



# Full wwPDB X-ray Structure Validation Report ⓘ

May 26, 2020 – 02:17 pm BST

PDB ID : 6DVI  
Title : Wild-type Lactate Monooxygenase from Mycobacterium smegmatis  
Authors : Kean, K.M.; Karplus, P.A.  
Deposited on : 2018-06-23  
Resolution : 2.30 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.

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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 : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.11  
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) : 2.11

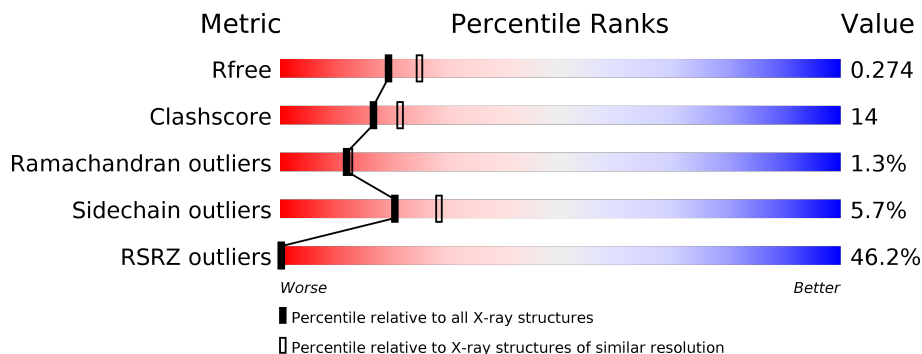
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.30 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	5042 (2.30-2.30)
Clashscore	141614	5643 (2.30-2.30)
Ramachandran outliers	138981	5575 (2.30-2.30)
Sidechain outliers	138945	5575 (2.30-2.30)
RSRZ outliers	127900	4938 (2.30-2.30)

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  $\geq 3$ , 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	394	
1	B	394	
1	C	394	
1	D	394	
1	E	394	
1	F	394	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

<b>Mol</b>	<b>Type</b>	<b>Chain</b>	<b>Res</b>	<b>Chirality</b>	<b>Geometry</b>	<b>Clashes</b>	<b>Electron density</b>
2	FMN	E	401	-	-	-	X
3	SO4	B	404	-	-	-	X
3	SO4	F	402	-	-	-	X

## 2 Entry composition [i](#)

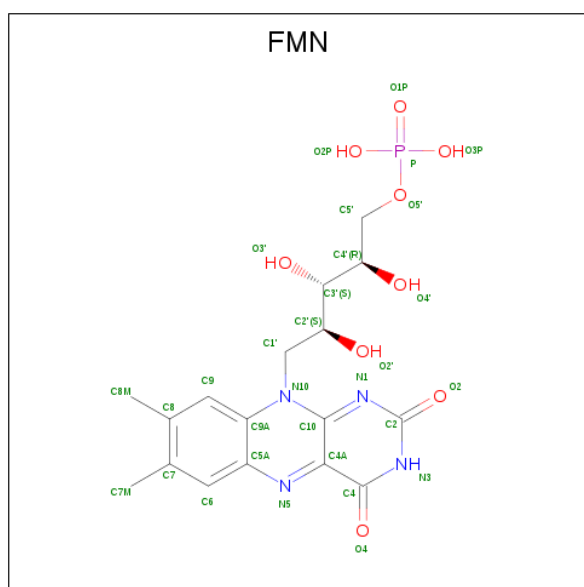
There are 4 unique types of molecules in this entry. The entry contains 19112 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Lactate 2-monooxygenase.

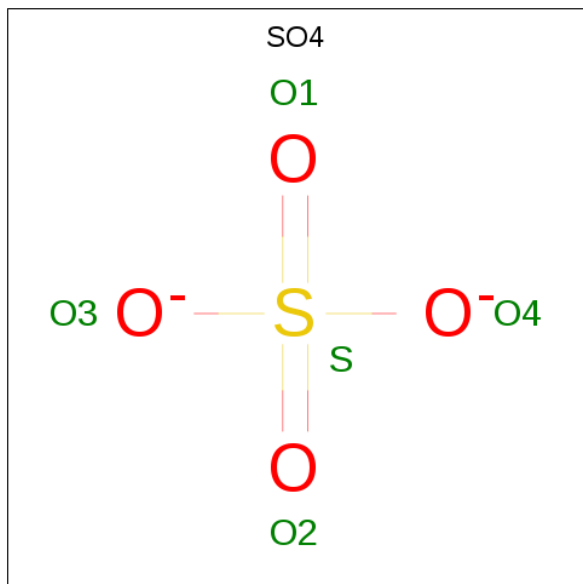
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	394	Total 3040	C 1930	N 531	O 566	S 13	0	4	0
1	B	394	Total 3036	C 1928	N 529	O 566	S 13	0	4	0
1	C	394	Total 3028	C 1922	N 524	O 569	S 13	0	3	0
1	D	338	Total 2571	C 1624	N 446	O 487	S 14	0	2	0
1	E	393	Total 3018	C 1917	N 526	O 564	S 11	0	3	0
1	F	393	Total 3029	C 1925	N 529	O 564	S 11	0	4	0

- Molecule 2 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: C<sub>17</sub>H<sub>21</sub>N<sub>4</sub>O<sub>9</sub>P).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
2	B	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
2	C	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
2	D	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
2	E	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
2	F	1	Total	C	N	O	P	0	0
			31	17	4	9	1		

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O<sub>4</sub>S).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	O S	0	0
			5	4 1		
3	A	1	Total	O S	0	0
			5	4 1		
3	A	1	Total	O S	0	1
			5	4 1		
3	A	1	Total	O S	0	0
			5	4 1		
3	B	1	Total	O S	0	0
			5	4 1		
3	B	1	Total	O S	0	0
			5	4 1		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	C	1	Total 5	O 4	S 1	0	0
3	C	1	Total 5	O 4	S 1	0	0
3	C	1	Total 5	O 4	S 1	0	0
3	C	1	Total 5	O 4	S 1	0	0
3	D	1	Total 5	O 4	S 1	0	0
3	D	1	Total 5	O 4	S 1	0	0
3	E	1	Total 5	O 4	S 1	0	0
3	E	1	Total 5	O 4	S 1	0	0
3	F	1	Total 5	O 4	S 1	0	0
3	F	1	Total 5	O 4	S 1	0	0

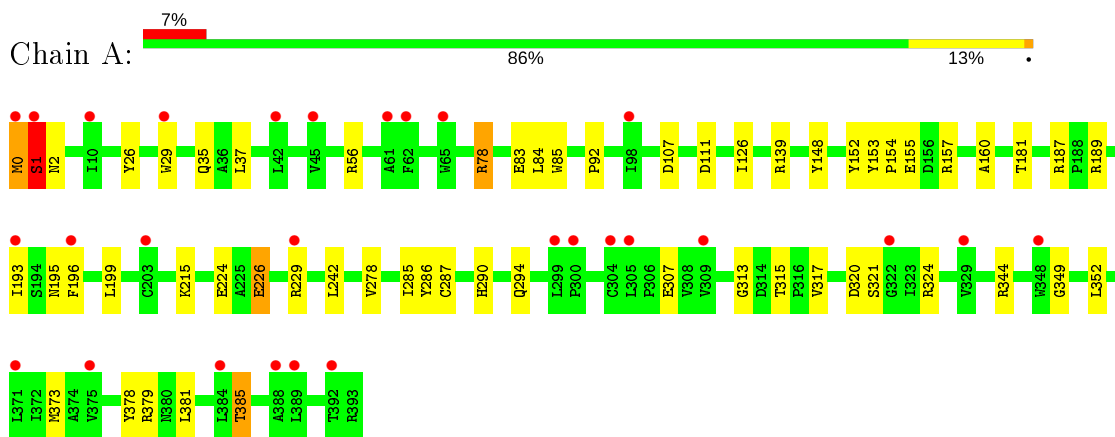
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	461	Total 461	O 461	0	3
4	B	296	Total 296	O 296	0	1
4	C	276	Total 276	O 276	0	0
4	D	73	Total 73	O 73	0	0
4	E	2	Total 2	O 2	0	0
4	F	1	Total 1	O 1	0	0

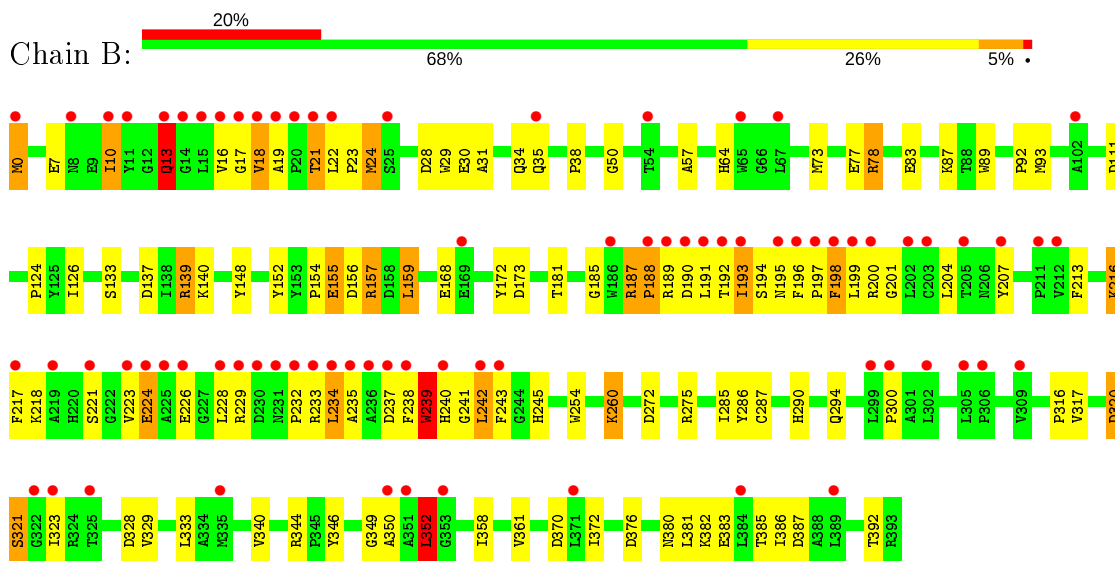
### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA 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.

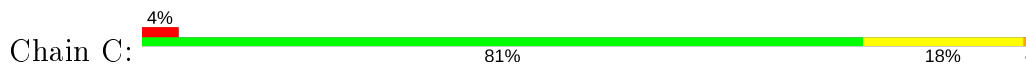
- Molecule 1: Lactate 2-monooxygenase

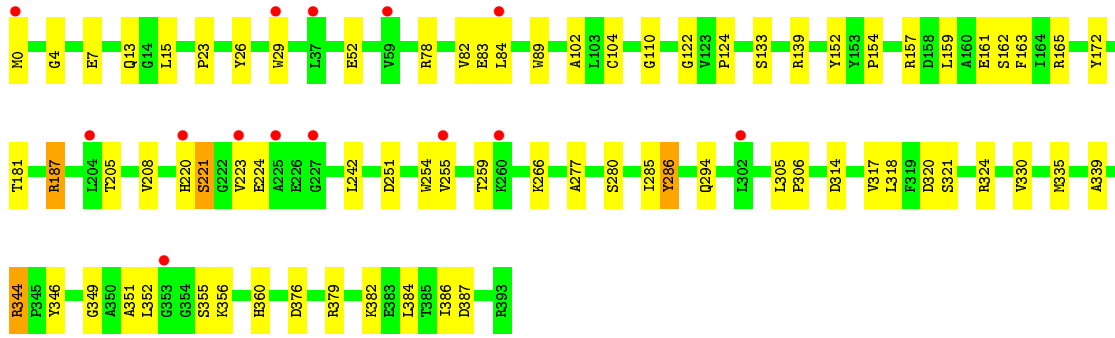


- Molecule 1: Lactate 2-monooxygenase

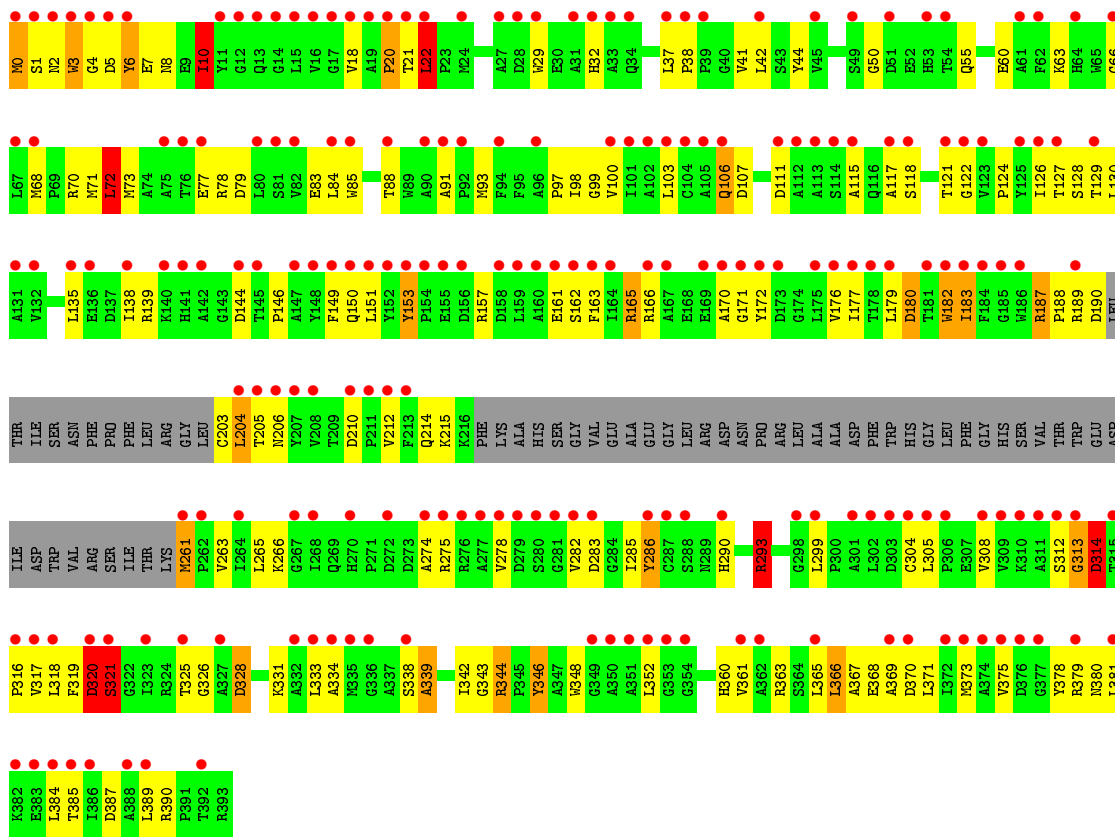


- Molecule 1: Lactate 2-monooxygenase

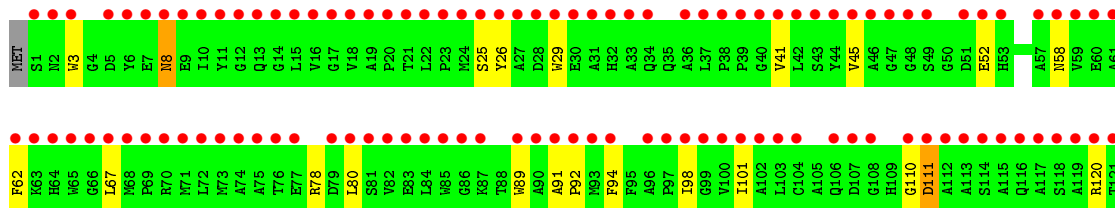
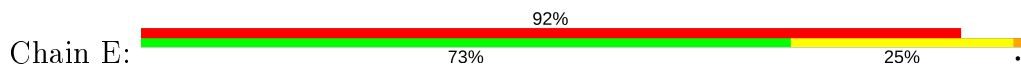




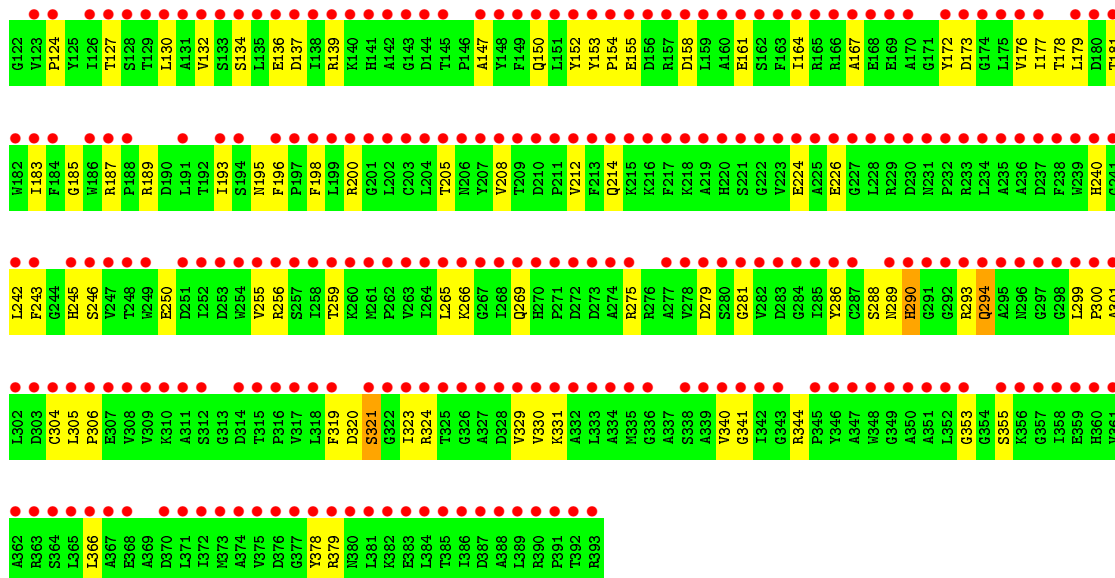
• Molecule 1: Lactate 2-monoxygenase



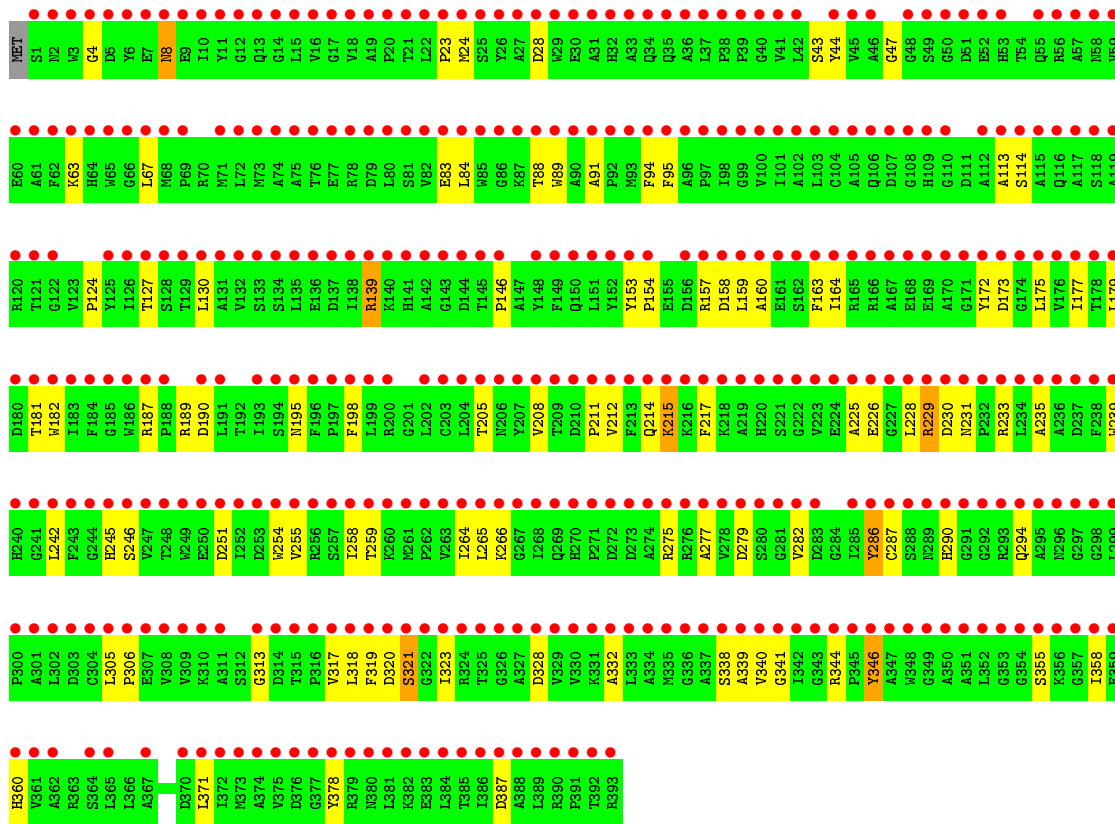
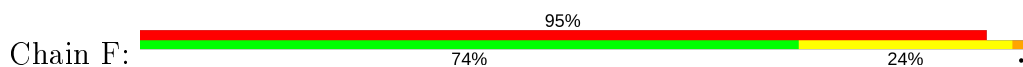
• Molecule 1: Lactate 2-monoxygenase







