Full wwPDB X-ray Structure Validation Report ⓘ

Jun 4, 2025 – 07:48 pm BST

PDB ID	:	9I2W / pdb_00009i2w
Title	:	Alpha-Methylacyl-CoA racemase from Mycobacterium tuberculosis in complex with flurbiprofenoyl-CoA
Authors	:	Mojanaga, O.O.; Acharya, K.R.; Lloyd, M.D.
Deposited on	:	2025-01-22
Resolution	:	2.20 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:

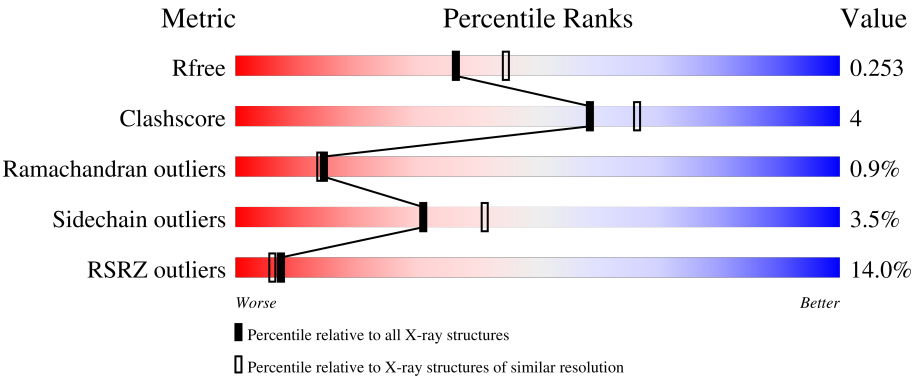
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.20 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}	164625	5791 (2.20-2.20)
Clashscore	180529	6634 (2.20-2.20)
Ramachandran outliers	177936	6560 (2.20-2.20)
Sidechain outliers	177891	6561 (2.20-2.20)
RSRZ outliers	164620	5791 (2.20-2.20)

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 <=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	364	18% 83% 13%
1	B	364	10% 84% 14%
1	C	364	11% 82% 14%
1	D	364	10% 80% 16%
1	E	364	15% 84% 13%

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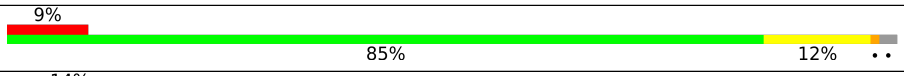
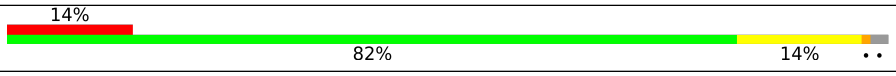
Mol	Chain	Length	Quality of chain
1	F	364	
1	G	364	
1	H	364	
1	I	364	
1	J	364	
1	K	364	
1	L	364	

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 34492 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 Alpha-methylacyl-CoA racemase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	359	Total	C	N	O	S	0	2	0
			2718	1704	486	512	16			
1	B	359	Total	C	N	O	S	0	1	0
			2715	1703	486	510	16			
1	C	357	Total	C	N	O	S	0	3	0
			2712	1702	485	509	16			
1	D	359	Total	C	N	O	S	0	1	0
			2715	1703	486	510	16			
1	E	357	Total	C	N	O	S	0	2	0
			2708	1699	485	508	16			
1	F	356	Total	C	N	O	S	0	2	0
			2698	1692	483	507	16			
1	G	359	Total	C	N	O	S	0	2	0
			2718	1704	486	512	16			
1	H	357	Total	C	N	O	S	0	1	0
			2703	1697	484	506	16			
1	I	359	Total	C	N	O	S	0	2	0
			2718	1704	486	512	16			
1	J	359	Total	C	N	O	S	0	2	0
			2721	1707	487	511	16			
1	K	357	Total	C	N	O	S	0	3	0
			2712	1702	485	509	16			
1	L	358	Total	C	N	O	S	0	1	0
			2707	1699	485	507	16			

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	361	GLY	-	expression tag	UNP O06543
A	362	SER	-	expression tag	UNP O06543
A	363	GLY	-	expression tag	UNP O06543
A	364	CYS	-	expression tag	UNP O06543
B	361	GLY	-	expression tag	UNP O06543

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Chain	Residue	Modelled	Actual	Comment	Reference
B	362	SER	-	expression tag	UNP O06543
B	363	GLY	-	expression tag	UNP O06543
B	364	CYS	-	expression tag	UNP O06543
C	361	GLY	-	expression tag	UNP O06543
C	362	SER	-	expression tag	UNP O06543
C	363	GLY	-	expression tag	UNP O06543
C	364	CYS	-	expression tag	UNP O06543
D	361	GLY	-	expression tag	UNP O06543
D	362	SER	-	expression tag	UNP O06543
D	363	GLY	-	expression tag	UNP O06543
D	364	CYS	-	expression tag	UNP O06543
E	361	GLY	-	expression tag	UNP O06543
E	362	SER	-	expression tag	UNP O06543
E	363	GLY	-	expression tag	UNP O06543
E	364	CYS	-	expression tag	UNP O06543
F	361	GLY	-	expression tag	UNP O06543
F	362	SER	-	expression tag	UNP O06543
F	363	GLY	-	expression tag	UNP O06543
F	364	CYS	-	expression tag	UNP O06543
G	361	GLY	-	expression tag	UNP O06543
G	362	SER	-	expression tag	UNP O06543
G	363	GLY	-	expression tag	UNP O06543
G	364	CYS	-	expression tag	UNP O06543
H	361	GLY	-	expression tag	UNP O06543
H	362	SER	-	expression tag	UNP O06543
H	363	GLY	-	expression tag	UNP O06543
H	364	CYS	-	expression tag	UNP O06543
I	361	GLY	-	expression tag	UNP O06543
I	362	SER	-	expression tag	UNP O06543
I	363	GLY	-	expression tag	UNP O06543
I	364	CYS	-	expression tag	UNP O06543
J	361	GLY	-	expression tag	UNP O06543
J	362	SER	-	expression tag	UNP O06543
J	363	GLY	-	expression tag	UNP O06543
J	364	CYS	-	expression tag	UNP O06543
K	361	GLY	-	expression tag	UNP O06543
K	362	SER	-	expression tag	UNP O06543
K	363	GLY	-	expression tag	UNP O06543
K	364	CYS	-	expression tag	UNP O06543
L	361	GLY	-	expression tag	UNP O06543
L	362	SER	-	expression tag	UNP O06543
L	363	GLY	-	expression tag	UNP O06543

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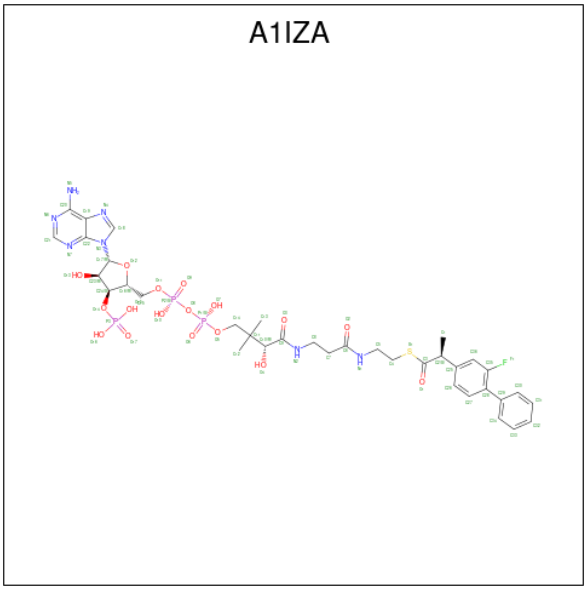
Chain	Residue	Modelled	Actual	Comment	Reference
L	364	CYS	-	expression tag	UNP O06543

- Molecule 2 is (S)-Flurbiprofenoyl-CoA (CCD ID: A1IZA) (formula: $C_{36}H_{47}FN_7O_{17}P_3S$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms							ZeroOcc	AltConf
2	A	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		
2	B	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		
2	C	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		
2	D	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		
2	E	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		
2	F	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		
2	G	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		
2	H	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		
2	I	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		
2	J	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		

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Mol	Chain	Residues	Atoms							ZeroOcc	AltConf
2	K	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		
2	L	1	Total	C	F	N	O	P	S	0	0
			65	36	1	7	17	3	1		

- Molecule 3 is water.

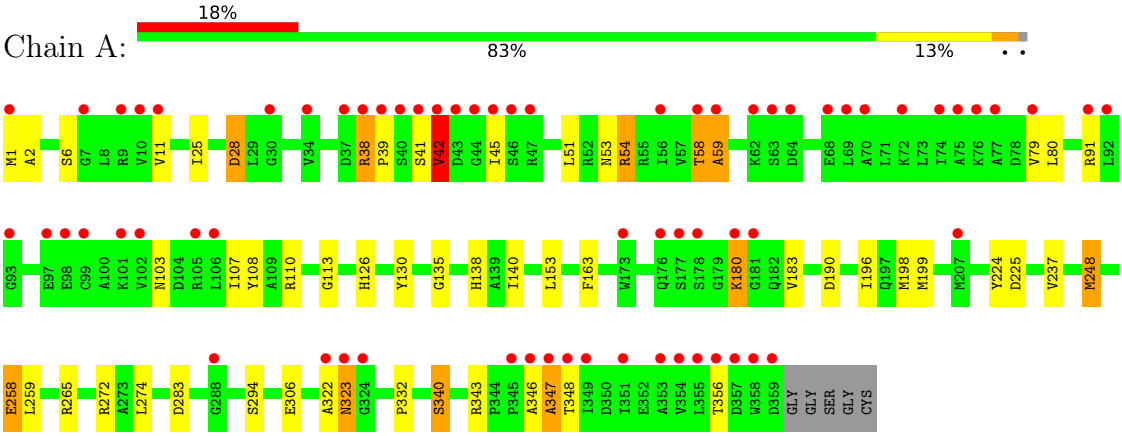
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	91	Total	O	0	0
			91	91		
3	B	96	Total	O	0	0
			96	96		
3	C	100	Total	O	0	0
			100	100		
3	D	93	Total	O	0	0
			93	93		
3	E	97	Total	O	0	0
			97	97		
3	F	98	Total	O	0	0
			98	98		
3	G	88	Total	O	0	0
			88	88		
3	H	92	Total	O	0	0
			92	92		
3	I	101	Total	O	0	0
			101	101		
3	J	112	Total	O	0	0
			112	112		
3	K	104	Total	O	0	0
			104	104		
3	L	95	Total	O	0	0
			95	95		

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

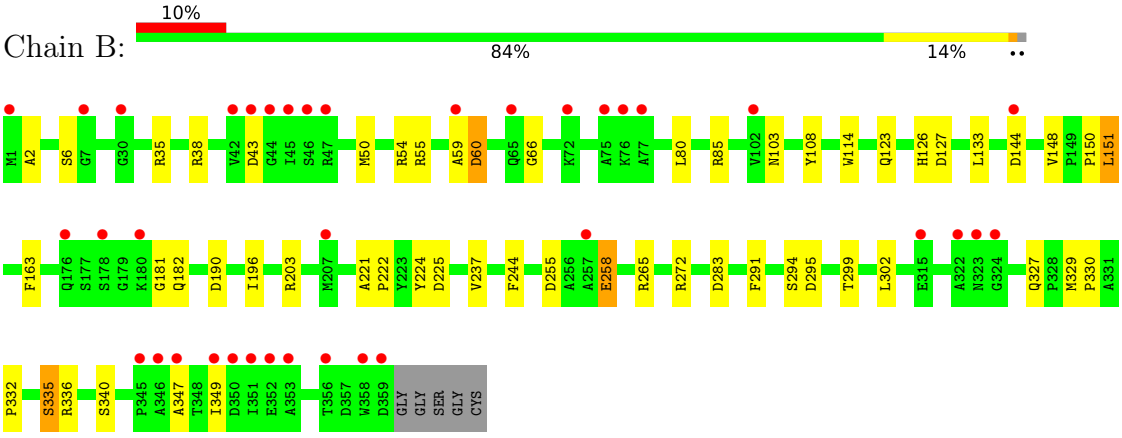
• Molecule 1: Alpha-methylacyl-CoA racemase

Chain A:



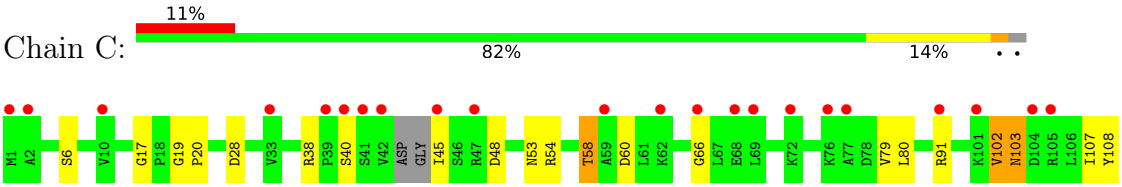
• Molecule 1: Alpha-methylacyl-CoA racemase

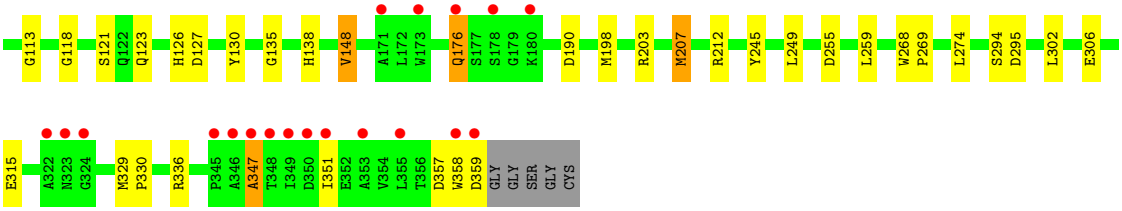
Chain B:



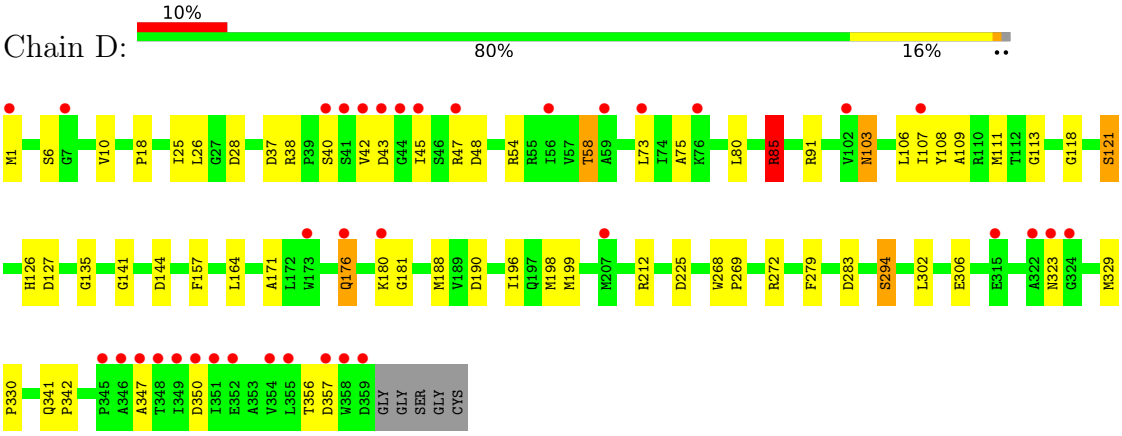
• Molecule 1: Alpha-methylacyl-CoA racemase

Chain C:

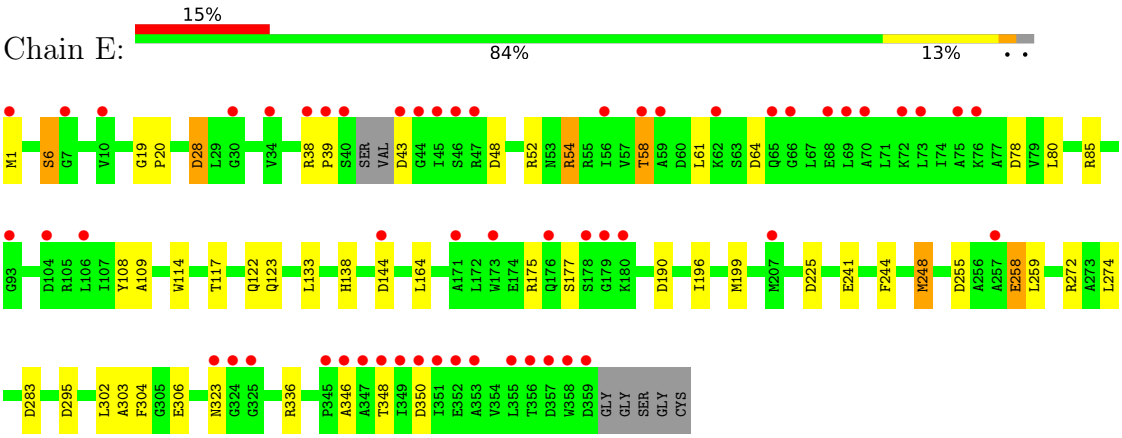




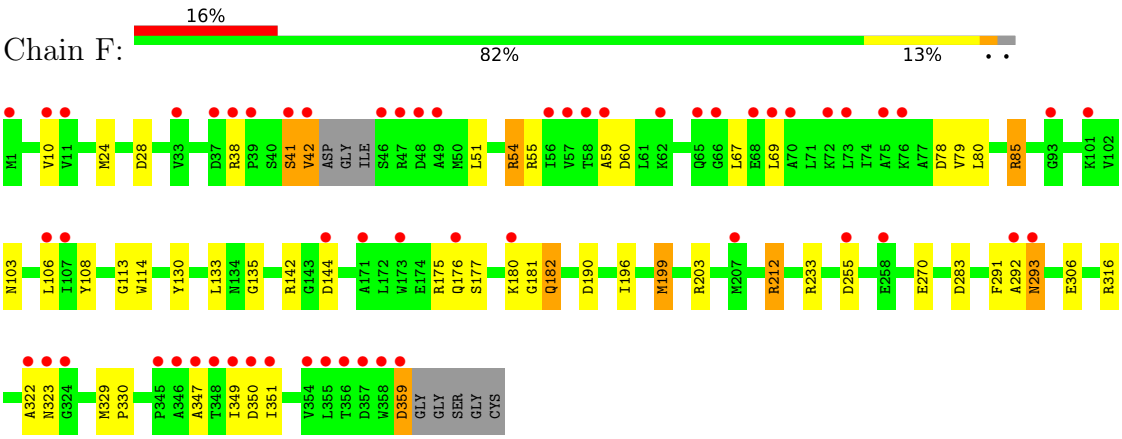
• Molecule 1: Alpha-methylacyl-CoA racemase



• Molecule 1: Alpha-methylacyl-CoA racemase

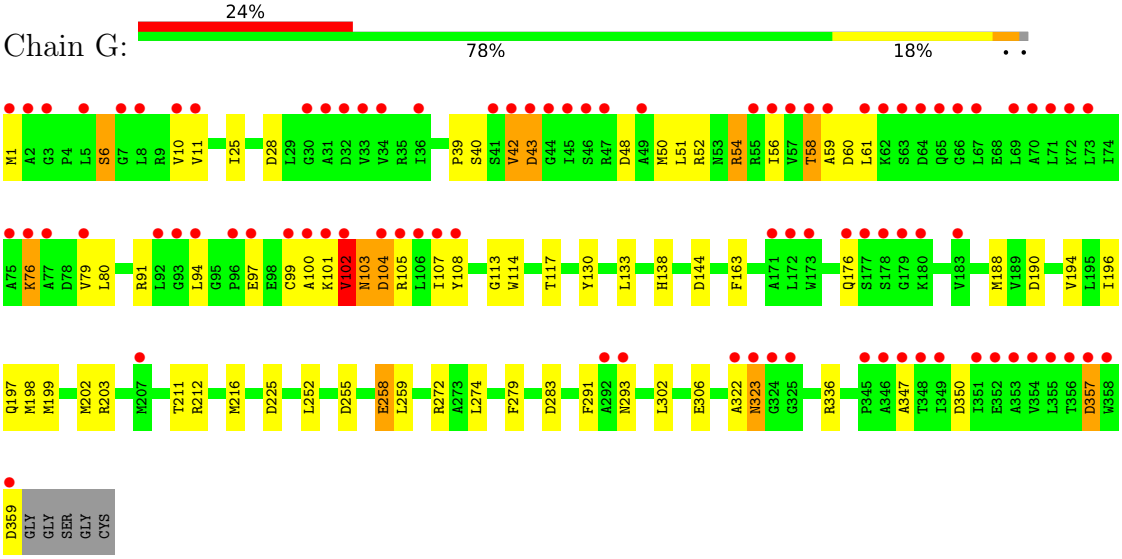


• Molecule 1: Alpha-methylacyl-CoA racemase



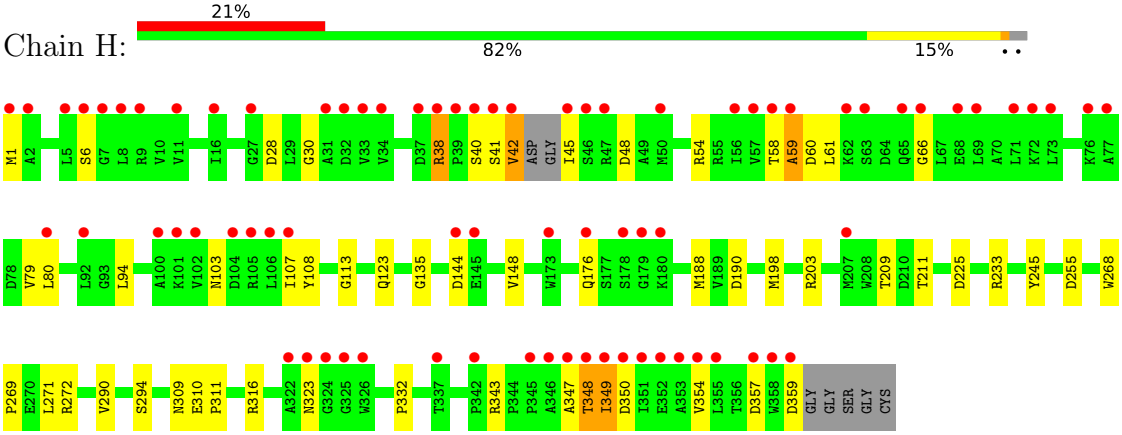
• Molecule 1: Alpha-methylacyl-CoA racemase

Chain G:



