



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 18, 2026 – 08:03 AM UTC

PDB ID : 5NC5 / pdb_00005nc5
Title : Crystal structure of AcrBZ in complex with antibiotic puromycin
Authors : Du, D.; Luisi, B.
Deposited on : 2017-03-03
Resolution : 3.20 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

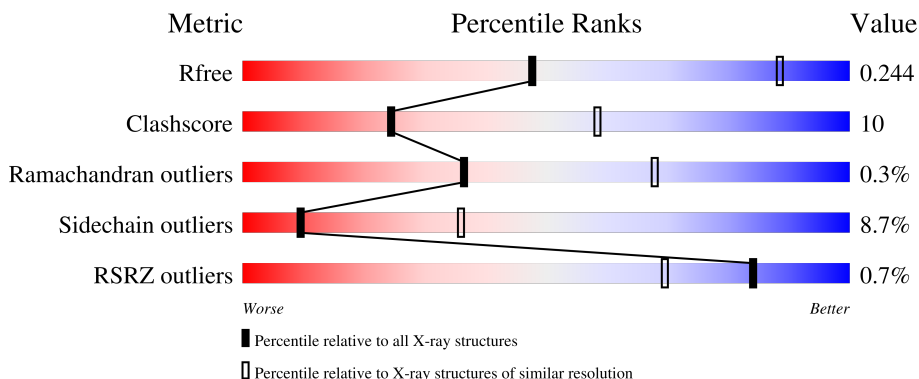
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.20 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}	180053	1466 (3.20-3.20)
Clashscore	190562	1573 (3.20-3.20)
Ramachandran outliers	187476	1548 (3.20-3.20)
Sidechain outliers	187428	1547 (3.20-3.20)
RSRZ outliers	180081	1466 (3.20-3.20)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	1049	 77% 21% .
1	B	1049	 69% 25% . .
1	C	1049	 72% 24% . .
2	D	169	 75% 15% . 8%
2	E	169	 67% 22% . 10%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
3	F	49	<p>6% 35% 33% 8% 24%</p>
3	G	49	<p>2% 29% 37% 6% 27%</p>
3	H	49	<p>2% 37% 33% 6% 24%</p>

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:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
8	PUY	B	1120	-	-	-	X

2 Entry composition [i](#)

There are 10 unique types of molecules in this entry. The entry contains 55690 atoms, of which 28293 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 Multidrug efflux pump subunit AcrB.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
1	A	1044	15927	5086	8019	1308	1470	44	0	0	0
1	B	1033	15835	5049	7990	1294	1458	44	0	0	0
1	C	1033	15835	5049	7990	1294	1458	44	0	0	0

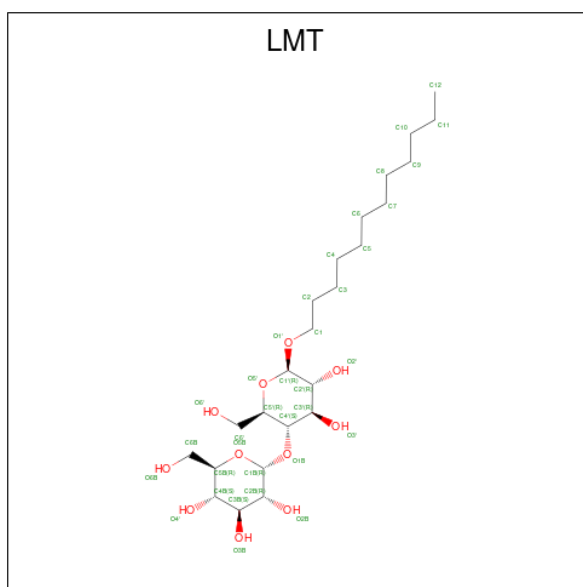
- Molecule 2 is a protein called DARPin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
2	D	156	2336	741	1159	206	229	1	0	0	0
2	E	152	2287	726	1136	202	222	1	0	0	0

- Molecule 3 is a protein called Multidrug efflux pump accessory protein AcrZ.

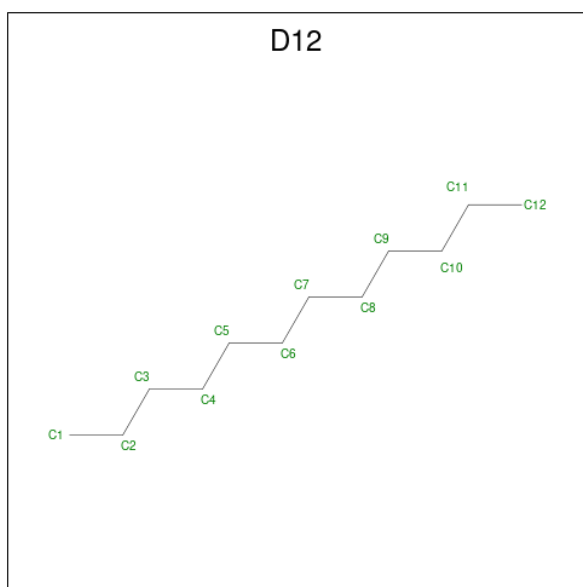
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
3	F	37	601	196	318	39	45	3	0	0	0
3	G	36	590	193	313	38	43	3	0	0	0
3	H	37	601	196	318	39	45	3	0	0	0

- Molecule 4 is DODECYL-BETA-D-MALTOSE (CCD ID: LMT) (formula: C₂₄H₄₆O₁₁).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	
4	A	1	Total	C	H	O	0	0
			59	18	35	6		
4	A	1	Total	C	H		0	0
			35	12	23			
4	A	1	Total	C	H		0	0
			35	12	23			

- Molecule 5 is DODECANE (CCD ID: D12) (formula: C₁₂H₂₆).



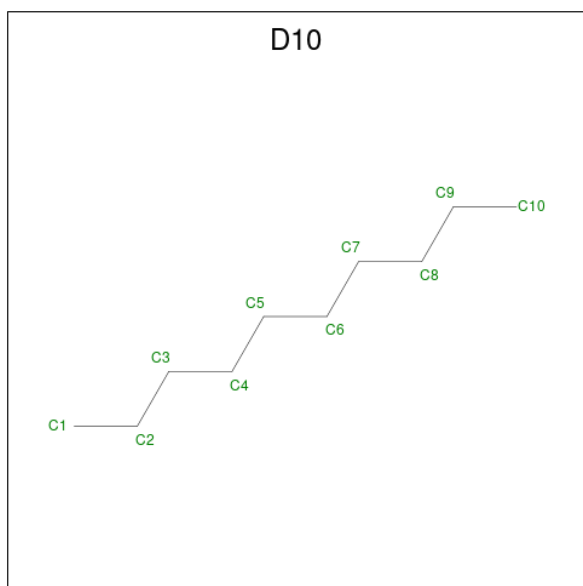
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	
5	A	1	Total	C	H		0	0
			38	12	26			

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total	C	H	0	0
			38	12	26		
5	B	1	Total	C	H	0	0
			28	9	19		
5	B	1	Total	C	H	0	0
			34	11	23		
5	C	1	Total	C	H	0	0
			38	12	26		
5	C	1	Total	C	H	0	0
			38	12	26		
5	C	1	Total	C	H	0	0
			38	12	26		
5	C	1	Total	C	H	0	0
			16	5	11		

- Molecule 6 is DECANE (CCD ID: D10) (formula: $C_{10}H_{22}$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total	C	H	0	0
			32	10	22		
6	A	1	Total	C	H	0	0
			32	10	22		
6	A	1	Total	C	H	0	0
			32	10	22		
6	A	1	Total	C	H	0	0
			32	10	22		

Continued on next page...

Continued from previous page...

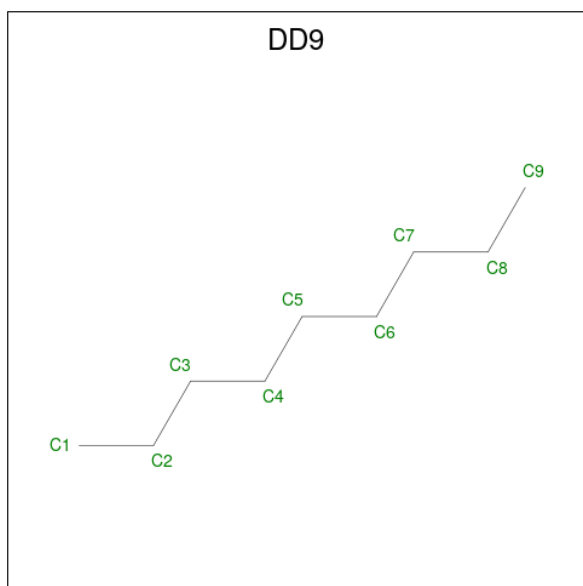
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0
6	C	1	Total 32	C 10	H 22	0	0
6	C	1	Total 32	C 10	H 22	0	0
6	C	1	Total 32	C 10	H 22	0	0
6	C	1	Total 32	C 10	H 22	0	0
6	C	1	Total 32	C 10	H 22	0	0
6	C	1	Total 32	C 10	H 22	0	0
6	C	1	Total 32	C 10	H 22	0	0
6	C	1	Total 32	C 10	H 22	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	C	1	Total	C	H	0	0
			32	10	22		

- Molecule 7 is nonane (CCD ID: DD9) (formula: C₉H₂₀).



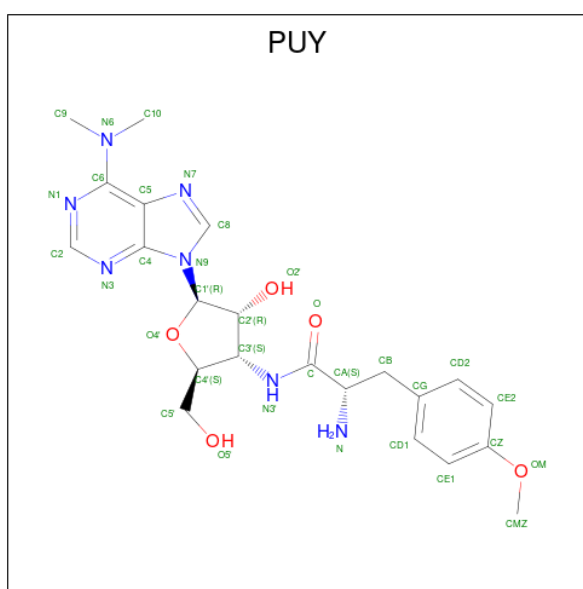
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	A	1	Total	C	H	0	0
			28	9	19		
7	A	1	Total	C	H	0	0
			16	5	11		
7	A	1	Total	C	H	0	0
			22	7	15		
7	A	1	Total	C	H	0	0
			28	9	19		
7	B	1	Total	C	H	0	0
			16	5	11		
7	B	1	Total	C	H	0	0
			17	7	10		
7	B	1	Total	C	H	0	0
			19	6	13		
7	B	1	Total	C	H	0	0
			25	9	16		
7	B	1	Total	C	H	0	0
			22	7	15		
7	B	1	Total	C	H	0	0
			19	6	13		

Continued on next page...

Continued from previous page...

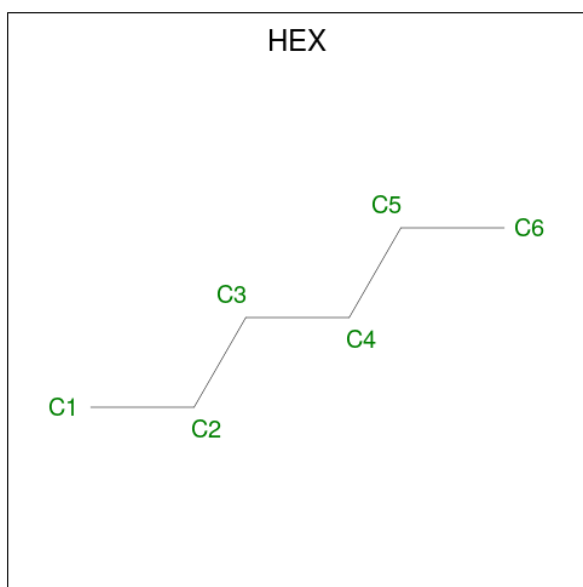
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	B	1	Total	C	H	0	0
			28	9	19		
7	C	1	Total	C	H	0	0
			13	4	9		
7	C	1	Total	C	H	0	0
			19	6	13		
7	C	1	Total	C	H	0	0
			25	8	17		

- Molecule 8 is PUROMYCIN (CCD ID: PUY) (formula: C₂₂H₂₉N₇O₅).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
8	B	1	Total	C	N	O	0	0
			34	22	7	5		

- Molecule 9 is HEXANE (CCD ID: HEX) (formula: C₆H₁₄).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
9	C	1	Total	C	H	0	0
			20	6	14		

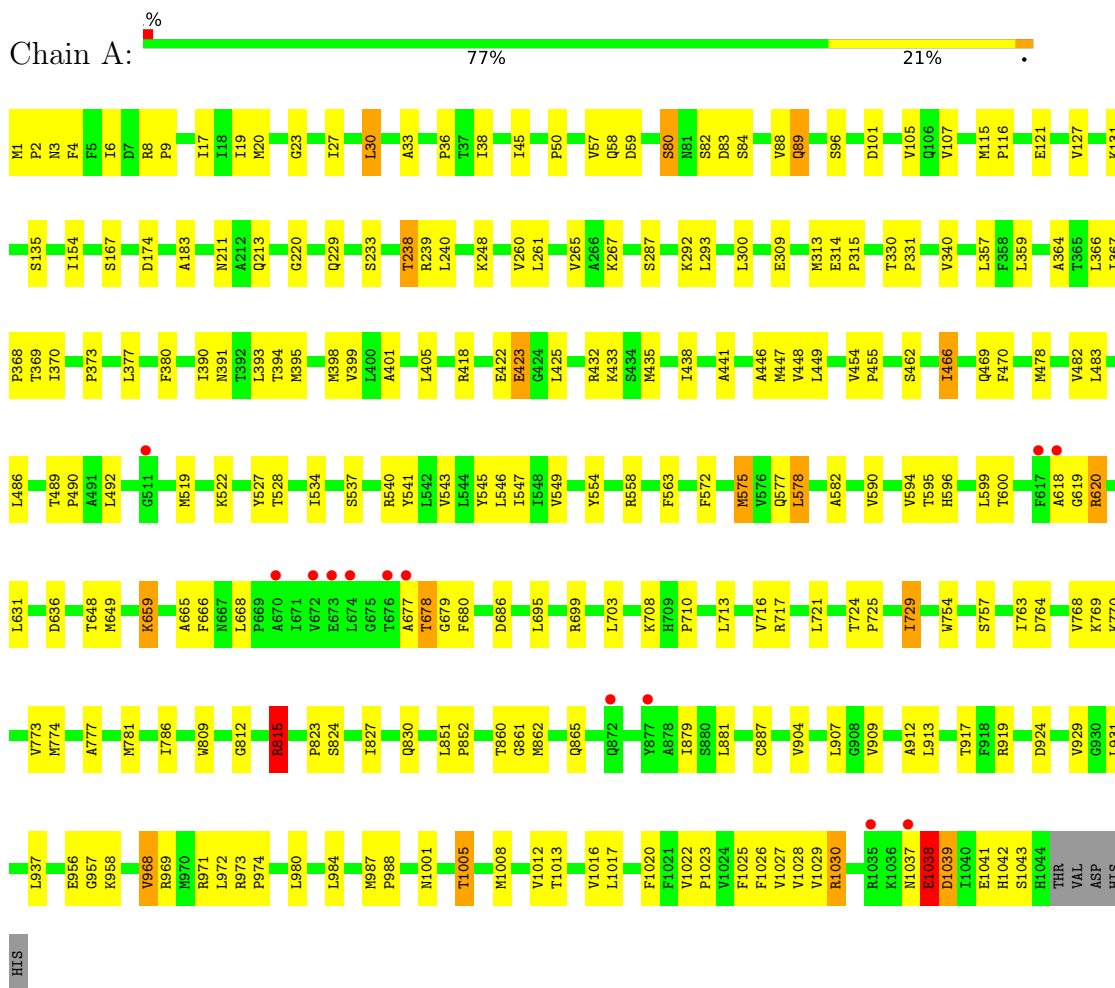
- Molecule 10 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
10	A	50	Total	O	0	0
			50	50		
10	B	26	Total	O	0	0
			26	26		
10	C	21	Total	O	0	0
			21	21		
10	D	1	Total	O	0	0
			1	1		

