



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 07:46 PM UTC

PDB ID : 1V7A / pdb\_00001v7a  
Title : Crystal structures of adenosine deaminase complexed with potent inhibitors  
Authors : Kinoshita, T.  
Deposited on : 2003-12-14  
Resolution : 2.50 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

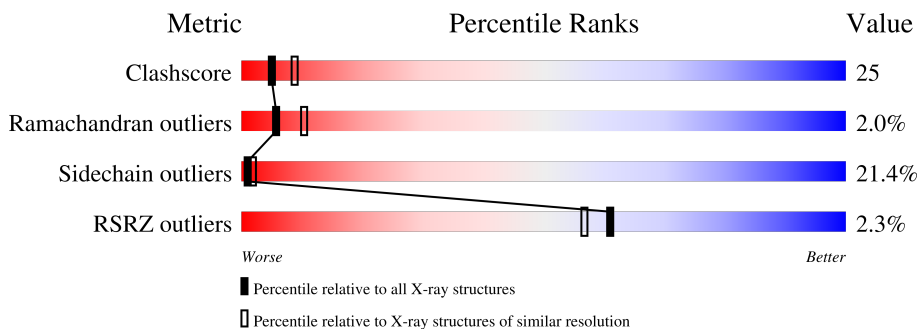
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

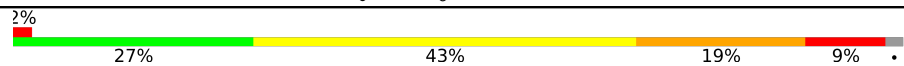
The reported resolution of this entry is 2.50 Å.

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))
Clashscore	190562	6492 (2.50-2.50)
Ramachandran outliers	187476	6378 (2.50-2.50)
Sidechain outliers	187428	6380 (2.50-2.50)
RSRZ outliers	180081	5833 (2.50-2.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	356	

## 2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 3001 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 adenosine deaminase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	349	2789	1772	471	534	12	0	0	0

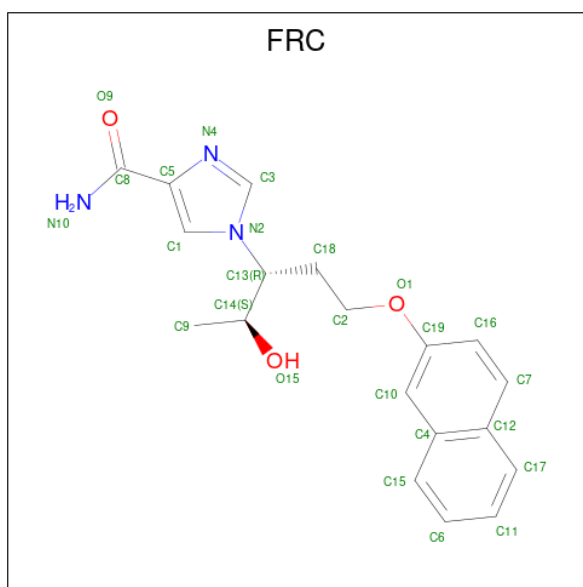
There are 15 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	8	ASP	ASN	SEE REMARK 999	UNP P56658
A	32	LYS	ARG	SEE REMARK 999	UNP P56658
A	33	ARG	LYS	SEE REMARK 999	UNP P56658
A	57	THR	SER	SEE REMARK 999	UNP P56658
A	60	ASP	GLU	SEE REMARK 999	UNP P56658
A	77	ASP	GLU	SEE REMARK 999	UNP P56658
A	79	ILE	VAL	SEE REMARK 999	UNP P56658
A	199	GLN	LYS	SEE REMARK 999	UNP P56658
A	246	THR	ALA	SEE REMARK 999	UNP P56658
A	261	ILE	VAL	SEE REMARK 999	UNP P56658
A	279	ALA	PRO	SEE REMARK 999	UNP P56658
A	281	ILE	VAL	SEE REMARK 999	UNP P56658
A	313	LYS	ASN	SEE REMARK 999	UNP P56658
A	314	ASP	GLU	SEE REMARK 999	UNP P56658
A	352	ARG	GLY	SEE REMARK 999	UNP P56658

- Molecule 2 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Zn	0	0
			1	1		

- Molecule 3 is 1-{(1R,2S)-2-HYDROXY-1-[2-(2-NAPHTHYLOXY)ETHYL]PROPYL}-1H-1 MIDAZONE-4-CARBOXAMIDE (CCD ID: FRC) (formula: C<sub>19</sub>H<sub>21</sub>N<sub>3</sub>O<sub>3</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
3	A	1	25	19	3	3	0	0

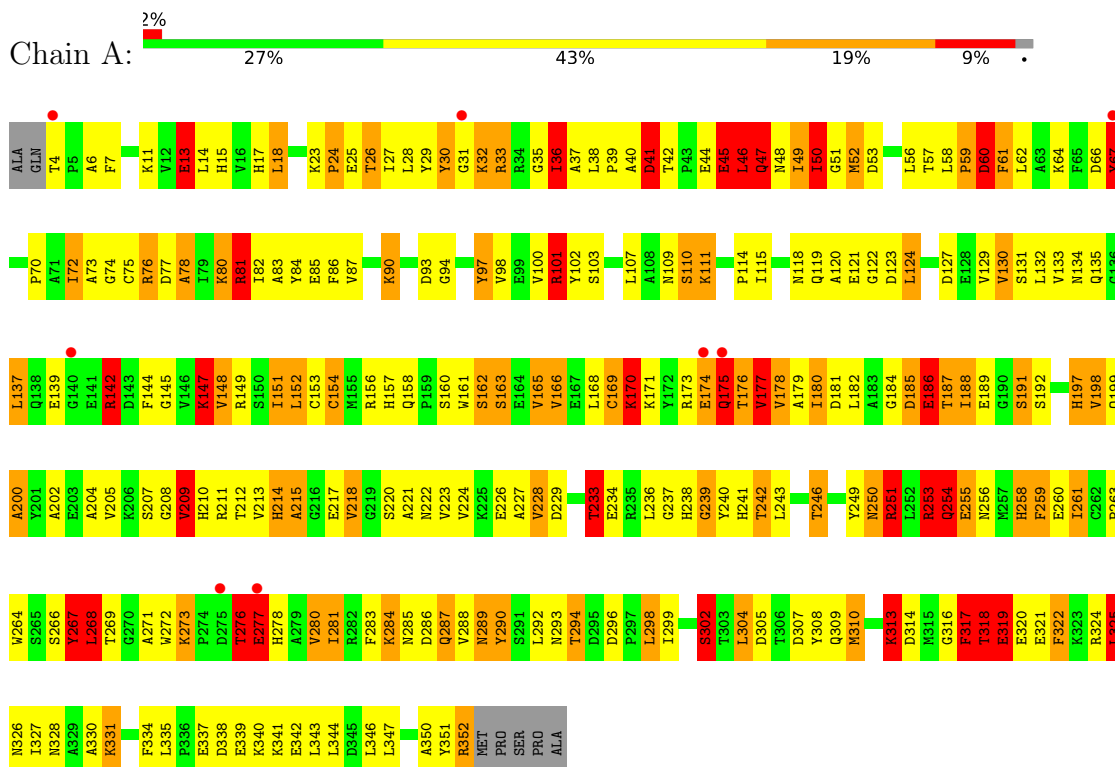
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
4	A	186	186	186	0	0

