG:O	1:D:491:PHE:HE2	2.01	0.41
1:A:30:ARG:HD2	1:A:270:TYR:CE2	2.55	0.41
1:A:517:PHE:HA	3:A:902:6ZP:C18	2.51	0.41
1:B:48:ASP:OD1	1:B:65:GLN:NE2	2.54	0.41
1:C:98:THR:O	1:C:113:MET:N	2.45	0.41
1:C:334:LYS:NZ	1:C:349:GLN:O	2.39	0.41
1:D:502:ILE:HD13	1:D:639:LEU:HD21	2.00	0.41
1:A:227:PHE:CD1	1:A:244:GLY:HA3	2.55	0.41
1:B:500:ILE:HD12	1:B:655:THR:HG23	2.03	0.41
1:A:153:ALA:HA	1:A:158:TRP:HB2	2.02	0.41
1:D:498:LEU:HD12	1:D:499:GLY:N	2.35	0.41
1:A:483:LEU:O	1:A:487:GLU:HG3	2.21	0.41
1:A:494:PRO:HA	1:A:732:TYR:O	2.21	0.41
1:A:498:LEU:HD12	1:A:498:LEU:C	2.41	0.41
1:C:209:ILE:HA	1:C:214:HIS:CD2	2.56	0.41
1:C:633:ILE:O	1:C:634:GLU:O	2.39	0.41
1:A:395:VAL:N	1:A:439:LYS:O	2.51	0.41
1:C:483:LEU:O	1:C:487:GLU:HG3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:235:ILE:HD12	1:D:242:VAL:HG21	2.03	0.41
1:D:521:LEU:HB3	1:D:525:ILE:HB	2.03	0.41
1:B:13:GLN:H	1:B:13:GLN:HG2	1.66	0.40
1:B:219:HIS:HD2	1:B:241:GLU:O	2.04	0.40
1:B:702:TYR:CE2	1:B:704:LEU:HB3	2.56	0.40
1:C:622:ALA:HA	1:D:625:THR:HG22	2.04	0.40
1:A:74:PHE:CZ	1:A:285:THR:HG23	2.57	0.40
1:A:498:LEU:HD12	1:A:730:LYS:CG	2.51	0.40
1:A:806:ALA:HA	1:D:600:ILE:HD11	2.03	0.40
1:B:507:PRO:CD	1:B:508:GLN:HA	2.52	0.40
1:B:683:VAL:HG11	1:B:689:GLY:HA2	2.03	0.40
1:B:708:MET:O	1:B:712:ILE:HG12	2.21	0.40
1:D:498:LEU:HD23	1:D:707:THR:HG21	2.04	0.40
1:A:498:LEU:CD1	1:A:730:LYS:HD2	2.52	0.40
1:C:539:VAL:HG21	1:D:803:LEU:HD22	2.03	0.40
1:D:401:LEU:HD23	1:D:406:VAL:HG12	2.04	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	771/803 (96%)	715 (93%)	52 (7%)	4 (0%)	25	61
1	B	767/803 (96%)	708 (92%)	55 (7%)	4 (0%)	25	61
1	C	767/803 (96%)	718 (94%)	43 (6%)	6 (1%)	16	53
1	D	771/803 (96%)	718 (93%)	49 (6%)	4 (0%)	25	61
All	All	3076/3212 (96%)	2859 (93%)	199 (6%)	18 (1%)	22	58

All (18) Ramachandran outliers are listed below:



Mol	Chain	Res	Type
1	C	631	SER
1	C	632	PRO
1	C	634	GLU
1	D	633	ILE
1	D	630	VAL
1	A	512	PRO
1	A	517	PHE
1	A	631	SER
1	B	520	PRO
1	B	780	SER
1	A	520	PRO
1	B	517	PHE
1	C	519	ASP
1	B	519	ASP
1	C	507	PRO
1	D	593	PRO
1	C	511	LYS
1	D	632	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	628/683 (92%)	622 (99%)	6 (1%)	73	81
1	B	635/683 (93%)	631 (99%)	4 (1%)	84	88
1	C	622/683 (91%)	617 (99%)	5 (1%)	79	84
1	D	626/683 (92%)	619 (99%)	7 (1%)	70	80
All	All	2511/2732 (92%)	2489 (99%)	22 (1%)	75	83

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

Mol	Chain	Res	Type
1	A	112	GLN
1	A	177	TYR
1	A	323	TRP
1	A	450	TYR

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Mol	Chain	Res	Type
1	A	585	MET
1	A	639	LEU
1	B	323	TRP
1	B	450	TYR
1	B	491	PHE
1	B	630	VAL
1	C	177	TYR
1	C	323	TRP
1	C	491	PHE
1	C	631	SER
1	C	787	LEU
1	D	177	TYR
1	D	323	TRP
1	D	579	PHE
1	D	585	MET
1	D	629	MET
1	D	631	SER
1	D	787	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	219	HIS
1	C	147	GLN
1	C	219	HIS
1	D	219	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

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	NAG	D	901	1	14,14,15	0.24	0	17,19,21	0.41	0
3	6ZP	A	902	-	30,30,30	2.54	7 (23%)	37,41,41	1.67	7 (18%)
2	NAG	C	901	1	14,14,15	0.41	0	17,19,21	1.38	2 (11%)
3	6ZP	B	902	-	30,30,30	2.55	7 (23%)	37,41,41	1.66	6 (16%)
2	NAG	B	901	1	14,14,15	0.24	0	17,19,21	0.44	0
3	6ZP	D	902	-	30,30,30	2.54	7 (23%)	37,41,41	1.64	7 (18%)
2	NAG	A	901	1	14,14,15	0.30	0	17,19,21	0.38	0
3	6ZP	C	902	-	30,30,30	2.54	7 (23%)	37,41,41	1.65	6 (16%)