● Molecule 1: Lactate 2-monooxygenase



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 4 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	148.40Å 148.40Å 272.60Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	77.49 – 2.30 77.49 – 2.30	Depositor EDS
% Data completeness (in resolution range)	91.0 (77.49-2.30) 91.1 (77.49-2.30)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.51 (at 2.29Å)	Xtrriage
Refinement program	PHENIX (1.13_2998: ???)	Depositor
R, $R_{free}$	0.218 , 0.272 0.223 , 0.274	Depositor DCC
$R_{free}$ test set	12358 reflections (10.04%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	32.8	Xtrriage
Anisotropy	0.033	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.31 , 62.1	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.87	EDS
Total number of atoms	19112	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	66.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.47% 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: FMN, SO4

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	0.93	2/3130 (0.1%)	0.91	4/4262 (0.1%)
1	B	0.84	1/3124 (0.0%)	0.95	9/4252 (0.2%)
1	C	0.80	0/3115	0.84	5/4244 (0.1%)
1	D	0.62	0/2638	0.80	7/3586 (0.2%)
1	E	0.35	0/3106	0.51	0/4229
1	F	0.35	0/3120	0.52	0/4248
All	All	0.69	3/18233 (0.0%)	0.78	25/24821 (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	2
1	B	0	1
All	All	0	3

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	287	CYS	CB-SG	-6.79	1.70	1.82
1	B	287	CYS	CB-SG	-5.49	1.72	1.81
1	A	85	TRP	CB-CG	-5.33	1.40	1.50

All (25) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	352	LEU	CA-CB-CG	8.34	134.49	115.30
1	D	153	TYR	CA-CB-CG	7.97	128.54	113.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	204	LEU	CA-CB-CG	6.90	131.17	115.30
1	A	107	ASP	CB-CG-OD1	6.51	124.16	118.30
1	D	344	ARG	NE-CZ-NH2	-6.48	117.06	120.30
1	B	320	ASP	CB-CG-OD1	6.46	124.12	118.30
1	A	84	LEU	CA-CB-CG	-6.28	100.86	115.30
1	C	320	ASP	CB-CG-OD1	5.97	123.67	118.30
1	D	107	ASP	CB-CG-OD1	5.97	123.67	118.30
1	B	242	LEU	CB-CG-CD1	-5.96	100.87	111.00
1	B	187	ARG	NE-CZ-NH2	5.89	123.25	120.30
1	C	376	ASP	CB-CG-OD1	5.83	123.54	118.30
1	B	187	ARG	NE-CZ-NH1	-5.81	117.39	120.30
1	C	15	LEU	CB-CG-CD1	-5.80	101.14	111.00
1	C	187	ARG	NE-CZ-NH2	-5.80	117.40	120.30
1	D	153	TYR	CB-CG-CD1	5.55	124.33	121.00
1	D	293	ARG	NE-CZ-NH2	-5.55	117.53	120.30
1	B	242	LEU	CB-CG-CD2	5.54	120.41	111.00
1	D	320	ASP	CB-CG-OD1	5.50	123.25	118.30
1	A	37	LEU	CB-CG-CD1	-5.41	101.81	111.00
1	B	328	ASP	CB-CG-OD1	-5.21	113.61	118.30
1	B	320	ASP	CB-CG-OD2	-5.21	113.61	118.30
1	C	346	TYR	CA-CB-CG	5.21	123.31	113.40
1	A	385	THR	CA-CB-CG2	-5.18	105.14	112.40
1	B	78	ARG	NE-CZ-NH2	-5.03	117.79	120.30

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1[A]	SER	Peptide
1	A	1[B]	SER	Peptide
1	B	239	TRP	Peptide

## 5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3040	0	2944	39	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	3036	0	2949	139	0
1	C	3028	0	2912	45	0
1	D	2571	0	2501	135	0
1	E	3018	0	2935	71	0
1	F	3029	0	2954	77	0
2	A	31	0	19	0	0
2	B	31	0	19	0	0
2	C	31	0	19	2	0
2	D	31	0	18	5	0
2	E	31	0	19	1	0
2	F	31	0	19	1	0
3	A	20	0	0	0	0
3	B	25	0	0	1	0
3	C	20	0	0	2	0
3	D	10	0	0	0	0
3	E	10	0	0	1	0
3	F	10	0	0	1	0
4	A	461	0	0	14	3
4	B	296	0	0	14	7
4	C	276	0	0	8	2
4	D	73	0	0	14	0
4	E	2	0	0	0	0
4	F	1	0	0	0	0
All	All	19112	0	17308	501	11

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 14.