### 3 Residue-property plots

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

- Molecule 1: adenosine deaminase



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	77.52Å 77.52Å 136.20Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	8.00 – 2.50 8.00 – 2.50	Depositor EDS
% Data completeness (in resolution range)	(Not available) (8.00-2.50) 96.0 (8.00-2.50)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	15.58 (at 2.00Å)	Xtrriage
Refinement program	CNX	Depositor
R, $R_{free}$	0.244 , 0.276 0.258 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	20.4	Xtrriage
Anisotropy	0.088	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.42 , 46.8	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.51$ , $\langle L^2 \rangle = 0.34$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.88	EDS
Total number of atoms	3001	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	11.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.65% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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

## 5 Model quality i

### 5.1 Standard geometry i

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

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	1.17	7/2853 (0.2%)	2.54	242/3867 (6.3%)

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	15

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	214	HIS	CG-ND1	-5.96	1.31	1.38
1	A	214	HIS	CE1-NE2	5.90	1.38	1.32
1	A	15	HIS	CE1-NE2	5.90	1.38	1.32
1	A	210	HIS	ND1-CE1	5.85	1.38	1.32
1	A	210	HIS	CE1-NE2	5.62	1.38	1.32
1	A	17	HIS	CE1-NE2	5.61	1.38	1.32
1	A	197	HIS	CE1-NE2	5.14	1.37	1.32

All (242) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	317	PHE	CA-CB-CG	14.59	128.39	113.80
1	A	77	ASP	CA-CB-CG	13.87	126.47	112.60
1	A	208	GLY	CA-C-N	-13.59	105.57	123.10
1	A	208	GLY	C-N-CA	-13.59	105.57	123.10
1	A	214	HIS	N-CA-C	13.43	127.22	111.11
1	A	33	ARG	N-CA-C	11.60	123.61	110.97