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	NAG	D	901	1	-	2/6/23/26	0/1/1/1
3	6ZP	A	902	-	-	0/13/14/14	0/4/4/4
2	NAG	C	901	1	-	5/6/23/26	0/1/1/1
3	6ZP	B	902	-	-	0/13/14/14	0/4/4/4
2	NAG	B	901	1	-	0/6/23/26	0/1/1/1
3	6ZP	D	902	-	-	0/13/14/14	0/4/4/4
2	NAG	A	901	1	-	2/6/23/26	0/1/1/1
3	6ZP	C	902	-	-	1/13/14/14	0/4/4/4

All (28) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	902	6ZP	C08-C09	-8.26	1.39	1.49
3	C	902	6ZP	C08-C09	-8.23	1.39	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	902	6ZP	C08-C09	-8.18	1.39	1.49
3	D	902	6ZP	C08-C09	-8.18	1.39	1.49
3	B	902	6ZP	C22-N21	-6.27	1.33	1.44
3	A	902	6ZP	C22-N21	-6.26	1.33	1.44
3	D	902	6ZP	C22-N21	-6.25	1.33	1.44
3	C	902	6ZP	C22-N21	-6.20	1.33	1.44
3	A	902	6ZP	C03-C02	6.20	1.53	1.44
3	B	902	6ZP	C03-C02	6.20	1.53	1.44
3	D	902	6ZP	C03-C02	6.15	1.53	1.44
3	C	902	6ZP	C03-C02	6.14	1.53	1.44
3	D	902	6ZP	C09-C10	-3.60	1.40	1.46
3	B	902	6ZP	C09-C10	-3.58	1.40	1.46
3	A	902	6ZP	C09-C10	-3.57	1.40	1.46
3	C	902	6ZP	C09-C10	-3.54	1.40	1.46
3	C	902	6ZP	C10-N21	-2.95	1.35	1.41
3	A	902	6ZP	C10-N21	-2.94	1.35	1.41
3	B	902	6ZP	C10-N21	-2.92	1.35	1.41
3	D	902	6ZP	C10-N21	-2.88	1.35	1.41
3	D	902	6ZP	C20-N21	-2.88	1.32	1.37
3	B	902	6ZP	C20-N21	-2.86	1.32	1.37
3	C	902	6ZP	C20-N21	-2.86	1.32	1.37
3	A	902	6ZP	C20-N21	-2.83	1.32	1.37
3	D	902	6ZP	C14-C13	-2.56	1.39	1.48
3	B	902	6ZP	C14-C13	-2.55	1.39	1.48
3	A	902	6ZP	C14-C13	-2.54	1.39	1.48
3	C	902	6ZP	C14-C13	-2.54	1.39	1.48

All (28) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	902	6ZP	O11-C10-C09	-5.38	118.33	125.37
3	B	902	6ZP	O11-C10-C09	-5.37	118.35	125.37
3	C	902	6ZP	O11-C10-C09	-5.37	118.35	125.37
3	D	902	6ZP	O11-C10-C09	-5.34	118.38	125.37
3	A	902	6ZP	C22-N21-C10	4.85	122.17	118.74
3	B	902	6ZP	C22-N21-C10	4.84	122.16	118.74
3	C	902	6ZP	C22-N21-C10	4.75	122.10	118.74
3	D	902	6ZP	C22-N21-C10	4.75	122.10	118.74
2	C	901	NAG	C2-N2-C7	4.66	129.14	122.90
3	A	902	6ZP	C16-N15-C14	3.72	121.72	116.93
3	B	902	6ZP	C16-N15-C14	3.69	121.69	116.93
3	C	902	6ZP	C16-N15-C14	3.69	121.68	116.93

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	902	6ZP	C16-N15-C14	3.65	121.64	116.93
3	A	902	6ZP	C08-C09-C10	2.43	121.61	119.41
3	B	902	6ZP	C08-C09-C10	2.41	121.59	119.41
3	C	902	6ZP	C08-C09-C10	2.39	121.58	119.41
3	D	902	6ZP	C08-C09-C10	2.38	121.57	119.41
3	A	902	6ZP	C20-C13-C12	2.33	120.11	117.65
2	C	901	NAG	C1-C2-N2	2.29	114.05	110.43
3	C	902	6ZP	C20-C13-C12	2.29	120.06	117.65
3	B	902	6ZP	C20-C13-C12	2.28	120.05	117.65
3	D	902	6ZP	C20-C13-C12	2.25	120.03	117.65
3	C	902	6ZP	C17-C16-N15	-2.07	120.14	123.42
3	A	902	6ZP	C17-C16-N15	-2.05	120.17	123.42
3	D	902	6ZP	C17-C16-N15	-2.03	120.20	123.42
3	B	902	6ZP	C17-C16-N15	-2.03	120.21	123.42
3	A	902	6ZP	C08-C09-C12	-2.02	119.56	122.30
3	D	902	6ZP	C08-C09-C12	-2.01	119.56	122.30

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	901	NAG	O5-C5-C6-O6
2	A	901	NAG	C4-C5-C6-O6
2	C	901	NAG	C8-C7-N2-C2
2	C	901	NAG	O7-C7-N2-C2
2	D	901	NAG	C4-C5-C6-O6
2	D	901	NAG	O5-C5-C6-O6
2	C	901	NAG	C1-C2-N2-C7
2	C	901	NAG	C3-C2-N2-C7
2	C	901	NAG	C4-C5-C6-O6
3	C	902	6ZP	N01-C02-C03-C08

There are no ring outliers.