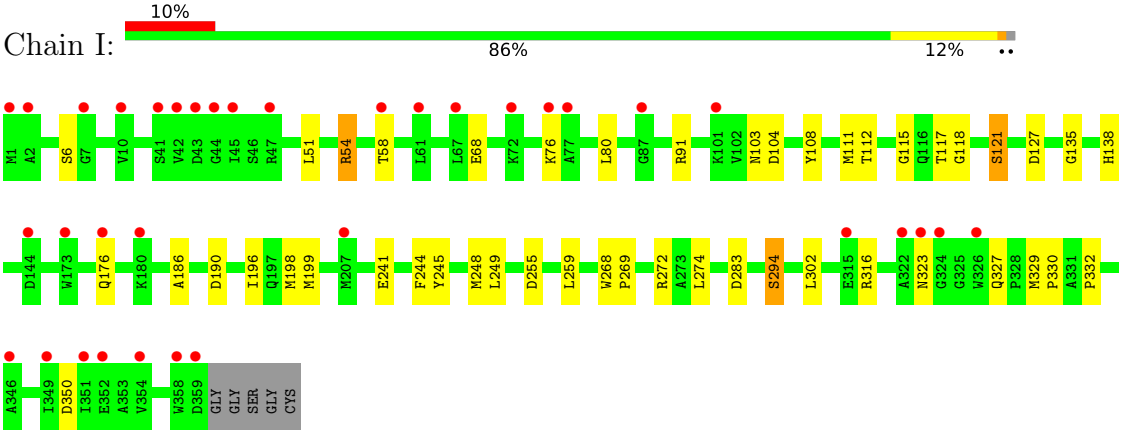
• Molecule 1: Alpha-methylacyl-CoA racemase

Chain H:



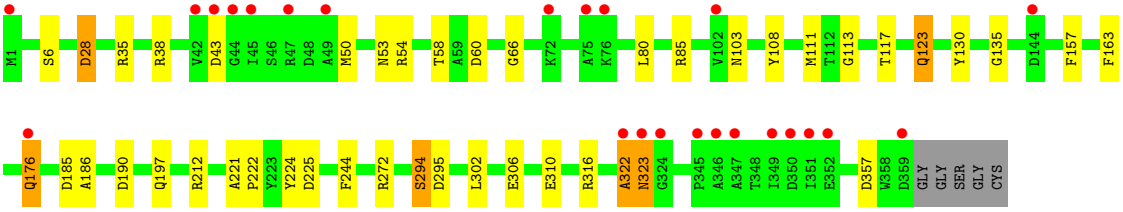
• Molecule 1: Alpha-methylacyl-CoA racemase

Chain I:

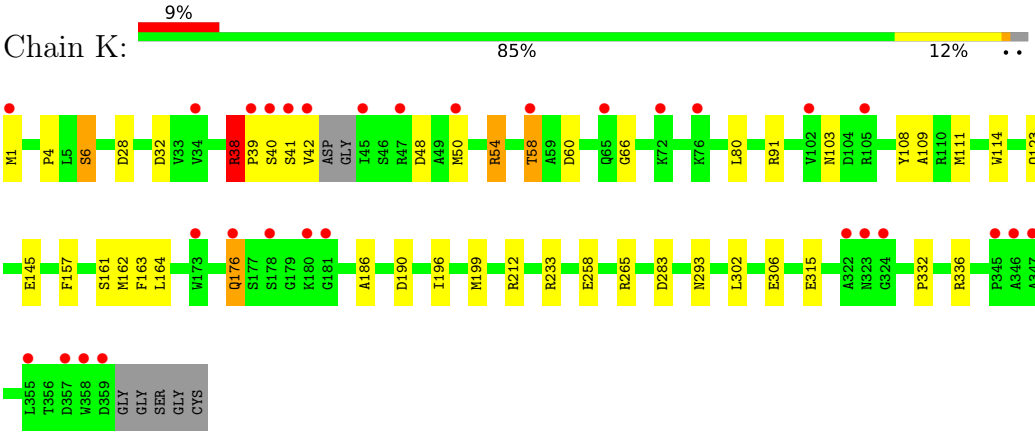


• Molecule 1: Alpha-methylacyl-CoA racemase

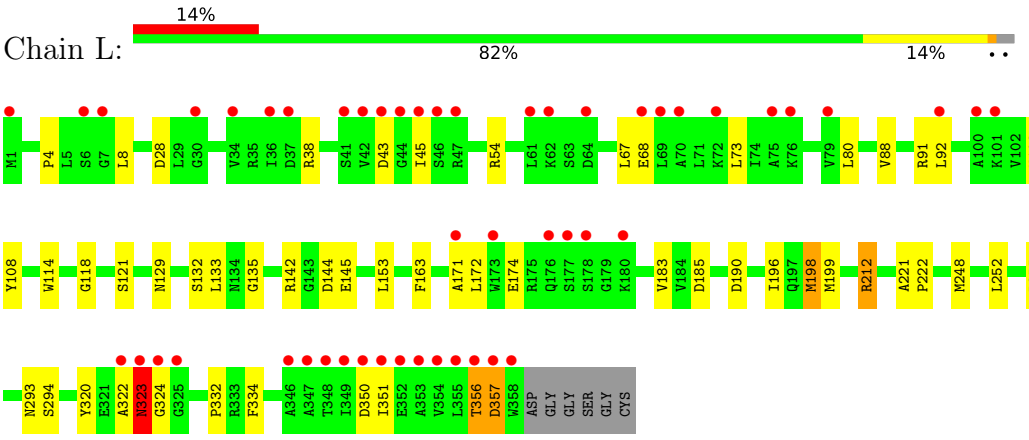
Chain J:



• Molecule 1: Alpha-methylacyl-CoA racemase



• Molecule 1: Alpha-methylacyl-CoA racemase



4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 4 2 2	Depositor
Cell constants a, b, c, α, β, γ	276.48Å 276.48Å 391.89Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	225.91 – 2.20 225.91 – 2.20	Depositor EDS
% Data completeness (in resolution range)	100.0 (225.91-2.20) 99.9 (225.91-2.20)	Depositor EDS
R_{merge}	0.41	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.25 (at 2.20Å)	Xtriage
Refinement program	REFMAC 5.8.0430 (refmacat 0.4.88)	Depositor
R, R_{free}	0.211 , 0.245 0.220 , 0.253	Depositor DCC
R_{free} test set	19315 reflections (5.12%)	wwPDB-VP
Wilson B-factor (Å^2)	37.2	Xtriage
Anisotropy	0.011	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 32.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.51$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	0.006 for -1/2*h-1/2*k-1/2*l,-1/2*h-1/2*k+1/2*l,-h+k 0.008 for -1/2*h+1/2*k-1/2*l,1/2*h-1/2*k-1/2*l,-h-k	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	34492	wwPDB-VP
Average B, all atoms (Å^2)	46.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.45% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: A1IZA

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	0.65	0/2791	1.17	6/3797 (0.2%)
1	B	0.65	0/2782	1.18	16/3785 (0.4%)
1	C	0.65	0/2787	1.19	11/3790 (0.3%)
1	D	0.65	0/2782	1.19	14/3785 (0.4%)
1	E	0.65	0/2777	1.16	8/3776 (0.2%)
1	F	0.64	0/2770	1.18	9/3767 (0.2%)
1	G	0.62	0/2791	1.21	14/3797 (0.4%)
1	H	0.64	0/2769	1.21	12/3766 (0.3%)
1	I	0.63	0/2791	1.15	4/3797 (0.1%)
1	J	0.63	0/2791	1.19	13/3797 (0.3%)
1	K	0.65	0/2787	1.17	11/3790 (0.3%)
1	L	0.66	0/2774	1.18	13/3774 (0.3%)
All	All	0.64	0/33392	1.18	131/45421 (0.3%)

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	4
1	B	0	1
1	C	0	1
1	D	0	3
1	E	0	5
1	F	0	3
1	H	0	5
1	J	0	4
1	K	0	3
1	L	0	3
All	All	0	32

There are no bond length outliers.

All (131) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	203	ARG	N-CA-CB	10.61	126.73	110.28
1	J	310	GLU	CB-CG-CD	9.44	128.65	112.60
1	B	203	ARG	CB-CA-C	-9.19	93.03	110.67
1	F	190	ASP	CA-CB-CG	8.29	120.89	112.60
1	L	283	ASP	CB-CA-C	8.09	123.98	109.83
1	J	123	GLN	CB-CA-C	8.00	122.89	109.84
1	B	255	ASP	CB-CA-C	7.99	123.56	110.22
1	C	203	ARG	N-CA-CB	7.85	122.38	110.30
1	E	123	GLN	CB-CA-C	-7.84	96.70	109.72
1	H	144	ASP	CA-CB-CG	7.55	120.15	112.60
1	G	283	ASP	CA-CB-CG	7.52	120.12	112.60
1	I	190	ASP	CA-CB-CG	7.49	120.09	112.60
1	J	123	GLN	N-CA-CB	-7.29	98.65	109.95
1	E	28	ASP	CA-CB-CG	7.18	119.78	112.60
1	H	28	ASP	CA-CB-CG	7.04	119.64	112.60
1	L	190	ASP	CA-CB-CG	7.02	119.62	112.60
1	L	38	ARG	N-CA-CB	-6.99	98.97	110.02
1	C	357	ASP	CA-CB-CG	6.97	119.57	112.60
1	J	28	ASP	CA-CB-CG	6.93	119.53	112.60
1	B	190	ASP	CA-CB-CG	6.89	119.49	112.60
1	G	102	VAL	N-CA-C	-6.84	106.63	113.20
1	E	283	ASP	CB-CA-C	-6.83	95.30	110.19
1	I	283	ASP	CA-CB-CG	6.83	119.43	112.60
1	G	357	ASP	CA-CB-CG	6.80	119.40	112.60
1	H	211	THR	CA-CB-OG1	-6.65	99.63	109.60
1	D	48	ASP	CA-CB-CG	6.63	119.23	112.60
1	G	190	ASP	CA-CB-CG	6.57	119.17	112.60
1	C	203	ARG	CB-CA-C	-6.56	96.99	110.38
1	J	310	GLU	CG-CD-OE1	-6.55	103.34	118.40
1	K	38	ARG	CB-CA-C	6.53	118.26	108.86
1	C	190	ASP	CA-CB-CG	6.53	119.13	112.60
1	B	123	GLN	CB-CA-C	6.53	120.48	109.84
1	G	216	MET	CG-SD-CE	6.50	115.21	100.90
1	E	248	MET	CG-SD-CE	6.50	115.20	100.90
1	D	91	ARG	CB-CA-C	-6.41	95.81	110.18
1	A	258	GLU	CB-CA-C	-6.40	97.43	109.72
1	A	190	ASP	CA-CB-CG	6.38	118.98	112.60
1	E	123	GLN	N-CA-CB	6.37	119.44	109.83
1	D	43	ASP	CA-CB-CG	6.32	118.92	112.60
1	G	144	ASP	CA-CB-CG	6.30	118.90	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	190	ASP	CA-CB-CG	6.28	118.88	112.60
1	B	54	ARG	CB-CA-C	-6.27	96.94	109.79
1	K	48	ASP	CA-CB-CG	6.23	118.83	112.60
1	K	258	GLU	CB-CA-C	-6.23	99.29	110.37
1	J	310	GLU	CG-CD-OE2	6.17	132.60	118.40
1	H	255	ASP	CB-CA-C	6.08	120.24	109.72
1	A	28	ASP	CA-CB-CG	6.08	118.68	112.60
1	L	255	ASP	CA-CB-CG	6.06	118.66	112.60
1	H	190	ASP	CA-CB-CG	6.04	118.64	112.60
1	B	283	ASP	CA-CB-CG	6.03	118.63	112.60
1	G	48	ASP	CA-CB-CG	6.02	118.62	112.60
1	L	144	ASP	CA-CB-CG	6.01	118.61	112.60
1	H	148	VAL	CA-C-O	5.98	123.45	119.38
1	L	283	ASP	CA-CB-CG	5.90	118.50	112.60
1	B	123	GLN	N-CA-CB	-5.89	100.81	109.95
1	J	357	ASP	CA-CB-CG	5.89	118.49	112.60
1	H	123	GLN	CB-CA-C	5.87	119.41	109.84
1	G	60	ASP	CA-CB-CG	5.87	118.47	112.60
1	B	327	GLN	CB-CA-C	-5.84	100.38	109.55
1	J	54	ARG	CB-CA-C	-5.83	97.24	110.07
1	K	212	ARG	CB-CA-C	5.80	119.10	109.53
1	G	99	CYS	CB-CA-C	5.78	119.09	109.56
1	C	48	ASP	CA-CB-CG	5.76	118.36	112.60
1	B	144	ASP	CA-CB-CG	5.76	118.36	112.60
1	L	198	MET	CG-SD-CE	-5.76	88.23	100.90
1	G	306	GLU	CB-CA-C	-5.72	100.51	110.17
1	L	357	ASP	CA-CB-CG	5.72	118.32	112.60
1	C	212	ARG	CB-CA-C	5.70	119.16	109.53
1	F	283	ASP	CA-CB-CG	5.70	118.30	112.60
1	C	255	ASP	CB-CA-C	5.69	119.41	110.19
1	F	54	ARG	CB-CA-C	-5.68	97.51	109.38
1	H	48	ASP	CA-CB-CG	5.68	118.28	112.60
1	L	28	ASP	CA-CB-CG	5.64	118.24	112.60
1	F	306	GLU	CB-CA-C	-5.63	100.65	110.17
1	L	185	ASP	CA-CB-CG	5.63	118.23	112.60
1	J	190	ASP	CA-CB-CG	5.63	118.23	112.60
1	D	279	PHE	N-CA-CB	5.62	119.00	110.28
1	L	258	GLU	CB-CA-C	-5.62	99.43	110.11
1	D	306	GLU	CB-CA-C	-5.61	99.89	109.65
1	F	255	ASP	CB-CA-C	5.56	119.41	110.29
1	H	148	VAL	CB-CA-C	5.55	116.31	110.37
1	K	283	ASP	CB-CA-C	5.54	120.98	110.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	357	ASP	CA-CB-CG	5.54	118.14	112.60
1	C	207	MET	CG-SD-CE	5.49	112.98	100.90
1	D	283	ASP	CA-CB-CG	5.48	118.08	112.60
1	C	58	THR	CA-CB-OG1	-5.45	101.42	109.60
1	G	104	ASP	CA-CB-CG	5.45	118.05	112.60
1	H	309	ASN	CB-CA-C	-5.45	101.39	110.81
1	A	248	MET	CG-SD-CE	5.44	112.86	100.90
1	F	60	ASP	CA-CB-CG	5.44	118.04	112.60
1	D	54	ARG	CB-CA-C	-5.43	98.11	110.07
1	J	43	ASP	CA-CB-CG	5.43	118.03	112.60
1	D	58	THR	CA-CB-OG1	-5.42	101.47	109.60
1	K	162	MET	CG-SD-CE	-5.42	88.98	100.90
1	F	28	ASP	CA-CB-CG	5.42	118.02	112.60
1	F	144	ASP	CA-CB-CG	5.42	118.02	112.60
1	B	60	ASP	CA-CB-CG	5.39	117.99	112.60
1	A	306	GLU	CB-CA-C	-5.39	100.28	109.65
1	G	76	LYS	CB-CA-C	-5.38	103.66	111.14
1	D	38	ARG	CB-CA-C	5.37	116.60	108.86
1	J	38	ARG	CB-CA-C	5.37	116.83	108.61
1	G	212	ARG	CB-CA-C	5.37	118.48	109.89
1	H	357	ASP	CA-CB-CG	5.36	117.96	112.60
1	E	306	GLU	CB-CA-C	-5.36	100.33	109.65
1	C	306	GLU	CB-CA-C	-5.35	100.33	109.65
1	B	38	ARG	CB-CA-C	5.33	116.85	108.63
1	I	104	ASP	CA-CB-CG	5.33	117.94	112.60
1	L	357	ASP	CB-CA-C	5.33	119.64	110.79
1	B	43	ASP	CA-CB-CG	5.25	117.85	112.60
1	K	123	GLN	CB-CA-C	-5.24	102.41	110.26
1	J	306	GLU	CB-CA-C	-5.23	100.55	109.65
1	K	190	ASP	CA-CB-CG	5.23	117.83	112.60
1	D	190	ASP	CA-CB-CG	5.21	117.81	112.60
1	E	48	ASP	CA-CB-CG	5.20	117.80	112.60
1	K	28	ASP	CA-CB-CG	5.19	117.79	112.60
1	B	258	GLU	CB-CA-C	-5.18	99.17	109.99
1	B	299	THR	OG1-CB-CG2	-5.18	98.94	109.30
1	A	283	ASP	CA-CB-CG	5.17	117.77	112.60
1	F	359	ASP	CA-CB-CG	5.15	117.75	112.60
1	G	211	THR	CA-CB-OG1	-5.13	101.90	109.60
1	K	306	GLU	CB-CA-C	-5.12	100.96	109.55
1	L	67	LEU	N-CA-CB	5.12	117.73	110.06
1	D	157	PHE	CB-CA-C	5.09	120.55	110.42
1	H	310	GLU	CB-CG-CD	5.08	121.24	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	I	283	ASP	CB-CA-C	5.07	120.89	110.40
1	K	32	ASP	CA-CB-CG	5.04	117.64	112.60
1	B	55	ARG	CB-CA-C	5.04	118.06	109.75
1	C	123	GLN	CB-CA-C	-5.04	102.71	110.26
1	D	144	ASP	CA-CB-CG	5.02	117.62	112.60
1	J	185	ASP	CA-CB-CG	5.02	117.62	112.60
1	D	43	ASP	CB-CA-C	5.01	120.40	110.42

There are no chirality outliers.

All (32) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	110	ARG	Sidechain
1	A	265	ARG	Sidechain
1	A	38	ARG	Sidechain
1	A	91	ARG	Sidechain
1	B	35	ARG	Sidechain
1	C	38	ARG	Sidechain
1	D	212	ARG	Sidechain
1	D	42	VAL	Peptide
1	D	85	ARG	Sidechain
1	E	346	ALA	Peptide
1	E	348	THR	Peptide
1	E	350	ASP	Peptide
1	E	38	ARG	Sidechain
1	E	54	ARG	Peptide
1	F	203	ARG	Sidechain
1	F	212	ARG	Sidechain
1	F	233	ARG	Sidechain
1	H	203	ARG	Sidechain
1	H	233	ARG	Sidechain
1	H	323	ASN	Peptide
1	H	38	ARG	Sidechain
1	H	54	ARG	Peptide
1	J	212	ARG	Sidechain
1	J	322	ALA	Peptide
1	J	35	ARG	Sidechain
1	J	85	ARG	Sidechain
1	K	233	ARG	Sidechain
1	K	38	ARG	Sidechain
1	K	54	ARG	Sidechain
1	L	212	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	L	54	ARG	Peptide
1	L	91	ARG	Sidechain

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	2718	0	2658	34	0
1	B	2715	0	2660	23	0
1	C	2712	0	2658	30	0
1	D	2715	0	2660	28	0
1	E	2708	0	2653	23	0
1	F	2698	0	2639	29	0
1	G	2718	0	2658	41	0
1	H	2703	0	2652	18	0
1	I	2718	0	2658	25	0
1	J	2721	0	2668	21	0
1	K	2712	0	2658	22	0
1	L	2707	0	2656	27	0
2	A	65	0	0	3	0
2	B	65	0	0	1	0
2	C	65	0	0	2	0
2	D	65	0	0	1	0
2	E	65	0	0	1	0
2	F	65	0	0	3	0
2	G	65	0	0	1	0
2	H	65	0	0	0	0
2	I	65	0	0	0	0
2	J	65	0	0	0	0
2	K	65	0	0	1	0
2	L	65	0	0	0	0
3	A	91	0	0	1	0
3	B	96	0	0	0	0
3	C	100	0	0	1	0
3	D	93	0	0	0	0
3	E	97	0	0	2	0
3	F	98	0	0	1	0
3	G	88	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	H	92	0	0	0	0
3	I	101	0	0	2	0
3	J	112	0	0	0	0
3	K	104	0	0	1	0
3	L	95	0	0	0	0
All	All	34492	0	31878	281	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 4.