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	176	THR	CA-C-N	-10.90	108.31	122.37
1	A	176	THR	C-N-CA	-10.90	108.31	122.37
1	A	41	ASP	CA-CB-CG	-10.71	101.89	112.60
1	A	36	ILE	N-CA-C	10.39	121.11	111.45
1	A	352	ARG	CD-NE-CZ	-9.38	111.26	124.40
1	A	49	ILE	CA-C-N	-9.16	105.97	121.09
1	A	49	ILE	C-N-CA	-9.16	105.97	121.09
1	A	280	VAL	N-CA-C	9.08	120.97	110.62
1	A	101	ARG	NE-CZ-NH2	8.87	127.18	119.20
1	A	258	HIS	CA-CB-CG	-8.85	104.95	113.80
1	A	33	ARG	CA-CB-CG	-8.81	96.48	114.10
1	A	256	ASN	CA-CB-CG	-8.80	103.80	112.60
1	A	41	ASP	N-CA-C	8.66	123.52	111.56
1	A	307	ASP	CA-CB-CG	-8.63	103.97	112.60
1	A	78	ALA	N-CA-C	8.61	121.44	111.11
1	A	101	ARG	NE-CZ-NH1	-8.52	112.98	121.50
1	A	174	GLU	N-CA-C	8.48	123.58	113.23
1	A	290	TYR	N-CA-C	8.43	122.30	109.23
1	A	35	GLY	CA-C-N	-8.31	109.34	121.65
1	A	35	GLY	C-N-CA	-8.31	109.34	121.65
1	A	187	THR	CA-C-N	-8.17	109.76	120.63
1	A	187	THR	C-N-CA	-8.17	109.76	120.63
1	A	6	ALA	N-CA-C	8.11	121.15	111.33
1	A	246	THR	N-CA-C	8.10	122.43	112.23
1	A	166	VAL	CA-CB-CG1	8.07	124.11	110.40
1	A	147	LYS	CB-CA-C	8.06	123.68	110.22
1	A	66	ASP	N-CA-C	8.00	121.01	111.33
1	A	209	VAL	N-CA-C	7.87	119.95	108.53
1	A	74	GLY	CA-C-N	-7.64	112.91	122.84
1	A	74	GLY	C-N-CA	-7.64	112.91	122.84
1	A	277	GLU	CA-C-N	-7.58	110.13	120.82
1	A	277	GLU	C-N-CA	-7.58	110.13	120.82
1	A	233	THR	CB-CA-C	-7.46	96.44	109.64
1	A	313	LYS	N-CA-C	7.45	119.48	111.36
1	A	269	THR	N-CA-C	7.44	121.94	113.01
1	A	178	VAL	N-CA-C	7.36	119.96	112.90
1	A	317	PHE	N-CA-CB	7.35	120.25	110.25
1	A	327	ILE	N-CA-C	7.34	118.11	110.62
1	A	254	GLN	CA-C-N	-7.33	110.72	122.66
1	A	254	GLN	C-N-CA	-7.33	110.72	122.66
1	A	53	ASP	CA-C-O	7.31	126.84	119.97
1	A	169	CYS	N-CA-C	7.27	120.13	111.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	163	SER	CA-C-N	-7.11	110.19	120.29
1	A	163	SER	C-N-CA	-7.11	110.19	120.29
1	A	226	GLU	N-CA-C	7.05	118.61	111.07
1	A	32	LYS	CA-CB-CG	7.01	128.12	114.10
1	A	93	ASP	N-CA-C	6.99	121.64	113.18
1	A	241	HIS	N-CA-C	6.97	121.24	112.87
1	A	156	ARG	N-CA-C	6.92	118.83	111.28
1	A	320	GLU	N-CA-C	6.91	119.69	111.33
1	A	61	PHE	N-CA-C	6.91	118.89	111.36
1	A	64	LYS	N-CA-C	6.90	119.68	111.33
1	A	204	ALA	N-CA-C	6.84	119.37	111.02
1	A	330	ALA	N-CA-C	6.84	118.39	111.07
1	A	240	TYR	N-CA-C	6.84	118.81	111.36
1	A	343	LEU	CA-C-O	6.80	127.76	120.55
1	A	233	THR	N-CA-C	6.79	119.07	110.24
1	A	191	SER	N-CA-C	6.79	119.51	111.71
1	A	76	ARG	CA-C-N	-6.77	111.21	120.28
1	A	76	ARG	C-N-CA	-6.77	111.21	120.28
1	A	340	LYS	CB-CA-C	-6.75	99.59	110.79
1	A	200	ALA	N-CA-C	6.72	118.26	111.07
1	A	60	ASP	CA-CB-CG	6.69	119.29	112.60
1	A	13	GLU	CB-CA-C	6.67	121.77	109.70
1	A	287	GLN	N-CA-C	6.62	120.68	111.74
1	A	339	GLU	N-CA-C	6.62	121.44	113.23
1	A	324	ARG	CA-C-O	6.56	127.51	120.55
1	A	177	VAL	N-CA-C	6.50	117.94	108.58
1	A	51	GLY	CA-C-N	-6.45	111.52	122.67
1	A	51	GLY	C-N-CA	-6.45	111.52	122.67
1	A	239	GLY	CA-C-N	-6.42	111.17	120.29
1	A	239	GLY	C-N-CA	-6.42	111.17	120.29
1	A	338	ASP	CA-CB-CG	6.41	119.01	112.60
1	A	218	VAL	CA-C-O	6.41	126.39	119.35
1	A	81	ARG	NE-CZ-NH2	6.39	124.95	119.20
1	A	319	GLU	N-CA-C	6.35	118.20	111.28
1	A	266	SER	CA-C-N	-6.34	110.13	120.71
1	A	266	SER	C-N-CA	-6.34	110.13	120.71
1	A	177	VAL	CA-C-N	-6.33	113.25	122.69
1	A	177	VAL	C-N-CA	-6.33	113.25	122.69
1	A	76	ARG	N-CA-C	6.31	121.72	111.37
1	A	123	ASP	N-CA-C	6.31	120.62	112.41
1	A	186	GLU	N-CA-C	6.29	124.20	110.80
1	A	228	VAL	N-CA-C	6.27	116.38	110.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	250	ASN	CA-C-O	6.25	127.05	120.42
1	A	77	ASP	N-CA-CB	6.25	119.31	110.12
1	A	142	ARG	CD-NE-CZ	6.24	133.14	124.40
1	A	165	VAL	N-CA-C	6.23	116.71	110.23
1	A	175	GLN	CA-CB-CG	6.22	126.53	114.10
1	A	67	TYR	N-CA-CB	6.19	119.29	110.13
1	A	40	ALA	N-CA-C	6.18	116.77	108.23
1	A	271	ALA	CA-C-N	-6.18	114.47	123.00
1	A	271	ALA	C-N-CA	-6.18	114.47	123.00
1	A	47	GLN	CA-CB-CG	-6.17	101.75	114.10
1	A	46	LEU	CA-C-N	-6.17	112.42	120.44
1	A	46	LEU	C-N-CA	-6.17	112.42	120.44
1	A	215	ALA	N-CA-C	6.15	123.91	110.80
1	A	261	ILE	N-CA-C	6.13	117.55	109.21
1	A	261	ILE	CA-C-N	-6.12	114.60	122.98
1	A	261	ILE	C-N-CA	-6.12	114.60	122.98
1	A	77	ASP	N-CA-C	6.12	117.95	111.28
1	A	313	LYS	CA-C-N	-6.12	111.68	122.26
1	A	313	LYS	C-N-CA	-6.12	111.68	122.26
1	A	314	ASP	N-CA-C	6.09	120.88	113.38
1	A	120	ALA	CA-C-N	-6.08	108.43	121.45
1	A	120	ALA	C-N-CA	-6.08	108.43	121.45
1	A	253	ARG	CA-C-N	-6.08	110.96	121.66
1	A	253	ARG	C-N-CA	-6.08	110.96	121.66
1	A	30	TYR	CA-CB-CG	-6.06	102.99	113.90
1	A	144	PHE	CA-CB-CG	-6.06	107.74	113.80
1	A	179	ALA	N-CA-C	6.06	117.35	108.14
1	A	342	GLU	N-CA-C	6.06	118.66	111.33
1	A	284	LYS	N-CA-C	6.06	117.55	111.07
1	A	73	ALA	CA-C-N	-6.03	113.30	122.28
1	A	73	ALA	C-N-CA	-6.03	113.30	122.28
1	A	47	GLN	CB-CA-C	-5.97	101.51	110.88
1	A	84	TYR	N-CA-C	5.95	117.77	111.28
1	A	316	GLY	CA-C-N	-5.91	111.00	121.29