6 monomers are involved in 11 short contacts:

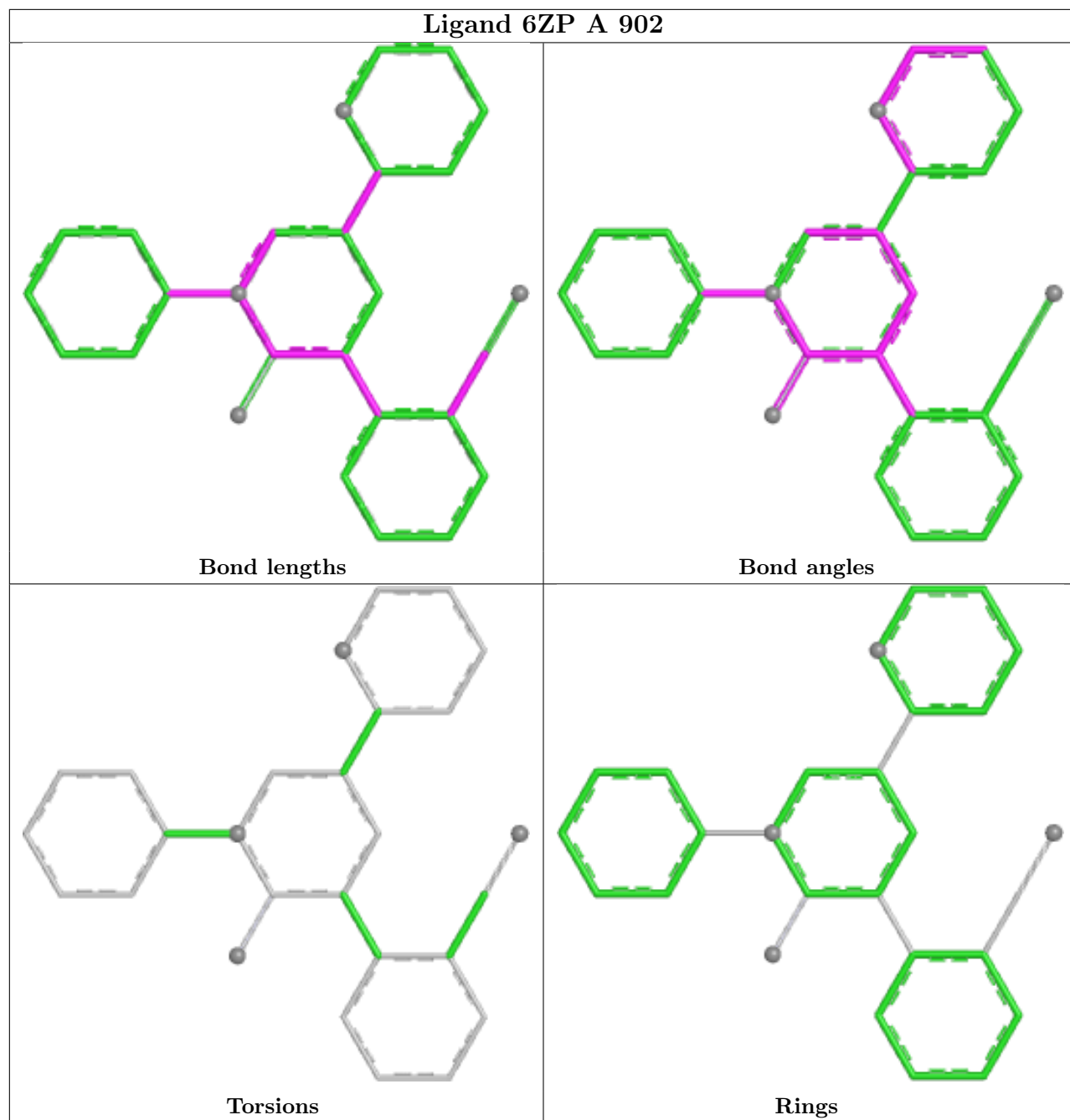
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	901	NAG	1	0
3	A	902	6ZP	2	0
2	C	901	NAG	1	0
3	B	902	6ZP	2	0
3	D	902	6ZP	3	0