All (281) 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:I:80:LEU:HD23	1:I:108:TYR:CE2	2.17	0.79
1:G:259:LEU:HD22	1:G:274:LEU:HD13	1.66	0.78
1:A:80:LEU:HD23	1:A:108:TYR:CE1	2.21	0.76
1:F:80:LEU:HD23	1:F:108:TYR:CE1	2.22	0.75
1:E:80:LEU:HD23	1:E:108:TYR:CE2	2.23	0.74
1:G:1:MET:O	1:G:6:SER:OG	2.07	0.71
1:F:80:LEU:CD2	1:F:108:TYR:CE1	2.74	0.71
1:I:118:GLY:O	1:I:121:SER:OG	2.07	0.71
1:C:259:LEU:HD22	1:C:274:LEU:HD13	1.73	0.70
1:L:80:LEU:HD23	1:L:108:TYR:CE1	2.26	0.69
1:B:85:ARG:HD2	2:B:401:A1IZA:O9	1.94	0.68
1:H:79:VAL:HG22	1:H:107:ILE:HB	1.75	0.68
1:G:76:LYS:HE2	1:G:359:ASP:C	2.19	0.67
1:G:11:VAL:HG12	1:G:80:LEU:HD12	1.78	0.66
1:C:198:MET:HE1	2:D:401:A1IZA:C27	2.25	0.65
1:G:80:LEU:CD2	1:G:108:TYR:CE2	2.79	0.65
1:C:80:LEU:CD2	1:C:108:TYR:CE2	2.80	0.64
1:E:336:ARG:NH2	1:F:180:LYS:HB2	2.13	0.64
1:D:80:LEU:HD23	1:D:108:TYR:CE2	2.33	0.63
1:G:79:VAL:HG22	1:G:107:ILE:HB	1.79	0.63
1:L:323:ASN:CG	1:L:324:GLY:N	2.56	0.63
1:H:60:ASP:O	1:H:66:GLY:HA3	1.99	0.62
1:L:88:VAL:O	1:L:92:LEU:HD12	1.98	0.62
1:A:180:LYS:O	1:B:336:ARG:NH2	2.33	0.62
1:B:291:PHE:O	1:B:294:SER:HB3	2.00	0.62
1:G:198:MET:HG2	1:G:202:MET:HE2	1.82	0.61
1:D:1:MET:O	1:D:6:SER:OG	2.19	0.60
1:A:38:ARG:NH2	2:A:401:A1IZA:O12	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:138:HIS:HD2	3:K:561:HOH:O	1.85	0.60
1:G:105:ARG:HH11	1:G:105:ARG:HG2	1.65	0.60
1:F:85:ARG:CD	2:F:401:A1IZA:O9	2.51	0.59
1:H:225:ASP:OD2	1:H:272:ARG:NH1	2.34	0.59
1:A:80:LEU:CD2	1:A:108:TYR:CE1	2.86	0.59
1:H:80:LEU:HD23	1:H:108:TYR:CE2	2.38	0.59
1:F:85:ARG:HD3	2:F:401:A1IZA:O9	2.02	0.58
1:E:259:LEU:HD22	1:E:274:LEU:HD13	1.85	0.57
1:K:39:PRO:HA	1:K:58:THR:CG2	2.34	0.57
1:K:111:MET:HE3	1:K:186:ALA:O	2.04	0.57
1:L:323:ASN:CG	1:L:324:GLY:H	2.12	0.57
1:I:272:ARG:NH1	3:I:501:HOH:O	2.37	0.56
1:C:138:HIS:HD2	3:C:571:HOH:O	1.86	0.56
1:I:198:MET:HE3	1:J:157:PHE:HZ	1.70	0.56
1:D:118:GLY:O	1:D:121:SER:OG	2.17	0.56
1:A:323:ASN:N	1:A:323:ASN:HD22	2.05	0.55
1:K:176:GLN:HA	1:K:176:GLN:HE21	1.72	0.55
1:G:117:THR:O	1:H:316:ARG:HD2	2.07	0.55
1:B:80:LEU:HD23	1:B:108:TYR:CE2	2.42	0.55
1:K:145:GLU:OE1	1:L:145:GLU:OE1	2.25	0.55
1:F:41:SER:O	1:F:42:VAL:HG13	2.07	0.55
1:C:80:LEU:HD22	1:C:108:TYR:CE2	2.42	0.55
1:F:114:TRP:CZ3	1:F:133:LEU:HD22	2.43	0.54
1:C:358:TRP:O	1:C:359:ASP:C	2.51	0.54
1:H:41:SER:O	1:H:42:VAL:C	2.49	0.54
1:F:181:GLY:O	1:F:182:GLN:HB3	2.07	0.53
1:G:199:MET:HE3	1:G:202:MET:CE	2.39	0.53
1:E:1:MET:O	1:E:6:SER:OG	2.24	0.53
1:A:153:LEU:HD21	1:B:196:ILE:HG13	1.89	0.53
1:F:55:ARG:HD2	1:F:349:ILE:HD11	1.90	0.53
1:H:80:LEU:CD2	1:H:108:TYR:CE2	2.91	0.53
1:C:329:MET:HE3	1:C:330:PRO:HD2	1.90	0.53
1:C:28:ASP:HA	1:C:53:ASN:ND2	2.24	0.53
1:C:19:GLY:N	1:C:20:PRO:CD	2.72	0.52
1:K:196:ILE:HG13	1:L:153:LEU:HD21	1.90	0.52
1:A:332:PRO:HG3	1:B:163:PHE:O	2.10	0.52
1:C:60:ASP:O	1:C:66:GLY:HA3	2.10	0.52
1:A:183:VAL:HB	1:B:335:SER:OG	2.10	0.52
1:I:302:LEU:O	1:J:135:GLY:HA2	2.09	0.52
1:C:79:VAL:HG22	1:C:107:ILE:HB	1.92	0.52
1:E:255:ASP:HB3	1:E:258:GLU:HG2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:401:A1IZA:O3	2:A:401:A1IZA:C12	2.59	0.51
1:J:80:LEU:HD23	1:J:108:TYR:CE2	2.45	0.51
1:L:107:ILE:HD12	1:L:171:ALA:HB1	1.93	0.51
1:A:259:LEU:HD22	1:A:274:LEU:HD13	1.91	0.51
1:G:51:LEU:HA	1:G:54:ARG:NH1	2.24	0.51
1:G:199:MET:HE3	1:G:202:MET:HE2	1.93	0.51
1:I:294:SER:O	1:J:123:GLN:HG3	2.11	0.51
1:I:198:MET:HB2	1:J:50:MET:HE1	1.93	0.51
1:I:176:GLN:HG3	1:J:176:GLN:HE21	1.76	0.51
1:D:294:SER:HB2	1:L:293:ASN:O	2.11	0.50
1:K:332:PRO:HG3	1:L:163:PHE:O	2.11	0.50
1:H:349:ILE:HD11	1:H:354:VAL:HG22	1.94	0.50
1:J:28:ASP:HA	1:J:53:ASN:ND2	2.26	0.50
1:A:138:HIS:HD2	3:A:549:HOH:O	1.94	0.50
1:I:268:TRP:N	1:I:269:PRO:CD	2.74	0.50
1:G:194:VAL:O	1:G:197:GLN:HB2	2.11	0.50
1:D:80:LEU:CD2	1:D:108:TYR:CE2	2.95	0.50
1:G:113:GLY:HA2	1:G:188:MET:HB2	1.92	0.50
1:A:39:PRO:O	1:A:41:SER:O	2.30	0.50
1:C:113:GLY:HA3	1:C:130:TYR:CZ	2.47	0.50
1:D:329:MET:HE3	1:D:330:PRO:HD2	1.93	0.50
1:F:196:ILE:HG12	1:F:199:MET:HB2	1.94	0.50
1:F:322:ALA:O	1:F:323:ASN:C	2.54	0.49
1:J:294:SER:HB2	1:K:293:ASN:O	2.12	0.49
1:C:118:GLY:O	1:C:121:SER:OG	2.28	0.49
1:C:176:GLN:CD	1:D:176:GLN:HG2	2.37	0.49
1:F:69:LEU:HD13	1:F:351:ILE:HG23	1.95	0.49
1:F:329:MET:HE3	1:F:330:PRO:HD2	1.95	0.49
1:C:302:LEU:O	1:D:135:GLY:HA2	2.13	0.48
1:L:80:LEU:CD2	1:L:108:TYR:CE1	2.97	0.48
1:H:113:GLY:HA2	1:H:188:MET:HB2	1.96	0.48
1:E:225:ASP:OD2	1:E:272:ARG:NH1	2.46	0.48
1:I:138:HIS:HD2	3:I:529:HOH:O	1.97	0.48
1:G:80:LEU:HD23	1:G:108:TYR:CE2	2.47	0.48
1:L:118:GLY:O	1:L:121:SER:OG	2.27	0.48
1:E:85:ARG:NH1	1:E:122:GLN:O	2.44	0.48
1:J:322:ALA:HB3	1:J:323:ASN:HB2	1.95	0.48
1:A:11:VAL:HG12	1:A:80:LEU:HD12	1.96	0.47
1:G:113:GLY:HA3	1:G:130:TYR:CZ	2.49	0.47
1:G:39:PRO:HB3	1:G:58:THR:HG23	1.97	0.47
1:A:163:PHE:O	1:B:332:PRO:HG3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:55:ARG:HD2	1:F:349:ILE:CD1	2.43	0.47
1:G:255:ASP:HB3	1:G:258:GLU:HG3	1.96	0.47
1:B:329:MET:HE3	1:B:330:PRO:HD2	1.96	0.47
1:F:80:LEU:HD23	1:F:108:TYR:CD1	2.48	0.47
1:C:336:ARG:HG2	1:C:336:ARG:HH11	1.79	0.47
1:C:336:ARG:NH2	1:D:180:LYS:HB2	2.29	0.47
1:G:50:MET:HE1	1:H:198:MET:HB2	1.97	0.47
1:L:320:TYR:CE2	1:L:322:ALA:HB2	2.49	0.47
1:G:114:TRP:CZ3	1:G:133:LEU:HD22	2.49	0.47
1:L:114:TRP:CZ3	1:L:133:LEU:HD22	2.49	0.47
1:C:19:GLY:N	1:C:20:PRO:HD2	2.30	0.47
1:D:225:ASP:OD2	1:D:272:ARG:NH1	2.48	0.47
1:K:1:MET:O	1:K:6:SER:OG	2.17	0.47
1:K:114:TRP:CZ3	1:K:133:LEU:HD22	2.49	0.47
1:G:291:PHE:O	1:G:293:ASN:N	2.46	0.47
1:I:329:MET:HE3	1:I:330:PRO:HD2	1.97	0.47
1:K:80:LEU:HD23	1:K:108:TYR:CE2	2.50	0.47
1:D:37:ASP:O	1:D:58:THR:HA	2.14	0.47
1:B:225:ASP:OD2	1:B:272:ARG:NH1	2.48	0.46
1:G:42:VAL:HG13	1:G:43:ASP:H	1.80	0.46
1:K:302:LEU:O	1:L:135:GLY:HA2	2.15	0.46
1:F:270:GLU:HG3	3:F:542:HOH:O	2.15	0.46
1:G:163:PHE:O	1:H:332:PRO:HG3	2.16	0.46
1:H:61:LEU:HD22	1:H:94:LEU:HD11	1.98	0.46
2:C:401:A1IZA:C27	1:D:198:MET:HE1	2.46	0.46
1:E:28:ASP:CG	1:E:52:ARG:HH21	2.24	0.46
1:A:135:GLY:HA2	1:B:302:LEU:O	2.15	0.46
1:A:140:ILE:CD1	1:B:151:LEU:HG	2.46	0.46
1:C:295:ASP:CG	1:D:85:ARG:HH22	2.24	0.46
1:D:107:ILE:HD12	1:D:171:ALA:HB1	1.98	0.46
1:F:51:LEU:HA	1:F:54:ARG:NH1	2.31	0.46
1:G:302:LEU:O	1:H:135:GLY:HA2	2.16	0.46
1:G:10:VAL:HG22	1:G:79:VAL:HB	1.97	0.46
1:C:113:GLY:HA3	1:C:130:TYR:CE1	2.51	0.46
1:F:85:ARG:HD2	2:F:401:A1IZA:O9	2.15	0.46
1:L:142:ARG:O	1:L:212:ARG:HD2	2.16	0.46
1:G:91:ARG:NH2	2:G:401:A1IZA:O17	2.37	0.45
1:G:42:VAL:HG13	1:G:43:ASP:N	2.31	0.45
1:E:61:LEU:HG	2:E:401:A1IZA:N5	2.31	0.45
1:A:2:ALA:HB3	1:A:340:SER:OG	2.15	0.45
1:K:196:ILE:HG12	1:K:199:MET:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:79:VAL:HG22	1:A:107:ILE:HB	1.99	0.45
1:C:135:GLY:HA2	1:D:302:LEU:O	2.16	0.45
1:E:39:PRO:HG3	1:E:58:THR:HG23	1.99	0.45
1:F:113:GLY:HA3	1:F:130:TYR:CZ	2.52	0.45
1:G:25:ILE:O	1:G:28:ASP:HB2	2.16	0.45
1:F:291:PHE:O	1:F:293:ASN:N	2.50	0.45
1:G:322:ALA:HB1	1:G:323:ASN:HD22	1.82	0.45
1:G:252:LEU:HD21	1:G:279:PHE:CE1	2.51	0.45
1:K:91:ARG:NH2	2:K:401:A1IZA:O17	2.50	0.45
1:L:129:ASN:O	1:L:132[A]:SER:OG	2.35	0.45
1:C:91:ARG:NH2	2:C:401:A1IZA:O16	2.51	0.44
1:E:303:ALA:O	1:E:304:PHE:C	2.60	0.44
1:G:138:HIS:HD2	3:G:816:HOH:O	2.00	0.44
1:B:114:TRP:CZ3	1:B:133:LEU:HD22	2.52	0.44
1:J:113:GLY:HA3	1:J:130:TYR:CE1	2.51	0.44
1:A:346:ALA:O	1:A:347:ALA:C	2.60	0.44
1:D:268:TRP:N	1:D:269:PRO:CD	2.80	0.44
1:K:60:ASP:O	1:K:66:GLY:HA3	2.18	0.44
1:E:80:LEU:CD2	1:E:108:TYR:CE2	2.98	0.44
1:C:148:VAL:HG21	1:D:141:GLY:HA2	1.99	0.44
1:A:41:SER:O	1:A:42:VAL:HG22	2.17	0.44
1:F:78:ASP:OD1	1:F:175:ARG:NH2	2.36	0.44
1:G:199:MET:CE	1:G:202:MET:CE	2.95	0.44
1:I:332:PRO:HG3	1:J:163:PHE:O	2.18	0.44
1:L:73:LEU:HD11	1:L:351:ILE:HG13	1.99	0.44
1:C:45:ILE:HD11	1:C:347:ALA:HB2	2.00	0.44
1:D:126:HIS:O	1:D:127:ASP:C	2.60	0.44
1:K:109:ALA:HB1	1:K:164:LEU:HD11	1.99	0.44
1:D:196:ILE:HG12	1:D:199:MET:HB2	2.00	0.43
1:I:196:ILE:HG12	1:I:199:MET:HB2	1.99	0.43
1:J:111:MET:HE3	1:J:186:ALA:O	2.18	0.43
1:K:336:ARG:HH11	1:K:336:ARG:HG2	1.83	0.43
1:A:45:ILE:HG12	1:A:347:ALA:HB2	2.00	0.43
1:B:244:PHE:HB3	1:B:295:ASP:O	2.18	0.43
1:D:106:LEU:O	1:D:181:GLY:HA3	2.18	0.43
1:D:113:GLY:HA2	1:D:188:MET:HB2	2.00	0.43
1:F:106:LEU:O	1:F:181:GLY:HA3	2.18	0.43
1:F:142:ARG:O	1:F:212:ARG:HD2	2.17	0.43
1:E:117:THR:O	1:F:316:ARG:HD2	2.18	0.43
1:I:241:GLU:HB2	1:I:244:PHE:CD2	2.53	0.43
1:L:196:ILE:HG12	1:L:199:MET:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:176:GLN:HE21	1:G:176:GLN:HA	1.84	0.43
1:A:28:ASP:HA	1:A:53:ASN:ND2	2.33	0.43
1:A:126:HIS:ND1	2:A:401:A1IZA:C3	2.82	0.43
1:H:268:TRP:N	1:H:269:PRO:CD	2.81	0.43
1:A:346:ALA:O	1:A:347:ALA:O	2.37	0.43
1:F:10:VAL:HG22	1:F:79:VAL:HB	1.99	0.43
1:E:196:ILE:HG12	1:E:199:MET:HB2	2.01	0.43
1:J:60:ASP:O	1:J:66:GLY:HA3	2.19	0.42
1:J:244:PHE:HB3	1:J:295:ASP:O	2.19	0.42
1:C:17:GLY:O	1:C:20:PRO:HD2	2.19	0.42
1:G:61:LEU:HD13	1:G:94:LEU:CD1	2.49	0.42
1:A:225:ASP:OD2	1:A:272:ARG:NH1	2.52	0.42
1:B:221:ALA:HA	1:B:222:PRO:HD3	1.89	0.42
1:D:25:ILE:HA	1:D:28:ASP:HB2	2.02	0.42
1:E:302:LEU:O	1:F:135:GLY:HA2	2.18	0.42
1:G:336:ARG:HG2	1:G:336:ARG:HH11	1.84	0.42
1:K:39:PRO:HA	1:K:58:THR:HG23	2.00	0.42
1:G:199:MET:O	1:G:203:ARG:HB2	2.18	0.42
1:G:225:ASP:OD2	1:G:272:ARG:NH1	2.52	0.42
1:H:6:SER:HA	1:H:30:GLY:O	2.18	0.42
1:L:108:TYR:HB3	1:L:183:VAL:HG22	2.01	0.42
1:L:356:THR:HG22	1:L:357:ASP:N	2.34	0.42
1:A:224:TYR:HA	1:A:237:VAL:O	2.20	0.42
1:I:259:LEU:HD22	1:I:274:LEU:HD13	2.01	0.42
1:B:2:ALA:HB3	1:B:340:SER:HB3	2.01	0.42
1:F:113:GLY:HA3	1:F:130:TYR:CE1	2.54	0.42
1:I:51:LEU:HA	1:I:54:ARG:NH1	2.34	0.42
1:I:127:ASP:HB3	1:J:224:TYR:OH	2.19	0.42
1:I:135:GLY:HA2	1:J:302:LEU:O	2.19	0.42
1:K:157:PHE:HA	1:K:161:SER:OG	2.20	0.42
1:D:75:ALA:HA	1:D:103:ASN:HB2	2.00	0.42
1:I:248:MET:HE2	1:I:248:MET:HB3	1.98	0.42
1:I:117:THR:O	1:J:316:ARG:HD2	2.20	0.42
1:E:19:GLY:N	1:E:20:PRO:HD2	2.34	0.41
1:E:138:HIS:HE1	3:E:590:HOH:O	2.02	0.41
1:K:163:PHE:O	1:L:332:PRO:HG3	2.20	0.41
1:B:60:ASP:O	1:B:66:GLY:HA3	2.20	0.41
1:D:109:ALA:HB1	1:D:164:LEU:HD11	2.01	0.41
1:E:109:ALA:HB1	1:E:164:LEU:HD11	2.01	0.41
1:G:61:LEU:HD13	1:G:94:LEU:HD11	2.02	0.41
1:H:58:THR:O	1:H:59:ALA:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:245:TYR:CE2	1:I:249:LEU:HD11	2.55	0.41
1:E:241:GLU:HB2	1:E:244:PHE:CD2	2.54	0.41
1:K:4:PRO:O	1:L:174:GLU:HB2	2.20	0.41
1:E:78:ASP:OD1	1:E:175:ARG:NH2	2.20	0.41
1:H:1:MET:HE2	1:H:343:ARG:CZ	2.51	0.41
1:A:58:THR:O	1:A:59:ALA:HB2	2.20	0.41
1:A:1:MET:HE2	1:A:343:ARG:NH2	2.35	0.41
1:B:224:TYR:HA	1:B:237:VAL:O	2.20	0.41
1:C:102:VAL:O	1:C:103:ASN:HB2	2.21	0.41
1:L:4:PRO:HG3	1:L:334:PHE:CZ	2.56	0.41
1:L:221:ALA:HA	1:L:222:PRO:HD3	1.89	0.41
1:E:138:HIS:HD2	3:E:555:HOH:O	2.04	0.41
1:E:244:PHE:HB3	1:E:295:ASP:O	2.20	0.41
1:I:112:THR:OG1	1:I:115:GLY:N	2.53	0.41
1:K:50:MET:HE1	1:L:198:MET:HB2	2.02	0.41
1:A:25:ILE:O	1:A:28:ASP:HB2	2.21	0.41
1:A:322:ALA:C	1:A:323:ASN:HD22	2.28	0.41
1:C:80:LEU:HD23	1:C:108:TYR:CE2	2.56	0.41
1:C:268:TRP:N	1:C:269:PRO:CD	2.83	0.41
1:D:10:VAL:HG21	1:D:26:LEU:HD13	2.03	0.41
1:D:18:PRO:HB2	1:D:111:MET:HG2	2.03	0.41
1:D:73:LEU:HD23	1:D:73:LEU:HA	1.92	0.41
1:G:102:VAL:O	1:G:103:ASN:HB2	2.21	0.41
1:I:327:GLN:NE2	1:J:197:GLN:HE21	2.19	0.41
1:J:221:ALA:HA	1:J:222:PRO:HD3	1.97	0.41
1:F:24:MET:HB3	1:F:24:MET:HE2	1.89	0.41
1:B:126:HIS:O	1:B:127:ASP:C	2.64	0.40
1:B:181:GLY:O	1:B:182:GLN:HB3	2.21	0.40
1:E:114:TRP:CZ3	1:E:133:LEU:HD22	2.56	0.40
1:G:28:ASP:CG	1:G:52:ARG:HH21	2.27	0.40
1:I:111:MET:HE3	1:I:186:ALA:O	2.20	0.40
1:A:11:VAL:HG12	1:A:80:LEU:CD1	2.51	0.40
1:A:51:LEU:HA	1:A:54:ARG:NH1	2.36	0.40
1:D:341:GLN:HA	1:D:342:PRO:HD3	1.88	0.40
1:B:80:LEU:CD2	1:B:108:TYR:CE2	3.04	0.40
1:C:126:HIS:O	1:C:127:ASP:C	2.65	0.40
1:C:245:TYR:CE2	1:C:249:LEU:HD11	2.57	0.40
1:G:196:ILE:HG12	1:G:199:MET:HB2	2.04	0.40
1:A:113:GLY:HA3	1:A:130:TYR:CE1	2.57	0.40
1:A:196:ILE:HG12	1:A:199:MET:HB2	2.02	0.40
1:H:245:TYR:OH	1:H:271:LEU:HD11	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:316:ARG:HD2	1:J:117:THR:O	2.22	0.40
1:J:225:ASP:OD2	1:J:272:ARG:NH1	2.55	0.40
1:L:252:LEU:HD23	1:L:252:LEU:HA	1.90	0.40
1:A:198:MET:HB2	1:B:50:MET:HE1	2.04	0.40
1:B:150:PRO:O	1:B:151:LEU:C	2.64	0.40
1:F:67:LEU:O	1:F:67:LEU:HD12	2.22	0.40
1:L:8:LEU:HD11	1:L:172:LEU:HD11	2.02	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	359/364 (99%)	330 (92%)	24 (7%)	5 (1%)	9 7
1	B	358/364 (98%)	337 (94%)	17 (5%)	4 (1%)	12 10
1	C	356/364 (98%)	343 (96%)	11 (3%)	2 (1%)	22 23
1	D	358/364 (98%)	336 (94%)	19 (5%)	3 (1%)	16 16
1	E	355/364 (98%)	333 (94%)	21 (6%)	1 (0%)	37 42
1	F	354/364 (97%)	326 (92%)	22 (6%)	6 (2%)	7 5
1	G	359/364 (99%)	330 (92%)	22 (6%)	7 (2%)	6 4
1	H	354/364 (97%)	329 (93%)	21 (6%)	4 (1%)	12 10
1	I	359/364 (99%)	341 (95%)	17 (5%)	1 (0%)	37 42
1	J	359/364 (99%)	345 (96%)	13 (4%)	1 (0%)	37 42
1	K	356/364 (98%)	331 (93%)	24 (7%)	1 (0%)	37 42
1	L	357/364 (98%)	336 (94%)	19 (5%)	2 (1%)	22 23
All	All	4284/4368 (98%)	4017 (94%)	230 (5%)	37 (1%)	14 14

All (37) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	103	ASN
1	A	347	ALA
1	B	347	ALA
1	C	103	ASN
1	D	323	ASN
1	F	41	SER
1	F	103	ASN
1	G	103	ASN
1	J	103	ASN
1	A	42	VAL
1	C	347	ALA
1	G	42	VAL
1	G	101	LYS
1	G	347	ALA
1	H	59	ALA
1	A	59	ALA
1	B	59	ALA
1	B	103	ASN
1	D	103	ASN
1	D	347	ALA
1	F	292	ALA
1	F	347	ALA
1	H	347	ALA
1	H	348	THR
1	I	103	ASN
1	K	103	ASN
1	B	151	LEU
1	F	182	GLN
1	G	100	ALA
1	H	103	ASN
1	L	103	ASN
1	L	323	ASN
1	A	356	THR
1	F	59	ALA
1	G	43	ASP
1	G	59	ALA
1	E	323	ASN

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	277/277 (100%)	266 (96%)	11 (4%)	27	35
1	B	276/277 (100%)	270 (98%)	6 (2%)	47	61
1	C	277/277 (100%)	265 (96%)	12 (4%)	25	32
1	D	276/277 (100%)	267 (97%)	9 (3%)	33	44
1	E	275/277 (99%)	266 (97%)	9 (3%)	33	44
1	F	275/277 (99%)	266 (97%)	9 (3%)	33	44
1	G	277/277 (100%)	265 (96%)	12 (4%)	25	32
1	H	275/277 (99%)	262 (95%)	13 (5%)	22	29
1	I	277/277 (100%)	266 (96%)	11 (4%)	27	35
1	J	277/277 (100%)	272 (98%)	5 (2%)	54	69
1	K	277/277 (100%)	265 (96%)	12 (4%)	25	32
1	L	275/277 (99%)	266 (97%)	9 (3%)	33	44
All	All	3314/3324 (100%)	3196 (96%)	118 (4%)	31	40