1	A	316	GLY	C-N-CA	-5.91	111.00	121.29
1	A	148	VAL	N-CA-C	5.88	116.59	108.12
1	A	351	TYR	CA-C-N	-5.88	111.12	121.70
1	A	351	TYR	C-N-CA	-5.88	111.12	121.70
1	A	48	ASN	CA-CB-CG	-5.87	106.73	112.60
1	A	253	ARG	NE-CZ-NH2	5.85	124.47	119.20
1	A	47	GLN	CA-C-N	-5.85	111.23	120.60
1	A	47	GLN	C-N-CA	-5.85	111.23	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	276	THR	CA-CB-CG2	5.84	120.43	110.50
1	A	130	VAL	N-CA-C	5.83	116.61	110.72
1	A	162	SER	N-CA-C	5.83	117.63	111.28
1	A	296	ASP	CB-CA-C	-5.81	103.43	110.81
1	A	199	GLN	N-CA-C	5.78	118.36	111.71
1	A	30	TYR	N-CA-C	5.78	120.47	112.90
1	A	80	LYS	N-CA-C	5.78	118.05	111.11
1	A	258	HIS	N-CA-C	5.75	119.01	109.46
1	A	261	ILE	CA-CB-CG2	5.73	120.24	110.50
1	A	157	HIS	CA-C-N	-5.71	116.56	122.85
1	A	157	HIS	C-N-CA	-5.71	116.56	122.85
1	A	122	GLY	CA-C-N	-5.70	113.54	122.49
1	A	122	GLY	C-N-CA	-5.70	113.54	122.49
1	A	222	ASN	CA-CB-CG	-5.69	106.91	112.60
1	A	261	ILE	CB-CG1-CD1	-5.68	101.87	113.80
1	A	75	CYS	N-CA-C	5.66	117.88	108.20
1	A	202	ALA	N-CA-C	5.66	117.12	111.07
1	A	221	ALA	N-CA-C	5.65	118.99	111.75
1	A	186	GLU	CB-CG-CD	-5.64	103.02	112.60
1	A	318	THR	CA-C-N	-5.62	112.75	120.28
1	A	318	THR	C-N-CA	-5.62	112.75	120.28
1	A	343	LEU	N-CA-C	5.62	117.41	111.28
1	A	70	PRO	CA-C-N	-5.61	111.79	120.31
1	A	70	PRO	C-N-CA	-5.61	111.79	120.31
1	A	154	CYS	CA-C-N	-5.60	114.81	122.93
1	A	154	CYS	C-N-CA	-5.60	114.81	122.93
1	A	253	ARG	CA-CB-CG	5.59	125.28	114.10
1	A	45	GLU	CB-CA-C	-5.58	101.88	110.81
1	A	151	ILE	CA-C-N	-5.57	113.84	122.09
1	A	151	ILE	C-N-CA	-5.57	113.84	122.09
1	A	198	VAL	N-CA-C	5.57	118.05	111.09
1	A	50	ILE	CA-CB-CG2	-5.56	101.04	110.50
1	A	33	ARG	NE-CZ-NH1	-5.56	115.94	121.50
1	A	268	LEU	N-CA-C	5.56	118.06	111.33
1	A	14	LEU	CA-C-N	5.55	132.64	122.92
1	A	14	LEU	C-N-CA	5.55	132.64	122.92
1	A	254	GLN	CB-CG-CD	-5.55	103.16	112.60
1	A	163	SER	N-CA-C	5.54	119.30	112.54
1	A	285	ASN	N-CA-C	5.54	118.84	111.75
1	A	289	ASN	N-CA-C	5.54	117.50	108.63
1	A	298	LEU	CA-C-O	5.49	126.77	120.90
1	A	337	GLU	N-CA-C	5.48	117.25	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	302	SER	N-CA-C	5.46	118.17	109.81
1	A	66	ASP	CA-CB-CG	-5.43	107.17	112.60
1	A	251	ARG	N-CA-C	5.43	117.28	111.36
1	A	253	ARG	CD-NE-CZ	-5.42	116.81	124.40
1	A	314	ASP	CA-C-N	-5.41	114.03	122.37
1	A	314	ASP	C-N-CA	-5.41	114.03	122.37
1	A	243	LEU	N-CA-C	5.41	117.93	111.71
1	A	189	GLU	N-CA-C	5.41	118.19	110.24
1	A	339	GLU	CA-C-N	-5.39	113.06	120.28
1	A	339	GLU	C-N-CA	-5.39	113.06	120.28
1	A	175	GLN	N-CA-CB	5.38	119.57	110.49
1	A	46	LEU	N-CA-C	5.37	116.81	111.07
1	A	205	VAL	N-CA-C	5.37	115.99	110.36
1	A	18	LEU	N-CA-C	5.36	117.55	111.11
1	A	14	LEU	N-CA-C	5.35	121.56	114.12
1	A	157	HIS	CA-CB-CG	-5.35	108.45	113.80
1	A	229	ASP	N-CA-C	5.35	118.27	111.69
1	A	50	ILE	N-CA-C	5.33	120.31	113.07
1	A	147	LYS	N-CA-CB	-5.32	101.24	110.17
1	A	281	ILE	N-CA-C	5.31	116.09	110.72
1	A	171	LYS	N-CA-C	5.31	117.07	111.28
1	A	234	GLU	CA-C-O	5.30	125.47	119.27
1	A	170	LYS	N-CA-C	5.29	117.13	111.36
1	A	127	ASP	N-CA-C	5.28	117.45	111.11
1	A	72	ILE	N-CA-C	5.28	116.35	111.81
1	A	317	PHE	CB-CG-CD2	-5.26	111.75	120.70
1	A	337	GLU	CB-CA-C	-5.26	102.06	110.79
1	A	218	VAL	CA-C-N	-5.25	114.04	121.13
1	A	218	VAL	C-N-CA	-5.25	114.04	121.13
1	A	94	GLY	CA-C-N	-5.24	113.85	121.71
1	A	94	GLY	C-N-CA	-5.24	113.85	121.71
1	A	18	LEU	CA-C-O	5.22	126.49	120.90
1	A	251	ARG	NE-CZ-NH1	-5.22	116.28	121.50
1	A	160	SER	N-CA-C	5.21	118.42	111.75
1	A	97	TYR	CA-C-N	-5.21	115.69	122.94
1	A	97	TYR	C-N-CA	-5.21	115.69	122.94
1	A	326	ASN	N-CA-C	5.20	116.95	111.28
1	A	114	PRO	CA-C-N	-5.20	111.66	120.70
1	A	114	PRO	C-N-CA	-5.20	111.66	120.70
1	A	103	SER	N-CA-C	5.19	116.93	109.04
1	A	266	SER	N-CA-C	5.18	119.31	112.89
1	A	331	LYS	N-CA-C	5.17	117.66	111.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	299	ILE	N-CA-CB	-5.16	102.83	110.58
1	A	81	ARG	CB-CG-CD	5.15	123.14	111.30
1	A	32	LYS	CA-C-N	-5.15	113.86	120.65
1	A	32	LYS	C-N-CA	-5.15	113.86	120.65
1	A	24	PRO	CA-C-N	5.13	127.41	120.38
1	A	24	PRO	C-N-CA	5.13	127.41	120.38
1	A	287	GLN	CA-C-O	5.12	127.38	121.28
1	A	210	HIS	N-CA-C	5.12	117.45	110.24
1	A	153	CYS	N-CA-C	5.10	117.02	107.99
1	A	50	ILE	CA-CB-CG1	5.10	119.07	110.40
1	A	310	MET	N-CA-C	5.08	116.51	110.97
1	A	227	ALA	N-CA-C	5.08	117.20	111.11
1	A	289	ASN	N-CA-CB	-5.07	101.86	109.88
1	A	115	ILE	CA-C-N	-5.07	115.34	120.31
1	A	115	ILE	C-N-CA	-5.07	115.34	120.31
1	A	261	ILE	CA-C-O	5.07	127.14	121.11
1	A	318	THR	CA-CB-CG2	5.06	119.10	110.50
1	A	145	GLY	CA-C-N	-5.06	115.68	122.91
1	A	145	GLY	C-N-CA	-5.06	115.68	122.91
1	A	180	ILE	CA-CB-CG1	5.05	118.99	110.40
1	A	124	LEU	N-CA-C	5.04	116.52	108.41
1	A	307	ASP	N-CA-C	5.03	116.46	111.07
1	A	350	ALA	N-CA-C	5.02	117.41	111.33
1	A	66	ASP	CA-C-N	-5.02	112.33	120.71
1	A	66	ASP	C-N-CA	-5.02	112.33	120.71
1	A	325	LEU	N-CA-C	5.01	116.82	111.36