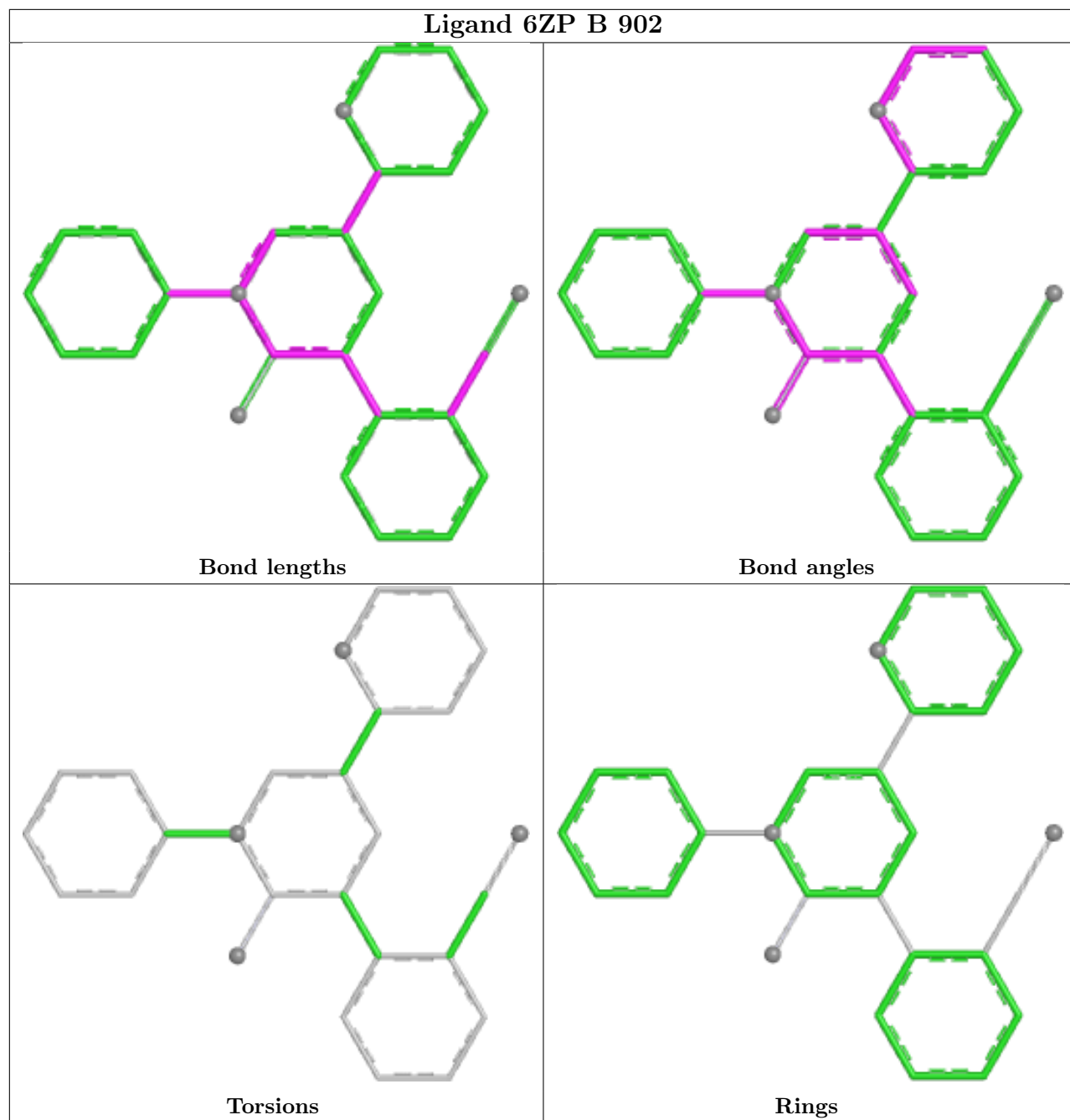
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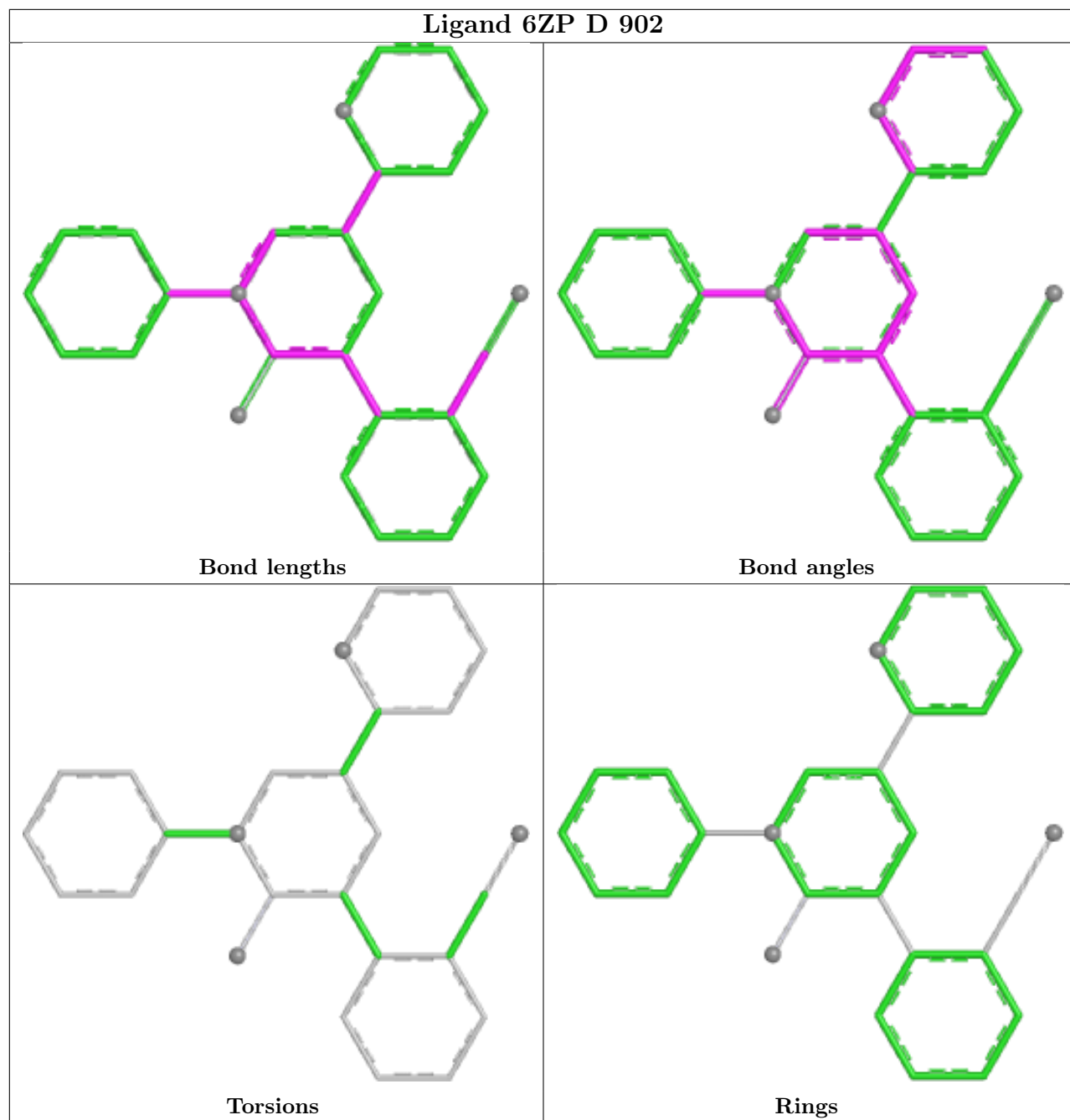
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	902	6ZP	2	0