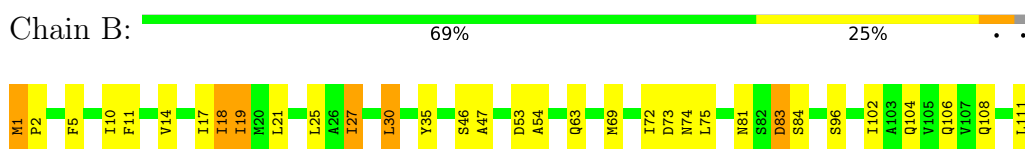
3 Residue-property plots

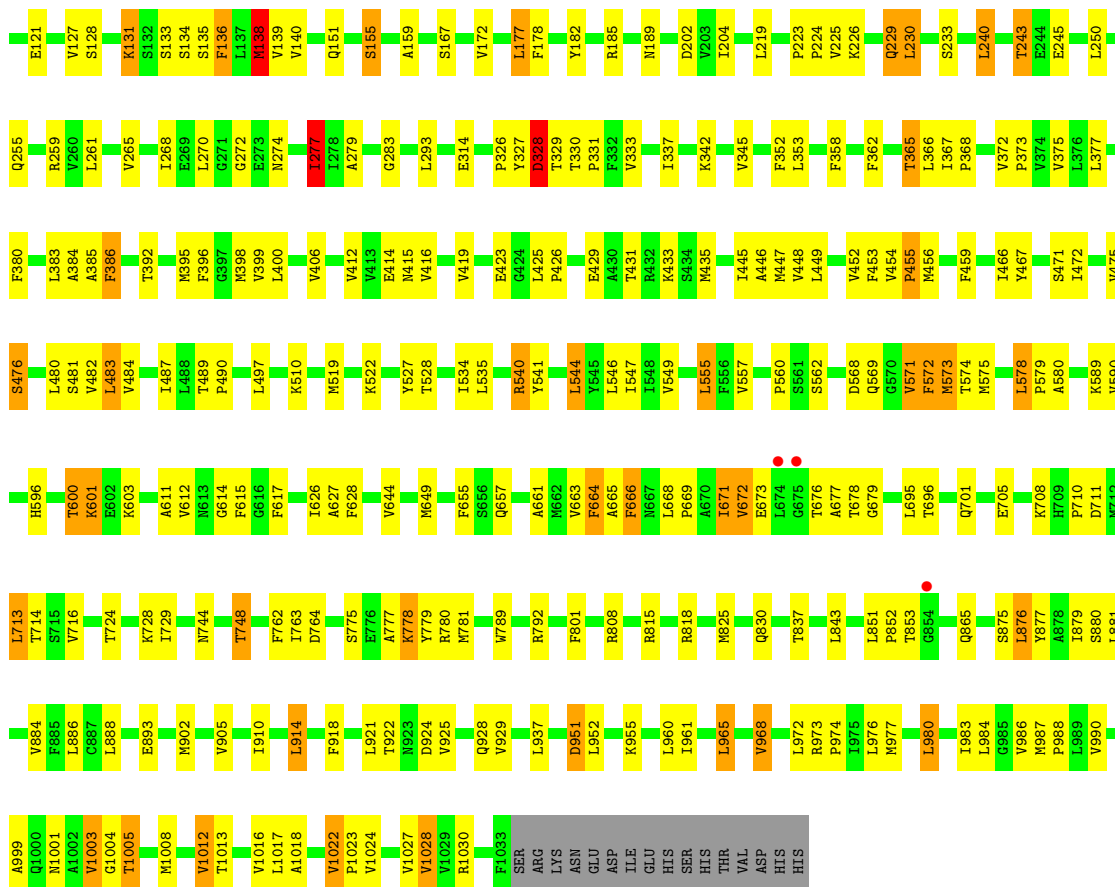
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: Multidrug efflux pump subunit AcrB

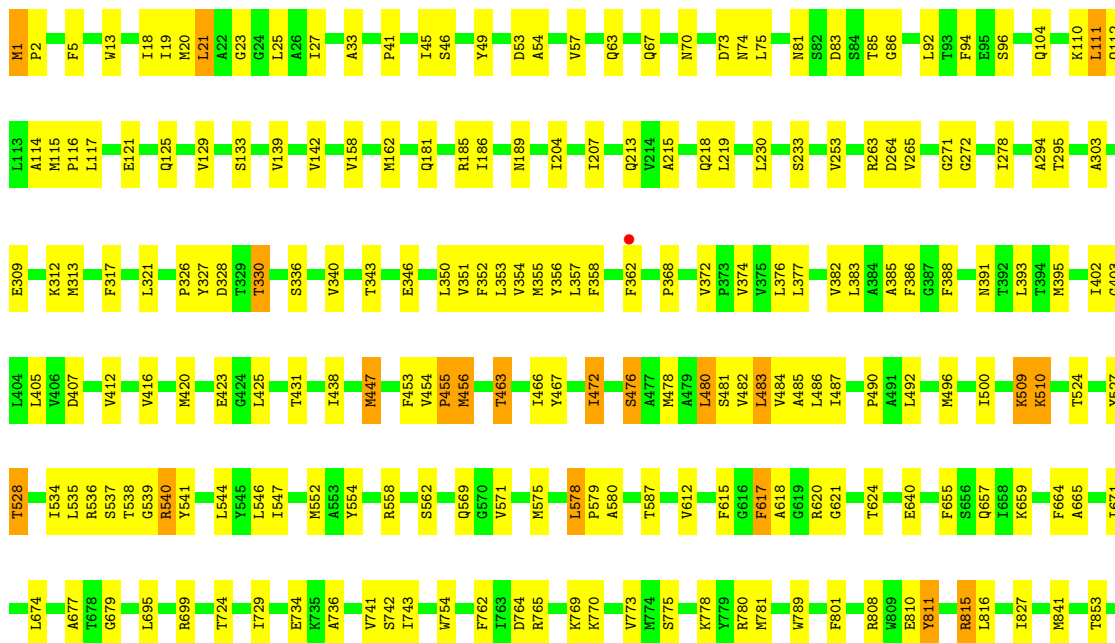


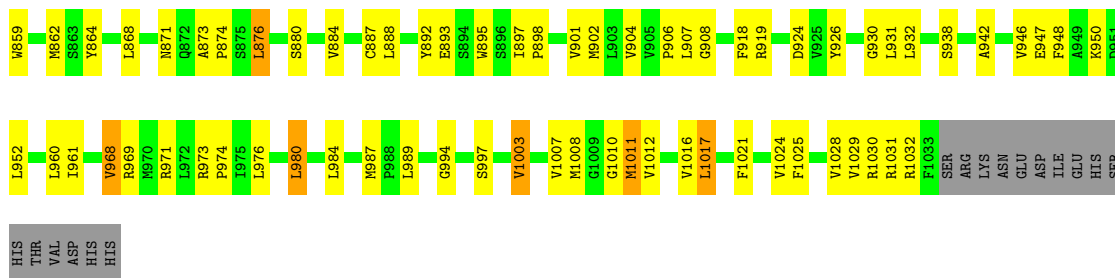
- Molecule 1: Multidrug efflux pump subunit AcrB



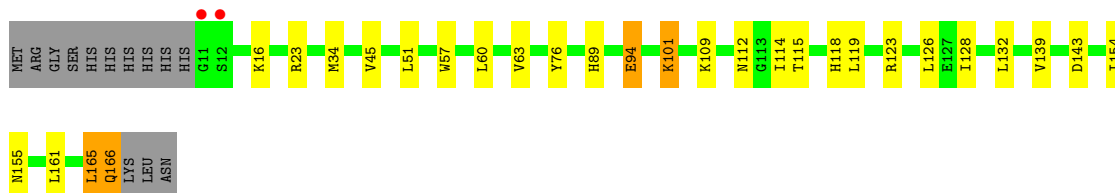
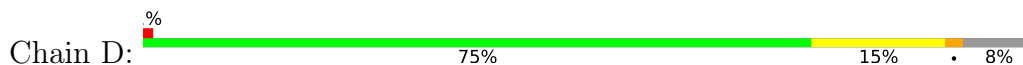


• Molecule 1: Multidrug efflux pump subunit AcrB

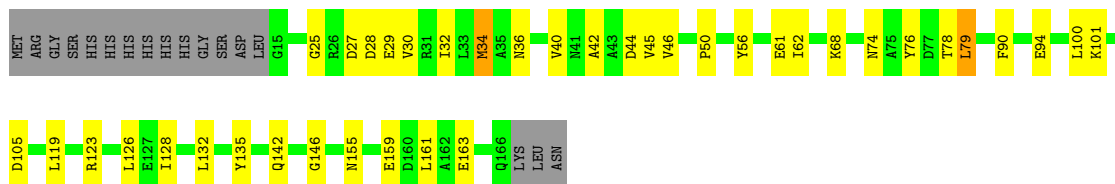




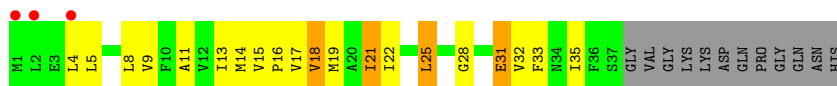
• Molecule 2: DARPin



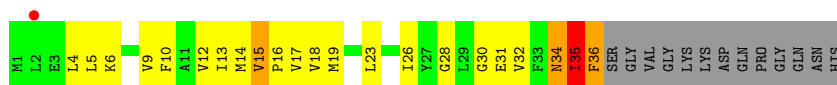
• Molecule 2: DARPin



• Molecule 3: Multidrug efflux pump accessory protein AcrZ

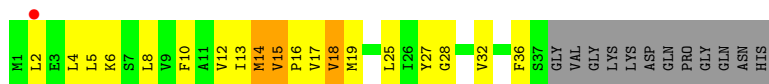


• Molecule 3: Multidrug efflux pump accessory protein AcrZ



• Molecule 3: Multidrug efflux pump accessory protein AcrZ





4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	147.25Å 167.65Å 249.98Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.93 – 3.20 34.93 – 3.20	Depositor EDS
% Data completeness (in resolution range)	92.0 (34.93-3.20) 91.9 (34.93-3.20)	Depositor EDS
R_{merge}	0.17	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.65 (at 3.18Å)	Xtrriage
Refinement program	PHENIX (1.10.1_2155: ???)	Depositor
R, R_{free}	0.183 , 0.245 0.186 , 0.244	Depositor DCC
R_{free} test set	4696 reflections (4.58%)	wwPDB-VP
Wilson B-factor (Å ²)	67.6	Xtrriage
Anisotropy	0.017	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 57.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.44$, $\langle L^2 \rangle = 0.26$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	55690	wwPDB-VP
Average B, all atoms (Å ²)	68.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.18% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: D12, PUY, LMT, D10, DD9, HEX

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	0.87	1/8060 (0.0%)	0.97	5/10947 (0.0%)
1	B	0.95	24/7995 (0.3%)	1.09	46/10859 (0.4%)
1	C	0.93	0/7995	1.30	30/10859 (0.3%)
2	D	0.84	0/1196	1.15	3/1626 (0.2%)
2	E	0.77	0/1170	0.89	0/1591
3	F	0.82	0/287	0.95	0/388
3	G	0.78	0/281	1.40	2/380 (0.5%)
3	H	0.84	0/287	1.42	3/388 (0.8%)
All	All	0.90	25/27271 (0.1%)	1.12	89/37038 (0.2%)

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	B	0	4
1	C	0	5
All	All	0	10

All (25) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	139	VAL	C-O	-10.57	1.12	1.24
1	B	136	PHE	C-O	-10.16	1.11	1.24
1	B	283	GLY	C-N	-9.02	1.14	1.33
1	B	277	ILE	C-N	8.79	1.44	1.33
1	B	664	PHE	C-O	-8.23	1.13	1.24
1	B	327	TYR	C-O	-7.60	1.14	1.24
1	B	615	PHE	C-N	6.81	1.41	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	612	VAL	C-O	-6.73	1.14	1.23
1	B	617	PHE	CA-CB	6.51	1.63	1.53
1	B	615	PHE	C-O	-6.11	1.16	1.24
1	B	666	PHE	C-O	-6.06	1.16	1.23
1	A	812	GLY	C-N	5.91	1.45	1.33
1	B	277	ILE	CA-CB	5.83	1.60	1.53
1	B	571	VAL	C-O	-5.70	1.17	1.23
1	B	573	MET	C-N	5.52	1.41	1.33
1	B	279	ALA	C-O	-5.50	1.17	1.24
1	B	672	VAL	C-N	5.49	1.41	1.33
1	B	628	PHE	C-O	-5.49	1.17	1.23
1	B	951	ASP	CB-CG	5.45	1.65	1.52
1	B	177	LEU	C-N	5.35	1.39	1.33
1	B	139	VAL	C-N	5.19	1.40	1.33
1	B	329	THR	C-O	-5.18	1.17	1.24
1	B	611	ALA	C-N	5.09	1.40	1.33
1	B	669	PRO	C-O	-5.08	1.17	1.23
1	B	615	PHE	CA-CB	5.01	1.60	1.53

All (89) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	509	LYS	N-CA-C	-12.64	91.78	110.48
1	B	615	PHE	CA-C-N	9.89	131.27	122.47
1	B	615	PHE	C-N-CA	9.89	131.27	122.47
1	B	139	VAL	CA-C-O	-9.56	109.47	120.66
1	B	277	ILE	CA-C-O	-9.50	109.16	120.75
1	C	617	PHE	N-CA-C	-8.61	96.63	110.32
1	C	932	LEU	N-CA-C	-8.56	103.35	113.88
1	B	669	PRO	CA-C-O	-8.06	112.15	121.34
1	B	328	ASP	O-C-N	-7.99	116.15	123.50
1	C	509	LYS	O-C-N	-7.79	114.15	122.96
1	B	572	PHE	O-C-N	-7.38	114.83	123.25
1	C	312	LYS	CA-CB-CG	7.20	128.49	114.10
1	A	1043	SER	N-CA-C	7.04	119.93	110.35
1	B	133	SER	O-C-N	-7.01	115.49	123.48
1	B	177	LEU	O-C-N	-7.00	114.85	123.04
1	B	615	PHE	CA-C-O	-6.88	113.10	120.46
1	C	665	ALA	N-CA-C	-6.85	99.06	109.95
1	B	138	MET	O-C-N	-6.74	116.21	123.42
1	B	612	VAL	CA-C-N	6.71	131.10	121.50
1	B	612	VAL	C-N-CA	6.71	131.10	121.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	665	ALA	O-C-N	-6.65	115.44	122.96
1	B	279	ALA	CA-C-N	6.65	133.25	122.81
1	B	279	ALA	C-N-CA	6.65	133.25	122.81
1	C	1032	ARG	CD-NE-CZ	6.64	133.70	124.40
1	B	628	PHE	CA-C-N	6.58	130.87	122.37
1	B	628	PHE	C-N-CA	6.58	130.87	122.37
3	H	14	MET	CA-CB-CG	-6.37	101.36	114.10
1	C	815	ARG	CG-CD-NE	-6.34	98.05	112.00
1	B	663	VAL	O-C-N	-6.34	116.59	123.18
1	B	139	VAL	CA-C-N	6.32	130.27	122.37
1	B	139	VAL	C-N-CA	6.32	130.27	122.37
1	C	664	PHE	CB-CA-C	-6.30	99.58	109.72
1	B	136	PHE	O-C-N	-6.23	116.12	123.22
1	C	85	THR	N-CA-C	-6.04	105.57	113.17
1	B	277	ILE	CB-CA-C	-5.99	103.65	111.25
2	D	101	LYS	CD-CE-NZ	5.86	130.66	111.90
1	B	327	TYR	CA-C-N	5.85	129.98	121.26
1	B	327	TYR	C-N-CA	5.85	129.98	121.26
1	B	627	ALA	CA-C-N	5.82	130.94	122.85
1	B	627	ALA	C-N-CA	5.82	130.94	122.85
1	C	213	GLN	N-CA-C	-5.81	98.81	108.34
3	H	2	LEU	N-CA-C	-5.76	105.14	111.82
1	C	509	LYS	CA-C-N	5.76	132.06	121.70
1	C	509	LYS	C-N-CA	5.76	132.06	121.70
1	C	509	LYS	CA-C-O	-5.75	114.85	121.47
3	G	15	VAL	CG1-CB-CG2	-5.72	98.22	110.80
1	A	1038	GLU	N-CA-C	5.71	117.58	111.36
1	B	664	PHE	CA-C-N	5.64	130.75	121.39
1	B	664	PHE	C-N-CA	5.64	130.75	121.39
1	B	611	ALA	O-C-N	-5.63	116.18	122.93
1	C	346	GLU	N-CA-CB	5.63	118.39	110.12
1	B	666	PHE	O-C-N	-5.60	116.77	123.27
1	C	853	THR	CB-CA-C	5.58	118.69	109.70
1	B	327	TYR	O-C-N	-5.54	116.71	123.30
1	B	178	PHE	CA-C-N	5.51	128.05	120.72
1	B	178	PHE	C-N-CA	5.51	128.05	120.72
1	C	679	GLY	N-CA-C	5.48	126.18	113.18
1	B	818	ARG	NE-CZ-NH2	5.47	124.12	119.20
1	B	627	ALA	O-C-N	-5.46	116.99	123.22
1	A	466	ILE	CG1-CB-CG2	-5.33	94.72	110.70
1	A	815	ARG	CB-CA-C	-5.30	104.15	110.94
1	C	815	ARG	NE-CZ-NH1	-5.29	116.21	121.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	877	TYR	N-CA-C	-5.26	105.60	112.23
1	B	614	GLY	O-C-N	-5.22	116.92	122.56
1	C	472	ILE	CG1-CB-CG2	-5.21	95.06	110.70
1	B	666	PHE	CA-C-N	5.20	130.44	120.97
1	B	666	PHE	C-N-CA	5.20	130.44	120.97
1	C	765	ARG	CG-CD-NE	-5.18	100.60	112.00
1	C	133	SER	N-CA-CB	5.16	119.39	111.24
1	B	178	PHE	N-CA-C	-5.16	104.39	111.81
1	C	620	ARG	N-CA-C	-5.15	102.39	110.17
1	C	278	ILE	N-CA-C	5.15	115.27	107.75
3	G	34	ASN	N-CA-C	-5.14	105.59	111.14
2	D	165	LEU	CA-C-N	5.13	130.94	121.70
2	D	165	LEU	C-N-CA	5.13	130.94	121.70
1	C	204	ILE	CG1-CB-CG2	-5.11	95.37	110.70
3	H	15	VAL	CG1-CB-CG2	-5.11	99.56	110.80
1	C	447	MET	N-CA-C	5.09	116.52	111.07
1	C	463	THR	N-CA-CB	-5.09	102.63	110.16
1	A	19	ILE	CG1-CB-CG2	-5.08	95.46	110.70
1	C	496	MET	CA-CB-CG	5.06	124.22	114.10
1	B	571	VAL	CA-C-N	5.05	130.49	121.75
1	B	571	VAL	C-N-CA	5.05	130.49	121.75
1	B	612	VAL	CA-C-O	-5.05	114.96	120.97
1	B	671	ILE	CA-C-N	5.04	128.44	120.47
1	B	671	ILE	C-N-CA	5.04	128.44	120.47
1	C	213	GLN	CB-CA-C	5.03	118.18	110.14
1	C	215	ALA	N-CA-C	-5.02	102.43	109.96
1	C	816	LEU	CD1-CG-CD2	5.00	121.81	110.80