All (501) 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:B:22:LEU:HD22	1:B:352:LEU:HD23	1.27	1.13
3:C:405:SO4:O2	4:C:1401:HOH:O	1.68	1.08
1:B:23:PRO:HB3	1:B:28:ASP:HB3	1.44	1.00
3:B:406:SO4:O4	4:B:501[A]:HOH:O	1.80	0.98
1:C:13:GLN:OE1	4:C:1402:HOH:O	1.81	0.96
1:F:63:LYS:NZ	3:F:403:SO4:O4	2.01	0.94
1:D:3:TRP:CZ3	1:D:91:ALA:HB2	2.04	0.92
1:C:314:ASP:OD1	4:C:1403:HOH:O	1.89	0.90
1:A:215:LYS:NZ	4:A:501:HOH:O	2.06	0.86
1:E:183:ILE:O	1:E:294:GLN:NE2	2.08	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:79:ASP:OD2	4:D:501:HOH:O	1.95	0.84
1:F:226:GLU:O	1:F:230:ASP:N	2.12	0.82
1:D:328:ASP:OD2	4:D:502:HOH:O	1.98	0.80
1:B:23:PRO:HB3	1:B:28:ASP:CB	2.12	0.80
1:C:187:ARG:NH2	1:C:294:GLN:OE1	2.14	0.79
1:E:275:ARG:NH1	1:E:279:ASP:OD2	2.15	0.79
1:F:225:ALA:O	1:F:229:ARG:N	2.16	0.78
1:B:188:PRO:HA	1:B:191:LEU:HD12	1.65	0.78
1:B:349:GLY:HA2	1:B:352:LEU:HD13	1.63	0.78
1:B:238:PHE:O	1:B:240:HIS:N	2.17	0.77
1:B:191:LEU:O	1:B:194:SER:OG	2.01	0.76
1:B:233:ARG:O	1:B:235:ALA:N	2.20	0.75
1:B:187:ARG:O	1:B:191:LEU:HG	1.88	0.74
1:B:38:PRO:HG3	1:D:20:PRO:HD2	1.69	0.74
1:A:385:THR:OG1	4:A:502:HOH:O	2.07	0.73
1:F:114:SER:OG	1:F:358:ILE:HD13	1.89	0.73
1:A:226:GLU:OE2	1:A:229:ARG:NH2	2.21	0.73
1:C:221:SER:OG	1:C:223:VAL:HG13	1.89	0.73
1:D:320:ASP:OD2	2:D:401:FMN:O3'	2.03	0.72
1:D:3:TRP:CH2	1:D:91:ALA:HB2	2.24	0.72
1:F:319:PHE:HE2	1:F:323:ILE:HD11	1.55	0.71
1:B:385:THR:OG1	1:B:387:ASP:OD1	2.08	0.71
1:B:10:ILE:O	1:B:10:ILE:HG13	1.91	0.71
1:D:21:THR:O	1:D:21:THR:HG22	1.90	0.70
1:B:173:ASP:OD1	4:B:503:HOH:O	2.10	0.70
1:B:155:GLU:CB	1:B:242:LEU:HD11	2.22	0.70
1:B:10:ILE:HG21	1:B:24:MET:CE	2.22	0.70
1:E:250:GLU:OE1	1:E:250:GLU:N	2.25	0.70
1:D:313:GLY:O	1:F:275:ARG:NH1	2.25	0.69
1:F:319:PHE:CE2	1:F:323:ILE:HD11	2.27	0.69
1:A:29[B]:TRP:CE3	1:A:352:LEU:HD12	2.28	0.69
1:C:154:PRO:HG3	1:C:159:LEU:HD12	1.73	0.69
1:D:4:GLY:N	1:D:370:ASP:OD2	2.26	0.69
1:B:168:GLU:OE1	4:B:502:HOH:O	2.10	0.68
1:B:10:ILE:HD13	1:B:24:MET:HE3	1.74	0.68
1:F:208:VAL:O	1:F:214:GLN:NE2	2.26	0.68
1:B:216:LYS:HA	1:B:216:LYS:HE2	1.76	0.68
1:F:212:VAL:O	1:F:215:LYS:N	2.27	0.67
1:A:187[A]:ARG:NH1	4:A:510[A]:HOH:O	2.24	0.67
1:F:255:VAL:O	1:F:259:THR:HG22	1.94	0.67
1:B:193:ILE:HD11	1:B:195:ASN:HB2	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:290:HIS:O	1:D:293:ARG:HB2	1.94	0.67
1:E:164:ILE:HD13	1:E:255:VAL:HG13	1.78	0.66
1:B:18:VAL:HG13	1:D:38:PRO:HG2	1.77	0.66
1:B:386:ILE:HD11	4:B:790:HOH:O	1.96	0.66
1:D:263:VAL:N	1:D:283:ASP:OD2	2.27	0.66
1:B:155:GLU:CB	1:B:242:LEU:CD1	2.74	0.66
1:D:320:ASP:O	1:D:321:SER:HB2	1.96	0.65
1:B:155:GLU:N	1:B:242:LEU:HD11	2.12	0.65
1:A:155:GLU:OE1	4:A:503:HOH:O	2.13	0.65
1:B:22:LEU:HD22	1:B:352:LEU:CD2	2.16	0.65
1:B:239:TRP:HA	1:B:239:TRP:CE3	2.31	0.65
1:B:155:GLU:HB3	1:B:242:LEU:CD1	2.28	0.64
1:B:155:GLU:HB3	1:B:242:LEU:HD11	1.80	0.64
1:E:136:GLU:OE1	1:E:136:GLU:N	2.30	0.63
1:F:84:LEU:HD12	1:F:89:TRP:CE2	2.33	0.63
1:B:18:VAL:HG13	1:D:38:PRO:CD	2.28	0.63
1:D:21:THR:O	1:D:22:LEU:HB2	1.98	0.63
1:B:155:GLU:H	1:B:242:LEU:CD1	2.12	0.63
1:E:255:VAL:O	1:E:259:THR:HG22	1.98	0.63
1:D:304:CYS:O	1:D:308:VAL:HG23	1.99	0.62
1:F:225:ALA:HA	1:F:228:LEU:HB3	1.81	0.62
1:B:193:ILE:HD11	1:B:195:ASN:CB	2.29	0.62
1:B:73:MET:HE3	4:B:557:HOH:O	1.98	0.62
1:D:42:LEU:HD22	4:D:510:HOH:O	1.99	0.62
1:D:6:TYR:O	1:D:10:ILE:HD11	2.00	0.62
1:C:266:LYS:HD2	1:C:286:TYR:CE2	2.36	0.61
1:F:287:CYS:N	1:F:318:LEU:O	2.31	0.61
1:D:3:TRP:HZ3	1:D:91:ALA:HB2	1.65	0.61
1:A:29[B]:TRP:CZ3	1:A:352:LEU:HD12	2.36	0.61
1:B:18:VAL:HG12	1:B:19:ALA:N	2.16	0.61
1:F:83:GLU:OE1	1:F:88:THR:OG1	2.17	0.60
1:D:117:ALA:O	1:D:121:THR:HG23	2.02	0.60
1:B:155:GLU:CA	1:B:242:LEU:HD11	2.31	0.60
1:B:157:ARG:HG2	1:B:254:TRP:CH2	2.36	0.60
1:B:223:VAL:HG11	1:B:234:LEU:HD11	1.82	0.60
1:D:139:ARG:NH2	1:D:171:GLY:O	2.35	0.60
1:E:134:SER:OG	1:E:137:ASP:OD2	2.18	0.60
1:B:189:ARG:O	1:B:193:ILE:HG23	2.02	0.60
1:B:139[B]:ARG:HG2	1:B:172:TYR:CE1	2.37	0.60
1:F:177:ILE:HD11	1:F:255:VAL:HG11	1.83	0.60
1:B:18:VAL:HG13	1:D:38:PRO:CG	2.31	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:50:GLY:O	1:D:189:ARG:NH1	2.35	0.59
1:E:52:GLU:OE2	1:E:189:ARG:NH2	2.31	0.59
1:B:10:ILE:HG21	1:B:24:MET:HE1	1.82	0.59
1:D:135:LEU:N	1:D:206:ASN:OD1	2.33	0.59
1:B:10:ILE:HD13	1:B:24:MET:CE	2.32	0.59
1:B:21:THR:HG21	4:B:744:HOH:O	2.01	0.59
1:B:157:ARG:HG2	1:B:254:TRP:CZ2	2.37	0.59
1:D:97:PRO:O	2:D:401:FMN:O2'	2.14	0.59
1:B:181:THR:HG21	1:B:290:HIS:CE1	2.38	0.58
1:B:139[B]:ARG:HG2	1:B:172:TYR:CZ	2.38	0.58
1:D:139:ARG:NE	1:D:171:GLY:O	2.35	0.58
1:E:299:LEU:HD21	1:E:304:CYS:SG	2.43	0.58
1:D:352:LEU:N	1:D:352:LEU:HD12	2.18	0.58
1:C:139:ARG:HG2	1:C:172:TYR:CZ	2.38	0.58
1:B:187:ARG:NH2	1:B:294:GLN:OE1	2.36	0.58
1:D:32:HIS:HB2	1:D:352:LEU:HD21	1.86	0.58
1:F:318:LEU:HD22	1:F:339:ALA:HB3	1.85	0.57
1:D:127:THR:HG22	1:D:138:ILE:HG21	1.86	0.57
1:B:200:ARG:NH2	4:B:509:HOH:O	2.31	0.57
1:C:251:ASP:OD1	4:C:1404:HOH:O	2.17	0.57
1:D:385:THR:HG21	4:D:541:HOH:O	2.04	0.57
1:F:23:PRO:HB3	1:F:28:ASP:HB3	1.87	0.57
1:F:114:SER:HG	1:F:346:TYR:HE2	1.52	0.57
1:F:317:VAL:O	1:F:338:SER:N	2.37	0.56
1:B:22:LEU:HB3	1:B:23:PRO:CD	2.34	0.56
1:C:266:LYS:HA	1:C:286:TYR:HB3	1.86	0.56
1:A:2:ASN:OD1	4:A:504:HOH:O	2.18	0.56
1:D:126:ILE:HD11	4:D:562:HOH:O	2.05	0.56
1:B:10:ILE:CD1	1:B:24:MET:CE	2.83	0.56
1:B:87:LYS:HE3	4:B:503:HOH:O	2.06	0.56
1:D:334:ALA:HB2	1:D:384:LEU:HG	1.88	0.56
1:E:155:GLU:N	1:E:242:LEU:O	2.34	0.56
1:D:348:TRP:O	1:D:352:LEU:CD1	2.54	0.56
1:B:196:PHE:CE1	1:B:198:PHE:CD2	2.94	0.55
1:D:139:ARG:CZ	1:D:171:GLY:O	2.55	0.55
1:B:10:ILE:CD1	1:B:24:MET:HE3	2.37	0.55
1:D:293:ARG:CZ	2:D:401:FMN:HM82	2.37	0.55
1:B:201:GLY:O	1:B:232:PRO:HB2	2.06	0.55
1:D:326:GLY:HA3	1:D:368:GLU:HB3	1.88	0.55
1:B:152:TYR:HE1	1:B:181:THR:HG1	1.53	0.55
1:B:350:ALA:HB2	1:B:358:ILE:HD11	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:106:GLN:CD	1:D:106:GLN:H	2.10	0.55
1:D:266:LYS:HA	1:D:286:TYR:HB3	1.89	0.55
1:D:328:ASP:N	1:D:328:ASP:OD1	2.39	0.54
1:A:285:ILE:O	1:A:317:VAL:HA	2.08	0.54
1:C:159:LEU:HD13	1:C:159:LEU:O	2.08	0.54
1:B:155:GLU:OE1	1:B:245:HIS:ND1	2.30	0.54
1:B:387:ASP:OD1	1:B:387:ASP:N	2.41	0.54
1:B:216:LYS:O	1:B:216:LYS:HD3	2.07	0.54
1:B:241:GLY:O	1:B:243:PHE:N	2.40	0.54
1:C:161:GLU:OE2	1:C:165:ARG:NH2	2.41	0.53
1:E:67:LEU:HD11	1:E:378:TYR:CE2	2.43	0.53
1:F:215:LYS:O	1:F:215:LYS:HG3	2.07	0.53
1:A:56:ARG:HD3	4:A:849:HOH:O	2.08	0.53
1:B:10:ILE:HD12	1:B:24:MET:HE2	1.91	0.53
1:B:190:ASP:O	1:B:194:SER:HA	2.08	0.53
1:D:0:MET:O	1:D:2:ASN:N	2.39	0.53
1:B:64:HIS:HA	1:B:392:THR:OG1	2.09	0.53
1:D:111:ASP:OD1	1:D:111:ASP:N	2.36	0.53
1:E:130:LEU:HD13	1:E:198:PHE:CE1	2.44	0.53
1:F:164:ILE:HD13	1:F:255:VAL:HG13	1.91	0.53
1:C:29[B]:TRP:CZ3	1:C:349:GLY:HA2	2.44	0.53
1:E:196:PHE:O	1:E:200:ARG:NH1	2.41	0.53
1:B:156:ASP:H	1:B:242:LEU:HD21	1.74	0.53
1:F:44:TYR:O	1:F:187[B]:ARG:NH2	2.41	0.53
1:A:92:PRO:HG3	1:A:381:LEU:HD11	1.91	0.53
1:F:181[B]:THR:HG22	1:F:294:GLN:HG3	1.91	0.53
1:B:240:HIS:O	1:B:243:PHE:N	2.42	0.53
1:D:274:ALA:HB2	1:D:308:VAL:HG13	1.90	0.53
1:D:93:MET:CE	1:D:366:LEU:HD13	2.39	0.53
1:D:3:TRP:CZ3	1:D:91:ALA:CB	2.88	0.53
1:F:212:VAL:HA	1:F:215:LYS:HB3	1.91	0.52
1:B:285:ILE:O	1:B:317:VAL:HA	2.10	0.52
1:D:122:GLY:O	1:D:124:PRO:HD3	2.09	0.52
1:D:66:GLY:O	1:D:390:ARG:N	2.42	0.52
1:E:58:ASN:OD1	1:E:300:PRO:HA	2.09	0.52
1:D:348:TRP:O	1:D:352:LEU:HD12	2.10	0.52
1:E:150:GLN:HA	1:E:176:VAL:HB	1.91	0.52
1:D:162:SER:OG	1:D:210:ASP:OD2	2.12	0.52
1:B:238:PHE:O	1:B:239:TRP:C	2.47	0.52
1:B:243:PHE:O	1:B:243:PHE:CD1	2.64	0.52
1:D:318:LEU:HD21	4:D:562:HOH:O	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:50:GLY:O	1:D:189:ARG:NH2	2.43	0.51
1:B:320:ASP:O	1:B:321:SER:HB2	2.10	0.51
1:D:128:SER:HA	1:D:150:GLN:OE1	2.10	0.51
1:D:32:HIS:CB	1:D:352:LEU:HD21	2.40	0.51
1:D:187:ARG:NH2	1:D:293:ARG:HG2	2.25	0.51
1:E:111:ASP:OD2	1:E:132:VAL:N	2.39	0.51
1:A:29[B]:TRP:HZ3	1:A:352:LEU:HB2	1.75	0.51
1:D:115:ALA:HA	1:D:118:SER:HB3	1.93	0.51
1:E:256:ARG:NH2	1:E:281:GLY:O	2.43	0.51
1:A:181:THR:HG22	1:A:181:THR:O	2.09	0.51
1:D:177:ILE:HD12	1:D:263:VAL:HG13	1.92	0.51
1:D:32:HIS:HB3	1:D:352:LEU:HG	1.92	0.51
1:E:185:GLY:N	1:E:294:GLN:OE1	2.27	0.51
1:F:228:LEU:HD13	1:F:235:ALA:HB2	1.92	0.51
1:D:55:GLN:OE1	1:D:344:ARG:NH2	2.43	0.51
1:E:205:THR:HA	1:E:208[A]:VAL:HG22	1.93	0.51
1:F:217:PHE:CE2	1:F:235:ALA:HB2	2.45	0.51
1:B:237:ASP:O	1:B:238:PHE:C	2.50	0.50
1:E:130:LEU:HD13	1:E:198:PHE:CZ	2.47	0.50
1:F:245:HIS:NE2	1:F:251:ASP:OD2	2.44	0.50
1:A:307:GLU:OE1	4:A:505:HOH:O	2.20	0.50
1:B:193:ILE:CD1	1:B:195:ASN:HB2	2.40	0.50
1:D:344:ARG:HD3	2:D:401:FMN:O2P	2.12	0.50
1:E:8:ASN:N	1:E:8:ASN:OD1	2.44	0.50
1:F:179:LEU:HD11	1:F:265:LEU:HB3	1.92	0.50
1:F:89:TRP:HB3	1:F:91:ALA:O	2.11	0.50
1:B:185:GLY:HA3	1:B:294:GLN:O	2.11	0.50
1:B:223:VAL:O	1:B:224:GLU:CG	2.59	0.50
2:C:401:FMN:O4'	2:C:401:FMN:H9	2.12	0.50
1:E:80:LEU:HB3	1:E:92:PRO:HD3	1.93	0.50
1:B:196:PHE:CE1	1:B:198:PHE:HD2	2.28	0.50
1:D:139:ARG:HB2	1:D:172:TYR:CZ	2.46	0.50
1:D:44:TYR:CD1	1:D:190:ASP:HB3	2.47	0.50
1:E:179:LEU:HD11	1:E:265:LEU:HB3	1.93	0.50
1:E:305:LEU:HB3	1:E:306:PRO:HD3	1.93	0.50
1:F:181[B]:THR:HG21	1:F:290:HIS:CE1	2.47	0.50
1:B:38:PRO:HG3	1:D:20:PRO:CD	2.41	0.50
1:F:67:LEU:HD11	1:F:378:TYR:CE2	2.47	0.50
1:B:137:ASP:OD2	4:B:504:HOH:O	2.19	0.50
1:B:18:VAL:HG12	1:B:19:ALA:H	1.77	0.49
1:D:93:MET:HE1	1:D:366:LEU:HD13	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:181:THR:CG2	1:B:290:HIS:CE1	2.94	0.49
1:C:122:GLY:O	1:C:124:PRO:HD3	2.12	0.49
1:E:167:ALA:O	1:E:172:TYR:HB2	2.12	0.49
1:B:323[B]:ILE:HG13	1:B:340[B]:VAL:CG1	2.42	0.49
1:C:344:ARG:HD3	2:C:401:FMN:C8M	2.43	0.49
1:E:329:VAL:HG13	1:E:340[A]:VAL:HG21	1.94	0.49
1:E:3:TRP:HD1	1:E:80:LEU:HD22	1.76	0.49
1:B:188:PRO:CA	1:B:191:LEU:HD12	2.38	0.49
1:D:334:ALA:HB3	1:D:389:LEU:HD11	1.95	0.49
1:D:285:ILE:O	1:D:317:VAL:HA	2.13	0.49
1:F:266:LYS:HA	1:F:286:TYR:HB3	1.94	0.49
1:A:126:ILE:HG12	1:A:148:TYR:HB2	1.95	0.49
1:E:290:HIS:NE2	3:E:403:SO4:O2	2.44	0.49
1:E:193:ILE:CD1	1:E:195:ASN:HB2	2.43	0.49
1:C:159:LEU:HD11	1:C:163:PHE:CE2	2.48	0.49
1:F:228:LEU:HD13	1:F:235:ALA:CB	2.43	0.49
1:C:29[B]:TRP:CE3	1:C:352:LEU:HD12	2.48	0.49
1:D:79:ASP:HB3	1:D:380:ASN:HB3	1.95	0.49
1:A:1[A]:SER:O	4:A:504:HOH:O	2.18	0.48
1:D:265:LEU:HD11	1:D:282:VAL:HG21	1.94	0.48
1:E:305:LEU:HD13	1:E:319:PHE:HD1	1.77	0.48
1:B:197:PRO:O	1:B:200:ARG:N	2.37	0.48
1:B:213:PHE:HE1	1:B:228:LEU:CD2	2.25	0.48
1:C:187:ARG:NH2	3:C:402:SO4:O2	2.32	0.48
1:F:319:PHE:CD2	1:F:332:ALA:HB1	2.48	0.48
1:B:380:ASN:OD1	1:B:383:GLU:HG3	2.13	0.48
1:E:158:ASP:O	1:E:212:VAL:HG21	2.13	0.48
1:C:305:LEU:HB3	1:C:306:PRO:HD3	1.95	0.48
1:D:29:TRP:CD2	1:D:361:VAL:HG22	2.48	0.48
1:E:288:SER:OG	1:E:320:ASP:OD1	2.21	0.48
1:F:158:ASP:O	1:F:212:VAL:HG21	2.13	0.48
1:F:229:ARG:NH1	1:F:230:ASP:OD1	2.46	0.48
1:B:187:ARG:O	1:B:191:LEU:CG	2.59	0.48
1:E:98:ILE:HG22	1:E:101:ILE:N	2.29	0.48
1:A:193:ILE:HG13	1:A:195:ASN:HB2	1.94	0.48
1:D:278:VAL:HG21	1:D:312:SER:HA	1.95	0.48
1:D:338:SER:O	1:D:339:ALA:HB2	2.14	0.48
1:D:379:ARG:HB3	4:D:530:HOH:O	2.12	0.48
1:B:0:MET:O	1:B:0:MET:SD	2.72	0.48
1:D:161:GLU:O	1:D:165:ARG:HB2	2.14	0.48
1:D:320:ASP:C	1:D:320:ASP:OD1	2.53	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:320:ASP:OD1	1:E:320:ASP:C	2.52	0.48
1:B:228:LEU:HD12	1:B:232:PRO:HA	1.95	0.47
1:B:22:LEU:HB3	1:B:23:PRO:HD2	1.96	0.47
1:D:182:TRP:CE3	1:D:183:ILE:HB	2.49	0.47
1:E:181:THR:HG21	1:E:290:HIS:CE1	2.49	0.47
1:E:98:ILE:HG23	2:E:401:FMN:C6	2.43	0.47
1:B:223:VAL:O	1:B:224:GLU:HG2	2.13	0.47
1:E:3:TRP:CD1	1:E:80:LEU:HD22	2.49	0.47
1:A:29[B]:TRP:CZ3	1:A:349:GLY:HA2	2.49	0.47
1:D:124:PRO:HB3	1:D:146:PRO:O	2.15	0.47
1:E:41:VAL:O	1:E:45:VAL:HG23	2.15	0.47
1:C:318:LEU:HD22	1:C:339:ALA:HB3	1.97	0.47
1:D:342:ILE:O	1:D:346:TYR:CE2	2.68	0.47
1:D:348:TRP:HA	1:D:348:TRP:CE3	2.49	0.47
1:F:277:ALA:HB1	1:F:282:VAL:HG21	1.96	0.47
1:B:233:ARG:O	1:B:234:LEU:C	2.53	0.47
1:B:240:HIS:O	1:B:241:GLY:C	2.52	0.47
1:D:348:TRP:HA	1:D:348:TRP:HE3	1.79	0.47
1:E:305:LEU:HD13	1:E:319:PHE:CD1	2.49	0.47
1:A:154:PRO:HD2	1:A:160:ALA:HB2	1.97	0.47
1:C:4:GLY:O	1:C:7:GLU:HG2	2.14	0.47
1:E:111:ASP:N	1:E:111:ASP:OD1	2.44	0.47
1:F:305:LEU:HB3	1:F:306:PRO:HD3	1.95	0.47
1:B:111:ASP:OD1	1:B:111:ASP:N	2.48	0.47
1:F:67:LEU:HD11	1:F:378:TYR:CZ	2.49	0.47
1:A:242:LEU:HD12	1:A:242:LEU:C	2.34	0.47
1:A:313:GLY:O	4:A:506:HOH:O	2.20	0.47
1:D:342:ILE:O	1:D:346:TYR:CD2	2.68	0.47
1:B:13:GLN:O	1:B:16:VAL:HG13	2.14	0.47
1:B:323[A]:ILE:CD1	1:B:340[A]:VAL:HB	2.45	0.47
1:C:355:SER:HB3	4:C:1626:HOH:O	2.15	0.47
1:A:278:VAL:HG22	1:A:315:THR:HG21	1.97	0.47
1:B:50:GLY:O	1:B:188:PRO:HG2	2.15	0.47
1:B:217:PHE:CE2	1:B:223:VAL:CG2	2.98	0.46
1:D:44:TYR:HD1	1:D:190:ASP:HB3	1.80	0.46
1:D:369:ALA:O	1:D:373:MET:HG3	2.15	0.46
1:D:93:MET:SD	1:D:342:ILE:HD11	2.55	0.46
1:F:215:LYS:O	1:F:215:LYS:CG	2.62	0.46
1:D:85:TRP:NE1	1:D:283:ASP:O	2.46	0.46
1:D:314:ASP:C	1:D:314:ASP:OD1	2.53	0.46
1:E:26:TYR:CZ	1:E:324:ARG:HD2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:329:VAL:HG22	1:E:340[A]:VAL:HG21	1.97	0.46
1:E:120:ARG:NH2	1:E:355:SER:OG	2.35	0.46
1:F:159:LEU:CA	1:F:212:VAL:HG11	2.45	0.46
1:C:159:LEU:C	1:C:159:LEU:HD13	2.36	0.46
1:C:26:TYR:CZ	1:C:324:ARG:HD2	2.51	0.46
1:C:52:GLU:HA	4:C:1556:HOH:O	2.16	0.46
1:E:154:PRO:HA	1:E:243:PHE:O	2.15	0.46
1:D:261:MET:HA	1:D:261:MET:CE	2.45	0.46
1:F:323:ILE:HD12	1:F:340:VAL:HG11	1.98	0.46
1:C:83[A]:GLU:OE1	4:C:1405:HOH:O	2.20	0.46
1:D:187:ARG:N	1:D:188:PRO:HD3	2.31	0.46
1:A:35:GLN:HA	4:A:517:HOH:O	2.15	0.46
1:B:13:GLN:O	1:B:17:GLY:N	2.48	0.46
1:D:68:MET:O	1:D:378:TYR:OH	2.23	0.46
1:E:187:ARG:HH12	1:E:293:ARG:CZ	2.28	0.46
1:B:18:VAL:HG11	1:D:41:VAL:HG21	1.97	0.46
1:C:159:LEU:HD11	1:C:163:PHE:CZ	2.51	0.46
1:C:29[B]:TRP:HZ2	1:C:360:HIS:HD2	1.64	0.46
1:D:150:GLN:HA	1:D:176:VAL:HB	1.97	0.46
1:D:70:ARG:HG3	4:D:520:HOH:O	2.16	0.46
1:F:242:LEU:HD12	1:F:242:LEU:C	2.36	0.46
1:B:18:VAL:O	1:B:19:ALA:C	2.54	0.45
1:B:92:PRO:HG3	1:B:381:LEU:HD11	1.98	0.45
1:E:299:LEU:HD12	1:E:300:PRO:HD2	1.96	0.45
1:B:234:LEU:HD13	1:B:234:LEU:C	2.36	0.45
1:C:356:LYS:HD2	4:C:1567:HOH:O	2.16	0.45
1:E:94:PHE:O	1:E:341:GLY:HA2	2.17	0.45
1:D:63:LYS:NZ	4:D:504:HOH:O	2.28	0.45
1:F:190:ASP:HB3	1:F:195:ASN:O	2.17	0.45
1:C:84:LEU:HD12	1:C:89:TRP:CD2	2.52	0.45
1:D:6:TYR:CE1	1:D:363:ARG:HD2	2.51	0.45
1:B:204:LEU:HD22	1:B:207:TYR:CD2	2.52	0.45
1:E:52:GLU:OE2	1:E:189:ARG:NE	2.46	0.45
1:F:226:GLU:O	1:F:229:ARG:N	2.50	0.45
1:A:0:MET:O	1:A:2:ASN:N	2.50	0.45
1:D:163:PHE:HE1	1:D:166:ARG:HH12	1.65	0.45
1:D:180:ASP:C	1:D:180:ASP:OD1	2.55	0.45
1:F:94:PHE:O	1:F:341:GLY:HA2	2.17	0.45
1:B:260:LYS:HD2	4:B:619:HOH:O	2.16	0.45
1:C:285:ILE:O	1:C:317:VAL:HA	2.17	0.45
1:D:313:GLY:O	1:D:314:ASP:HB3	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:198:PHE:HB2	1:F:239:TRP:CH2	2.52	0.45
1:B:29:TRP:CZ3	1:B:361:VAL:HG13	2.52	0.44
1:F:265:LEU:HD11	1:F:282:VAL:HG21	2.00	0.44
1:D:5:ASP:O	1:D:367:ALA:HB2	2.17	0.44
1:D:371:LEU:O	1:D:375:VAL:HG23	2.17	0.44
1:B:196:PHE:HE1	1:B:198:PHE:CE2	2.35	0.44
1:B:31:ALA:O	1:B:35:GLN:HG2	2.17	0.44
1:E:52:GLU:CD	1:E:189:ARG:HH21	2.18	0.44
1:F:146:PRO:HA	1:F:173:ASP:OD2	2.18	0.44
1:F:231:ASN:O	1:F:233:ARG:N	2.50	0.44
1:F:8:ASN:OD1	1:F:8:ASN:N	2.49	0.44
1:B:77:GLU:OE1	4:B:505:HOH:O	2.21	0.44
1:D:71:MET:O	1:D:72:LEU:C	2.55	0.44
1:E:320:ASP:O	1:E:321:SER:CB	2.65	0.44
1:D:275:ARG:HD3	1:F:313:GLY:HA3	1.99	0.44
1:D:129:THR:OG1	1:D:151:LEU:HA	2.17	0.44
1:D:21:THR:CG2	1:D:21:THR:O	2.60	0.44
1:E:91:ALA:HB1	1:E:366:LEU:HD21	2.00	0.44
1:B:193:ILE:HG22	4:B:652:HOH:O	2.17	0.44
1:C:0:MET:O	1:C:0:MET:SD	2.76	0.44
1:E:153:TYR:CD1	1:E:245:HIS:HD2	2.36	0.44
1:A:196:PHE:CD2	1:A:199:LEU:HG	2.52	0.44
1:D:99:GLY:CA	1:D:130:LEU:HB2	2.48	0.44
1:F:84:LEU:HD12	1:F:89:TRP:CD2	2.53	0.44
1:A:373:MET:HB3	1:A:378:TYR:O	2.18	0.44
1:A:78:ARG:O	4:A:504:HOH:O	2.21	0.44
1:B:139[B]:ARG:CG	1:B:172:TYR:CE1	3.01	0.44
1:B:239:TRP:CE3	1:B:239:TRP:CA	3.00	0.44
1:E:240:HIS:O	1:E:240:HIS:CG	2.70	0.44
1:C:205:THR:HA	1:C:208:VAL:HG22	2.00	0.43
1:E:178:THR:HA	1:E:266:LYS:HB3	1.99	0.43
1:B:190:ASP:O	1:B:194:SER:CA	2.66	0.43
1:A:181:THR:OG1	1:A:290:HIS:CE1	2.70	0.43
1:A:189:ARG:HD3	4:A:861:HOH:O	2.18	0.43
1:A:26:TYR:CE2	1:A:324:ARG:HD2	2.53	0.43
1:D:182:TRP:CZ3	1:D:183:ILE:HB	2.52	0.43
1:D:343:GLY:O	1:D:344:ARG:C	2.57	0.43
1:D:3:TRP:CZ2	1:D:366:LEU:HD23	2.53	0.43
1:F:43:SER:OG	1:F:189:ARG:O	2.36	0.43
1:B:156:ASP:HB3	1:B:159:LEU:HB2	1.99	0.43
1:B:385:THR:CB	1:B:387:ASP:OD1	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:91:ALA:HB1	1:E:366:LEU:CD2	2.47	0.43
1:F:113:ALA:HB1	1:F:355:SER:HB2	1.99	0.43
1:F:320:ASP:O	1:F:321:SER:HB2	2.18	0.43
1:B:89:TRP:CD2	1:B:124:PRO:HG2	2.54	0.43
1:B:16:VAL:O	1:B:16:VAL:HG22	2.18	0.43
1:B:241:GLY:C	1:B:243:PHE:H	2.21	0.43
1:C:220:HIS:O	1:C:220:HIS:CG	2.71	0.43
1:C:104:CYS:O	1:C:351:ALA:HA	2.19	0.43
1:C:335:MET:HA	1:C:386:ILE:HD12	1.99	0.43
1:D:77:GLU:OE2	4:D:503:HOH:O	2.21	0.43
1:E:67:LEU:HD22	1:E:330:VAL:HG11	2.01	0.43
1:F:159:LEU:N	1:F:212:VAL:HG11	2.33	0.43
1:A:152:TYR:HE1	1:A:181:THR:HB	1.83	0.43
1:D:83:GLU:HG2	1:D:88:THR:OG1	2.18	0.43
1:D:3:TRP:HZ3	1:D:91:ALA:CA	2.32	0.43
1:A:226:GLU:HA	1:A:229:ARG:HG2	2.00	0.43
1:B:193:ILE:CG1	1:B:195:ASN:HB2	2.49	0.43
1:B:34:GLN:HB2	4:B:573:HOH:O	2.19	0.43
1:D:139:ARG:HG2	1:D:170:ALA:O	2.18	0.43
1:D:210:ASP:OD1	1:D:212:VAL:N	2.51	0.43
1:D:305:LEU:HD22	1:D:319:PHE:CD1	2.53	0.43
1:D:98:ILE:HG23	2:D:401:FMN:HM73	2.01	0.43
1:F:24:MET:SD	1:F:360:HIS:NE2	2.91	0.43
1:F:254:TRP:CZ2	1:F:258:ILE:HD13	2.54	0.43
2:F:401:FMN:N1	2:F:401:FMN:O2'	2.48	0.43
1:A:199:LEU:HD22	4:A:731:HOH:O	2.19	0.43
1:E:269:GLN:OE1	1:E:301:ALA:HA	2.19	0.43
1:D:71:MET:O	1:D:73:MET:N	2.52	0.42
1:E:89:TRP:CD2	1:E:124:PRO:HG2	2.54	0.42
1:E:177:ILE:HD11	1:E:255:VAL:HG11	2.01	0.42
1:B:23:PRO:CB	1:B:28:ASP:CB	2.89	0.42
1:F:4:GLY:HA3	1:F:371:LEU:HD21	2.01	0.42
1:A:26:TYR:HA	1:A:29[A]:TRP:CE3	2.54	0.42
1:A:320:ASP:OD1	1:A:320:ASP:C	2.57	0.42
1:B:154:PRO:HG3	1:B:159:LEU:HD13	2.02	0.42
1:D:179:LEU:HD12	4:D:505:HOH:O	2.18	0.42
1:D:0:MET:HE2	1:D:3:TRP:HA	2.01	0.42
1:F:127:THR:HG21	1:F:172:TYR:OH	2.19	0.42
1:A:294:GLN:OE1	4:A:507[B]:HOH:O	2.22	0.42
1:B:181:THR:HG21	1:B:290:HIS:HE1	1.82	0.42
1:C:102:ALA:HA	1:C:110:GLY:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:255:VAL:O	1:C:259:THR:HG22	2.20	0.42
1:B:10:ILE:CD1	1:B:24:MET:HE2	2.48	0.42
1:B:329:VAL:O	1:B:333:LEU:HG	2.19	0.42
1:C:181:THR:OG1	1:C:294:GLN:HG3	2.19	0.42
1:D:135:LEU:HD22	1:D:149:PHE:CE1	2.55	0.42
1:F:175:LEU:O	1:F:264:ILE:N	2.48	0.42
1:A:26:TYR:CZ	1:A:324:ARG:HD2	2.54	0.42
1:A:187[A]:ARG:HH21	1:A:294:GLN:HG2	1.84	0.42
1:B:382:LYS:HG2	4:B:671:HOH:O	2.19	0.42
1:D:10:ILE:HD13	1:D:360:HIS:CE1	2.55	0.42
1:D:83:GLU:CG	1:D:88:THR:OG1	2.68	0.42
1:E:26:TYR:HA	1:E:29:TRP:HB2	2.01	0.42
1:B:78:ARG:HE	1:B:370:ASP:CG	2.23	0.42
1:E:62:PHE:O	1:E:331:LYS:NZ	2.42	0.42
1:B:18:VAL:CG1	1:B:19:ALA:N	2.82	0.42
1:C:157:ARG:HG3	1:C:254:TRP:CH2	2.54	0.42
1:E:289:ASN:O	1:E:290:HIS:CB	2.68	0.42
1:F:211:PRO:HA	1:F:214:GLN:HB2	2.01	0.42
1:C:277:ALA:O	1:C:280:SER:HB2	2.19	0.41
1:D:4:GLY:HA2	1:D:367:ALA:HA	2.01	0.41
1:D:99:GLY:HA2	1:D:130:LEU:HB2	2.02	0.41
1:E:127:THR:O	1:E:127:THR:HG23	2.20	0.41
1:E:320:ASP:O	1:E:321:SER:HB2	2.19	0.41
1:F:47:GLY:O	1:F:187[B]:ARG:NH1	2.52	0.41
1:B:223:VAL:HG21	1:B:234:LEU:HG	2.01	0.41
1:B:154:PRO:HB2	1:B:242:LEU:HG	2.03	0.41
1:E:155:GLU:HB2	1:E:242:LEU:HA	2.02	0.41
1:F:139:ARG:HG2	1:F:172:TYR:CE2	2.55	0.41
1:F:139:ARG:HG2	1:F:172:TYR:CZ	2.56	0.41
1:B:93:MET:O	1:B:124:PRO:HD2	2.20	0.41
1:D:127:THR:HG21	1:D:172:TYR:OH	2.20	0.41
1:D:265:LEU:CD1	1:D:282:VAL:HG21	2.49	0.41
1:F:160:ALA:O	1:F:163:PHE:N	2.54	0.41
1:F:205:THR:O	1:F:205:THR:HG22	2.19	0.41
1:F:332:ALA:HB3	1:F:340:VAL:HG21	2.01	0.41
1:B:223:VAL:O	1:B:224:GLU:OE1	2.38	0.41
1:B:320:ASP:O	1:B:321:SER:CB	2.67	0.41
1:E:379:ARG:HB2	1:E:379:ARG:CZ	2.49	0.41
1:B:188:PRO:O	1:B:192:THR:N	2.32	0.41
1:B:240:HIS:O	1:B:243:PHE:HB3	2.21	0.41
1:D:84:LEU:HD21	1:D:316:PRO:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:50:GLY:O	1:D:189:ARG:CZ	2.69	0.41
1:F:154:PRO:CB	1:F:242:LEU:O	2.68	0.41
1:D:278:VAL:HG12	1:F:279:ASP:OD1	2.21	0.41
1:F:95:PHE:CZ	1:F:358:ILE:HG22	2.56	0.41
1:B:30:GLU:O	1:B:31:ALA:C	2.58	0.41
1:C:161:GLU:O	1:C:165:ARG:HG3	2.21	0.41
1:D:100:VAL:HB	1:D:103:LEU:HD12	2.02	0.41
1:F:94:PHE:HE1	1:F:286:TYR:OH	2.04	0.41
1:C:23:PRO:HB2	1:C:29[A]:TRP:CD1	2.55	0.41
1:D:331:LYS:NZ	4:D:512:HOH:O	2.47	0.41
1:D:361:VAL:O	1:D:365:LEU:HG	2.21	0.41
1:B:57:ALA:HB1	1:B:300:PRO:HG3	2.02	0.41
1:D:2:ASN:O	1:D:2:ASN:CG	2.59	0.41
1:D:333:LEU:HD13	1:D:381:LEU:CD2	2.50	0.41
1:E:161:GLU:O	1:E:164:ILE:N	2.54	0.41
1:D:70:ARG:CG	4:D:520:HOH:O	2.68	0.41
1:E:323:ILE:HD12	1:E:340[B]:VAL:HG11	2.03	0.41
1:B:199:LEU:HD23	1:B:199:LEU:HA	1.85	0.41
1:C:78:ARG:HA	1:C:379:ARG:O	2.21	0.41
1:D:6:TYR:HE2	1:D:360:HIS:HD1	1.67	0.41
1:F:130[B]:LEU:HD13	1:F:198:PHE:CZ	2.55	0.41
1:D:7:GLU:OE2	1:D:371:LEU:CD1	2.69	0.41
1:E:147:ALA:N	1:E:173:ASP:OD2	2.48	0.41
1:F:124:PRO:HB3	1:F:146:PRO:O	2.20	0.41
1:B:188:PRO:O	1:B:191:LEU:N	2.53	0.40
1:B:272[B]:ASP:OD1	1:B:275:ARG:NE	2.43	0.40
1:B:372:ILE:O	1:B:376:ASP:HB2	2.21	0.40
1:C:82:VAL:HG13	1:C:89:TRP:HB2	2.02	0.40
1:A:111:ASP:N	1:A:111:ASP:OD1	2.53	0.40
1:B:126:ILE:HG12	1:B:148:TYR:HB2	2.03	0.40
1:C:330:VAL:HG13	1:C:384:LEU:HD21	2.02	0.40
1:D:29:TRP:CE3	1:D:361:VAL:HG22	2.56	0.40
1:D:37:LEU:HB2	4:D:510:HOH:O	2.21	0.40
1:B:372:ILE:HD13	1:B:372:ILE:HG21	1.89	0.40
1:F:182:TRP:CE2	1:F:246:SER:OG	2.61	0.40
1:B:152:TYR:O	1:B:154:PRO:HD3	2.21	0.40
1:D:183:ILE:HG23	1:D:183:ILE:O	2.22	0.40