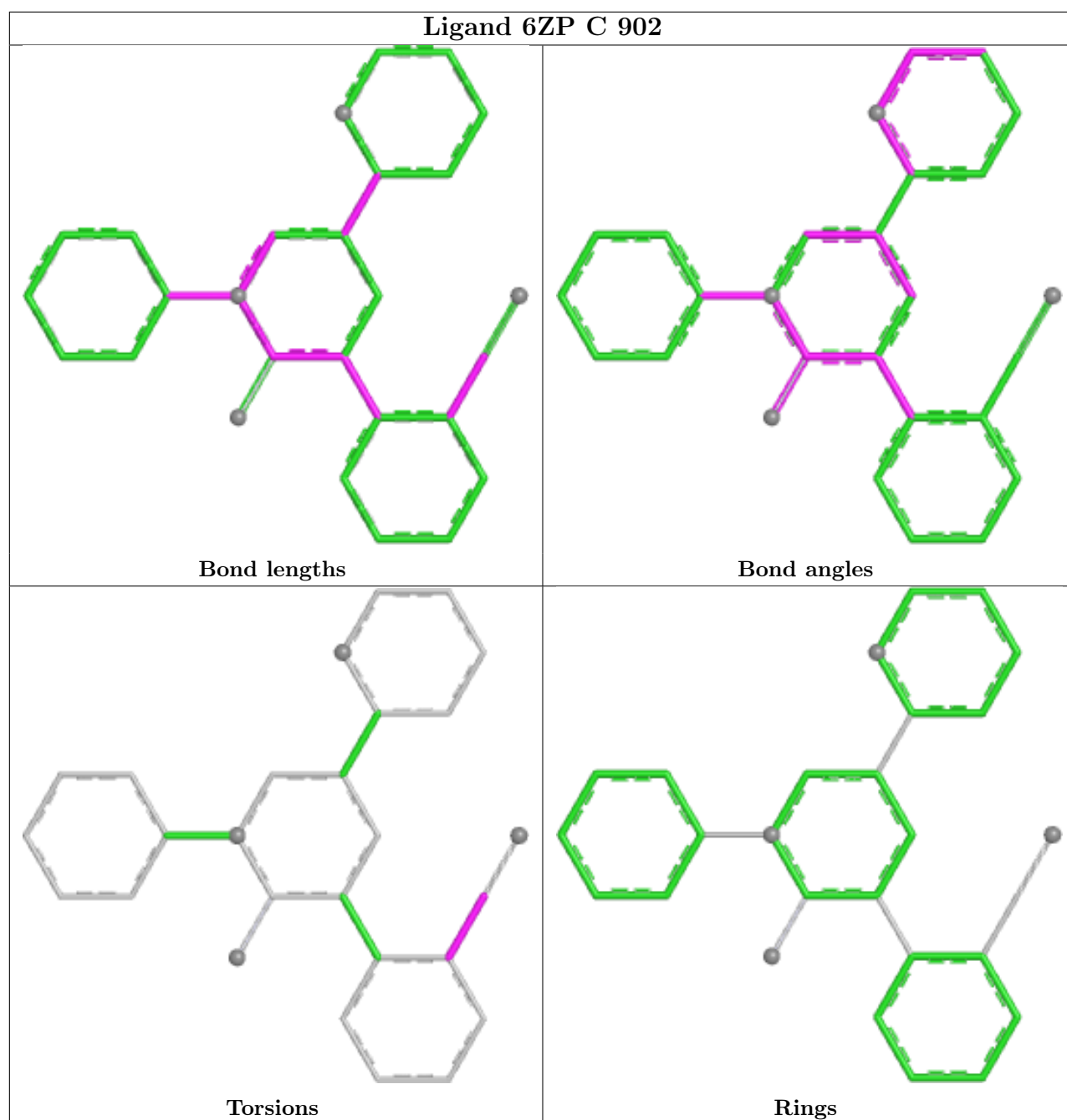
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	777/803 (96%)	-0.45	9 (1%) 76 61	121, 219, 345, 425	0
1	B	773/803 (96%)	-0.39	10 (1%) 74 59	126, 208, 343, 403	0
1	C	773/803 (96%)	-0.44	10 (1%) 74 59	26, 245, 351, 418	0
1	D	777/803 (96%)	-0.33	12 (1%) 71 56	137, 260, 387, 440	0
All	All	3100/3212 (96%)	-0.40	41 (1%) 74 59	26, 232, 355, 440	0