There are no chirality outliers.

All (15) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	101	ARG	Sidechain
1	A	110	SER	Peptide
1	A	121	GLU	Peptide
1	A	149	ARG	Sidechain
1	A	185	ASP	Peptide
1	A	211	ARG	Sidechain
1	A	249	TYR	Sidechain
1	A	251	ARG	Sidechain
1	A	253	ARG	Sidechain
1	A	267	TYR	Sidechain
1	A	30	TYR	Sidechain

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Mol	Chain	Res	Type	Group
1	A	317	PHE	Peptide
1	A	322	PHE	Sidechain
1	A	352	ARG	Sidechain
1	A	67	TYR	Sidechain

## 5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2789	0	2743	139	0
2	A	1	0	0	0	0
3	A	25	0	21	1	0
4	A	186	0	0	28	0
All	All	3001	0	2764	139	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 25.

All (139) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:163:SER:HA	1:A:166:VAL:HG22	1.57	0.86
1:A:80:LYS:HA	4:A:1110:HOH:O	1.78	0.81
1:A:23:LYS:HB2	1:A:26:THR:HG23	1.67	0.77
1:A:322:PHE:HA	1:A:325:LEU:HD13	1.67	0.76
1:A:220:SER:O	1:A:223:VAL:HG12	1.85	0.75
1:A:224:VAL:HG21	1:A:242:THR:HG22	1.68	0.74
1:A:139:GLU:HA	1:A:142:ARG:HD2	1.71	0.73
1:A:18:LEU:HD11	1:A:82:ILE:HG13	1.70	0.73
1:A:288:VAL:HG13	1:A:290:TYR:HD1	1.52	0.72
1:A:213:VAL:HG23	1:A:233:THR:HG23	1.77	0.67
1:A:185:ASP:HB2	3:A:1001:FRC:H11	1.77	0.66
1:A:72:ILE:HG21	1:A:82:ILE:HD13	1.78	0.66
1:A:236:LEU:O	1:A:260:GLU:HG3	1.95	0.66
1:A:239:GLY:O	1:A:242:THR:HG23	1.96	0.65
1:A:186:GLU:OE1	1:A:223:VAL:HG11	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:13:GLU:HG2	1:A:98:VAL:HG23	1.80	0.64
1:A:67:TYR:HB2	4:A:1081:HOH:O	1.99	0.63
1:A:52:MET:HE1	1:A:61:PHE:HD1	1.64	0.63
1:A:288:VAL:HB	4:A:1147:HOH:O	1.99	0.63
1:A:250:ASN:O	1:A:253:ARG:HD2	1.97	0.63
1:A:290:TYR:HB3	4:A:1096:HOH:O	1.99	0.62
1:A:264:TRP:CD1	1:A:302:SER:HG	2.18	0.62
1:A:72:ILE:HG23	1:A:78:ALA:HB1	1.82	0.61
1:A:39:PRO:HG3	1:A:67:TYR:CE2	2.35	0.61
1:A:80:LYS:HE3	1:A:135:GLN:HB3	1.83	0.61
1:A:52:MET:HE1	1:A:61:PHE:CD1	2.35	0.60
1:A:317:PHE:HB2	4:A:1137:HOH:O	2.00	0.60
1:A:97:TYR:HD1	1:A:147:LYS:HG3	1.66	0.60
1:A:13:GLU:HG3	4:A:1089:HOH:O	2.02	0.59
1:A:180:ILE:HB	4:A:1174:HOH:O	2.02	0.59
1:A:109:ASN:HB3	1:A:119:GLN:OE1	2.03	0.59
1:A:261:ILE:HD12	1:A:290:TYR:HB2	1.84	0.59
1:A:83:ALA:HB1	1:A:137:LEU:HD13	1.85	0.58
1:A:28:LEU:HD21	1:A:46:LEU:HD13	1.86	0.58
1:A:277:GLU:HB3	4:A:1139:HOH:O	2.02	0.58
1:A:163:SER:CA	1:A:166:VAL:HG22	2.33	0.58
1:A:283:PHE:HB3	1:A:288:VAL:HG11	1.86	0.57
1:A:100:VAL:HG21	4:A:1166:HOH:O	2.04	0.57
1:A:44:GLU:H	1:A:44:GLU:CD	2.13	0.57
1:A:170:LYS:HE2	4:A:1117:HOH:O	2.04	0.57
1:A:292:LEU:HA	4:A:1180:HOH:O	2.05	0.57
1:A:24:PRO:HG2	1:A:47:GLN:NE2	2.20	0.56
1:A:142:ARG:HH11	1:A:142:ARG:HG3	1.70	0.56
1:A:152:LEU:HD22	1:A:177:VAL:HG21	1.88	0.56
1:A:278:HIS:HD2	1:A:280:VAL:H	1.52	0.55
1:A:58:LEU:HD23	1:A:62:LEU:HG	1.89	0.55
1:A:161:TRP:O	1:A:165:VAL:HG23	2.07	0.55
1:A:273:LYS:O	1:A:276:THR:HB	2.07	0.54
1:A:46:LEU:HA	4:A:1068:HOH:O	2.06	0.54
1:A:31:GLY:HA2	1:A:36:ILE:HB	1.89	0.54
1:A:25:GLU:H	1:A:25:GLU:CD	2.16	0.54
1:A:263:PRO:HD3	4:A:1180:HOH:O	2.09	0.53
1:A:132:LEU:HD11	4:A:1035:HOH:O	2.08	0.52
1:A:283:PHE:O	1:A:288:VAL:HG12	2.10	0.52
1:A:289:ASN:OD1	1:A:328:ASN:HB3	2.09	0.52
1:A:29:TYR:O	1:A:33:ARG:HB2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:280:VAL:HG22	1:A:317:PHE:HZ	1.74	0.52
1:A:97:TYR:HA	1:A:147:LYS:O	2.10	0.51
1:A:50:ILE:HG21	4:A:1081:HOH:O	2.09	0.51
1:A:170:LYS:HD2	1:A:207:SER:CB	2.40	0.51
1:A:267:TYR:C	1:A:267:TYR:CD2	2.87	0.51
1:A:28:LEU:O	1:A:32:LYS:HG2	2.11	0.51