All (11) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:786:HOH:O	4:B:791:HOH:O[4_455]	1.94	0.26
4:B:734:HOH:O	4:B:787:HOH:O[3_555]	1.95	0.25
4:A:750:HOH:O	4:A:819:HOH:O[3_545]	2.04	0.16
4:C:1415:HOH:O	4:C:1453:HOH:O[3_545]	2.07	0.13
4:A:554:HOH:O	4:A:633:HOH:O[3_545]	2.07	0.13
4:B:578:HOH:O	4:B:729:HOH:O[3_555]	2.08	0.12
4:B:688:HOH:O	4:B:732:HOH:O[3_555]	2.09	0.11
4:C:1446:HOH:O	4:C:1578:HOH:O[4_555]	2.09	0.11
4:B:718:HOH:O	4:B:769:HOH:O[4_455]	2.09	0.11
4:A:774:HOH:O	4:B:661:HOH:O[7_555]	2.15	0.05
4:B:727:HOH:O	4:B:751:HOH:O[4_455]	2.16	0.04

## 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	396/394 (100%)	385 (97%)	8 (2%)	3 (1%)	19 23
1	B	396/394 (100%)	360 (91%)	27 (7%)	9 (2%)	6 5
1	C	395/394 (100%)	385 (98%)	8 (2%)	2 (0%)	29 35
1	D	334/394 (85%)	295 (88%)	28 (8%)	11 (3%)	4 2
1	E	394/394 (100%)	365 (93%)	24 (6%)	5 (1%)	12 12
1	F	395/394 (100%)	360 (91%)	34 (9%)	1 (0%)	41 50
All	All	2310/2364 (98%)	2150 (93%)	129 (6%)	31 (1%)	12 12

All (31) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	321	SER
1	B	13	GLN
1	B	224	GLU
1	B	234	LEU
1	B	239	TRP

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Mol	Chain	Res	Type
1	B	321	SER
1	C	321	SER
1	D	20	PRO
1	D	22	LEU
1	D	72	LEU
1	D	313	GLY
1	D	321	SER
1	E	321	SER
1	B	226	GLU
1	A	1[A]	SER
1	A	1[B]	SER
1	C	221	SER
1	D	182	TRP
1	D	214	GLN
1	E	290	HIS
1	E	353	GLY
1	F	321	SER
1	B	18	VAL
1	B	221	SER
1	D	1	SER
1	D	339	ALA
1	E	224	GLU
1	D	314	ASP
1	B	188	PRO
1	E	110	GLY
1	D	10	ILE

### 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	307/305 (101%)	296 (96%)	11 (4%)	35 49
1	B	307/305 (101%)	281 (92%)	26 (8%)	10 13
1	C	305/305 (100%)	296 (97%)	9 (3%)	41 57
1	D	260/305 (85%)	226 (87%)	34 (13%)	4 4

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	E	306/305 (100%)	295 (96%)	11 (4%)	35	49
1	F	307/305 (101%)	296 (96%)	11 (4%)	35	49
All	All	1792/1830 (98%)	1690 (94%)	102 (6%)	20	28

All (102) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	0	MET
1	A	78	ARG
1	A	83	GLU
1	A	139	ARG
1	A	153	TYR
1	A	157	ARG
1	A	224	GLU
1	A	226	GLU
1	A	286	TYR
1	A	344	ARG
1	A	379	ARG
1	B	0	MET
1	B	7	GLU
1	B	10	ILE
1	B	13	GLN
1	B	21	THR
1	B	24	MET
1	B	83	GLU
1	B	133	SER
1	B	139[A]	ARG
1	B	139[B]	ARG
1	B	140	LYS
1	B	155	GLU
1	B	157	ARG
1	B	159	LEU
1	B	193	ILE
1	B	198	PHE
1	B	216	LYS
1	B	218	LYS
1	B	229	ARG
1	B	239	TRP
1	B	260	LYS
1	B	286	TYR
1	B	316	PRO

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	344	ARG
1	B	346	TYR
1	B	352	LEU
1	C	133	SER
1	C	152	TYR
1	C	162	SER
1	C	224	GLU
1	C	242	LEU
1	C	286	TYR
1	C	344	ARG
1	C	382	LYS
1	C	387	ASP
1	D	0	MET
1	D	3	TRP
1	D	6	TYR
1	D	8	ASN
1	D	10	ILE
1	D	18	VAL
1	D	22	LEU
1	D	60	GLU
1	D	72	LEU
1	D	78	ARG
1	D	106	GLN
1	D	144	ASP
1	D	153	TYR
1	D	157	ARG
1	D	165	ARG
1	D	180	ASP
1	D	183	ILE
1	D	187	ARG
1	D	203	CYS
1	D	204	LEU
1	D	205	THR
1	D	215	LYS
1	D	261	MET
1	D	286	TYR
1	D	293	ARG
1	D	299	LEU
1	D	314	ASP
1	D	320	ASP
1	D	321	SER
1	D	325	THR

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Mol	Chain	Res	Type
1	D	328	ASP
1	D	346	TYR
1	D	366	LEU
1	D	387	ASP
1	E	8	ASN
1	E	25	SER
1	E	78	ARG
1	E	111	ASP
1	E	139	ARG
1	E	152	TYR
1	E	226	GLU
1	E	246	SER
1	E	286	TYR
1	E	294	GLN
1	E	344	ARG
1	F	8	ASN
1	F	139	ARG
1	F	153	TYR
1	F	157	ARG
1	F	215	LYS
1	F	229	ARG
1	F	286	TYR
1	F	328	ASP
1	F	344	ARG
1	F	346	TYR
1	F	387	ASP

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

### 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 carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

25 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
3	SO4	C	404	-	4,4,4	0.40	0	6,6,6	0.53	0
3	SO4	D	403	-	4,4,4	0.41	0	6,6,6	0.57	0
3	SO4	C	403	-	4,4,4	0.13	0	6,6,6	0.70	0
3	SO4	A	404[A]	-	4,4,4	0.25	0	6,6,6	0.39	0
2	FMN	B	401	-	31,33,33	2.45	8 (25%)	40,50,50	2.74	9 (22%)
2	FMN	D	401	-	31,33,33	2.70	10 (32%)	40,50,50	2.59	10 (25%)
3	SO4	B	405	-	4,4,4	0.15	0	6,6,6	0.10	0
2	FMN	E	401	-	31,33,33	2.49	5 (16%)	40,50,50	2.16	10 (25%)
3	SO4	B	404	-	4,4,4	0.14	0	6,6,6	0.44	0
3	SO4	B	406	-	4,4,4	0.53	0	6,6,6	0.88	0
2	FMN	A	401	-	31,33,33	2.28	8 (25%)	40,50,50	2.44	10 (25%)
3	SO4	B	402	-	4,4,4	0.33	0	6,6,6	0.51	0
3	SO4	F	403	-	4,4,4	0.11	0	6,6,6	0.47	0
3	SO4	A	402	-	4,4,4	0.28	0	6,6,6	0.97	0
3	SO4	A	405	-	4,4,4	0.28	0	6,6,6	0.36	0
3	SO4	D	402	-	4,4,4	0.24	0	6,6,6	0.71	0
2	FMN	C	401	-	31,33,33	2.13	7 (22%)	40,50,50	2.79	9 (22%)
3	SO4	F	402	-	4,4,4	0.14	0	6,6,6	0.14	0
3	SO4	E	403	-	4,4,4	0.14	0	6,6,6	0.20	0
3	SO4	B	403	-	4,4,4	0.42	0	6,6,6	0.66	0
3	SO4	A	403	-	4,4,4	0.60	0	6,6,6	0.94	0
3	SO4	C	402	-	4,4,4	0.24	0	6,6,6	0.65	0
3	SO4	E	402	-	4,4,4	0.14	0	6,6,6	0.16	0
2	FMN	F	401	-	31,33,33	2.18	6 (19%)	40,50,50	2.27	8 (20%)
3	SO4	C	405	-	4,4,4	0.22	0	6,6,6	0.22	0

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	FMN	C	401	-	-	1/18/18/18	0/3/3/3
2	FMN	A	401	-	-	5/18/18/18	0/3/3/3
2	FMN	E	401	-	-	1/18/18/18	0/3/3/3
2	FMN	B	401	-	-	1/18/18/18	0/3/3/3
2	FMN	F	401	-	-	4/18/18/18	0/3/3/3
2	FMN	D	401	-	-	5/18/18/18	0/3/3/3

All (44) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	401	FMN	C4A-C10	10.88	1.49	1.38
2	D	401	FMN	C4A-C10	10.14	1.49	1.38
2	F	401	FMN	C4A-C10	9.23	1.48	1.38
2	B	401	FMN	C4A-C10	9.11	1.47	1.38
2	A	401	FMN	C4A-C10	8.47	1.47	1.38
2	C	401	FMN	C4A-C10	8.42	1.47	1.38
2	D	401	FMN	C9A-N10	5.27	1.45	1.38
2	D	401	FMN	C4-C4A	5.15	1.50	1.41
2	A	401	FMN	C4-C4A	5.01	1.50	1.41
2	B	401	FMN	C4A-N5	4.55	1.39	1.33
2	E	401	FMN	C4-C4A	4.53	1.49	1.41
2	B	401	FMN	C10-N1	4.48	1.39	1.33
2	F	401	FMN	C4-C4A	4.04	1.48	1.41
2	D	401	FMN	C8-C7	3.98	1.50	1.40
2	C	401	FMN	C4-C4A	3.75	1.47	1.41
2	E	401	FMN	C9A-C5A	3.71	1.50	1.42
2	B	401	FMN	C9A-C5A	3.66	1.49	1.42
2	E	401	FMN	C8-C7	3.49	1.49	1.40
2	B	401	FMN	C8-C7	3.37	1.49	1.40
2	F	401	FMN	C9A-C5A	3.26	1.49	1.42
2	F	401	FMN	C8-C7	3.24	1.49	1.40
2	A	401	FMN	C1'-N10	-3.06	1.45	1.48
2	B	401	FMN	C4-C4A	3.03	1.46	1.41
2	C	401	FMN	C6-C5A	-2.96	1.37	1.41
2	B	401	FMN	C6-C5A	-2.84	1.37	1.41
2	B	401	FMN	C9A-N10	2.83	1.42	1.38
2	D	401	FMN	C10-N1	2.80	1.36	1.33
2	C	401	FMN	C9A-C5A	2.79	1.48	1.42
2	E	401	FMN	C9A-N10	2.78	1.42	1.38
2	A	401	FMN	C9-C9A	-2.76	1.35	1.40
2	D	401	FMN	C1'-N10	-2.75	1.45	1.48
2	A	401	FMN	C6-C5A	-2.72	1.37	1.41
2	D	401	FMN	C9A-C5A	2.68	1.47	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	401	FMN	C2-N1	-2.51	1.33	1.38
2	C	401	FMN	C9A-N10	2.50	1.41	1.38
2	A	401	FMN	C9A-C5A	2.35	1.47	1.42
2	C	401	FMN	C8-C7	2.34	1.46	1.40
2	F	401	FMN	C6-C5A	-2.28	1.38	1.41
2	F	401	FMN	C9A-N10	2.26	1.41	1.38
2	A	401	FMN	C5'-C4'	2.24	1.55	1.51
2	A	401	FMN	C2-N3	-2.08	1.34	1.38
2	D	401	FMN	C4A-N5	2.07	1.36	1.33
2	D	401	FMN	C4-N3	2.01	1.36	1.33
2	D	401	FMN	P-O5'	2.00	1.66	1.60