All (41) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	632	PRO	5.7
1	A	186	LEU	5.6
1	D	79	LYS	4.5
1	C	762	LEU	4.2
1	B	157	LYS	4.1
1	C	79	LYS	4.0
1	B	780	SER	4.0
1	B	253	SER	3.7
1	A	531	PHE	3.6
1	A	187	LYS	3.5
1	C	631	SER	3.5
1	D	484	VAL	3.4
1	C	629	MET	3.4
1	D	104	ASP	3.3
1	B	631	SER	2.9
1	B	630	VAL	2.9
1	B	254	LEU	2.8
1	D	497	SER	2.8
1	A	309	ARG	2.7
1	A	529	ILE	2.7
1	B	779	GLY	2.6

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Mol	Chain	Res	Type	RSRZ
1	D	496	MET	2.6
1	B	170	ASN	2.5
1	D	143	LEU	2.4
1	C	78	ASP	2.3
1	D	485	ARG	2.3
1	D	167	ASN	2.3
1	A	532	ALA	2.2
1	C	633	ILE	2.2
1	D	139	SER	2.2
1	C	82	VAL	2.2
1	C	531	PHE	2.2
1	D	431	GLU	2.2
1	D	428	LEU	2.2
1	A	654	SER	2.1
1	B	154	ALA	2.1
1	C	432	ILE	2.1
1	A	527	MET	2.1
1	B	615	SER	2.1
1	D	785	SER	2.1
1	A	497	SER	2.0

## 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, 95<sup>th</sup> 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.

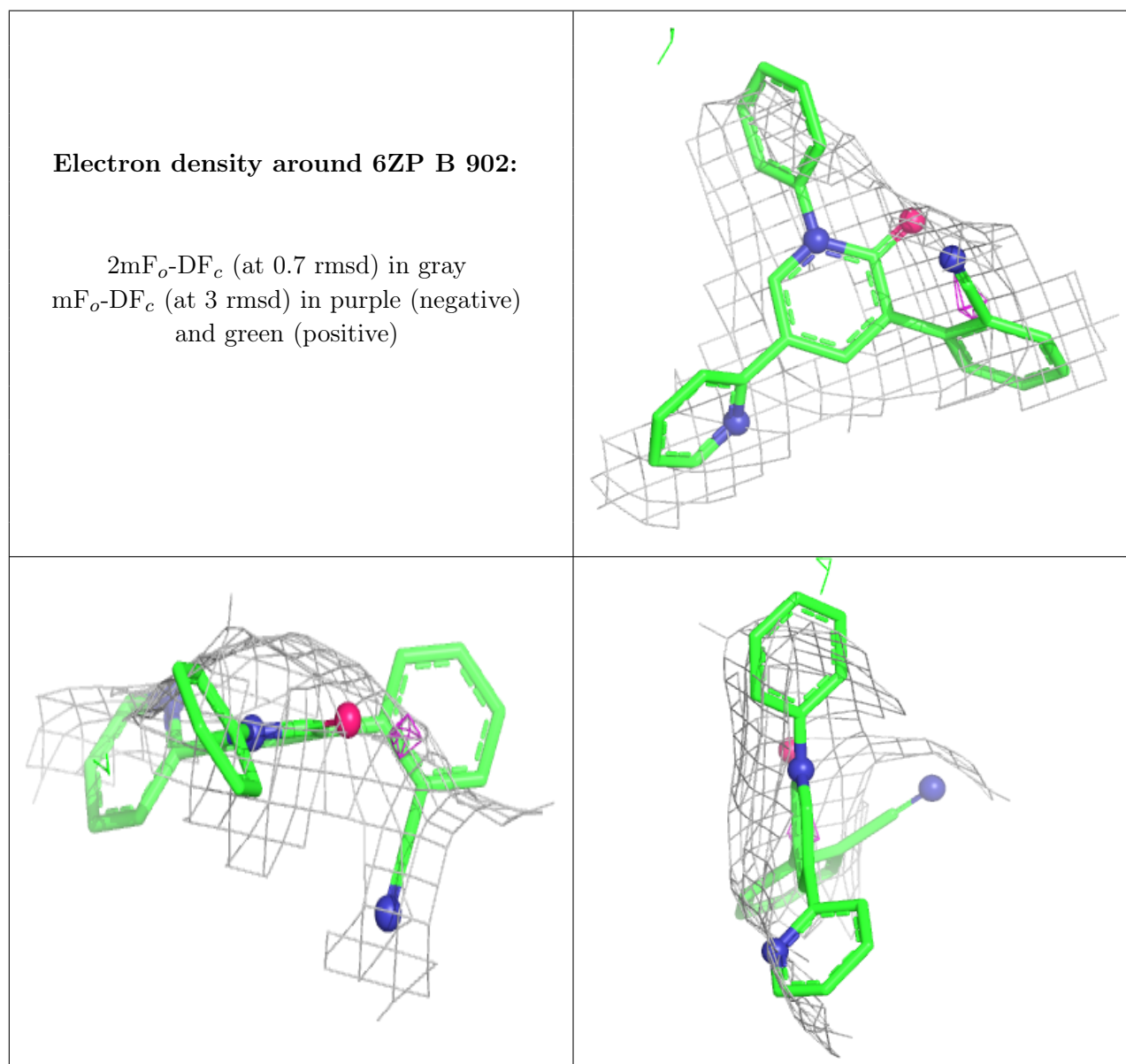
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
2	NAG	D	901	14/15	0.10	0.09	213,248,273,287	0
2	NAG	A	901	14/15	0.59	0.10	129,179,249,257	0
2	NAG	B	901	14/15	0.74	0.08	174,197,262,323	0