There are no chirality outliers.

All (10) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1037	ASN	Peptide
1	B	138	MET	Mainchain
1	B	326	PRO	Mainchain
1	B	328	ASP	Mainchain
1	B	572	PHE	Mainchain
1	C	218	GLN	Sidechain
1	C	264	ASP	Sidechain
1	C	271	GLY	Mainchain
1	C	385	ALA	Mainchain
1	C	902	MET	Mainchain

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	7908	8019	8019	151	0
1	B	7845	7990	7990	171	0
1	C	7845	7990	7990	162	0
2	D	1177	1159	1159	15	0
2	E	1151	1136	1136	21	0
3	F	283	318	318	18	0
3	G	277	313	313	21	0
3	H	283	318	318	19	0
4	A	48	81	81	3	0
5	A	24	52	52	1	0
5	B	20	42	38	1	0
5	C	41	89	87	0	0
6	A	50	110	110	2	0
6	B	120	264	264	3	0
6	C	90	198	198	1	0
7	A	30	64	62	2	0
7	B	49	97	97	3	0
7	C	18	39	33	2	0
8	B	34	0	28	5	0
9	C	6	14	14	0	0
10	A	50	0	0	3	0
10	B	26	0	0	0	0
10	C	21	0	0	0	0
10	D	1	0	0	0	0
All	All	27397	28293	28307	551	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 (551) 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)
3:F:14:MET:O	3:F:18:VAL:HG12	1.78	0.83
1:B:600:THR:HG22	1:B:601:LYS:HD2	1.59	0.83
1:C:1:MET:HB3	1:C:2:PRO:HD3	1.66	0.76