All (118) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	6	SER
1	A	42	VAL
1	A	54	ARG
1	A	58	THR
1	A	180	LYS
1	A	248	MET
1	A	258	GLU
1	A	294	SER
1	A	323	ASN
1	A	340	SER
1	A	348	THR
1	B	6	SER
1	B	148	VAL
1	B	258	GLU
1	B	265	ARG
1	B	335	SER
1	B	349	ILE
1	C	6	SER
1	C	40	SER

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Mol	Chain	Res	Type
1	C	54	ARG
1	C	58	THR
1	C	102	VAL
1	C	148	VAL
1	C	176	GLN
1	C	207	MET
1	C	294	SER
1	C	315[A]	GLU
1	C	315[B]	GLU
1	C	351	ILE
1	D	40	SER
1	D	45	ILE
1	D	47	ARG
1	D	85	ARG
1	D	121	SER
1	D	176	GLN
1	D	294	SER
1	D	350	ASP
1	D	356	THR
1	E	6	SER
1	E	43	ASP
1	E	54	ARG
1	E	58	THR
1	E	64	ASP
1	E	144	ASP
1	E	177	SER
1	E	248	MET
1	E	258	GLU
1	F	38	ARG
1	F	42	VAL
1	F	85	ARG
1	F	176	GLN
1	F	177	SER
1	F	199	MET
1	F	293	ASN
1	F	350	ASP
1	F	359	ASP
1	G	6	SER
1	G	40	SER
1	G	54	ARG
1	G	56	ILE
1	G	58	THR

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Mol	Chain	Res	Type
1	G	97	GLU
1	G	102	VAL
1	G	104	ASP
1	G	258	GLU
1	G	323	ASN
1	G	350	ASP
1	G	357	ASP
1	H	38	ARG
1	H	40	SER
1	H	42	VAL
1	H	45	ILE
1	H	176	GLN
1	H	209	THR
1	H	290	VAL
1	H	294	SER
1	H	311	PRO
1	H	348	THR
1	H	349	ILE
1	H	350	ASP
1	H	359	ASP
1	I	6	SER
1	I	54	ARG
1	I	58	THR
1	I	68	GLU
1	I	76	LYS
1	I	91	ARG
1	I	121	SER
1	I	255	ASP
1	I	294	SER
1	I	323	ASN
1	I	350	ASP
1	J	6	SER
1	J	58	THR
1	J	176	GLN
1	J	294	SER
1	J	323	ASN
1	K	6	SER
1	K	38	ARG
1	K	40	SER
1	K	41	SER
1	K	42	VAL
1	K	54	ARG

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Mol	Chain	Res	Type
1	K	58	THR
1	K	176	GLN
1	K	265	ARG
1	K	315[A]	GLU
1	K	315[B]	GLU
1	K	349	ILE
1	L	43	ASP
1	L	45	ILE
1	L	68	GLU
1	L	248	MET
1	L	258	GLU
1	L	294	SER
1	L	323	ASN
1	L	350	ASP
1	L	356	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (54) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	116	GLN
1	A	138	HIS
1	A	308	HIS
1	A	323	ASN
1	A	327	GLN
1	B	176	GLN
1	B	293	ASN
1	B	308	HIS
1	C	116	GLN
1	C	138	HIS
1	C	176	GLN
1	C	263	ASN
1	C	282	HIS
1	C	286	HIS
1	C	327	GLN
1	D	116	GLN
1	D	176	GLN
1	D	286	HIS
1	D	308	HIS
1	E	138	HIS
1	E	176	GLN
1	E	263	ASN
1	E	308	HIS

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Mol	Chain	Res	Type
1	F	197	GLN
1	F	286	HIS
1	F	308	HIS
1	G	116	GLN
1	G	138	HIS
1	G	176	GLN
1	G	197	GLN
1	G	263	ASN
1	G	282	HIS
1	G	293	ASN
1	G	308	HIS
1	G	323	ASN
1	G	327	GLN
1	H	116	GLN
1	H	176	GLN
1	H	286	HIS
1	H	327	GLN
1	I	138	HIS
1	I	176	GLN
1	I	327	GLN
1	J	176	GLN
1	J	286	HIS
1	K	138	HIS
1	K	176	GLN
1	K	282	HIS
1	L	116	GLN
1	L	122	GLN
1	L	176	GLN
1	L	282	HIS
1	L	286	HIS
1	L	308	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)

12 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	A1IZA	C	401	-	61,69,69	0.74	1 (1%)	79,102,102	1.39	14 (17%)
2	A1IZA	I	401	-	61,69,69	0.82	1 (1%)	79,102,102	1.44	12 (15%)
2	A1IZA	K	401	-	61,69,69	0.78	2 (3%)	79,102,102	1.45	12 (15%)
2	A1IZA	L	401	-	61,69,69	0.83	2 (3%)	79,102,102	1.22	9 (11%)
2	A1IZA	G	401	-	61,69,69	0.80	1 (1%)	79,102,102	1.34	10 (12%)
2	A1IZA	B	401	-	61,69,69	0.84	2 (3%)	79,102,102	1.22	10 (12%)
2	A1IZA	H	401	-	61,69,69	1.19	3 (4%)	79,102,102	1.38	10 (12%)
2	A1IZA	E	401	-	61,69,69	0.78	1 (1%)	79,102,102	1.24	8 (10%)
2	A1IZA	F	401	-	61,69,69	0.80	3 (4%)	79,102,102	1.44	12 (15%)
2	A1IZA	A	401	-	61,69,69	0.79	3 (4%)	79,102,102	1.52	13 (16%)
2	A1IZA	J	401	-	61,69,69	0.92	2 (3%)	79,102,102	1.35	11 (13%)
2	A1IZA	D	401	-	61,69,69	0.78	1 (1%)	79,102,102	1.10	8 (10%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	A1IZA	C	401	-	-	10/59/79/79	0/5/5/5
2	A1IZA	I	401	-	-	14/59/79/79	0/5/5/5
2	A1IZA	K	401	-	-	10/59/79/79	0/5/5/5
2	A1IZA	L	401	-	-	11/59/79/79	0/5/5/5

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	A1IZA	G	401	-	-	7/59/79/79	0/5/5/5
2	A1IZA	B	401	-	-	10/59/79/79	0/5/5/5
2	A1IZA	H	401	-	-	12/59/79/79	0/5/5/5
2	A1IZA	E	401	-	-	7/59/79/79	0/5/5/5
2	A1IZA	F	401	-	-	10/59/79/79	0/5/5/5
2	A1IZA	A	401	-	-	20/59/79/79	0/5/5/5
2	A1IZA	J	401	-	-	12/59/79/79	0/5/5/5
2	A1IZA	D	401	-	-	8/59/79/79	0/5/5/5

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	401	A1IZA	C2-C3	5.84	1.58	1.53
2	J	401	A1IZA	C2-C3	-4.54	1.50	1.53
2	H	401	A1IZA	O1-C3	4.19	1.26	1.20
2	I	401	A1IZA	O1-C3	3.28	1.25	1.20
2	E	401	A1IZA	O1-C3	2.89	1.25	1.20
2	L	401	A1IZA	O1-C3	2.89	1.25	1.20
2	G	401	A1IZA	O1-C3	2.68	1.24	1.20
2	B	401	A1IZA	O1-C3	2.58	1.24	1.20
2	C	401	A1IZA	O1-C3	2.57	1.24	1.20
2	D	401	A1IZA	O1-C3	2.54	1.24	1.20
2	F	401	A1IZA	O1-C3	2.52	1.24	1.20
2	H	401	A1IZA	C3-S1	2.47	1.83	1.75
2	F	401	A1IZA	O2-C6	2.31	1.28	1.23
2	F	401	A1IZA	P3-O14	2.29	1.63	1.59
2	K	401	A1IZA	O2-C6	2.28	1.27	1.23
2	A	401	A1IZA	O2-C6	2.28	1.27	1.23
2	A	401	A1IZA	O1-C3	2.27	1.24	1.20
2	L	401	A1IZA	P3-O14	2.23	1.63	1.59
2	K	401	A1IZA	O1-C3	2.11	1.23	1.20
2	A	401	A1IZA	P3-O14	2.10	1.63	1.59
2	J	401	A1IZA	P3-O14	2.08	1.63	1.59
2	B	401	A1IZA	P3-O14	2.03	1.63	1.59

All (129) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	K	401	A1IZA	C2-C3-S1	5.77	118.07	111.81
2	A	401	A1IZA	C25-C2-C3	5.75	122.31	109.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	401	A1IZA	C12-C11-C14	-5.24	99.69	108.23
2	I	401	A1IZA	O1-C3-C2	-4.95	116.15	124.12
2	G	401	A1IZA	O7-P1-O6	4.55	134.72	112.24
2	G	401	A1IZA	C2-C3-S1	4.53	116.73	111.81
2	H	401	A1IZA	C25-C2-C3	4.51	119.62	109.90
2	K	401	A1IZA	O16-P3-O15	4.50	124.85	107.64
2	J	401	A1IZA	O1-C3-C2	-4.45	116.96	124.12
2	C	401	A1IZA	O1-C3-C2	-4.32	117.17	124.12
2	H	401	A1IZA	O1-C3-C2	-4.07	117.57	124.12
2	E	401	A1IZA	C25-C2-C3	4.00	118.54	109.90
2	F	401	A1IZA	C25-C2-C3	3.95	118.42	109.90
2	B	401	A1IZA	C2-C3-S1	3.75	115.88	111.81
2	J	401	A1IZA	C2-C3-S1	3.73	115.86	111.81
2	F	401	A1IZA	O16-P3-O15	3.72	121.85	107.64
2	I	401	A1IZA	O14-P3-O17	-3.66	95.26	109.39
2	I	401	A1IZA	O7-P1-O6	3.61	130.09	112.24
2	H	401	A1IZA	C8-C7-C6	3.57	118.31	112.36
2	I	401	A1IZA	O1-C3-S1	3.56	128.60	123.80
2	C	401	A1IZA	O16-P3-O15	3.55	121.21	107.64
2	F	401	A1IZA	O1-C3-C2	-3.51	118.47	124.12
2	J	401	A1IZA	O15-P3-O17	-3.48	97.06	110.68
2	E	401	A1IZA	C2-C3-S1	3.48	115.59	111.81
2	B	401	A1IZA	O1-C3-C2	-3.44	118.60	124.12
2	C	401	A1IZA	C2-C3-S1	3.40	115.50	111.81
2	L	401	A1IZA	C25-C2-C3	3.38	117.18	109.90
2	G	401	A1IZA	O1-C3-C2	-3.32	118.78	124.12
2	I	401	A1IZA	C25-C2-C3	3.30	117.02	109.90
2	K	401	A1IZA	O16-P3-O14	-3.30	91.21	105.99
2	A	401	A1IZA	C2-C3-S1	3.26	115.35	111.81
2	F	401	A1IZA	O16-P3-O17	-3.24	97.98	110.68
2	E	401	A1IZA	O1-C3-C2	-3.20	118.97	124.12
2	D	401	A1IZA	C27-C28-C29	3.17	124.94	118.68
2	H	401	A1IZA	C2-C3-S1	3.15	115.23	111.81
2	D	401	A1IZA	C25-C2-C3	3.09	116.58	109.90
2	C	401	A1IZA	C25-C2-C3	3.08	116.54	109.90
2	I	401	A1IZA	C2-C3-S1	2.99	115.06	111.81
2	A	401	A1IZA	O7-P1-O6	2.96	126.88	112.24
2	B	401	A1IZA	C25-C2-C3	2.95	116.25	109.90
2	F	401	A1IZA	O7-P1-O6	2.94	126.76	112.24
2	G	401	A1IZA	C25-C2-C3	2.94	116.23	109.90
2	H	401	A1IZA	O16-P3-O15	2.94	118.86	107.64
2	A	401	A1IZA	O5-P1-O6	-2.86	97.91	109.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	401	A1IZA	C1-C2-C3	-2.83	103.10	111.88
2	C	401	A1IZA	O7-P1-O6	2.82	126.16	112.24
2	L	401	A1IZA	O1-C3-C2	-2.81	119.61	124.12
2	K	401	A1IZA	O14-P3-O17	-2.80	98.59	109.39
2	G	401	A1IZA	O7-P1-O5	-2.78	94.85	107.75
2	L	401	A1IZA	C12-C11-C14	-2.76	103.73	108.23
2	F	401	A1IZA	C19-C20-N5	2.73	124.50	120.35
2	E	401	A1IZA	O13-C23-C24	2.72	118.90	111.17
2	C	401	A1IZA	O15-P3-O14	-2.69	93.92	105.99
2	I	401	A1IZA	C19-C20-N5	2.69	124.44	120.35
2	B	401	A1IZA	C4-S1-C3	-2.68	93.69	101.75
2	F	401	A1IZA	O13-C23-C24	2.67	118.75	111.17
2	A	401	A1IZA	C13-C11-C14	2.67	112.58	108.23
2	L	401	A1IZA	C2-C3-S1	2.66	114.69	111.81
2	I	401	A1IZA	O16-P3-O17	2.65	121.07	110.68
2	F	401	A1IZA	C2-C3-S1	2.64	114.68	111.81
2	K	401	A1IZA	C12-C11-C14	2.64	112.54	108.23
2	B	401	A1IZA	O15-P3-O17	2.64	121.00	110.68
2	G	401	A1IZA	C19-C20-N5	2.60	124.31	120.35
2	L	401	A1IZA	O7-P1-O6	2.60	125.08	112.24
2	G	401	A1IZA	C27-C28-C29	2.58	123.78	118.68
2	J	401	A1IZA	O12-C17-C23	-2.58	103.16	106.93
2	K	401	A1IZA	O16-P3-O17	2.57	120.75	110.68
2	C	401	A1IZA	C12-C11-C10	2.55	113.25	108.82
2	C	401	A1IZA	O1-C3-S1	2.55	127.23	123.80
2	J	401	A1IZA	C12-C11-C10	2.52	113.20	108.82
2	L	401	A1IZA	C1-C2-C25	2.52	118.95	112.92
2	H	401	A1IZA	O1-C3-S1	2.51	127.18	123.80
2	K	401	A1IZA	C25-C2-C3	2.50	115.30	109.90
2	D	401	A1IZA	C1-C2-C25	2.50	118.91	112.92
2	E	401	A1IZA	C19-C20-N5	2.50	124.15	120.35
2	J	401	A1IZA	O7-P1-O6	2.49	124.56	112.24
2	C	401	A1IZA	O15-P3-O17	2.49	120.43	110.68
2	I	401	A1IZA	C5-N1-C6	-2.48	118.22	122.84
2	F	401	A1IZA	O4-C10-C11	-2.48	104.42	110.25
2	K	401	A1IZA	C27-C28-C29	2.48	123.57	118.68
2	K	401	A1IZA	C19-C20-N5	2.47	124.11	120.35
2	A	401	A1IZA	O1-C3-C2	-2.47	120.15	124.12
2	J	401	A1IZA	C25-C2-C3	2.46	115.19	109.90
2	F	401	A1IZA	C27-C28-C29	2.44	123.50	118.68
2	H	401	A1IZA	C19-C20-N5	2.43	124.04	120.35
2	J	401	A1IZA	O1-C3-S1	2.41	127.05	123.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	401	A1IZA	O7-P1-O6	2.40	124.12	112.24
2	F	401	A1IZA	C8-C7-C6	2.40	116.36	112.36
2	K	401	A1IZA	O5-P1-O6	-2.39	99.73	109.07
2	E	401	A1IZA	C1-C2-C3	-2.39	104.46	111.88
2	A	401	A1IZA	C8-C7-C6	2.37	116.30	112.36
2	G	401	A1IZA	O13-C23-C17	-2.37	102.12	110.85
2	E	401	A1IZA	O5-P1-O6	-2.36	99.83	109.07
2	D	401	A1IZA	O16-P3-O15	2.33	116.56	107.64
2	L	401	A1IZA	C27-C28-C29	2.31	123.25	118.68
2	A	401	A1IZA	C19-C20-N5	2.29	123.84	120.35
2	H	401	A1IZA	P2-O8-P1	2.29	140.67	132.83
2	I	401	A1IZA	C27-C28-C29	2.28	123.19	118.68
2	H	401	A1IZA	O12-C17-C23	-2.28	103.60	106.93
2	C	401	A1IZA	C19-C20-N5	2.27	123.81	120.35
2	J	401	A1IZA	C19-C20-N5	2.26	123.79	120.35
2	D	401	A1IZA	O7-P1-O5	-2.24	97.33	107.75
2	I	401	A1IZA	C12-C11-C14	2.22	111.85	108.23
2	A	401	A1IZA	O7-P1-O5	2.22	118.04	107.75
2	J	401	A1IZA	O14-C24-C23	2.21	119.68	111.68
2	A	401	A1IZA	C27-C28-C29	2.20	123.03	118.68
2	B	401	A1IZA	C19-C20-N5	2.20	123.69	120.35
2	I	401	A1IZA	C26-C25-C2	2.19	126.05	120.80
2	B	401	A1IZA	C27-C28-C29	2.18	122.99	118.68
2	D	401	A1IZA	O7-P1-O6	2.16	122.93	112.24
2	C	401	A1IZA	O14-P3-O17	2.16	117.72	109.39
2	H	401	A1IZA	C1-C2-C3	-2.15	105.19	111.88
2	D	401	A1IZA	C26-C25-C2	2.15	125.96	120.80
2	K	401	A1IZA	O1-C3-C2	-2.13	120.69	124.12
2	G	401	A1IZA	O13-C23-C24	2.13	117.22	111.17
2	K	401	A1IZA	O7-P1-O6	2.13	122.75	112.24
2	D	401	A1IZA	C2-C3-S1	2.12	114.12	111.81
2	B	401	A1IZA	O16-P3-O15	-2.12	99.52	107.64
2	L	401	A1IZA	C12-C11-C10	2.12	112.49	108.82
2	F	401	A1IZA	O1-C3-S1	2.11	126.64	123.80
2	C	401	A1IZA	O7-P1-O5	-2.11	97.93	107.75
2	J	401	A1IZA	O15-P3-O14	2.11	115.45	105.99
2	B	401	A1IZA	O5-P1-O6	-2.11	100.84	109.07
2	L	401	A1IZA	C26-C25-C2	2.10	125.83	120.80
2	C	401	A1IZA	C12-C11-C14	-2.07	104.86	108.23
2	E	401	A1IZA	O12-C17-C23	-2.06	103.91	106.93
2	G	401	A1IZA	O16-P3-O17	-2.02	102.78	110.68
2	A	401	A1IZA	O5-C14-C11	2.01	113.78	110.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	401	A1IZA	O14-C24-C23	-2.00	104.42	111.68

There are no chirality outliers.

All (131) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	401	A1IZA	C9-C10-C11-C14
2	A	401	A1IZA	C9-C10-C11-C12
2	A	401	A1IZA	C9-C10-C11-C13
2	A	401	A1IZA	C6-C7-C8-N2
2	A	401	A1IZA	C14-O5-P1-O6
2	A	401	A1IZA	C14-O5-P1-O7
2	B	401	A1IZA	C25-C2-C3-O1
2	B	401	A1IZA	C25-C2-C3-S1
2	B	401	A1IZA	C15-O11-P2-O8
2	C	401	A1IZA	C25-C2-C3-O1
2	C	401	A1IZA	C25-C2-C3-S1
2	D	401	A1IZA	C25-C2-C3-O1
2	D	401	A1IZA	C25-C2-C3-S1
2	D	401	A1IZA	C15-O11-P2-O8
2	D	401	A1IZA	C15-O11-P2-O9
2	E	401	A1IZA	C6-C7-C8-N2
2	F	401	A1IZA	C6-C7-C8-N2
2	F	401	A1IZA	C35-C28-C29-C34
2	G	401	A1IZA	C2-C3-S1-C4
2	H	401	A1IZA	C4-C5-N1-C6
2	H	401	A1IZA	C6-C7-C8-N2
2	H	401	A1IZA	C2-C3-S1-C4
2	H	401	A1IZA	C35-C28-C29-C30
2	H	401	A1IZA	C35-C28-C29-C34
2	I	401	A1IZA	C6-C7-C8-N2
2	I	401	A1IZA	C25-C2-C3-O1
2	I	401	A1IZA	C25-C2-C3-S1
2	I	401	A1IZA	C14-O5-P1-O6
2	K	401	A1IZA	C6-C7-C8-N2
2	K	401	A1IZA	C25-C2-C3-O1
2	K	401	A1IZA	C25-C2-C3-S1
2	L	401	A1IZA	C6-C7-C8-N2
2	L	401	A1IZA	C25-C2-C3-O1
2	L	401	A1IZA	C25-C2-C3-S1
2	L	401	A1IZA	C15-O11-P2-O8
2	C	401	A1IZA	C27-C28-C29-C34

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Mol	Chain	Res	Type	Atoms
2	J	401	A1IZA	C27-C28-C29-C34
2	C	401	A1IZA	C27-C28-C29-C30
2	J	401	A1IZA	C27-C28-C29-C30
2	I	401	A1IZA	C27-C28-C29-C34
2	L	401	A1IZA	C27-C28-C29-C30
2	F	401	A1IZA	C35-C28-C29-C30
2	L	401	A1IZA	C27-C28-C29-C34
2	K	401	A1IZA	C27-C28-C29-C34
2	I	401	A1IZA	C27-C28-C29-C30
2	K	401	A1IZA	C27-C28-C29-C30
2	J	401	A1IZA	O11-C15-C16-O12
2	G	401	A1IZA	C35-C28-C29-C30
2	A	401	A1IZA	C35-C28-C29-C30
2	G	401	A1IZA	C35-C28-C29-C34
2	L	401	A1IZA	C35-C28-C29-C34
2	I	401	A1IZA	C35-C28-C29-C34
2	L	401	A1IZA	C35-C28-C29-C30
2	C	401	A1IZA	C6-C7-C8-N2
2	K	401	A1IZA	C35-C28-C29-C34
2	A	401	A1IZA	C2-C3-S1-C4
2	B	401	A1IZA	C2-C3-S1-C4
2	F	401	A1IZA	C2-C3-S1-C4
2	I	401	A1IZA	C2-C3-S1-C4
2	J	401	A1IZA	C2-C3-S1-C4
2	A	401	A1IZA	O4-C10-C11-C12
2	A	401	A1IZA	O4-C10-C11-C13
2	D	401	A1IZA	O11-C15-C16-O12
2	A	401	A1IZA	C35-C28-C29-C34
2	C	401	A1IZA	C35-C28-C29-C30
2	C	401	A1IZA	C35-C28-C29-C34
2	J	401	A1IZA	C35-C28-C29-C30
2	J	401	A1IZA	C35-C28-C29-C34
2	K	401	A1IZA	C35-C28-C29-C30
2	L	401	A1IZA	O11-C15-C16-O12
2	I	401	A1IZA	C24-O14-P3-O17
2	J	401	A1IZA	C24-O14-P3-O17
2	B	401	A1IZA	C24-O14-P3-O16
2	I	401	A1IZA	C24-O14-P3-O16
2	J	401	A1IZA	C15-O11-P2-O8
2	I	401	A1IZA	C35-C28-C29-C30
2	B	401	A1IZA	C15-O11-P2-O9
2	B	401	A1IZA	C15-O11-P2-O10