All (56) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	401	FMN	C4-N3-C2	10.90	124.34	115.14
2	A	401	FMN	C4-N3-C2	9.87	123.48	115.14
2	B	401	FMN	C4-N3-C2	9.63	123.28	115.14
2	B	401	FMN	C4-C4A-C10	-8.63	114.24	119.95
2	D	401	FMN	C4-N3-C2	8.48	122.31	115.14
2	F	401	FMN	C4-N3-C2	8.15	122.02	115.14
2	E	401	FMN	C4-N3-C2	7.46	121.44	115.14
2	D	401	FMN	O4'-C4'-C5'	6.98	125.61	109.92
2	B	401	FMN	C10-C4A-N5	6.95	126.07	121.26
2	C	401	FMN	C9A-N10-C10	-6.76	113.06	121.91
2	F	401	FMN	C4-C4A-C10	-5.69	116.19	119.95
2	E	401	FMN	C1'-N10-C9A	5.68	122.76	118.29
2	C	401	FMN	C4-C4A-C10	-5.62	116.23	119.95
2	F	401	FMN	C9A-N10-C10	-5.60	114.57	121.91
2	A	401	FMN	C4-C4A-C10	-5.43	116.35	119.95
2	D	401	FMN	C4A-N5-C5A	5.26	122.03	116.77
2	C	401	FMN	C1'-N10-C9A	4.96	122.19	118.29
2	D	401	FMN	O4'-C4'-C3'	-4.78	97.49	109.10
2	D	401	FMN	C4A-C4-N3	-4.72	116.98	123.43
2	C	401	FMN	C4A-C4-N3	-4.67	117.05	123.43
2	A	401	FMN	C9A-N10-C10	-4.40	116.15	121.91
2	B	401	FMN	C1'-N10-C9A	4.31	121.68	118.29
2	F	401	FMN	C1'-N10-C9A	4.19	121.59	118.29
2	A	401	FMN	C4A-C10-N10	-4.11	116.08	120.30
2	E	401	FMN	C9A-N10-C10	-4.10	116.54	121.91
2	E	401	FMN	C4-C4A-C10	-4.01	117.30	119.95
2	F	401	FMN	C4-C4A-N5	3.76	122.90	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	401	FMN	C4-C4A-N5	3.63	122.75	118.60
2	D	401	FMN	C1'-N10-C9A	3.59	121.12	118.29
2	B	401	FMN	C5A-C9A-N10	3.57	120.30	117.72
2	E	401	FMN	C4A-C4-N3	-3.53	118.60	123.43
2	B	401	FMN	C4A-C10-N10	-3.52	116.69	120.30
2	E	401	FMN	C1'-C2'-C3'	3.39	119.26	109.79
2	F	401	FMN	C4A-C4-N3	-3.34	118.87	123.43
2	A	401	FMN	C4A-C4-N3	-3.33	118.87	123.43
2	D	401	FMN	C1'-C2'-C3'	3.19	118.70	109.79
2	E	401	FMN	C4A-N5-C5A	3.16	119.93	116.77
2	D	401	FMN	O3'-C3'-C4'	-3.08	101.37	108.81
2	E	401	FMN	C5A-C9A-N10	3.06	119.93	117.72
2	A	401	FMN	C4-C4A-N5	2.91	121.92	118.60
2	B	401	FMN	C9A-N10-C10	-2.90	118.11	121.91
2	C	401	FMN	O5'-P-O1P	-2.90	98.34	106.47
2	A	401	FMN	O2'-C2'-C3'	2.88	116.09	109.10
2	A	401	FMN	O2'-C2'-C1'	-2.68	103.13	109.59
2	A	401	FMN	C9A-C5A-N5	-2.49	118.47	122.36
2	C	401	FMN	C10-C4A-N5	-2.35	119.63	121.26
2	D	401	FMN	C4A-C10-N10	-2.32	117.91	120.30
2	E	401	FMN	O3P-P-O2P	2.23	116.17	107.64
2	F	401	FMN	C4A-N5-C5A	2.23	119.00	116.77
2	E	401	FMN	C1'-N10-C10	2.21	120.38	118.41
2	B	401	FMN	C4A-C4-N3	-2.20	120.42	123.43
2	A	401	FMN	C4A-N5-C5A	2.20	118.97	116.77
2	F	401	FMN	O3P-P-O2P	2.18	115.97	107.64
2	C	401	FMN	O3P-P-O1P	2.11	118.92	110.68
2	D	401	FMN	C4-C4A-C10	-2.09	118.56	119.95
2	B	401	FMN	O3P-P-O1P	2.04	118.68	110.68

There are no chirality outliers.

All (17) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	D	401	FMN	C3'-C4'-C5'-O5'
2	D	401	FMN	O4'-C4'-C5'-O5'
2	D	401	FMN	C5'-O5'-P-O2P
2	D	401	FMN	C5'-O5'-P-O3P
2	A	401	FMN	O3'-C3'-C4'-C5'
2	A	401	FMN	C2'-C3'-C4'-O4'
2	F	401	FMN	C3'-C4'-C5'-O5'
2	A	401	FMN	O3'-C3'-C4'-O4'

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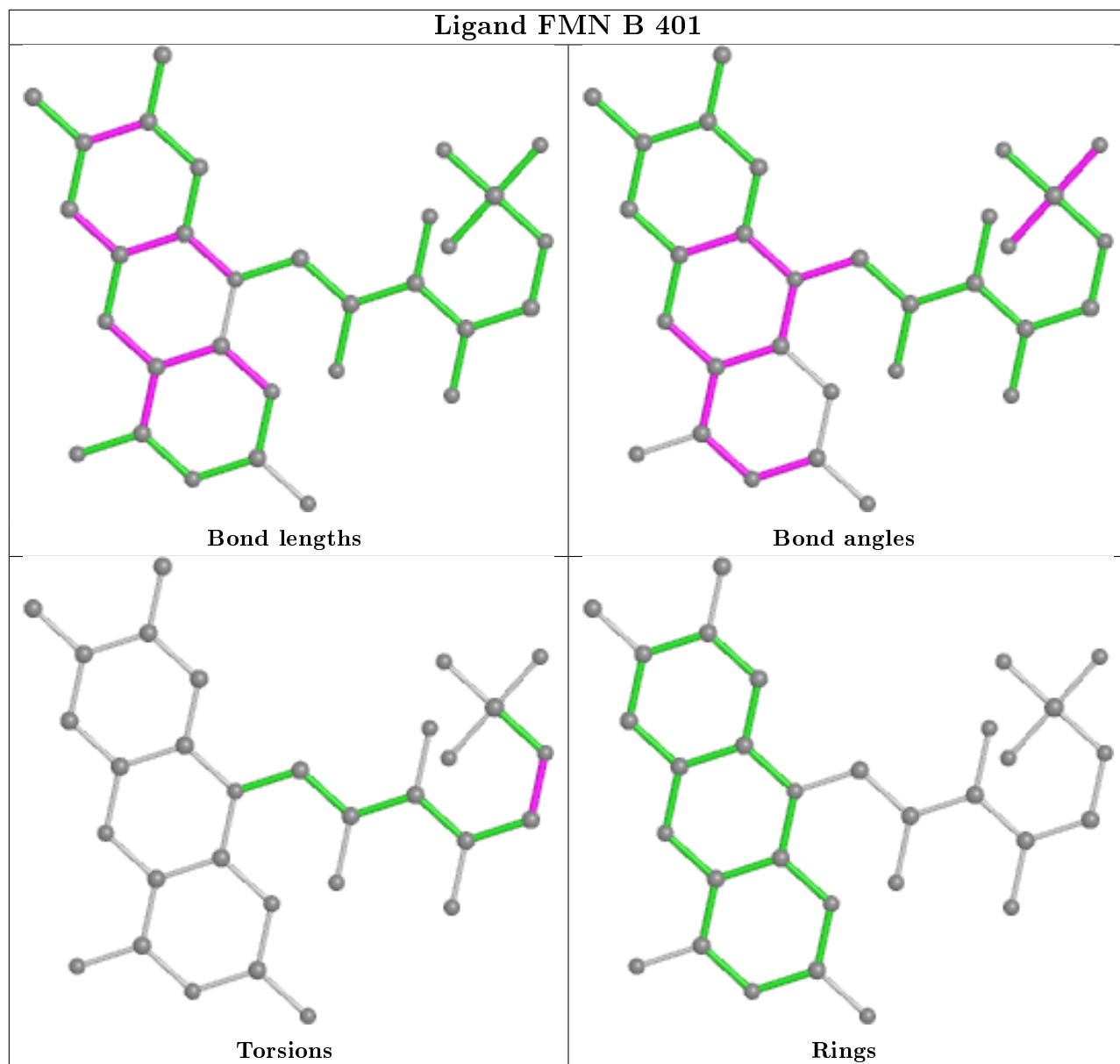
Mol	Chain	Res	Type	Atoms
2	D	401	FMN	C5'-O5'-P-O1P
2	B	401	FMN	C4'-C5'-O5'-P
2	A	401	FMN	C4'-C5'-O5'-P
2	C	401	FMN	C4'-C5'-O5'-P
2	F	401	FMN	O4'-C4'-C5'-O5'
2	A	401	FMN	C2'-C3'-C4'-C5'
2	E	401	FMN	C4'-C5'-O5'-P
2	F	401	FMN	C4'-C5'-O5'-P
2	F	401	FMN	C2'-C3'-C4'-O4'

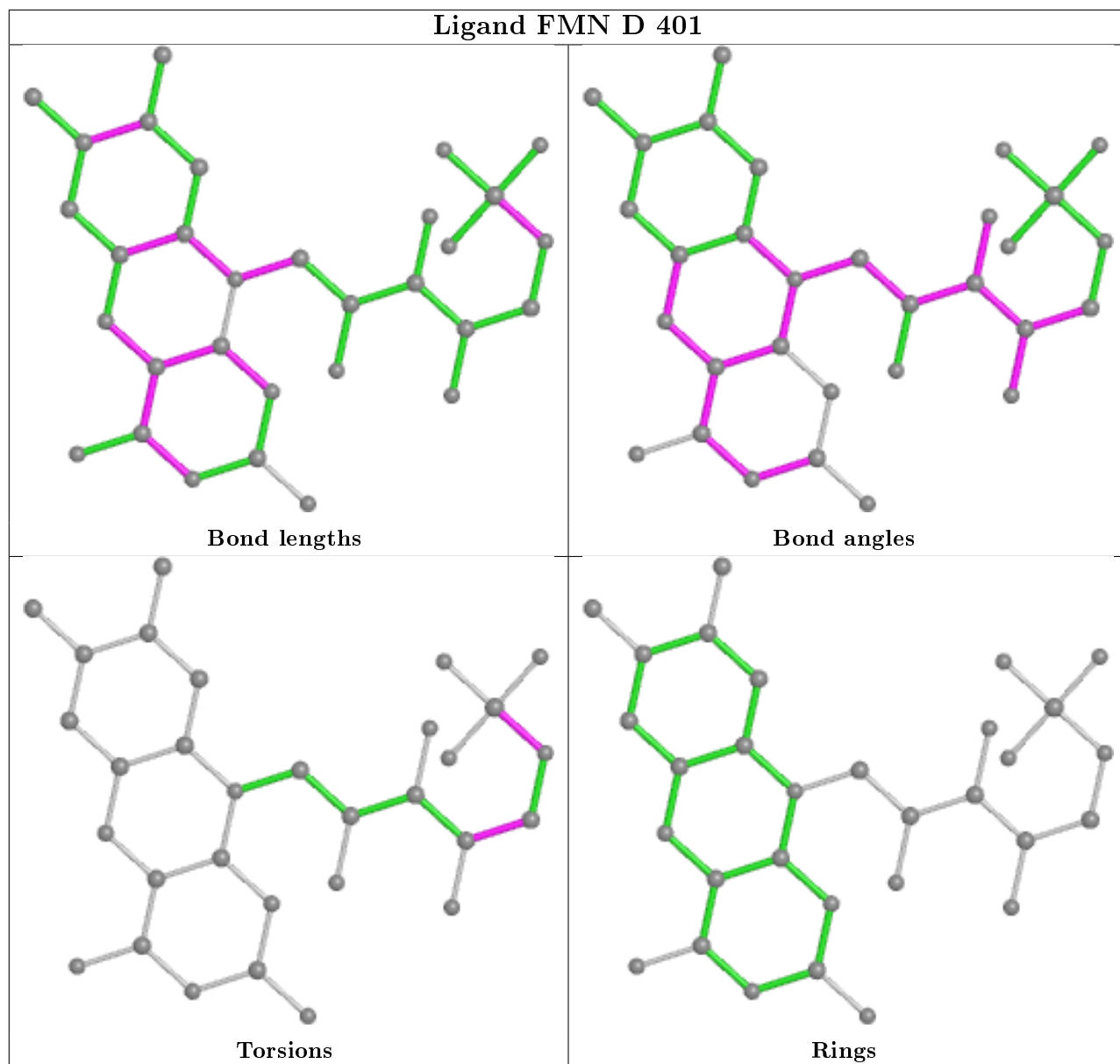
There are no ring outliers.

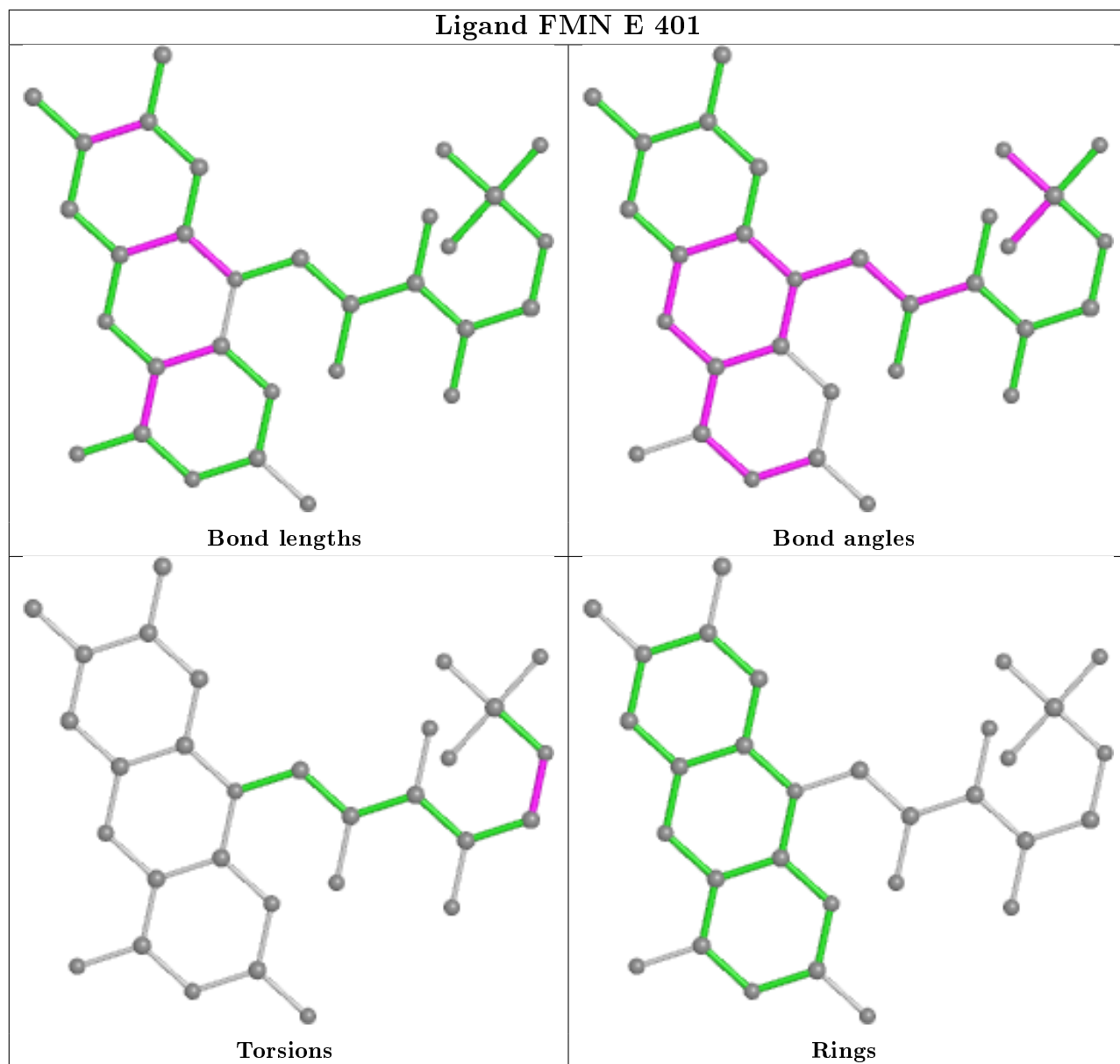
9 monomers are involved in 14 short contacts:

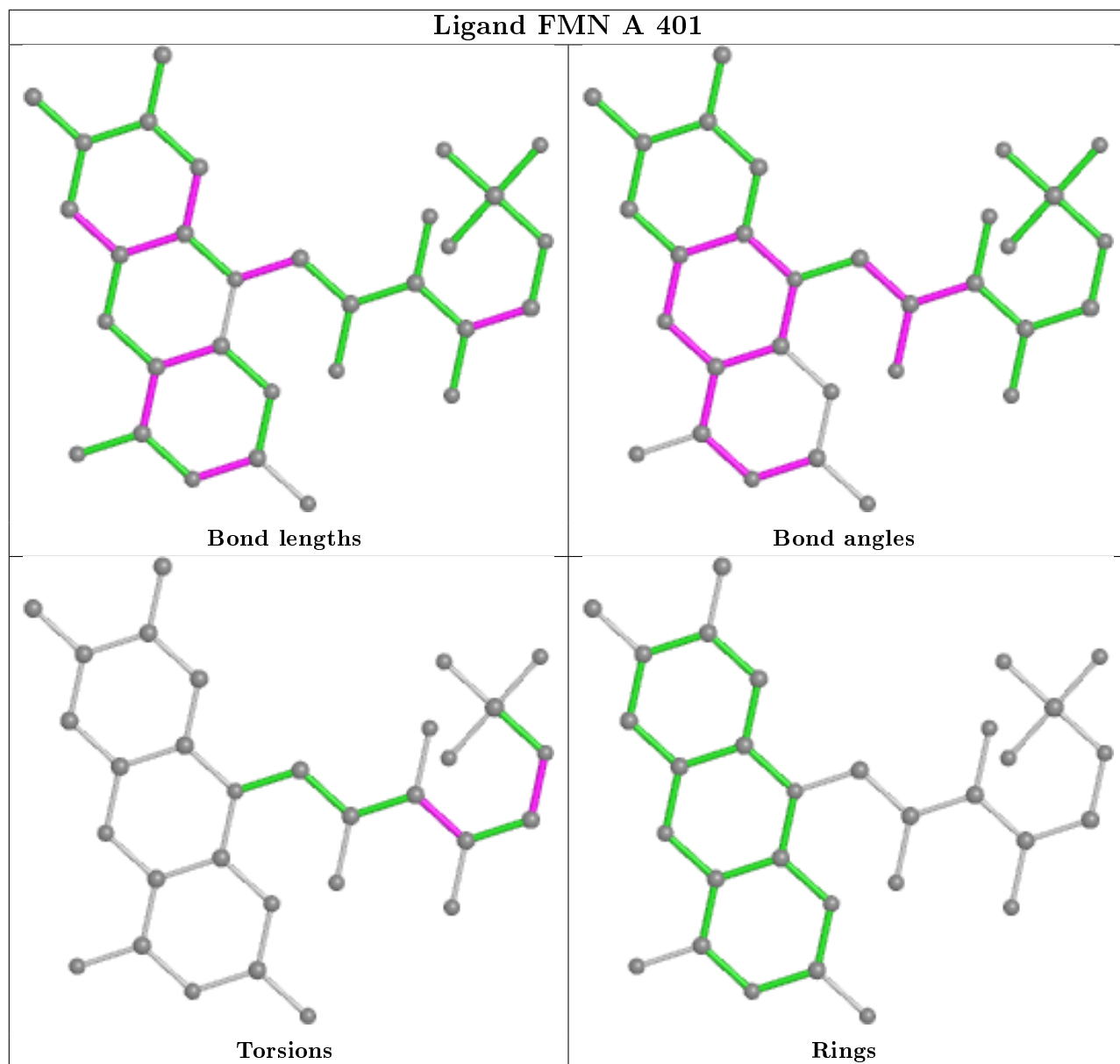
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	401	FMN	5	0
2	E	401	FMN	1	0
3	B	406	SO4	1	0
3	F	403	SO4	1	0
2	C	401	FMN	2	0
3	E	403	SO4	1	0
3	C	402	SO4	1	0
2	F	401	FMN	1	0
3	C	405	SO4	1	0