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:28:GLY:O	3:F:32:VAL:HG23	1.85	0.76
1:A:618:ALA:H	1:A:619:GLY:HA2	1.52	0.75
1:B:30:LEU:HD13	1:B:384:ALA:HB2	1.68	0.74
1:C:897:ILE:HD11	1:C:950:LYS:HD2	1.70	0.72
1:B:1001:ASN:O	1:B:1005:THR:HG23	1.90	0.71
3:H:6:LYS:HE2	3:H:10:PHE:CE2	2.26	0.70
1:C:677:ALA:O	1:C:862:MET:HE1	1.90	0.70
1:C:395:MET:HE2	1:C:395:MET:HA	1.75	0.69
1:C:961:ILE:HD11	1:C:1031:ARG:NH2	2.09	0.68
1:B:243:THR:HG22	1:B:268:ILE:HG22	1.76	0.68
2:E:34:MET:HA	2:E:34:MET:HE3	1.75	0.68
1:C:309:GLU:HG3	1:C:313:MET:HE3	1.76	0.67
1:C:524:THR:O	1:C:528:THR:OG1	2.12	0.67
1:C:764:ASP:HB3	1:C:769:LYS:HD2	1.77	0.66
1:C:336:SER:O	1:C:340:VAL:HG23	1.96	0.66
1:B:425:LEU:HD23	1:B:426:PRO:HD2	1.78	0.66
1:C:580:ALA:HB1	1:C:724:THR:HG22	1.78	0.66
3:G:13:ILE:O	3:G:17:VAL:HG23	1.95	0.66
1:A:57:VAL:CG1	1:A:88:VAL:HG22	2.27	0.65
1:B:568:ASP:OD2	1:B:644:VAL:HG23	1.97	0.65
3:H:6:LYS:O	3:H:6:LYS:NZ	2.24	0.65
1:B:352:PHE:CE1	1:B:365:THR:HG21	2.31	0.65
3:F:13:ILE:O	3:F:17:VAL:HG23	1.97	0.65
1:A:619:GLY:O	1:A:620:ARG:O	2.15	0.64
1:A:1025:PHE:O	1:A:1029:VAL:HG23	1.97	0.64
1:A:590:VAL:O	1:A:594:VAL:HG23	1.98	0.64
1:A:879:ILE:HD12	1:C:25:LEU:HD11	1.80	0.64
1:C:357:LEU:HD23	3:F:19:MET:HE2	1.80	0.64
1:B:555:LEU:HD21	1:B:914:LEU:CD1	2.28	0.64
1:C:303:ALA:HB2	1:C:330:THR:HG21	1.80	0.64
1:C:535:LEU:HA	1:C:538:THR:CG2	2.28	0.64
1:A:1001:ASN:O	1:A:1005:THR:HG23	1.98	0.63
8:B:1120:PUY:N3	8:B:1120:PUY:H2'	2.13	0.62
1:A:367:ILE:HB	1:A:368:PRO:HD3	1.81	0.62
1:B:924:ASP:O	1:B:928:GLN:HG3	1.98	0.62
1:B:573:MET:HE1	8:B:1120:PUY:HB1	1.80	0.62
1:C:357:LEU:HD23	3:F:19:MET:CE	2.29	0.62
1:C:892:TYR:CE1	1:C:947:GLU:OE1	2.52	0.62
1:B:472:ILE:O	1:B:476:SER:OG	2.18	0.62
1:B:229:GLN:HG2	1:B:230:LEU:N	2.13	0.61
1:C:92:LEU:HD12	1:C:92:LEU:N	2.16	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:213:GLN:HB2	1:A:239:ARG:HG2	1.83	0.61
1:B:135:SER:OG	1:B:135:SER:O	2.13	0.61
1:A:809:TRP:NE1	2:E:79:LEU:HD23	2.16	0.61
1:A:563:PHE:O	1:A:924:ASP:HB2	2.01	0.60
1:A:395:MET:O	1:A:398:MET:HB2	2.02	0.60
1:B:375:VAL:HG21	1:B:481:SER:HA	1.84	0.60
1:A:677:ALA:O	1:A:678:THR:HB	2.00	0.60
2:D:60:LEU:HD22	2:D:94:GLU:HG3	1.82	0.60
1:B:1018:ALA:O	1:B:1022:VAL:HG13	2.02	0.60
1:B:459:PHE:CE1	1:B:876:LEU:HD23	2.36	0.60
3:H:6:LYS:HE2	3:H:10:PHE:CZ	2.36	0.60
1:C:328:ASP:OD1	1:C:330:THR:HG23	2.02	0.60
1:A:618:ALA:HB3	1:A:619:GLY:O	2.02	0.59
1:B:400:LEU:HD21	1:B:1003:VAL:HB	1.84	0.59
1:B:1024:VAL:O	1:B:1028:VAL:HG13	2.02	0.59
1:C:578:LEU:HD21	1:C:587:THR:HA	1.83	0.59
1:A:595:THR:HG22	1:A:599:LEU:HD12	1.84	0.59
1:A:680:PHE:C	1:A:862:MET:HE3	2.27	0.59
1:A:1:MET:HE3	1:A:486:LEU:HB3	1.83	0.59
1:A:572:PHE:HE1	1:A:631:LEU:HD21	1.67	0.59
1:B:744:ASN:O	1:B:748:THR:HG23	2.03	0.59
1:A:537:SER:HB2	1:A:540:ARG:HD3	1.83	0.59
1:A:956:GLU:OE1	1:A:958:LYS:HE2	2.03	0.59
1:B:352:PHE:HE1	1:B:365:THR:HG21	1.68	0.59
1:C:994:GLY:O	1:C:997:SER:HB3	2.02	0.59
1:A:183:ALA:HB1	1:A:770:LYS:O	2.03	0.58
1:A:393:LEU:HD13	1:A:466:ILE:HG23	1.85	0.58
1:A:423:GLU:OE2	1:A:433:LYS:NZ	2.36	0.58
1:B:1:MET:HB3	1:B:2:PRO:HD3	1.86	0.58
1:B:35:TYR:CD1	1:B:671:ILE:HD11	2.38	0.58
1:C:554:TYR:CZ	1:C:558:ARG:HD2	2.38	0.58
1:A:703:LEU:HD23	1:A:716:VAL:HG12	1.86	0.58
1:C:482:VAL:O	1:C:486:LEU:HG	2.04	0.58
1:B:229:GLN:HG2	1:B:230:LEU:H	1.69	0.58
1:C:189:ASN:C	1:C:189:ASN:OD1	2.46	0.58
1:A:38:ILE:HG21	1:A:462:SER:HB3	1.86	0.58
1:C:57:VAL:HG21	1:C:86:GLY:HA2	1.85	0.58
1:A:309:GLU:HG3	1:A:313:MET:HE3	1.86	0.57
1:B:30:LEU:CD1	1:B:384:ALA:HB2	2.34	0.57
1:A:860:THR:OG1	1:A:861:GLY:N	2.38	0.57
2:E:34:MET:CE	2:E:40:VAL:HG12	2.34	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:545:TYR:O	1:A:549:VAL:HG23	2.05	0.57
1:C:350:LEU:HD21	3:F:11:ALA:HB1	1.85	0.57
1:A:340:VAL:HG11	1:A:395:MET:HB3	1.87	0.57
1:B:562:SER:HA	1:B:677:ALA:CB	2.34	0.57
1:B:151:GLN:O	1:B:155:SER:OG	2.22	0.56
3:G:35:ILE:HG22	3:G:35:ILE:O	2.05	0.56
3:H:6:LYS:HE2	3:H:10:PHE:CD2	2.40	0.56
1:A:300:LEU:HD23	1:A:330:THR:HB	1.87	0.56
1:B:476:SER:HB3	6:B:1113:D10:H103	1.87	0.56
2:D:112:ASN:HB2	2:D:114:ILE:HD12	1.87	0.56
3:G:30:GLY:O	3:G:34:ASN:OD1	2.23	0.56
1:A:708:LYS:C	1:A:710:PRO:HD3	2.30	0.56
1:C:358:PHE:CE1	3:F:19:MET:HE1	2.41	0.56
1:B:573:MET:HE2	1:B:668:LEU:HD22	1.87	0.56
1:A:240:LEU:HD12	1:A:240:LEU:N	2.21	0.56
1:C:1024:VAL:O	1:C:1028:VAL:HG23	2.05	0.56
1:A:213:GLN:OE1	1:A:238:THR:HG22	2.05	0.55
1:A:369:THR:O	1:A:373:PRO:HD2	2.05	0.55
3:F:9:VAL:O	3:F:13:ILE:HD13	2.06	0.55
1:A:666:PHE:CE1	1:A:668:LEU:HD21	2.41	0.55
1:A:1016:VAL:HG12	3:G:26:ILE:HG23	1.88	0.55
1:B:185:ARG:HD3	1:B:272:GLY:O	2.06	0.55
1:B:544:LEU:HD12	1:B:544:LEU:O	2.07	0.55
1:A:543:VAL:O	1:A:547:ILE:HG12	2.07	0.55
1:C:919:ARG:CG	1:C:919:ARG:O	2.55	0.55
1:C:534:ILE:HG12	1:C:541:TYR:CZ	2.42	0.55
1:C:534:ILE:HD11	3:F:33:PHE:CD2	2.42	0.55
7:B:1112:DD9:C1	7:B:1119:DD9:H1B	2.37	0.55
1:A:777:ALA:O	1:A:781:MET:HG2	2.07	0.55
1:C:578:LEU:HB3	1:C:579:PRO:CD	2.37	0.55
2:E:25:GLY:HA2	2:E:62:ILE:HD12	1.89	0.55
1:A:3:ASN:HA	1:A:6:ILE:HD12	1.89	0.54
1:B:447:MET:HE2	1:B:447:MET:HA	1.89	0.54
1:C:527:TYR:CE2	1:C:968:VAL:HG13	2.42	0.54
1:B:358:PHE:CE1	3:H:19:MET:HE1	2.43	0.54
1:A:446:ALA:HB2	1:A:482:VAL:HG21	1.89	0.54
1:A:448:VAL:HG22	1:A:887:CYS:HB3	1.90	0.54
1:A:83:ASP:HB3	1:A:815:ARG:HG3	1.89	0.53
1:B:471:SER:O	1:B:475:VAL:HG23	2.07	0.53
1:A:423:GLU:HB2	1:A:425:LEU:HG	1.89	0.53
1:A:357:LEU:HD21	3:G:19:MET:HE3	1.90	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:578:LEU:HD23	1:A:582:ALA:HB1	1.90	0.53
1:C:987:MET:HG3	1:C:1008:MET:HE1	1.88	0.53
1:A:401:ALA:O	1:A:405:LEU:HG	2.09	0.53
1:A:754:TRP:HZ3	1:C:219:LEU:HD23	1.74	0.53
1:C:456:MET:HE2	1:C:467:TYR:CG	2.43	0.53
1:A:101:ASP:OD2	10:A:1201:HOH:O	2.19	0.53
1:C:412:VAL:HG22	1:C:438:ILE:HD11	1.90	0.53
1:C:736:ALA:HB1	1:C:741:VAL:HG23	1.90	0.53
1:B:775:SER:HB3	1:B:780:ARG:HD3	1.89	0.53
1:B:780:ARG:HH21	1:B:780:ARG:HG3	1.74	0.53
1:C:926:TYR:CD1	1:C:1003:VAL:HG23	2.43	0.53
1:C:447:MET:SD	1:C:887:CYS:HB3	2.49	0.52
1:B:1:MET:HE3	1:B:487:ILE:HD11	1.91	0.52
1:B:47:ALA:HB2	1:B:127:VAL:HG13	1.91	0.52
1:B:875:SER:O	1:B:879:ILE:HG13	2.10	0.52
1:A:578:LEU:HD23	1:A:582:ALA:CB	2.39	0.52
1:B:884:VAL:HG11	6:B:1116:D10:H102	1.91	0.52
8:B:1120:PUY:N3	8:B:1120:PUY:C2'	2.72	0.52
1:A:519:MET:HE1	3:G:23:LEU:HD13	1.92	0.52
2:D:126:LEU:HD23	2:D:161:LEU:HD13	1.91	0.52
1:C:456:MET:HE2	1:C:467:TYR:HB3	1.92	0.52
1:C:537:SER:HA	1:C:540:ARG:NH2	2.24	0.52
1:C:762:PHE:CE2	1:C:764:ASP:HB2	2.44	0.52
1:B:182:TYR:CD2	1:B:270:LEU:HD23	2.44	0.52
1:C:987:MET:HE1	3:F:14:MET:CB	2.40	0.52
2:D:165:LEU:O	2:D:166:GLN:HG2	2.11	0.51
3:H:27:TYR:CD1	3:H:27:TYR:C	2.87	0.51
1:A:659:LYS:H	1:A:659:LYS:CD	2.23	0.51
1:B:277:ILE:N	1:B:277:ILE:CD1	2.73	0.51
2:E:27:ASP:OD2	2:E:61:GLU:HB3	2.11	0.51
1:A:575:MET:HE2	1:A:577:GLN:HG2	1.92	0.51
1:B:678:THR:HG23	1:B:830:GLN:CB	2.41	0.51
1:B:668:LEU:N	1:B:668:LEU:HD23	2.24	0.51
1:B:562:SER:HA	1:B:677:ALA:HB2	1.93	0.51
1:B:672:VAL:HG11	8:B:1120:PUY:H4'	1.93	0.51
1:A:380:PHE:CE2	1:A:398:MET:HE3	2.46	0.51
1:B:225:VAL:HG23	1:C:781:MET:HG3	1.93	0.51
1:B:527:TYR:CE2	1:B:968:VAL:HG13	2.46	0.51
1:A:454:VAL:N	1:A:455:PRO:CD	2.75	0.50
1:B:73:ASP:HB2	1:B:106:GLN:OE1	2.10	0.50
1:B:968:VAL:HG21	1:B:1023:PRO:HG3	1.93	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:423:GLU:HB2	1:C:425:LEU:HD13	1.92	0.50
1:B:535:LEU:HD22	1:B:1027:VAL:HG21	1.92	0.50
1:C:73:ASP:O	1:C:74:ASN:HB2	2.10	0.50
1:A:174:ASP:HB3	1:A:292:LYS:HG3	1.93	0.50
1:B:448:VAL:O	1:B:452:VAL:HG23	2.11	0.50
1:A:447:MET:HE2	1:A:447:MET:HA	1.92	0.50
1:B:655:PHE:C	1:B:657:GLN:H	2.19	0.50
1:B:677:ALA:O	1:B:837:THR:HG21	2.11	0.50
1:C:454:VAL:HB	1:C:455:PRO:HD3	1.93	0.50
3:G:34:ASN:O	3:G:36:PHE:N	2.40	0.50
1:A:88:VAL:HG12	1:A:89:GLN:N	2.25	0.50
1:C:1017:LEU:CD1	1:C:1017:LEU:N	2.74	0.50
2:E:30:VAL:O	2:E:34:MET:HB2	2.12	0.50
1:A:968:VAL:HG21	1:A:1023:PRO:HG3	1.93	0.50
4:A:1111:LMT:H122	7:A:1113:DD9:C6	2.42	0.50
1:C:612:VAL:HG11	1:C:615:PHE:HB3	1.94	0.50
1:A:370:ILE:HD11	6:A:1106:D10:H92	1.94	0.49
10:A:1201:HOH:O	1:B:73:ASP:OD2	2.20	0.49
1:B:676:THR:OG1	1:B:679:GLY:HA3	2.11	0.49
1:C:509:LYS:HA	1:C:510:LYS:CB	2.42	0.49
7:C:1109:DD9:H1B	7:C:1110:DD9:C2	2.42	0.49
1:B:762:PHE:CE2	1:B:764:ASP:HB2	2.48	0.49
1:C:904:VAL:HG13	1:C:938:SER:HB3	1.94	0.49
1:A:764:ASP:HB3	1:A:769:LYS:HD2	1.93	0.49
1:A:540:ARG:NH2	3:G:36:PHE:C	2.71	0.49
1:A:554:TYR:CZ	1:A:558:ARG:HD2	2.47	0.49
1:B:449:LEU:O	1:B:453:PHE:HD2	1.95	0.49
1:C:456:MET:HE2	1:C:467:TYR:CB	2.42	0.49
1:C:901:VAL:O	1:C:904:VAL:HG12	2.12	0.49
1:B:655:PHE:C	1:B:657:GLN:N	2.70	0.49
1:B:851:LEU:HB3	1:B:852:PRO:HD2	1.94	0.49
1:B:999:ALA:O	1:B:1003:VAL:HG13	2.12	0.49
7:B:1112:DD9:H1B	7:B:1119:DD9:H1B	1.95	0.49
1:C:303:ALA:CB	1:C:330:THR:HG21	2.43	0.49
7:C:1109:DD9:H1B	7:C:1110:DD9:H2A	1.93	0.49
1:B:489:THR:OG1	1:B:490:PRO:HD3	2.13	0.49
1:C:20:MET:HG2	1:C:374:VAL:HA	1.95	0.49
1:C:485:ALA:O	1:C:490:PRO:HD3	2.12	0.49
1:B:902:MET:O	1:B:905:VAL:HG23	2.12	0.49
1:B:678:THR:HG23	1:B:830:GLN:HB2	1.94	0.48
1:A:57:VAL:HG13	1:A:88:VAL:HG22	1.94	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:907:LEU:HD13	1:A:1017:LEU:HB3	1.94	0.48
1:A:973:ARG:HB3	1:A:974:PRO:HD3	1.95	0.48
1:A:980:LEU:HD11	3:G:19:MET:SD	2.54	0.48
1:A:1020:PHE:O	1:A:1023:PRO:HD2	2.13	0.48
1:B:328:ASP:O	1:B:331:PRO:HD2	2.14	0.48
1:C:456:MET:HB3	1:C:876:LEU:HD21	1.94	0.48
1:C:671:ILE:HG22	1:C:671:ILE:O	2.13	0.48
1:A:3:ASN:OD1	1:A:432:ARG:HG2	2.14	0.48
1:A:101:ASP:O	1:A:105:VAL:HG23	2.12	0.48
1:C:352:PHE:CD1	1:C:352:PHE:C	2.91	0.48
1:B:5:PHE:CG	1:B:487:ILE:HG23	2.49	0.48
1:B:104:GLN:OE1	1:B:131:LYS:HD3	2.13	0.48
1:B:596:HIS:O	1:B:600:THR:HB	2.13	0.48
1:B:10:ILE:HB	1:C:893:GLU:OE2	2.12	0.48
1:B:69:MET:HA	1:B:69:MET:HE2	1.96	0.48
1:B:664:PHE:O	1:B:664:PHE:CD2	2.67	0.48
1:C:919:ARG:O	1:C:919:ARG:HG2	2.12	0.48
1:C:115:MET:N	1:C:116:PRO:HD2	2.27	0.48
1:C:454:VAL:HB	1:C:455:PRO:CD	2.44	0.48
1:C:343:THR:HG21	1:C:989:LEU:CD2	2.44	0.48
1:A:248:LYS:HA	1:A:261:LEU:HD13	1.95	0.48
1:C:480:LEU:O	1:C:484:VAL:HG23	2.14	0.48
2:D:89:HIS:CD2	2:D:119:LEU:HD22	2.48	0.48
1:A:8:ARG:N	1:A:9:PRO:HD3	2.29	0.48
1:B:573:MET:HE3	1:B:666:PHE:CE1	2.48	0.48
1:C:70:ASN:O	1:C:110:LYS:NZ	2.44	0.48
1:C:1025:PHE:O	1:C:1029:VAL:HG23	2.14	0.48
3:G:15:VAL:HB	3:G:16:PRO:HD3	1.96	0.48
1:B:466:ILE:O	1:B:467:TYR:C	2.57	0.47
3:F:31:GLU:O	3:F:35:ILE:HD12	2.12	0.47
1:A:809:TRP:CD1	2:E:79:LEU:HD23	2.50	0.47
1:B:984:LEU:HG	3:H:18:VAL:HG11	1.95	0.47
1:C:185:ARG:HD3	1:C:272:GLY:O	2.14	0.47
1:B:815:ARG:HG2	1:B:815:ARG:HH11	1.79	0.47
1:C:186:ILE:HD12	1:C:207:ILE:HD11	1.96	0.47
1:B:716:VAL:HG13	1:B:716:VAL:O	2.14	0.47
1:B:990:VAL:HG13	1:B:1005:THR:HG22	1.95	0.47
3:H:13:ILE:O	3:H:17:VAL:HG23	2.15	0.47
1:A:489:THR:HB	1:A:490:PRO:HD3	1.96	0.47
1:A:648:THR:HG23	1:A:665:ALA:O	2.14	0.47
1:B:73:ASP:O	1:B:74:ASN:HB2	2.15	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:666:PHE:N	1:B:666:PHE:CD2	2.83	0.47
1:B:678:THR:O	1:B:837:THR:HG22	2.14	0.47
1:B:708:LYS:C	1:B:710:PRO:HD3	2.39	0.47
1:B:980:LEU:HD12	3:H:19:MET:HE2	1.94	0.47
1:C:33:ALA:O	1:C:391:ASN:HA	2.15	0.47
1:C:53:ASP:O	1:C:54:ALA:C	2.55	0.47
1:C:416:VAL:HG22	1:C:431:THR:HA	1.97	0.47
1:C:476:SER:O	1:C:480:LEU:HB2	2.14	0.47
1:C:535:LEU:HA	1:C:538:THR:HG23	1.95	0.47
1:C:537:SER:CA	1:C:540:ARG:HH21	2.28	0.47
1:C:980:LEU:HD21	3:F:22:ILE:HD11	1.95	0.47
2:E:42:ALA:O	2:E:50:PRO:HD3	2.14	0.47
1:A:773:VAL:O	1:A:774:MET:HB2	2.14	0.47
1:B:35:TYR:CE1	1:B:671:ILE:HD11	2.49	0.47
1:B:983:ILE:HG23	1:B:1008:MET:HG3	1.96	0.47
1:A:359:LEU:HD13	1:A:364:ALA:HB1	1.95	0.47
1:A:1008:MET:O	1:A:1012:VAL:HG23	2.15	0.47
1:C:23:GLY:O	1:C:27:ILE:HG13	2.15	0.47
1:A:240:LEU:N	1:A:240:LEU:CD1	2.78	0.47
1:B:425:LEU:HD23	1:B:426:PRO:CD	2.44	0.47
1:B:777:ALA:O	1:B:781:MET:HG2	2.14	0.47
1:B:83:ASP:C	1:B:83:ASP:OD1	2.57	0.46
1:B:555:LEU:HD21	1:B:914:LEU:HD13	1.98	0.46
1:C:263:ARG:NH2	2:E:155:ASN:O	2.49	0.46
1:C:420:MET:HB3	1:C:500:ILE:HB	1.97	0.46
3:G:12:VAL:O	3:G:16:PRO:HD2	2.15	0.46
3:H:28:GLY:O	3:H:32:VAL:HG23	2.15	0.46
1:A:38:ILE:O	1:A:38:ILE:HG22	2.15	0.46
1:A:393:LEU:CD1	1:A:466:ILE:HG23	2.45	0.46
1:C:952:LEU:HD23	1:C:952:LEU:HA	1.85	0.46
3:F:35:ILE:O	3:F:35:ILE:HG22	2.14	0.46
1:A:38:ILE:CG2	1:A:462:SER:HB3	2.46	0.46
1:B:711:ASP:OD1	1:B:711:ASP:N	2.48	0.46