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Mol	Chain	Res	Type	Atoms
2	D	401	A1IZA	C15-O11-P2-O10
2	L	401	A1IZA	C15-O11-P2-O10
2	G	401	A1IZA	O1-C3-S1-C4
2	H	401	A1IZA	O1-C3-S1-C4
2	A	401	A1IZA	O4-C10-C11-C14
2	B	401	A1IZA	C35-C28-C29-C30
2	A	401	A1IZA	C25-C2-C3-O1
2	F	401	A1IZA	C25-C2-C3-O1
2	G	401	A1IZA	C25-C2-C3-O1
2	H	401	A1IZA	C25-C2-C3-O1
2	J	401	A1IZA	C25-C2-C3-O1
2	B	401	A1IZA	O11-C15-C16-O12
2	I	401	A1IZA	O11-C15-C16-O12
2	A	401	A1IZA	O11-C15-C16-O12
2	C	401	A1IZA	P1-O8-P2-O10
2	E	401	A1IZA	P1-O8-P2-O10
2	F	401	A1IZA	P1-O8-P2-O9
2	I	401	A1IZA	P1-O8-P2-O10
2	D	401	A1IZA	C6-C7-C8-N2
2	A	401	A1IZA	C11-C10-C9-N2
2	A	401	A1IZA	C25-C2-C3-S1
2	E	401	A1IZA	C25-C2-C3-S1
2	F	401	A1IZA	C25-C2-C3-S1
2	G	401	A1IZA	C25-C2-C3-S1
2	H	401	A1IZA	C25-C2-C3-S1
2	J	401	A1IZA	C25-C2-C3-S1
2	L	401	A1IZA	C2-C3-S1-C4
2	H	401	A1IZA	C27-C28-C29-C30
2	H	401	A1IZA	C27-C28-C29-C34
2	E	401	A1IZA	C24-O14-P3-O17
2	E	401	A1IZA	C25-C2-C3-O1
2	F	401	A1IZA	C27-C28-C29-C34
2	A	401	A1IZA	C14-O5-P1-O8
2	F	401	A1IZA	C24-O14-P3-O16
2	C	401	A1IZA	O11-C15-C16-O12
2	F	401	A1IZA	O11-C15-C16-O12
2	A	401	A1IZA	P1-O8-P2-O10
2	B	401	A1IZA	P1-O8-P2-O10
2	C	401	A1IZA	P1-O8-P2-O9
2	D	401	A1IZA	P1-O8-P2-O9
2	K	401	A1IZA	P1-O8-P2-O10
2	A	401	A1IZA	C15-O11-P2-O9

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Mol	Chain	Res	Type	Atoms
2	I	401	A1IZA	C15-O11-P2-O9
2	J	401	A1IZA	C14-O5-P1-O6
2	J	401	A1IZA	C15-O11-P2-O9
2	E	401	A1IZA	O11-C15-C16-O12
2	G	401	A1IZA	O11-C15-C16-O12
2	H	401	A1IZA	O11-C15-C16-O12
2	K	401	A1IZA	O11-C15-C16-O12
2	H	401	A1IZA	C12-C11-C14-O5
2	A	401	A1IZA	C11-C10-C9-O3
2	E	401	A1IZA	C2-C3-S1-C4
2	K	401	A1IZA	C2-C3-S1-C4

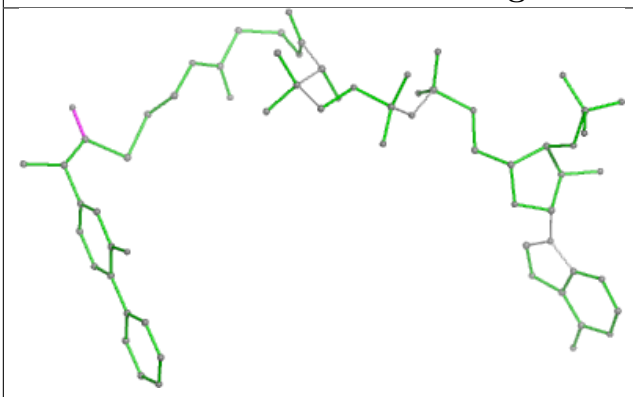
There are no ring outliers.

8 monomers are involved in 13 short contacts:

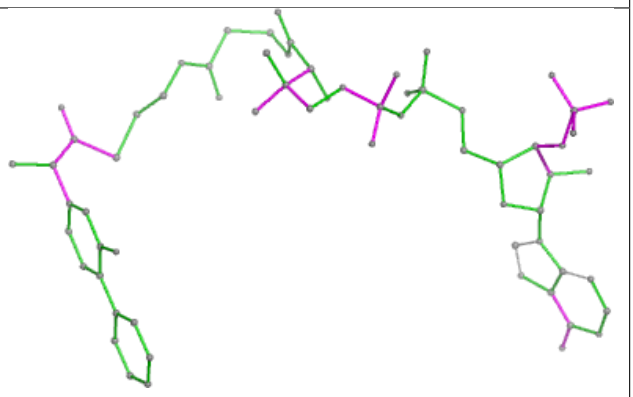
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	401	A1IZA	2	0
2	K	401	A1IZA	1	0
2	G	401	A1IZA	1	0
2	B	401	A1IZA	1	0
2	E	401	A1IZA	1	0
2	F	401	A1IZA	3	0
2	A	401	A1IZA	3	0
2	D	401	A1IZA	1	0

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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

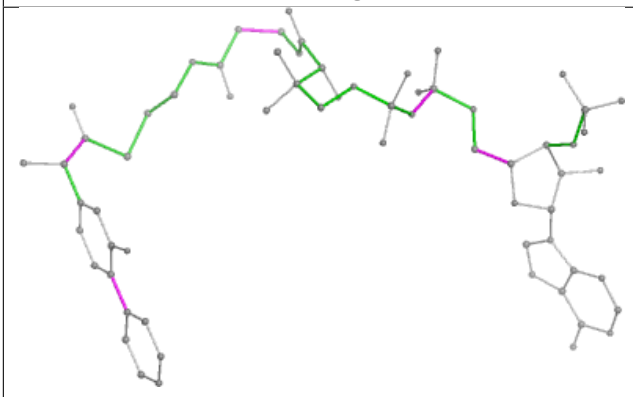
Ligand A1IZA C 401



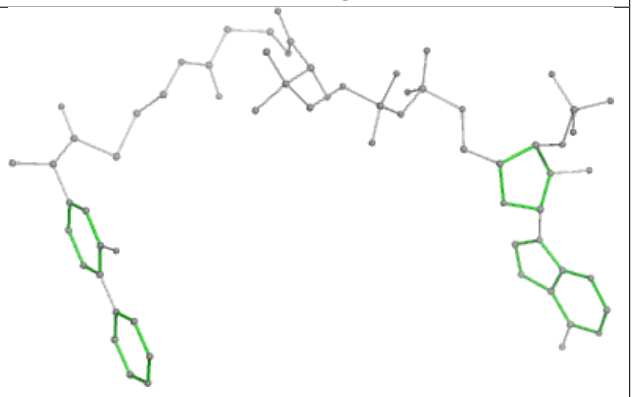
Bond lengths



Bond angles

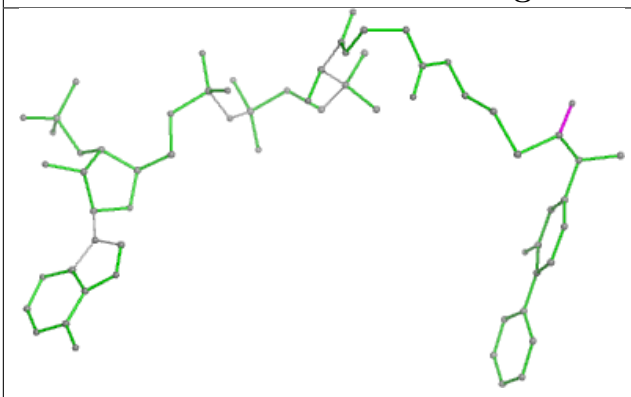


Torsions

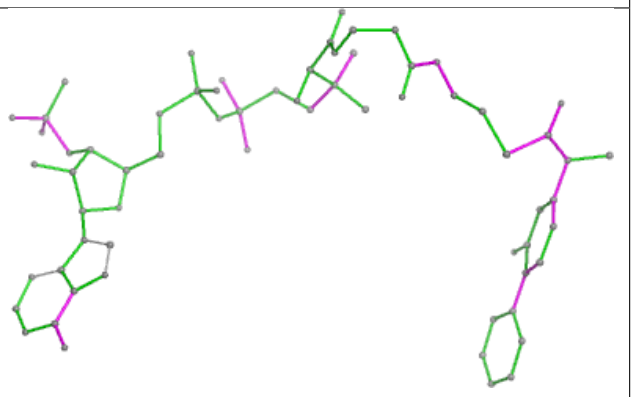


Rings

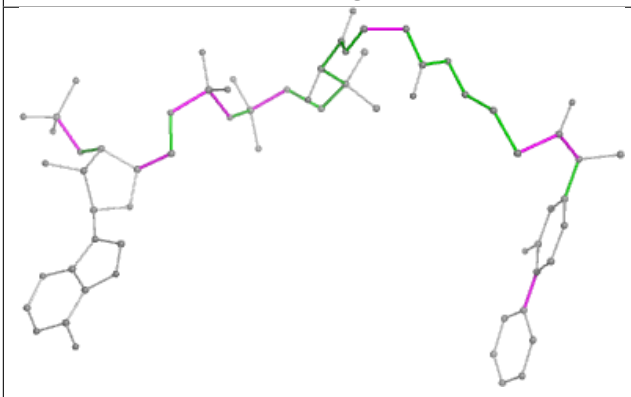
Ligand A1IZA I 401



Bond lengths



Bond angles



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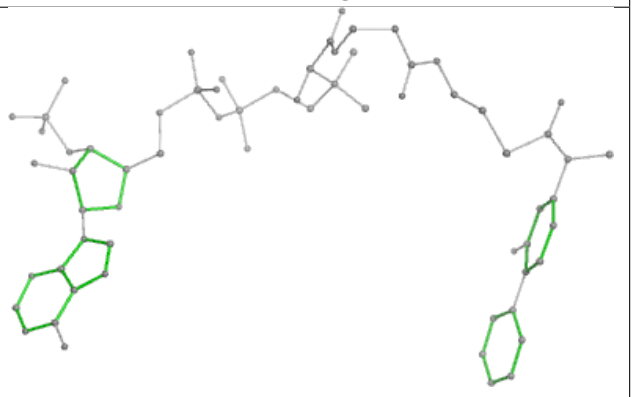
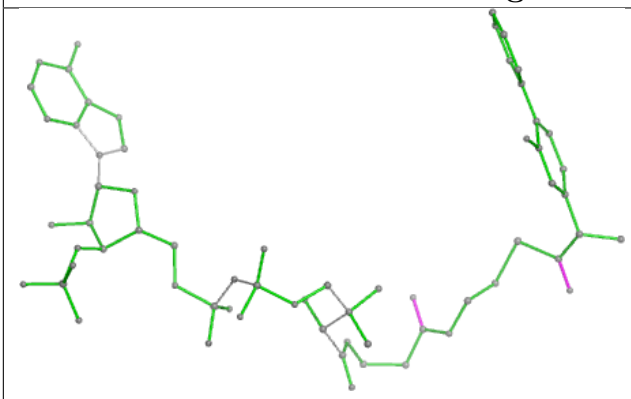
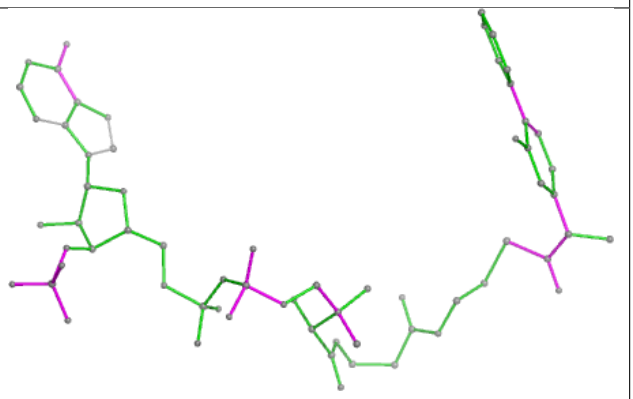


Rings

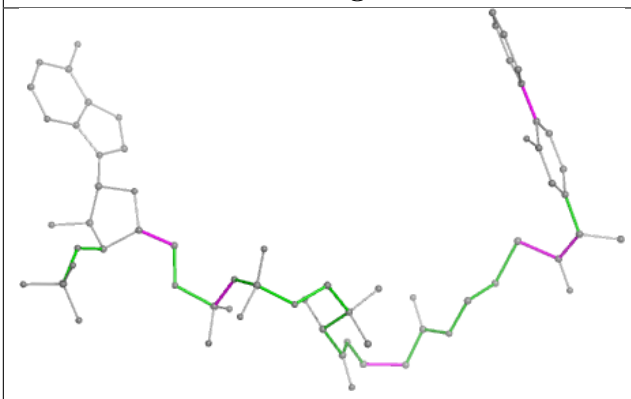
Ligand A1IZA K 401



Bond lengths



Bond angles



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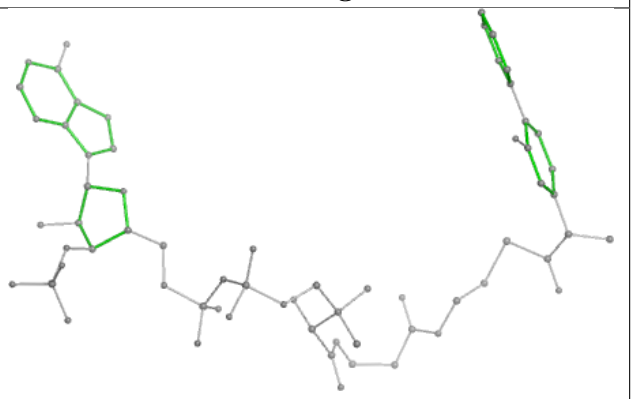
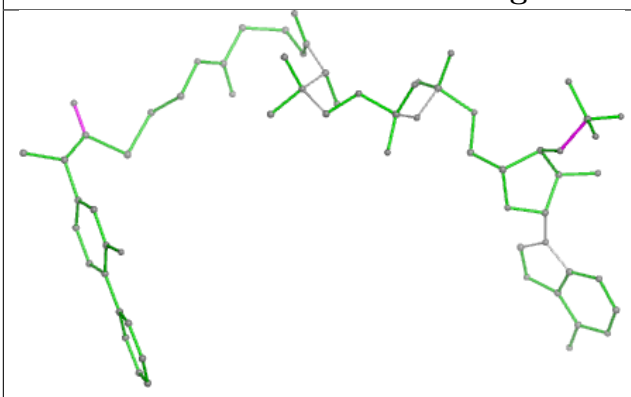


Rings

Ligand A1IZA L 401



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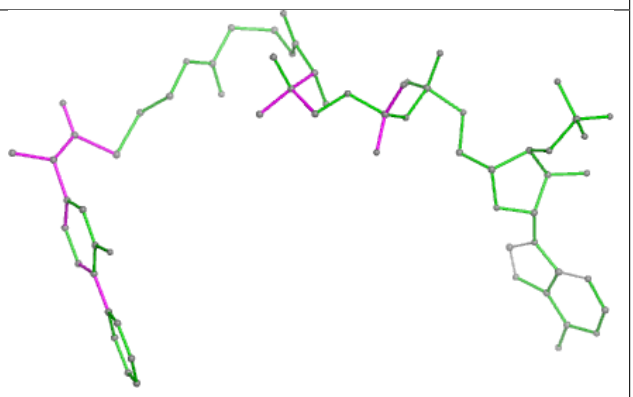
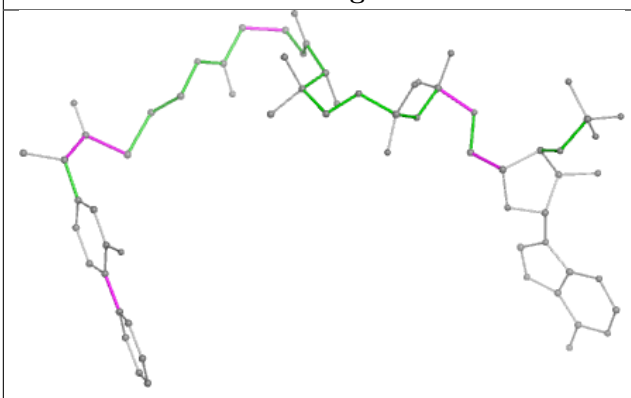
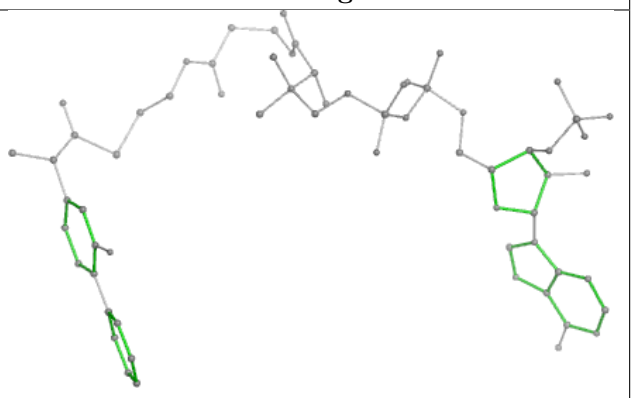


Bond angles

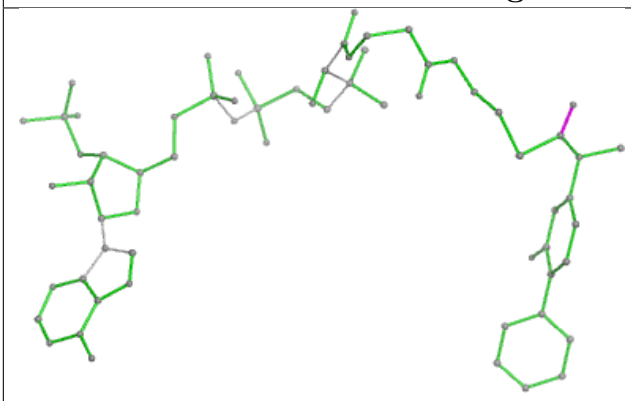


Torsions



Rings

Ligand A1IZA G 401



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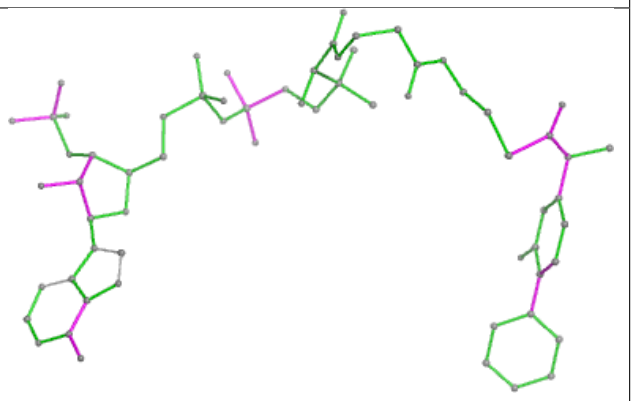
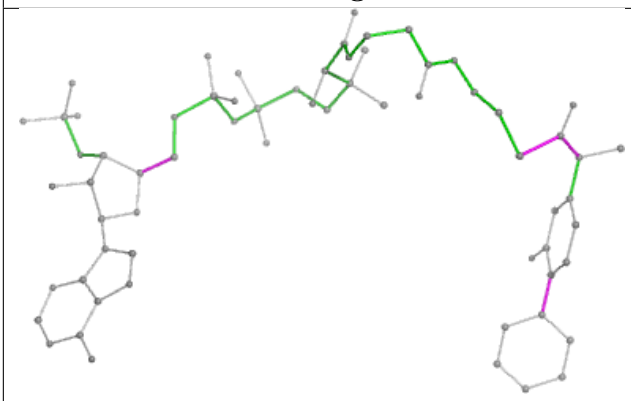


Bond angles



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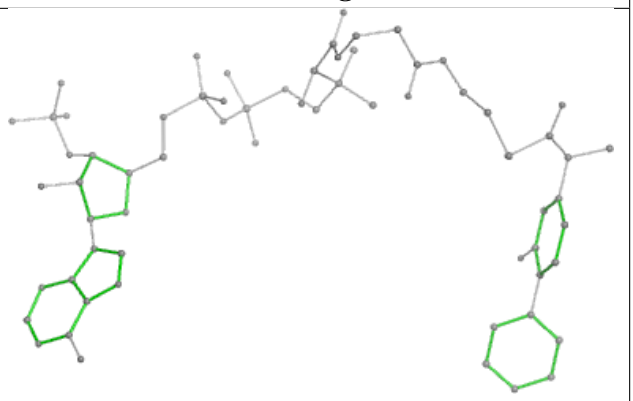
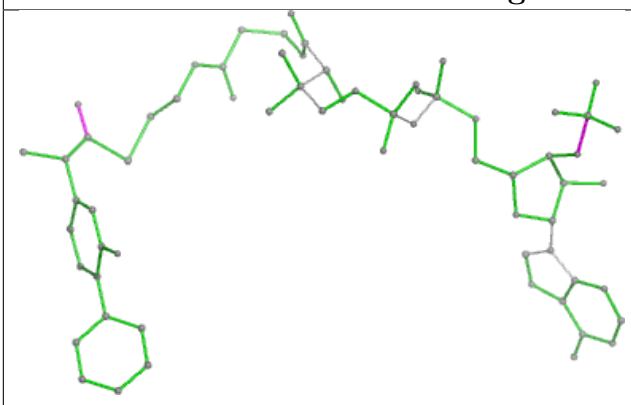


Rings

Ligand A1IZA B 401



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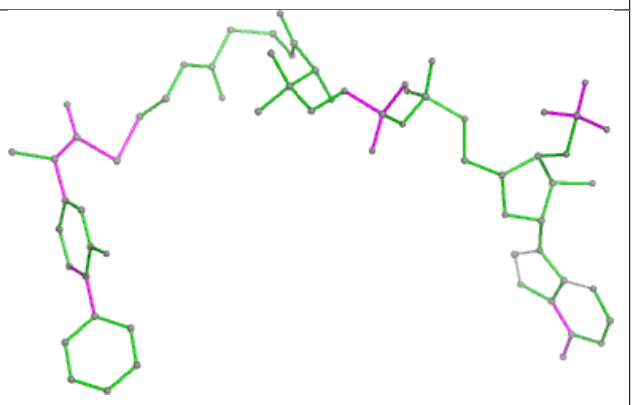

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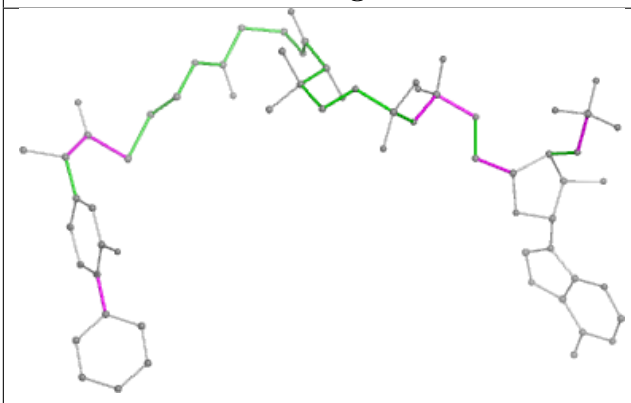