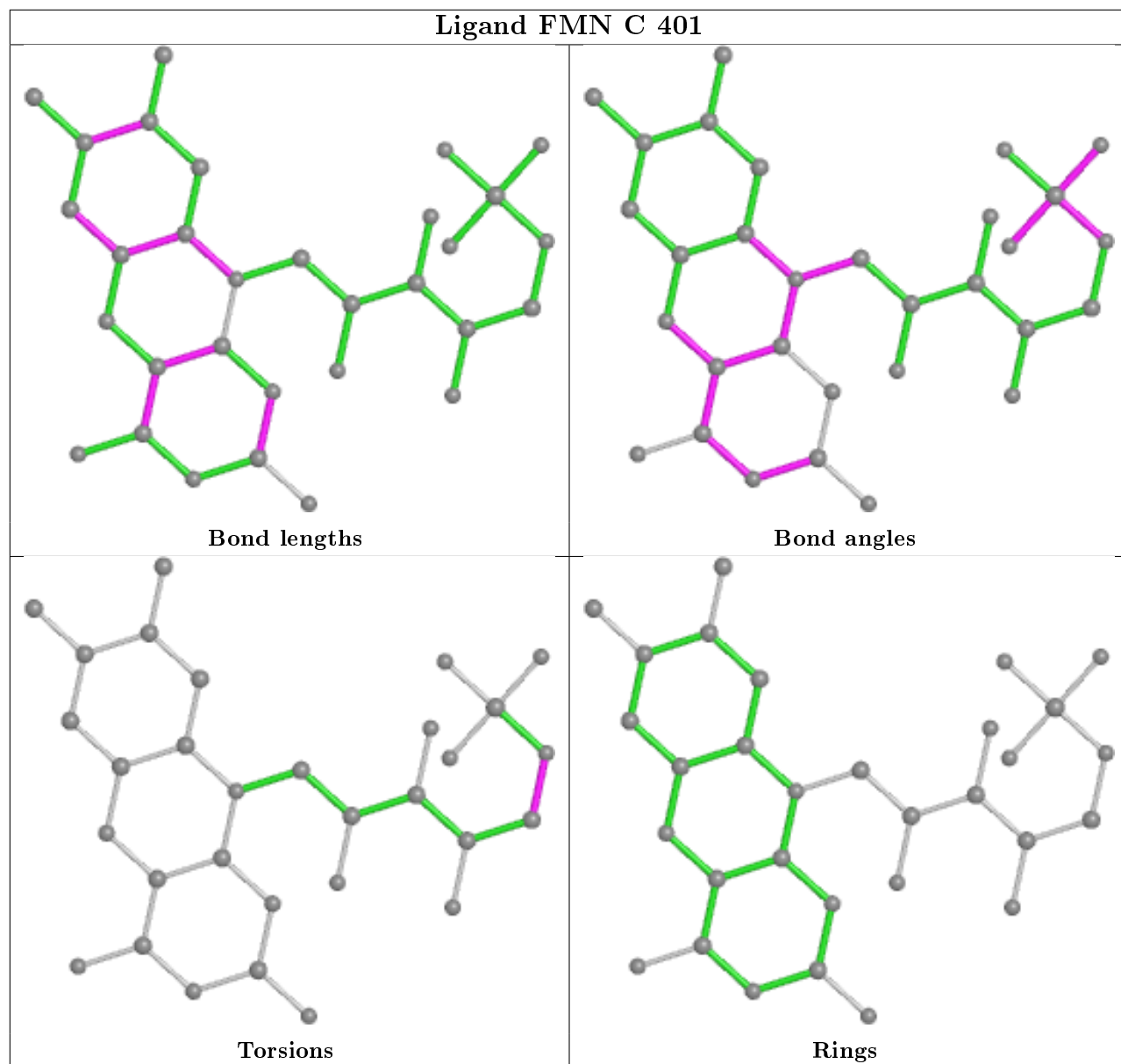
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



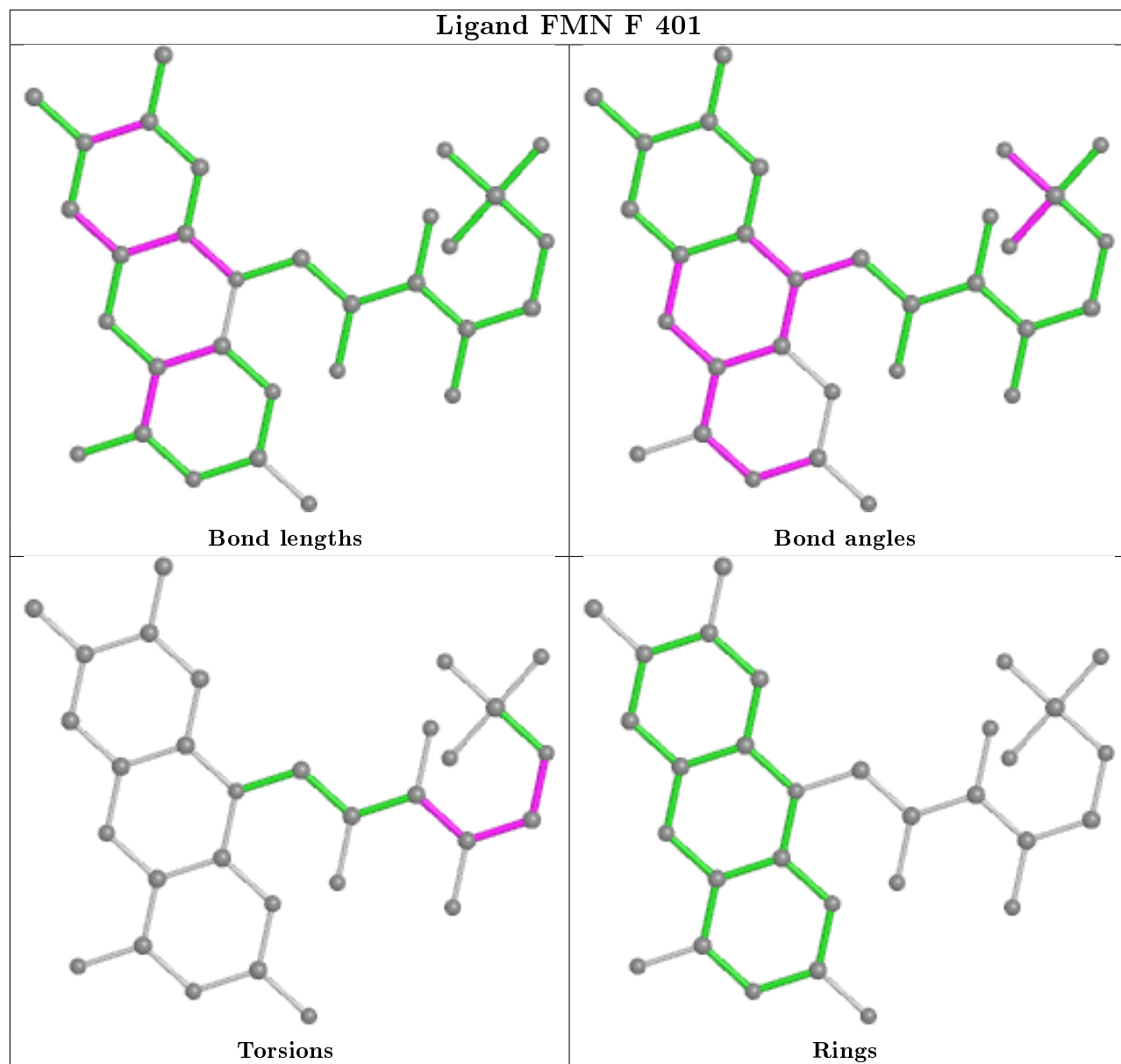












## 5.7 Other polymers [i](#)

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 [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

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	394/394 (100%)	0.90	28 (7%) 16 21	14, 23, 36, 66	0
1	B	394/394 (100%)	1.37	77 (19%) 1 1	20, 34, 93, 156	0
1	C	394/394 (100%)	0.78	14 (3%) 42 49	20, 32, 49, 98	0
1	D	338/394 (85%)	2.79	209 (61%) 0 0	52, 72, 109, 173	0
1	E	393/394 (99%)	5.36	362 (92%) 0 0	84, 102, 146, 207	393 (100%)
1	F	393/394 (99%)	6.06	375 (95%) 0 0	102, 116, 166, 236	393 (100%)
All	All	2306/2364 (97%)	2.88	1065 (46%) 0 0	14, 59, 136, 236	786 (34%)