1:B:416:VAL:HG22	1:B:431:THR:HA	1.98	0.46
1:B:952:LEU:HA	1:B:952:LEU:HD23	1.73	0.46
1:C:901:VAL:HG13	1:C:942:ALA:HB3	1.97	0.46
1:A:17:ILE:HA	1:A:20:MET:HE2	1.96	0.46
1:B:225:VAL:CG2	1:C:781:MET:HG3	2.46	0.46
1:C:354:VAL:CG2	1:C:984:LEU:HG	2.46	0.46
1:C:674:LEU:HD23	1:C:674:LEU:HA	1.68	0.46
2:D:154:ILE:HG13	2:D:155:ASN:N	2.31	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:126:LEU:CD1	2:E:161:LEU:HD13	2.44	0.46
1:A:154:ILE:HG22	1:A:287:SER:HB3	1.96	0.46
1:C:185:ARG:NH1	1:C:272:GLY:O	2.46	0.46
1:C:617:PHE:O	1:C:618:ALA:HB3	2.14	0.46
1:C:699:ARG:HG3	1:C:827:ILE:HD11	1.98	0.46
1:A:45:ILE:HD11	1:A:107:VAL:CG1	2.45	0.46
1:A:438:ILE:O	1:A:441:ALA:N	2.48	0.46
1:A:768:VAL:HG23	1:B:63:GLN:CD	2.40	0.46
3:G:12:VAL:O	3:G:16:PRO:CD	2.64	0.46
3:H:15:VAL:HB	3:H:16:PRO:HD3	1.97	0.46
4:A:1111:LMT:H122	7:A:1113:DD9:H6	1.98	0.46
1:B:259:ARG:NE	1:C:734:GLU:OE2	2.34	0.46
1:C:41:PRO:HG2	1:C:94:PHE:HB2	1.98	0.46
1:A:1026:PHE:O	1:A:1030:ARG:HB2	2.16	0.46
1:A:23:GLY:HA3	1:A:377:LEU:O	2.16	0.46
1:C:897:ILE:HB	1:C:898:PRO:HD3	1.98	0.46
1:C:1016:VAL:HG12	1:C:1017:LEU:HD12	1.98	0.46
3:G:28:GLY:O	3:G:32:VAL:HG13	2.16	0.46
1:B:412:VAL:HG22	1:B:435:MET:HE1	1.98	0.45
1:C:908:GLY:O	1:C:1010:GLY:HA2	2.16	0.45
1:C:509:LYS:CA	1:C:510:LYS:CB	2.94	0.45
1:C:876:LEU:O	1:C:876:LEU:HD22	2.17	0.45
1:A:211:ASN:HA	1:A:240:LEU:HD13	1.98	0.45
1:A:984:LEU:HD23	1:A:987:MET:HE2	1.98	0.45
1:C:372:VAL:HG13	1:C:376:LEU:HD12	1.99	0.45
1:B:159:ALA:HB2	1:B:177:LEU:HD22	1.99	0.45
1:B:412:VAL:HG13	1:B:435:MET:CE	2.46	0.45
1:B:540:ARG:HB3	3:H:36:PHE:CZ	2.52	0.45
1:A:1013:THR:O	1:A:1017:LEU:HB2	2.17	0.45
1:A:596:HIS:O	1:A:600:THR:HG23	2.16	0.45
1:B:27:ILE:HD11	1:B:380:PHE:CD2	2.51	0.45
1:B:984:LEU:HD23	1:B:984:LEU:HA	1.84	0.45
1:C:453:PHE:O	1:C:456:MET:HG2	2.17	0.45
1:C:841:MET:HE3	1:C:859:TRP:CD2	2.52	0.45
1:C:987:MET:HE1	3:F:14:MET:HB3	1.99	0.45
3:F:15:VAL:HB	3:F:16:PRO:HD3	1.98	0.45
1:A:36:PRO:HG3	1:A:469:GLN:CG	2.46	0.45
1:A:330:THR:N	1:A:331:PRO:CD	2.80	0.45
1:B:664:PHE:O	1:B:664:PHE:CG	2.70	0.45
1:C:780:ARG:HG3	1:C:780:ARG:HH11	1.81	0.45
1:C:811:TYR:N	1:C:811:TYR:CD1	2.85	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:968:VAL:HG12	1:C:969:ARG:N	2.30	0.45
2:E:142:GLN:HB3	2:E:146:GLY:HA2	1.98	0.45
1:B:880:SER:O	1:B:884:VAL:HG23	2.16	0.45
1:C:45:ILE:HD13	1:C:111:LEU:HD22	1.99	0.45
1:A:678:THR:HG23	1:A:679:GLY:N	2.31	0.45
1:B:225:VAL:O	1:B:226:LYS:C	2.59	0.45
1:B:573:MET:HE1	8:B:1120:PUY:H3	1.82	0.45
2:D:115:THR:O	2:D:118:HIS:HB2	2.17	0.45
3:F:13:ILE:O	3:F:16:PRO:HD2	2.17	0.45
3:G:10:PHE:O	3:G:13:ILE:HG22	2.17	0.45
1:C:377:LEU:HD23	1:C:377:LEU:HA	1.83	0.45
2:E:46:VAL:O	2:E:78:THR:HG23	2.17	0.45
2:E:100:LEU:HB3	2:E:135:TYR:CE2	2.52	0.45
1:B:362:PHE:O	1:B:365:THR:HG22	2.17	0.44
1:A:619:GLY:C	1:A:620:ARG:O	2.60	0.44
1:B:527:TYR:OH	1:B:968:VAL:HG13	2.17	0.44
2:D:51:LEU:HD11	2:D:63:VAL:HG13	1.99	0.44
2:D:76:TYR:CD1	2:D:76:TYR:C	2.95	0.44
1:C:578:LEU:HB3	1:C:579:PRO:HD2	1.98	0.44
2:D:128:ILE:O	2:D:132:LEU:HG	2.17	0.44
3:G:23:LEU:HD23	3:G:26:ILE:HD11	1.98	0.44
1:B:53:ASP:O	1:B:54:ALA:C	2.58	0.44
1:B:696:THR:OG1	1:B:825:MET:HE1	2.17	0.44
1:B:775:SER:HB2	1:B:789:TRP:CZ2	2.53	0.44
1:C:158:VAL:HG22	1:C:162:MET:SD	2.58	0.44
1:C:382:VAL:HG13	1:C:386:PHE:CE2	2.52	0.44
1:C:403:GLY:O	1:C:407:ASP:OD1	2.35	0.44
1:A:4:PHE:CZ	1:A:8:ARG:HD2	2.52	0.44
1:A:931:LEU:HD23	1:A:931:LEU:HA	1.88	0.44
1:B:277:ILE:N	1:B:277:ILE:HD13	2.32	0.44
1:B:375:VAL:HG23	1:B:484:VAL:HG21	1.99	0.44
1:B:380:PHE:CE1	1:B:398:MET:HE3	2.52	0.44
1:B:534:ILE:HG23	1:B:541:TYR:CD2	2.52	0.44
1:B:580:ALA:HB1	1:B:724:THR:HG22	1.99	0.44
1:C:580:ALA:CB	1:C:724:THR:HG22	2.46	0.44
2:D:23:ARG:HG3	2:D:57:TRP:NE1	2.33	0.44
1:A:470:PHE:CE1	1:A:929:VAL:HG21	2.53	0.44
1:B:372:VAL:HB	1:B:373:PRO:HD3	2.00	0.44
1:C:139:VAL:O	1:C:326:PRO:HD2	2.17	0.44
2:E:74:ASN:HD21	2:E:105:ASP:HB2	1.81	0.44
1:A:435:MET:HA	1:A:435:MET:HE3	1.99	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:528:THR:HG21	1:A:969:ARG:HD3	2.00	0.44
1:A:699:ARG:HG3	1:A:827:ILE:HD11	1.98	0.44
1:B:987:MET:N	1:B:988:PRO:CD	2.80	0.44
1:C:393:LEU:HD13	1:C:466:ILE:HG23	1.99	0.44
1:C:456:MET:HE2	1:C:467:TYR:CD1	2.53	0.44
1:C:483:LEU:HD13	1:C:483:LEU:HA	1.77	0.44
1:C:971:ARG:C	1:C:974:PRO:HD2	2.43	0.44
3:H:6:LYS:HZ3	3:H:6:LYS:C	2.20	0.44
1:B:102:ILE:O	1:B:106:GLN:HG3	2.17	0.44
1:B:414:GLU:OE1	1:B:974:PRO:HD3	2.18	0.44
1:C:897:ILE:HG23	1:C:946:VAL:HG11	2.00	0.44
2:D:34:MET:HE2	2:D:34:MET:HA	2.00	0.44
1:A:131:LYS:HG3	1:A:131:LYS:O	2.18	0.44
1:A:648:THR:HG23	1:A:665:ALA:C	2.43	0.44
4:A:1101:LMT:H121	6:A:1106:D10:C1	2.48	0.44
1:C:5:PHE:CG	1:C:487:ILE:HG23	2.52	0.44
1:C:931:LEU:HD23	1:C:931:LEU:HA	1.79	0.44
1:A:58:GLN:HG2	1:A:59:ASP:OD1	2.18	0.43
1:A:912:ALA:HB3	1:A:931:LEU:HD21	1.98	0.43
1:B:115:MET:N	1:B:116:PRO:CD	2.81	0.43
1:C:111:LEU:HD23	1:C:129:VAL:CG2	2.48	0.43
1:C:472:ILE:O	1:C:476:SER:OG	2.34	0.43
1:C:930:GLY:HA2	1:C:1007:VAL:CG1	2.48	0.43
1:C:104:GLN:C	1:C:104:GLN:CD	2.86	0.43
2:E:34:MET:HE2	2:E:40:VAL:HG12	1.99	0.43
3:H:6:LYS:HZ1	3:H:10:PHE:HB2	1.83	0.43
1:A:313:MET:O	1:A:314:GLU:C	2.60	0.43
1:A:729:ILE:HG21	1:A:729:ILE:HD13	1.63	0.43
1:A:904:VAL:CG1	1:A:1022:VAL:HG22	2.48	0.43
5:B:1121:D12:H61	6:C:1112:D10:H13	1.98	0.43
1:C:186:ILE:HB	1:C:773:VAL:HG12	2.00	0.43
1:A:527:TYR:OH	1:A:968:VAL:HG22	2.19	0.43
1:A:686:ASP:HB3	1:A:823:PRO:HB2	2.00	0.43
1:B:456:MET:HG3	1:B:471:SER:HB2	1.99	0.43
1:B:961:ILE:HG22	1:B:965:LEU:HD22	2.00	0.43
1:B:1012:VAL:HG12	1:B:1013:THR:N	2.33	0.43
1:C:552:MET:SD	1:C:906:PRO:HB3	2.59	0.43
1:C:775:SER:HB2	1:C:789:TRP:CZ2	2.53	0.43
1:C:871:ASN:O	1:C:874:PRO:HD2	2.19	0.43
3:F:14:MET:O	3:F:18:VAL:CG1	2.60	0.43
1:B:189:ASN:OD1	1:B:189:ASN:C	2.61	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:219:LEU:HD23	1:C:754:TRP:HZ3	1.84	0.43
1:B:815:ARG:HG2	1:B:815:ARG:NH1	2.34	0.43
1:C:743:ILE:N	1:C:743:ILE:HD13	2.34	0.43
3:G:13:ILE:O	3:G:16:PRO:HD2	2.18	0.43
1:B:358:PHE:CZ	3:H:19:MET:HE1	2.54	0.43
1:C:621:GLY:O	1:C:624:THR:HG22	2.19	0.43
1:B:202:ASP:OD2	1:B:792:ARG:NH2	2.51	0.43
1:B:560:PRO:O	1:B:922:THR:HB	2.18	0.43
1:C:888:LEU:HD23	1:C:888:LEU:HA	1.85	0.43
1:A:267:LYS:HD2	10:A:1240:HOH:O	2.19	0.43
1:B:18:ILE:O	1:B:21:LEU:N	2.51	0.43
1:B:72:ILE:HG22	1:B:73:ASP:N	2.33	0.43
2:E:68:LYS:HG2	2:E:68:LYS:O	2.17	0.43
3:G:35:ILE:N	3:G:35:ILE:CD1	2.81	0.43
1:B:10:ILE:HD11	1:C:895:TRP:CD1	2.54	0.43
1:B:25:LEU:HD12	1:B:25:LEU:HA	1.73	0.43
1:B:980:LEU:CD1	3:H:19:MET:HE2	2.49	0.43
1:B:987:MET:HE2	1:B:987:MET:HB2	1.97	0.43
1:C:13:TRP:CZ2	1:C:492:LEU:HD21	2.54	0.43
1:C:1011:MET:HE3	1:C:1011:MET:HA	2.01	0.43
1:A:721:LEU:HD12	1:A:815:ARG:HB2	2.01	0.42
1:C:973:ARG:HB3	1:C:974:PRO:HD3	2.01	0.42
1:A:33:ALA:O	1:A:391:ASN:HA	2.19	0.42
1:B:11:PHE:O	1:B:11:PHE:HD1	2.03	0.42
1:B:72:ILE:CG2	1:B:73:ASP:N	2.82	0.42
1:C:317:PHE:CD2	1:C:321:LEU:HD23	2.55	0.42
2:E:56:TYR:CE1	2:E:90:PHE:CZ	3.07	0.42
2:E:74:ASN:HD21	2:E:105:ASP:CB	2.32	0.42
1:A:20:MET:HE1	5:A:1103:D12:H13	2.01	0.42
1:A:648:THR:CG2	1:A:665:ALA:O	2.67	0.42
1:B:454:VAL:HB	1:B:455:PRO:HD3	2.01	0.42
1:B:1016:VAL:HG12	1:B:1017:LEU:HD23	2.02	0.42
1:C:63:GLN:O	1:C:67:GLN:HG2	2.20	0.42
1:C:907:LEU:HD11	1:C:1021:PHE:HB2	2.01	0.42
1:A:449:LEU:HB3	1:A:478:MET:SD	2.60	0.42
1:A:912:ALA:CB	1:A:931:LEU:HD21	2.49	0.42
1:B:578:LEU:HD21	1:B:590:VAL:HG21	2.00	0.42
1:B:713:LEU:HD22	1:B:843:LEU:HD23	2.01	0.42
1:A:391:ASN:H	1:A:394:THR:HG1	1.65	0.42
1:A:1022:VAL:N	1:A:1023:PRO:CD	2.83	0.42
1:B:138:MET:HE2	1:B:140:VAL:CG2	2.50	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:5:PHE:CD2	1:C:487:ILE:HG23	2.55	0.42
1:C:864:TYR:O	1:C:868:LEU:HD12	2.19	0.42
3:H:6:LYS:NZ	3:H:10:PHE:CG	2.87	0.42
1:B:414:GLU:HG3	1:B:977:MET:CE	2.49	0.42
1:B:987:MET:HE3	3:H:14:MET:HE2	2.01	0.42
1:B:1022:VAL:HG22	1:B:1023:PRO:HD3	2.00	0.42
1:C:355:MET:SD	1:C:368:PRO:HG2	2.60	0.42
1:A:38:ILE:O	1:A:38:ILE:CG2	2.68	0.42
1:B:352:PHE:CE1	1:B:365:THR:CG2	3.01	0.42
1:C:562:SER:O	1:C:924:ASP:HA	2.20	0.42
2:D:89:HIS:CD2	2:D:123:ARG:HD3	2.54	0.42
3:G:10:PHE:O	3:G:14:MET:HG2	2.20	0.42
1:A:30:LEU:HD23	1:A:390:ILE:HG13	2.02	0.42
1:A:851:LEU:HB3	1:A:852:PRO:CD	2.50	0.42
1:B:127:VAL:O	1:C:112:GLN:NE2	2.53	0.42
1:B:386:PHE:CD1	1:B:386:PHE:N	2.86	0.42
1:B:990:VAL:HG22	1:B:1004:GLY:C	2.45	0.42
1:A:220:GLY:HA2	1:B:781:MET:CE	2.49	0.42
1:A:380:PHE:CZ	1:A:398:MET:HE3	2.55	0.42
1:B:415:ASN:O	1:B:419:VAL:HG23	2.19	0.42
1:C:1017:LEU:N	1:C:1017:LEU:HD12	2.35	0.42
1:B:423:GLU:OE2	1:B:433:LYS:HE3	2.19	0.41
1:C:49:TYR:N	1:C:86:GLY:O	2.44	0.41
1:C:478:MET:HE3	1:C:478:MET:HA	2.02	0.41
3:F:21:ILE:O	3:F:25:LEU:HD12	2.19	0.41
1:A:2:PRO:O	1:A:6:ILE:HG13	2.20	0.41
1:C:536:ARG:CG	1:C:536:ARG:HH11	2.33	0.41
2:D:109:LYS:HG2	2:D:115:THR:HG22	2.02	0.41
1:A:314:GLU:N	1:A:315:PRO:CD	2.83	0.41
1:A:679:GLY:HA3	1:A:830:GLN:HA	2.01	0.41
1:A:1027:VAL:HG23	1:A:1028:VAL:N	2.36	0.41
1:B:910:ILE:O	1:B:914:LEU:HD22	2.19	0.41
1:C:114:ALA:HA	1:C:117:LEU:HD12	2.01	0.41
1:C:537:SER:HA	1:C:540:ARG:HH21	1.82	0.41
1:C:810:GLU:C	1:C:811:TYR:CD1	2.98	0.41
2:E:44:ASP:C	2:E:44:ASP:OD1	2.64	0.41
1:A:418:ARG:HH11	1:A:418:ARG:HG2	1.85	0.41
1:A:618:ALA:N	1:A:619:GLY:HA2	2.22	0.41
1:A:619:GLY:O	1:A:620:ARG:C	2.62	0.41
1:B:446:ALA:HB2	1:B:482:VAL:HG21	2.03	0.41
1:B:893:GLU:O	1:B:893:GLU:HG3	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:973:ARG:HG2	1:B:977:MET:HE2	2.02	0.41
2:D:143:ASP:OD1	2:D:143:ASP:C	2.63	0.41
1:A:27:ILE:HD11	1:A:380:PHE:CD2	2.55	0.41
1:A:127:VAL:O	1:B:113:LEU:HD13	2.20	0.41
1:B:333:VAL:O	1:B:337:ILE:HG12	2.20	0.41
1:B:445:ILE:O	1:B:449:LEU:HG	2.21	0.41
1:C:356:TYR:HE2	1:C:362:PHE:CD1	2.38	0.41
1:A:909:VAL:HG12	1:A:913:LEU:HD12	2.01	0.41
1:A:957:GLY:O	1:A:958:LYS:C	2.64	0.41
1:B:385:ALA:O	7:B:1119:DD9:H5	2.20	0.41
1:B:396:PHE:CE2	1:B:999:ALA:HB1	2.56	0.41
1:C:873:ALA:N	1:C:874:PRO:CD	2.84	0.41
1:C:918:PHE:HD1	1:C:918:PHE:HA	1.73	0.41
1:A:534:ILE:HG12	1:A:541:TYR:CZ	2.56	0.41
1:A:724:THR:HB	1:A:725:PRO:CD	2.49	0.41
1:B:240:LEU:HG	1:B:245:GLU:HB3	2.02	0.41
1:B:578:LEU:HB3	1:B:579:PRO:CD	2.51	0.41
1:B:701:GLN:O	1:B:705:GLU:HG2	2.21	0.41
1:B:778:LYS:HE2	1:B:779:TYR:CZ	2.55	0.41
1:C:181:GLN:HE21	1:C:181:GLN:HB3	1.71	0.41
1:C:294:ALA:O	1:C:295:THR:C	2.61	0.41
1:A:115:MET:N	1:A:116:PRO:HD2	2.35	0.41
1:C:536:ARG:HH11	1:C:536:ARG:HG2	1.85	0.41
2:E:34:MET:HA	2:E:34:MET:CE	2.47	0.41
3:G:34:ASN:C	3:G:36:PHE:N	2.78	0.41
1:A:1020:PHE:C	1:A:1023:PRO:HD2	2.45	0.41
1:B:367:ILE:HB	1:B:368:PRO:HD3	2.03	0.41
1:B:400:LEU:HD13	1:B:929:VAL:HG12	2.01	0.41
1:B:483:LEU:HD13	1:B:483:LEU:HA	1.95	0.41
1:C:351:VAL:HG21	1:C:402:ILE:HG22	2.03	0.41
1:C:880:SER:O	1:C:884:VAL:HG23	2.20	0.41
1:B:578:LEU:HD22	1:B:661:ALA:HB2	2.03	0.41
3:G:6:LYS:O	3:G:9:VAL:HG22	2.21	0.41
3:H:12:VAL:O	3:H:16:PRO:HD2	2.21	0.41
1:A:1:MET:HB2	1:A:2:PRO:HD3	2.04	0.40
1:A:984:LEU:CD1	3:G:15:VAL:HG22	2.51	0.40
1:A:1038:GLU:OE1	1:A:1039:ASP:CA	2.69	0.40
1:C:327:TYR:CE1	1:C:571:VAL:HB	2.56	0.40
1:C:388:PHE:CE2	1:C:472:ILE:HG21	2.56	0.40
1:A:987:MET:N	1:A:988:PRO:CD	2.85	0.40
2:E:128:ILE:O	2:E:132:LEU:HG	2.21	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:367:ILE:HG12	1:A:492:LEU:HB3	2.04	0.40
1:A:418:ARG:O	1:A:422:GLU:HG3	2.21	0.40
1:C:544:LEU:HD23	1:C:1021:PHE:CZ	2.56	0.40
1:A:879:ILE:HG23	1:C:21:LEU:HD13	2.02	0.40
1:A:917:THR:O	1:A:917:THR:HG22	2.21	0.40
1:A:937:LEU:HD23	1:A:937:LEU:HA	1.97	0.40
1:A:1038:GLU:OE1	1:A:1039:ASP:HA	2.21	0.40
1:B:14:VAL:HA	1:B:17:ILE:HD12	2.04	0.40
1:B:19:ILE:HG12	6:B:1118:D10:H51	2.03	0.40
1:B:223:PRO:HA	1:B:224:PRO:HD3	1.92	0.40
1:C:447:MET:HE3	1:C:447:MET:HB2	1.93	0.40
1:C:544:LEU:HA	1:C:547:ILE:HD12	2.03	0.40
1:A:1:MET:N	1:A:2:PRO:CD	2.85	0.40
1:B:392:THR:HA	1:B:395:MET:HE3	2.03	0.40
1:C:655:PHE:C	1:C:657:GLN:N	2.78	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	1042/1049 (99%)	1003 (96%)	36 (4%)	3 (0%)	36	68
1	B	1031/1049 (98%)	1005 (98%)	24 (2%)	2 (0%)	43	73
1	C	1031/1049 (98%)	1003 (97%)	24 (2%)	4 (0%)	30	62
2	D	154/169 (91%)	152 (99%)	2 (1%)	0	100	100
2	E	150/169 (89%)	148 (99%)	2 (1%)	0	100	100
3	F	35/49 (71%)	34 (97%)	1 (3%)	0	100	100
3	G	34/49 (69%)	33 (97%)	0	1 (3%)	3	24
3	H	35/49 (71%)	35 (100%)	0	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	3512/3632 (97%)	3413 (97%)	89 (2%)	10 (0%)	36 68