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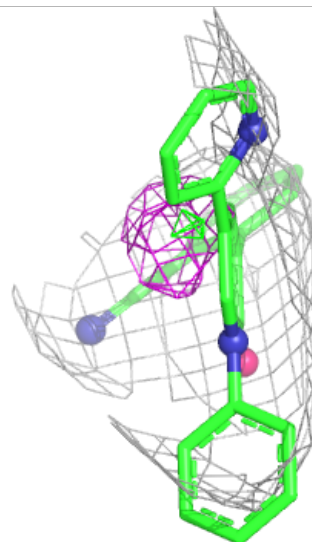
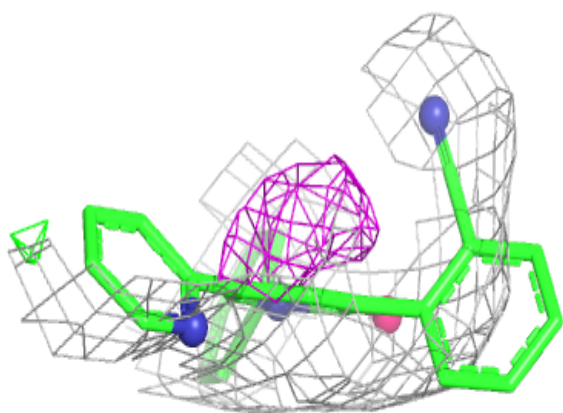
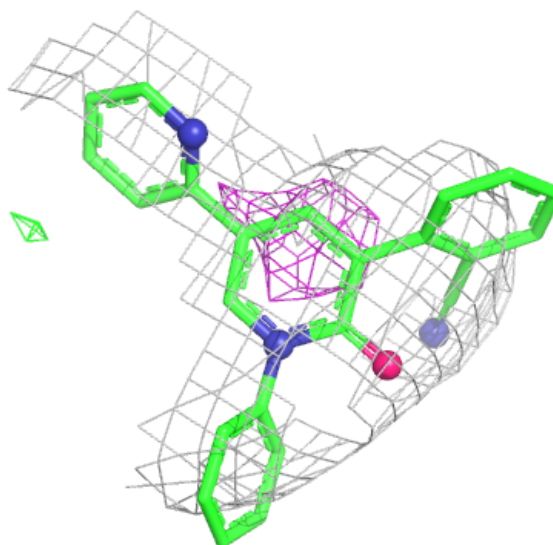
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
3	6ZP	B	902	27/27	0.77	0.10	135,215,215,215	0
3	6ZP	C	902	27/27	0.78	0.11	144,215,215,215	0
3	6ZP	D	902	27/27	0.79	0.08	152,203,215,215	0
3	6ZP	A	902	27/27	0.83	0.09	144,210,215,215	0
2	NAG	C	901	14/15	0.83	0.06	158,248,297,304	0

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.



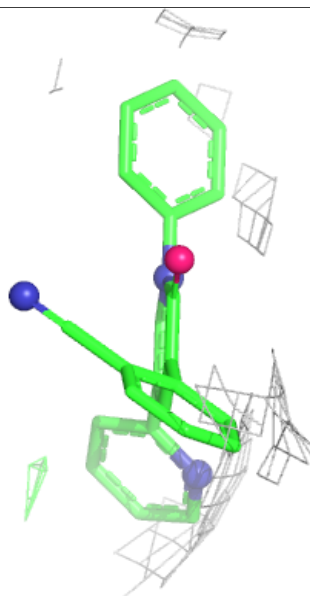
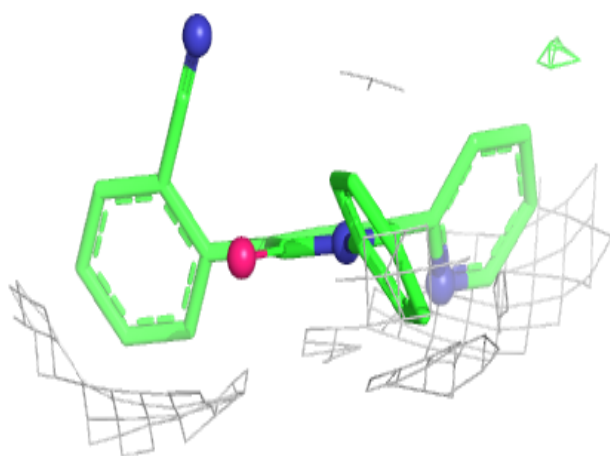
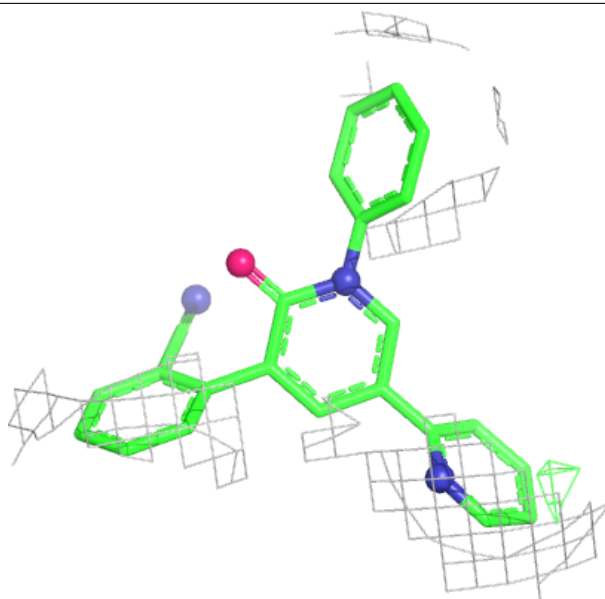
**Electron density around 6ZP C 902:**