All (1065) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	138	ILE	44.5
1	E	227	GLY	23.2
1	F	108	GLY	22.7
1	E	254	TRP	19.6
1	F	23	PRO	18.0
1	E	351	ALA	17.8
1	F	219	ALA	17.7
1	F	223	VAL	17.5
1	F	226	GLU	16.3
1	E	223	VAL	16.1
1	F	122	GLY	15.7
1	F	204[A]	LEU	15.6
1	F	179	LEU	15.4
1	E	336	GLY	15.3
1	F	138	ILE	15.1
1	E	202	LEU	14.8
1	F	298	GLY	14.6
1	F	212	VAL	14.4
1	F	221	SER	14.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	203	CYS	13.9
1	F	160	ALA	13.7
1	F	228	LEU	13.6
1	F	216	LYS	13.6
1	F	217	PHE	13.5
1	E	36	ALA	13.3
1	F	239	TRP	13.1
1	E	208[A]	VAL	13.0
1	F	57	ALA	12.7
1	E	372	ILE	12.2
1	F	137	ASP	12.2
1	E	364	SER	12.2
1	F	345	PRO	12.2
1	E	228	LEU	12.1
1	E	241	GLY	12.0
1	E	159	LEU	12.0
1	E	221	SER	12.0
1	D	14	GLY	11.9
1	E	255	VAL	11.8
1	F	213	PHE	11.7
1	F	49	SER	11.7
1	F	315	THR	11.6
1	F	76	THR	11.5
1	E	91	ALA	11.5
1	F	112	ALA	11.5
1	F	143	GLY	11.5
1	F	197	PRO	11.5
1	F	230	ASP	11.3
1	F	277	ALA	11.3
1	E	257	SER	11.2
1	F	115	ALA	11.1
1	F	19	ALA	11.1
1	F	227	GLY	11.1
1	F	269	GLN	11.0
1	F	164	ILE	11.0
1	E	264	ILE	10.9
1	E	333	LEU	10.9
1	F	107	ASP	10.9
1	E	235	ALA	10.9
1	E	277	ALA	10.8
1	F	75	ALA	10.8
1	E	222	GLY	10.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	F	69	PRO	10.7
1	F	224	GLU	10.6
1	F	6	TYR	10.5
1	B	228	LEU	10.5
1	F	378	TYR	10.4
1	F	308	VAL	10.4
1	E	346	TYR	10.4
1	E	7	GLU	10.4
1	E	134	SER	10.4
1	E	142	ALA	10.3
1	F	210	ASP	10.3
1	F	244	GLY	10.3
1	F	126	ILE	10.3
1	F	84	LEU	10.2
1	F	220	HIS	10.2
1	F	99	GLY	10.1
1	F	225	ALA	10.1
1	F	92	PRO	10.1
1	E	213	PHE	10.1
1	E	252	ILE	10.1
1	F	149	PHE	10.0
1	E	240	HIS	10.0
1	E	308	VAL	9.9
1	E	217	PHE	9.9
1	E	156	ASP	9.9
1	D	21	THR	9.9
1	E	112	ALA	9.8
1	F	355	SER	9.8
1	E	137	ASP	9.8
1	F	39	PRO	9.8
1	F	94	PHE	9.7
1	E	358	ILE	9.7
1	F	250	GLU	9.6
1	F	282	VAL	9.6
1	E	246	SER	9.5
1	F	205	THR	9.5
1	F	361	VAL	9.5
1	E	151	LEU	9.4
1	E	176	VAL	9.4
1	F	159	LEU	9.4
1	F	352	LEU	9.3
1	E	113	ALA	9.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	160	ALA	9.3
1	E	158	ASP	9.3
1	E	363	ARG	9.3
1	F	81	SER	9.3
1	F	290	HIS	9.3
1	E	212	VAL	9.2
1	F	372	ILE	9.2
1	E	23	PRO	9.2
1	E	45	VAL	9.2
1	F	139	ARG	9.2
1	F	365	LEU	9.2
1	F	265	LEU	9.1
1	F	215	LYS	9.1
1	B	231	ASN	9.0
1	F	254	TRP	9.0
1	E	74	ALA	9.0
1	E	347	ALA	9.0
1	E	234	LEU	9.0
1	E	183	ILE	8.9
1	E	37	LEU	8.9
1	D	279	ASP	8.9
1	F	93	MET	8.9
1	F	340	VAL	8.8
1	F	154	PRO	8.8
1	F	40	GLY	8.8
1	F	186	TRP	8.8
1	F	162	SER	8.7
1	E	278	VAL	8.7
1	D	274	ALA	8.7
1	E	103	LEU	8.7
1	E	224	GLU	8.6
1	F	176	VAL	8.6
1	F	259	THR	8.6
1	E	253	ASP	8.6
1	F	193	ILE	8.6
1	F	218	LYS	8.6
1	E	114	SER	8.5
1	E	93	MET	8.5
1	E	274	ALA	8.5
1	E	312	SER	8.4
1	E	152	TYR	8.4
1	F	127	THR	8.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	F	22	LEU	8.4
1	E	218	LYS	8.4
1	B	225	ALA	8.4
1	E	141	HIS	8.3
1	F	371	LEU	8.3
1	F	117	ALA	8.2
1	F	274	ALA	8.2
1	F	181[A]	THR	8.2
1	E	207	TYR	8.2
1	F	148	TYR	8.2
1	F	207	TYR	8.2
1	F	264	ILE	8.1
1	B	198	PHE	8.1
1	E	263	VAL	8.0
1	B	236	ALA	8.0
1	F	38	PRO	8.0
1	F	42	LEU	8.0
1	F	130[A]	LEU	8.0
1	E	165	ARG	8.0
1	F	286	TYR	8.0
1	E	206	ASN	8.0
1	F	248	THR	8.0
1	F	242	LEU	8.0
1	F	377	GLY	8.0
1	F	161	GLU	8.0
1	F	163	PHE	8.0
1	E	129	THR	7.9
1	E	239	TRP	7.9
1	F	102	ALA	7.9
1	F	357	GLY	7.9
1	F	188	PRO	7.8
1	F	87	LYS	7.8
1	E	281	GLY	7.8
1	F	24	MET	7.8
1	E	350	ALA	7.7
1	E	115	ALA	7.6
1	E	161	GLU	7.6
1	F	214	GLN	7.6
1	F	184	PHE	7.6
1	D	164	ILE	7.6
1	E	211	PRO	7.6
1	B	238	PHE	7.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	F	198	PHE	7.6
1	E	85	TRP	7.6
1	E	191	LEU	7.6
1	E	216	LYS	7.6
1	F	333	LEU	7.6
1	F	156	ASP	7.5
1	F	260	LYS	7.5
1	F	142	ALA	7.5
1	E	204	LEU	7.5
1	F	171	GLY	7.5
1	F	349	GLY	7.5
1	D	177	ILE	7.5
1	F	65	TRP	7.5
1	F	120	ARG	7.4
1	E	332	ALA	7.4
1	F	203	CYS	7.4
1	E	140	LYS	7.4
1	F	316	PRO	7.4
1	E	268	ILE	7.3
1	E	10	ILE	7.3
1	F	141	HIS	7.3
1	F	196	PHE	7.3
1	E	226	GLU	7.3
1	F	323	ILE	7.3
1	F	311	ALA	7.3
1	F	384	LEU	7.3
1	E	232	PRO	7.2
1	F	175	LEU	7.2
1	E	118	SER	7.2
1	F	278	VAL	7.2
1	F	256	ARG	7.2
1	F	350	ALA	7.2
1	F	255	VAL	7.2
1	F	267	GLY	7.2
1	F	153	TYR	7.1
1	D	301	ALA	7.1
1	E	41	VAL	7.1
1	F	91	ALA	7.1
1	E	167	ALA	7.1
1	F	95	PHE	7.1
1	F	281	GLY	7.1
1	F	379	ARG	7.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	84	LEU	7.1
1	E	367	ALA	7.1
1	F	113	ALA	7.1
1	D	308	VAL	7.1
1	F	240	HIS	7.1
1	E	3	TRP	7.1
1	E	294	GLN	7.1
1	F	253	ASP	7.1
1	E	238	PHE	7.0
1	E	139	ARG	7.0
1	B	197	PRO	7.0
1	E	214	GLN	7.0
1	F	26	TYR	7.0
1	F	327	ALA	7.0
1	D	18	VAL	7.0
1	F	362	ALA	7.0
1	E	177	ILE	7.0
1	F	376	ASP	6.9
1	D	22	LEU	6.9
1	E	215	LYS	6.8
1	F	167	ALA	6.8
1	E	43	SER	6.8
1	E	94	PHE	6.8
1	F	252	ILE	6.8
1	F	44	TYR	6.8
1	F	334	ALA	6.8
1	B	217	PHE	6.7
1	E	102	ALA	6.7
1	E	210	ASP	6.7
1	F	235	ALA	6.7
1	F	125	TYR	6.7
1	F	231	ASN	6.7
1	F	104	CYS	6.7
1	E	31	ALA	6.7
1	F	45	VAL	6.7
1	F	97	PRO	6.7
1	D	6	TYR	6.6
1	D	15	LEU	6.6
1	F	172	TYR	6.6
1	E	199	LEU	6.6
1	D	20	PRO	6.6
1	F	183	ILE	6.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	25	SER	6.5
1	F	59	VAL	6.5
1	F	335	MET	6.5
1	E	258	ILE	6.5
1	B	21	THR	6.5
1	E	233	ARG	6.5
1	E	104	CYS	6.5
1	D	121	THR	6.5
1	F	152	TYR	6.5
1	E	135	LEU	6.4
1	E	335	MET	6.4
1	F	50	GLY	6.4
1	F	12	GLY	6.4
1	F	72	LEU	6.4
1	E	209	THR	6.4
1	F	268	ILE	6.4
1	F	229	ARG	6.4
1	D	75	ALA	6.4
1	F	145	THR	6.4
1	F	182	TRP	6.3
1	D	334	ALA	6.3
1	F	271	PRO	6.3
1	D	91	ALA	6.3
1	E	373	MET	6.3
1	F	246	SER	6.3
1	E	145	THR	6.3
1	E	173	ASP	6.3
1	E	310	LYS	6.2
1	D	155	GLU	6.2
1	E	249	TRP	6.2
1	E	229	ARG	6.2
1	F	173	ASP	6.2
1	D	115	ALA	6.2
1	D	151	LEU	6.2
1	D	207	TYR	6.2
1	E	365	LEU	6.2
1	D	0	MET	6.2
1	E	87	LYS	6.2
1	E	302	LEU	6.2
1	D	278	VAL	6.2
1	F	187[A]	ARG	6.1
1	D	152	TYR	6.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	6	TYR	6.1
1	F	222	GLY	6.1
1	F	353	GLY	6.1
1	E	97	PRO	6.1
1	F	318	LEU	6.1
1	F	380	ASN	6.1
1	E	22	LEU	6.1
1	E	121	THR	6.1
1	F	208	VAL	6.1
1	F	319	PHE	6.0
1	E	261	MET	6.0
1	E	76	THR	6.0
1	E	219	ALA	6.0
1	E	225	ALA	5.9
1	E	201	GLY	5.9
1	F	383	GLU	5.9
1	F	114	SER	5.9
1	F	330	VAL	5.9
1	D	4	GLY	5.9
1	E	111	ASP	5.9
1	F	158	ASP	5.9
1	E	236	ALA	5.9
1	E	166	ARG	5.9
1	F	302	LEU	5.8
1	F	73	MET	5.8
1	D	81	SER	5.8
1	F	128	SER	5.8
1	E	366	LEU	5.8
1	F	209	THR	5.8
1	E	16	VAL	5.8
1	F	270	HIS	5.8
1	E	362	ALA	5.8
1	F	177	ILE	5.8
1	F	343	GLY	5.8
1	E	65	TRP	5.7
1	E	318	LEU	5.7
1	E	384	LEU	5.7
1	E	256	ARG	5.7
1	E	116	GLN	5.7
1	D	184	PHE	5.7
1	E	220	HIS	5.7
1	F	85	TRP	5.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	164	ILE	5.7
1	E	286	TYR	5.7
1	F	200	ARG	5.7
1	E	237	ASP	5.7
1	E	175	LEU	5.7
1	F	237	ASP	5.6
1	E	290	HIS	5.6
1	F	100	VAL	5.6
1	E	282	VAL	5.6
1	F	151	LEU	5.6
1	C	0	MET	5.6
1	E	133	SER	5.6
1	F	180	ASP	5.6
1	E	100	VAL	5.6
1	F	4	GLY	5.6
1	F	174	GLY	5.6
1	E	42	LEU	5.5
1	F	234	LEU	5.5
1	F	129	THR	5.5
1	F	317	VAL	5.5
1	D	332	ALA	5.5
1	F	165	ARG	5.5
1	F	9	GLU	5.5
1	E	172	TYR	5.5
1	F	332	ALA	5.5
1	E	382	LYS	5.5
1	E	377	GLY	5.5
1	F	257	SER	5.5
1	D	84	LEU	5.5
1	F	27	ALA	5.5
1	E	317	VAL	5.5
1	F	68	MET	5.5
1	F	74	ALA	5.4
1	F	310	LYS	5.4
1	E	389	LEU	5.4
1	C	225	ALA	5.4
1	B	234	LEU	5.4
1	F	285	ILE	5.4
1	F	386	ILE	5.4
1	E	275	ARG	5.4
1	E	243	PHE	5.4
1	E	110	GLY	5.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	F	98	ILE	5.3
1	E	259	THR	5.3
1	E	392	THR	5.3
1	E	271	PRO	5.3
1	E	248	THR	5.3
1	E	361	VAL	5.3
1	E	205	THR	5.3
1	B	22	LEU	5.3
1	E	247	VAL	5.3
1	F	46	ALA	5.3
1	F	109	HIS	5.3
1	E	98	ILE	5.3
1	E	179	LEU	5.3
1	E	345	PRO	5.2
1	F	294	GLN	5.2
1	F	140	LYS	5.2
1	B	0	MET	5.2
1	F	392	THR	5.2
1	F	238	PHE	5.2
1	F	1	SER	5.2
1	F	373	MET	5.1
1	D	126	ILE	5.1
1	E	83	GLU	5.1
1	F	37	LEU	5.1
1	E	390	ARG	5.1
1	E	29	TRP	5.1
1	E	339	ALA	5.1
1	F	303	ASP	5.1
1	F	304	CYS	5.1
1	E	170	ALA	5.1
1	F	276	ARG	5.1
1	F	80	LEU	5.1
1	E	117	ALA	5.1
1	E	81	SER	5.1
1	F	291	GLY	5.1
1	E	319	PHE	5.1
1	D	374	ALA	5.1
1	E	334	ALA	5.1
1	E	82	VAL	5.1
1	F	309	VAL	5.1
1	E	28	ASP	5.0
1	F	131	ALA	5.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	D	122	GLY	5.0
1	F	13	GLN	5.0
1	E	380	ASN	5.0
1	D	163	PHE	5.0
1	E	61	ALA	5.0
1	E	107	ASP	5.0
1	F	202	LEU	5.0
1	E	71	MET	4.9
1	E	153	TYR	4.9
1	B	229	ARG	4.9
1	D	85	TRP	4.9
1	E	283	ASP	4.9
1	F	194	SER	4.9
1	F	337	ALA	4.9
1	E	162	SER	4.9
1	D	304	CYS	4.9
1	F	10	ILE	4.9
1	E	149	PHE	4.9
1	D	211	PRO	4.9
1	F	199	LEU	4.9
1	D	204	LEU	4.8
1	F	245	HIS	4.8
1	E	2	ASN	4.8
1	D	159	LEU	4.8
1	E	231	ASN	4.8
1	E	262	PRO	4.8
1	E	72	LEU	4.8
1	F	314	ASP	4.8
1	F	2	ASN	4.8
1	F	31	ALA	4.8
1	F	306	PRO	4.8
1	E	265	LEU	4.8
1	B	18	VAL	4.8
1	F	247	VAL	4.8
1	F	287	CYS	4.8
1	F	342	ILE	4.8
1	D	94	PHE	4.7
1	E	260	LYS	4.7
1	F	11	TYR	4.7
1	E	120	ARG	4.7
1	F	385	THR	4.7
1	E	20	PRO	4.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	13	GLN	4.7
1	E	230	ASP	4.7
1	E	80	LEU	4.7
1	E	127	THR	4.7
1	E	180	ASP	4.7
1	E	330	VAL	4.7
1	E	307	GLU	4.7
1	D	49	SER	4.6
1	E	26	TYR	4.6
1	D	16	VAL	4.6
1	B	16	VAL	4.6
1	E	144	ASP	4.6
1	B	193	ILE	4.6
1	F	157	ARG	4.6
1	E	86	GLY	4.6
1	E	280[A]	SER	4.6
1	F	185	GLY	4.6
1	B	10	ILE	4.5
1	E	321	SER	4.5
1	D	101	ILE	4.5
1	E	128	SER	4.5
1	E	132	VAL	4.5
1	F	3	TRP	4.5
1	D	162	SER	4.5
1	E	279	ASP	4.5
1	D	3	TRP	4.5
1	D	125	TYR	4.5
1	D	102	ALA	4.4
1	D	362	ALA	4.4
1	F	90	ALA	4.4
1	D	280	SER	4.4
1	D	90	ALA	4.4
1	D	92	PRO	4.4
1	E	30	GLU	4.4
1	E	325	THR	4.4
1	B	226	GLU	4.4
1	E	27	ALA	4.4
1	F	16	VAL	4.4
1	E	357	GLY	4.4
1	F	66	GLY	4.4
1	D	167	ALA	4.4
1	F	263	VAL	4.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	182	TRP	4.4
1	D	382	LYS	4.4
1	D	127	THR	4.4
1	F	393	ARG	4.4
1	D	160	ALA	4.4
1	F	20	PRO	4.3
1	F	360	HIS	4.3
1	F	58	ASN	4.3
1	E	385	THR	4.3
1	E	370	ASP	4.3
1	E	163	PHE	4.3
1	D	42	LEU	4.3
1	B	17	GLY	4.3
1	F	119	ALA	4.3
1	F	8	ASN	4.3
1	E	184	PHE	4.3
1	B	237	ASP	4.3
1	D	170	ALA	4.3
1	D	158	ASP	4.3
1	D	183	ILE	4.2
1	E	186	TRP	4.2
1	D	173	ASP	4.2
1	F	295	ALA	4.2
1	F	258	ILE	4.2
1	E	96	ALA	4.2
1	D	385	THR	4.2
1	F	211	PRO	4.2
1	D	268	ILE	4.2
1	E	155	GLU	4.2
1	F	351	ALA	4.2
1	F	364	SER	4.2
1	E	21	THR	4.2
1	D	13	GLN	4.2
1	F	388	ALA	4.2
1	D	373	MET	4.2
1	E	124	PRO	4.2
1	F	135	LEU	4.2
1	E	329	VAL	4.2
1	F	329	VAL	4.2
1	D	272	ASP	4.2
1	F	356	LYS	4.2
1	B	240	HIS	4.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	D	333	LEU	4.1
1	E	62	PHE	4.1
1	D	298	GLY	4.1
1	E	311	ALA	4.1
1	F	144	ASP	4.1
1	D	37	LEU	4.1
1	E	69	PRO	4.1
1	B	15	LEU	4.1
1	F	206	ASN	4.1
1	D	19	ALA	4.1
1	E	378	TYR	4.1
1	F	18	VAL	4.1
1	E	323	ILE	4.1
1	E	304	CYS	4.1
1	F	272	ASP	4.1
1	F	110	GLY	4.1
1	E	77	GLU	4.1
1	F	293	ARG	4.1
1	E	18	VAL	4.1
1	F	367	ALA	4.1
1	E	38	PRO	4.1
1	F	320	ASP	4.1
1	A	29[A]	TRP	4.1
1	B	207	TYR	4.1
1	E	316	PRO	4.0
1	F	29	TRP	4.0
1	F	233	ARG	4.0
1	F	86	GLY	4.0
1	F	89	TRP	4.0
1	E	305	LEU	4.0
1	D	327	ALA	4.0
1	D	154	PRO	4.0
1	F	17	GLY	4.0
1	D	118	SER	4.0
1	E	11	TYR	4.0
1	F	15	LEU	4.0
1	D	353	GLY	4.0
1	D	208	VAL	4.0
1	E	287	CYS	4.0
1	D	275	ARG	4.0
1	E	270	HIS	4.0
1	D	182	TRP	4.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	211	PRO	4.0
1	F	283	ASP	4.0
1	E	136	GLU	4.0
1	F	375	VAL	4.0
1	E	353	GLY	3.9
1	F	78	ARG	3.9
1	D	282	VAL	3.9
1	F	51	ASP	3.9
1	B	190	ASP	3.9
1	E	59	VAL	3.9
1	E	293	ARG	3.9
1	E	309	VAL	3.9
1	F	169	GLU	3.9
1	E	315	THR	3.9
1	D	212	VAL	3.9
1	F	236	ALA	3.9
1	F	381	LEU	3.9
1	E	168	GLU	3.9
1	B	188	PRO	3.9
1	D	104	CYS	3.8
1	F	150	GLN	3.8
1	F	348	TRP	3.8
1	E	328	ASP	3.8
1	F	347	ALA	3.8
1	F	305	LEU	3.8
1	D	386	ILE	3.8
1	E	51	ASP	3.8
1	F	118	SER	3.8
1	E	130	LEU	3.8
1	D	17	GLY	3.8
1	E	19	ALA	3.8
1	E	147	ALA	3.8
1	F	325	THR	3.8
1	E	200	ARG	3.8
1	F	321	SER	3.8
1	F	35	GLN	3.8
1	D	286	TYR	3.8
1	D	376	ASP	3.7
1	D	27	ALA	3.7
1	F	136	GLU	3.7
1	F	382	LYS	3.7
1	E	89	TRP	3.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	F	288	SER	3.7
1	F	262	PRO	3.7
1	F	36	ALA	3.7
1	F	289	ASN	3.7
1	D	100	VAL	3.7
1	E	101	ILE	3.7
1	E	340[A]	VAL	3.7
1	E	12	GLY	3.7
1	F	48	GLY	3.7
1	F	331	LYS	3.7
1	E	349	GLY	3.7
1	F	326	GLY	3.7
1	F	338	SER	3.7
1	E	150	GLN	3.7
1	D	149	PHE	3.7
1	D	267	GLY	3.7
1	D	156	ASP	3.6
1	D	114	SER	3.6
1	F	170	ALA	3.6
1	F	280	SER	3.6
1	F	339	ALA	3.6
1	F	307	GLU	3.6
1	F	195	ASN	3.6
1	D	381	LEU	3.6
1	D	11	TYR	3.6
1	E	24	MET	3.6
1	E	360	HIS	3.6
1	E	187	ARG	3.6
1	F	14	GLY	3.6
1	E	383	GLU	3.6
1	F	7	GLU	3.6
1	E	338	SER	3.6
1	F	358	ILE	3.6
1	D	132	VAL	3.6
1	D	349	GLY	3.6
1	F	103	LEU	3.6
1	D	153	TYR	3.6
1	F	52	GLU	3.5
1	E	342	ILE	3.5
1	D	38	PRO	3.5
1	E	53	HIS	3.5
1	B	196	PHE	3.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	F	243	PHE	3.5
1	D	82	VAL	3.5
1	D	309	VAL	3.5
1	D	148	TYR	3.5
1	D	283	ASP	3.5
1	D	64	HIS	3.5
1	F	266	LYS	3.5
1	E	143	GLY	3.5
1	F	25	SER	3.5
1	E	79	ASP	3.5
1	E	193	ILE	3.5
1	E	299	LEU	3.5
1	E	66	GLY	3.5
1	E	197	PRO	3.4
1	D	270	HIS	3.4
1	E	272	ASP	3.4
1	D	138	ILE	3.4
1	F	178	THR	3.4
1	F	299	LEU	3.4
1	E	119	ALA	3.4
1	E	295	ALA	3.4
1	E	251	ASP	3.4
1	C	220	HIS	3.4
1	D	302	LEU	3.4
1	E	381	LEU	3.4
1	E	327	ALA	3.4
1	D	172	TYR	3.4
1	F	60	GLU	3.4
1	F	79	ASP	3.4
1	D	305	LEU	3.4
1	C	29[A]	TRP	3.4
1	E	64	HIS	3.4
1	F	32	HIS	3.4
1	F	297	GLY	3.3
1	F	166	ARG	3.3
1	F	21	THR	3.3
1	D	68	MET	3.3
1	D	142	ALA	3.3
1	F	34	GLN	3.3
1	D	131	ALA	3.3
1	E	314	ASP	3.3
1	F	190	ASP	3.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	F	275	ARG	3.3
1	E	90	ALA	3.3
1	E	267	GLY	3.3
1	D	365	LEU	3.3
1	E	188	PRO	3.3
1	E	198	PHE	3.3
1	D	315	THR	3.3
1	E	297	GLY	3.2
1	A	65	TRP	3.2
1	D	261	MET	3.2
1	E	15	LEU	3.2
1	D	54	THR	3.2
1	B	200	ARG	3.2
1	B	230	ASP	3.2
1	F	28	ASP	3.2
1	F	105	ALA	3.2
1	B	232	PRO	3.2
1	F	389	LEU	3.2
1	D	323	ILE	3.2
1	F	346	TYR	3.2
1	B	192	THR	3.2
1	D	96	ALA	3.2
1	D	318	LEU	3.2
1	E	379	ARG	3.2
1	F	146	PRO	3.2
1	E	40	GLY	3.2
1	E	284	GLY	3.2
1	D	276	ARG	3.2
1	D	76	THR	3.2
1	D	176	VAL	3.2
1	F	55	GLN	3.2
1	E	48	GLY	3.2
1	E	356	LYS	3.2
1	D	325	THR	3.1
1	D	321	SER	3.1
1	D	166	ARG	3.1
1	E	17	GLY	3.1
1	E	368	GLU	3.1
1	F	249	TRP	3.1
1	D	135	LEU	3.1
1	D	299	LEU	3.1
1	E	52	GLU	3.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	F	232	PRO	3.1
1	E	34	GLN	3.1
1	D	105	ALA	3.1
1	B	20	PRO	3.1
1	E	126	ILE	3.1
1	D	351	ALA	3.1
1	C	255	VAL	3.1
1	A	0	MET	3.1
1	D	80	LEU	3.1
1	D	306	PRO	3.1
1	B	323[A]	ILE	3.1
1	D	144	ASP	3.0
1	D	181	THR	3.0
1	B	25	SER	3.0
1	D	88	THR	3.0
1	E	298	GLY	3.0
1	F	322	GLY	3.0
1	D	5	ASP	3.0
1	F	116	GLN	3.0
1	B	195	ASN	3.0
1	F	292	GLY	3.0
1	D	370	ASP	3.0
1	E	73	MET	3.0
1	F	251	ASP	3.0
1	E	245	HIS	3.0
1	D	213	PHE	3.0
1	D	123	VAL	3.0
1	D	281	GLY	3.0
1	F	241	GLY	3.0
1	F	279	ASP	3.0
1	B	8	ASN	3.0
1	E	8	ASN	3.0
1	B	233	ARG	3.0
1	E	291	GLY	3.0
1	F	30	GLU	3.0
1	D	111	ASP	3.0
1	D	277	ALA	3.0
1	E	75	ALA	3.0
1	D	264	ILE	3.0
1	F	106	GLN	3.0
1	E	196	PHE	2.9
1	D	1	SER	2.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	D	31	ALA	2.9
1	D	33	ALA	2.9
1	D	313	GLY	2.9
1	D	377	GLY	2.9
1	F	132	VAL	2.9
1	D	179	LEU	2.9
1	E	1	SER	2.9
1	E	49	SER	2.9
1	D	311	ALA	2.9
1	A	1[A]	SER	2.9
1	D	338	SER	2.9
1	F	83	GLU	2.9
1	F	64	HIS	2.9
1	F	370	ASP	2.9
1	D	186	TRP	2.9
1	B	299	LEU	2.9
1	F	301	ALA	2.9
1	D	178	THR	2.8
1	E	355	SER	2.8
1	F	67	LEU	2.8
1	B	11	TYR	2.8
1	F	133	SER	2.8
1	C	223	VAL	2.8
1	B	305	LEU	2.8
1	D	369	ALA	2.8
1	F	300	PRO	2.8
1	E	99	GLY	2.8
1	E	194	SER	2.8
1	F	88	THR	2.8
1	E	375	VAL	2.8
1	D	67	LEU	2.8
1	E	300	PRO	2.8
1	A	304	CYS	2.8
1	E	108	GLY	2.8
1	E	348	TRP	2.8
1	B	219	ALA	2.8
1	E	292	GLY	2.8
1	F	313	GLY	2.8
1	F	121	THR	2.8
1	F	344	ARG	2.8
1	B	35	GLN	2.8
1	E	306	PRO	2.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	D	150	GLN	2.7
1	F	56	ARG	2.7
1	B	351	ALA	2.7
1	E	322	GLY	2.7
1	B	389	LEU	2.7
1	E	32	HIS	2.7
1	F	62	PHE	2.7
1	D	352	LEU	2.7
1	F	191	LEU	2.7
1	F	71	MET	2.7
1	B	212	VAL	2.7
1	F	82	VAL	2.7
1	B	302	LEU	2.7
1	B	384	LEU	2.7
1	D	206	ASN	2.7
1	E	296	ASN	2.7
1	E	303	ASP	2.7
1	B	67	LEU	2.7
1	B	189	ARG	2.7
1	D	140	LYS	2.7
1	A	322	GLY	2.7
1	D	262	PRO	2.6
1	D	316	PRO	2.6
1	E	376	ASP	2.6
1	D	147	ALA	2.6
1	F	61	ALA	2.6
1	F	53	HIS	2.6
1	D	45	VAL	2.6
1	E	67	LEU	2.6
1	D	113	ALA	2.6
1	D	53	HIS	2.6
1	B	322	GLY	2.6
1	D	66	GLY	2.6
1	D	161	GLU	2.6
1	B	353	GLY	2.6
1	E	242	LEU	2.6
1	E	154	PRO	2.6
1	D	136	GLU	2.6
1	F	168	GLU	2.6
1	D	32	HIS	2.6
1	D	379	ARG	2.6
1	E	331	LYS	2.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	D	350	ALA	2.6
1	F	33	ALA	2.6
1	F	324	ARG	2.6
1	B	199	LEU	2.6
1	D	175	LEU	2.6
1	E	92	PRO	2.6
1	D	361	VAL	2.6
1	F	387	ASP	2.6
1	D	61	ALA	2.6
1	D	354	GLY	2.6
1	E	388	ALA	2.6
1	A	203	CYS	2.5
1	D	103	LEU	2.5
1	D	210	ASP	2.5
1	D	171	GLY	2.5
1	E	386	ILE	2.5
1	D	384	LEU	2.5
1	E	33	ALA	2.5
1	E	57	ALA	2.5
1	E	285	ILE	2.5
1	D	28	ASP	2.5
1	A	45	VAL	2.5
1	D	335	MET	2.5
1	F	41	VAL	2.5
1	B	203	CYS	2.5
1	F	96	ALA	2.5
1	E	269	GLN	2.5
1	D	141	HIS	2.5
1	E	39	PRO	2.5
1	E	14	GLY	2.5
1	D	77	GLU	2.5
1	F	134	SER	2.5
1	D	29	TRP	2.5
1	D	39	PRO	2.5
1	D	290	HIS	2.5
1	B	13	GLN	2.5
1	D	383	GLU	2.4
1	A	229	ARG	2.4
1	E	9	GLU	2.4
1	E	371	LEU	2.4
1	B	325	THR	2.4
1	E	181	THR	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	44	TYR	2.4
1	E	387	ASP	2.4
1	E	352	LEU	2.4
1	F	336	GLY	2.4
1	F	296	ASN	2.4
1	B	335	MET	2.4
1	D	12	GLY	2.4
1	F	341	GLY	2.4
1	D	51	ASP	2.4
1	D	112	ALA	2.4
1	B	309	VAL	2.4
1	E	148	TYR	2.4
1	F	354	GLY	2.4
1	A	388	ALA	2.4
1	B	300	PRO	2.4
1	A	392	THR	2.4
1	B	243	PHE	2.4
1	E	326	GLY	2.3
1	B	186	TRP	2.3
1	B	242	LEU	2.3
1	E	68	MET	2.3
1	B	102	ALA	2.3
1	F	359	GLU	2.3
1	A	305	LEU	2.3
1	B	202	LEU	2.3
1	B	235	ALA	2.3
1	E	131	ALA	2.3
1	E	374	ALA	2.3
1	B	205	THR	2.3
1	B	224	GLU	2.3
1	D	185	GLY	2.3
1	E	106	GLN	2.3
1	D	320	ASP	2.3
1	F	5	ASP	2.3
1	B	54	THR	2.3
1	B	221	SER	2.3
1	B	65	TRP	2.3
1	A	309	VAL	2.3
1	B	223	VAL	2.3
1	E	391	PRO	2.3
1	F	273	ASP	2.3
1	B	350	ALA	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	D	312	SER	2.3
1	A	42	LEU	2.2
1	D	129	THR	2.2
1	D	375	VAL	2.2
1	E	169	GLU	2.2
1	A	61	ALA	2.2
1	D	117	ALA	2.2
1	D	336	GLY	2.2
1	C	260	LYS	2.2
1	E	123	VAL	2.2
1	A	193	ILE	2.2
1	E	393	ARG	2.2
1	A	375	VAL	2.2
1	A	62	PHE	2.2
1	E	341	GLY	2.2
1	B	19	ALA	2.2
1	D	392	THR	2.2
1	E	301	ALA	2.2
1	A	371	LEU	2.2
1	A	389	LEU	2.2
1	C	37	LEU	2.2
1	D	106	GLN	2.2
1	F	391	PRO	2.2
1	D	303	ASP	2.2
1	D	388	ALA	2.2
1	F	101	ILE	2.2
1	B	306	PRO	2.2
1	D	145	THR	2.2
1	A	10	ILE	2.2
1	A	98	ILE	2.2
1	A	384	LEU	2.2
1	E	5	ASP	2.2
1	E	289	ASN	2.1
1	A	329	VAL	2.1
1	C	204	LEU	2.1
1	D	389	LEU	2.1
1	C	353	GLY	2.1
1	F	77	GLU	2.1
1	D	372	ILE	2.1
1	A	300	PRO	2.1
1	E	70	ARG	2.1
1	D	169	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	317	VAL	2.1
1	E	63	LYS	2.1
1	D	62	PHE	2.1
1	E	58	ASN	2.1
1	E	343	GLY	2.1
1	D	287	CYS	2.1
1	E	266	LYS	2.1
1	F	390	ARG	2.1
1	B	14	GLY	2.1
1	C	227	GLY	2.1
1	B	169	GLU	2.1
1	A	348	TRP	2.1
1	E	324	ARG	2.1
1	C	59	VAL	2.1
1	E	47	GLY	2.1
1	C	84	LEU	2.1
1	E	359	GLU	2.1
1	D	24[A]	MET	2.1
1	D	2	ASN	2.1
1	E	46	ALA	2.1
1	E	174	GLY	2.1
1	D	34	GLN	2.0
1	E	273	ASP	2.0
1	B	191	LEU	2.0
1	F	261	MET	2.0
1	E	60	GLU	2.0
1	F	328	ASP	2.0
1	F	63	LYS	2.0
1	B	371	LEU	2.0
1	C	302	LEU	2.0
1	D	205	THR	2.0
1	D	288	SER	2.0
1	D	189	ARG	2.0
1	E	157	ARG	2.0
1	D	310	LYS	2.0
1	A	196	PHE	2.0
1	A	299	LEU	2.0
1	F	374	ALA	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 [i](#)