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	620	ARG
1	B	18	ILE
1	C	510	LYS
3	G	35	ILE
1	A	1041	GLU
1	C	18	ILE
1	C	539	GLY
1	C	19	ILE
1	B	19	ILE
1	A	80	SER

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	840/855 (98%)	792 (94%)	48 (6%)	18 51
1	B	838/855 (98%)	729 (87%)	109 (13%)	4 20
1	C	838/855 (98%)	784 (94%)	54 (6%)	16 48
2	D	120/132 (91%)	114 (95%)	6 (5%)	22 55
2	E	117/132 (89%)	103 (88%)	14 (12%)	5 23
3	F	32/41 (78%)	25 (78%)	7 (22%)	1 5
3	G	31/41 (76%)	25 (81%)	6 (19%)	1 8
3	H	32/41 (78%)	27 (84%)	5 (16%)	2 13
All	All	2848/2952 (96%)	2599 (91%)	249 (9%)	9 36

All (249) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	30	LEU
1	A	50	PRO
1	A	80	SER
1	A	82	SER
1	A	84	SER
1	A	89	GLN
1	A	96	SER
1	A	121	GLU
1	A	135	SER
1	A	167	SER
1	A	229	GLN
1	A	233	SER
1	A	238	THR
1	A	260	VAL
1	A	265	VAL
1	A	293	LEU
1	A	366	LEU
1	A	399	VAL
1	A	423	GLU
1	A	483	LEU
1	A	522	LYS
1	A	546	LEU
1	A	575	MET
1	A	578	LEU
1	A	636	ASP
1	A	649	MET
1	A	659	LYS
1	A	678	THR
1	A	695	LEU
1	A	713	LEU
1	A	717	ARG
1	A	729	ILE
1	A	757	SER
1	A	763	ILE
1	A	786	ILE
1	A	815	ARG
1	A	824	SER
1	A	865	GLN
1	A	881	LEU
1	A	919	ARG
1	A	968	VAL
1	A	971	ARG
1	A	972	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1005	THR
1	A	1030	ARG
1	A	1038	GLU
1	A	1039	ASP
1	A	1042	HIS
1	B	1	MET
1	B	27	ILE
1	B	30	LEU
1	B	46	SER
1	B	75	LEU
1	B	81	ASN
1	B	83	ASP
1	B	84	SER
1	B	96	SER
1	B	108	GLN
1	B	111	LEU
1	B	121	GLU
1	B	128	SER
1	B	131	LYS
1	B	134	SER
1	B	136	PHE
1	B	155	SER
1	B	167	SER
1	B	172	VAL
1	B	204	ILE
1	B	229	GLN
1	B	230	LEU
1	B	233	SER
1	B	240	LEU
1	B	243	THR
1	B	250	LEU
1	B	255	GLN
1	B	261	LEU
1	B	265	VAL
1	B	274	ASN
1	B	277	ILE
1	B	293	LEU
1	B	314	GLU
1	B	330	THR
1	B	342	LYS
1	B	345	VAL
1	B	353	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	365	THR
1	B	366	LEU
1	B	377	LEU
1	B	383	LEU
1	B	386	PHE
1	B	399	VAL
1	B	406	VAL
1	B	429	GLU
1	B	455	PRO
1	B	476	SER
1	B	480	LEU
1	B	483	LEU
1	B	497	LEU
1	B	510	LYS
1	B	519	MET
1	B	522	LYS
1	B	528	THR
1	B	540	ARG
1	B	544	LEU
1	B	546	LEU
1	B	547	ILE
1	B	549	VAL
1	B	555	LEU
1	B	557	VAL
1	B	569	GLN
1	B	571	VAL
1	B	574	THR
1	B	575	MET
1	B	578	LEU
1	B	589	LYS
1	B	600	THR
1	B	601	LYS
1	B	603	LYS
1	B	626	ILE
1	B	649	MET
1	B	673	GLU
1	B	695	LEU
1	B	713	LEU
1	B	714	THR
1	B	728	LYS
1	B	729	ILE
1	B	748	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	763	ILE
1	B	778	LYS
1	B	801	PHE
1	B	808	ARG
1	B	853	THR
1	B	865	GLN
1	B	876	LEU
1	B	881	LEU
1	B	886	LEU
1	B	888	LEU
1	B	914	LEU
1	B	918	PHE
1	B	921	LEU
1	B	925	VAL
1	B	937	LEU
1	B	951	ASP
1	B	955	LYS
1	B	960	LEU
1	B	965	LEU
1	B	968	VAL
1	B	972	LEU
1	B	976	LEU
1	B	980	LEU
1	B	986	VAL
1	B	1003	VAL
1	B	1005	THR
1	B	1012	VAL
1	B	1022	VAL
1	B	1028	VAL
1	B	1030	ARG
1	C	1	MET
1	C	21	LEU
1	C	46	SER
1	C	75	LEU
1	C	81	ASN
1	C	83	ASP
1	C	96	SER
1	C	111	LEU
1	C	121	GLU
1	C	125	GLN
1	C	142	VAL
1	C	230	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	233	SER
1	C	253	VAL
1	C	265	VAL
1	C	330	THR
1	C	353	LEU
1	C	383	LEU
1	C	405	LEU
1	C	455	PRO
1	C	456	MET
1	C	463	THR
1	C	476	SER
1	C	480	LEU
1	C	481	SER
1	C	483	LEU
1	C	528	THR
1	C	540	ARG
1	C	546	LEU
1	C	569	GLN
1	C	575	MET
1	C	578	LEU
1	C	640	GLU
1	C	659	LYS
1	C	695	LEU
1	C	729	ILE
1	C	742	SER
1	C	770	LYS
1	C	778	LYS
1	C	801	PHE
1	C	808	ARG
1	C	811	TYR
1	C	815	ARG
1	C	876	LEU
1	C	948	PHE
1	C	960	LEU
1	C	968	VAL
1	C	976	LEU
1	C	980	LEU
1	C	1003	VAL
1	C	1011	MET
1	C	1012	VAL
1	C	1017	LEU
1	C	1030	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	D	16	LYS
2	D	45	VAL
2	D	94	GLU
2	D	101	LYS
2	D	139	VAL
2	D	166	GLN
2	E	28	ASP
2	E	29	GLU
2	E	32	ILE
2	E	34	MET
2	E	36	ASN
2	E	45	VAL
2	E	76	TYR
2	E	79	LEU
2	E	94	GLU
2	E	101	LYS
2	E	119	LEU
2	E	123	ARG
2	E	159	GLU
2	E	163	GLU
3	F	4	LEU
3	F	5	LEU
3	F	8	LEU
3	F	18	VAL
3	F	21	ILE
3	F	25	LEU
3	F	31	GLU
3	G	4	LEU
3	G	5	LEU
3	G	18	VAL
3	G	31	GLU
3	G	35	ILE
3	G	36	PHE
3	H	4	LEU
3	H	5	LEU
3	H	8	LEU
3	H	18	VAL
3	H	25	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	109	ASN
1	A	218	GLN
1	A	577	GLN
1	B	58	GLN
1	B	112	GLN
1	B	231	ASN
1	B	526	HIS
1	B	726	GLN
1	B	830	GLN
1	C	584	GLN
2	E	74	ASN
2	E	112	ASN
2	E	125	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

53 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	$\# Z > 2$
6	D10	B	1113	-	9,9,9	0.48	0	8,8,8	0.53	0
6	D10	B	1103	-	9,9,9	0.70	0	8,8,8	0.41	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	D12	C	1107	-	11,11,11	0.86	0	10,10,10	0.29	0
6	D10	B	1110	-	9,9,9	0.68	0	8,8,8	0.31	0
6	D10	B	1108	-	9,9,9	0.65	0	8,8,8	0.39	0
5	D12	B	1121	-	10,10,11	0.75	0	9,9,10	0.37	0
7	DD9	A	1110	-	4,4,8	0.53	0	3,3,7	0.33	0
6	D10	C	1116	-	9,9,9	0.59	0	8,8,8	0.36	0
6	D10	C	1112	-	9,9,9	0.45	0	8,8,8	0.67	0
6	D10	B	1101	-	9,9,9	0.70	0	8,8,8	0.39	0
6	D10	B	1111	-	9,9,9	0.78	0	8,8,8	0.35	0
6	D10	A	1104	-	9,9,9	0.61	0	8,8,8	0.52	0
5	D12	B	1104	-	8,8,11	0.53	0	7,7,10	0.44	0
7	DD9	C	1109	-	5,5,8	0.64	0	4,4,7	0.21	0
7	DD9	A	1107	-	8,8,8	0.79	0	7,7,7	0.33	0
6	D10	C	1117	-	9,9,9	0.56	0	8,8,8	0.43	0
7	DD9	B	1112	-	6,6,8	0.44	0	5,5,7	0.58	0
6	D10	C	1102	-	9,9,9	0.81	0	8,8,8	0.36	0
6	D10	C	1114	-	9,9,9	0.59	0	8,8,8	0.55	0
6	D10	B	1116	-	9,9,9	0.66	0	8,8,8	0.52	0
6	D10	B	1105	-	9,9,9	0.66	0	8,8,8	0.48	0
6	D10	B	1118	-	9,9,9	0.73	0	8,8,8	0.43	0
6	D10	C	1104	-	9,9,9	0.56	0	8,8,8	0.63	0
6	D10	B	1117	-	9,9,9	0.61	0	8,8,8	0.58	0
6	D10	C	1113	-	9,9,9	0.70	0	8,8,8	0.33	0
5	D12	A	1103	-	11,11,11	0.53	0	10,10,10	0.67	0
7	DD9	B	1106	-	6,6,8	0.76	0	5,5,7	0.15	0
5	D12	A	1112	-	11,11,11	0.66	0	10,10,10	0.44	0
6	D10	C	1111	-	9,9,9	0.60	0	8,8,8	0.29	0
7	DD9	B	1119	-	8,8,8	0.65	0	7,7,7	0.28	0
7	DD9	B	1109	-	8,8,8	0.66	0	7,7,7	0.43	0
4	LMT	A	1111	-	11,11,36	0.49	0	10,10,47	0.37	0
5	D12	C	1108	-	4,4,11	0.55	0	3,3,10	0.47	0
7	DD9	A	1113	-	6,6,8	0.65	0	5,5,7	0.40	0
7	DD9	C	1101	-	3,3,8	0.54	0	2,2,7	0.66	0
7	DD9	A	1114	-	8,8,8	0.61	0	7,7,7	0.38	0
7	DD9	B	1107	-	5,5,8	0.60	0	4,4,7	0.20	0
6	D10	B	1114	-	9,9,9	0.55	0	8,8,8	0.53	0
6	D10	A	1108	-	9,9,9	0.70	0	8,8,8	0.30	0
6	D10	A	1106	-	9,9,9	0.69	0	8,8,8	0.43	0
6	D10	C	1115	-	9,9,9	0.51	0	8,8,8	0.64	0
9	HEX	C	1105	-	5,5,5	0.67	0	4,4,4	0.21	0
6	D10	A	1105	-	9,9,9	0.60	0	8,8,8	0.38	0
5	D12	C	1103	-	11,11,11	0.65	0	10,10,10	0.68	0
4	LMT	A	1102	-	11,11,36	0.49	0	10,10,47	0.42	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
6	D10	B	1122	-	9,9,9	0.64	0	8,8,8	0.35	0
7	DD9	B	1102	-	4,4,8	0.47	0	3,3,7	0.47	0
4	LMT	A	1101	-	24,24,36	1.16	3 (12%)	29,29,47	1.30	3 (10%)
7	DD9	C	1110	-	7,7,8	0.59	0	6,6,7	0.42	0
7	DD9	B	1115	-	5,5,8	0.50	0	4,4,7	0.31	0
5	D12	C	1106	-	11,11,11	0.41	0	10,10,10	0.70	0
6	D10	A	1109	-	9,9,9	0.71	0	8,8,8	0.27	0
8	PUY	B	1120	-	37,37,37	2.75	15 (40%)	48,53,53	5.91	22 (45%)

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
6	D10	B	1113	-	-	4/7/7/7	-
6	D10	B	1103	-	-	3/7/7/7	-
5	D12	C	1107	-	-	5/9/9/9	-
6	D10	B	1110	-	-	4/7/7/7	-
6	D10	B	1108	-	-	3/7/7/7	-
5	D12	B	1121	-	-	4/8/8/9	-
7	DD9	A	1110	-	-	1/2/2/6	-
6	D10	C	1116	-	-	6/7/7/7	-
6	D10	C	1112	-	-	2/7/7/7	-
6	D10	B	1101	-	-	2/7/7/7	-
6	D10	B	1111	-	-	3/7/7/7	-
6	D10	A	1104	-	-	1/7/7/7	-
5	D12	B	1104	-	-	4/6/6/9	-
7	DD9	C	1109	-	-	2/3/3/6	-
7	DD9	A	1107	-	-	4/6/6/6	-
6	D10	C	1117	-	-	4/7/7/7	-
7	DD9	B	1112	-	-	1/4/4/6	-
6	D10	C	1102	-	-	4/7/7/7	-
6	D10	C	1114	-	-	1/7/7/7	-
6	D10	B	1116	-	-	2/7/7/7	-
6	D10	B	1105	-	-	5/7/7/7	-
6	D10	B	1118	-	-	6/7/7/7	-
6	D10	C	1104	-	-	4/7/7/7	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	D10	B	1117	-	-	3/7/7/7	-
6	D10	C	1113	-	-	0/7/7/7	-
5	D12	A	1103	-	-	6/9/9/9	-
7	DD9	B	1106	-	-	2/4/4/6	-
5	D12	A	1112	-	-	5/9/9/9	-
6	D10	C	1111	-	-	4/7/7/7	-
7	DD9	B	1119	-	-	3/6/6/6	-
7	DD9	B	1109	-	-	0/6/6/6	-
4	LMT	A	1111	-	-	6/9/9/61	-
5	D12	C	1108	-	-	0/2/2/9	-
7	DD9	A	1113	-	-	3/4/4/6	-
7	DD9	C	1101	-	-	0/1/1/6	-
7	DD9	A	1114	-	-	4/6/6/6	-
7	DD9	B	1107	-	-	2/3/3/6	-
6	D10	B	1114	-	-	3/7/7/7	-
6	D10	A	1108	-	-	4/7/7/7	-
6	D10	A	1106	-	-	2/7/7/7	-
6	D10	C	1115	-	-	2/7/7/7	-
9	HEX	C	1105	-	-	3/3/3/3	-
6	D10	A	1105	-	-	2/7/7/7	-
5	D12	C	1103	-	-	4/9/9/9	-
4	LMT	A	1102	-	-	1/9/9/61	-
6	D10	B	1122	-	-	1/7/7/7	-
7	DD9	B	1102	-	-	1/2/2/6	-
4	LMT	A	1101	-	-	5/15/35/61	0/1/1/2
7	DD9	C	1110	-	-	3/5/5/6	-
7	DD9	B	1115	-	-	2/3/3/6	-
5	D12	C	1106	-	-	4/9/9/9	-
6	D10	A	1109	-	-	4/7/7/7	-
8	PUY	B	1120	-	-	15/24/40/40	0/4/4/4