1:A:81:ARG:HD2	1:A:85:GLU:OE1	2.10	0.50
1:A:166:VAL:HG12	4:A:1141:HOH:O	2.11	0.50
1:A:217:GLU:HB2	1:A:238:HIS:CG	2.47	0.50
1:A:86:PHE:CE2	1:A:90:LYS:HD3	2.47	0.50
1:A:263:PRO:HB2	1:A:310:MET:SD	2.52	0.50
1:A:278:HIS:CD2	1:A:280:VAL:HG12	2.46	0.50
1:A:170:LYS:HD2	1:A:207:SER:OG	2.12	0.50
1:A:107:LEU:HB2	1:A:129:VAL:HG11	1.94	0.49
1:A:305:ASP:O	1:A:309:GLN:HG2	2.12	0.49
1:A:318:THR:HG22	1:A:321:GLU:H	1.77	0.49
1:A:42:THR:HG22	1:A:45:GLU:HB2	1.94	0.49
1:A:27:ILE:HG22	4:A:1178:HOH:O	2.11	0.49
1:A:56:LEU:HB3	1:A:60:ASP:HB3	1.93	0.49
1:A:272:TRP:HB3	4:A:1057:HOH:O	2.12	0.49
1:A:13:GLU:OE1	1:A:294:THR:HB	2.12	0.48
1:A:214:HIS:O	1:A:237:GLY:O	2.32	0.47
1:A:228:VAL:HG22	4:A:1144:HOH:O	2.15	0.47
1:A:162:SER:OG	1:A:197:HIS:HD2	1.98	0.47
1:A:134:ASN:HA	1:A:137:LEU:HD22	1.96	0.47
1:A:224:VAL:HG11	1:A:242:THR:CG2	2.44	0.47
1:A:11:LYS:HD2	1:A:304:LEU:HD13	1.97	0.47
1:A:142:ARG:HG3	1:A:142:ARG:NH1	2.30	0.47
1:A:178:VAL:HG22	4:A:1164:HOH:O	2.15	0.47
1:A:28:LEU:CD2	1:A:46:LEU:HD13	2.44	0.46
1:A:32:LYS:HD3	1:A:41:ASP:OD2	2.15	0.46
1:A:286:ASP:HB2	4:A:1147:HOH:O	2.15	0.46
1:A:261:ILE:HD11	1:A:283:PHE:CD2	2.50	0.46
1:A:224:VAL:HG11	1:A:242:THR:HG22	1.98	0.46
1:A:258:HIS:HE1	4:A:1167:HOH:O	1.99	0.46
1:A:322:PHE:HA	1:A:325:LEU:CD1	2.42	0.46
1:A:288:VAL:HG13	1:A:290:TYR:CD1	2.42	0.46
1:A:181:ASP:HA	1:A:212:THR:O	2.16	0.46
1:A:57:THR:OG1	1:A:60:ASP:HB2	2.16	0.45
1:A:83:ALA:O	1:A:87:VAL:HG23	2.15	0.45
1:A:166:VAL:HB	4:A:1117:HOH:O	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:175:GLN:HA	1:A:176:THR:HA	1.35	0.45
1:A:253:ARG:HD3	1:A:253:ARG:C	2.42	0.45
1:A:251:ARG:O	1:A:255:GLU:HG2	2.16	0.45
1:A:253:ARG:HD3	1:A:254:GLN:N	2.32	0.45
1:A:308:TYR:CD2	1:A:322:PHE:CE2	3.05	0.45
1:A:102:TYR:CE2	1:A:133:VAL:HG11	2.51	0.45
1:A:213:VAL:HG23	1:A:233:THR:CG2	2.45	0.45
1:A:280:VAL:HA	1:A:283:PHE:HB2	2.00	0.44
1:A:344:LEU:HB3	4:A:1173:HOH:O	2.17	0.44
1:A:313:LYS:NZ	1:A:313:LYS:HA	2.32	0.44
1:A:261:ILE:O	1:A:293:ASN:HB2	2.17	0.44
1:A:23:LYS:HE2	1:A:23:LYS:HB3	1.87	0.44
1:A:178:VAL:CG2	1:A:334:PHE:HB2	2.48	0.44
1:A:272:TRP:NE1	1:A:278:HIS:HA	2.34	0.43
1:A:101:ARG:HB3	1:A:151:ILE:HB	2.01	0.43
1:A:162:SER:HB3	1:A:200:ALA:HB2	2.00	0.42
1:A:169:CYS:O	1:A:173:ARG:HB3	2.19	0.42
1:A:304:LEU:HD22	1:A:308:TYR:CE1	2.54	0.42
1:A:26:THR:HB	1:A:81:ARG:NH2	2.34	0.42
1:A:209:VAL:HG21	4:A:1174:HOH:O	2.20	0.42
1:A:253:ARG:HG2	4:A:1003:HOH:O	2.18	0.42
1:A:182:LEU:HB3	1:A:213:VAL:HG13	2.02	0.42
1:A:188:ILE:HG12	1:A:191:SER:HB3	2.01	0.42
1:A:341:LYS:HB3	4:A:1136:HOH:O	2.19	0.42
1:A:259:PHE:CD1	1:A:259:PHE:N	2.88	0.42
1:A:44:GLU:CD	1:A:44:GLU:N	2.78	0.42
1:A:278:HIS:CD2	1:A:280:VAL:H	2.36	0.42
1:A:47:GLN:HE21	1:A:47:GLN:HB2	1.44	0.41
1:A:170:LYS:HB2	1:A:170:LYS:HE3	1.83	0.41
1:A:268:LEU:HD12	1:A:268:LEU:HA	1.93	0.41
1:A:45:GLU:HA	1:A:45:GLU:OE2	2.21	0.41
1:A:154:CYS:SG	1:A:180:ILE:HD11	2.61	0.41
1:A:178:VAL:HG23	1:A:334:PHE:HB2	2.03	0.41
1:A:90:LYS:HE2	4:A:1063:HOH:O	2.20	0.41
1:A:7:PHE:CD1	1:A:319:GLU:HG3	2.56	0.40
1:A:287:GLN:OE1	1:A:287:GLN:HA	2.20	0.40
1:A:224:VAL:O	1:A:228:VAL:HG23	2.22	0.40
1:A:87:VAL:HG13	1:A:148:VAL:HG21	2.02	0.40
1:A:284:LYS:HB3	1:A:284:LYS:HE3	1.91	0.40
1:A:42:THR:CG2	1:A:45:GLU:HB2	2.52	0.40
1:A:158:GLN:HG2	1:A:161:TRP:CD2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:173:ARG:O	1:A:175:GLN:OE1	2.39	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	347/356 (98%)	306 (88%)	34 (10%)	7 (2%)	<b>6</b> <b>10</b>