There are no carbohydrates in this entry.

### 6.4 Ligands [i](#)

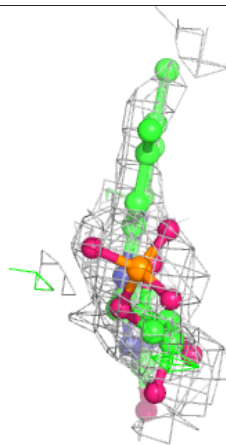
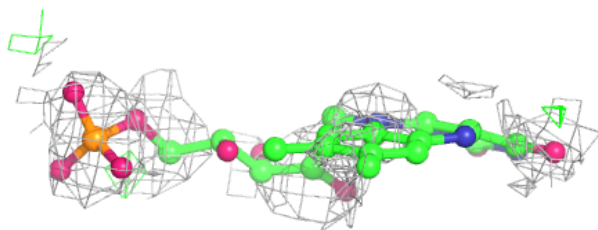
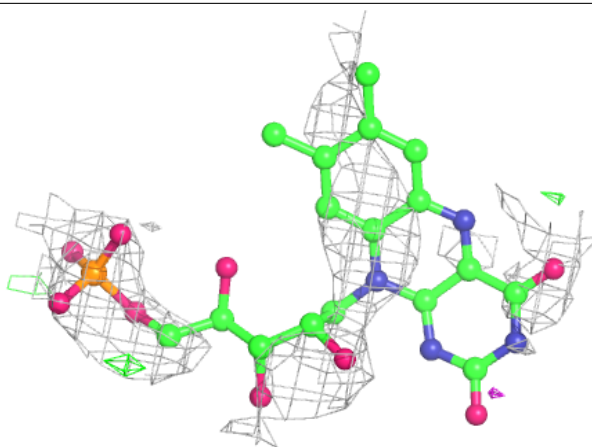
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 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	FMN	E	401	31/31	0.48	0.48	65,86,106,116	31
3	SO4	F	402	5/5	0.61	0.50	83,86,113,120	5
3	SO4	E	402	5/5	0.68	0.39	110,112,131,140	5
2	FMN	F	401	31/31	0.68	0.32	68,92,102,107	31
3	SO4	B	404	5/5	0.73	0.44	53,61,74,83	5
3	SO4	B	406	5/5	0.74	0.17	44,45,52,73	0
3	SO4	C	405	5/5	0.74	0.29	32,43,47,64	5
2	FMN	D	401	31/31	0.77	0.24	26,42,52,57	0
3	SO4	A	404[A]	5/5	0.81	0.36	30,33,62,68	5
3	SO4	E	403	5/5	0.85	0.21	85,89,116,119	5
2	FMN	A	401	31/31	0.91	0.21	9,15,21,22	0
2	FMN	B	401	31/31	0.91	0.20	12,22,29,35	0
2	FMN	C	401	31/31	0.92	0.18	16,24,32,34	0
3	SO4	F	403	5/5	0.92	0.17	48,65,69,74	5
3	SO4	A	405	5/5	0.93	0.19	60,62,64,74	5
3	SO4	D	403	5/5	0.94	0.14	39,54,69,72	0
3	SO4	B	405	5/5	0.94	0.15	94,98,110,115	0
3	SO4	C	404	5/5	0.96	0.20	52,55,60,70	0
3	SO4	D	402	5/5	0.97	0.23	45,47,52,56	0
3	SO4	A	402	5/5	0.98	0.18	28,33,40,40	0
3	SO4	A	403	5/5	0.99	0.20	24,25,27,27	0
3	SO4	C	402	5/5	0.99	0.21	27,32,39,53	0
3	SO4	B	402	5/5	0.99	0.17	33,40,47,49	0
3	SO4	C	403	5/5	0.99	0.17	33,34,50,51	0
3	SO4	B	403	5/5	0.99	0.18	29,33,38,39	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.

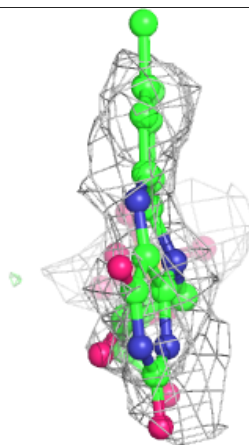
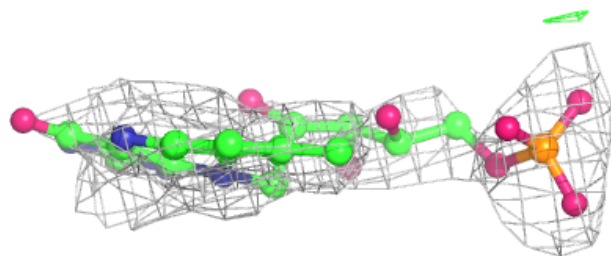
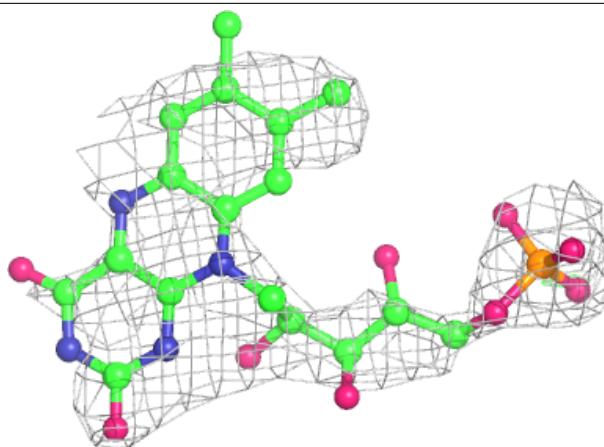
**Electron density around FMN E 401:**

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



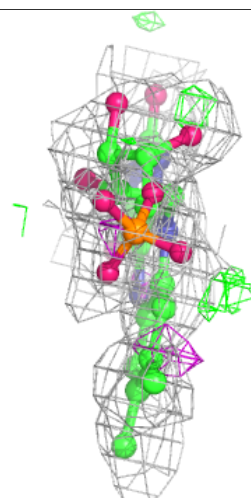
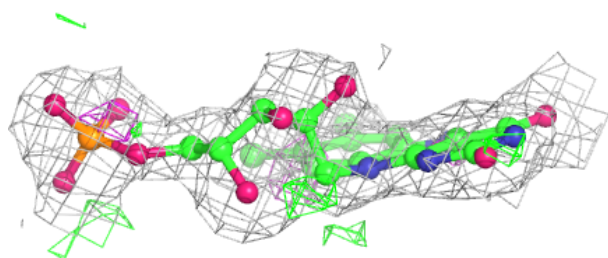
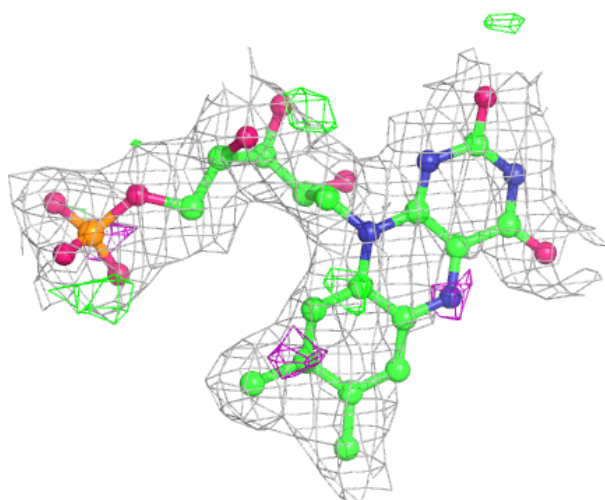
**Electron density around FMN F 401:**

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



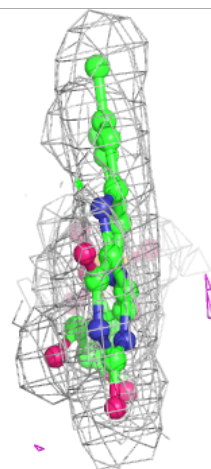
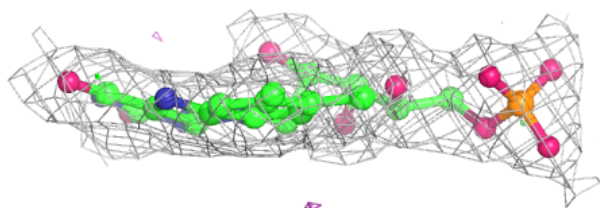
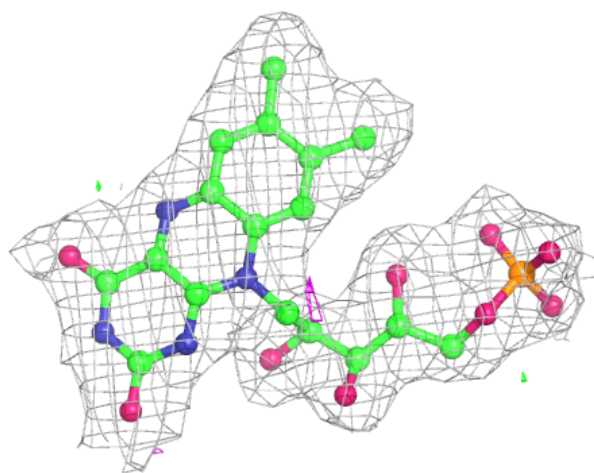
**Electron density around FMN D 401:**

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



**Electron density around FMN A 401:**

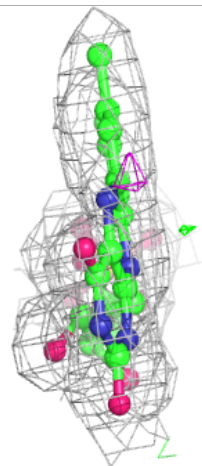
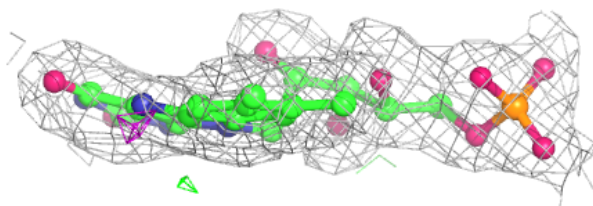
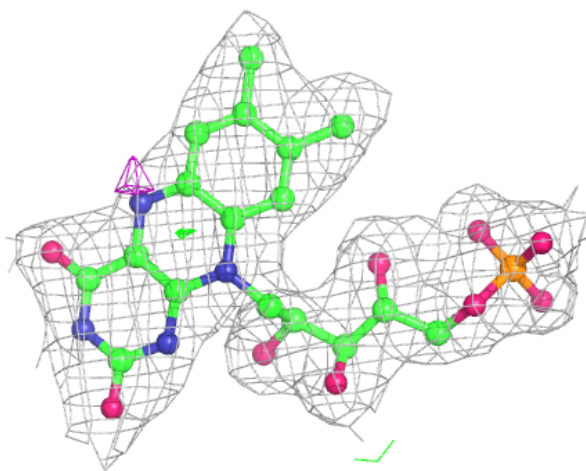
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

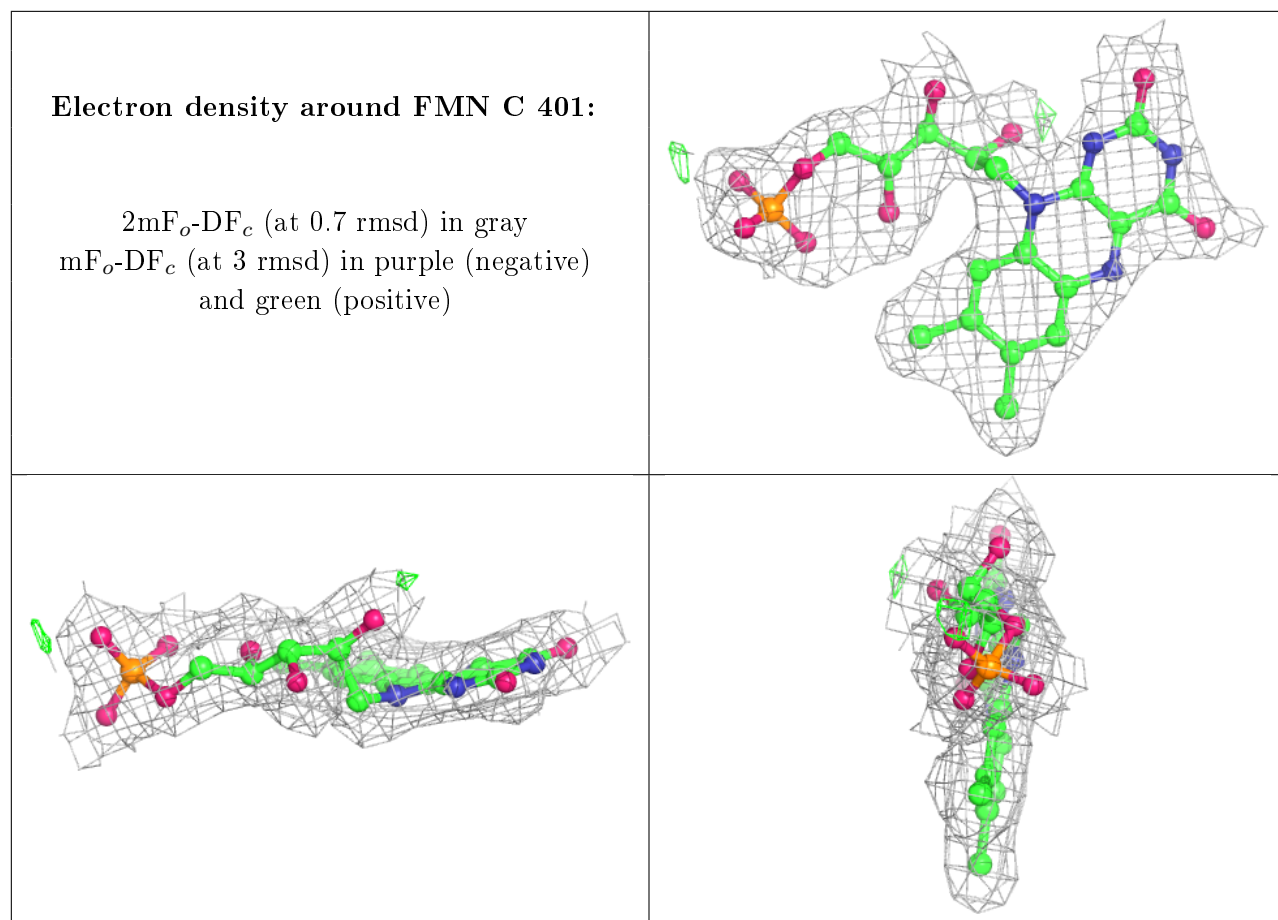




**Electron density around FMN B 401:**

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





## 6.5 Other polymers [i](#)

There are no such residues in this entry.