All (18) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	B	1120	PUY	C-N3'	6.90	1.48	1.34
8	B	1120	PUY	O4'-C1'	6.73	1.57	1.42
8	B	1120	PUY	C2'-C1'	-5.26	1.37	1.53

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	B	1120	PUY	O4'-C4'	-4.65	1.34	1.45
8	B	1120	PUY	C8-N9	-4.50	1.29	1.37
8	B	1120	PUY	O-C	-4.37	1.15	1.23
8	B	1120	PUY	C5-N7	-4.29	1.31	1.39
8	B	1120	PUY	C5-C4	-3.51	1.32	1.39
8	B	1120	PUY	C6-N1	-3.29	1.28	1.34
4	A	1101	LMT	C3'-C2'	3.29	1.60	1.52
4	A	1101	LMT	C4'-C3'	3.18	1.60	1.52
8	B	1120	PUY	C6-N6	3.18	1.45	1.36
8	B	1120	PUY	C4'-C3'	2.79	1.57	1.52
8	B	1120	PUY	C4-N9	-2.74	1.32	1.37
8	B	1120	PUY	CB-CG	2.32	1.56	1.51
8	B	1120	PUY	CD1-CG	-2.19	1.34	1.38
8	B	1120	PUY	OM-CZ	2.15	1.41	1.37
4	A	1101	LMT	C1'-C2'	2.02	1.58	1.52

All (25) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	B	1120	PUY	N1-C6-N6	-25.96	85.23	116.86
8	B	1120	PUY	C5-C6-N6	18.47	154.57	125.33
8	B	1120	PUY	CA-C-N3'	11.87	132.28	116.21
8	B	1120	PUY	CG-CB-CA	7.89	130.28	114.13
8	B	1120	PUY	C4-C5-N7	-7.78	101.69	110.58
8	B	1120	PUY	C5-C4-N9	7.32	113.79	105.81
8	B	1120	PUY	O-C-N3'	-6.93	110.55	122.96
8	B	1120	PUY	CB-CA-C	6.88	125.07	108.97
8	B	1120	PUY	N1-C2-N3	-6.46	118.80	128.58
8	B	1120	PUY	C5-N7-C8	5.26	111.72	103.45
8	B	1120	PUY	C5-C4-N3	-5.15	119.63	126.72
8	B	1120	PUY	N9-C8-N7	-4.21	107.97	113.94
8	B	1120	PUY	C2-N1-C6	4.10	121.85	111.83
4	A	1101	LMT	C4'-C3'-C2'	3.96	117.78	110.83
8	B	1120	PUY	C6-C5-N7	3.93	139.71	133.43
8	B	1120	PUY	C2-N3-C4	3.71	120.90	111.83
8	B	1120	PUY	CE2-CD2-CG	3.70	125.86	121.00
8	B	1120	PUY	O4'-C4'-C5'	3.66	116.97	109.22
8	B	1120	PUY	CD2-CG-CD1	-3.33	113.28	118.23
8	B	1120	PUY	C4-C5-C6	2.60	118.60	115.91
4	A	1101	LMT	O1'-C1'-C2'	2.46	112.02	108.27
8	B	1120	PUY	O2'-C2'-C3'	-2.35	105.41	111.16
4	A	1101	LMT	C1'-C2'-C3'	2.30	114.84	110.01

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	B	1120	PUY	O4'-C4'-C3'	2.16	107.27	104.13
8	B	1120	PUY	CD1-CE1-CZ	2.10	122.13	119.73

There are no chirality outliers.

All (169) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
8	B	1120	PUY	O-C-CA-CB
8	B	1120	PUY	N3'-C-CA-CB
8	B	1120	PUY	C3'-C4'-C5'-O5'
8	B	1120	PUY	N1-C6-N6-C9
8	B	1120	PUY	N1-C6-N6-C10
8	B	1120	PUY	C5-C6-N6-C9
8	B	1120	PUY	C5-C6-N6-C10
8	B	1120	PUY	C4'-C3'-N3'-C
8	B	1120	PUY	O4'-C4'-C5'-O5'
7	A	1107	DD9	C4-C5-C6-C7
6	A	1109	D10	C3-C4-C5-C6
6	B	1108	D10	C3-C4-C5-C6
4	A	1101	LMT	C7-C8-C9-C10
5	A	1112	D12	C2-C3-C4-C5
5	C	1106	D12	C11-C10-C9-C8
4	A	1111	LMT	C11-C10-C9-C8
6	B	1113	D10	C3-C4-C5-C6
6	C	1104	D10	C4-C5-C6-C7
5	A	1112	D12	C5-C6-C7-C8
6	B	1105	D10	C6-C7-C8-C9
6	B	1117	D10	C3-C4-C5-C6
6	B	1118	D10	C4-C5-C6-C7
7	A	1113	DD9	C3-C4-C5-C6
6	C	1116	D10	C5-C6-C7-C8
7	B	1112	DD9	C3-C4-C5-C6
6	B	1110	D10	C2-C3-C4-C5
7	C	1109	DD9	C2-C3-C4-C5
6	C	1111	D10	C6-C7-C8-C9
6	C	1116	D10	C2-C3-C4-C5
6	C	1116	D10	C3-C4-C5-C6
7	B	1119	DD9	C5-C6-C7-C8
5	B	1121	D12	C2-C3-C4-C5
5	A	1112	D12	C11-C10-C9-C8
6	B	1118	D10	C2-C3-C4-C5
5	C	1106	D12	C2-C3-C4-C5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
6	A	1104	D10	C2-C3-C4-C5
6	C	1112	D10	C5-C6-C7-C8
6	C	1116	D10	C6-C7-C8-C9
4	A	1111	LMT	C3-C4-C5-C6
7	B	1107	DD9	C3-C4-C5-C6
6	B	1118	D10	C3-C4-C5-C6
5	B	1121	D12	C5-C6-C7-C8
6	A	1109	D10	C5-C6-C7-C8
7	A	1107	DD9	C2-C3-C4-C5
6	B	1111	D10	C4-C5-C6-C7
5	A	1103	D12	C11-C10-C9-C8
6	C	1117	D10	C6-C7-C8-C9
6	B	1116	D10	C6-C7-C8-C9
6	C	1111	D10	C4-C5-C6-C7
6	B	1117	D10	C1-C2-C3-C4
7	B	1115	DD9	C3-C4-C5-C6
7	B	1106	DD9	C4-C5-C6-C7
6	C	1116	D10	C1-C2-C3-C4
6	B	1111	D10	C6-C7-C8-C9
6	B	1110	D10	C1-C2-C3-C4
6	B	1105	D10	C2-C3-C4-C5
5	C	1103	D12	C4-C5-C6-C7
6	B	1101	D10	C6-C7-C8-C9
6	B	1110	D10	C7-C8-C9-C10
6	C	1111	D10	C1-C2-C3-C4
6	A	1109	D10	C1-C2-C3-C4
7	C	1109	DD9	C1-C2-C3-C4
5	C	1106	D12	C9-C10-C11-C12
6	C	1112	D10	C2-C3-C4-C5
6	B	1118	D10	C5-C6-C7-C8
5	B	1104	D12	C1-C2-C3-C4
5	B	1121	D12	C7-C8-C9-C10
7	A	1107	DD9	C5-C6-C7-C8
5	C	1107	D12	C6-C7-C8-C9
5	A	1103	D12	C6-C7-C8-C9
6	B	1105	D10	C5-C6-C7-C8
6	B	1108	D10	C5-C6-C7-C8
7	A	1114	DD9	C1-C2-C3-C4
9	C	1105	HEX	C1-C2-C3-C4
6	C	1116	D10	C7-C8-C9-C10
4	A	1101	LMT	C9-C10-C11-C12
5	C	1106	D12	C7-C8-C9-C10

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
4	A	1101	LMT	O1'-C1-C2-C3
7	A	1107	DD9	C1-C2-C3-C4
6	A	1108	D10	C6-C7-C8-C9
7	B	1119	DD9	C3-C4-C5-C6
6	B	1103	D10	C6-C7-C8-C9
5	A	1103	D12	C2-C3-C4-C5
5	C	1107	D12	C7-C8-C9-C10
5	B	1104	D12	C4-C5-C6-C7
6	C	1114	D10	C6-C7-C8-C9
6	B	1111	D10	C5-C6-C7-C8
6	C	1104	D10	C6-C7-C8-C9
6	A	1106	D10	C2-C3-C4-C5
7	B	1106	DD9	C5-C6-C7-C8
6	B	1113	D10	C4-C5-C6-C7
6	B	1114	D10	C5-C6-C7-C8
6	B	1105	D10	C7-C8-C9-C10
6	C	1104	D10	C1-C2-C3-C4
5	A	1112	D12	C9-C10-C11-C12
7	A	1114	DD9	C6-C7-C8-C9
8	B	1120	PUY	C-CA-CB-CG
7	C	1110	DD9	C3-C4-C5-C6
4	A	1101	LMT	C5-C6-C7-C8
7	A	1113	DD9	C4-C5-C6-C7
6	B	1118	D10	C6-C7-C8-C9
6	C	1117	D10	C3-C4-C5-C6
6	A	1106	D10	C6-C7-C8-C9
6	A	1108	D10	C7-C8-C9-C10
4	A	1111	LMT	C6-C7-C8-C9
4	A	1101	LMT	C11-C10-C9-C8
6	C	1115	D10	C7-C8-C9-C10
5	A	1103	D12	C9-C10-C11-C12
6	C	1102	D10	C2-C3-C4-C5
7	C	1110	DD9	C2-C3-C4-C5
6	A	1108	D10	C4-C5-C6-C7
7	B	1102	DD9	C2-C3-C4-C5
5	C	1107	D12	C1-C2-C3-C4
6	B	1117	D10	C7-C8-C9-C10
6	C	1117	D10	C1-C2-C3-C4
6	B	1122	D10	C6-C7-C8-C9
7	C	1110	DD9	C5-C6-C7-C8
6	B	1113	D10	C6-C7-C8-C9
4	A	1102	LMT	C6-C7-C8-C9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
5	A	1112	D12	C4-C5-C6-C7
6	B	1108	D10	C1-C2-C3-C4
7	A	1114	DD9	C4-C5-C6-C7
7	B	1119	DD9	C6-C7-C8-C9
6	A	1105	D10	C3-C4-C5-C6
6	B	1103	D10	C7-C8-C9-C10
6	A	1109	D10	C7-C8-C9-C10
6	C	1111	D10	C7-C8-C9-C10
4	A	1111	LMT	C9-C10-C11-C12
6	C	1104	D10	C3-C4-C5-C6
8	B	1120	PUY	N-CA-CB-CG
6	C	1102	D10	C1-C2-C3-C4
7	A	1113	DD9	C1-C2-C3-C4
6	B	1113	D10	C1-C2-C3-C4
8	B	1120	PUY	CA-CB-CG-CD2
5	C	1103	D12	C9-C10-C11-C12
9	C	1105	HEX	C2-C3-C4-C5
5	C	1103	D12	C11-C10-C9-C8
6	C	1102	D10	C3-C4-C5-C6
6	B	1114	D10	C4-C5-C6-C7
6	A	1105	D10	C7-C8-C9-C10
6	B	1101	D10	C3-C4-C5-C6
8	B	1120	PUY	C2'-C1'-N9-C8
8	B	1120	PUY	C2'-C1'-N9-C4
6	B	1105	D10	C3-C4-C5-C6
5	C	1107	D12	C4-C5-C6-C7
5	A	1103	D12	C3-C4-C5-C6
5	B	1121	D12	C6-C7-C8-C9
7	A	1114	DD9	C5-C6-C7-C8
6	C	1102	D10	C5-C6-C7-C8
5	B	1104	D12	C6-C7-C8-C9
5	C	1107	D12	C9-C10-C11-C12
6	C	1115	D10	C3-C4-C5-C6
6	A	1108	D10	C3-C4-C5-C6
6	B	1116	D10	C4-C5-C6-C7
6	B	1118	D10	C7-C8-C9-C10
6	B	1114	D10	C3-C4-C5-C6
6	B	1110	D10	C3-C4-C5-C6
4	A	1111	LMT	C2-C3-C4-C5
7	B	1115	DD9	C2-C3-C4-C5
7	B	1107	DD9	C2-C3-C4-C5
4	A	1111	LMT	C4-C5-C6-C7

Continued on next page...

Continued from previous page...

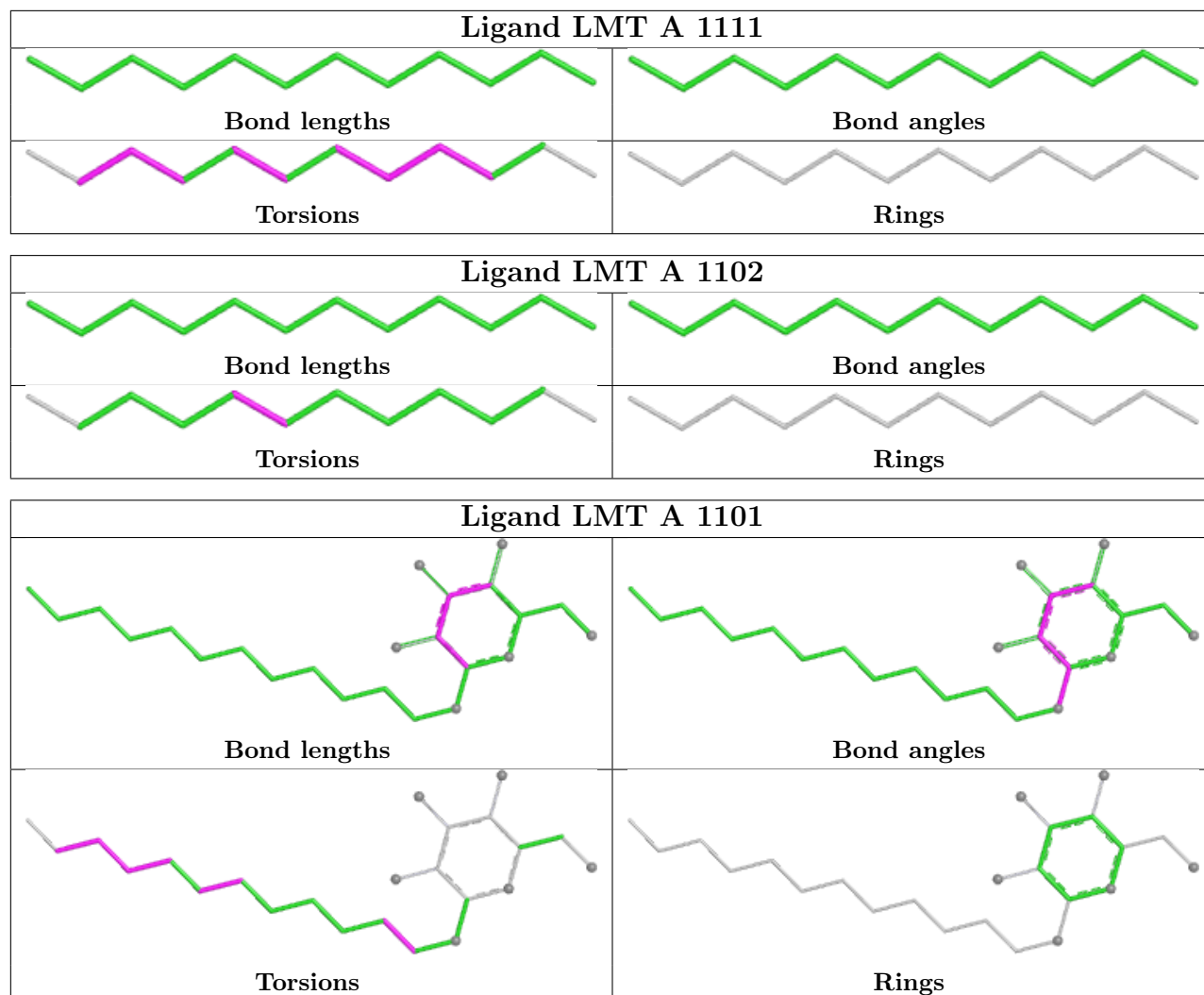
Mol	Chain	Res	Type	Atoms
5	A	1103	D12	C7-C8-C9-C10
5	B	1104	D12	C3-C4-C5-C6
5	C	1103	D12	C1-C2-C3-C4
8	B	1120	PUY	O4'-C1'-N9-C8
6	B	1103	D10	C1-C2-C3-C4
9	C	1105	HEX	C3-C4-C5-C6
6	C	1117	D10	C7-C8-C9-C10
7	A	1110	DD9	C2-C3-C4-C5