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	111	LYS
1	A	175	GLN
1	A	186	GLU
1	A	215	ALA
1	A	184	GLY
1	A	37	ALA
1	A	59	PRO

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	304/309 (98%)	239 (79%)	65 (21%)	<b>1</b> <b>2</b>

All (65) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4	THR
1	A	13	GLU
1	A	26	THR
1	A	36	ILE
1	A	38	LEU
1	A	41	ASP
1	A	45	GLU
1	A	46	LEU
1	A	47	GLN
1	A	49	ILE
1	A	50	ILE
1	A	52	MET
1	A	59	PRO
1	A	60	ASP
1	A	76	ARG
1	A	81	ARG
1	A	90	LYS
1	A	101	ARG
1	A	110	SER
1	A	111	LYS
1	A	118	ASN
1	A	124	LEU
1	A	130	VAL
1	A	131	SER
1	A	137	LEU
1	A	142	ARG
1	A	147	LYS
1	A	152	LEU
1	A	168	LEU
1	A	170	LYS
1	A	174	GLU
1	A	175	GLN
1	A	177	VAL
1	A	187	THR
1	A	188	ILE
1	A	192	SER
1	A	198	VAL
1	A	209	VAL
1	A	218	VAL
1	A	233	THR
1	A	242	THR
1	A	246	THR

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Mol	Chain	Res	Type
1	A	253	ARG
1	A	254	GLN
1	A	255	GLU
1	A	259	PHE
1	A	267	TYR
1	A	268	LEU
1	A	273	LYS
1	A	276	THR
1	A	277	GLU
1	A	281	ILE
1	A	294	THR
1	A	298	LEU
1	A	302	SER
1	A	304	LEU
1	A	313	LYS
1	A	317	PHE
1	A	318	THR
1	A	319	GLU
1	A	325	LEU
1	A	331	LYS
1	A	335	LEU
1	A	346	LEU
1	A	347	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	47	GLN
1	A	48	ASN
1	A	138	GLN
1	A	158	GLN
1	A	197	HIS
1	A	254	GLN
1	A	278	HIS

### 5.3.3 RNA

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](#)

Of 2 ligands modelled in this entry, 1 is monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	FRC	A	1001	-	26,27,27	1.60	5 (19%)	30,37,37	1.33	3 (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
3	FRC	A	1001	-	-	1/18/18/18	0/3/3/3

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	1001	FRC	C1-N2	3.77	1.46	1.37
3	A	1001	FRC	C5-N4	3.51	1.48	1.39
3	A	1001	FRC	C10-C19	2.82	1.41	1.37
3	A	1001	FRC	C13-N2	-2.19	1.44	1.47
3	A	1001	FRC	C1-C5	-2.16	1.34	1.37

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	1001	FRC	C1-N2-C3	3.38	108.61	106.37
3	A	1001	FRC	O15-C14-C9	2.98	118.58	109.68
3	A	1001	FRC	O9-C8-C5	2.52	122.67	120.25

There are no chirality outliers.

All (1) torsion outliers are listed below:

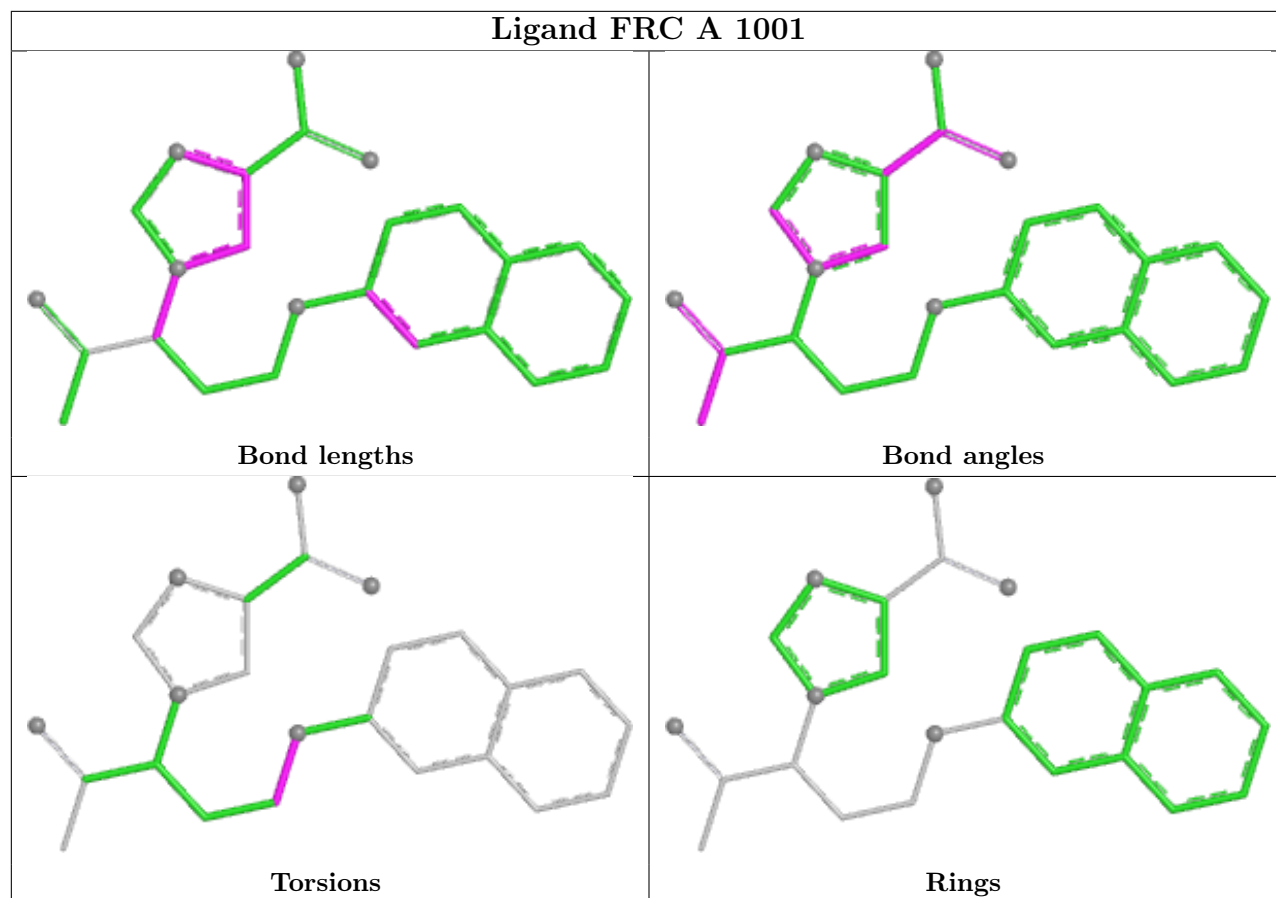
Mol	Chain	Res	Type	Atoms
3	A	1001	FRC	C18-C2-O1-C19