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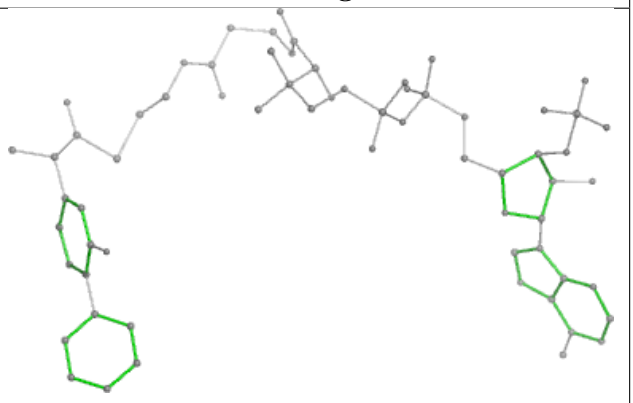
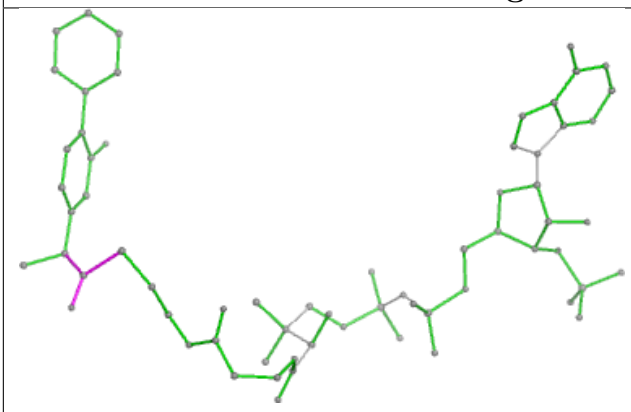


Rings

Ligand A1IZA H 401



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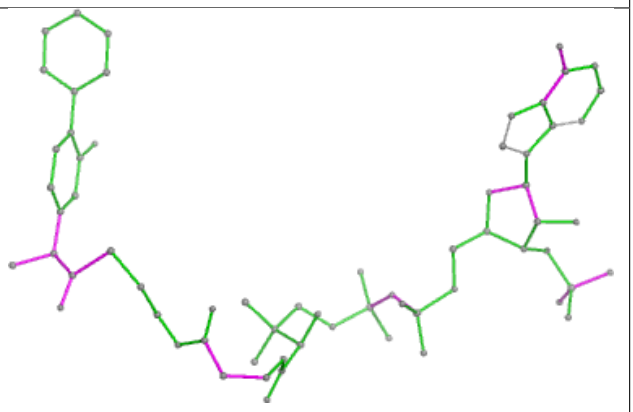

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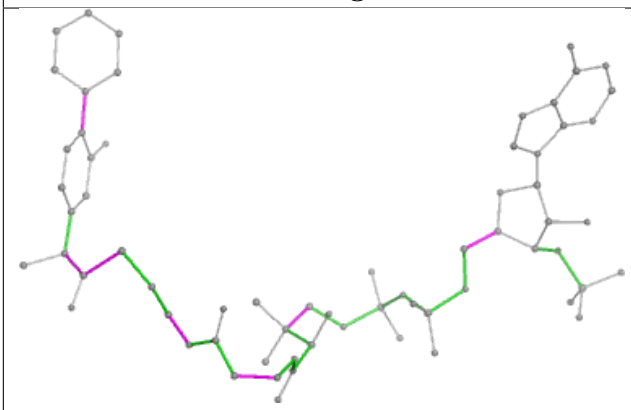

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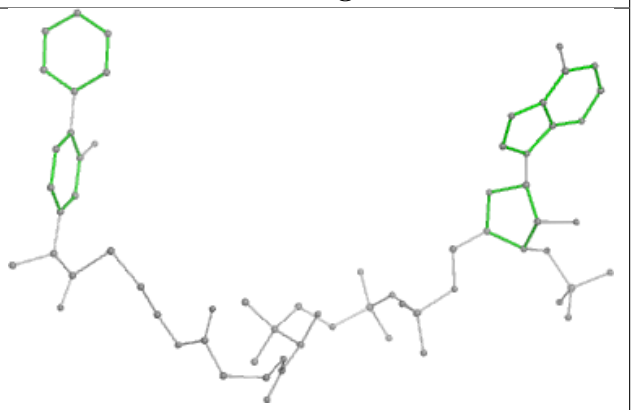
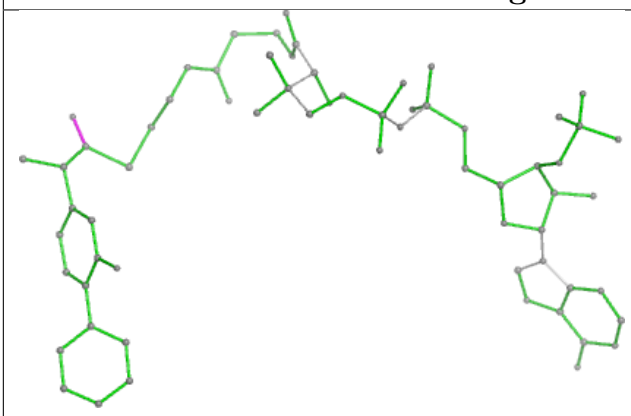


Rings

Ligand A1IZA E 401



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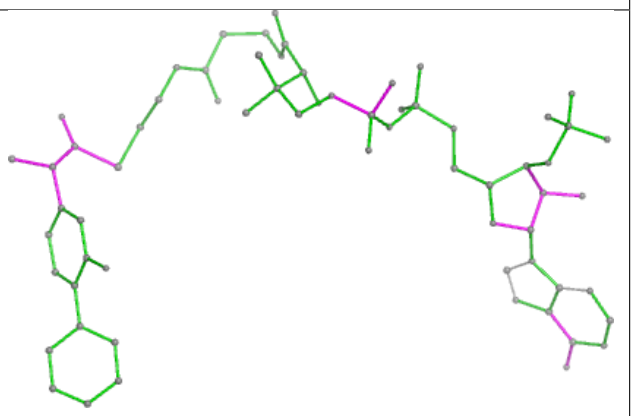

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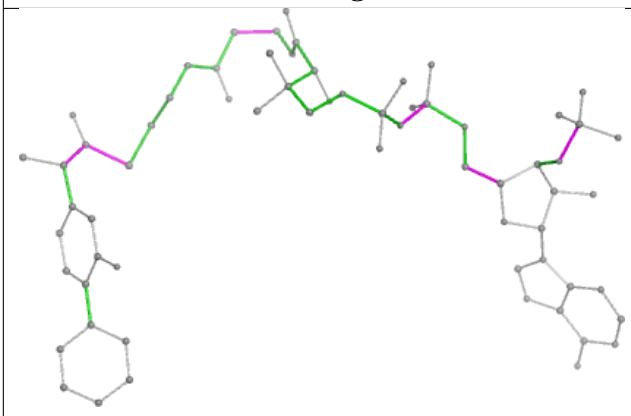

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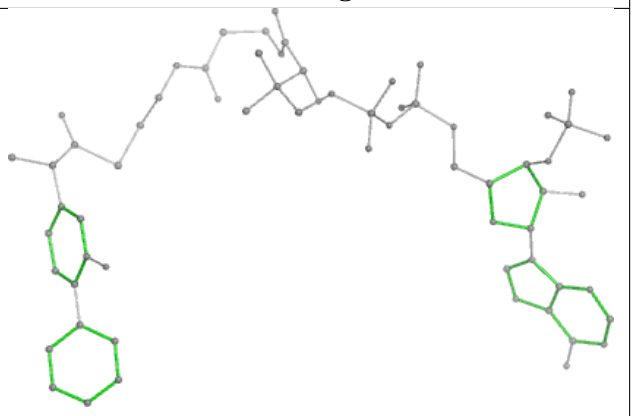
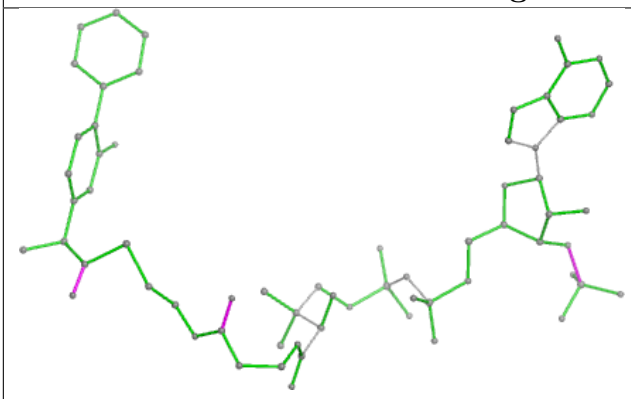


Rings

Ligand A1IZA F 401



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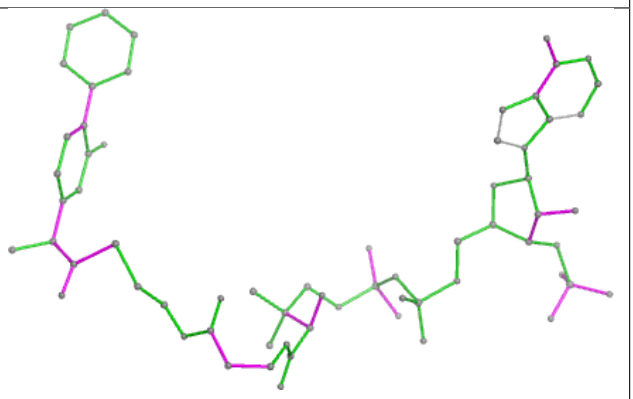
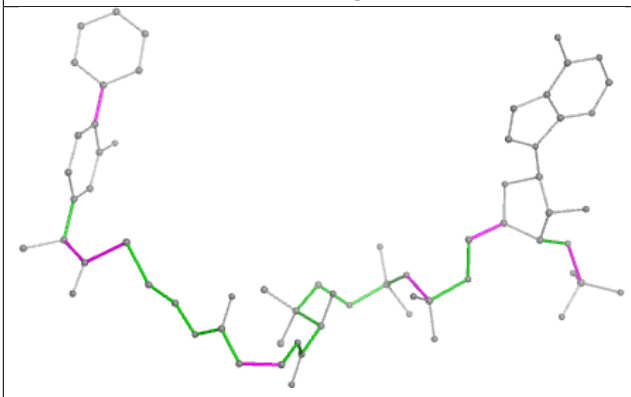


Bond angles



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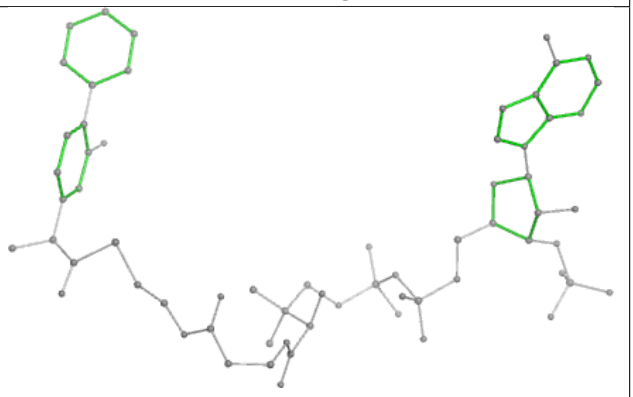
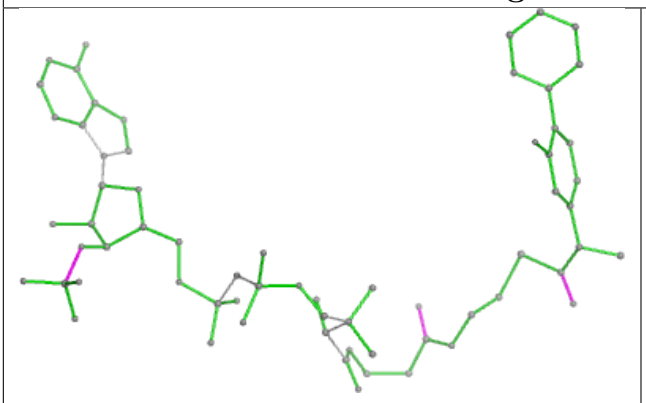


Rings

Ligand A1IZA A 401



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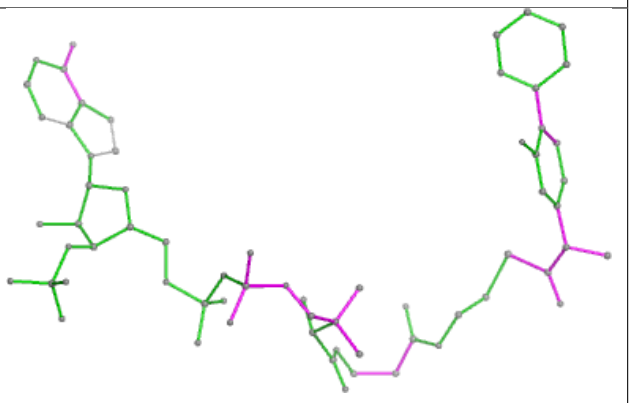

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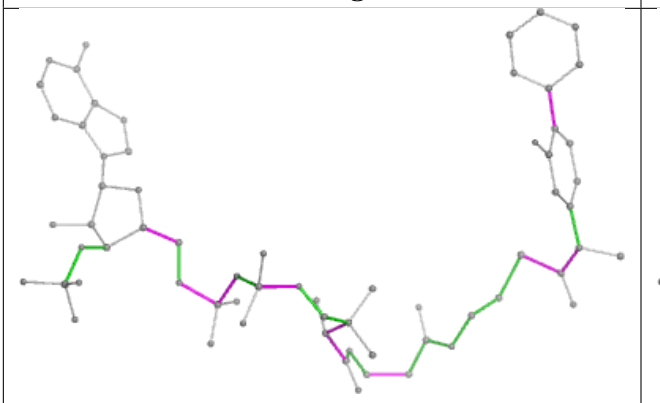
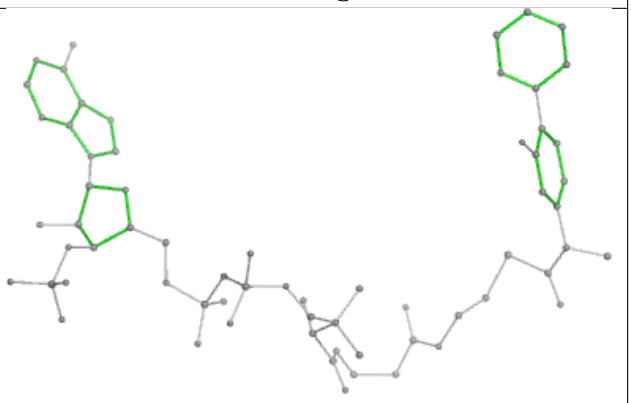


Torsions



Rings

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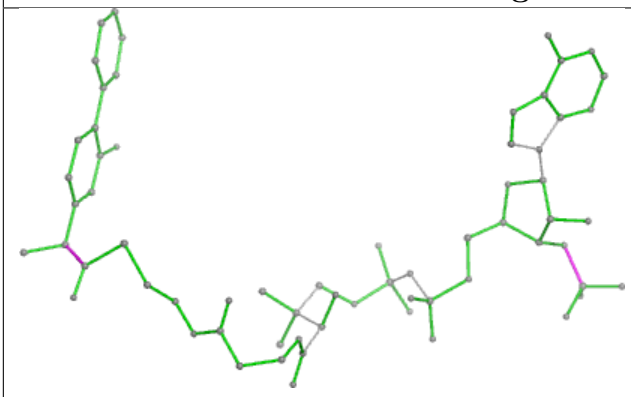
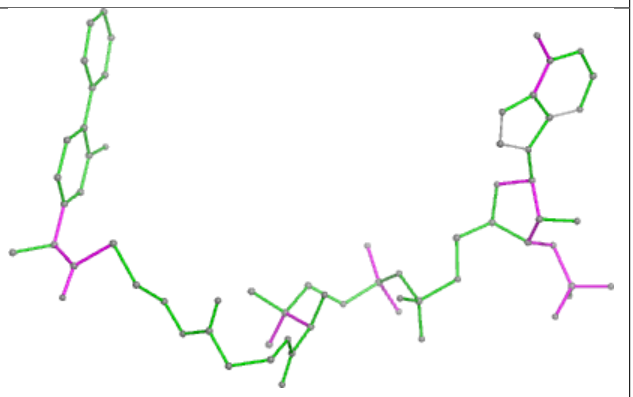
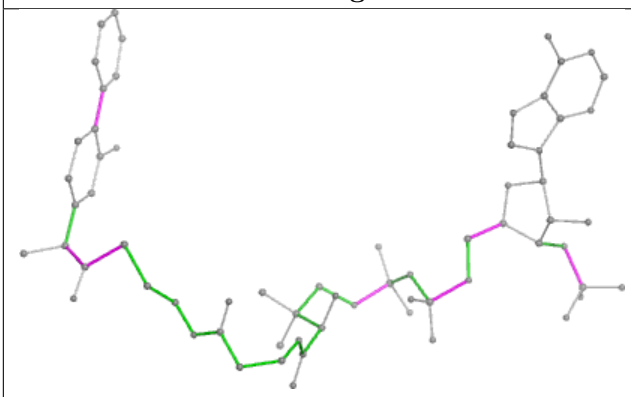


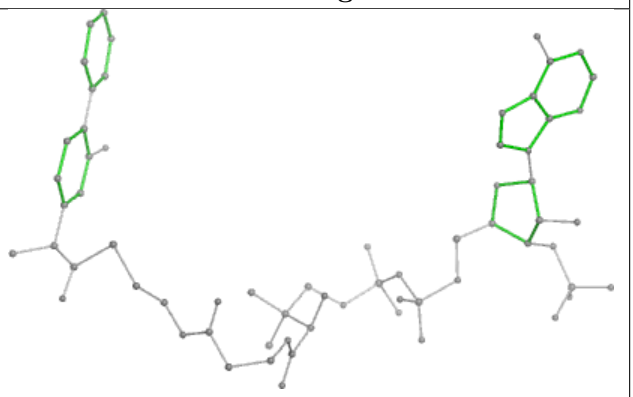
Bond lengths



Bond angles

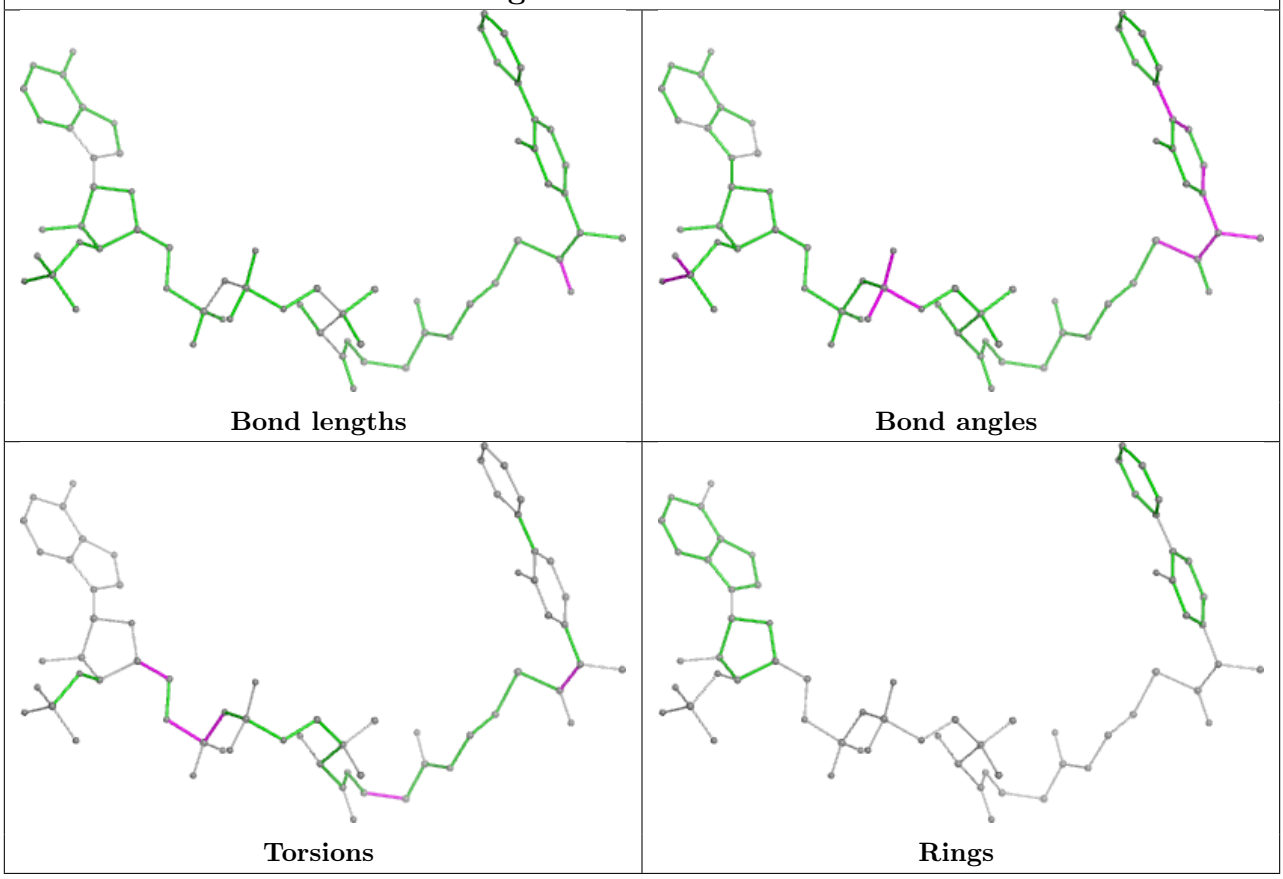


Torsions



Rings

Ligand A1IZA D 401



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} 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	359/364 (98%)	0.68	67 (18%) 4 3	22, 41, 91, 127	2 (0%)
1	B	359/364 (98%)	0.47	37 (10%) 13 11	21, 40, 90, 132	1 (0%)
1	C	357/364 (98%)	0.48	41 (11%) 11 9	16, 39, 85, 115	3 (0%)
1	D	359/364 (98%)	0.44	36 (10%) 14 12	22, 39, 81, 146	1 (0%)
1	E	357/364 (98%)	0.63	55 (15%) 6 5	19, 41, 92, 119	2 (0%)
1	F	356/364 (97%)	0.67	57 (16%) 6 5	23, 42, 91, 115	2 (0%)
1	G	359/364 (98%)	0.96	87 (24%) 2 2	23, 45, 95, 130	2 (0%)
1	H	357/364 (98%)	0.83	77 (21%) 3 2	23, 43, 98, 122	1 (0%)
1	I	359/364 (98%)	0.46	35 (9%) 15 12	23, 39, 78, 115	2 (0%)
1	J	359/364 (98%)	0.32	24 (6%) 25 23	18, 38, 79, 118	2 (0%)
1	K	357/364 (98%)	0.50	34 (9%) 15 13	20, 39, 84, 120	3 (0%)
1	L	358/364 (98%)	0.56	51 (14%) 7 6	22, 41, 84, 117	1 (0%)
All	All	4296/4368 (98%)	0.58	601 (13%) 7 6	16, 40, 88, 146	22 (0%)