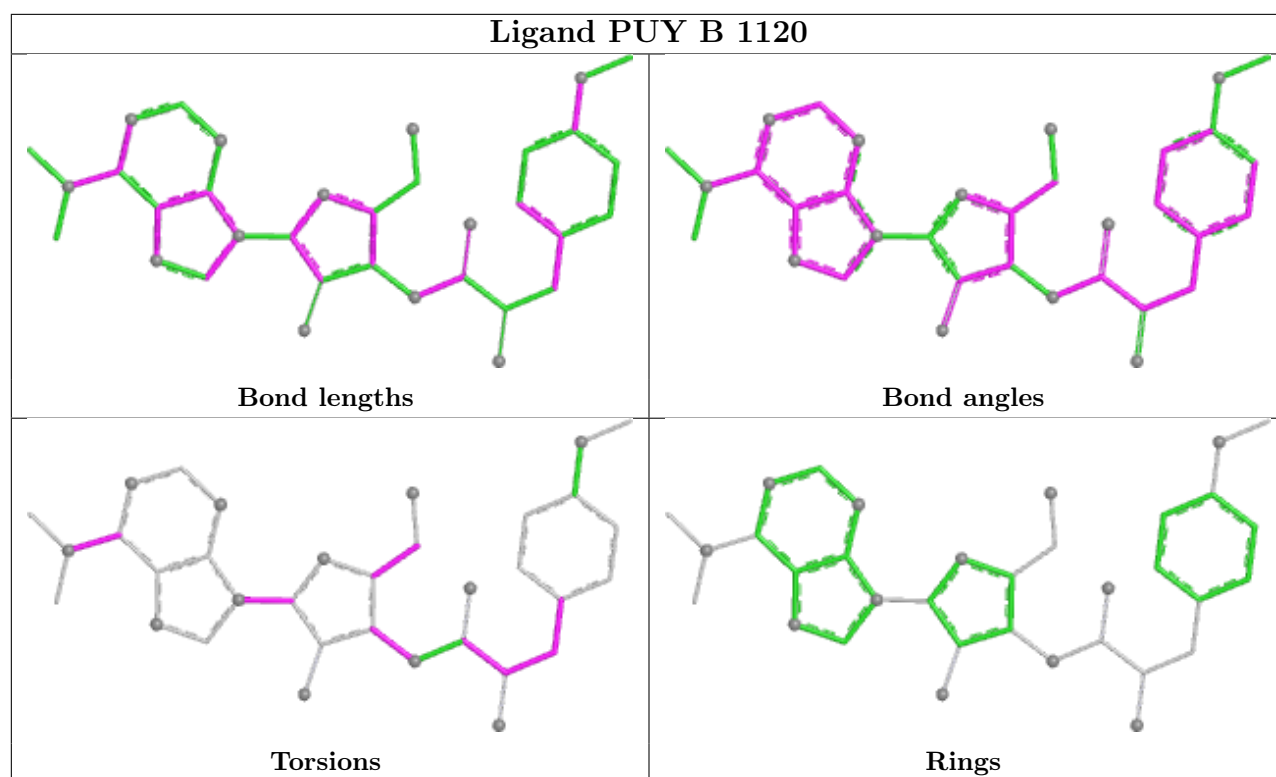
There are no ring outliers.

15 monomers are involved in 19 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	B	1113	D10	1	0
5	B	1121	D12	1	0
6	C	1112	D10	1	0
7	C	1109	DD9	2	0
7	B	1112	DD9	2	0
6	B	1116	D10	1	0
6	B	1118	D10	1	0
5	A	1103	D12	1	0
7	B	1119	DD9	3	0
4	A	1111	LMT	2	0
7	A	1113	DD9	2	0
6	A	1106	D10	2	0
4	A	1101	LMT	1	0
7	C	1110	DD9	2	0
8	B	1120	PUY	5	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](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	B	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	283:GLY	C	284:GLN	N	1.14

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	1044/1049 (99%)	-0.53	13 (1%) 76 58	26, 63, 120, 181	0
1	B	1033/1049 (98%)	-0.57	3 (0%) 90 81	28, 62, 92, 124	0
1	C	1033/1049 (98%)	-0.57	1 (0%) 92 89	30, 57, 103, 144	0
2	D	156/169 (92%)	-0.54	2 (1%) 75 55	45, 62, 91, 135	0
2	E	152/169 (89%)	-0.38	0 100 100	45, 70, 101, 117	0
3	F	37/49 (75%)	0.33	3 (8%) 18 11	67, 93, 177, 192	0
3	G	36/49 (73%)	-0.15	1 (2%) 55 35	92, 117, 154, 178	0
3	H	37/49 (75%)	-0.00	1 (2%) 56 36	75, 98, 165, 181	0
All	All	3528/3632 (97%)	-0.53	24 (0%) 84 69	26, 62, 111, 192	0

All (24) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	F	4	LEU	4.3
1	A	617	PHE	4.2
3	F	1	MET	4.1
1	A	670	ALA	4.1
3	F	2	LEU	4.0
1	B	854	GLY	3.2
1	A	872	GLN	3.1
1	A	674	LEU	2.8
1	B	674	LEU	2.8
1	A	673	GLU	2.8
1	A	672	VAL	2.7
3	H	2	LEU	2.7
1	A	1035	ARG	2.6
1	A	877	TYR	2.5
1	A	618	ALA	2.4
3	G	2	LEU	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
2	D	11	GLY	2.2
2	D	12	SER	2.2
1	A	1037	ASN	2.2
1	A	511	GLY	2.1
1	A	676	THR	2.1
1	C	362	PHE	2.1
1	A	677	ALA	2.0
1	B	675	GLY	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 oligosaccharides in this entry.

6.4 Ligands [i](#)

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

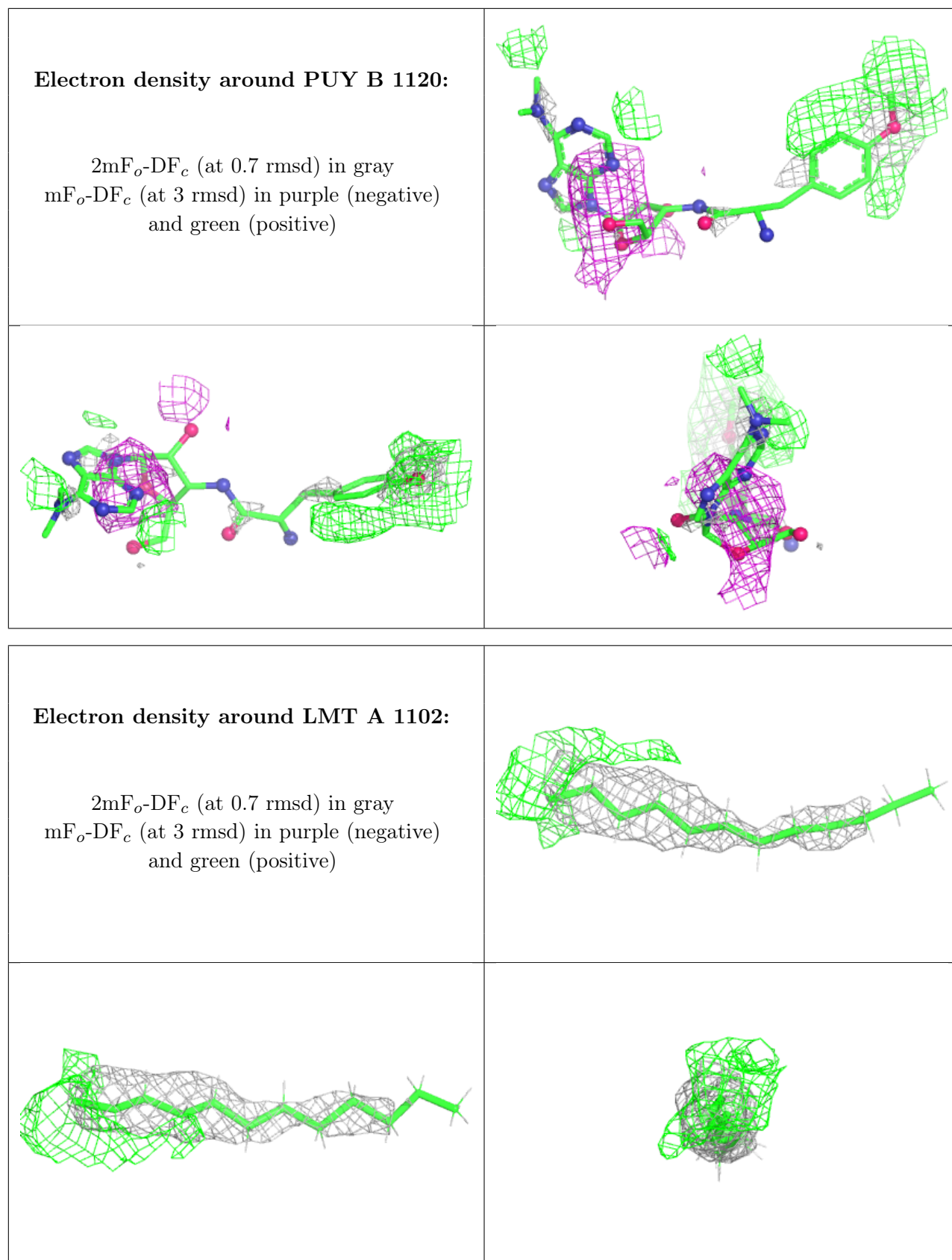
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
8	PUY	B	1120	34/34	0.58	0.44	96,159,207,234	0
6	D10	A	1105	10/10	0.62	0.28	68,99,129,130	0
5	D12	B	1104	9/12	0.66	0.20	79,98,109,111	0
7	DD9	C	1109	6/9	0.67	0.18	73,88,108,108	0
6	D10	A	1109	10/10	0.69	0.15	66,91,103,105	0
7	DD9	A	1114	9/9	0.71	0.15	72,95,113,116	0
6	D10	B	1114	10/10	0.72	0.20	69,92,106,111	0
6	D10	B	1122	10/10	0.72	0.18	73,110,128,130	0
6	D10	C	1114	10/10	0.72	0.26	68,97,112,116	0
6	D10	B	1118	10/10	0.73	0.21	63,91,108,112	0
5	D12	C	1103	12/12	0.73	0.24	51,81,98,104	0
5	D12	C	1108	5/12	0.74	0.29	77,97,105,105	0
6	D10	C	1113	10/10	0.75	0.15	58,82,102,111	0
6	D10	C	1116	10/10	0.76	0.27	76,109,133,139	0
7	DD9	B	1106	7/9	0.76	0.30	65,90,110,110	0

Continued on next page...

Continued from previous page...

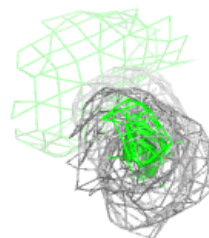
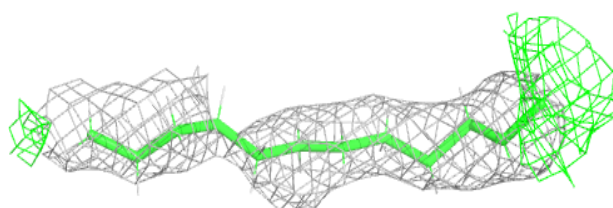
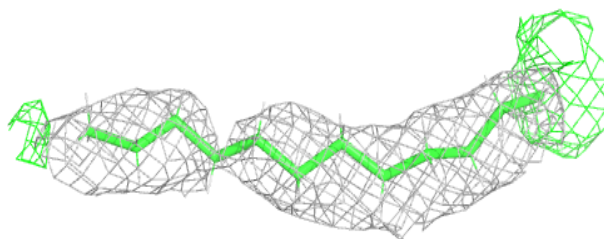
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
7	DD9	C	1110	8/9	0.77	0.15	64,91,103,110	0
7	DD9	A	1107	9/9	0.77	0.22	54,74,88,90	0
7	DD9	B	1119	9/9	0.80	0.16	68,86,103,104	0
5	D12	A	1112	12/12	0.80	0.21	46,75,99,104	0
6	D10	A	1106	10/10	0.80	0.20	60,84,100,105	0
7	DD9	B	1115	6/9	0.80	0.18	60,74,87,87	0
6	D10	B	1103	10/10	0.81	0.21	63,86,91,92	0
6	D10	C	1111	10/10	0.81	0.17	75,108,132,134	0
7	DD9	B	1112	7/9	0.81	0.14	81,97,108,113	0
6	D10	B	1110	10/10	0.81	0.22	69,90,104,105	0
6	D10	A	1104	10/10	0.82	0.21	66,93,111,111	0
4	LMT	A	1102	12/35	0.82	0.24	59,84,101,103	0
6	D10	B	1111	10/10	0.82	0.22	44,75,103,105	0
7	DD9	B	1109	9/9	0.82	0.32	86,113,126,126	0
6	D10	C	1102	10/10	0.82	0.22	52,71,88,91	0
9	HEX	C	1105	6/6	0.83	0.24	61,77,99,99	0
6	D10	C	1112	10/10	0.84	0.20	81,106,121,126	0
4	LMT	A	1111	12/35	0.84	0.16	63,85,101,102	0
5	D12	B	1121	11/12	0.84	0.22	57,88,105,110	0
6	D10	C	1117	10/10	0.85	0.22	75,96,113,113	0
5	D12	A	1103	12/12	0.85	0.17	58,80,90,90	0
6	D10	C	1104	10/10	0.86	0.23	50,70,83,87	0
6	D10	B	1117	10/10	0.86	0.23	49,68,100,105	0
6	D10	B	1113	10/10	0.86	0.18	73,100,113,115	0
6	D10	B	1108	10/10	0.87	0.16	64,85,103,103	0
7	DD9	A	1113	7/9	0.87	0.20	65,83,96,100	0
6	D10	C	1115	10/10	0.87	0.21	82,104,124,125	0
6	D10	B	1116	10/10	0.88	0.16	46,71,86,90	0
5	D12	C	1106	12/12	0.89	0.21	80,97,107,110	0
5	D12	C	1107	12/12	0.89	0.13	43,56,68,72	0
6	D10	B	1105	10/10	0.89	0.16	52,72,79,80	0
6	D10	A	1108	10/10	0.90	0.12	52,67,76,77	0
6	D10	B	1101	10/10	0.91	0.14	52,81,91,95	0
7	DD9	C	1101	4/9	0.91	0.16	62,75,83,83	0
7	DD9	A	1110	5/9	0.91	0.15	56,67,80,80	0
4	LMT	A	1101	24/35	0.94	0.10	53,80,116,124	0
7	DD9	B	1102	5/9	0.94	0.13	48,65,83,83	0
7	DD9	B	1107	6/9	0.95	0.13	66,79,94,94	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.

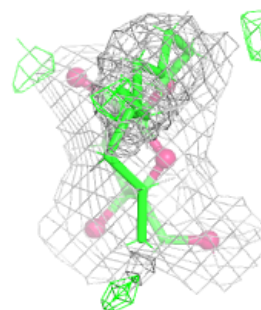
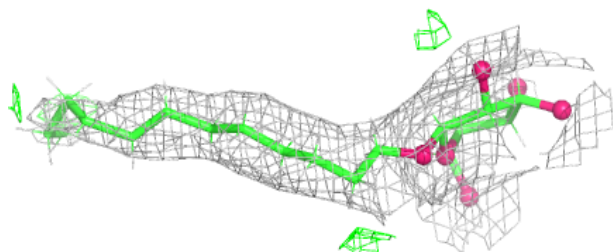
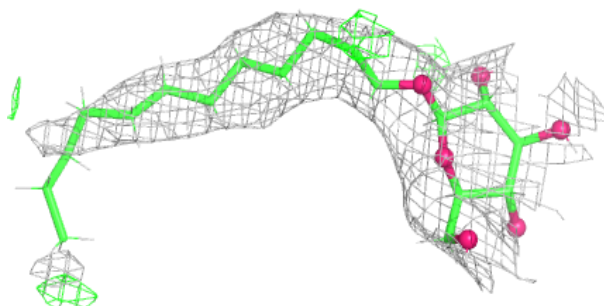


Electron density around LMT A 1111:

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

**Electron density around LMT A 1101:**

$2mF_o-DF_c$ (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.