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	1001	FRC	1	0

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



## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data [i](#)

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

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	349/356 (98%)	0.16	8 (2%) 61 57	2, 7, 22, 30	0

All (8) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	277	GLU	4.0
1	A	174	GLU	3.4
1	A	175	GLN	3.1
1	A	140	GLY	3.0
1	A	4	THR	2.7
1	A	31	GLY	2.2
1	A	275	ASP	2.2
1	A	67	TYR	2.0

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

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

### 6.3 Carbohydrates [i](#)

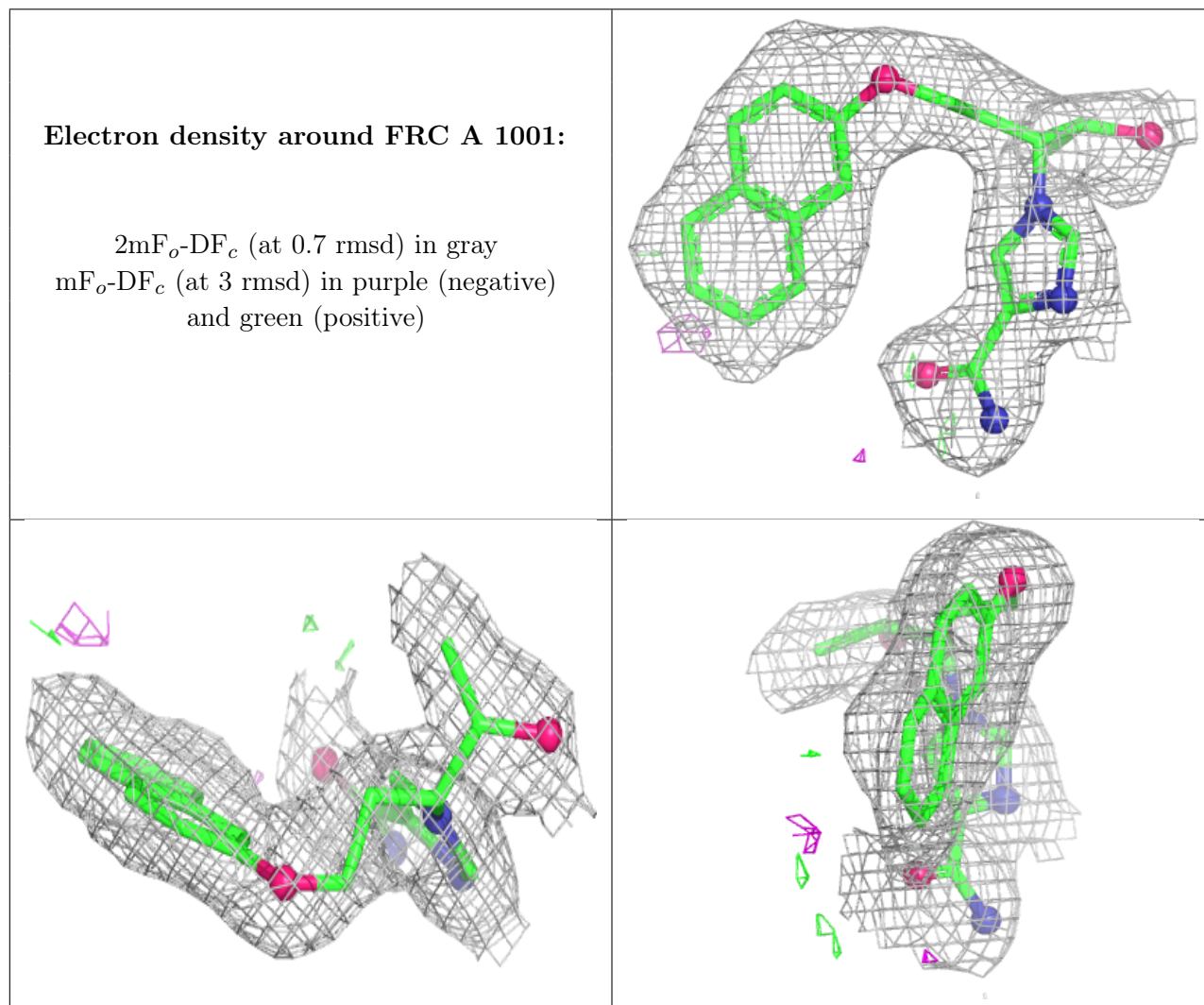
There are no oligosaccharides in this entry.

### 6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
2	ZN	A	400	1/1	0.89	0.06	4,4,4,4	0
3	FRC	A	1001	25/25	0.92	0.07	2,3,6,8	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.



## 6.5 Other polymers [i](#)

There are no such residues in this entry.