All (601) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	K	42	VAL	9.6
1	D	346	ALA	8.3
1	H	45	ILE	8.2
1	H	42	VAL	8.1
1	A	346	ALA	7.8
1	D	42	VAL	7.8
1	F	42	VAL	7.7
1	C	346	ALA	7.4
1	K	346	ALA	7.0
1	J	346	ALA	7.0
1	B	346	ALA	6.8

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Mol	Chain	Res	Type	RSRZ
1	H	346	ALA	6.8
1	F	346	ALA	6.6
1	E	349	ILE	6.3
1	L	45	ILE	6.3
1	E	45	ILE	6.1
1	C	42	VAL	5.9
1	G	42	VAL	5.9
1	K	45	ILE	5.9
1	A	324	GLY	5.5
1	C	45	ILE	5.5
1	G	346	ALA	5.3
1	D	45	ILE	5.3
1	G	102	VAL	5.2
1	K	324	GLY	5.1
1	A	42	VAL	5.0
1	G	66	GLY	5.0
1	H	34	VAL	5.0
1	B	42	VAL	4.9
1	H	176	GLN	4.9
1	J	45	ILE	4.9
1	D	347	ALA	4.9
1	E	176	GLN	4.8
1	L	346	ALA	4.8
1	I	47	ARG	4.8
1	B	45	ILE	4.8
1	C	323	ASN	4.8
1	I	323	ASN	4.8
1	H	358	TRP	4.8
1	G	93	GLY	4.7
1	F	347	ALA	4.7
1	I	45	ILE	4.7
1	B	46	SER	4.6
1	G	352	GLU	4.6
1	K	349	ILE	4.6
1	E	207	MET	4.6
1	G	34	VAL	4.5
1	F	46	SER	4.5
1	J	324	GLY	4.5
1	I	41	SER	4.4
1	H	324	GLY	4.4
1	G	178	SER	4.4
1	G	353	ALA	4.4

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Mol	Chain	Res	Type	RSRZ
1	G	63	SER	4.4
1	A	45	ILE	4.3
1	G	347	ALA	4.3
1	G	354	VAL	4.3
1	H	345	PRO	4.3
1	H	323	ASN	4.2
1	G	358	TRP	4.2
1	F	351	ILE	4.2
1	K	347	ALA	4.2
1	E	40	SER	4.2
1	C	347	ALA	4.1
1	F	359	ASP	4.1
1	C	176	GLN	4.1
1	E	351	ILE	4.1
1	H	355	LEU	4.1
1	K	359	ASP	4.1
1	F	47	ARG	4.1
1	G	324	GLY	4.1
1	D	323	ASN	4.1
1	E	324	GLY	4.0
1	G	72	LYS	4.0
1	E	346	ALA	4.0
1	J	347	ALA	4.0
1	B	76	LYS	4.0
1	C	349	ILE	4.0
1	G	10	VAL	4.0
1	G	1	MET	3.9
1	G	33	VAL	3.9
1	J	323	ASN	3.9
1	H	347	ALA	3.9
1	I	180	LYS	3.9
1	A	47	ARG	3.8
1	A	44	GLY	3.8
1	G	45	ILE	3.8
1	G	11	VAL	3.8
1	L	324	GLY	3.8
1	H	349	ILE	3.8
1	C	324	GLY	3.8
1	F	76	LYS	3.8
1	I	324	GLY	3.8
1	G	355	LEU	3.8
1	G	176	GLN	3.7

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Mol	Chain	Res	Type	RSRZ
1	B	347	ALA	3.7
1	L	180	LYS	3.7
1	L	323	ASN	3.7
1	G	357	ASP	3.7
1	H	351	ILE	3.7
1	J	351	ILE	3.7
1	F	349	ILE	3.7
1	H	57	VAL	3.7
1	L	76	LYS	3.7
1	G	351	ILE	3.7
1	A	180	LYS	3.7
1	H	8	LEU	3.7
1	I	346	ALA	3.7
1	B	207	MET	3.7
1	G	73	LEU	3.6
1	F	323	ASN	3.6
1	B	351	ILE	3.6
1	E	58	THR	3.6
1	G	179	GLY	3.6
1	I	349	ILE	3.6
1	K	180	LYS	3.6
1	G	100	ALA	3.6
1	F	176	GLN	3.6
1	B	345	PRO	3.6
1	A	76	LYS	3.5
1	F	180	LYS	3.5
1	G	180	LYS	3.5
1	F	350	ASP	3.5
1	E	347	ALA	3.5
1	H	322	ALA	3.5
1	D	348	THR	3.5
1	A	178	SER	3.5
1	G	345	PRO	3.5
1	H	76	LYS	3.5
1	E	44	GLY	3.5
1	B	359	ASP	3.5
1	E	43	ASP	3.5
1	G	58	THR	3.5
1	A	207	MET	3.5
1	F	207	MET	3.5
1	H	72	LYS	3.5
1	G	69	LEU	3.5

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Mol	Chain	Res	Type	RSRZ
1	H	59	ALA	3.5
1	B	350	ASP	3.5
1	C	76	LYS	3.5
1	I	44	GLY	3.4
1	H	173	TRP	3.4
1	H	58	THR	3.4
1	G	79	VAL	3.4
1	L	30	GLY	3.4
1	L	350	ASP	3.4
1	A	62	LYS	3.4
1	H	1	MET	3.4
1	E	356	THR	3.4
1	D	40	SER	3.4
1	F	345	PRO	3.4
1	G	96	PRO	3.4
1	F	49	ALA	3.4
1	F	324	GLY	3.4
1	G	359	ASP	3.4
1	G	76	LYS	3.4
1	G	107	ILE	3.4
1	L	349	ILE	3.4
1	H	105	ARG	3.4
1	A	93	GLY	3.4
1	A	58	THR	3.3
1	G	348	THR	3.3
1	H	46	SER	3.3
1	F	322	ALA	3.3
1	B	65	GLN	3.3
1	D	351	ILE	3.3
1	K	47	ARG	3.3
1	H	178	SER	3.3
1	G	70	ALA	3.3
1	H	47	ARG	3.3
1	A	34	VAL	3.3
1	F	41	SER	3.3
1	K	76	LYS	3.3
1	A	349	ILE	3.3
1	A	358	TRP	3.3
1	A	41	SER	3.3
1	G	57	VAL	3.3
1	A	322	ALA	3.3
1	C	178	SER	3.2

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Mol	Chain	Res	Type	RSRZ
1	F	59	ALA	3.2
1	G	56	ILE	3.2
1	E	1	MET	3.2
1	I	1	MET	3.2
1	E	355	LEU	3.2
1	G	183	VAL	3.2
1	H	179	GLY	3.2
1	L	173	TRP	3.2
1	H	2	ALA	3.2
1	E	62	LYS	3.2
1	G	101	LYS	3.2
1	G	97	GLU	3.2
1	H	56	ILE	3.2
1	A	355	LEU	3.2
1	A	173	TRP	3.2
1	C	47	ARG	3.2
1	B	180	LYS	3.2
1	J	359	ASP	3.2
1	C	1	MET	3.2
1	K	345	PRO	3.2
1	F	355	LEU	3.2
1	D	44	GLY	3.2
1	A	323	ASN	3.1
1	J	176	GLN	3.1
1	B	43	ASP	3.1
1	K	1	MET	3.1
1	B	324	GLY	3.1
1	D	324	GLY	3.1
1	E	47	ARG	3.1
1	G	106	LEU	3.1
1	E	323	ASN	3.1
1	K	323	ASN	3.1
1	A	354	VAL	3.1
1	A	347	ALA	3.1
1	D	43	ASP	3.1
1	H	353	ALA	3.1
1	K	358	TRP	3.1
1	B	1	MET	3.1
1	H	7	GLY	3.1
1	E	39	PRO	3.1
1	A	56	ILE	3.1
1	H	5	LEU	3.1

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Mol	Chain	Res	Type	RSRZ
1	B	47	ARG	3.1
1	L	47	ARG	3.1
1	F	348	THR	3.1
1	I	351	ILE	3.0
1	H	352	GLU	3.0
1	F	358	TRP	3.0
1	F	106	LEU	3.0
1	K	350	ASP	3.0
1	D	76	LYS	3.0
1	G	65	GLN	3.0
1	E	358	TRP	3.0
1	H	107	ILE	3.0
1	E	69	LEU	3.0
1	A	72	LYS	3.0
1	F	48	ASP	3.0
1	H	38	ARG	3.0
1	C	345	PRO	3.0
1	J	345	PRO	3.0
1	D	349	ILE	3.0
1	J	47	ARG	3.0
1	D	176	GLN	3.0
1	E	173	TRP	2.9
1	F	255	ASP	2.9
1	H	354	VAL	2.9
1	K	102	VAL	2.9
1	L	322	ALA	2.9
1	G	356	THR	2.9
1	A	351	ILE	2.9
1	I	7	GLY	2.9
1	L	351	ILE	2.9
1	L	46	SER	2.9
1	F	11	VAL	2.9
1	F	57	VAL	2.9
1	J	350	ASP	2.9
1	G	2	ALA	2.9
1	F	66	GLY	2.9
1	G	7	GLY	2.9
1	A	69	LEU	2.9
1	E	56	ILE	2.9
1	K	40	SER	2.9
1	B	358	TRP	2.9
1	A	345	PRO	2.9

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Mol	Chain	Res	Type	RSRZ
1	G	77	ALA	2.9
1	D	180	LYS	2.9
1	H	325	GLY	2.9
1	D	56	ILE	2.9
1	I	42	VAL	2.8
1	J	42	VAL	2.8
1	A	1	MET	2.8
1	H	207	MET	2.8
1	G	55	ARG	2.8
1	G	92	LEU	2.8
1	G	94	LEU	2.8
1	L	357	ASP	2.8
1	E	352	GLU	2.8
1	F	101	LYS	2.8
1	I	76	LYS	2.8
1	G	75	ALA	2.8
1	G	44	GLY	2.8
1	L	356	THR	2.8
1	E	73	LEU	2.8
1	G	71	LEU	2.8
1	H	73	LEU	2.8
1	G	43	ASP	2.8
1	H	144	ASP	2.8
1	B	72	LYS	2.8
1	K	72	LYS	2.8
1	G	207	MET	2.8
1	C	105	ARG	2.8
1	F	292	ALA	2.8
1	B	7	GLY	2.8
1	C	41	SER	2.8
1	E	144	ASP	2.8
1	J	102	VAL	2.8
1	B	257	ALA	2.8
1	G	292	ALA	2.8
1	B	323	ASN	2.8
1	A	40	SER	2.7
1	A	101	LYS	2.7
1	G	105	ARG	2.7
1	A	359	ASP	2.7
1	E	359	ASP	2.7
1	G	31	ALA	2.7
1	C	173	TRP	2.7

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Mol	Chain	Res	Type	RSRZ
1	L	44	GLY	2.7
1	H	80	LEU	2.7
1	G	349	ILE	2.7
1	E	350	ASP	2.7
1	C	353	ALA	2.7
1	L	70	ALA	2.7
1	E	66	GLY	2.7
1	F	73	LEU	2.7
1	I	101	LYS	2.7
1	L	61	LEU	2.7
1	L	69	LEU	2.7
1	G	323	ASN	2.7
1	G	47	ARG	2.7
1	A	357	ASP	2.7
1	D	59	ALA	2.7
1	A	288	GLY	2.7
1	H	66	GLY	2.7
1	L	72	LYS	2.7
1	D	355	LEU	2.7
1	K	58	THR	2.7
1	H	40	SER	2.7
1	F	354	VAL	2.7
1	I	176	GLN	2.7
1	E	75	ALA	2.7
1	G	62	LYS	2.7
1	L	62	LYS	2.7
1	L	75	ALA	2.7
1	C	66	GLY	2.6
1	I	61	LEU	2.6
1	L	1	MET	2.6
1	C	351	ILE	2.6
1	D	357	ASP	2.6
1	A	102	VAL	2.6
1	B	75	ALA	2.6
1	B	322	ALA	2.6
1	G	322	ALA	2.6
1	I	358	TRP	2.6
1	B	349	ILE	2.6
1	G	36	ILE	2.6
1	A	46	SER	2.6
1	G	41	SER	2.6
1	H	39	PRO	2.6

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Mol	Chain	Res	Type	RSRZ
1	H	41	SER	2.6
1	K	39	PRO	2.6
1	F	1	MET	2.6
1	G	293	ASN	2.6
1	F	107	ILE	2.6
1	A	63	SER	2.6
1	E	178	SER	2.6
1	G	46	SER	2.6
1	L	41	SER	2.6
1	F	72	LYS	2.6
1	H	350	ASP	2.6
1	J	144	ASP	2.6
1	L	64	ASP	2.6
1	A	59	ALA	2.6
1	A	79	VAL	2.6
1	G	59	ALA	2.6
1	H	31	ALA	2.6
1	G	8	LEU	2.6
1	H	16	ILE	2.6
1	C	358	TRP	2.6
1	K	173	TRP	2.6
1	A	68	GLU	2.5
1	H	145	GLU	2.5
1	B	30	GLY	2.5
1	F	93	GLY	2.5
1	B	59	ALA	2.5
1	B	77	ALA	2.5
1	C	59	ALA	2.5
1	A	348	THR	2.5
1	I	58	THR	2.5
1	E	76	LYS	2.5
1	C	39	PRO	2.5
1	D	107	ILE	2.5
1	D	345	PRO	2.5
1	E	345	PRO	2.5
1	K	41	SER	2.5
1	G	64	ASP	2.5
1	G	173	TRP	2.5
1	H	32	ASP	2.5
1	I	359	ASP	2.5
1	D	1	MET	2.5
1	I	322	ALA	2.5

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Mol	Chain	Res	Type	RSRZ
1	E	348	THR	2.5
1	F	293	ASN	2.5
1	K	348	THR	2.5
1	E	180	LYS	2.5
1	K	65	GLN	2.5
1	A	177	SER	2.5
1	H	6	SER	2.5
1	A	43	ASP	2.5
1	B	315	GLU	2.5
1	I	315[A]	GLU	2.5
1	A	7	GLY	2.5
1	G	30	GLY	2.5
1	G	49	ALA	2.5
1	H	100	ALA	2.5
1	J	322	ALA	2.5
1	E	72	LYS	2.5
1	G	67	LEU	2.5
1	K	351	ILE	2.5
1	G	177	SER	2.5
1	G	99	CYS	2.5
1	A	11	VAL	2.5
1	A	77	ALA	2.5
1	C	171	ALA	2.5
1	K	322	ALA	2.5
1	L	353	ALA	2.5
1	G	61	LEU	2.5
1	L	92	LEU	2.5
1	A	176	GLN	2.5
1	D	354	VAL	2.4
1	G	5	LEU	2.4
1	H	106	LEU	2.4
1	A	97	GLU	2.4
1	D	352	GLU	2.4
1	C	350	ASP	2.4
1	G	104	ASP	2.4
1	J	72	LYS	2.4
1	I	173	TRP	2.4
1	I	326	TRP	2.4
1	D	322	ALA	2.4
1	E	10	VAL	2.4
1	H	65	GLN	2.4
1	A	98	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	178	SER	2.4
1	I	144	ASP	2.4
1	E	30	GLY	2.4
1	A	9	ARG	2.4
1	C	355	LEU	2.4
1	D	358	TRP	2.4
1	L	354	VAL	2.4
1	F	258	GLU	2.4
1	H	50	MET	2.4
1	L	352	GLU	2.4
1	B	44	GLY	2.4
1	E	93	GLY	2.4
1	E	65	GLN	2.4
1	K	176	GLN	2.4
1	L	176	GLN	2.4
1	B	353	ALA	2.4
1	E	70	ALA	2.4
1	H	348	THR	2.3
1	L	68	GLU	2.3
1	H	101	LYS	2.3
1	E	46	SER	2.3
1	G	32	ASP	2.3
1	H	357	ASP	2.3
1	L	43	ASP	2.3
1	E	7	GLY	2.3
1	K	181	GLY	2.3
1	K	355	LEU	2.3
1	A	70	ALA	2.3
1	E	59	ALA	2.3
1	I	2	ALA	2.3
1	J	75	ALA	2.3
1	C	62	LYS	2.3
1	C	180	LYS	2.3
1	C	348	THR	2.3
1	E	68	GLU	2.3
1	H	337	THR	2.3
1	J	352	GLU	2.3
1	K	34	VAL	2.3
1	L	358	TRP	2.3
1	A	64	ASP	2.3
1	D	41	SER	2.3
1	F	56	ILE	2.3

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Mol	Chain	Res	Type	RSRZ
1	J	349	ILE	2.3
1	K	178	SER	2.3
1	K	357	ASP	2.3
1	E	179	GLY	2.3
1	C	72	LYS	2.3
1	E	353	ALA	2.3
1	H	180	LYS	2.3
1	J	76	LYS	2.3
1	A	356	THR	2.3
1	H	102	VAL	2.3
1	A	105	ARG	2.3
1	D	350	ASP	2.3
1	E	357	ASP	2.3
1	F	357	ASP	2.3
1	L	177	SER	2.3
1	G	325	GLY	2.3
1	L	325	GLY	2.3
1	H	71	LEU	2.3
1	A	74	ILE	2.3
1	B	144	ASP	2.3
1	I	87	GLY	2.3
1	B	352	GLU	2.2
1	G	108	TYR	2.2
1	F	69	LEU	2.2
1	A	75	ALA	2.2
1	A	353	ALA	2.2
1	F	70	ALA	2.2
1	L	100	ALA	2.2
1	E	34	VAL	2.2
1	F	33	VAL	2.2
1	C	40	SER	2.2
1	H	37	ASP	2.2
1	L	36	ILE	2.2
1	A	181	GLY	2.2
1	C	101	LYS	2.2
1	F	62	LYS	2.2
1	D	207	MET	2.2
1	F	68	GLU	2.2
1	C	69	LEU	2.2
1	L	105	ARG	2.2
1	B	102	VAL	2.2
1	C	10	VAL	2.2

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Mol	Chain	Res	Type	RSRZ
1	C	33	VAL	2.2
1	D	102	VAL	2.2
1	E	104	ASP	2.2
1	H	359	ASP	2.2
1	I	72	LYS	2.2
1	A	30	GLY	2.2
1	C	68	GLU	2.2
1	K	105	ARG	2.2
1	F	75	ALA	2.2
1	B	176	GLN	2.2
1	C	104	ASP	2.2
1	D	359	ASP	2.2
1	F	144	ASP	2.2
1	J	43	ASP	2.2
1	I	207	MET	2.2
1	H	9	ARG	2.2
1	E	171	ALA	2.2
1	H	77	ALA	2.2
1	L	347	ALA	2.2
1	A	10	VAL	2.2
1	L	42	VAL	2.2
1	L	6	SER	2.1
1	G	172	LEU	2.1
1	C	77	ALA	2.1
1	F	65	GLN	2.1
1	F	171	ALA	2.1
1	L	171	ALA	2.1
1	B	356	THR	2.1
1	F	58	THR	2.1
1	F	356	THR	2.1
1	L	348	THR	2.1
1	H	11	VAL	2.1
1	I	354	VAL	2.1
1	L	79	VAL	2.1
1	J	44	GLY	2.1
1	A	99	CYS	2.1
1	D	47	ARG	2.1
1	H	326	TRP	2.1
1	C	2	ALA	2.1
1	G	171	ALA	2.1
1	I	77	ALA	2.1
1	J	1	MET	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	91	ARG	2.1
1	C	91	ARG	2.1
1	D	7	GLY	2.1
1	E	38	ARG	2.1
1	H	104	ASP	2.1
1	L	7	GLY	2.1
1	L	178	SER	2.1
1	A	92	LEU	2.1
1	A	106	LEU	2.1
1	H	92	LEU	2.1
1	D	173	TRP	2.1
1	F	173	TRP	2.1
1	E	257	ALA	2.1
1	K	50	MET	2.1
1	D	315	GLU	2.1
1	F	10	VAL	2.1
1	L	34	VAL	2.1
1	A	38	ARG	2.1
1	A	37	ASP	2.1
1	I	43	ASP	2.1
1	L	37	ASP	2.1
1	E	325	GLY	2.1
1	G	3	GLY	2.1
1	H	63	SER	2.1
1	A	39	PRO	2.1
1	D	73	LEU	2.1
1	H	69	LEU	2.1
1	H	68	GLU	2.0
1	F	38	ARG	2.0
1	I	10	VAL	2.0
1	C	359	ASP	2.0
1	L	101	LYS	2.0
1	E	106	LEU	2.0
1	H	342	PRO	2.0
1	I	67	LEU	2.0
1	L	355	LEU	2.0
1	C	322	ALA	2.0
1	I	352	GLU	2.0
1	J	49	ALA	2.0
1	H	33	VAL	2.0
1	F	37	ASP	2.0
1	H	27	GLY	2.0

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Mol	Chain	Res	Type	RSRZ
1	H	62	LYS	2.0
1	F	39	PRO	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

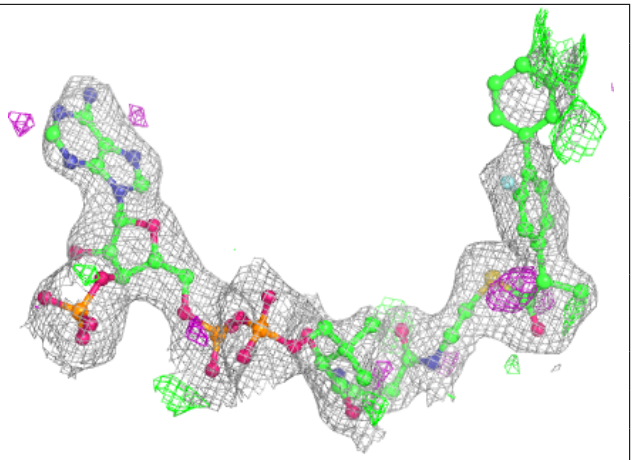
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

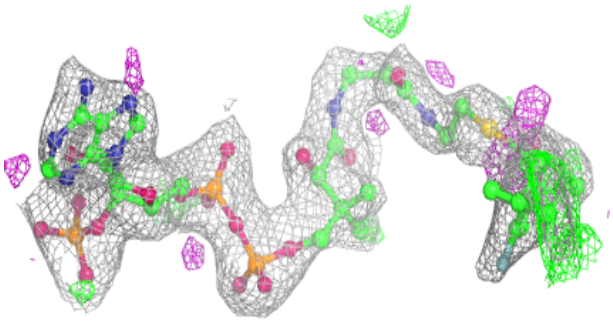
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	A1IZA	H	401	65/65	0.86	0.19	55,74,122,129	0
2	A1IZA	E	401	65/65	0.87	0.19	45,72,132,138	0
2	A1IZA	A	401	65/65	0.91	0.16	34,59,131,143	0
2	A1IZA	F	401	65/65	0.93	0.12	33,54,97,113	0
2	A1IZA	C	401	65/65	0.94	0.12	35,55,102,114	0
2	A1IZA	G	401	65/65	0.94	0.13	33,53,100,114	0
2	A1IZA	B	401	65/65	0.94	0.13	32,51,120,129	0
2	A1IZA	I	401	65/65	0.94	0.12	32,52,104,122	0
2	A1IZA	J	401	65/65	0.94	0.13	31,46,119,138	0
2	A1IZA	L	401	65/65	0.94	0.13	34,54,112,131	0
2	A1IZA	D	401	65/65	0.95	0.11	28,48,105,117	0
2	A1IZA	K	401	65/65	0.96	0.11	33,51,111,120	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 A1IZA H 401:

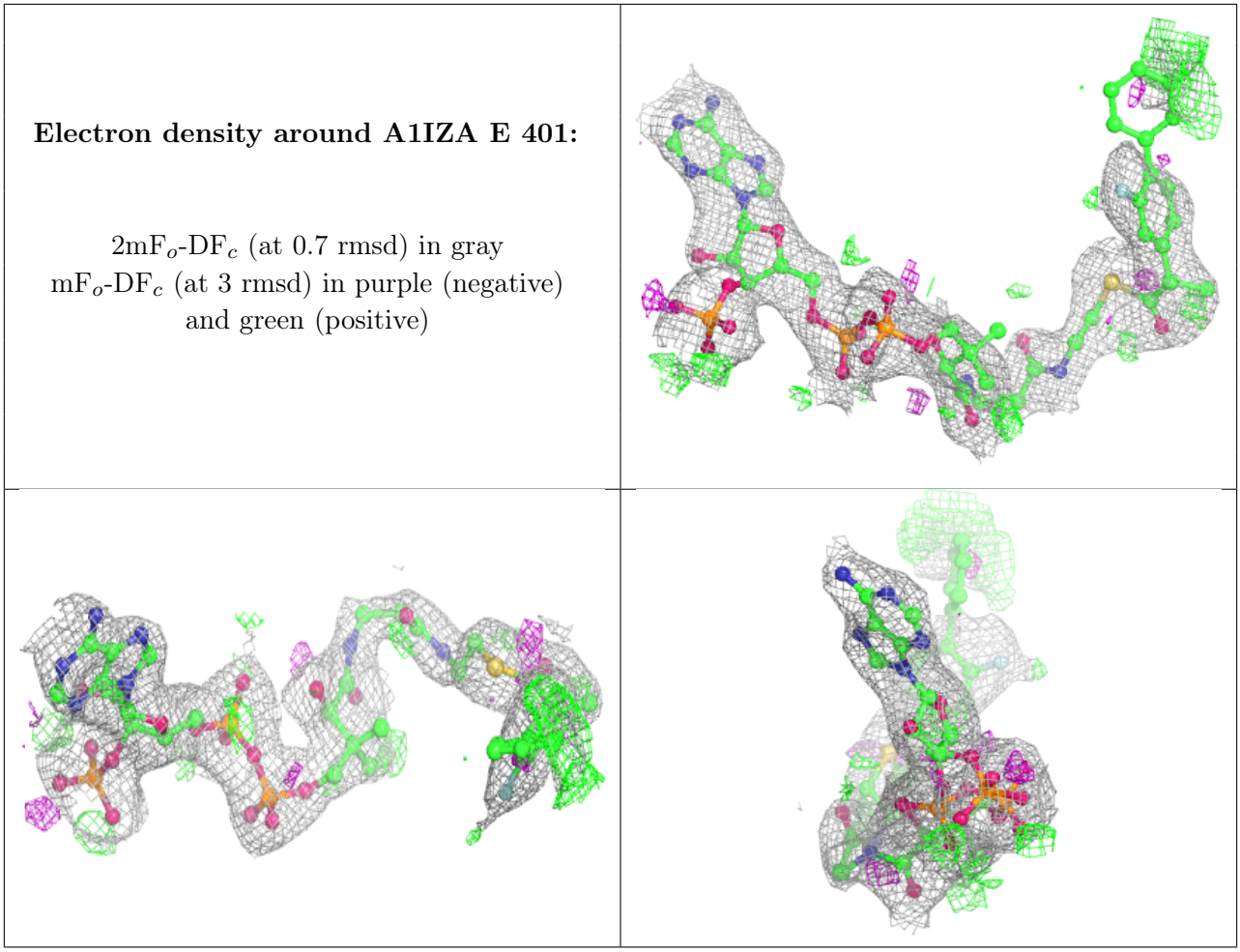
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)





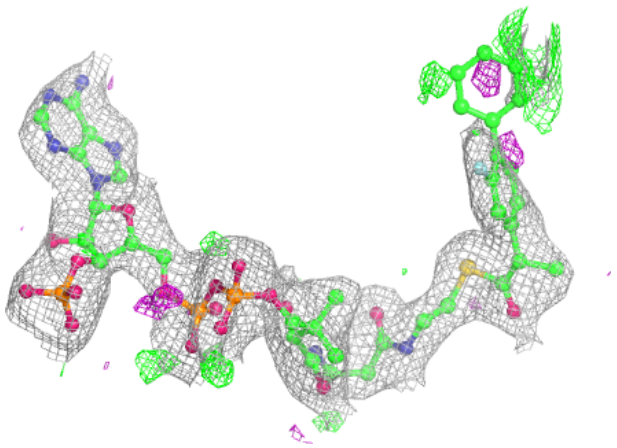
Electron density around A1IZA E 401:

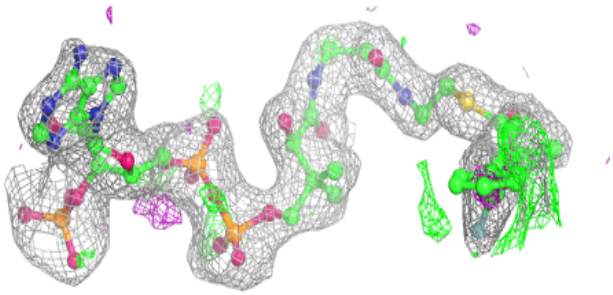
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

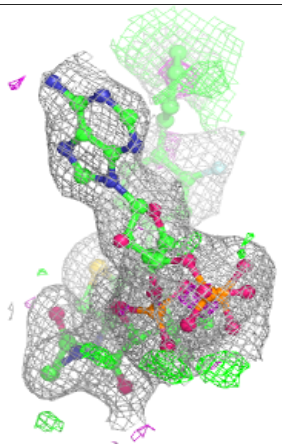


Electron density around A1IZA A 401:

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

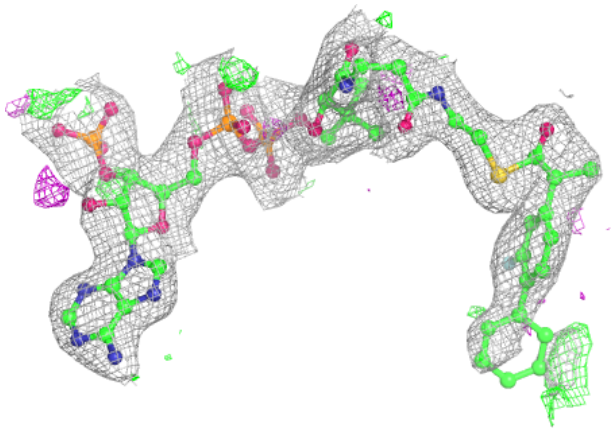


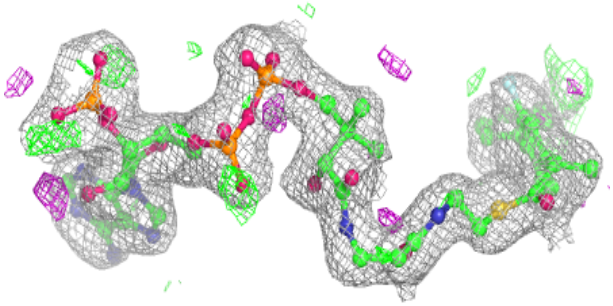


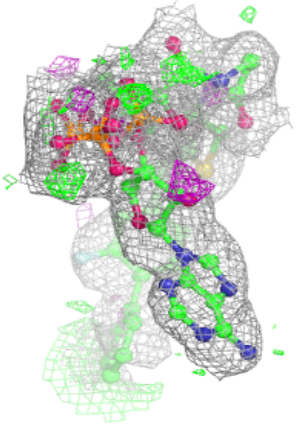


Electron density around A1IZA F 401:

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

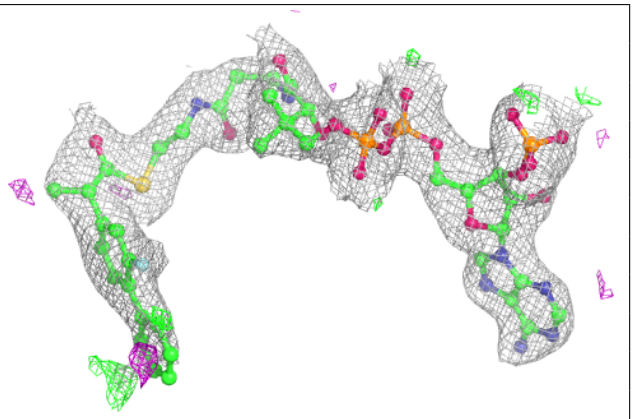


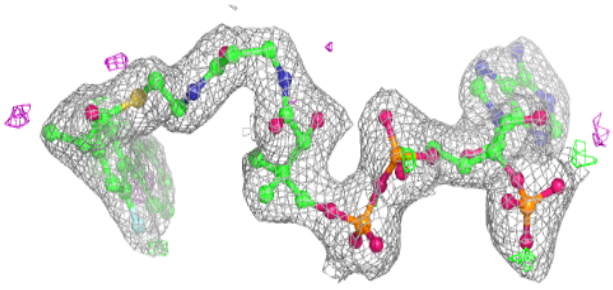


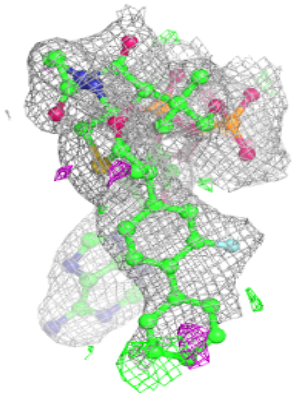


Electron density around A1IZA C 401:

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

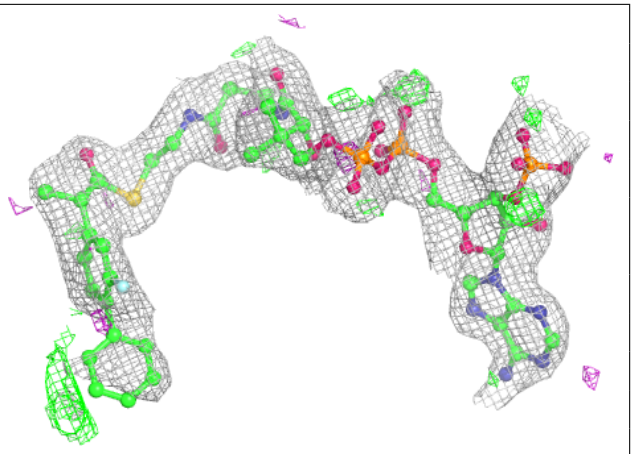


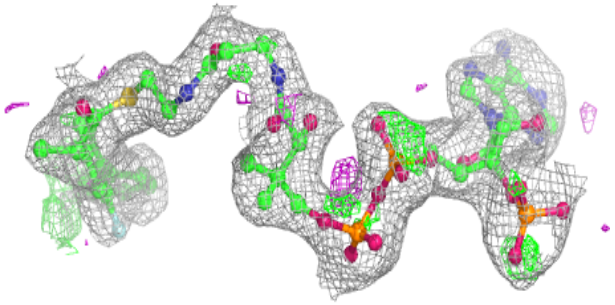


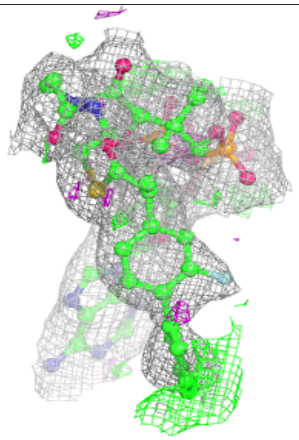


Electron density around A1IZA G 401:

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

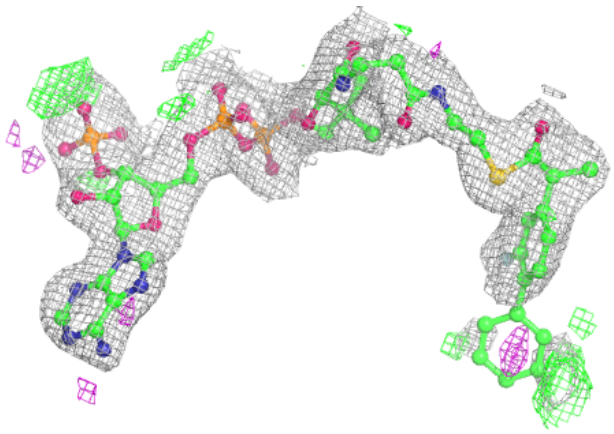


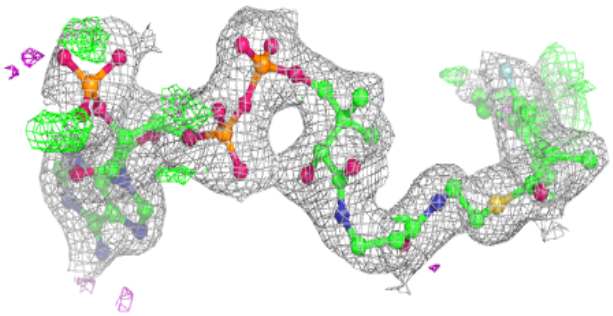


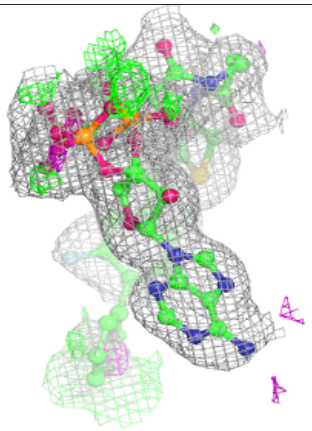


Electron density around A1IZA B 401:

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

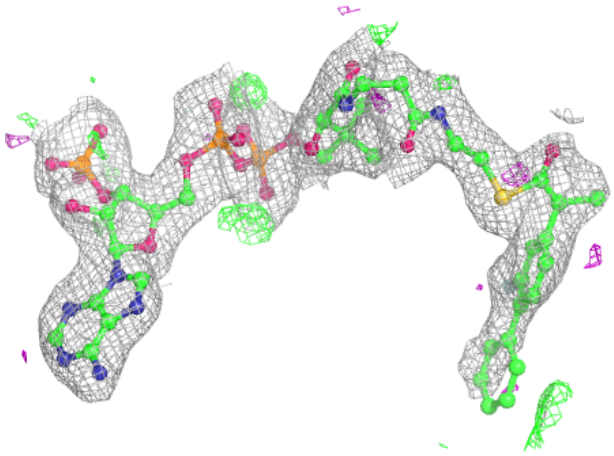


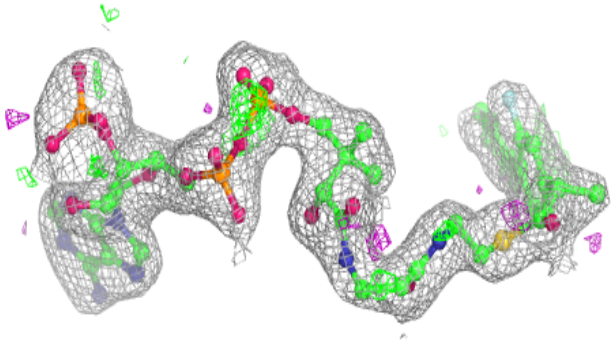




Electron density around A1IZA I 401:

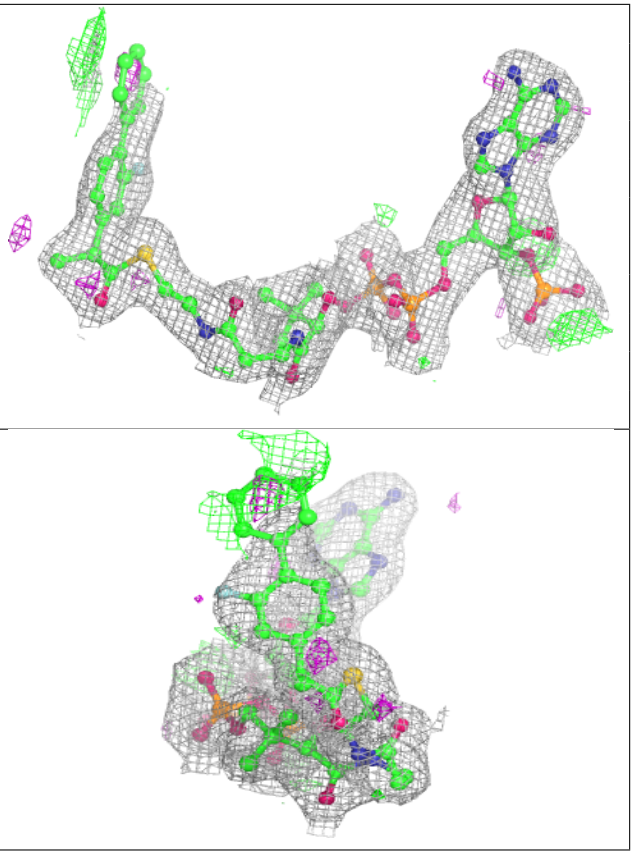
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)





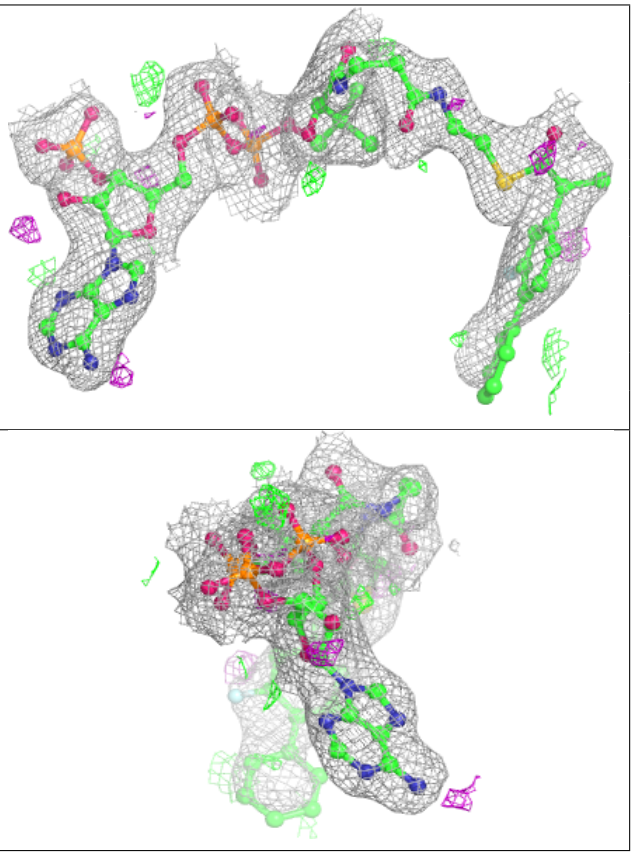
Electron density around A1IZA J 401:

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



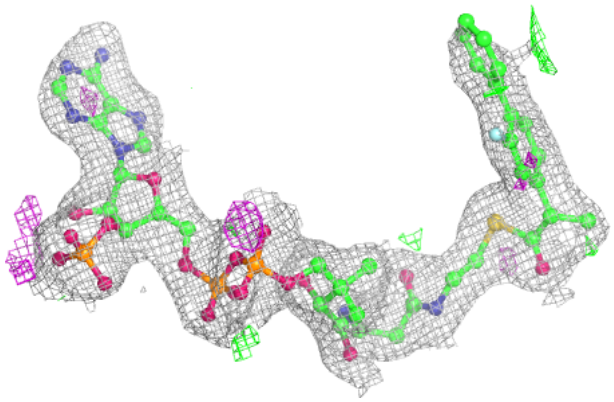
Electron density around A1IZA L 401:

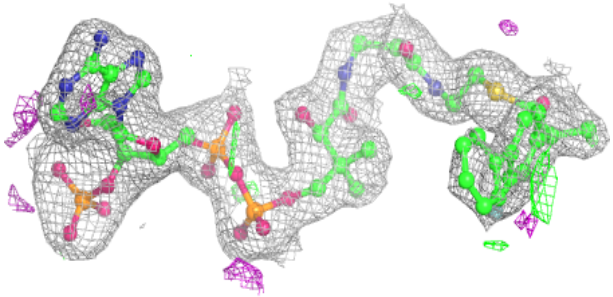
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

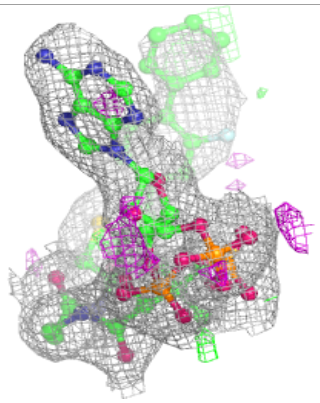


Electron density around A1IZA D 401:

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

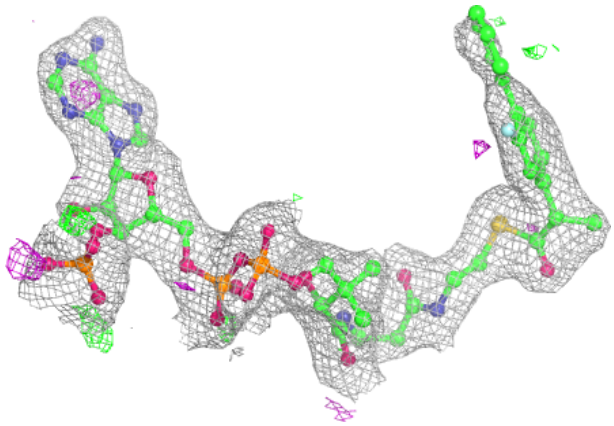


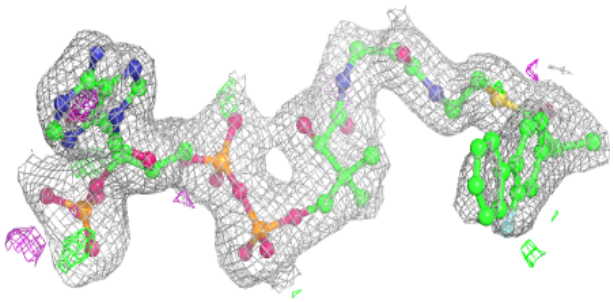


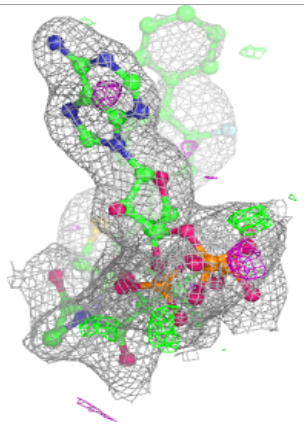


Electron density around A1IZA K 401:

$2mF_o$-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.