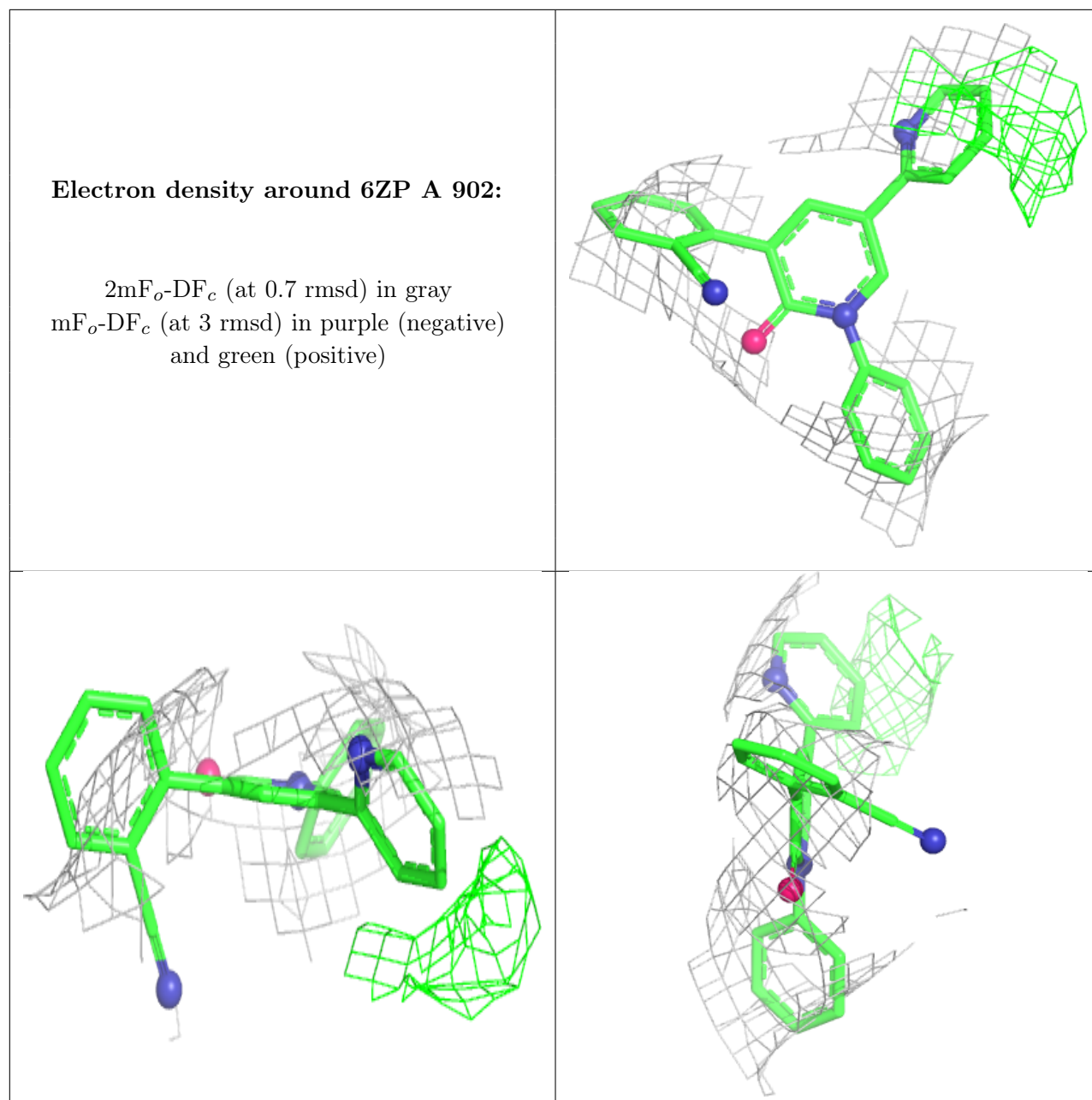
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around 6ZP D 902:**

$2mF_o-DF_c$  (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.